

C2SKY · MUI NE, VIETNAM

WINGFOIL FIELD GUIDE

From the beach to independent flight

EDITION 1 · SEPTEMBER 2026

WHAT THIS IS

The theory half of learning to wingfoil. It is not a syllabus replacement, not a certification, and not a substitute for supervised water time.

HOW IT WAS SOURCED

Every safety-critical statement traces to a training body, a national governing body, the sport's own association, a current manufacturer manual, or the one published study of wingfoil injuries. Where the sources disagree, this guide shows the disagreement.

CONTENTS

PART A BEFORE THE WATER

00	START HERE	5
01	WING VERSUS KITE	11
02	THE WIND	15
03	THE SPOT	19
04	THE WING	23
05	THE BOARD	27
06	THE FOIL	31
07	THE LEASH QUESTION	35

PART B ON LAND

08	RIG AND CHECK	39
09	WING HANDLING ON LAND	43
10	NEUTRAL, POWER AND SHEETING	45

PART C ON THE WATER, NOT YET FLYING

11	IN AND OUT OF THE WATER	49
12	KNEES, THEN FEET	51
13	TAXIING	53
14	STEERING AND HOLDING GROUND	55

PART D FLIGHT

15	WHY THE BOARD FLIES	57
16	THE FIRST FLIGHT	61
17	HEIGHT CONTROL	65
18	SUSTAINED FLIGHT	69
19	GOING UPWIND	73
20	TURNING ROUND	75

PART E JUDGEMENT

21	FALLING	77
22	SELF RESCUE	83
23	RIGHT OF WAY	87
24	WHEN NOT TO GO	89
25	CHOOSING YOUR OWN EQUIPMENT	91

PART F MUI NE & INDEPENDENCE

26	WINGFOILING IN MUI NE	93
27	THE PROGRESSION MAP	97
28	THE INDEPENDENT WINGFOILER	101
29	GLOSSARY	105



PART A · BEFORE THE WATER

START HERE

This is the theory half of learning to wingfoil. The other half only happens on water, with somebody watching you.

Wingfoiling is two sports learned one after the other. First you learn to hold a wing and make a board go where you want. Then, separately, you learn to fly. Almost everything that is confusing about the first week comes from not knowing that yet.

The essential path

This guide is thirty chapters long because the sport has thirty chapters in it. You do not have to read them in order, and you do not have to read them all before your first lesson. If you read nothing else, read these nine.

Nine chapters, in this order. It is the shortest route to being useful on a beach — not a summary of the guide, and not a substitute for the twenty-one chapters it skips.

02 **THE WIND**
How much wind each half of the sport needs, and which directions are teachable.

04 **THE WING**
What a wing is called and how it makes power — and how to make it stop.

05 **THE BOARD**
Why the board is big, and what volume buys you on the first day.

06 **THE FOIL**
The four parts of the foil, and exactly why it is the thing that hurts people.

07 **THE LEASH QUESTION**
One of the two is always worn. The other is a decision, and this is whose.

09 **WING HANDLING ON LAND**
The first hour: holding, sheeting, flagging and parking a wing on land.

12 **KNEES, THEN FEET**
Why the sport starts kneeling, and what standing up actually asks for.

21 **FALLING**
What the evidence says actually hurts wingfoilers, and how to land away from it.

22 **SELF RESCUE**
Your board is a raft. Know that before you are in a position to need it.

Read these before your first lesson. Read the rest between sessions, when the words have something to attach themselves to.

WATCH

The path skips twenty-one chapters, and two of them matter sooner than their position suggests. **Chapter 03** is how you read a beach, and a foil asks a beach one question nothing else does. **Chapter 23** is right of way, and you are in traffic from your first ride, not from your tenth.



The wing before the board and the board before the foil. Every hour spent here is an hour not spent swimming later.

C2SKY

How to read the four marks

Every instruction in this guide carries one of four marks. They are not decoration. They tell you whether you may act on what you have just read.

KNOW Safe to read and act on.

WATCH Where this goes wrong.

DANGER Injury, not inconvenience.

INSTRUCTOR CHECK Do not attempt unsupervised.

LOCAL NOTE Mui Ne specific, and only where verified.

	KNOW	Safe to read and act on.
	WATCH	Where this goes wrong.
	DANGER	Injury, not inconvenience.
	INSTRUCTOR CHECK	Do not attempt unsupervised.

A fifth mark, LOCAL NOTE, appears where something is true of Mui Ne and verified.

The four marks used on every page. Severity is carried by marker weight and wording. There is no warning red in this system, and nothing in this guide is coloured to alarm you.

KNOW

A guide is a legitimate way to learn wind, equipment, geometry, rules and vocabulary. It is not a way to learn to fly. Naish's current wing manual makes two things preconditions of going on the water at all: lessons from a wingfoiling school, and knowing on-water self-rescue techniques. Every other manufacturer in our source register says the same thing in its own words.

Three things that are true before you start

You must be able to swim. IKO requires "minimum swimming ability" for its wing course. Duotone requires that you are a good swimmer *and* wearing a life jacket. Naish requires an experienced swimmer. This is not a formality.

Never permanently attach yourself to the wing. Your leash is a connection you can break in under two seconds, and you should have broken it once, deliberately, before you ever need to.

Never go further from shore than you could swim back. Two separate manuals in the register state this in almost the same words, and neither of them is being lawyerly.

DANGER

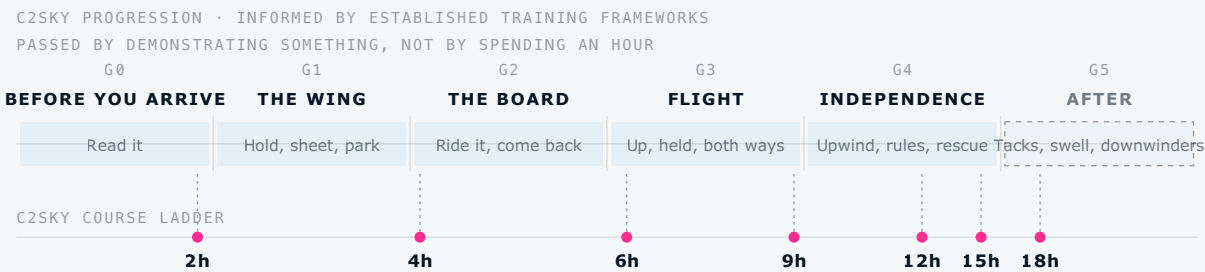
The dangerous object in this sport is under the board, not above it. A hydrofoil is carbon, it is deliberately thin at the trailing edges because that is what makes it fly, and it is the largest single cause of injury in the only study of the sport that exists. Chapter 06 is about what it is. Chapter 21 is about what it does.

