

Rijnland Book Rowing Club Rijnland
Rules, practices and theory



RIJNLAND
1965 2015

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RIJNLAND BOOK

ROWING CLUB 'RIJNLAND'

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References:

Fare with Care! Rules of thumb for recreational user of waterways.
Rijkswaterstaat 31-10-2007, Project "Varen doe je samen",
www.varendoejesamen.nl/algemene-informatie

Tips for Rowers and Canoeists.
Project "Varen doe je samen",
Rijkswaterstaat www.varendoejesamen.nl

Glossary of Rowing terms, ARA Amateur Rowing Association. The national governing body
for rowing in England, to which all clubs should be affiliated.
<http://www.britishrowing.org/upload/files/CoachingTraining/rowing-glossary.pdf>

Concept 2 Oar assembly & use manual,
http://www.concept2.com/files/pdf/us/oars/Oar_Manual.pdf

Glossary of Rowing terms, from Wikipedia, the free encyclopedia.
http://en.wikipedia.org/wiki/Glossary_of_rowing_terms

English version 0.5, May 2014

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2. Foreword

It is my pleasure to present on behalf of the board of Rowing Club Rijnland the first English edition of the Rijnland Book, This document contains the English translation of the 3rd edition of the Dutch Rijnlandboek, published December 2013.

The Rijnland Book is for all members of the Rowing Club. In contains essential information about the rules, practices and theory within the Rijnland Rowing Club.

Because of the growing number of English speaking members in our club the need for information in English has become more important. Questions came from youth members as well as from veterans.

As a member of Rijnland you are entitled to make use of all the facilities, according to the rules, resolutions, and customs of Rijnland. This Rijnland Book contains the most recent version of these rules and customs which are in force within our club. Among them are for example the house rules about locking the building (chapter 5), the circumstances which lead to an outing ban (chapter 6) and the most important rules about outings which every member should know (chapter 7).

The technic of rowing is explained in only two pages, but of course one does not learn to row from a book.

At the moment chapter 3: "Rowing Club Rijnland" and 4: "Rowing possibilities" are missing. The chapters 9: "Rowing Material", 10: "Handle Rowing material, Commands", 11: "Coxing" are partly summarised.

This document contains all the information, necessary in order to pass the theory exam. So it contains all information to sail safe.

Within Rowing Club Rijnland we use only commands in Dutch. The reason is to prevent misunderstandings and to promote safety in usage of oars and boats during rowing outings. These Dutch commands are incorporated in this English version. Of course they include the English translation and description.

The English terms used are coming from different sources.

- In the first place we used the terms are used of the ARA, the Amateur Rowing Association, the national governing body for rowing in England. In chapter 13 they are listed.
- In case of names for parts of oars and riggers the terms used by Concept2 are used. In practice several are already in use within Rijnland.
- The names of boat types come from the ship-yards Empacher and Filippi
- When more information was required the "Glossary of Rowing terms" in the Wikipedia encyclopaedia was consulted.

This English version of the Rijnland Book you will find on the website of the club. It gives the possibility to complete and update the book. Updates will be announced through the website www.rvrijnland.nl

I thank all members that co-operated on the translation of the book. Contributors to this English version are Dave Neville, Andra Dudley, Arthur Overlack and Hans van Willigenburg.

Marianne Bovenhoff,

President Rowing Club Rijnland

May 2014

3. Rowing Club Rijnland

See Dutch version.

4. Rowing possibilities

See Dutch version.

5. Rules used in and around the building

Parking

On the area near the buildings are bicycle stands. Cars and boat trailers are only allowed on the grounds when loading or unloading. People with a disability can be dropped off or picked up.

Cars should be parked in the large parking area named "Pijlkruid".

Keys

All members of the club are allowed to get a key of the building. They will receive it from the "commissaris gebouw" and have to pay caution money of €25,-.

With this key one will be able to open and close the locks of the gate, the small boathouse, the locks of the outside door and the door between the boat house and the club house. Also the alarm of the building can be switched on and off.

Coaches and instructors may also require a key for the kitchen.

Arrival as the first person

The first person opens the gate to the ground and enters through the door at the side of the building. On arrival switch off the alarm immediately with the key. Follow the instructions next to the alarm.

Rowing when no other person is in the building

If you are the only person in the club, make sure all locks and doors are locked and take the key with you when you are going rowing. Also take the key if you don't know whether anybody will be in the building on your return.

Locking up when leaving

When you leave the building as the last person you have to lock the building and switch on the alarm.

Check:

- If nothing is left outside (trestles, oars, towels, clothing, etc.)
- If all doors and windows are closed and locked. (also both boathouses and door between boathouse and club)
- All the lights are switched off.
- The heating is put on 15° centigrade.
- Switch on the alarm by turning the key to the right in the lock (instructions next to it). Make sure the red light comes on.
- Leave the building and lock the door.
- Lock the gate.
- Note if the alarm is not put on properly, costs (€55,-) of the security people having to come out will have to be paid by the last person.

Curfew

From 00:00 till 06:00 no one is allowed in the buildings or grounds. If you have to be in the building you have to ask permission beforehand from the "commissaris gebouw" or the security coordinator.

Lockers

Don't leave items of value or money unattended in the dressing rooms. There are lockers for these things.

Usage of clubhouse and grounds

Rijnland has nice facilities and a large kitchen in the club house to facilitate social life. The SOEVIE consist of volunteers who work hard to make this possible. They organise events like the Christmas brunch.

The bar is open on Saturday and Sunday from 09:00 till 14:00

Members are able to use the facilities for private parties. Also rowing teams can use it for meals etc. Agreements to use the club privately are to be made prior with the contact person of the **SOEVIE**.

Activities for the club members always have priority above private parties

The **garden committee** helps to keep the area around the buildings pleasant and in order. They might ask for extra help, for instance on garden working days (see year book).



Jointly meal after touring

Club clothes

Rijnland has its own line of club clothes. You can buy items when someone from the **clothing committee** is present. Look on the poster next to the cupboard. When rowing on tours or with other clubs wearing Rijnland clothing is appreciated.

When rowing in a race Rijnland clothing is obligatory. For safety reasons the bow rower and cox should wear brightly coloured clothing.



The race dress

Building and boat maintenance

In Rijnland a **working group** works on Wednesday afternoons to maintain the buildings and boats.

Anyone who would like to come and help is welcome. Please feel free to contact one of the contact persons for more information. You find them in the year book.

Introductions

Every member is allowed to take a guest to row, but no more than 3 times a year.

The name of the guest has to be written in the book on the shelf next to the computers.

If one wants to introduce more people for instance for a rowing clinic or a family day, one has to ask permission prior to the event from the club management.

It is important that enough experienced members of Rijnland help with rowing and coxing. Don't forget to reserve the boats beforehand. The cost for the usage of the boats is € 5,- per rowing position.

6. Rules for outings and use of boats

There have to be rules for the use of our valuable equipment.

6.1 Use of the boats

- Boats must be booked for an outing, at most 48 hours beforehand. The booking lapses a quarter of an hour after the start time if the registration is not confirmed.
- On weekends boats may be used for two hours at most. Other rules apply to regattas and tours. If one wants to use a C-boats and Wherry for more days, one needs to reserve it with the Toercommissie (see year book).
- Rowers may only book boats for which they have passed the relevant exams.
- Only matching boats and oars may be used together.
- All seats for rowers and coxes in a boat must be occupied.
- The "commissaris wedstrijdroeien" assigns boats marked "toewijzing bestuur" in the list.

6.2 Rowing on and access to Lake Vlietland

- Rowing under the bridge over the Jan Bakkersloot is dissuaded. If damage to a boat occurs by using this bridge the crew has to pay for the repair of the damage. This bridge is no longer used for instruction or exams. The new bridge is wider and safer and takes preference.
- On Lake Vlietland wherries and c-boats are not allowed when wind force is 6 or more. Keelless boats and boats without a cox are not allowed on the lake when wind force is 5 or more.
- Skiffs are strongly recommended to remain near the bank and not to cross the lake. During winter months you are not allowed to row on your own on the lake and a life jacket is recommended.

6.3 Rowing in a single in the winter

- Sculling alone is not advised if the water temperature is below 12°C.
- Instruction in single sculling therefore takes place only between 1st April and 1st November.

6.4 Outing ban (Vaarverbod)

There is a general outing ban if:

- When it is dark rowers may row only between half an hour before sunrise and half an hour after sunset. That means: be on land when the street lamps are on.
- The wind is high: force 7 or more, or white caps on the Vliet.
- Frost on land or ice on the water.
- Thunderstorms. If one is brewing, get off the water.
- Mist and fog: If you can't see further than 500 meters. The bridge nearby and the shipyard of Mulder can't be seen from the boathouse.
- The materials committee deems rowing irresponsible for any reason.
- Any member may call a "vaarverbod" in any of cases (1) to (5) and hang the sign by the door to the boat hall.

An outing ban means no boats go onto the water.

The weather is not always predictable and does not always play by our rules.

Rowers are responsible for their decision to go rowing or not!



Winter 2008 – 2009. Much ice on the Vliet

6.5 Damage to boats

Comments about the condition of boats or damage arising during an outing are to be registered on return using the computer system.

Collisions and serious damage are to be notified by email to the materials committee and a report is to be prepared straightaway. The materials committee and the boatman perform repairs. Avoidability of the damaged will be assessed. In cases of careless use of material the crew will be expected to pay up to €250,-. See the "huishoudelijk reglement" for details.

6.6 Boat trailers

The club has three trailers. For use consult the trailer committee. In the year book are the rules for reserving a trailer. On the site you find the manual how to load the trailers.



Boat trailer loaded with C-fours and a wherry

7. Safety and waterway rules.

7.1 Responsibility

- Each member is responsible for his or her own safety.
- Each member is expected to know the rules and recommendations of the club.
- Instructors are responsible for the safety of boats and rowers entrusted to them. They should act according to instruction and exam rules (see section 8), and take into account the experience of crews and safety aspects, registration of boats for outings, what to do in the event of capsizing or swamping.
- The officials of the club are responsible for general safety policy in their several areas of responsibility (rowing generally, material, regattas and buildings).
- By signing the "Convenant Veilig varen doe je samen!" (Agreement Together we keep the safety on the water!") from April 2013, the board of Rijnland has made agreements to promote the safety during rowing. Several agreements are , to promote wearing brightly coloured clothing, register and report incidents to the province of South-Holland. Also the club is obliged to offer information about these subjects, in particular about several rules on the waterways. These rules are included in the Rijnland book (7.3).

7.2 Six factors affect safety

- 1) The skill and knowledge of the crew.
- 2) The behaviour of other vessels.
- 3) The waterway itself: banks, currents and shallows.
- 4) The state of the material.
- 5) The weather.
- 6) Preparation: plan, weather reports and maps.

In respect of (1):

- To be taken into account even on short outings nearby.
- Crew members must have passed the necessary exams. See section 8 for information.
- Pupils in single sculls must be accompanied.
- Crew members must be able to swim.
- Coxes, bow rowers and single scullers must be able to see well and look ahead.
- Crews must be aware of the rules of the waterways.
- Those on tours have to be able to read maps, shoot bridges and pass locks.
- Crews may row in darkness only with permission of the committee.

In respect of (2):

Most accidents are caused by other boats. Be alert and be seen. See also 11.7: "Wind and Shipping" below.

In respect of 3:

- If heading for unfamiliar waters, make inquiries before setting out.
- Don't go onto Lake Vlietland or other open water
 - in high winds (force 6 or more) or force 5 or more (keelless boats and boats without a cox).
 - when the water temperature is low (below 12°C), and stay within 20m of the banks.
- When touring in open water think about life jackets, raised saxboard, canvases and spray decking. The crew is responsible for taking precautions.
- At regattas, the safety regulations of the Royal National Rowing Association (KNRB) and the organising club are applicable.

In respect of 4:

- Make sure the visibility of your boat is good. The bow rower and cox should wear brightly coloured clothing.
- Wear suitable clothing for rowing in the conditions pertaining: headgear, sun cream, life jacket.
- Touring boats must have a bailer, sponge, boathook, paddle and mooring lines, and a mobile telephone is recommended.



In respect of 5:

- If the wind rises, fog descends or lightning becomes likely, seek shelter.
- Rowing boats are not easily visible, especially if conditions worsen (weather, darkness).

In respect of 6:

Plan ahead, consult the web concerning weather (www.buienradar.nl).

Discuss safety matters with guest crew members prior to going out. Make secondary plans for possible eventualities.

