



## ***Schools in Pools - Kayaking***

**2012-13**



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## Executive Summary

Children in Canada face an obesity epidemic, physical inactivity challenges, lack fundamental movement skills, suffer from nature deficit disorder, lack water safety skills and are alienated from watersports.

The American Academy of Pediatrics recommends watersports as a healthy way for overweight children to get active and grow into their larger body sizes.

CanoeKayak Canada recommends children sized kayaks as a tool to educate children on how to balance, steer and propel boats before the age of 10.

Noted author and philosopher Richard Louv has written on the restorative powers of nature and its ability to boost mental acuity and creativity, promote health and wellness, build smarter and more sustainable businesses, communities, and economies, and ultimately strengthen human bonds.

Numerous studies have found that non-Caucasian populations are less likely to participate in water sports. Participation in recreational activities with mainstream Canadian society offers opportunities for societal integration and harmony.

Boating safety continues to be an issue in Canada.

There is an opportunity for schools to introduce young children to kayaking in local community pools before the age of 10. Kayaking is an effective tool to get overweight children active again, neutralizing their



weight disadvantage and utilizing their upper body strength. Getting kids started in kayaking creates physical literacy skills for all boating sports with balance, steering and propulsion control such as canoeing, rowing, rafting. The pool is the perfect environment to introduce kids to boating, it is safe, supervised and trusted. The fundamental movement skills and safe boating can all be taught to this group.

From the pool, children can progress to the lake and the river through a local canoe/kayak club. But it is the school system that will give children the best opportunity to get started towards a healthy and safe lifestyle that includes watersports for a lifetime of fun and adventure.

This document explains the rationale for Schools in Pools Kayaking and why they need to start paddling before the age of 10. Curriculum materials will be provided for the Grade 4-5-6, Junior and Senior High levels that tie into provincial educational standards. A video is available that shows how educational and how much fun a school kayaking program can be.

## **Background – the Obesity Epidemic**

Canada's youth today face a worldwide epidemic (World Health Organization, 1997) that threatens their lives and livelihoods in the future. It is an insidious problem that is growing in its scope every day. The problem today is the lack of activity and increasing body mass in Canada's young people. The less active children become, the more challenges society will have with childhood and adult obesity, physical health and rising health care costs. Statistics Canada reports that 25% of children in today's society are overweight. And 80% of these children are predicted to struggle with weight issues for the rest of their lives (American Academy of Pediatrics (AAP), 2008). The AAP believes that diet and nutrition are part of the problem but the bigger issue is the lack of physical activity in the daily lives of our children. Problems arise when the lack of activity contributes to increases in weight and the increase in weight leads to decreases in physical activity especially when muscle fatigue and joint pain occur when children have to be physically active.

The American Academy of Pediatrics found that dieting was not an effective means to counter the obesity epidemic and overweight children respond best to a physical activity program that allows children to grow taller into their natural weight. However overweight / obese children avoid activities that emphasize agility and aerobic ability. The AAP found this population prefers activities that take advantage of their stature and muscle strength, such as water-based sports and strength training, rather than those that require weight bearing (eg. jumping, running) on underdeveloped legs.



With a nationwide epidemic in childhood obesity and adolescent inactivity there are fewer grade school children capable of or interested in running, jumping or weight bearing activities because of limitations with weight, leg joints and leg muscle capacity.

One of the key features of paddling sports is the weight disadvantage that so many people suffer in sport is neutralized by the water. Kayaking is a non-weight bearing sport that allows everyone to participate fully without having to run or jump or physically stress underdeveloped lower body muscles and joints. This can be of key importance to stop the downward spiral in physical activity that often starts in elementary school for many children.

## CANADA'S SPORT FOR LIFE

Proficiency and participation in sport and recreation comes from a foundation of fundamental skills. These skills are developed at an early age and give an individual the ability to stay active throughout their youth and through adulthood.

FUNDAMENTAL MOTOR SKILLS - agility, balance, coordination and time/space orientation are the basis for all other sports and are known collectively as physical literacy.

FUNDAMENTAL MOVEMENT SKILLS - running, jumping, kicking, throwing and catching

Children should develop physical literacy before puberty and the onset of the growth spurt in adolescence. They are best learned through safe, fun and active participation in games in both structured and unstructured environments. There are three activities that are extremely important to the development of physical literacy:

- |             |   |
|-------------|---|
| Athletics:  | run, jump, kick and throw   |
| Gymnastics: | ABCs of athleticism (agility, balance, coordination and speed) as well as the fundamental movement patterns of landing, static, locomotion, rotation, swing, spring and object manipulation |
| Swimming:   | for water safety reasons, for balance in a buoyant environment and as the foundation for all water based sports   |

An individual who is not competent in the basic movement skills will have difficulty participating in a range of sports and will have fewer opportunities for athletic success and life-long enjoyment of physical activity.

Other activities develop balance while in movement:

- Skiing and skating
- Snowboarding and skateboarding
- Cycling
- Kayaking and canoeing



Without these basic movement skills, a child will have difficulty participating in any sport and will have fewer opportunities for lifelong enjoyment of physical activity or for any athletic success.

Kayaking requires individuals to learn a new balance mechanism, a completely different method of propulsion and controlling directional movement that is not part of the young child's social recreation and sports activities in Canada.

Introduction of these skills at an early age enable individuals to enjoy a variety of on-top of the water sports activities later in life. These other sports include: canoeing, sailing, rowing, rafting, sailboarding, surfing and general boating.

## **Background – Physical Literacy for Lifelong Enjoyment of Sports**

The development of physical literacy skills for children is a critical issue in today's sedentary society. Canada's Sport for Life program has recognized this issue and is encouraging a program of physical literacy in children ages 0-5 to run, jump, throw, kick and swim to learn basic movement skills. These fundamental movements are followed up with developing skills in skiing, skating, cycling, boarding and other motor skills from ages 6-10.