Where you are going

This guide is built around five gates. **A gate is passed by demonstrating something, not by spending an hour** — and this guide’s gates are C2SKY’s own, informed by established training frameworks rather than taken from any of them. The structure is not a stylistic choice. The one published study of the sport reports that injury rates were *significantly associated* with experience — they fell as experience rose — and that riders themselves attributed more than three quarters of their injuries to riding errors when tired. A ladder counted in hours rewards staying on the water. A ladder counted in demonstrated skills does not.

FIG 00.2

MAP



Four rungs carry a published outcome. Three do not, and this guide does not write one for them. G0–G5 is C2SKY’s own model, not an IKO, IWO or RYA level system, and passing a gate certifies nothing.

A C2SKY progression, informed by established training frameworks — not a level system issued by IKO, IWO or the RYA. Chapter 27 lays it against IKO’s and the RYA’s published ladders. The position of the 2, 4, 6 and 9 hour rungs is C2SKY’s own published outcome for each; the three longest courses carry no published outcome and are shown as continued work, not as a promise.

LOCAL NOTE

C2SKY’s published wing courses run 2, 4, 6, 9, 12, 15 and 18 hours, one-to-one. Four of those seven carry a published outcome and three do not, and this guide does not invent one for the three. Chapter 27 lays the whole ladder against the gates.

What this guide will not do

It will not tell you how many hours it takes to fly. Nobody honest can, and C2SKY has not published a general claim. It will not print a number it cannot source. Where the training bodies and the manufacturers genuinely disagree — and on one important question they do — it will show you the disagreement rather than pick a side quietly.

This guide is the theory half. The water half happens with an instructor.

See the C2SKY wing courses →

01

PART A · BEFORE THE WATER

WING VERSUS KITE

A friendlier thing in your hands, and a much less friendly thing under your feet. That is the trade, and it is worth understanding before you choose.

Most people arriving in Mui Ne have already decided, or think they have. The decision is usually made on how the two sports look. It is better made on what they do.

What changes in your hands

A kite flies on lines, in a window, twenty metres above you, connected to a harness through a release system you must be able to find and operate under load. A wing is held. There is no window, no bar, no chicken loop, and no line tension to manage. **If a wing is hurting you, you let go of it, and it stops.** That single sentence is the reason the first day is calmer.

FIG 01.1

COMPARISON

KITESURF



Most serious incidents happen on the beach.

THE HAZARD IS ABOVE YOU

Cloth and line tension, 20 m up, attached to a harness you must release.

WINGFOIL



LET GO AND IT STOPS

No lines, no bar, no permanent attachment.

THE HAZARD IS BELOW YOU

Carbon, sharp on purpose, and you land on it.

The exchange you are making. A kite puts a powerful object above you on lines you must be able to release. A wing you can simply let go of — and puts a rigid, deliberately sharp object under the board instead.

What changes under your feet

A hydrofoil. It is rigid, it is fast, it stays sharp because a thin trailing edge is what makes the section work, and you will fall onto the water directly above it many times in your first sessions. The hazard has not gone away. It has moved from above you to below you, and from cloth to carbon.

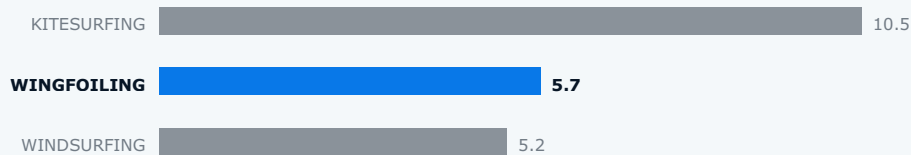
What the numbers say

There is exactly one published study of wingfoil injuries: 415 riders, twelve months, self-reported. It found an injury incidence of **5.7 per thousand hours** — against 5.2 for windsurfing and **up to 10.5 for kitesurfing**. On that evidence the exchange is a favourable one.

FIG 01.2

DATA · WINGFOIL INJURY STUDY, 2023

INJURIES PER 1 000 HOURS ON THE WATER



Wingfoiling runs at about half the reported injury rate of kitesurfing, and at roughly the same rate as windsurfing. Self-reported, 415 riders, twelve months. The kitesurf figure is the upper end of the range in the same paper's literature review.

Injury incidence in the only published study of wingfoil injuries, set against the two sports it compares itself to. Self-reported over twelve months, n=415.

But the shape of the risk moves as well as its size. In kitesurfing a large share of the serious incidents happen on the beach, launching and landing, with an object overhead. In wingfoiling **99.15% of the injuries happened on the water**, and the mechanism was almost always the rider's own equipment.

KNOW

In the same study, **not one injury was caused by contact with another water user**. That is not a claim that wing traffic is safe. It is a fact about what actually hurts wingfoilers, and it is why Chapter 21 is about falling rather than about collisions.

What changes in the learning curve

C2SKY's own published answer to this question is the honest one, so here it is unedited:

"Wing has a gentler first day — the wing depowers by letting go — and a longer road to foiling. If you want to be riding in a week, kite is faster; if you want the calmer learning curve, wing."

WATCH

Neither sport transfers to the other as much as people expect. In the study, 97% of wingfoilers came from another board sport — windsurfing, kitesurfing, SUP or surfing — and riders with prior experience were **not found to be less likely to be injured** ($p=0.242$). Read that carefully: *only 3% of the sample had no prior board experience*, so there were barely a dozen people to compare against, and the authors say plainly that they *cannot confirm* the question either way from their data. It is an unanswered question, not a finding that experience does not help. What it does mean is that being a good kiter makes you a beginner with better balance, not a beginner who can skip anything.

02

PART A · BEFORE THE WATER

THE WIND

Wingfoiling works from about five knots. Flying needs ten to fifteen. And once you can fly, you need less wind than you did to start.