In the boathouse there are:

- A rescue reel (by the emergency exit from the boat hall).
- First aid materials and rescue blankets in the club house and the workshop.
- Defibrillator (in the clubhouse near the bar). In an emergency (no heart rate) the victim should be treated as soon as possible. Phone 112, preferably with a mobile phone. Tell the person needs to be reanimated. Start straight away with reanimation.

7.3 Waterway rules, sound signals

Good seamanship.

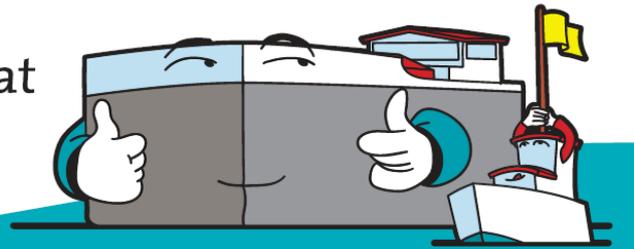
Rules of the waterway are less strict than the rules of the road. The starting point is good seamanship: anticipate dangerous situations. Collisions are so hazardous that avoidance of them takes precedence over other rules. Allow others the space to proceed in safety.

The most important rights of way on the water:

The police regulations for inland waterways (Binnenvaartpolitiereglement, BPR) and the police regulations for the Rhine waterway (Rijnvaartpolitiereglement, RPR) describe the traffic regulations for Dutch inland waterways, concerning signboards, lighting, boat signs, sound signals, rights of way and collision avoidance. These rules can be found in the ANWB Water almanac, part 1 (Wateralmanak deel 1).



Rijkswaterstaat



Fare with Care!

Rules of thumb for recreational user of waterways

Rules of the waterway

The most important rights of way on the water:

- Those proceeding along the starboard (right-hand) bank have right of way over those who aren't.
- Small boats, up to 20m in length, give way to boats more than 20m long. Commercial craft (tug boats, ferries, passenger vessels and fishing boats) have rights of way corresponding to those of "large" vessels, even if they are shorter than 20m.
- Small powered craft give way to small sailing craft and rowing boats if their courses cross and neither is proceeding along a starboard bank. Similarly, large powered craft give way to large sailing vessels, rowing boats give way to small sailing vessels.
- Amongst small powered vessels, those which come from starboard have right of way.
- A small sailing vessel with its sail to port has right of way over a small sailing vessel with its sail to starboard. A small sailing vessel which is higher in the wind has right of way over a small sailing vessel with its sail on the same side.
- Those emerging from side channels may not hinder those on a main channel, which thus have right of way.



Sound signals

- Attention
- I move to starboard
- I move to port
- I move backwards
- I can't manoeuvre
- Danger of collision
- Request for bridge operation

- one long blast
- one short blast
- two short blasts
- three short blasts
- four short blasts
- continuous short blasts
- long, short, long



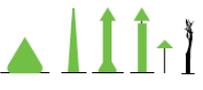
Long blast: 4 seconds, 1 second between blasts
 Short blast: 1 second, 1 second between blasts
 Very short blasts: 1/4 second, 1/4 second between

7.4 Signboards, coloration, lights and lightings

The signboards are as follows

	No passage in, out or through.		Do not cause detrimental water movement.		Obligatory to make use of "marifoon".
	No mooring or anchoring on the side where this signboard is.		Do not go outside the marked limits.		Compulsory to limit your speed as indicated (in km/hour).
	No mooring or anchoring within 20m of this signboard.		Forbidden for recreational craft.		You are sailing on the main waterway compared to the waterway that flows into it.
	No anchoring.		Compulsory to stop in front of this signboard in certain circumstances.		Mooring & anchoring permitted on the side where this signboard is.
	No mooring.		Compulsory to pay exceptional attention.		End of a restriction or obligation beyond this signboard.
	No turning around.		Obligatory to give a sound signal.		The headway is given in meters

Coloration

	Buoys on the right bank (looking downstream) are red, broad at the top and have an even number.
	Buoys on the left bank are green, pointed at the top and have an odd number.
	Red and green striped marking: bifurcations of waterways.
	Yellow buoys: dangerous places and obstacles.

Lights at bridges

On the bridge	
Front	Back
	Passage permitted. Beware of oncoming traffic.
	Passage permitted. Beware of oncoming traffic.
	Recommended to sail under this part of the bridge. Forbidden to sail under this part of the bridge
On the side of the bridge	
Front	Back
	Double red = bridge not in operation. Passage permitted. Beware of oncoming traffic.
	Single red = bridge in operation. Passage permitted. Beware of oncoming traffic.
	When the yellow light in the middle switches off, the bridge will open, the lights at the side are valid. Passage soon allowed.
	Passage forbidden
	The bridge is open. Passage allowed.
	Passage forbidden
	Passage forbidden
	Passage forbidden
	Passage forbidden
	Passage forbidden

Lighting of vessels

	At night a small (up to 20m) powered vessel runs green starboard, red port and white stern lights and 1m higher a white top light.
	At night a small sailing vessel runs only port, starboard and stern lights.
	At night oared, powered or sailing vessels up to 7m run only an all-round white light.

Rowing past a mud barge

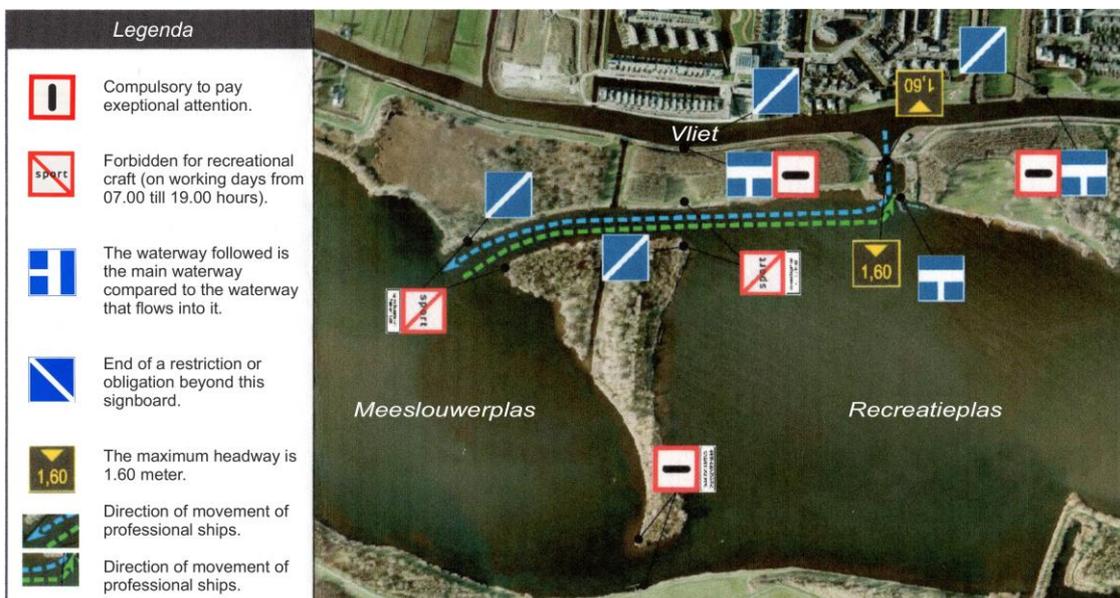
A mud barge carries a red signal (rectangular board or flag) on the side which you may and cannot pass. On this side is situated the drain-pipe, which, supported by coloured floats, leads to the mud basin. On the other side, where passage is allowed, is a red-white board positioned. Only there may you carefully overtake the mud barge. Don't row too close and wait in case of doubt, or when the passage is temporarily too narrow. The mud barge moves up and down over the whole width of the waterway. It sucks like a vacuum cleaner over the bottom with a protruding and sucking pipe at the front which also makes a swinging movement.



7.5 Navigation ways on Vlietland and making the Meeslouwerplas shallower

In 2011 the activities started to make the Meeslouwerplas less deep. This will result in making the banks more natural, stable and safe. An area of creeks is also being created. The necessary materials are brought by ship via the Vliet. In the Meeslouwerplas pontoons are situated where the soil and mud are being processed. These activities will be expected to take 10 years. They are undertaken under instructions of the province of Zuid-Holland by the firm of BAM Roads bv. Region West. Because of the large amount of ship movement the old baily bridge has been replaced by a drawbridge.

One has to take the professional shipping to and fro in consideration. These ships have priority over all recreational shipping, including rowing boats. Concerning the safety of ships there are, on working days between 07:00 and 19:00, between the Vliet and the Meeslouwerplas separated sailing routes for professional and for recreational navigation. These routes are indicated by signs. In this picture these are marked.



7.6 Hypothermia

Hypothermia sets in a few minutes up to half an hour after falling in during the winter. The table below, from the KNRM (Koninklijke Nederlandse Redding Maatschappij, Royal Dutch lifeboat institution) show how survival time falls rapidly with temperature. By then body core temperature is below 35°C. Sudden dunking also causes shock which disturbs normal breathing, making even experienced swimmers helpless. Hypothermia can cause confusion and concomitant inability to follow even simple instructions.

Table hypothermia

Water temperature (°C)	Time clothed	Time swimming costume
15 (°C)	5 hours	2 hours
10 (°C)	3 hours	1 hour
5 (°C)	1 hour	30 minutes
0 (°C)	9 minutes	2 minutes

Prevention

Dress against the cold: several thin layers are better than one thick one. The outer layer is best windproof and waterproof. Bare arms, legs and heads increase the risk. Alcohol adds to the danger. Don't scull alone in the winter. Get out of the water if at all possible lean on your boat. Get help as fast as possible.

What to do about hypothermia?

The drop of body temperature in the water is rapid. With the exception of heavy items (jackets, boots), clothing should be kept on. Get out of the water, keep out of the wind and wrap up in more clothing or rescue blankets, especially head and neck. Seek help. Hypothermia is a medical emergency. Warm up if conscious by activity under observation. Slow warming is best, mixing cold and warm blood can disturbance of heart rhythm. A hot bath or shower is not advisable.

A hot, sweet drink can bring relief. Do not administer alcoholic beverages.

An unconscious victim must be medically treated as soon as possible.

Phone 112 and reanimate if necessary.

In summary

- **You're responsible for your own safety on the water**
- **Prepare properly before going out**
- **The Vliet is so cold in the winter that hypothermia will set in quickly**
- **Know the various rules, of the club and waterways (sound signals, lights and signboards)**
- **Follow the rules, they're there for good reasons!**
- **Don't overestimate your capacities**

8. Requirements for instruction and examinations

When rowing, the members of the club make use of valuable equipment. Because of that, applicable to all members an examinational system exists, which determines who may row and cox in which types of boat. All members have to keep to these rules, in order to prevent damage through inexpert or faulty use of our expensive boats.

Only the exam committee is empowered to stipulate who can use the various types of boats. This applies also for members who join us from other rowing clubs. Every rower should have passed the appropriate exam.

The registration list in the reservation system, indicate what exam is required for each boat. In the reservation system is recorded the list of exams of who is qualified to row and cox in which boat.

The examinations committee can, in exceptional circumstances deviate from these rules.

8.1 General rules for instruction and exams

- For all exams apply the following points:
 - Have knowledge of the club rules (chapter 5)
 - Lock the building and ground if you are the last person to leave
 - Have knowledge of the general rules on the water and usage of the boats and materials (chapter 6)
 - Know how you book a boat for an outing
 - Know how the fleet is classified through the permission and exam system
 - Know the rules concerning outing bans
 - Know how you have to report damage or a complaint
 - Have knowledge of the rules about safety and the rules of the waterways (chapter 7)
 - The rules about the relevant parts concerning rowing boats
 - The rules about going towards and rowing on the Lake Vlietland.
 - Have knowledge about the rowing equipment (chapter 9)
 - Being familiar with the different types of boat
 - Being familiar with the most important parts of the boats, riggers and oars
 - Knowing how to properly handle the material to which the exam applies (chapter 10)
 - Taking out and bringing in boats and oars
 - Knowing where and how to lift boats
 - Using and following up the right commands
 - Getting in and out of boats correctly (feet only on the appropriate places)
 - Knowing how to adjust the stretcher (feet)
 - Have knowledge of coxing (chapter 11)
 - When are the different commands used
 - How to moor the boat
 - How to handle the boat with wind and other ships
- Coxes, rowers in coxless boats and single scullers must be able to see well and look ahead in order to anticipate what will happen on the water ahead
- Instruction for any exams may be given only by instructors who have passed that exam
- Novices may use Ba, S1 or B1 boats if
 - supervised by an instructor (in the boat or on the bank) or
 - at least half the crew and the coxswain are qualified to use the boat
- Practised rowers may for instruction purposes use boat one level above their qualification if
 - supervised by an instructor (in the boat or on the bank) or
 - at least half the crew (including coxswain) are qualified and the coxswain is qualified to use the boat
- Instructors book boats for crews being instructed and are therefore responsible while instructing, see section 7, especially 7.2 concerning safety
- Youth members up to the age of 14 must always be supervised by an instructor.