Children need to develop physical literacy before their adolescent growth spurt and these are best learned through safe, fun and active participation in structured and unstructured games. Research indicates that physical literacy in sport and recreation needs to be developed before the age of 10. Proficiency and participation in sport and recreation comes from a foundation of fundamental skills. An individual who is not competent in the basic movement skills will have difficulty participating in sports and have fewer opportunities for athletic success and life-long enjoyment of physical activity later in life.

Alberta Education and our school systems are reviewing the physical education program in light of the Canadian Sport for Life model and the move to establish physical literacy skills in all children before the age of 10. Parents and care-givers are being encouraged to ensure their children have the opportunity to take part in all of these activities during the critical physical literacy years.

*“In communities with limited recreational opportunities, and for parents with limited financial resources, this may be difficult to achieve. This makes school physical education programs critically important, since they provide the only opportunities for the development of physical literacy for EVERY Canadian child.”* (Canada Sport for Life – webpage)

Using a watercraft is a foundational movement skill that is a unique learned behaviour. Aquatic skills for all watercraft require a fundamentally different movement pattern from normal sports. A watercraft in a floating environment requires balance, propulsion and directional control. Aquatic boating skills need to be developed before the age of 10 to be innately incorporated into a child's physical being.

Unfortunately most watercraft are adult sized and not suitable for younger children.

Children sized kayaks are the perfect medium to develop these skills in the local swimming pool. These skills can then be transferred to canoes, rafts, rowing shells, surfboards, sailboats and even power boats

in an outdoor setting as children mature.



Children can be started at age 8 with small children sized kayaks. Once basic swimming skills are in place, children can develop fundamental boating skills including:

- the balance mechanism of a boat in a fluid environment,
- a different method of propulsion using core trunk and upper body limbs,
- how to control directional movement in a method opposite of steering,
- water safety for boating activities

## **Background – Market Demand & Interest in Paddlesports**

You have seen children in the bumper boats at the amusement park and how after a short 5 minute ride the boats shut down. If we give those children a child sized kayak for an hour and set them loose you have given them one of their first independent vehicles to drive around in. You can sense the fun that a class of school children can have in kayaks at their local pool or pond playing tag, Simon Says, British bulldog, rugby, water polo, What time is it Mr Wolf?, and other games. At the same time they are playing games they are learning fundamental movement skills for boating such as balance, directional control and propulsion.

The latest Alberta Recreation Demand Survey in 2008 found that canoeing/kayaking was **the sport** with the 14<sup>th</sup> highest participation rate in Alberta. <http://www.tpr.alberta.ca/recreation/ars>

The level of activity in canoe/kayak sports was ahead of well known sports such as:

hockey	basketball	martial arts	mountain biking
figure skating	volleyball	gymnastics	horseback riding
curling	football	baseball/softball	climbing
cross country skiing		tennis and racquet sports	

When Albertans were asked what activities they would most like to try, canoe/kayak was the 5<sup>th</sup> highest desired activity that people wanted.

It has become a common sight to see cartopper kayaks at Walmart and Costco stores. Sea kayaks and kayak roof racks are easy to spot in the summer months and most people have kayaked before either at a beach resort, the lake cottage or floating down a local river. It is no longer the exclusive domain of



adrenaline filled youth or salty adventurers. Kayaking has become a mainstream sport that is flying underneath the radar screen at this time. School teachers and administrators throughout Alberta have expressed interest in a pool based kayak program and want to see how it can be incorporated into their aquatic education program.

Unfortunately we have not developed the infrastructure or support systems to encourage and develop this activity in our communities. We are lacking:

1. adequate pool space or time to provide the proper introduction to the sport
2. lakefront and riverfront launch sites with parking, change rooms and toilets
3. canoe/kayak clubhouses to store equipment, provide gathering spaces and instruction programs
4. municipal recreation programs to teach people to paddle
5. school based sports programs that build physical literacy skills for paddlesports

Participation in canoe/kayak programs have a significant barrier to entry due to the lack of programs and knowledge about how to get started.

## **Background - Nature Deficit Disorder, Cultural Affinity for Watersports, Mental Resiliency**

There is a growth among children with what Richard Louv described as “nature deficit disorder” (Richard Louv’s, Last Child in the Woods) and parents, educators and community leaders are looking for ways to engage youth in healthy outdoor pursuits that can become lifelong interests. Looking at the Participation Rates of Albertans in sports, it is apparent that in spite of our school system’s focus on organized team sports it is the individual sports (hiking, cycling, swimming, aerobics, running, golf, downhill skiing, canoe/kayak) that are dominating adult pursuits. These activities will continue to dominate society’s activity list and part of that is the way in which they allow people to connect to the world outside our homes.

We need to create programs that meet these inherent needs and a kayak is one of those tools that efficiently and comfortably allows people the opportunity to interact with the aquatic environment outdoors. Kayaking often goes hand in hand with hiking, camping and mountain biking. All of these activities counter the nature deficit disorder.



Many new immigrants do not have a cultural or natural affinity with water sports and are alienated from a fundamental part of Canadian life, swimming, boating, paddling, sailing or other water sports. School programs that introduce these populations to boating have a benefit by integrating these distinct ethnic groups into Canada’s mainstream cultures.

Kayaking as it advances from easy maneuvers in

the pool to advanced maneuvers such as the ‘roll’ or running rivers demands a greater degree of mental resiliency and the ability to overcome perceived risks. These skills are not inherently dangerous, but have a high perceived risk when accompanied by the lack of oxygen underwater, the constriction on legs and feet inside the kayak, and the feeling of entrapment that many people have when paddling kayaks.

For some this is part of the challenge and they rise to it easily. For others the ability to face these fears and overcome them is as great an accomplishment as can be expected of anyone. The mental resiliency to do this is something that can be taught and will stand the child in good stead for the future as they face other challenges in their lives and need to overcome them. Teaching this mental skill at an early age in a supportive and risk free environment is inherently worthwhile.