Wingfoiling has two wind requirements, not one, and the relationship between them surprises almost everybody.

Two numbers, from a national governing body

The RYA publishes both. **Wingsurfing** — the board without a foil — works from “as little as 5kts”, with about fifteen knots as a sensible beginner ceiling. **Getting onto the foil** needs “about 10–15kts initially”, and as your technique improves you can fly in less and stay out in more, up to about twenty-five knots.

FIG 02.2

SCALE · KNOTS

WHAT EACH ONE NEEDS · RYA PUBLISHED RANGES



Foiling needs more wind to start than winging does, and less wind to keep going. That is the whole shape of the sport in one line.

The RYA's published beginner ranges. Wingsurfing works from about five knots. Getting onto the foil needs ten to fifteen. Once you can fly, the range opens at both ends.

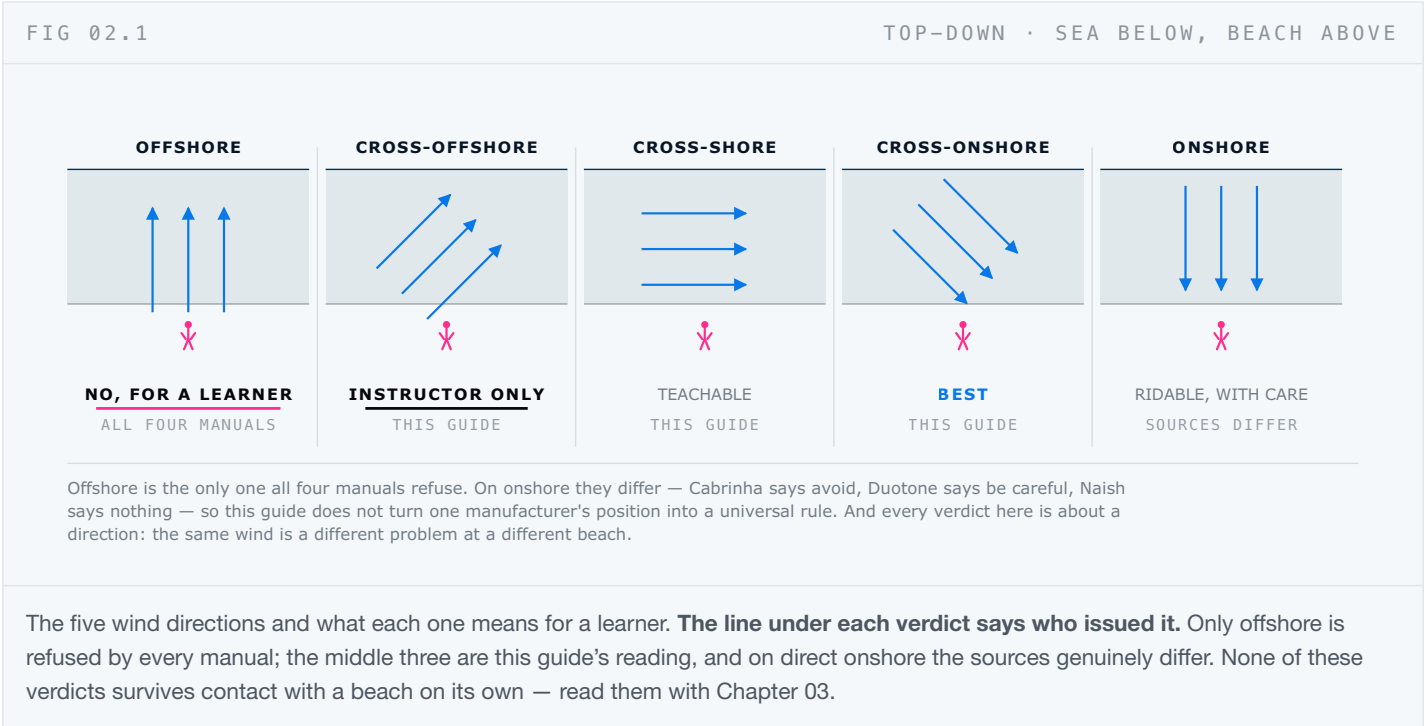
The reason is in Chapter 15. A foil has to reach a take-off speed before it lifts anything, and until it does you are pushing water. Once it lifts you, the drag collapses and almost nothing is holding you back — which is why the wind needed to stay flying is far less than the wind needed to *start* flying.

KNOW

This is also a trap, and the manufacturer says so plainly: a foil “can let you ride in marginal conditions. Keep in mind the wind can quickly die completely.” You will find yourself further out than you meant to be, in less wind than you would have gone out in.

The five directions

Wind direction relative to the beach decides more about your day than wind strength does. Read the figure with one thing in mind: **only the offshore verdict comes from the manufacturers.** The rest is this guide reading across sources that do not entirely agree, and the figure marks which is which.



Offshore — the one every source refuses

DANGER

For a learner, offshore is a no, and this is the one direction where the sources agree. Naish forbids it outright: “Never use this product in offshore wind conditions.” Duotone says avoid it. Cabrinha says avoid it. F-One explains why: the wind and the current both push you away from the beach, and a foil will carry you a long way out in very little wind. This is a manufacturer prohibition rather than a law — experienced riders do go out in offshore wind, with boat cover and a plan. You are not that yet, and neither is a lesson.

Cross-offshore — the guide's own reading

WATCH

No manufacturer in our register names cross-offshore at all, so the “instructor only” verdict in the figure is this guide's, not theirs. The reasoning is that it carries the offshore failure mode — anything you drop drifts away from the beach, and so do you — at a reduced angle rather than removing it. Whether a given spot is teachable in it is a judgement for the person running the session, and at some spots the answer is yes.

Direct onshore — where the sources part company

Cabrinha says avoid onshore as well as offshore. Duotone says be careful with it. Naish forbids only offshore and says nothing about onshore at all. **This guide does not turn Cabrinha's position into a universal prohibition**, because two of the three others do not hold it. Direct onshore is rideable, and it is a distinct risk class rather than a milder version of offshore: the wind is pushing you *toward* the hazard rather than away from it. Everything that goes wrong ends up on the beach — you, your board, the shore break, and whoever is standing in it — and on a foil the water gets shallower in exactly the direction you are being pushed. Getting off the water is easy. Getting off it in one piece, at speed, with a foil under you, is the part to think about.

