



# CANOE SPRINT AND PARACANOE ATHLETE DEVELOPMENT FRAMEWORK

# How to use this document

This document is an evolving guide to assist both coaches and athletes to identify key areas for development. This is a guide of principles and requires considered implementation. It does not provide a ready-made solution to training programmes or problems due to the individual nature of the athlete development puzzle. There are multiple skills and attributes to develop on the journey to becoming a paddler, people develop at different times and at different rates.

Use of this guidance at a group level will require coaches to consider their training environment, areas of development and motivation for the group as a whole; as well as the ages and stages of development of the individuals.

**Follow the links to be guided through additional resources and access a greater depth of information and detail.**

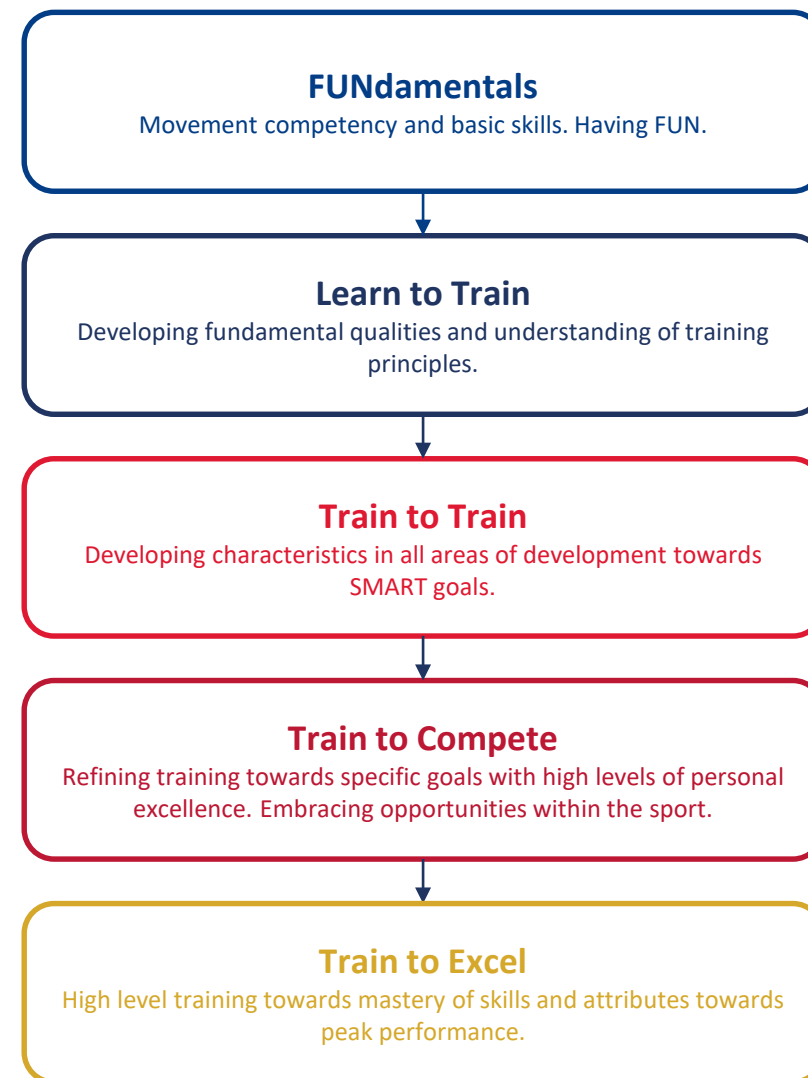
# Development Journey

Participation in sport, striving to achieve development goals, being challenged and learning to overcome setbacks, involve learning skills that are supportive of a young person's development within and beyond sport. The journey and the growth of the individual can be an outcome in itself.