## **Background – Boating Safety**

Canada still suffers from far too many boating accidents and tragedies each year. Problems with not wearing PFD's, hypothermia from cold water exposure, boat speed, impaired boating and lack of safety awareness still exist across Canadian Society. The cost to Canada and the public at large is too real to be ignored.

The idea of introducing school children to boats in a safe environment has long been promoted in Canada. The younger that children can be introduced to safe boating practices the more likely they will follow these rules as they mature. Elementary school children are the best age group to receive this message and adopt it for their own for life. The challenge is how to reach these children with a meaningful and targeted message.

Unfortunately the vehicle that has been historically utilized in Canada (an open canoe) has been flawed and the teaching methodology outdated. The idea of using 1 canoe in a pool to teach a group of 12 or more children requires the participants to stand around for 10-15 minutes to wait their turn for a 1 minute opportunity to get into the boat. A canoe is too big for young children to maneuver and handle outside the pool environment. So the value of the boating safety message is often lost until the children are older – ages 12 and up – when they start to know it all and stop listening to our messages.

Young children need to be active and engaged to retain their attention and interest. Stand and deliver lectures and demonstrations by others lacks the necessary components to be effective teaching methodologies.



## The Proposal – Make Kayaking part of the School Program across Canada

For all the reasons described above, kayaking needs to be introduced to school children in the Grade 4-5-6 period and then followed up with refreshers and add-ons in Junior and Senior High. This includes:

1. getting kids active to counter childhood obesity before the onset of puberty,
2. building physical literacy skills for boating activities before the age of 10,
3. supporting the public's interest in kayaking
4. getting children outdoors and interacting with the world beyond their backyard
5. helping to integrate immigrant cultures into Canadian leisure activities
6. developing mental resiliency and building the capacity to overcome perceived barriers
7. building a culture of boating safety through appropriate use of pfd's, thermal protection and safe boating practices.



In developing the Long Term Athlete Development program for whitewater canoe/kayak sport, CanoeKayak Canada looked at best practices around the world in whitewater sport and determined that children should be given the opportunity to start paddling before the age of 10. Partnering with the objectives above provides a wonderful fit that can be nurtured to achieve many different goals.

**Kayaks are THE BEST TOOL** to accomplish all of these goals with our kids. The goal of the Kayak for Life program is to have every child in Canada within the next 5 years develop basic aquatic boating skills in a kayak at their local swimming pool as part of the Grade 4-5-6 curriculum.

To make this happen, we need to market the value of aquatic boating literacy using kayaks in pools for school programs to elementary, middle and secondary school teachers. Secondly we need to make the program easy to implement for teachers with appropriate curriculum materials and information packages. Finally we need to have facilities with the right equipment and trained staff that can fulfill the demand as it develops.

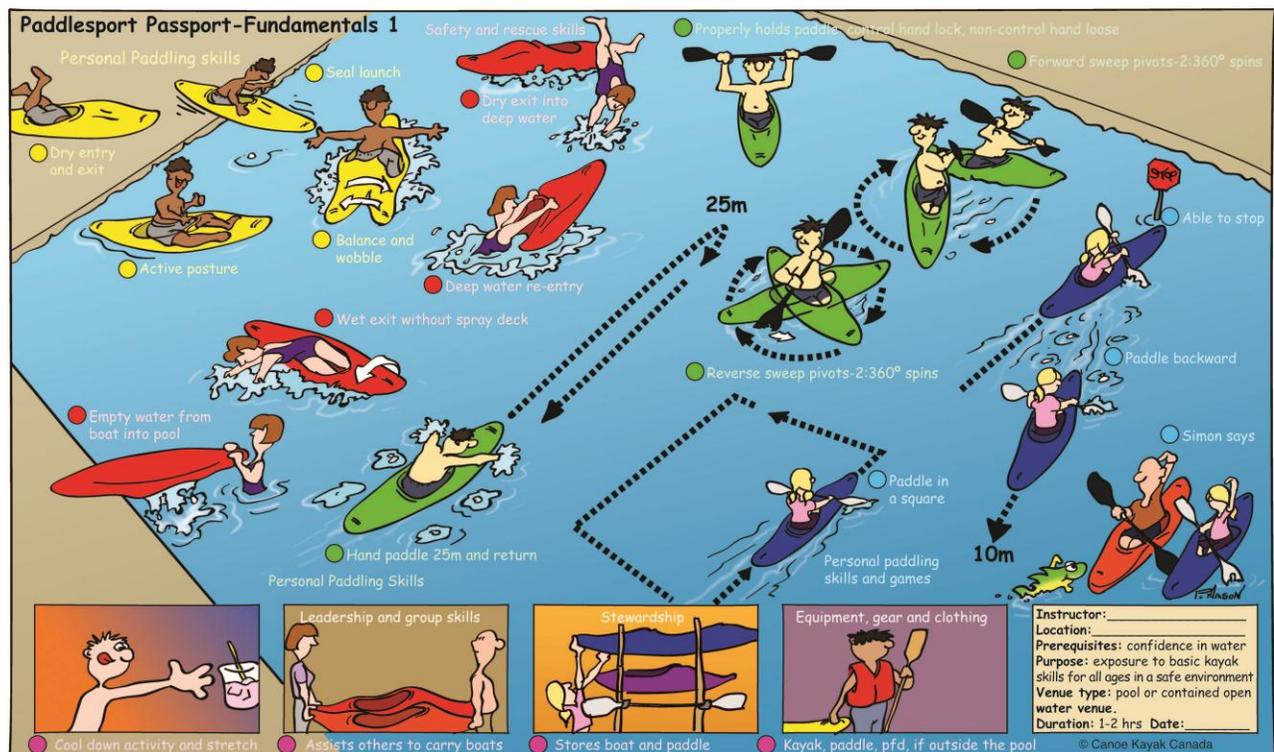
## Kayaking Facilities

Canada is a cold country where outdoor aquatic sports are best enjoyed June to September. Kayaking is an aquatic sport that includes water immersion and swimming as part of the learning process. It should therefore be started in a warm comfortable body of water where the fear of getting wet and being cold is eliminated. The other factor is the need to have a facility that is trusted by the general public to be safe and enjoyable. The best facility that meets these needs is the local public indoor swimming pool as the introductory facility for kayaking. The local swimming pool is:

1. Trusted and safe
2. Staffed with trained lifeguards on duty
3. Warm and comfortable
4. Equipped with change rooms and showers
5. Reasonably accessible across Canada
6. Open year-round
7. Equipment is easily stored and accessible
8. Built around a mandate and purpose is to foster aquatic safety for citizens



But aren't pools always busy? Generally swimming pools are well utilized during early morning hours, lunch time hours and after school hours for a variety of activities including lane swims, aqua-fit programs, swim team and diving team programs, family swim and open swim times, moms and tots learn to swim and a variety of other aquatic programs.



However from 9:00 am – 11:30 am and 1:30 pm – 3:30 pm there are time slots that are often difficult to fill for most municipal pools. School aquatic programs are a great way to fill these times but the interest in swimming lessons drops dramatically after the basics are covered in Grades 1-3. Schools looking for meaningful physical education activities and pools are often not able to entice teachers to go to the pool after Grade 3 because the need for “learn to swim” programs and aquatic safety is not as strong.

By Grade 5, students’ interest in swimming lessons drops dramatically and while the kids all still want to go to the pool, the educational value that teachers are looking for has dropped and they have difficulty justifying the time and expense. Pools will often offer other types of programs such as aquafit, water polo, snorkeling or diving that can be used to attract older students back into the pool. But this has not been tremendously effective to fill the 900 hrs of billable hours available each year in a swimming pool.

Kayaking is a natural fit for schools after Grade 3, that can be easily integrated into the pool’s and the school’s programming functions. The local swimming pool provides a great facility that can be used for this purpose. In communities without an indoor pool, an outdoor pool or beachfront area can be used in June and September when the water temperature rises sufficiently to provide a comfortable experience.

The standard 25 meter – 6 lane pool is capable of handling 15 kayaks comfortably and this allows ½ of a class to get on the water at one time. The ratio of Instructors to Students in a pool environment with a lifeguard on duty is 1:15 but an assistant is highly recommended to assist with equipment issues.

**Paddlesport Passport Fundamentals 2**  
Personal Paddling skills

**Personal Paddling skills**

- Select appropriate kayak & paddle
- Adjust seat footrests hip-pads to fit
- Paddle forward 50m in straight line
- Dry entry with sprayskirt
- Dry exit with sprayskirt
- Reverse paddle 20m in straight line
- Draw to stern - pivot 360°
- Draw to bow - pivot 360°
- Wet exit with spray deck
- Tilt boat on edge and hold 15 seconds
- Draw boat sideways with out of water recovery

**Safety and rescue skills**

- Hip Flick holding hands pool deck or bow of 2nd kayak
- Paddle signals- stop, go, left, right

**Paddling games**

- Tag or freeze tag with paddles
- Red light/green light
- British Bulldog

**Equipment care and clothing**

- K. P., Sprayskirt, pfd, if outside pool

**Leadership and group skills**

- Assists with hipflicks & bow rescue

**Stewardship**

- Washes out boat, paddle & sprayskirt

**Cool down activity and stretch**

**Instructor:**  
**Location:**  
**Prerequisites:** Fundamentals 1  
**Purpose:** Build basic flatwater skills for novice paddlers  
**Venue:** pool or contained open water venue.  
**Duration:** 1-2 hrs **Date:**

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## School Kayak Programs

As a new program it is important to promote the program to elementary, middle and secondary school teachers on the value of creating physical health and developing aquatic boating literacy using kayaks in pools. There are three distinct levels in the kayak program that relate to the physical maturity of the different target markets.

### 1. **Elementary Schools (Grade 4-6, ages 9-11) Fundamental Movement Skills**

Developing balance, propulsion and steering control for boats, confidence in water, water safety skills and having fun on the water.



### 2. **Junior High Schools ( Grade 7-9, ages 12-15) Physical Health and Wellness**

Creating opportunities for active sport participation, especially children with weight issues, physical inactivity problems and disinterest in team sports. Building lake safety skills and having fun on the water.



### 3. **Senior High Schools (Grade 10-12, ages 15-18) Outdoor & Environmental**

Integrating paddling into individual recreational sports, outdoor programs, environmental awareness and water management strategies. Building river safety skills and having fun on the water.

Curriculum materials are being developed for each of these three levels for school teachers in Grade 4-6, Junior High and Senior High. This will make it easier for schools to adopt a kayaking program into their learning programs. Having pre prepared curriculum materials with ties to other subject matters, such as language, science, math, environmental education and history will strengthen the buy-in from schools.

Short video clips will be produced that will promote kayaking as a fundamental movement skill in the Canadian Sport for Life model and highlight the ease in which children can start kayaking and the benefits to their participation.

CanoeKayak Canada will produce and distribute the **CKC-W Passport to Paddlesports** in both booklet and poster forms to promote the Kayak for Life program at schools and with participants. This will give youth a better understanding of the graduated method of developing physical literacy skills for boating and how they can progress in the sport. The **CKC-W Passport to Paddlesports** illustrated on these pages acts as a promotional tool and a skills checklist that can be taken home and pinned up on the family fridge as the participant completes each level.