Cross-shore and cross-onshore

Cross-shore blows along the beach: what you drop drifts along it rather than out to sea or into the shore break. **Cross-onshore — angled onshore, which is what MuiNe has — is what every source implicitly leaves as the good case**, and it is the one this guide calls best for a learner: enough onshore component that you and your equipment come back, enough cross component that you are not being driven straight into the beach.

KNOW

All five verdicts are about a direction, and you ride at a spot. The same wind is a different problem at a different beach: a straight open beach, a bay, a river mouth and a headland each change what “onshore” costs you, and so do the tide, the shore break, the depth profile and what sits downwind. MuiNe's cross-onshore is a good case because of the beach it arrives on, not because of the angle by itself. Chapter 03 is how you read the beach; this chapter only tells you which question to ask about the wind.

Gusty is worse than strong

Every manual separates the two, and they are right to. A steady twenty knots is a wing size decision. A gusty twelve to twenty-two is a series of surprises, and a surprise is what a beginner has no answer to. Duotone's wording is the one to remember: never use a wing in wind so strong that you cannot maintain *precise* control.

A forecast is not a measurement

A model tells you what it expects. A station tells you what is happening. C2SKY keeps the two apart everywhere on its own website and this guide does the same. If there is no measured reading to give you, the honest answer is the camera, not an invented figure.

WATCH

Published wing size and wind range tables exist — Duotone's runs from a 2.0m at 27–45 knots down to a 6.5 m at 7–18. The manual calls it “a rough guide only”, and tells you to go one size up or down if you are significantly heavier or lighter. Treat every such table the way its author does.

03

PART A · BEFORE THE WATER

THE SPOT

A foil asks one thing of a beach that nothing else does. It asks how deep it is.

You will be taught a spot assessment on your first day. This chapter is what it is for.

Depth is the new question

Every other board sport asks whether the water is deep enough to fall into. A foil asks whether it is deep enough to fly in. The RYA's guidance to its own training centres puts it in one line: *"Consideration should be paid to the depth of water due to the foil lengths."* Naish's foil manual asks you to be aware of "how deep your foil extends". Duotone simply says do not use the foil in shallow water.

FIG 03.2

SECTION

SECTION · STILL WATER



NOT DEEP ENOUGH

The margin is missing, not the depth.

DEEP ENOUGH

Because board and foil sink when you stand on them.

The depth rule, drawn. You need water deeper than the foil *plus* a margin, because the board and foil settle when your weight arrives on them. This is F-One's rule and it is the one number a foil beach cannot be described without.

DANGER

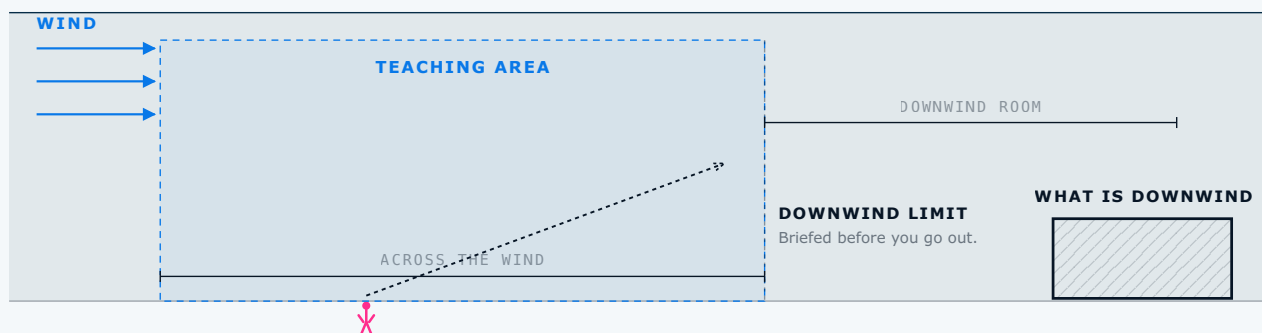
The rule has a margin in it, and the margin is the part people forget. F-One's manual: wade out until the water is deeper than the foil, and then further, *because the board and the foil sink when the rider gets onto the board*. The depth you walked through is not the depth you will be standing in.

Space, in three directions

Foiling craft are fast, and a beginner uses more water than they expect. The RYA is specific about the shape of the area rather than its size: **“Beginners require space across the wind as well as downwind.”** A teaching area is a box, not a line.

FIG 03.1

TOP-DOWN



Beginners need space across the wind as well as downwind — RYA. The teaching area is a box, not a line.

A wing teaching area has three dimensions to it: room across the wind for the runs, room downwind for the drift, and a stated limit before whatever is beyond it.

Flat water, if you can have it

“Flat water is a preference and should be a priority wherever possible” — the RYA again, and F-One’s spot advice agrees: favour water that is not choppy or turbulent, with enough depth and without reefs or shoals. Chop does not stop you learning. It makes every hour of it harder than it needed to be.

KNOW

You are quiet. The RYA notes that foiling craft travel “often silently or much quieter than other craft”. A swimmer will not hear you coming. Every distance rule in this guide exists because of that sentence.

The five questions, in order

01

Where is the wind coming from?

Not roughly. Relative to the beach, and therefore which of the five directions from Chapter 02 you are standing in.

COMMON MISTAKE

Reading the flags at the hotel rather than the water.

02 **How deep is it, and how far out is it deep?**

Foil depth plus a margin, for the whole area you intend to use — not just where you get on.

COMMON MISTAKE

Assuming the deep bit you can see extends to where you will land.

03 **How much room is there, across the wind and downwind?**

And where does it stop. A downwind limit briefed before you go out is standard practice at a training centre.

COMMON MISTAKE

Only looking at the water directly in front of you.

04 **What is downwind of me?**

Because that is where you end up. Rocks, moorings, fishing gear, a headland, a shipping lane, a swimming area.

COMMON MISTAKE

Discovering it on the way past.

05 **Who else is here, and where will I get out?**

Naish's manual asks for 100m from obstructions. F-One's exit rule is that you get off the board at the same distance from shore that you needed to get on.

COMMON MISTAKE

Riding all the way in.