## Key points to remember on the athlete's development journey:

- It takes a lot of time to realise potential.
- Paddlers that fall in love with the sport are more likely to maintain lifelong involvement.
- Development is not straightforward, there are multiple pathways.
- The pathway to performance success as a senior is likely to involve a lot of wrong turns, disappointment as well as possibly time paddling and racing across disciplines.
- There are different roles that are there for you if you outgrow a performance focused role. You might sign up to the sport for one thing and then find another that is equally fulfilling such as coaching, volunteering, officiating.

A suggested guide to the sequences of development is included opposite, this is derived from the Long Term Athlete Development (LTAD) framework and provides example principles of progression.



# Athlete Development Fundamentals

Canoe Sprint and Paracanoe racing requires excellent technical and tactical skills underpinned by high levels of strength, power and endurance. This document is broken into six sections, all of which are fundamental to the holistic development of the individual.

A person in a white shirt and sunglasses is shown from the waist up, holding a canoe paddle. The background is a blurred outdoor setting.

## Technical Framework

A person is lying on a rowing machine in a gym, with various weights and equipment visible in the background.

## Physical Development

Two athletes are embracing each other in a celebratory hug. One is wearing a white singlet with the number 38 and a British flag.

## High Performing People

Two athletes are on a canoe. One is wearing a blue singlet and the other is wearing a white singlet. They are both looking down at something on the canoe.

## Training Environment

A person is in a small white canoe on a body of water, with a large bridge in the background.

## Classification (Paracanoe)

Two athletes are in a canoe, racing on a body of water. They are both wearing white singlets and are captured in the middle of a stroke.

## Learn to Race

# Technical Framework

The four areas (boat, body, blade and fittings/adaptations) of the technical framework are the key outcomes in order to maximise boat speed and efficiency.

Each athlete will achieve these key outcomes in their own individual way dependant on their movement capabilities and/or impairment. Along with developing a 'feel for the water' and adaptability within conditions and crews, athletes will find a different 'fit' and develop their own unique paddling style. The fit or style will vary from person to person but the key technical outcome (broken into the four areas) will remain consistent.

## Body

**Maximise power production through chain:**

- Drive from biggest muscle groups
- Have optimal posture

**Reduce potential power leaks throughout chain:**

- Is there a break in body position?
- Is there a lack of synchronisation in whole body chain movement?

## Blade

**Optimise power transfer from body to boat:**

- Generate early and consistent lock through drive
- Express 'locked' force quickly
- Minimise blade slip
- Minimise drag through exit
- Blade size, shape and length
- Understanding path of the blade; positive, neutral and negative.

## Adaptations/ Fittings

**Maximise power transfer through secure adaptations and/or fittings with as little play as possible:**

- Individualised adaptation/ fittings bespoke to fit the athlete's needs
- Strength, positioning and rigidity fastening of straps or bars

## Boat

**Maximise propulsion by reducing drag:**  
Speed surge, Yaw, Pitch and Roll

**All adaptations and fittings must be safety tested and allow unimpaired egress in the event of a capsized.**



# Physical Development

Training out of the boat will enhance an athlete's abilities to tolerate training and prepare for competition. This is achieved by the completion of consistent, relevant and appropriate strength and conditioning training.

This programme encourages a holistic approach to physical development and general athleticism, one that provides athletes with a broad array of physical qualities and movement skills to lay the foundation for future physical development.

There are 3 main aims of a strength and conditioning programme:

1. Help keep the athlete injury free and training regularly.

2. Ensure the athlete is strong and conditioned enough to deliver the desired technique on the water repeatedly.

3. Ensure the athlete has the ability to apply and tolerate force repeatedly on the water.

Supporting the 3 main aims is a need to ensure adequate **flexibility** to enable correct body positions in the boat and establishing good **sleep** and **nutritional** habits. These all support a foundation for consistent execution and recovery from training and competition.

For detailed strength and conditioning programmes, please see our Physical Preparation model [here](#).