**Paddlesport Passport Fundamentals-3**

**Personal Paddling skills**

- Select appropriate sprayskirt and PFD
- Dry entry
- Move boat 10m sideways using draw with underwater recovery & skulling draw
- With boat in motion-redirect boat 90° using bowdraw/forward stroke combo
- Tilt & hold boat on edge while paddling forward 10m - change edges
- High brace
- Paddle boat in a straight line for 200m and weave boat around 50m obstacle course
- Low brace
- Perform T-Rescue

**Personal paddling skills and games**

- Canoe polo/kayak football
- Summer games selection test
- Perform random roll
- Perform roll after 2nd attempt
- Perform set-up roll
- Flatwater team races

**Safety and rescue skills**

- Cool down activity and stretch
- T-Rescue support for others
- Respect for pool/beach facility
- K, P, SS, PFD, Paddle Jacket, fleece, booties

**Equipment, gear and clothing**

**Instructor:** \_\_\_\_\_  
**Location:** \_\_\_\_\_  
**Prerequisites:** confidence in water  
**Purpose:** exposure to basic kayak skills for all ages in a safe environment  
**Venue type:** pool or contained open water venue.  
**Duration:** 1-2 hrs **Date:** \_\_\_\_\_

Other promotional materials will be created for CKC's Physical Literacy for Watercraft Activities Program for schools and teachers.

With these tools in hand, CanoeKayak Canada, Provincial Whitewater Sport Organizations, Kayak clubs and local pools can promote the Kayak for Life program at Teacher's Conventions and School Board meetings to inform teachers and administrators on the value of kayaking to develop active sport participation, physical literacy and outdoor/environment engagement. We will also make these tools available to participating pools and schools to promote the program with teachers. Long term we envisage having schools and pools talking directly and scheduling time and running programs.

## Program Activities

Following the Canadian Long Term Athlete Development model, kayaking has developed six stages of the progression in paddling starting with:

FUNDamentals	- learning to paddle on flatwater	Ages 7 and up
Developmentals (Learn to Train)	- learning to paddle on moving water	Ages 10 and up
Transformations (Train to Train)	- building skills in different kayak disciplines	Ages 12 and up
Pursuit of Excellence (Train to Compete) – focusing in 1 discipline for elite comp		Ages 16 and up
Train to Win	- developing elite world class athletes	Ages 21 and up
Active for Life	- enjoying the sport	Any age

- Age specialization appears to be a key issue for paddling sport because it is an early start sport, but it is also a sport where paddlers can start any age and can go on to enjoy a competitive career well into their 30's and can be active paddlers through the rest of their lives. The ages outlined are general guidelines. The individual tempo of development and maturation will influence when an athlete may reach a particular stage. However, each will go through the same stages



- A participant friendly start at the **FUNDamentals** stage, ages 7-10 in pools and camps and unstructured play in boats has emerged as a huge advantage in establishing aquatic literacy. It provides sound general development, athlete competency, physical skills, a rich social experience, and meaningful personal growth leading to building character and coping skills for success and achievement in all life activities, on and off the water. Each of the 3 levels in the Fundamentals Passport takes 1-2 hrs to complete but a lifetime to master.



- The **Developmentals** stage of the LTPD takes the basic skills and knowledge from the pool/lake and introduces the paddler to the river environment. The balance, propulsion and directional control skills provide the foundation to develop the necessary skills to safely and comfortably navigate down a river. There are 3 Passport levels in this stage and each takes 3-6 hours to complete.

This level is for paddlers ages 10

and up.

- Having developed a roll, eddy turns, ferries, surfing and understanding currents, the athlete will be at a stage where they can transition into the variety of whitewater sport activity (recreational Grade III rivers, slalom, freestyle, canoe polo or wildwater). **Transformations** is this stage of the LTPD from ages 12-17 that gives athletes this opportunity. The three levels at this stage each takes a paddling season to master.



Beyond **Transformations** is the opportunity continue racing up into the **Pursuit of Excellence** (Training To Compete), **Training to Win** and **Active for Life** phases of paddling.

For more information on Canoe Kayak Canada's Long Term Paddler Development for kayaking go to <http://canoekayak.ca/english/content/whitewater>

## Goals

CKC's goal is to train 4000 lifeguards, 1000 pool managers and 1000 teachers to run pool kayak programs. Every one of these individuals will touch 20-50 children each year and introduce kayaking as part of the physical and aquatic literacy program at a young age. In addition to this, teens and adults will learn how to paddle. The outreach of getting 1000 pools involved in kayaking is to expand the "bums in boats" to over 250,000 people each year once the program is fully engaged.



CKC will measure success in a variety of ways:

1. Number of pools visited and pool managers educated about kayak programming and the opportunities for revenue generation with minimal cost. Target for 1,000 Pools in Canada.
2. Number of lifeguards trained and certified as Pool Kayak Instructors 1. Target for 4000 lifeguards certified as CKC-W Pool Kayak Instructor.
3. Number of teachers that incorporate kayaking as part of their physical-aquatic literacy program in their classroom. Target for 1000 teachers in Grade 4-5-6 that use kayaking as part of their physical education program in school.
4. Number of children that are introduced to kayaking and have an opportunity to try it in their swimming pool. Target is for 150,000 children to learn to kayak each year. The goal of the CKC is to have every Grade 5 student in Canada exposed to kayaking in their local pool by 2016.
5. Number of teens and adults that are introduced to kayaking and have an opportunity to try it in their local swimming pool. Target is for 100,000 teens and adults to try kayaking at their local swimming pool.
6. Interest developed in the local swimming pool in elementary school will be transferred to after school programs that further engage participants in advanced kayaking skills. Those individuals that show a keen interest can then go on to a local club program that can take them out to open water and the river. Number of children, teens and adults that graduate from the pool onto the river to further develop their skill base and interest in the sport. Target is for 1 in 10 or 25,000 children, teens and adults to advance beyond the pool to a local club program.
7. Of the 25,000 people that try a local club program and progress to the Developmentals level – 1 in 10 will progress to the next level of Transformations meaning that 2,500 will try one of the competitive disciplines of kayaking (slalom, downriver, freestyle or polo)

Most importantly however is the children exposed to CanoeKayak Canada's kayak program will be find a new opportunity for physical activity that does not involve running and be well prepared to handle other watercraft in the future.