Taking exams

At least two members of the exam committee shall adjudicate. Information about exams is on the website and the notice board. Instructors enter their candidates on the Rijnland site under "meld je aan". New members with experience can register themselves to show their capabilities. They are entered in the exam system at the appropriate levels.

Exams start in the boathouse near the bar and end when everything is put away again, so that aspects of handling the material on shore can also be assessed.

In exams for coxes, insight into dealing with wind and traffic as well as practical skill and theoretical knowledge such as the rules of the waterway are tested. Judgement of the speed and manoeuvrability of a boat, decision making under pressure of circumstances and anticipation of likely situations is tested. Whether the coxswain has the boat and crew under control and whether unnecessary risks are taken will be tested. St2 and St4 exams are taken with an examiner on board.

For practical reasons the theory part of the S2 exam is a separate written exam: Theory

Besides the general exam rules (see section 8.1) the follow points are valid for specific exams:

8.2 Specific rules for theory and coxing exams

Given the general exam rules (see section 8.1) the following points are valid for specific exams:

Theory

Requirements

1. Have knowledge of the following points from section 8.1, general rules for instruction and exams: club rules, general rules on the water and usage of boats and materials, rules about safety and rules on the waterways, rowing equipment, treatment of materials and commands, coxing

The exam qualifies for:

Exercising the rights belonging to the passed practical exams in rowing and coxing.

Practise:

All information is to be found in the Rijnlandboek.

On the Rijnland site you can find 10 example questions (under rowing - instructions and exams)

Taking the exam:

In writing.

Comment:

It is recommended to take the theory exam well before the practical exam.

St2 (coxing 2)

Requirements:

1. The Theory exam
2. Ability to steer a wherry, C2x+ or C2+:
 - taking command of the crew to
 - take boats in and out
 - get in and out of boats
 - set off and land on both sides at a given place, forwards or backwards without use of paddle or boathook, During land on the bank may not be touched, nor with the boat nor with the oars
 - slow down and (emergency) stop
 - back the boat down, change course and spin the boat
 - shoot narrow and low bridges
 - change the power of the draw
 - giving the commands promptly and clearly with appropriate tone of voice
 - having reasonable skill and insight in dealing with wind and traffic
 - reacting adequately to unexpected circumstances
3. Ability to ensure the safety of the crew and the boat
4. Knowledge of the points under section 8.1 and the ability to apply in practice (i.e. handling material, types of boat, registering, reporting damage, the exam/qualification system, outing bans, police regulations for inland waterways (BPR))

The exam qualifies for:

Steering wherries, C2x+ and C2+.

Practice:

In a wherry, or C2x+/C2+ under supervision by an instructor (see 8.1).

Taking of the exam:

In a wherry or C2x+/C2+.

Remark:

The St2 exam for coxes is often taken at the same time as the Ba, S1 or B1 exam.

St4 (coxing 4)

Requirements:

1. Coxing exam St2
2. Ability to steer a four (C4x+, C4+), otherwise as for St2 but with the following additional points:
 - taking command of the crew to
 - take all types of boat in and out (except eights)
 - set off and land on both sides at a given place, forwards only without use of paddle or boat-hook and in limited space
 - back the boat down, change course and spin the boat, making minimal use of the rudder
 - carry out stopping exercises
 - having good skill and insight in dealing with wind and traffic
 - reacting quickly and adequately to unexpected circumstances

The exam qualifies for:

Steering fours.

Practice:

In a four (C4x+ or C4+) under supervision by an instructor (see 8.1).

Taking of the exam:

Only with wind and/or traffic, in a four (C4x+, C4+).

St8 (coxing 8)

Requirements:

1. Coxing exam St4
2. Proficiency in steering an eight, also in difficult circumstances
3. Reacting quickly and adequately to unexpected circumstances
4. Having complete command of the crew, and excellent ability to organise the use of all types of boat
5. Ability to indicate and correct rowing errors visible from the cox's seat
6. Proficient use of the material
7. Ability to assure the safety of the crew and the boat

The exam qualifies for:

Steering eights.

Practice:

In an eight under supervision by an instructor (see 8.1).

Taking of the exam:

Only with wind and/or traffic, in an eight.

8.3 Specific rules for sculling exams

Given the general exam rules (see section 8.1) the following points are valid for specific exams:

Ba-Wh (Basic – Wherry)

Requirements:

1. Coxing exam St2
2. Basic skill in rowing a wherry:
 - draw with constant pressure using legs, body and arms in that order, pulling the handle level towards the body
 - lean backwards slightly
 - relaxed continuous movement at the finish, both hands together
 - start rolling after the hands pass over the knees, having leant forwards
 - keep blades above the water and square them in time
 - slide relaxed all the way forward and then immediately put the blades in the water
 - hang on the oar with relaxed wrists through the draw
 - follow the stroke
 - participate as appropriate on the balance of the boat, also during manoeuvres

The exam qualifies for:

Sculling in wherries. The qualification to steer is gained by passing the St2 exam, which is often taken at the same time as the Ba-Wh or Ba-C exam.

Practice:

In wherries under supervision by an instructor (see 8.1).

Taking of the exam:

In a wherry.

Ba-C (Basic – C-boats)

Requirements:

1. Coxing exam St2
2. Basic skill in rowing a C2x+
The requirements are the same as Ba-Wherry exam

The exam qualifies for:

Sculling in wherries, C2x+, C3x+ and C4x+.

Practice:

In C2x under supervision by an instructor (see 8.1).

Taking of the exam:

In a C2x.

Remark:

Ba-Wh is not required. The St2 exam for coxes is often taken at the same time as the Ba-C exam.

T (Touring)

Requirements:

1. Basic exam Ba-C and coxing exam St2.
2. being able to manoeuvre well, also on narrow waterways in a wherry:
 - Coxing a boat and crew safely underneath low and/or narrow bridges
 - Being able to land a boat in difficult circumstances on different types of banks and quays and being able to judge where and how one can land.
 - Being able to land a boat in any type of wind and current, rowing as well as backing down
 - Being able to use a paddle and a hooked pole
 - Being able to change seats between rower and cox when staying on the water
3. Having knowledge of how to handle the boat in locks, the hazards, the necessary equipment and being skilled to use it.
4. Having knowledge of the problems which can arise from rowing on water with a current
5. Being able to react quickly and adequately to unexpected circumstances.

6. Having a good knowledge of the rules of the waterways concerning rowing, like for example those parts about water with a current and signals on bridges and locks. These can be found in the book made for the course about touring in a rowing boat.
7. Having knowledge of the preparations made before tours, map reading, transport of boats and treatment of boats during and after tours.

The exam qualifies for:

Taking part as a captain on tours. During tours at least half of the crew should have passed the touring exam (T).

Practise:

In a wherry with an instructor and being aware of the general rules for instruction and exams (8.1). One could also make use of exercises written in the book about "Touring in a rowing boat".

Taking of the exam:

In a wherry.

S1 (Sculling 1)

Requirements:

1. Coxing exam St2
2. Basic rowing skills in a C1x, otherwise as for Ba-C
3. Ability to manoeuvre in a Cx1:
 - o landing forwards and backwards on either side, with wind
 - o insight into the consequences of, and dealing with direction and strength of wind
 - o reacting quickly and adequately to unexpected circumstances

The exam qualifies for:

Sculling in wherries, C2x+, C3x+, C4x+, Cx1 and C2x.

Practice:

In C1x or C2x under supervision by an instructor (see 8.1).

Taking of the exam:

In a C1x.

S2 (Sculling 2)

Requirements:

1. Coxing exam St2 and sculling exam S1
2. Basic skill in a 1x.
 - o rowing movement without basic errors
 - o blades clear of the water, (balance not derived from skimming blades on the water)
3. Ability to manoeuvre in an 1x:
 - o landing forwards and backwards on either side, in limited space and with wind

The exam qualifies for:

Sculling in boats of category S2.

Practice:

In 1x or 2x of category S2 under supervision by an instructor (see 8.1).

Taking of the exam:

In a 1x of category S2.

S3 (Sculling 3)

Requirements:

1. Coxing exam St2 and sculling exam S2
2. Proficiency in manoeuvring in a 1x, in all circumstances
 - o landing with ease forwards and backwards on either side in all circumstances manoeuvring without difficulty
 - o quickly spinning the boat and restarting sculling without hesitation
 - o demonstrating familiarity with the rules of the waterway
3. Good technique:
 - o from a standing start accelerating quickly to firm pressure and rowing a piece with changes of pressure and rating
 - o at firm pressure:
 - rowing in a straight line
 - rowing rhythmically with blades clear of the water, maintaining technique

The exam qualifies for:
Sculling in boats of category S3.
Practice:
In 1x or 2x of category S2.
Taking of the exam:
In a 1x of category S2.

8.4 Specific rules for exams in sweep rowing boats

Given the general exam rules (see section 8.1) the following points are valid for specific exams:

B1 (Boord 1, sweeping 1)

Requirements:

1. Coxing exam St2
2. Basic skill in rowing a C2+.

The requirements are the same as the Ba exam

The exam qualifies for:
Single oar rowing (no coxing) in a C2x+ and C4+.

Practice:
In a wherry, C2+ or C4+ on both sides of the boat, under supervision by an instructor (see 8.1).
Taking of the exam:
In a C2+.

B2 (Boord 2, sweeping 2)

Requirements:

1. Coxing exam St2 and single oar exam B1
2. Basic rowing skills in a 4+ or C2+ without coxswain:
 - be able to find equality
 - the requirements are the same as the S2 exam
3. Ability to manoeuvre in an C2+ without coxswain:
 - rowing in a straight line
 - the requirements are the same as the S2 exam

The exam qualifies for:
Single oar rowing in boats category B2 and C2+ category B1 without coxswain

Practice:
In an 8+, 4+, C4+ or a C2+ on both sides. The last one without coxswain on board or with a coxswain who does not steer. All under supervision by an instructor (see 8.1).
Taking of the exam:
In a 4+ or C2+ without coxswain, on both sides.

B3 (Boord 3, sweeping 3)

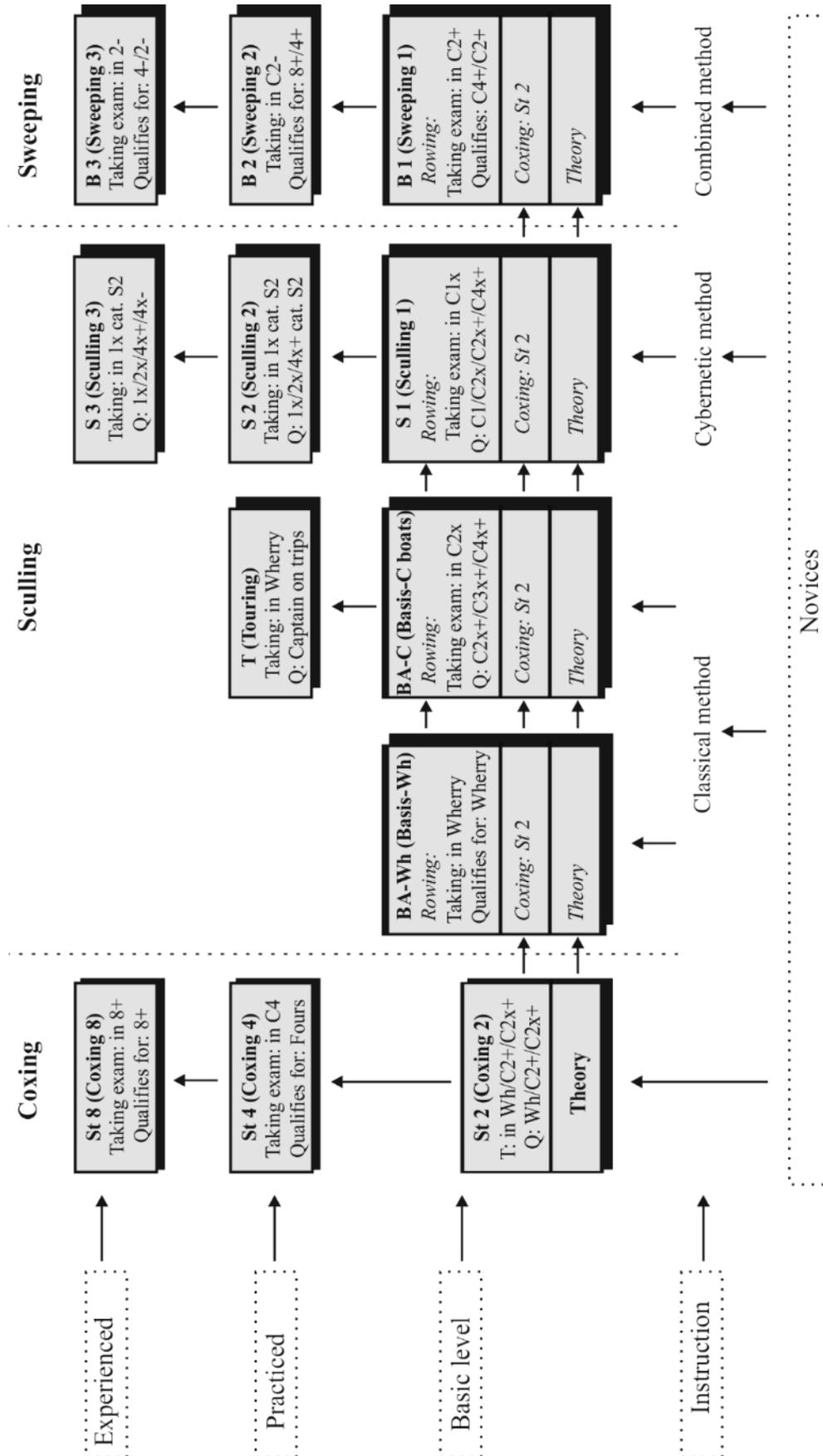
Requirements:

1. Coxing exam St4 and single oar exam B2
2. Proficiency in manoeuvring in a 2-, in all circumstances.
The requirements are the same as the S3 exam
3. Good technique, to be demonstrated with firm pressure.
The requirements are the same as the S3 exam
4. Demonstrating knowledge and familiarity with handling the materials

The exam qualifies for:
Single oar boats of category B3.

Practice:
In a 2- under supervision of an instructor (see 8.1).
Taking of the exam:
In a 2-.

8.5 Exam rules – types of boats – instruction methods



Note: stated are the general principles of the classification of the exams and types of boats. You can find details on the complete list of boats with the appropriate exams as they have been drawn up by the board.

9. Rowing Material

This section is summarized. Important Dutch words are between quotes.

9.1 Boat types

Boats are built from reinforced polymers ("kunststof") or wood ("hout").

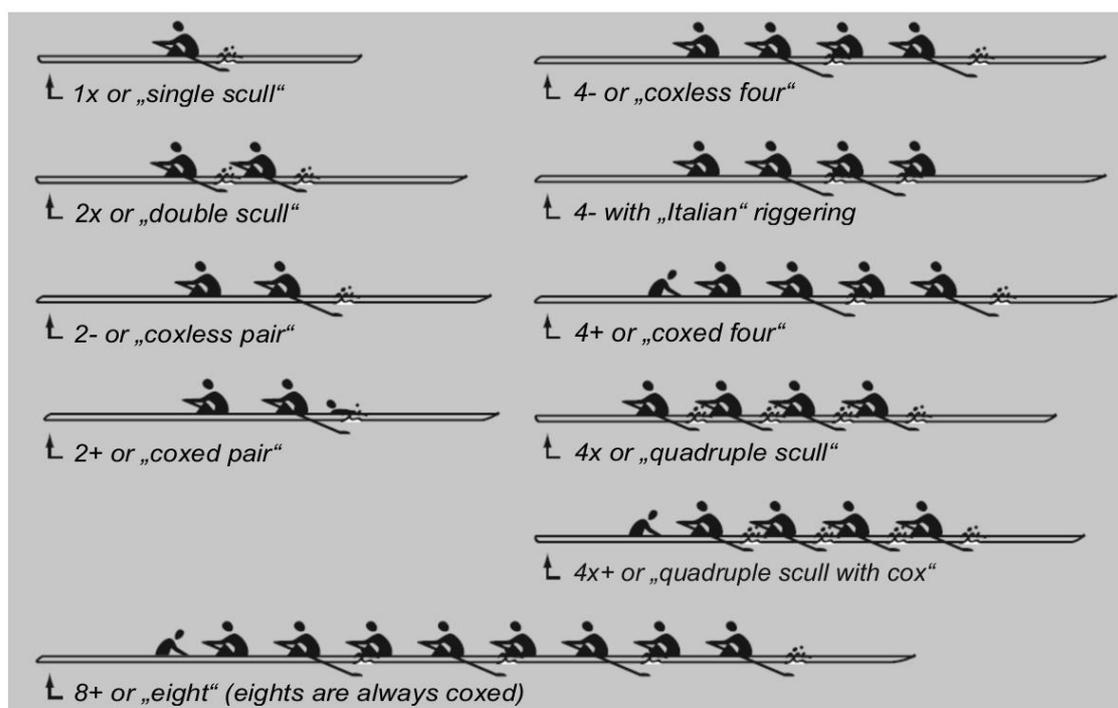
A, B, C, D and Wh refer to the width of the boat. A is the narrowest, Wh (Wherry) the widest. Sculling ("scullen") with two sculls (small oars, "riemen"), sweep-oar rowing ("boordroeien") with one oar ("riem") per rower.

Number of rowers is usually 1, 2, 3, 4 or 8.

Some boats are coxed ("met (stuurman)"), others are coxless ("zonder (stuurman)").

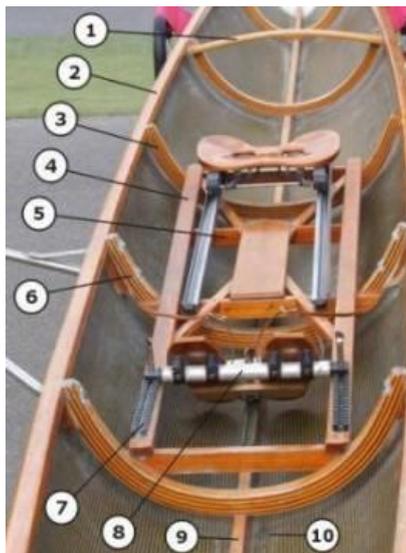
Types are indicated by letter (indicating the width of the hull), x for sculling (normally coxless), x+ or * for coxed sculling, - for coxless rowing, + for coxed rowing.

Common boat types



9.2 Construction and parts of rowing boats

These pictures show a C-type boat.



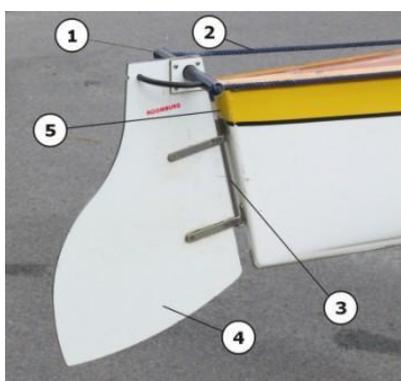
Looking bow to stern

1. "Tilspant" (lifting bar)
2. "Boord" (saxboard or gunwales)
3. "Spant" (frame)
4. "lijfhout" or "grundel" (grundel)
5. "bint" (tie beam or joist)
6. "hoofdspant" (main frame)
7. "voetenbordstrip" (adjustment strip for the stretcher)
8. "spoorstok" (stretcher)
9. "binnenkiel" (keelson)
10. "huid" (hull), fragile, don't tread on it



Looking stern to bow

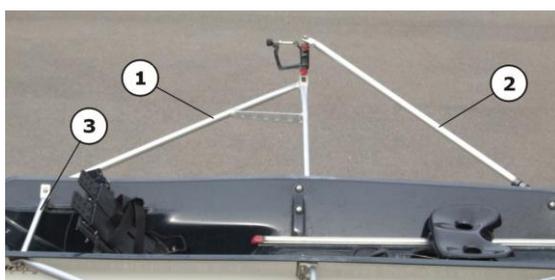
11. "stut" or "pilaar" (pillar)
12. "asje" (axle)
13. "achterstop" (backstop)
14. "(rol)bankje" (seat)
15. "sliding" (slide), actually it's a rail
16. "diagonaallat" (diagonal strut)
17. "opstapplankje" (stepping board)
18. "hielsteun" (heel support)
19. "voetenriem" (foot strap),
20. "voetenbord" (foot stretcher)
21. "luchtkast" (air compartment)



1. "Roerjuk" (rudder yoke),
2. "stuurtoewtje" (steering cord),
3. "roerpen" (rudder pin),
4. "roerblad" (rudder blade),
5. "spiegel" (transom).

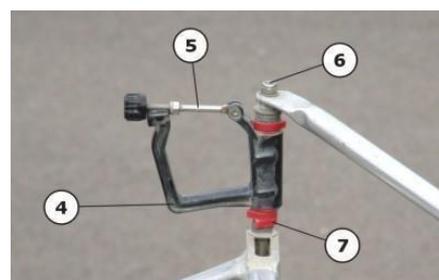
Rudder ("roer") of a C-type boat

9.3 Riggers" or "uitleggers" (riggers)



rigger

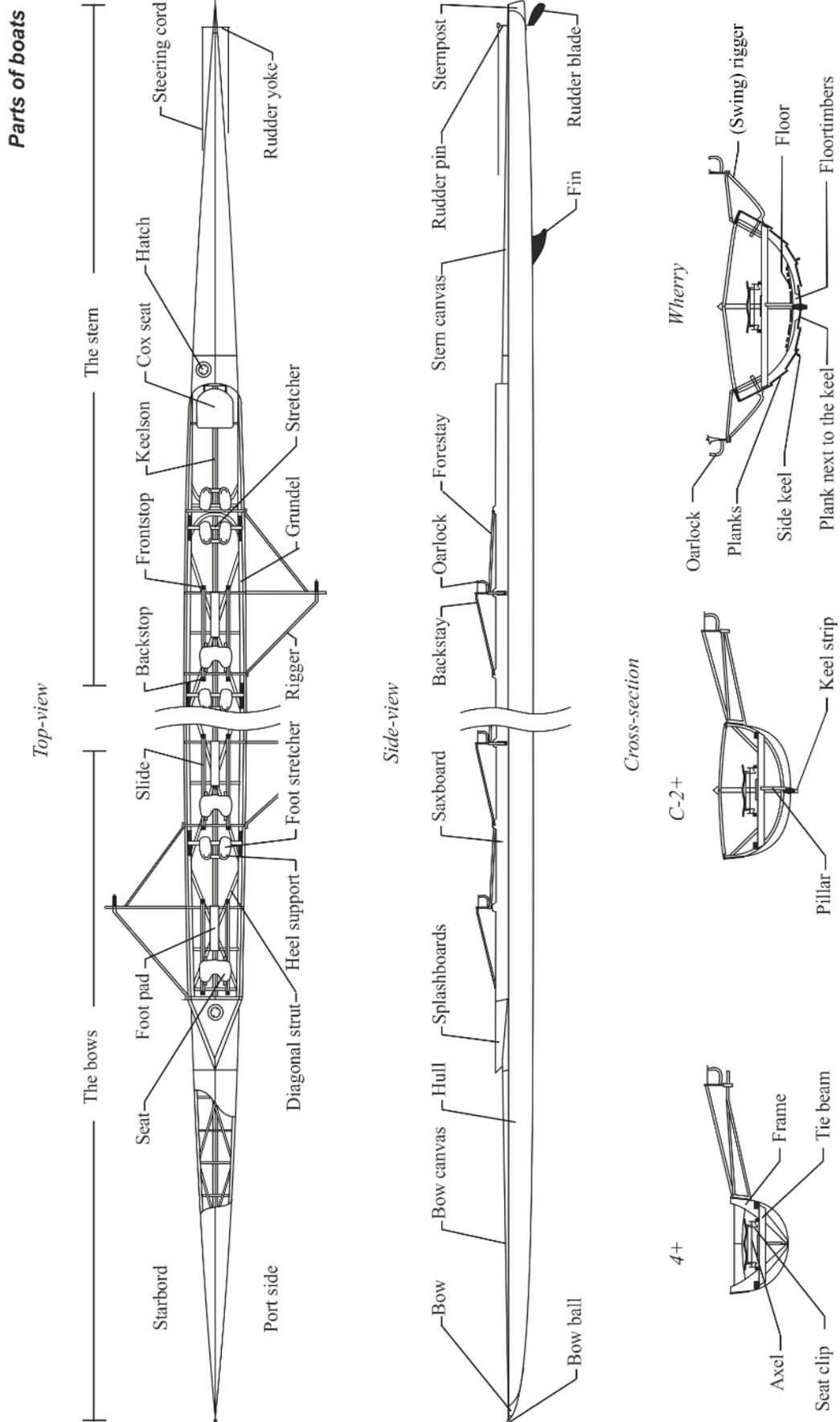
1. "Trekstang" (literally pull or tension bar; forestay)
2. "duwstang" or "drukstang" (literally push or compression bar; backstay)
3. "(til)stangetje" (lifting bar; see "tilspant" above)