AWAITING LOCAL DATA · W-06 ... W-12

The hazard inventory, launch and landing areas, longshore set and depth profile for C2SKY's wing spot are not recorded anywhere in this project, and this guide will not invent them. Your instructor knows them. Ask on the beach, on the day.

04

PART A · BEFORE THE WATER

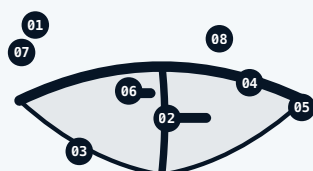
THE WING

An inflatable skeleton, a piece of cloth, and two hands that do two different jobs.

A wing is a sail you hold. It has no lines, no bar and no fixed attachment to you except a leash. Everything it does, it does because of the angle you hold it at.

FIG 04.1

FRONT VIEW · AS YOU HOLD IT



01 LEADING EDGE

The inflated front tube. The wing's spine, and what

02 STRUT

The inflated centre spine. Carries the handles.

03 CANOPY

The cloth that does the work.

04 WINDOW

So you can see what you are about to hit. Never

05 WING TIP

Keep it off the sand.

06 HANDLES OR BOOM

Front hand sets the angle, back hand sheets.

07 LEASH LOOP

Where the leash goes, and where the pump clips.

08 VALVES

Leading edge and strut. Pressure is printed beside them.

A wing, with the names your instructor will use. The union of three current manufacturer diagrams; individual wings add parts — a flagging handle, a knuckle patch, a luff panel. Yours may differ — check your own manual.

The inflated part is the skeleton

The leading edge and the strut are inflated tubes. They are what makes a piece of cloth hold a shape in the wind, and they are also what makes the wing float when you are lying next to it in deep water. Everything else — canopy, window, tips — is fabric.

The front hand is the angle, the back hand is the throttle

The front hand sets where the wing sits relative to the wind. The back hand sheets: pull it in and the canopy takes a bigger bite of the wind and the power rises; let it out and the power goes. It is continuous, not a switch, and learning to use it as a dial rather than a grip is most of the first hour.

01

**FLAGGED**

Held at the leading edge. It weathervanes and gives you almost nothing.

02

**NEUTRAL**

Overhead. Least drive — and on land, where lofting happens.

03

**POWERED**

Sheeted in. The back hand is the throttle.

The three states your hands can put a wing in. The strip under each is relative power, not a measurement. Neutral feels safe and is the one position you do not linger in on land.

Neutral feels safe and is not

Held overhead, a wing feels stable and feels like it is doing nothing. Cabrinha's own glossary is blunt about what that position actually is: it "is also the position in which on land the rider is most susceptible to lofting", and the manual's instruction is to make your way to the water without delay rather than stand there.

DANGER

Do not linger on land with the wing overhead. That is a manufacturer instruction, in capitals, in its own manual: "It is VERY dangerous." A gust arriving while a wing is directly above you lifts you off the beach, and a beach is a hard place to be lifted off.

Flagging is the off switch

Take one hand to the leading edge, let everything else go, and the wing weathervanes. It points itself downwind and produces almost nothing. This is how you walk with it, how you rest, and how you make it stop being a problem while you deal with something else.

A wing on the ground is a wing that can leave

FIG 04.3

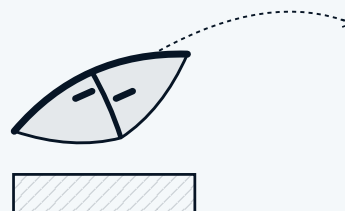
TOP-DOWN · ON THE BEACH

WIND
→
→
→



LEADING EDGE DOWN, INTO WIND

Sanded, or leashed to something fixed. Never rocks.



CANOPY UP, UNWEIGHTED

An inflated wing can fly away and injure or kill.

The whole of wing security, in one picture. Leading edge on the ground and pointing into wind, weighted with sand or leashed to something fixed. Both manuals in the register put this in their safety section rather than their care section, for a reason.

DANGER

An inflated, unsecured wing “can fly away at any time, injuring people and in extreme cases even kill them” — Duotone, section 2.2. Leading edge on the ground, pointing into the wind, weighted with sand or leashed to something fixed. Never with rocks: they wreck the canopy. Never for a minute unattended.

Sizes

A beginner is usually on something between 2.8 and 4 square metres, which is the RYA's published range. What size you are handed on the day is a function of your weight, the wind, and what the school has. Chapter 25 is about choosing your own.

AWAITING LOCAL DATA · W-13

Which wings C2SKY teaches on — brand, sizes, and the pressures printed on them — is not recorded anywhere in this project. The one thing this guide can tell you is that the pressure on the label is the pressure, and it varies by more than double across current models.

05

PART A • BEFORE THE WATER

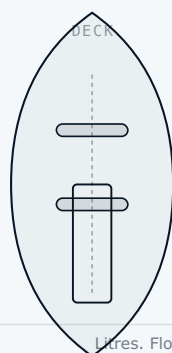
THE BOARD

Volume is flotation, flotation is learning time, and nobody agrees on how much you need.

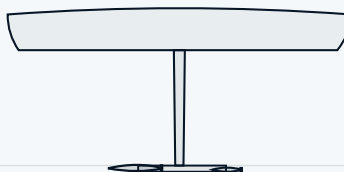
A wing board is not a surfboard and not a kiteboard. It is closer to a small paddleboard with a foil bolted underneath, and the first thing it has to do is float you while you are stationary and getting things wrong.

FIG 05.1

TOP + SIDE



SIDE, WITH THE FOIL ON



VOLUME	Litres. Flotation, and therefore learning time.
MAST TRACK	Where the foil bolts on, and how far forward or back it sits.
FOOT STRAPS	Optional, and they held the foot in 24 % of ankle injuries.
HANDLE	How a foiled board is carried — on its side, under one arm.