## Challenges and Risks for Students, Teachers and Schools

### **Pool Based Programs**

In the pool the level of risk and the challenge of setting up the program is minimized as much as possible. The pool provides a safe, non-threatening environment for this program. However, as with any other activity in life, risk and the possibility of injury can never be entirely eliminated.

1. If a rescue is needed there is always a trained lifeguard on deck at any public swimming pool in addition to the kayak instructor, teaching staff and assistants.
2. If there is a problem in the pool, students are within easy reach in a controlled area
3. Modern plastic kayaks come in a range of sizes from little wee ones for 50 lb kids to gargantuan sizes that will float a 275 lb person. This makes them easier to handle and move around.
4. Kayaks now have large oversized cockpits that allow students to fold their knees up and fall out of the boats easily.
5. The first lesson is taught without sprayskirts and uses the kayak as a floating toy to get the students comfortable with the boats and getting in and out.
6. The use of sprayskirts is delayed until the students are ready and then the students are taught how to deploy them properly and closely monitored to make sure the wet exit is smooth and uncomplicated. The instructor will be right on hand and ready to immediately rescue the student if necessary during these first trials.
7. If a student fails to wet exit properly, they are taught how to bang on their boat to get a rescue, they can dog paddle to the surface to get a breath of air and the sprayskirt can be kicked free if necessary.
8. Other safety issues in the pool
  - a. Running into each other – the boats are plastic so that is not a problem but t-boning another paddler could result in injury if the nose of the offending boat rides up over the cockpit rim and impacts the paddler in the abdomen.
    - the instructor will caution students to not ram other students especially in a t-bone position
  - b. Falling over near the pool edge can result in an upper body injury.
    - the instructor will limit tipping activities around the pool edge
    - the instructor will keep students away from the edge of the pool
  - c. Striking another paddler with the paddle can result in cuts and contusions.
    - the instructor will caution students to be careful with their paddles around others
    - the instructor will avoid congesting the pool with too many boats
    - the instructor will get students to spread out when they are doing drills.
  - d. Low diving boards or waterslides that protrude over the pool can catch paddlers unawares and result in cuts and contusions.
    - if possible the pool will raise the diving board or remove the obstruction
    - the pool will bumper the obstruction
    - the instructor will flag the obstruction
    - the instructor will warn paddlers to be aware of the problem
9. All other standard pool risks, running on deck, diving in the shallow end, roughhousing in the water, etc. are still safety concerns that the pool staff will be responsible for monitoring and controlling when necessary.



### Pool Issues

1. The plastic river running kayaks used in pools are virtually indestructible so there is little worry about damaging the boats. The neoprene sprayskirts will deteriorate from chlorine and need to be rinsed after use but should last several years. The plastic paddles are strong and lightweight and will last a long time in the pool.
2. Students need to be cautioned about running into the sides of the pool to avoid damaging the pool tiles.
3. Each pool will have their own rules and methods for storing boats and gear, launching boats, and emptying the boats. The instructor and pool staff will manage these issues.



### Class Management

1. The suggested Instructor to Student ratio is 1:15 in the pool. An assistant to help with equipment will make the class run much smoother until the students get familiarized with the process in selecting gear and getting on the water.
2. Most classes have 25-30 students and will require the teacher to split the class in half for the kayaking lessons
3. There is not enough space in a standard 25 m pool for other in water pool activities besides the kayak lesson. So one half of the class will have to find another activity during the kayak lessons. A larger pool, diving tank or other aquatic facility may provide a compatible activity.
4. A weight room, bowling alley, ice rink or other nearby recreational facility that will also benefit from smaller class ratios may be an option for the teacher to take the other half of the class to.
5. Depending on school policy the teacher may have to stay at the pool with  $\frac{1}{2}$  of the class. In this situation the other  $\frac{1}{2}$  of the class may need to join another teacher's class.
6. One of the biggest obstacles to a kayak program is the cost and logistics of transporting the students to the pool. Ideally the pool is within walking distance of the school, otherwise students will need to be bussed to the pool, which adds time and cost to the logistics of a school kayaking program.

## Lake Based Programs – Junior High

In the lake there is an additional level of risk associated with taking the program outdoors and into an uncontrolled environment. This raises some of the risk and adds to the challenge of setting up the program to be safe and manageable. But it also increases the benefits of the sport with the opportunity to interact with nature, build outdoor awareness and enhance paddling skills. There is a 30 year history of school districts running kayak programs at canoe/kayak clubs very successfully on flatwater – either a lake or canal in their community. So with proper care and attention to the safety issues it can be a very rewarding and enriching program for school children.

As with other life activities and in the pool, risk and the possibility of injury can never be entirely eliminated. But our goal is to minimize to a negligible degree the real risk of permanent damage in this program.

Some of the key safety parameters that need to be in place include:

1. The first lesson should be taught in the pool to acclimatize the students to the boats and equipment and to ensure everyone is competent doing a basic wet exit.
2. Weather and water conditions will need to be monitored and when necessary, classes may be rescheduled or cancelled for safety issues. More details below.
3. The instructor to student ratio on flatwater outside a controlled area without a lifeguard on duty is 1:10.
4. Students and instructors will all wear approved Personal Flotation Devices when on or near



the water.

5. The water body should be selected to provide optimum safety and a great teaching environment.

Other safety and risk related issues

6. Instructors are required to keep the group within easy reach in case a rescue is needed. Groups should never be strung out or exposed to an open water situation where an individual's safety is compromised if they capsize.
7. Until the group is experienced and the weather conditions permit, groups will be kept close to the shore so that students can easily swim into the shore if they capsize.
8. Instructors are trained in how to support a deep water re-entry using an X-rescue and rafting up to stabilize the boats for re-entry. So even if students tip over they can be rescued in the middle of the lake.
9. Other safety issues in the lake
  - a. With more space there is less problem with students ramming each other but students love to play bumper boats with these plastic boats. T-boning another paddler could result in injury if the nose of the offending boat rides up over the cockpit rim and impacts the paddler in the abdomen.
    - the instructor will caution students to not ram other students especially in a t-bone position
  - b. Falling over near the shore can result in an upper body injury.
    - the instructor will limit tipping activities near the shore
    - the instructor will keep students away from the shore
  - c. Striking another paddler with the paddle can result in cuts and contusions.
    - the instructor will caution students to be careful with their paddles around others
    - the instructor will get students to spread out when they are doing drills.