Dol (oarlock)

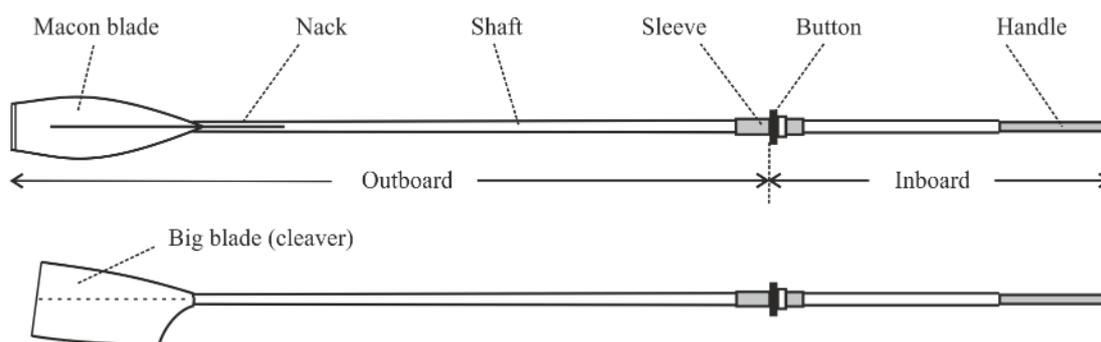
4. "dol" (oarlock)
5. "dolklep" or "overslag" (oarlock keeper or gate)
6. "dolpen" (pin),
7. "klikringetje" (circlip).

9.4 Parts of boats (“bootonderdelen”)



9.5 Oars

Sweep-Oars ("boordriemen"), about 3.8 metres long, and sculls ("sculls"), about 3 metres long.



Macon blades are the precursors of the big or cleaver blades.

Blades tilt a little forward at the top for reasons of stability. Therefore oars for starboard and portside are not interchangeable.

Oars are usually numbered, starting at bow, which is number 1.

10. Handle rowing material; commands

This section is summarized for now.

10.1 Preparation for an outing

If we want to sail:

1. Book the boat for the outing in the computer system. Boats which have been booked in advance through the internet need to be confirmed in the system in the club. If the bar on the screen turns blue the boat is ready to take out to you. A red bar means that you don't have the permission required for the booked boat.
2. Take the oars and other accessories (rudder, paddle, boat-hook) out.
3. Only when the complete crew is assembled take the boat out.

On returning the order is opposite.

10.2 General commands

Commands are to be given clearly and without hesitation.

The coxswain, or the bow oarsman in coxless boats, or the instructor on the bank gives the commands from a position where he has a clear view of the boat

Command consists of description and instruction, e.g. "bow side pulling on go!".

More complex commands are preceded by an explanation, e.g. "Attention! We are going to land on bow side" or "We are approaching a bridge we'll have to shoot".

Commonly used expressions are:

"Stuurboord"; kleur: groen

starboard, right side seen from the cox's position;
colour: green

"Bakboord"; kleur: rood

stroke side, port side; colour: red

"Boeg"

bow, the front-most rower

"Slag"

stroke, the stern-most rower

"Boegen"

the rowers in the bow

"Slagen",

the rowers in the stern

"Een, twee, drie, etc., one, two, three" the numbers of the rowers. Bow is 1

10.3 Taking boats and oars out

Just the figures and the commands are translated.

Lifting, how?

Always lift with your legs and a straight back.

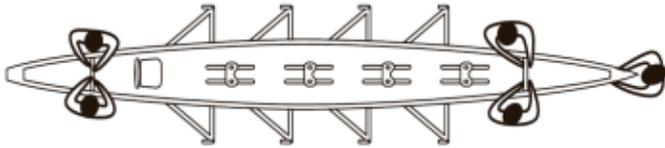


Lifting in a way that is bad for your back

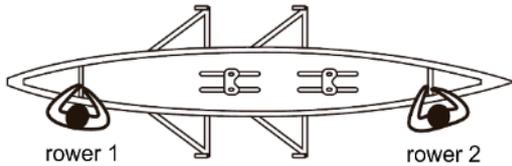


Right way of lifting

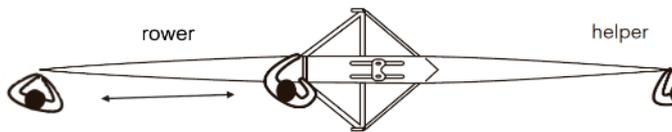
Who lifts where?



When lifting or carrying a C-4+, C-4x+, C-2+ or C-2x+ never stand in between the riggers



Lifting a C1x/C2x:
 - Both rowers hold at a lifting bar
 - Lift the boat out of the water, don't shove the keel across the edge of the bank

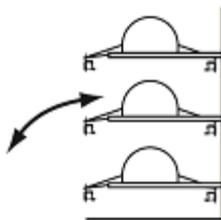


To lift a single scull:
 - The rower lifts with a helper
 - Positions as indicated
 - Lift the boat holding the bow and the stern when removing it from or putting it on the berths in the large boathouse.

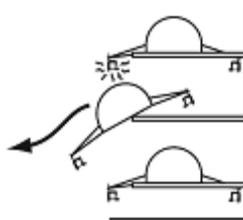
Lifting a 4+ or 4x+: The rowers should stand far apart



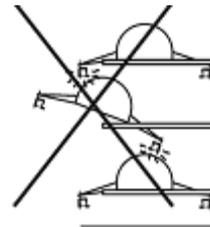
Take good care when lifting a boat from its berth!



The arrow shows the ideal movement



Avoid bumping riggers against the hull of the boats above and below



Don't tip the boat before it is cleared from obstacles

Taking out the boat

Aan de boorden	Hands on	The rowers stand at their positions. Hands on the saxboards/rims/outer top edges of the boat
Uitrijden	Pull the boat out (on a trolley).	Move the trolley through the boathouse to the exit. There are trolleys for the boats stored at floor level.
Uitschuiven	Slide out	Extend the slides of the boat stand
Draaien met de kiel over de Vliet/werf	Turn with the keel over the Vliet/boatyard (Roll it)	The boat is turned over, with the keel facing the mentioned direction. Carry the boat up high so the riggers don't touch the ground. This command is given once outside, so there is enough space and you won't collide with other boats.
Stellingen inschuiven	Slide in	Push the slides of the boat stand back in
Overpakken	Turn over	Everybody takes hold of the nearby saxboard and puts their arm around the boat so they can take hold of the saxboard on the opposite side.
Tillen gelijk nu!	Lift together.... now!	Lift the boat up
Op de schouders nu!	Onto the shoulders now! (Shoulders, ready, up)	The boat is carried by putting its weight on your shoulder. This can be done with all rowers on one side or by dividing the rowers on both sides of the boat.
Boven de hoofden	Over the heads (Heads, ready, up)	The boat is lifted upside down above the heads.
In de handen nu!	In your hands now!	The boat is lowered and the weight hangs in the arms of the people who carry it.
Voor de buiken	In front of your stomach (Waist, ready, down)	Lower the boat until it is at the height of your bellybutton. All the rowers are on one side of the boat.
Overslagen los	Gates open	The boat is turned a little so the rowers can let is rest on their thighs and one hand is free to open the gates on the far side.
Tenen aan de rand	Toes on the ledge	The rowers slowly shuffle forward to put their toes on the edge of the bank
.... Ver weg	.... Far away	The rowers put the boat in the water as far away from the bank as possible.

Getting in

Riggers van het vlot	Riggers away from the bank	Make sure the riggers don't lean on the bank. Slide the waterside oars into their gate.
Instappen gelijk	Get in together	Put the oars in the waterside hand, slide the seat back, hold the bank and the rigger with the landside hand.
.... een	.... one	Foot on the foot pad
.... twee	.... two	Bring your weight over to the boat and move your second foot towards the foot pad.
.... drie	.... three (Sit in)	Sit down gently
Overslagen dicht	Close gates	Put your oars between your chest and your knees, hold the rigger and the curb with your landside hand, gently lean over towards the gate and close it.



"riggers van het vlot"
(Riggers away from the bank):

- The boat away from the bank
- Riggers don't lean on the bank
- Slide the waterside oars into their oarlocks



"instappen gelijk "
(Get in together ...):

- Put the oars in the waterside hand
- Slide the seat back
- Hold the bank and the rigger with the landside hand

.... *Één (one):*

- Foot on the foot pad



.... *Twee (two):*

- Bring your weight over to the boat
- Move your second foot towards the foot stretcher



.... *Drie (three):*

- Sit down gently,

"overslagen dicht"
(Close gates):

- Put oars between your chest and your knees
- Hold the rigger and the curb with your landside hand
- Gently lean over towards the gate and close it

10.4 Adjusting boats

Adjusting the foot stretcher

In order to make a good rowing stroke, the foot stretcher should be at the right distance. With stretched legs and sitting up in the finishing position in a scull boat, the hands should be 10cm apart. In the catch position the shins should be in a vertical position.

When changing the position of the foot stretcher the shoes should not be in contact with the hull. The best way is feet on the saxboards, the oars between the upper legs and the stomach. The hands are free, the boat is in balance.



Adjusting the height of the oarlocks

In some boats the height of the oarlocks can be adjusted with small circlips. If the oarlocks are too low, it is difficult to get the blade out of the water during the extraction. If the oarlocks are too high, it is difficult to row with a firm pressure and keeping only the blades into the water.

Other adjusting possibilities

Modern boats have a lot of adjusting possibilities. Within Rijnland we work with standard adjustments for the boats and the oars. On the website you will find them. You may only adjust the foot stretcher and the height of the oarlocks yourself.

10.5 Taking boats and oars in

Getting out

Riggers van het vlot	Riggers away from the bank	Make sure the riggers don't lean on the bank.
Overslagen open	Open gate	Put your oars between your chest and your knees, hold the rigger and the curb with your landside hand, gently lean over towards the gate and open it.
Uitstappen gelijk	Get out together	Put the oars in the waterside hand, slide the seat back, hold the bank and the rigger with the landside hand.
.... een	.... one	Put riverside foot on the foot pad. Rower bends forward and up.
.... twee	.... two	Put landside foot on the bank.
.... drie	.... three	Move your weight to the bankside foot while pulling riverside leg to the bank too.

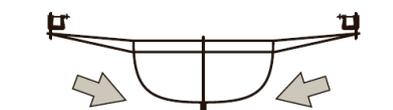
Taking the boats out of the water

Wherries and coxed C-boats.

Push the stern out towards the water and try to manoeuvre the boat in a 90° angle with the bank.

After that the boat is pulled out of the water with people at both sides holding the boat at the saxboard. Make sure the boat is kept upright on the keel, to avoid scratching the hull. Close the gates if the boat has to be turned.

Command: "Aan de boorden". The boat can either be carried or put on a small trolley. Turn the boat before entering the boathouse with the command the boat "Over the keel direction" hold the boat high enough so the gates and riggers don't touch the ground.



Other boats and C-1 and C2x are pulled out of the water while they are parallel to the bank. The following commands are used. We move a boat only over the heads if the crew is strong enough. Otherwise we turn the boat in front of the stomach.

In de spanten/ handen aan de boot	Hands in	With one hand the rowers take hold of the frame, or with two hands on the saxboard.
boven de hoofden, stuurboord onderdoor..... nu	Bowside/strokeside go under (or: round to the other side)	With a swing the boat is moved up from the stomach to above the heads. Half of the crew has to move under the boat to the other side. The rowers divide over both sides and take hold of the boat on the saxboards. With sweep-oar boats everyone has to be positioned opposite his rigger

How to manoeuvre in the boat house

Naar land	Towards bank	Move the boat further into the boathouse
Naar zee	Towards river	Move the boat further out, towards the big doors.