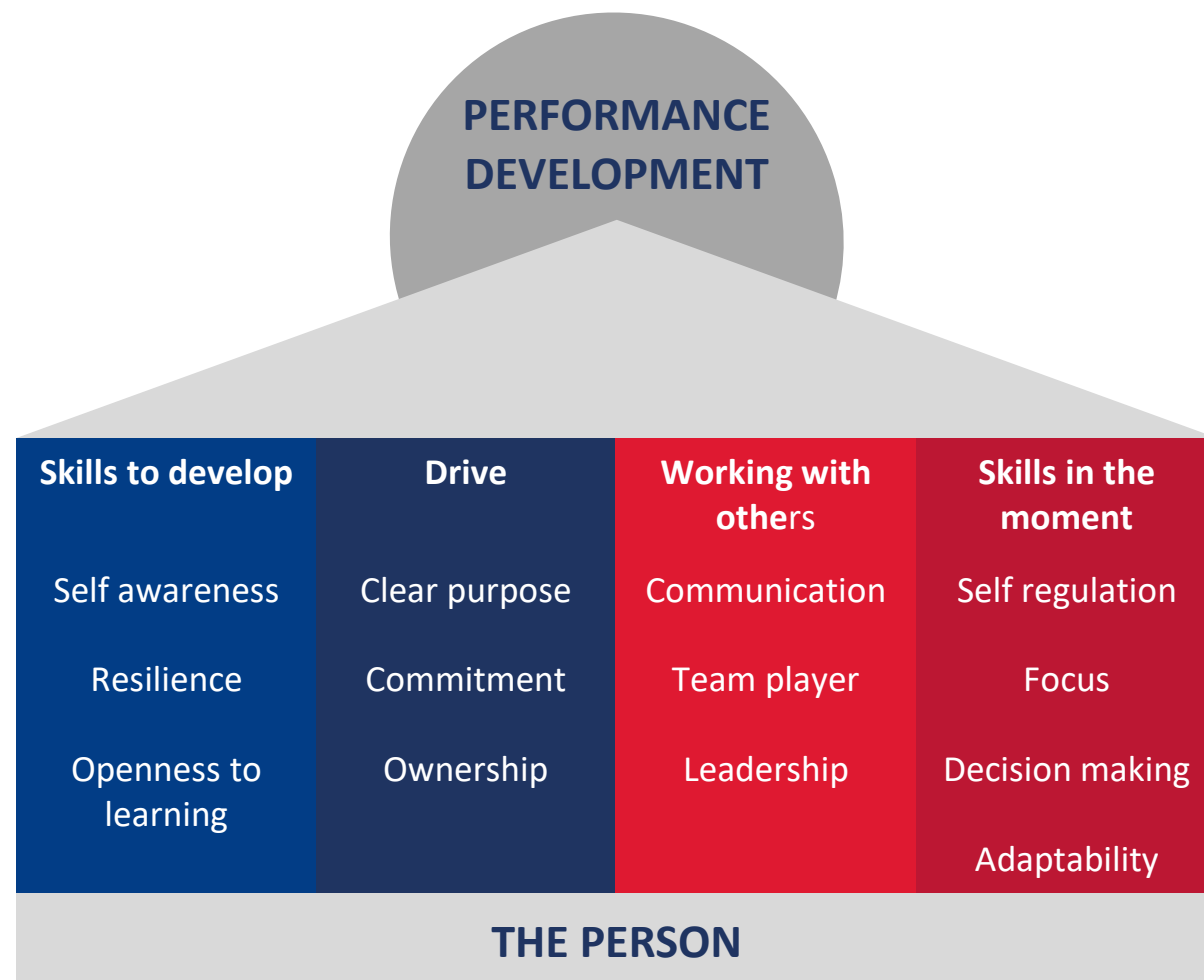
# High Performing People

High performance is an athlete's ability to deliver consistently under pressure. This performance is underpinned by an athlete's skills as a person and these are presented by four pillars describing characteristics, behaviours and habits. No single element is more important than the other and none are developed in isolation.