## 10. Weather related issues

- a. Air temperature will be a factor in how the students should be dressed for kayaking. Kayaking on the lake will often result in splashes from the boats and drips off the paddle making the activity wet and uncomfortable when the air temperature drops below 15<sup>0</sup> C. The students need to be dressed with a splash top or water/wind proof jacket and a thermal insulating (non-cotton) layer underneath to keep them comfortable for an hour long session in cool weather.
- b. Water temperature is not a factor unless the students are expected to perform wet exits in their lessons on the lake. It is recommended to use the pool for this activity until the water temperature in the lake reaches 20<sup>0</sup> C. If students are going to perform wet exits then it is recommended that this activity take place at the end of the session so they can immediately leave the water and be rewarmed. Alternatively wet suits can be provided to mitigate some of the effects of the cold water.
- c. Wind is a significant risk factor on the lake. It has two significant effects, one is that it affects the chilling rate of the air making the use of paddling jackets and thermal layering more important. But more significantly it can move the boats around on the lake. Skilled paddlers will have no problem compensating for the wind but novices will have difficulty controlling the kayaks. Going any significant distance can lead to problems as some students may charge out in the lead and others will get blown off course. Instructors have to keep the group together and to attend to weakest paddlers first while controlling stronger paddlers. A windy day can be compensated by:
  - \* staying in the lee (non-windy) areas of the lake
  - \* keeping the group in a small defined area
  - \* staying close to the beach on the windward side of the lake
  - \* postponing to a later date or relocating to a less windy location.Knowing the water body and how it is affected by wind is imperative in dealing with this weather problem. Wind direction and wind speed can be monitored to determine

hazardous levels when alternative actions need to be taken.

- d. Winds will typically bring wave action on the surface of the water. While not dangerous the waves can have several effects on the boats
    - \* splashing and chilling the paddlers
    - \* splashing into and filling an open cockpit kayak
    - \* forcing the boat off track
    - \* tipping the kayak over
  - e. Rain and wet weather is a chilling effect on any day but it is no reason to stop a kayak lesson. The reality is that kayaking is a wet sport so a little rain will not affect the body temperature if the students are properly dressed and can get into their gear dry.
  - f. Thunderstorms are a very real risk on the water. When this weather phenomenon is observed all activities on the water must be suspended and participants relocated to dry land. Instructors are advised to follow the 30:30 rule, to take shelter when you count 30 seconds or less between a lightning flash and thunder clap. And to stay in the shelter until 30 minutes has passed from the last thunder clap.
- ## 11. Sun and UV exposure
- Exposure to the sun on the water doubles the effect of ultra violet rays. Even on a cloudy day there is a significant risk of sunburn and sun related damage. All students should be reminded to apply sunscreen and wear protective clothing.
- ## 12. Heat Stroke
- High temperatures combined with physical activity and sun exposure can lead to overheating and in extreme situations heat stroke. All students need to be reminded to drink fresh water and to cool down their skin temperatures when in a heat stress environment.
- ## 13. Hypothermia
- Cool air temperatures combined with cool water temperatures and any air movement can lead to hypothermia if the students get wet and then continue to be exposed to the environment. Students need to be dressed for

the weather and water so that they can be comfortable throughout the lesson. Instructors will have a warming plan that addresses the need to quickly and effectively re-warm any student that exhibits the first signs of hypothermia.

#### 14. Weeds

Some water bodies have extensive weed growth from the bottom. Students swimming in these weed beds can become entangled in the growth and may have difficulty extricating themselves from the vines in the water. Instructors will keep students away from weed beds and if having to traverse through an area infested with weeds will limit activities which might lead to a capsiz.

#### 15. Swimmers Itch

Some water bodies are infested with the schistosome parasite which causes swimmers itch in freshwater lake for swimmers. While not dangerous, the inflammation caused by the immune reaction is uncomfortable and needs to be actively treated. Shallow lakes with waterfowl populations are more likely to be infested. Students need to wash down any exposed skin after swimming in a lake with swimmers itch.

#### 16. Wildlife

Observing wildlife on the lake is a wonderful benefit of being outdoors. Wildlife are unpredictable and may be much more hazardous than they initially appear. It is also important that students do not harass nesting waterfowl, swimming animals or other animals that can be stressed when watercraft approach too close. Instructors need to keep a safe distance between the students and any wildlife.

### **Lake Issues**

1. UV light will damage kayaks and the fabrics in sprayskirts, pfd's, wetsuits and paddling tops will deteriorate over time. All gear should be rinsed off and stored out of direct sun to maximize its life span. With good care all the gear will last a long time.
2. Each club will have their own rules and methods for storing boats and gear, launching boats, and emptying the boats. The instructor and pool staff will manage these issues.

### **Class Management**

1. The suggested Instructor to Student ratio is 1:10 on the lake. An assistant instructor or responsible adult to help with equipment and take the sweep position in the group will make the class run much smoother until the students develop the basic skills.
2. Most classes have 25-30 students and will require three kayak instructors for the class to accommodate everyone in one outing.
3. One of the biggest obstacles to a kayak program is the cost and logistics of transporting the students to the lake. Ideally the lake is within walking distance of the school, otherwise students will need to be bussed to the lake, which adds time and cost to the logistics of a school kayaking program.