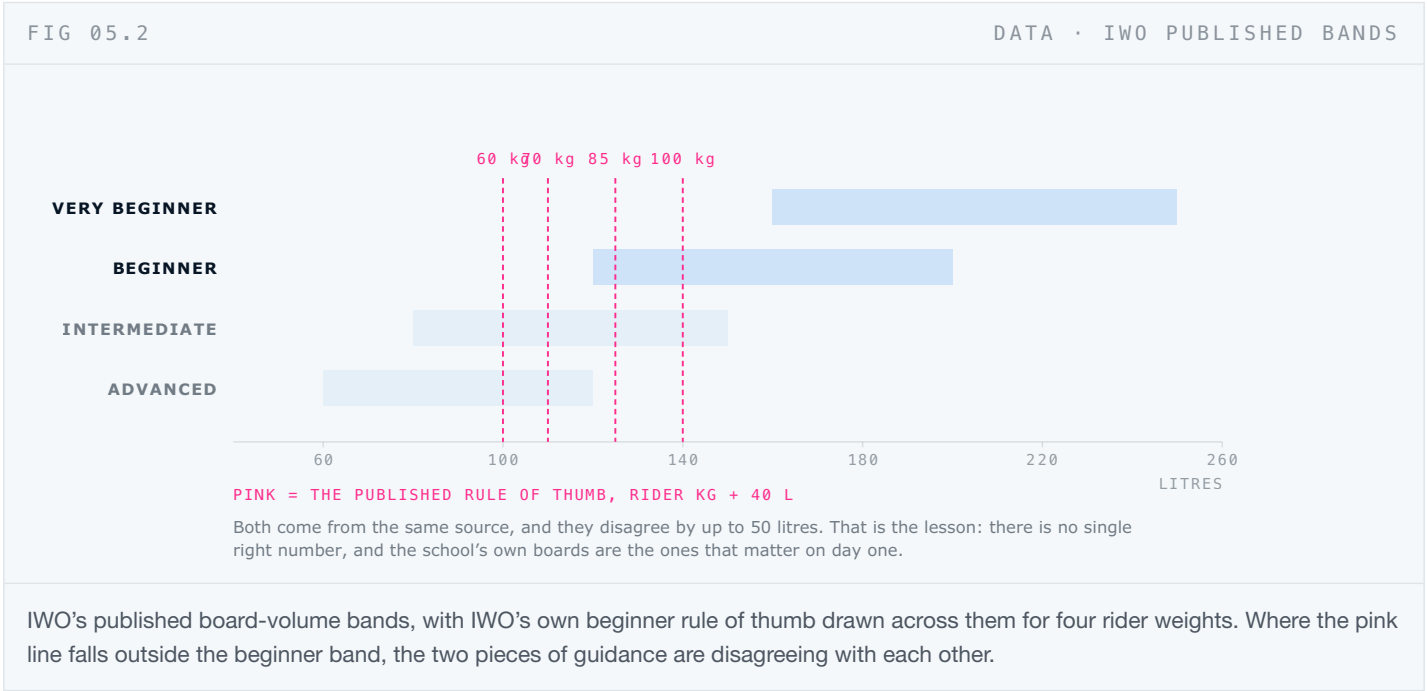
A wing board and where the foil attaches. The mast track is what lets an instructor move the foil forward or back to change how the board behaves under you. Yours may differ — check your own manual.

What volume buys

Every litre of volume is a moment in which the board is holding you up instead of you holding yourself up. On a board you can kneel and stand on while it is stationary, you get to learn the wing without simultaneously fighting the board. On a board that sinks under you, you learn both at once, badly.

The published rule, and the published disagreement

IWO — the wingfoil certification body — publishes the only rider-facing sizing rule any certification body publishes: **your weight in kilograms plus forty, in litres**. A seventy-kilogram rider, about 110litres. The same article also publishes level bands, and they are wider than the formula, and they overlap.



KNOW

A body publishing a formula and a band table that disagree with each other by up to fifty litres is not an error to be corrected. It is the honest state of the knowledge, and it is why this guide will not give you a single number. Ride the school's boards. The right volume is the one you can stand up on.

And the RYA starts somewhere else entirely

The RYA's beginner route does not use a wing board at all at first. Its published advice is a large-to-medium-volume windsurf board with a centreboard, or a WindSUP, with no foil on it. That is a legitimate disagreement about method, and it is the same one you will meet again in Chapter 16.

Foot straps

Straps hold the board to you for riding and for jumping. They also hold your foot in place during a fall, and the study puts a number on that: **straps caused 6% of knee injuries and 24% of ankle injuries** by holding the foot as the rider went down. The paper's authors observe that the fix — a strap that opens only in a fall — does not exist yet.

WATCH

You do not need straps to learn. Almost nobody uses them in the first weeks, and there is a reason the manufacturers list them as an option rather than as equipment.

It is heavy, and it does not behave like a board

With a foil fitted, the whole assembly is heavier, more awkward and much less forgiving on land. It has to be laid on its side; stood up or turned over it falls, and either it damages itself or it damages somebody. That is in F-One's manual as an instruction, not a tip, and Chapter 11 is about it.

06

PART A · BEFORE THE WATER

THE FOIL

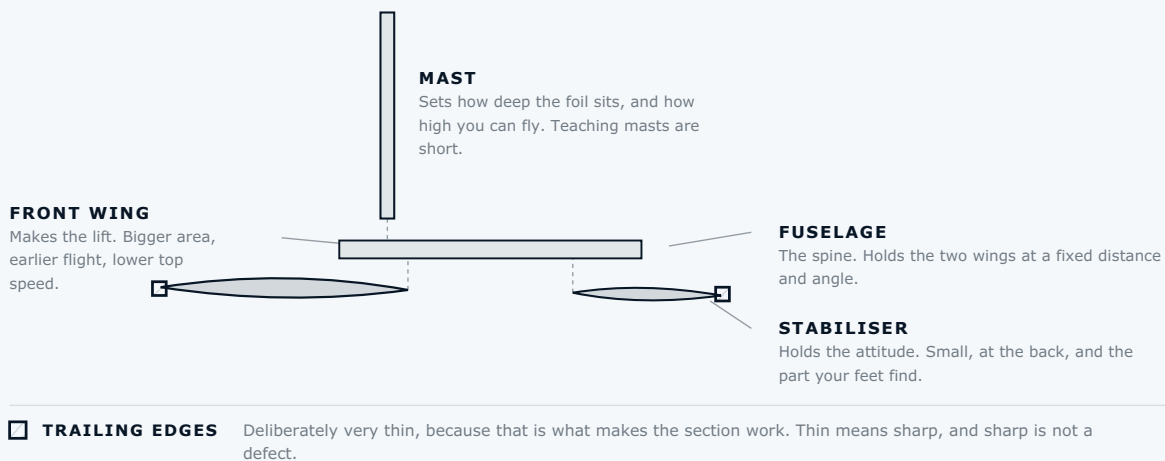
Four pieces of carbon that turn speed into height.
It is why the sport exists, and it is the thing that
hurts people.