To realise potential is a long process and one that needs to be driven intrinsically by the athlete. At times athletes will need support, encouragement and help from their team (their coach, their parents). Ultimately though, it is the athlete that needs to foster a love and enjoyment of the sport that engages them for the long term, this cannot be done for them.

Supporting the development of the person and the athlete is about understanding the developing individual in front of you. Coaches need to balance the progressive shift between a coach-led programme of development and learning, towards one with greater levels of athlete ownership.

**For a detailed view of each of these elements, click to view our [High Performing People model here](#).**

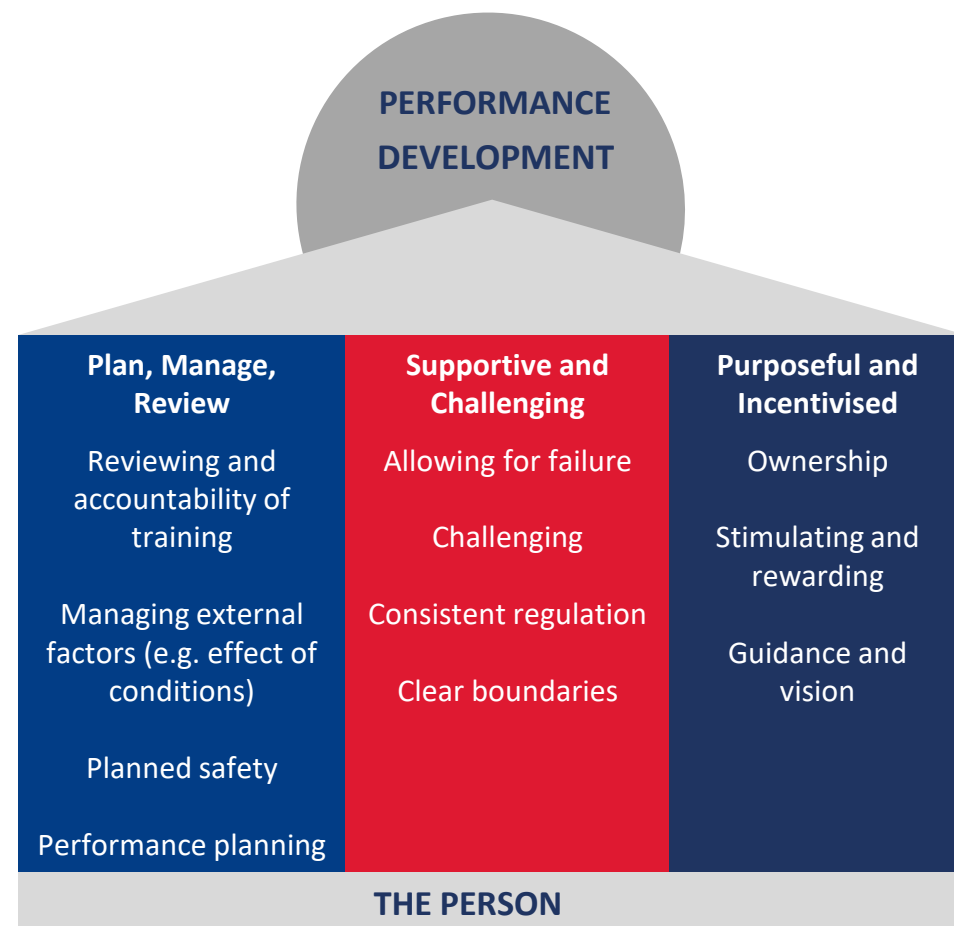


# Training Environment

In order to maximise an athlete's development, an effective training environment needs to be created; one that is fun, engaging and builds a sense of belonging throughout their journey in the sport.

These factors are not simply physical buildings or water, they are the people, processes, practices and cultural norms.

The key principles of an effective training environment are captured within this framework.



# Racing Crew Boat Development

Crew boat paddling is a skill and different seats require different skills.

Through regular skills coaching in a variety of crew boats and seating positions paddlers can develop the technical and boat specific skills needed for effective crew boat paddling.