To summarise

- **Use a boat that is right for the weight of the rowers**
- **First bring oars and other accessories out before the boat**
- **In the boat is only one captain, who gives clear commands**
- **Leave boats only for a short time at the bank and never unattended**
- **The stern of wherries and C-boats enters the water first**
- **Put trollies back after use**
- **A good position of the foot stretcher improves rowing**
- **Clean and dry boats inside and out after rowing**
- **Open the air chambers**
- **Put the boats back in the right place and position**

11. Coxing

11.1 The cox

Coxing a boat is different in a coxed boat as in a coxless boat. In a coxed boat the cox takes care of:

- The safety of the crew, the boat and other users of the water. The cox observes continually what happens, or is about to happen, around the boat
- The course and the manoeuvres of the boat
- Giving clear commands to the crew, who will follow these up implicitly
- Assisting the coach if necessary. The cox has to understand the instructions of
- The coach instructs and support him/her. Thus, coxes not only have to be able to steer the boat well, they also need to have good eye sight, know all the commands and have authority over the crew.

They need to be able to calculate the circumstances of wind, weather and water, know the relevant definitions of the police regulations for inland waterways and the definitions of the water that is to be sailed on.



*Head of the River on the Amstel. A race for time.
Many curves, many other crews.
Overtaking or being overtaken*

In coxless boats the rower on the bow gives the commands and is responsible for the course and safety. If this boat has a rudder, this rudder is operated by a foot of the bow. If the boat has no rudder the steering is operated with the oars. The bow has the role of the cox.

11.2 The technology of steering

The boat should sail in a straight course. All sort of influences can be the reason, that a boat deviates from a straight course (wind, current, unequal pulling strength on starboard and portside, defects on the boat). When a boat deviates from the straight course, or in bends of the waterway steering is necessary.

When the boat is being steered, the rudder is placed at an angle compared with the back of the boat. This not only results in changing the course of the boat, but also has an effect of slowing the speed and disturbing the balance in the boat. These two last effects increase, if the angle is larger.

Because of this, it is important to react in time, if the boat has to change course and use calm movements at the moment when these affects are noticeable.

It is possible to return to the original course with small rudder movements. The boat keeps turning a bit after the manoeuvre so that pulling at the rope needs to be ended in time. Especially during races the cox has to be very aware of this. If his reaction is too slow he will zigzag over the water, thus slowing the boat and lengthening the course.

When to steer

In order to be able to use the rudder the boat needs speed; with a low speed the boat will move less than with a high speed. The boat is best to steer with a small angle of the rudder. Small rudder movements should be made during the recovery. The effect of the rudder is largest (the speed is at a maximum) and the rowers will be least disturbed during their stroke. If one needs to make a larger change of course, pull with a constant, but not too strong, force on one side of the rope. An angle of more than 30° gives hardly more effect and will only slow the boat. The slower the boat moves the more one will need to make use of the rowers.

Steering always?

If the necessary change of course is thus large, that the working of the rudder will not be able to, or too slowly, achieve the effect, the cox will need to make use of the crew by rowing strong on one of the sides (bakboord best, hard port/stuurboord sterk hard starboard). If even larger changes of course the cox will stop the boat (easy all) and let one side hold followed by turning over that side.

Choosing and keeping course

In order to not go out of one's way when rowing on large waters like lakes the cox aims for a point on the land. Then the course of the boat can be kept in a straight line.



Vliethead. Optimum courses?

Steering ropes

In order to be able to steer properly, the ropes need to be kept taut. They are held in a way that the cox has enough control without making unnecessary movements. The ropes should never hang in the water. Take note that they are not crossed. Don't hold the ropes around the body, but move them under one's bottom in order that one is safe, if the boat happens to turn over.

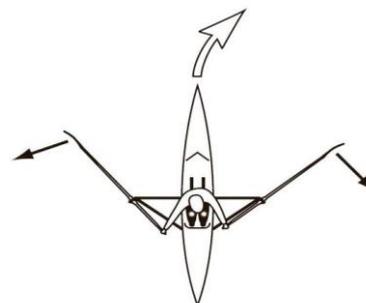
When the boat is moving back with reverse strokes the cox has to hold the ropes tight. Otherwise the rudder makes a right angle with the boat and slows the boat down. Besides that there will be a heavy strain on the connection of the rudder to the boat which could cause damage.

Sitting

A cox should sit still in order not to disturb the balance of the boat.

Coxing coxless boats

In coxless boats the rowers have to do the steering themselves. The best way to steer is to make a longer stroke with one of the oars. This is possible by pushing one shoulder more to the front during the catch. The boat will react quickly and directly. This applies also when there are two rowers; when commanded, both rowers will make this move. The commando is the same as in coxed boats.



To summarise

- **Steer in time and as little as possible. Only for small changes in the course**
- **Larger changes in course by commanding "hard", or easy all and turning**
- **A rudder only works when the boat has speed**
- **When we make reverse strokes keep the rudder straight and the ropes taut**
- **A cox sits still**

11.3 Rowing commands

(UK Term in brackets for interest sake)

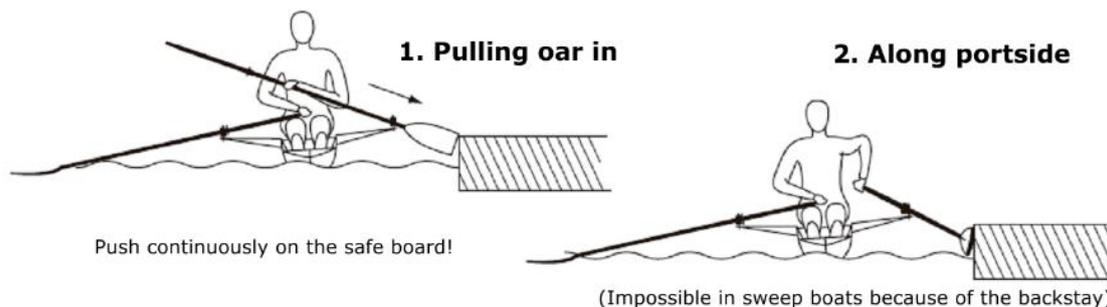
Slag klaarmaken	Prepare for stroke (Set ready)	Slide all the way toward the back of the boat, arms stretched, blades are flat on the water
.... Slag klaar ....	.... Ready for the Stroke (Ready all)	Turn blades, ready to catch
.... af	.... go (Row)	Make a stroke

Laat lopen	Easy oar	Stop rowing once you finished the stroke.
Bedankt	Thanks	This ends a command
Houden bakboord nu	Hold on portside now	This command often follows "laat lopen". The blade is pushed with the concave side into the water and turned to a vertical position. Lean over to port side. Too much pressure on the concave side is not good for the oarlocks and oars.
Stoppen!	Stop! (Hold it up!)	Emergency stop, all rowers put their blades vertically in the water to make the boat stop.
Strijken gelijk nù	Back down go!	Rowers make reverse strokes to make the boat go backwards. They do this by pushing the oars away from them instead of pulling towards them. The rower usually sits without moving the seat. The cox keeps the rudder straight by holding the lines tight.
Bakboord best/stuurboord sterk	Hard on port / hard on starboard	Make a stronger stroke with your right or left hand depending on the command.
En gelijk	Even pressure	Row normally, both sides equally strong.
Spelhaal nù	Very light paddle	Only make a rowing motion, don't put any power in your stroke
Lichte haal nù	Light paddle	A little bit of power in your stroke.
Strong paddle Nù	Strong paddle	Rowing with strong force, but not maximum strength.
Harde haal Nù	Full pressure	Rowing with maximum strength.
Opgelet, 3e stop, na nù	Third stop	During recovery the rower stops moving after bending forward, but legs and arms are straight.
Go	Go	Rowers carry on with rowing.

11.4 Leaving the bank

1. Hold both oars in the hand which is on the side of the water and push firmly with the other hand against the bank. In coxed boat the cox helps with this.
2. After this push, the boat is not yet far enough away from the bank to be able to row. There are two ways to achieve this.
 - Pull the bankside oar in, put the blade against the bank and push in order to increase the distance of the boat to the bank.
 - Pull the bankside oar back along the body, so that the oar is parallel to the boat (to slip), and put the blade against the bank. By pushing the oar back to the right position the boat will move away from the bank.
3. With both manoeuvres one needs to keep "veilig boord". Not all riggers allow the oar to be put parallel to the boat. In that case one needs to pull the oar in.

Veilig boord	Keeping the boat stable	The safe board on which the blade of the oar is flat on the water and the handle is pushed on the thigh with light pressure. This can also be done in a sweep boat if the rowers work together.
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Keeping the boat stable during leaving the bank

Uitzetten gelijk	Push away (Hands out)	Take hold of the bank and prepare to push away
.... nu!	.... now!	Push the boat away from the bank with power.

Before rowing away the cox checks if all rowers are ready, by calling out: bow ready two ready etc.

11.5 Coming back

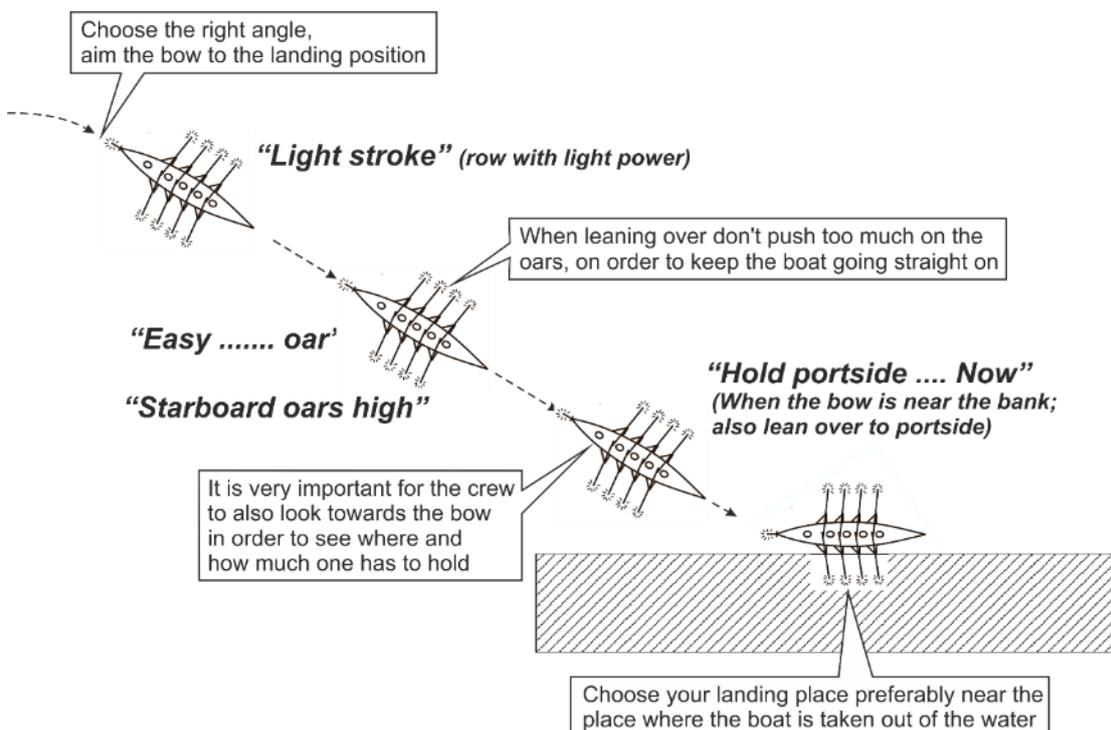
In order to land a boat properly one rows with a light stroke approaching the bank at an angle of about 30°. The bow should be aiming for the point where one wants the boat to be landed. Smaller boats can have a larger angle as they turn with less effort. Always make sure that the boat does not hit the bankside.

Stop rowing at least 20 meters from the bank, to slow down and allow preparations for landing.

Make sure the crew is ready and prepared.

Oars on the bankside high, ready to hold.

When the command "hold" sounds the rowers lean over to the waterside. The boat slows down and turns away from the bank.



In C-boats and wherries one can correct the course with the rudder (which is large and has effect, even with small speed). If the turning of the boat happens too fast steer towards

the bank. If the turning is too slow steer away from the bank. One can also correct the course while, during holding, one tilts the blade more or less vertical, or leaning over more or less. A perfect landing the boat is stopped 30 cm from the bank and parallel to it. If it does not work out don't mess about, but stop in time in order to start again.

Lichte haal	Light stroke	A little bit of power in your stroke
Laat lopen	Easy all	Stop rowing once you finished the stroke
Riemen hoog	Oars high	Keep the oars on the landside high so they won't hit the bank, lean over to the waterside.
Bakboord houden nù	Hold portside now	Put your blade vertically in the water on port side.

Landing with wind

Before landing take careful note of the direction and strength of the wind. Wind has little influence in the choice of the angle of the boat.