The foil is the reason a wingfoiler keeps going in wind a windsurfer would give up in, and it is the reason this guide has a chapter about falling.

FIG 06.1

EXPLODED

EXPLODED · SIDE ELEVATION



The four parts of a hydrofoil, and the two edges that cut. Winglets on the front wing tips increase the injury risk both in a fall and when you swim beside the board. Yours may differ — check your own manual.

Four parts

The **mast** holds everything down in the water and sets how high you can fly. The **fuselage** holds the two wings at a fixed distance and angle. The **front wing** makes the lift. The **stabiliser** — the small one at the back — holds the attitude, and is the part your feet find.

How it flies, in the manufacturer's own words

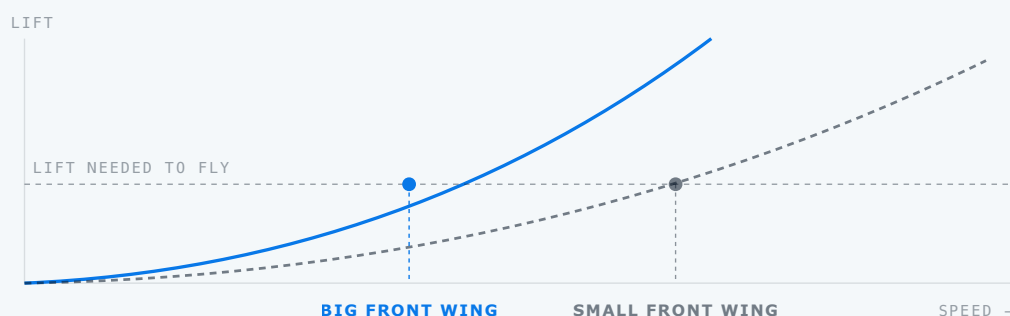
“The front and rear wings work as lifting devices, which means they can create a lifting force from the flow of water that travels across them at speed. This is the reason why they are built with a specific sectional profile.” That one sentence governs Chapters 15 to 20.

Area sets your take-off speed

Lift rises with speed and with area, so a bigger front wing reaches the lift you need at a lower speed. The RYA states the consequence directly in its teaching guidance: “**The larger the surface area of the front wing the earlier the flight in lighter winds.**” Bigger is easier to learn on and slower at the top end. That is the whole trade.

FIG 06.2

DATA · PRINCIPLE



Larger front-wing area means you fly earlier, in less wind, at a slower speed — which is exactly why the teaching foil is a big one.

Why the beginner foil is large. A bigger front wing reaches the lift you need at a lower speed, so take-off happens earlier and in lighter wind. The trade is top speed. Shape is illustrative; the relationship is the RYA's.

Aspect ratio sets forgiveness

A low-aspect front wing is short in span and thick in section: stable, early to lift, and tolerant of a rider who is not yet smooth. A high-aspect wing is long, thin and fast, and it punishes exactly the errors you are about to make. The teaching foil is low aspect, and it is not a beginner's consolation prize.

Mast length is a depth decision

The RYA's teaching guidance is a mast **below 85cm** for first flights; IWO says 65–75cm is what is most used. A short mast forgives shallower water and limits how high you can get, which also limits how far you can fall. It is a teaching tool, chosen on purpose.

Why it is sharp

The trailing edges of both wings are deliberately very thin, because a thin trailing edge is what makes the section work. Thin means fragile and it means sharp. F-One's manual carries a standing warning that the product presents sharp areas and that these are a risk of injury both in use and in handling. Naish's: “Always be mindful your foil has many sharp edges and can cut yourself, others and/or gear unintentionally.”

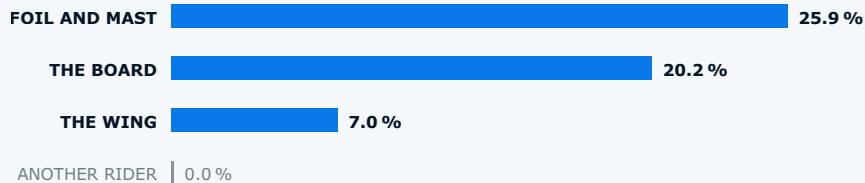
DANGER

If the front wing has **winglets** at its tips, F-One states that they increase the risk of injury both when falling *and* when swimming next to the board. The moment after a fall, when you are in the water beside your own equipment, is not a safe moment. Chapter 21 is about it.

FIG 06.3

DATA · WINGFOIL INJURY STUDY, 2023

MECHANISM OF INJURY, ALL WINGFOIL INJURIES



Your own equipment does this, and 99.15% of it happens on the water rather than on the beach. In 415 riders over twelve months, not one injury came from contact with another water user.

What injures wingfoilers. The foil is the largest single mechanism, and other people are not a mechanism at all. That second fact is worth as much as the first.

KNOW

Foil and mast contact accounts for **25.9%** of all wingfoil injuries in the only study of the sport — more than the board at 20.2% and far more than the wing at 7.0%. This is not a theoretical hazard being written up carefully. It is the leading one.

Looking after it is a safety job, not a tidiness job

A damaged surface changes how the foil behaves. F-One warns that surface imperfections risk stalling, unbalancing the rider and sudden falls — and that the profile must never be modified, filled or sanded to fix a ding.

Salt water and bolted aluminium and carbon do not get on. Anti-seize on the threads, the correct driver, and a fresh-water rinse after every session.

Disassemble it and fit the covers between sessions. Naish makes that an instruction, and it is as much about the people walking past as about the foil.

AWAITING LOCAL DATA · W-15

Which foils C2SKY teaches on — front wing area, aspect and mast length — is not recorded in this project. Those three numbers are exactly what the RYA's teaching guidance is written in, so they are worth asking about on the beach.