Crew boats also provide an opportunity to develop camaraderie and friendship amongst paddlers, whilst developing key behaviours such as teamwork and adaptability.

Crew boats should play a significant part in the development of young athletes who aspire to the Olympic dream. It is therefore important that crew boat skills form an early and continual part in athlete development.

**For details on crew boat specifics for different categories click [here](#).**



# Paracanoe Classification

Classification is a key part of Paracanoe to ensure that the athlete is in the correct class.

All athletes are required to complete a National classification before being eligible to race in National Paracanoe Races.

## KAYAK

### KL1

Athletes with no or very limited trunk function and typically need a special seat with a high backrest in the kayak.

### KL2

Athletes with partial trunk and leg function, able to sit upright in the kayak but might need a special backrest. Limited leg movement during paddling.

### KL3

Athletes with trunk function and partial leg function. Able to sit with trunk in a forward flexed position and able to use at least one leg/prosthesis.

### Classifiable Impairments:

- Impaired Muscle Power
- Impaired Passive range of movement
- Limb Deficiency

### VL2

Athletes are given a score depending on their trunk and leg function. The VL2 class is for athletes who score lower on the trunk function test but have a higher leg function score or vice versa. This score is decided by the classifiers.

### VL3

Athletes with full dynamic trunk movement or almost full dynamic trunk function and partial leg function.

VA'A

[Click here for National and International Classification information](#)

# Learn to Race

Racing is a psychological journey through different and changing emotions depending on the stage of the race.

Providing paddlers with a breadth and depth of competitive experiences (such as racing at local, regional, national and international races) for them to learn from will give them a robust skill set and 'tool kit' of experiences.

This develops their ability to deliver optimal performances in any conditions, boats or environments.

It is important that athletes (and their families) enjoy their early experiences, make friends and learn to enjoy the challenge and thrill of racing.

Having a clear preparation plan and goals for racing allows the athlete and their coaches to reflect and learn from their race day and ensure a focus on process rather than outcome. Success can come in many different forms, winning alone is not the only outcome.

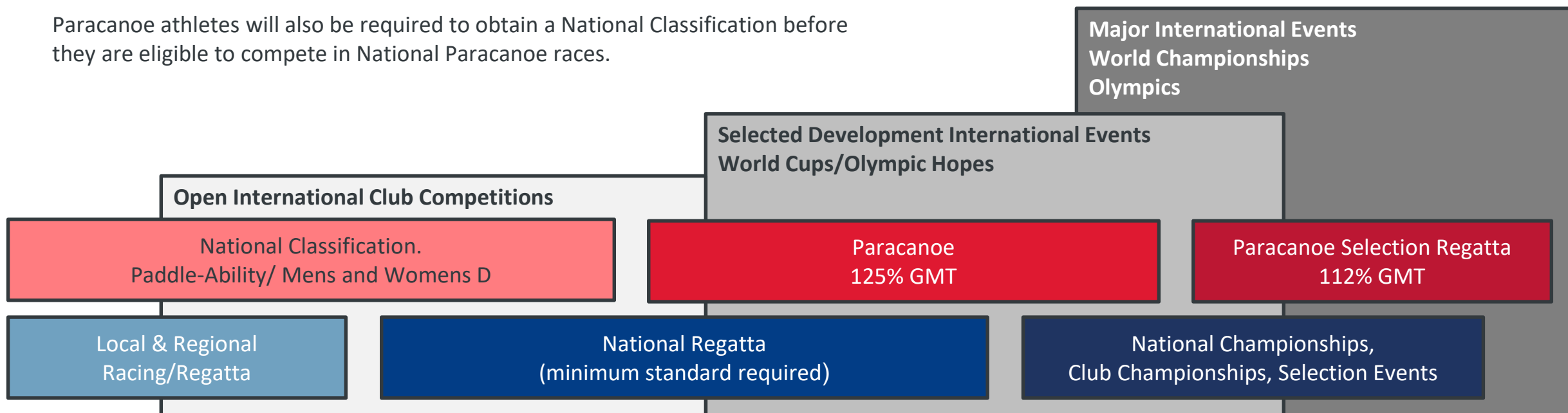
**For further guidance, please follow the link [here](#).**



# Competition: Progression

Athletes are able to progress through various races on their journey. Athletes are required to achieve a minimum standard to be eligible to compete in a National Regatta.