Wind behind: sail slowly and stop rowing early.

With a strong wind behind we do not land, because the boat does not slow down and also does not lie still when we hold. We choose to turn the boat, so we have head wind.

Head wind: keep the speed up. Stop rowing as late as possible. Prepare the crew, because the actions follow each other faster.

Wind from the side: The boat can be pushed sideways by the wind when you sail slowly. To keep the speed up makes landing easier. If you land at the lee shore, make sure you stay a bit further away from the bank the wind helps during the last bit. If you land at windward shore you have to try to stay near the bank when holding.

Observations during landing

- Choose an angle of 30° quite close to the bank. You have only to make a few strokes and have less chance to be moved by the wind
- If you hold too soon you won't reach the bank (leaning over to the waterside with oars high at the bank side is also holding)
- The boat, the riggers and the oars should not touch the bank. If the oars slide over the bank they will wear down quickly. The blades made out of synthetic material should be places with the concave side on the bank
- It is possible to land with back stroke. The manner is the same, but the cox has to keep the rudder straight and the ropes tight

To summarise

- **Make a conscious choice of the starting position, the course and the speed when landing a boat**
- **Tell the crew what is about to happen, it helps them to keep calm**
- **The cox looks towards the front of the boat and decides when and how strongly to hold and to lean over**
- **If it goes wrong, don't keep messing about, but start again**
- **The boat does not touch the bank (including riggers and oars)**
- **The oars stay above the bank until the boat is stopped. After that we will put them down**

11.6 Turning

Turning and changing course

Rondmaken over stuurboord / bakboord nù	Spin turn starboard / portside Go!	All rowers sit in the finish position. When the command "now" is given, starboard side begins to back down (possible to ride). Portside moves at the same time (in sculling boats the port oar moves) and starts to make a stroke as soon as the back down movement has stopped. Blades on starboard and port side are alternately in the water. The non-active blades are just above the water, or rest on the water in order to keep the stability of the boat.
Stuurboord halen/strijken nù	Row / back down starboard Go!	The named board starts to row or back down with short strokes, without riding. The blades of the other board are kept flat on the water

If we want to go back from where we are, we are going to "turn around". If there is only a small area to turn in one can row and back down at the same time without riding (tap turn). This, however takes a longer time, which can be hindered by shipping, wind or stream. This way of turning is less good for the boat than the alternate way.

If there is wind the cox needs to choose a turning point where the bow of the boat shifts "through the wind". The boat won't end up on the lee shore, because the rowing stroke is stronger than the backing down stroke.

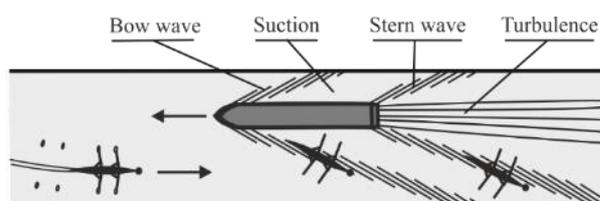
Changing course when rowing

Stuurboord sterk/ bakboord best nù	Hard on Starboard / port now!	At the named board the rower pulls harder than before, at the other board the rowers gives less power. Also when backing down strong at one board is possible.
.... en gelijk	Even pressure	The rower(s) pulls on both sides with the same strength.

11.7 Wind and shipping

Waves

If one is overtaken by a ship with a "bow-wave" or "stern-wave", that is too large to row through without getting water in the boat, one should stop the boat ("easy all"). Turn the boat parallel to the wave, keep the blades flat on the water. Push up the side of the boat up from where the wave comes. Command: starboard/port "uithouden" (keep the wave out). The wave does not come in the boat, but moves underneath. When waves are smaller, it is easier to move the boat straight into the wave. The command is "hoog scheren" (keep the blades high above the water during the recovery).



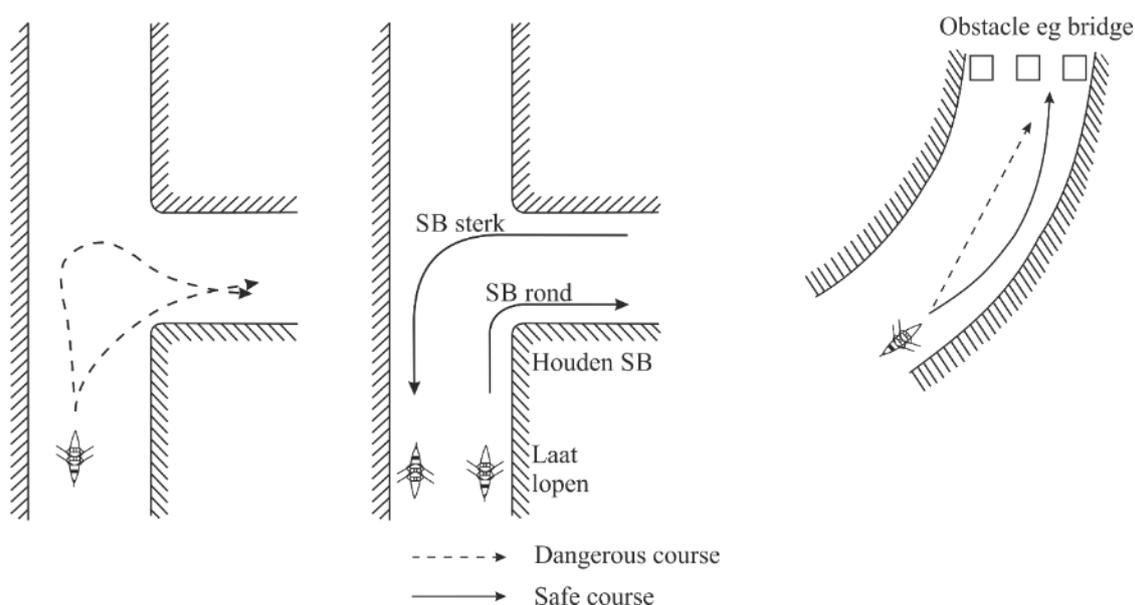
Passing a big ship with huge waves

Bakboord/ stuurboord uithouden	Keep the waves out on starboard/ portside	The blades lie flat on the water in order to keep the boat balanced. When a large wave approaches, the handles of the oars on named side are pulled up and that board comes up higher.
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Hoog scheren	Keep blades high above the water during recovery	The waves will move under the blades.
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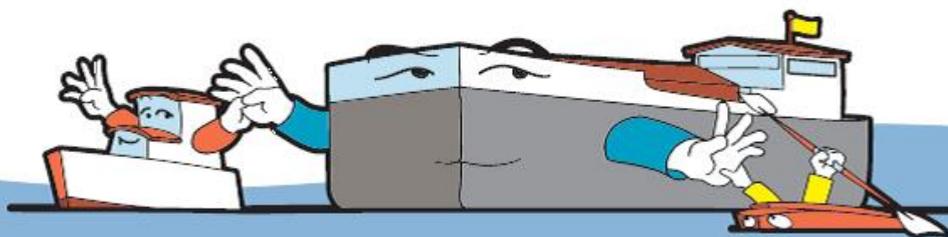
Situations which are unclear and hazardous

- **Pay attention to lights on bridges.** When the yellow light in the middle of the bridge go out look at the lights on the side of the bridge.
- **When needing to cross a narrow part (bridge or narrow canal) make sure that you move straight in front.** Under a bridge it is difficult to steer, especially if one needs to slip the oars.
- Slow the speed down in situations that are unclear and ask the bow rower to look out. When the boat has no speed the rudder movement has no effect.
- When in a bend, make sure that your speed is low enough to be able to stop in time for any obstacle.



Pas op de riemen	Mind the oars	Dangerous situation for the oars. Rowers watch the blades and decide whether it is necessary to retract an oar, or not. For example when passing flotsam or some obstacle.
Riemen intrekken nu	Retract your oars now	When passing narrow passage. Rowers retract their oar(s) perpendicular to the boat (this reduces stability of the boat).
Riemen uit	Push out the oars	The oars are pushed outward again.
Klaar om te slippen	Ready to slip the oars	Warning that a small passage is coming up or when the cox is about to moor the boat.
Slippen beide boorden	Blades along both sides	Warning that a small passage is coming up. The command "Slippen beide boorden" is generally preceded by "Laat lopen".
Riemen uitbrengen	Bring the oars in the normal position	Bring the oars back to the normal position, perpendicular to the boat.

Tips for rowers and canoeists



1. Wear bright clothing

Rowing boats and canoes are so close to the water that it can be hard for people on other vessels to see you. Make yourself more visible by wearing brightly coloured clothing, preferably fluorescent orange or yellow.

2. Look over your shoulder

Rowers face the direction that they're coming from. If you are in a boat without a cox, it is vital that you look over your shoulder frequently to see what is up ahead. Other vessels may be moving faster than you think. Modern river barges sailing unladen can reach speeds of more than 20 kph. On some waterways, speedboats are allowed to go faster than 20 kph. Most dangers will be ahead of you, so keep looking over your shoulder.

3. Keep your distance

Stay close to the shore or riverbank, but keep an eye out for fishing lines. Keep a safe distance from large commercial vessels, as they can cause suction and turbulence. Large ships need plenty of room to manoeuvre in bends and at harbour mouths, so do not stop at these places and give manoeuvring ships a wide berth. Choose a calm place unaffected by the sway and surge of moving ships to launch or land your boat safely.

4. Big ships have a big blind spot

Do not count on the skipper being able to see you, as a big ship's blind spot can extend up to 350 metres in front of the vessel. That's as far as three football fields! Adjust your course and speed so that you stay out of a ship's blind spot. As long as you can see the wheelhouse, the skipper can see you.

5. Keep a clear course

Keep a clear course and a steady speed, so that others can see what you're doing. Avoid making sudden changes to your course or speed.

6. Let other ships overtake quickly

Do not keep rowing or canoeing alongside or just ahead of other vessels. Help overtaking vessels by giving them room and slowing down. The faster the other vessel can overtake you, the sooner the waterway will be safe for you to continue on your way. Do not row or canoe abreast unless there are no other vessels nearby.

7. Be alert to danger signals

A skipper will give a single, prolonged blast on the ship's horn to warn of danger. This signal might be intended for you. React promptly and move out of the way of other vessels.

8. Entering the waterway from a harbour

Take care when you leave a harbour. Other vessels may not see you until you are on the waterway. Groynes or breakwaters may block their view, so keep a good lookout.

9. Good visibility

Do not go out on the water when visibility is less than 500 metres, because you will be difficult to see with the naked eye. Rowing boats and canoes are also difficult or impossible to detect on commercial vessels' radar.

10. Know the rules of navigation

Rowers and canoeists are vulnerable users of the waterways. Make sure you're prepared before you go out on the water. For your safety, you must be familiar with the rules for navigating small craft and understand the traffic signs along the waterways. It's a good idea to obtain a certificate of proficiency in navigating small craft.

For more information, go to www.varendoejesamen.nl or call Rijkswaterstaat at 0800-8002.



To summarise

- **Rowers sail on starboard bank and make sure of good visibility**
- **The course is predictable: you keep a clear course**
- **Make sure your crew is visible by wearing bright clothing**
- **The harder the wind blows the more dangerous is the leeward side. Stay away!**
- **When there is a strong wind, value the ability of your crew, before you set off**
- **When passing other ships with small waves steer straight on. With higher waves manoeuvre the boat parallel to the wave and stop. Don't get too close to the ship and the bank**
- **Stay out of a big ship's blind spot**
- **When there is a narrow passage make sure your boat enters straight from the front**
- **You only overtake if there is enough room and no risks**
- **If someone overtakes you help by giving room and slowing down**
- **With a danger signal you react promptly and avoid repetition**
- **Broad waterways with a lot of professional shipping are crossed in a straight angle when there is a quiet moment**
- **A cox anticipates on whatever may and can happen and provides calmness and control even in difficult circumstances**

12. Rowing technique summarized

Cycle of the rowing movement

The essence of the rowing stroke is to speed up the boat during the stroke part and to slow down the boat as little as possible during the recovery. It is important, whilst learning to row, to learn to feel that, during the stroke, the boat achieves an increase in speed.

A natural rowing movement

The technique, which is presented in the figures on the next page, is a logical and natural movement. Sudden or abrupt movements, which makes the boat jerk or slow down, should not be made.

Body movement, position of hands and slide movement should be in harmony with the speed of the boat. If done right rowing looks easy and natural. During normal rowing the recovery (picture 10 until 19) takes twice as long as the stroke in the water (picture 1 until 10). Making the right rowing movement helps to prevent injuries.

