

Open Water Navigation and Tidal Planning Trainers Notes

Course philosophy

This course is designed for those paddlers carrying out challenging sea journeys including open crossings in areas of strong complex tidal movement (in excess of 3knots) and is a prerequisite for those seeking their British Canoeing 5 Star Sea Leader Award. However, anyone wishing to undertake challenging journeys on the sea using a kayak would find the technical and theoretical aspects not only useful, but essential for safe travel in the marine environment! The course is designed to complement the areas covered in the British Canoeing 5 Star Sea Leader training.

Course aims

The aim of this course is to give the student the tools to enable them to plan and navigate effectively on open water journeys in advanced sea conditions. It should increase the knowledge and awareness of the paddler and therefore improve their seamanship. This will include the following aspects:

- to interpret sources of relevant information including maps, charts, coastal pilots, tide tables and tidal stream atlases
- dynamic interpretation of weather systems
- to apply the above relevant information in calculating vectors and negotiating open crossings and/or coastlines with no landing zones and/or tide races and overfalls
- to develop the necessary knowledge to navigate on the water using advanced pilotage techniques in poor visibility or hours of darkness
- by the end of the course each student should have planned at least 2 open crossings that they can take home as references for further trip planning
- students should also be aware of the range of resources they require to plan trips in any sea area

Prerequisites

Students need to have completed the British Canoeing Coastal Navigation and Tidal Planning course or a recognised equivalent. For recognised equivalents see “Alternative Qualifications for Navigation and Tidal Planning Courses” available from the Home Nation websites.

Equipment required for course by students

Course providers are to advise students what they are expected to bring in the pre-course information. Either the course provider or student will need to supply the following;

- Silva type 4 or similar compass suitable for map work
- suitable chart plotter
- 2B pencils and rubber
- notebook
- Recommended course book, Sea Kayak Navigation, Franco Ferrero (2nd Edition, 2007)

Equipment provided by tutor and required for effective open water planning

- Breton plotter
- Parallel rules
- Dividers
- 2B pencils
- Pilots / Sailing Directions / Tidal Stream Atlases /Sea Kayak Guides e.g. Oileain
- Computation of rates tables
- Charts with complex tidal streams and open crossing possibilities e.g. North Channel, English Channel, Pentland Firth, Channel Islands etc.
- Maps
- Tide tables (Local relevant to pilot and charts)
- Resources must include all relevant information for more than one sea area

Venue and duration

The course is a minimum of 8 hours duration, (1-day or ideally several modules).

Whilst this is a shore-based course the intention is that it is highly practical and not a lectured syllabus. The students should participate in a variety of practical planning exercises using the variety of resources provided. This must constitute a minimum of 60% of the course time.

A suitable indoor teaching venue with work tables and chairs is required, along with ample work space and access to presentation resources e.g. PowerPoint.

Administration

- a course authorisation number is required - obtained from Home Nation Association
- at the end of the course the course director should sign the students logbook if requested
- a course schedule must be returned to the Home Nation Coaching Officer, within 7 days of the course, with the relevant certification fees. (A course schedule is provided by the Home Nation Coaching Office, at the time of notification of the course authorisation number). As a result students will receive a certificate as evidence of training completed
- the certification fees are £5 for Home Nation members, £10 for non-members

Provider requirements

British Canoeing Open Water Navigation and Tidal Planning Provider.

Note regarding RYA equivalents

Where either the British Canoeing Coastal Navigation and Tidal Planning, or British Canoeing Open Water Navigation and Tidal Planning course is required by British Canoeing as a prerequisite for other Awards or Qualifications, a number of RYA qualifications are also considered appropriate. These are detailed in "Alternative Qualifications for Navigation and Tidal Planning Courses" (attached at the back of these notes). Where candidates wish to use an appropriate equivalent they are required to present their certificate to the course director, and their Home Nation when they

register for the award. This is applicable in the main to 4 and 5 Star Sea Leader Training and Assessment.

Course content

The course information will fall into three main areas and the key aspects covered under each of these are highlighted below;

1. Environmental considerations

(Typically 15% of course time)

Weather;

Learning outcome - students should understand synoptic chart and dynamic interpretation of weather information, including;

- how to interpret a synoptic chart and the ability to predict weather conditions at sea from the chart, including;
 - estimating wind direction and strength from isobars
 - estimating wind speed based on the Geostrophic scale
 - estimating swell development from isobars and systems and relating this to the relevant sea area
 - estimating changes in wind direction and strength from isobars and weather systems
- how to recognise effects of change through weather observations, including;
 - understanding and application of Buys Ballots law
 - understanding of changes in weather associated with changing cloud conditions
 - understanding the impact of the speed of change of barometric pressure
 - recognition of cloud types and associated weather
 - images of main cloud types to be shown, it is important that students know the meaning of these clouds as opposed to having to know the names of the cloud formations
- working knowledge of the shipping forecast

Tides;

Learning outcome - students should have a comprehensive knowledge and understanding of the cause and effect of tides and tidal streams;

- this should be a re-cap of the CNTP syllabus content to ensure depth of knowledge to enable planning in advanced environments

2. Open water tidal planning

(Typically 70% of course time)

Learning outcome - students should be able to extrapolate info in order to plan trips in open water environments and have a detailed knowledge of the following;

- the various factors to take into account when planning a trip in advanced sea conditions including calculation of timings, group skill level, logistics and environmental factors
- how to determine the best Estimated Time of Departure (ETD) and Estimated Time of Arrival (ETA) from looking at tidal gates in the open water environment
- the importance of estimating speed over the water especially in open water crossings
- the importance of planning escape routes / options within the plan
- the importance of making all planning as accurate as possible prior to departure due to the risk of compounding errors in practical open water navigation
- the understanding and application of information contained in a tidal stream atlas and tidal diamonds
- how to use a computation of rates table to gain accurate tidal stream rates
- an understanding of the limitations of the speed of a kayak regarding making crossings in areas of strong tides
- the variety of methods used to plan an open crossing with an emphasis on the accuracy of using hourly tidal vector plots

3. The practical application of navigation theory

(Typically 15% of course time)

Practical planning exercises;

- planning two open tidal crossings in different sea areas
- the second of these exercises should include using a range of pilotage, chart and tidal streams resources and take place in an area of tidal streams in excess of 3 knots
- planning consideration of weather and swell should be taken into account within the exercises

Additional knowledge to the Coastal Navigation Course;

- how to calculate bearings on the deck for crossings of strongly tidal waters
- how to estimate position in open water using map and compass, including;
 - create a running fix
 - create a resection
 - create a dead reckoning position
- how to estimate the speed of the tidal stream when out on the water