Paracanoe athletes will also be required to obtain a National Classification before they are eligible to compete in National Paracanoe races.



Paralympic Pathway:



Olympic Pathway:



# Para Performance Progression

Throughout an athlete's development, there are key markers which will help guide an athlete on their journey along the pathway. These times will be constantly reviewed and subject to regular update in order to reflect the current Gold Medal times in each class and classification.

Class	Classification	Gold Medal Time (GMT)	Regatta Qualification Time (125% GMT)	Performance Time (112% GMT)
Men K1	KL3	38.10	47.63	42.67
	KL2	40.70	50.88	45.58
	KL1	45.42	56.78	50.87
Men V1	VL3	47.42	59.28	53.11
	VL2	51.68	64.60	57.88
	VL1	62.96	78.70	70.52
Women K1	KL3	46.86	58.58	52.48
	KL2	47.47	59.34	53.17
	KL1	51.83	64.79	58.05
Women V1	VL3	56.82	71.03	63.64
	VL2	56.10	70.13	63.83
	VL1	74.56	93.20	83.51

GMT– Gold Medal Time – world's best time achieved in that class and classification

112% GMT – Athletes have achieved minimal eligibility for international selection

125% GMT – Official qualifying time to be achieved to be eligible to race in Paracanoe events at National Regattas.



# Sprint Performance Progression

World Leading Times (WLT) across events and ages are captured below to give an indication of performance standards. The times are typical for medal winning performances at major championships. These times will be constantly reviewed and subject to regular update to reflect current World Leading Times in each class. This table provides a tool for goal setting and monitoring of training progression in event performances and key training sessions.

Class	Event	Senior WLT	U23 WLT	% WLT	Junior WLT	% WLT
Kayak Women	K1W 500m	01:47.65	01:51.16	103%	01:53.82	105%
	K2W 500m	01:37.88	01:43.08	105%	01:44.63	106%
	K4W 500m	01:30.12	01:34.54	105%	01:36.64	107%
	K1W 200m	00:38.93	00:40.44	104%	00:41.57	106%
Kayak Men	K1M 200m	00:34.01	00:34.72	102%	00:35.91	105%
	K1M 500m	01:35.96	01:38.70	103%	01:40.06	104%
	K2M 500m	01:27.70	01:31.44	104%	01:32.81	106%
	K4M 500m	01:18.58	01:20.81	103%	01:23.51	106%
	K1M 1000m	03:24.41	03:30.08	103%	03:34.15	105%
	K2M 1000m	03:07.90	03:12.86	103%	03:16.96	105%
Canoe Women	C1W 200m	00:45.49	00:47.51	104%	00:48.97	107%
	C1W 500m	02:06.39	02:12.76	105%	02:14.82	106%
	C2W 500m	01:55.68	02:01.39	105%	02:03.92	107%
Canoe Men	C1M 1000m	03:46.22	03:53.62	103%	03:56.56	104%
	C2M 500m	01:38.54	01:41.50	103%	01:41.26	103%
	C2M 1000m	03:27.34	03:34.92	104%	03:39.31	105%

WLT– World Leading Time is calculated as the average of the best 40 times recorded in that event at international events.



# Extra Resources



[British Canoeing Paracanoe information](#)

[Introduction to Paracanoe](#)

[Breakdown of Para classifications](#)

[British Canoeing Sprint information](#)

[British Canoeing Flatwater committee](#)

[Canoe Europe](#)

[International Canoe Federation](#)

# Contributors and Supporters

We would like to thank all the coaches and support staff who have dedicated time and expertise to this piece of work.

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