### River Based Programs – Senior High

In the river there is an additional level of risk associated with taking the program onto moving water and into an uncontrolled environment. This raises some of the risk and adds to the challenge of setting up the program to be safe and manageable. But it also increases the benefits of the sport with the opportunity to challenge students with a higher perceived risk, build water safety skills, interact with nature, build outdoor awareness and enhance paddling skills. There is a 30 year history of school districts running kayak programs at canoe/kayak clubs very successfully on rivers in their community. So with proper care and attention to the safety issues it can be a very rewarding and enriching program for school children as early as the age of 10 and up.

As with other life activities and in the pool, risk and the possibility of injury can never be entirely eliminated. But our goal is to minimize to a negligible degree the real risk of permanent damage in this program.

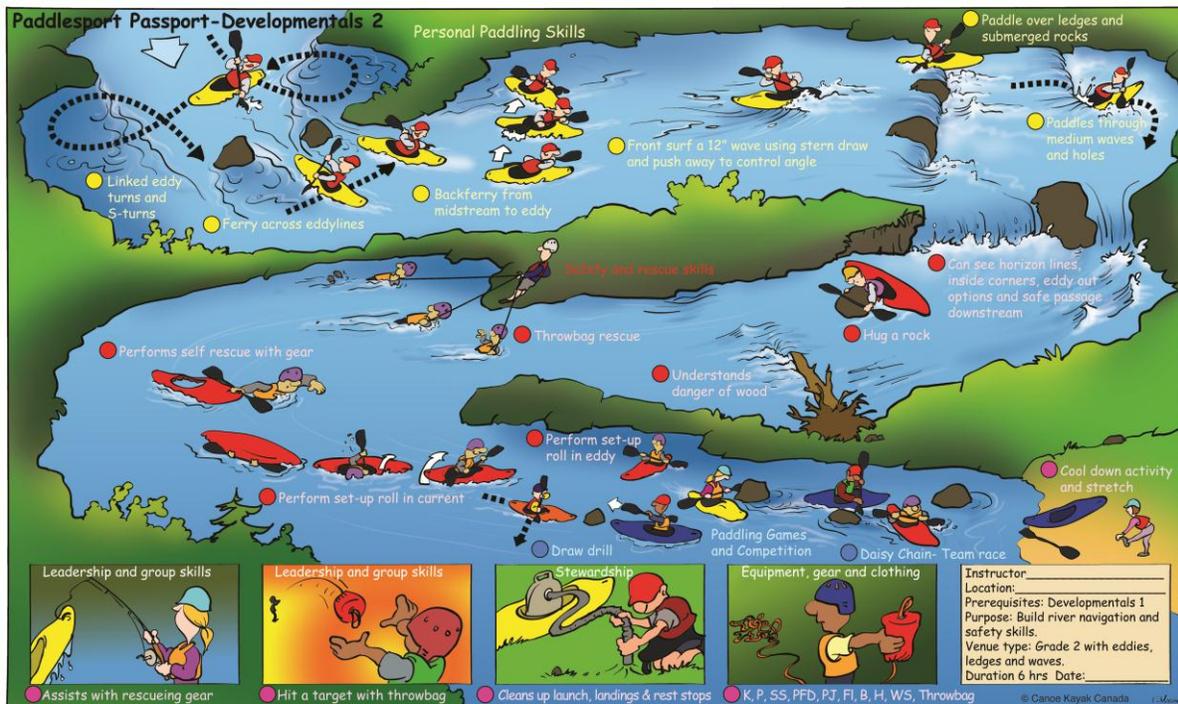
Some of the key safety parameters that need to be in place include:

1. The first lesson should be taught in the pool or warm water environment to acclimatize the students to the boats and equipment and to ensure everyone is competent doing wet exits
2. Weather and river conditions will need to be monitored and when necessary, classes may be rescheduled or cancelled for safety issues. More details below.
3. The instructor to student ratio on moving water is 1:6.
4. Students and instructors will all wear approved Personal Flotation Devices (pfd's) and helmets when on or near the water.
5. The river should be selected to provide optimum safety and a great teaching environment.

6. The safety issues outlined for the pool and lake are valid and will need to be respected for the river including:
  - a. Weather
  - b. Wind
  - c. Rain
  - d. Thunderstorms
  - e. Sun & UV exposure
  - f. Heat Stroke
  - g. Hypothermia
  - h. Wildlife

Other safety and risk related issues

7. Instructors are required to keep the group within easy reach in case a rescue is needed. Groups should never be strung out where an individual's safety is compromised if they capsize. River Instructors are trained to manage groups and keep them in close proximity so they can be easily controlled.
8. River Kayak Instructors are well trained to easily and quickly perform river rescues of swimmers and their equipment.
9. Other safety issues in the river
  - a. Practise routines require the students to be closer on the river and can lead to contact between boats. .
    - the instructor will caution students to give each other space and to wait for their turn to practice a maneuver.
  - b. Tipping over in the river most often occurs in practice drills in deeper water that minimizes any body injury and swimming is part of the learning process.
  - c. Striking another paddler with the paddle can result in cuts and contusions.
    - the instructor will caution students to be careful with their paddles around others
    - the instructor will get students to spread out when they are doing drills.



### River Issues

1. UV light will damage kayaks and the fabrics in sprayskirts, pfd's, wetsuits and paddling tops will deteriorate over time. All gear should be rinsed off and stored out of direct sun to maximize its life span. With good care all the gear will last a long time.
2. Each club will have their own rules and methods for storing boats and gear, launching boats, and emptying the boats. The instructor and pool staff will manage these issues.

### Class Management

1. The suggested Instructor to Student ratio is 1:6 on the river. An assistant instructor or responsible adult to help with equipment and take the sweep position in the group will make the class run much smoother until the students develop the basic skills.
2. Most classes have 25-30 students and will require five kayak instructors for the class to accommodate everyone in one outing.
3. One of the biggest obstacles to a kayak program is the cost and logistics of transporting the students to the river. Ideally the river is within walking distance of the school, otherwise students will need to be bussed to the river, which adds time and cost to the logistics of a school kayaking program.