At the start of the catch the blades are put into the water and at the same time the legs push against the foot stretcher. The upper body and straight arms only give resistance: one "hangs" at the oars while the legs push. At the end of the leg push the upper body tilts back from the hip joint (pivot), followed by the arms pulling in. Legs, body and arms co-operate in a logical and natural sequence. In this way there is a constant pressure on the blades. Once rowers understand the idea of "hanging" it won't be necessary to explain when to tilt back or bent the arms. After hanging at the oars a natural sequence of movement follows. The stroke sequence and body movement is in harmony with the speed of the boat. This makes rowing seem simple and smoothly flowing. Movements which are jerky or wrong become visible.

The right grip

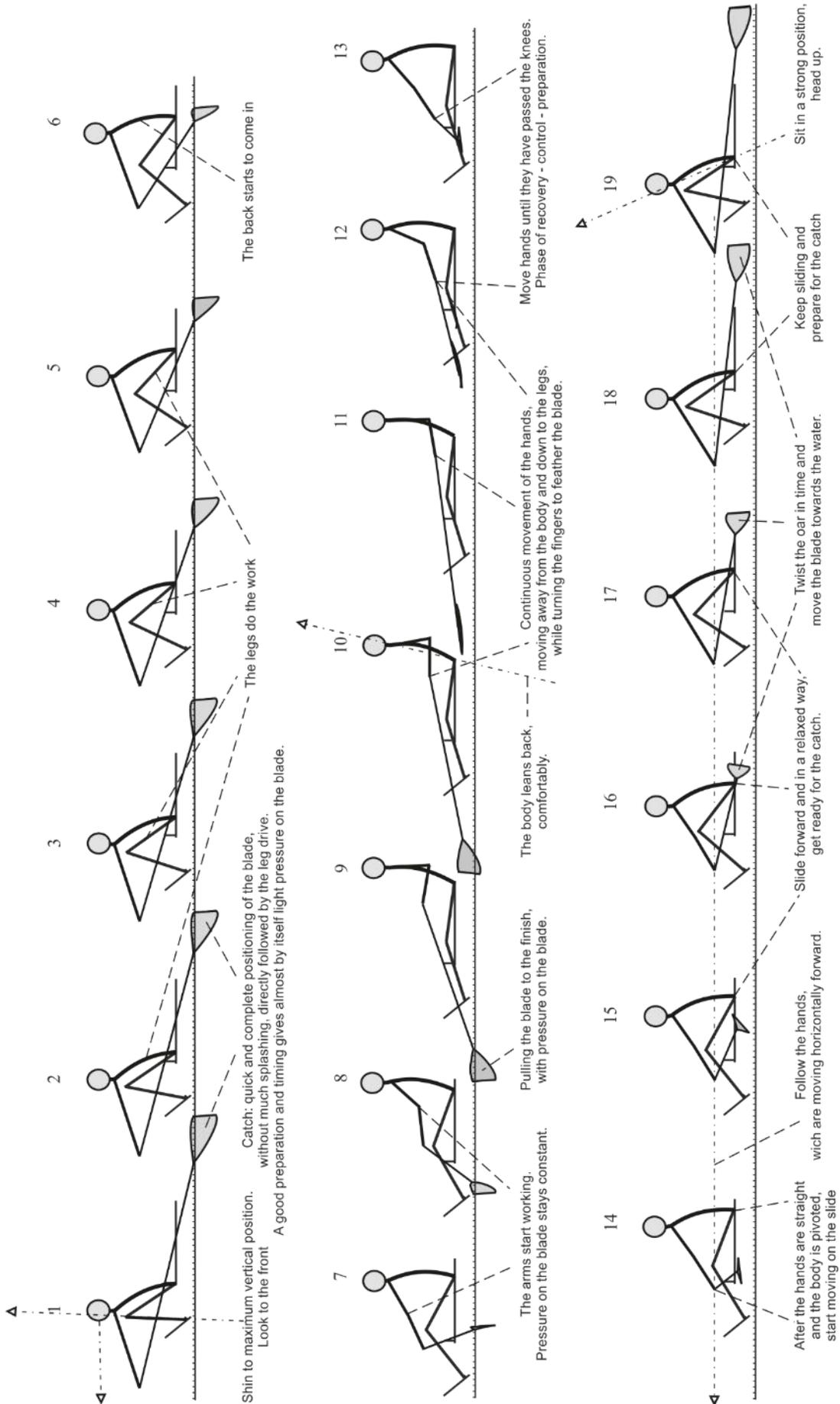
When sculling we row with the left hand before and over the right hand. The thumbs are positioned at the end of the handle and push the oar outwards. The other fingers are bent over the handles. The palm of the hand is not on the oar and the wrist stays flat, during the stroke as well as during the recovery. Turning the handle before the catch and after the finish is done with the fingers. The wrist stays flat. See pictures:



When sweep rowing the hands are positioned about the width of two hands apart. The little finger of the outside hand (furthest from the blade) at the end of the handle. The fingers are bent loosely around the handle with the thumbs underneath. Both wrists are flat and the palms of the hands are not on the oars. Only the fingers manoeuvre the oar.

When finishing the stroke the fingers of the outside hand push the handle down. The oars is turned by the inside hand and the outside hand stays flat. Turning ready for the catch is also done by the inside hand.

The whole stroke in 19 figures



13. Glossary of Rowing Terms.

ARA Amateur Rowing Association. The national governing body for rowing in England, to which all clubs should be affiliated.

Back down. Term used to describe using a reverse rowing action to manoeuvre the boat backwards or for turning.

Backstay. The back brace of a *rigger* that locks the pin in position to maintain *pitch*. (not found on *wing rigger* boats).

Backstops. The end of the slide nearest the bow. Prevents the seat from running off the *slide*. Also used to describe the position at which the athlete sits with their legs straight and *blade* to their chest.

Beginning. The moment at which the *spoon* of the blade is immersed in the water and propulsive force applied. Immersion and force application should be indistinguishable actions. Also called the *Catch*.

Blade. An *oar*.

Button. The plastic circular section of the oar that is pressed against the *swivel* when rowing.

Bow. End of the boat that travels through the water first and is sharpest. Athlete that sits in the seat position nearest this end of the boat.

Bow Ball. Ball shaped safety cap that sits over the bow end of the boat. Compulsory on all rowing boats for safety of other water users.

Bow Side. The right hand (starboard) side of the boat as the *cox* sits or the left hand side of the boat for a rower. Often marked by a green stripe on the oar.

Canvas. The covered section of the boat that is from the *bow* to the open area (where the athlete sits) and from the open area to the *stern*. Often used to as a description of how much a race was won or lost by.

Catch. See beginning.

Cleaver. Type of blade that has a *spoon* in the shape of a meat cleaver.

Collar. Plastic sleeve fixed to the oar that the *button* circles. Button can be moved along the collar to adjust blade gearing.

'Come forward'. Verbal instruction used by the *cox* or athlete to bring the crew to *front stops* position ready to row.

Connection. Used to describe the link between the power of an athlete's legs to the force applied to the *spoon* of the *blade*. Should be made as soon as the *catch* is taken and held through the trunk muscles for the length of the work section of the stroke.

Cox. Person who steers the boat by means of strings or wires attached to the *rudder*. Can be positioned in either the *stern* or *bow* of the boat.

Coxless. Boat without a *cox*.

Double. Boat for two *scullers*.

'Easy Oar/Off'. Verbal instruction given by *cox* or athlete for crew to stop rowing.

Eight. Boat for eight *sweep* rowers. Will always have a *cox*.

Ergo. Indoor rowing machine used for training.

Extraction. The removal of the blade from the water by application of downward pressure to the blade handle. In sweep this is done with the outside hand on the blade handle. Movement easiest when force is applied to the spoon of the blade until the last moment.

Feather. *Blade spoon* is flat to the water. This is the position of the blade spoon for the recovery section of the stroke. Athletes must be careful to fully extract the blade before feathering.

Fin. A piece of metal or plastic attached to the underside of the boat towards the *stern*. Provides directional stability by preventing sideways slippage.

Finish. The last part of the stroke where the blade handle is drawn in to the body. Following this (assuming clean *extraction*) the boat will be at its maximum speed. Force must be applied to the *spoon* right to the finish so that water does not catch up with the spoon.

Firm. Term used to suggest that the athlete is applying full pressure to the power phase of their rowing stroke.

Fixed Seat. Either a description used to differentiate a boat without a sliding seat mechanism or the athlete rowing arms and or body only and therefore not moving their seat.

FISA. The Federation Internationale des Societes d'Aviron is the international rowing federation. The federation is responsible for all international racing and rules. Organises a series of 3 World Cup Regattas and World Championships annually.

Four. Boat for four *sweep* rowers. Can be coxed or coxless.

Front stop. The end of the slide nearest the *stern*. Prevents the seat from running off the *slide*. Also used to describe the position at which the athlete sits with their legs at 90 and the blade *spoon* at the furthest point to the bows.

Gate. The metal bar, tightened by a screw that closes over the *swivel* to secure oar.

Heel Restraints. Attached to the heels of the shoes and to the foot plate. Compulsory safety feature that helps the athlete to release their feet from the shoe in the event of a capsized.

Height. Measurement of distance from seat to point of work at the centre of the bottom edge of the *swivel*.

'**Hold it up**'. Verbal instruction meaning to bring the boat to a stop quickly. Perform an emergency stop.

Inboard. The length of the blade from the end of the handle to the *button* at the point where it will sit against the *swivel*.

Length. - Length of stroke- the arc through which the blade turns when it is in the water from *catch to finish*.

Loom. The shaft of the blade from the *spoon* to the handle.

Macon. Type of blade that has the traditional shape spoon.

Novice. Term used to describe someone who has very little rowing experience.

Oar. Lever used to propel a rowing boat. Also known as a *blade*.

Outboard. The length of the blade from the tip of the spoon to the button at the point where it will sit against the swivel. (Or, the engine on the coaching launch.)

Pair. Boat for two *sweep* rowers.

Pin. The spindle on which the *swivel* rotates.

Pitch. Angle of inclination of the *spoon* to the vertical during the propulsive phase of the stroke. This is dictated by both the *stern* and *lateral pitch*.

Pressure. The amount of effort applied by the athlete to the power phase of the stroke. (usually light, firm or full)

Power phase. The part of the stroke between the *beginning* and the *extraction* when the blade is in the water and propelling the boat.

Quad. Boat for four scullers.

Recovery. The part of the stroke phase between the *extraction* and the *beginning* or *catch* when the blade is out of the water.

Riggers. Metal outriggers attached to the boat outer shell of the boat next to each seat that support the *swivel* and the *pin*. There are currently several different designs of rigger from two or three stay metal or carbon tubing to metal or carbon wings.

Rigging. The way in which the *riggers*, *slides*, *swivel*, *pins*, *foot plate*, *oars* and *sculls* can be adjusted to optimise athlete comfort and efficiency.

Rudder. The device under the boat which when moved causes change of direction. Linked to the *cox* or a crew member by wires.

Saxboard. The sides of the boat above the water line made to strengthen the boat where the *riggers* attach.

Scull. Smaller version of the *oar* used for *sculling*.

Sculling. Rowing with two *oars*.

Shell. The smooth hull of the boat. Sometimes made from wood but more commonly now from a synthetic material.

Slide. Two metal runners on which the seat travels.

Spin turn. Term used to describe turning the boat on its axis.

Spoon. The end of the oar which enters the water. Usually painted in the colours of the club represented by the athlete.

Square or squaring. To turn the oar so that the *spoon* is at 90 degrees to the water. This action should be done early during the *recovery* to ensure good preparation for the *catch*.

Stern. The end of the boat that travels through the water last.

Stroke. 1. One cycle of the *oar*.

2. The rower who sits closest to the *stern* of the boat in front of all the others and is responsible for the *rating* and *rhythm* of the boat. (other crew members can influence rating and rhythm from behind)

Stroke side. The left hand (port) side of the boat as the *cox* sits or the right hand side of the boat for a rower. Often marked by a red stripe on the oar.

Stretcher. A metallic or carbon plate inside the boat to which the shoes are attached. Secured with adjustable screws.

Sweep. Rowing with one oar on one side of the boat.

Swivel. The U shaped plastic rotating piece mounted on the *pin* in which the oar sits whilst rowing.

Tap down. To the lower the hands at the end of the stroke to remove the *spoon* from the water.

Tap turn. Term used to describe a method of turning the boat where each rower uses a forwards or backwards rowing action with their arms only.

Trestles. Portable stands used to support a boat for *rigging*, washing, admiring etc.