07

PART A · BEFORE THE WATER

THE LEASH QUESTION

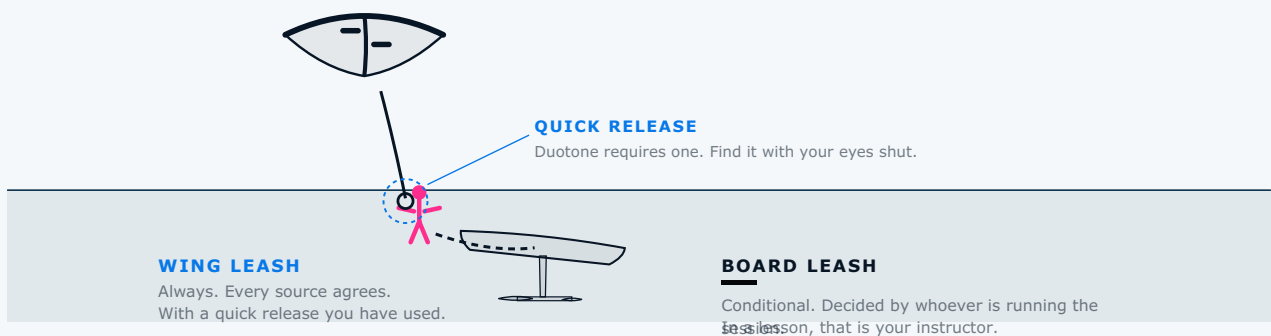
One leash everybody agrees about, and one that the sport's own association deliberately refuses to settle.

This chapter exists because a reader who gets this wrong gets hurt, and because no authority will give them a single answer. It would be easier to write a rule. It would also be dishonest.

FIG 07.1

FRONT VIEW

THE ONE YOU ALWAYS WEAR, AND THE ONE SOMEBODY DECIDES ABOUT



Two leashes, two different rules. The wing leash is unanimous across every source in the register and must carry a quick release. The board leash is a judgement about conditions, and the sport's own association writes it that way on purpose. Yours may differ — check your own manual.

The wing leash is not in dispute

The GWA — the sport's own association — makes it mandatory in competition: *“The use of a safety wing leash and helmet are mandatory.”* Naish: *“Never use this product without a leash.”* Duotone goes further and specifies what kind: *“Use a leash equipped with a quick-release system so that you can completely detach yourself from the Foil Wing in an emergency.”*

So a wing leash has two jobs that pull against each other: keep the wing with you, and let you get rid of it instantly if it becomes the thing that is hurting you. That is why the quick release is not an accessory.

DANGER

Operate your quick release once, deliberately, before you need it. On land, with your instructor, with the wing powered. The release you have never used is the release you will not find, and this is the one piece of emergency equipment on a wingfoiler that has to work at the moment you are least capable of thinking.

Wrist or waist

Naish’s rigging sequence names a wrist leash. Waist-mounted systems are widely used and are argued for on the grounds that they keep the line away from your arms and away from the foil. Both are in service, both are sold by serious manufacturers, and which one you get on the beach is a school decision rather than a right answer.

The board leash is genuinely disputed

Here is what three organisations actually say, side by side.

FIG 07.2		MATRIX
THE WING LEASH		THE BOARD LEASH
GWA Wingfoil World Tour Rulebook	Wing leash and helmet MANDATORY.	Board leash “could be mandatory depending on conditions”, announced by the Race Director.
NAISH 2025 Wing manual / 2025 Foil manual	“Never use this product without a leash.”	Board leash recommended in surf, strong wind, rocky shores and large seas.
DUOTONE UNIT 2025 manual	Leash with a quick-release system, so you can fully detach.	“If you are using a board with a board leash, you must wear a helmet!”
WHAT THIS GUIDE DOES		
It states the split rather than inventing a verdict. No authority issues a universal board-leash rule, so neither does this guide.		
The three positions, attributed. Read the right-hand column twice: three serious organisations, none of them saying “always”, and one of them treating a board leash as a reason to add a helmet.		

Read the right-hand column again. **The sport’s own association writes the board leash as a conditional and hands the decision to whoever is running the session.** Naish recommends one for specific conditions — surf, strong wind, rocky shores, large seas. Duotone does not require one at all, and treats using one as a reason to add a helmet.

Both sides are arguing about the same physics

Without a leash, a board with a foil on it “can drift away at higher speed than a normal single board”. You may not catch it, and it becomes somebody else’s problem downwind. With a leash, that same mass and that same sharp object stay tethered to you through the fall, and can come back.

INSTRUCTOR CHECK

This guide does not issue a universal board-leash rule, because no authority does. **The wing leash is always on. The board leash is a judgement about today's conditions, made by the person responsible for the session.** In a C2SKY lesson that person is your instructor, and it is a reasonable thing to ask them about on the beach.

What a leash is not

It is not a rescue plan. Naish requires you to know self-rescue *before* you go on the water. Cabrinha requires that you never go further out than you can swim back. A leash keeps your equipment near you; it does not get you home, and treating it as though it does is how people end up further out than they meant to be.

AWAITING LOCAL DATA · W-01 · W-02 · W-03

Whether C2SKY wing students wear a board leash, whether a helmet and impact vest are mandatory in a lesson, and whether the school leash is wrist or waist mounted, are all school policy. None of them is recorded in this project, and none of them is guessed here.

08

PART B · ON LAND

RIG AND CHECK

Handles before air. Leash before pump. And no universal number for anything.

Rigging is not interesting and it is where a surprising amount of the damage in this sport happens — to equipment, and occasionally to people.

Where

Sand or grass. Not asphalt, concrete, gravel or anything with a sharp edge in it. Both Duotone and Cabrinha state this, and Cabrinha adds that damage done by rigging on abrasive ground is not a warranty matter.

The order, and why it is that order

FIG 08.1

SEQUENCE · 5 FRAMES

01



LAY IT DOWN

Sand or grass. Leading edge into wind.

02



HANDLES ON

Before any air goes in. Screws flush.

03



LEASH ON

Before the pump. Then clip the pump to the same loop.

04



INFLATE

Leading edge first, then strut. To Cap on, cover down, sand on it until the label, not to a memory.

05



CLOSE AND SECURE

Cap on, cover down, sand on it until you go.

The rigging order two manufacturers state independently. Handles before air, leash before pump. Both are there so that nothing can get away from you at the moment it first has power. Yours may differ — check your own manual.

01

Lay it out, leading edge into wind, bottom down.

The wing is stable in this orientation and only in this orientation. Secure it with sand if you are going to be a minute.

COMMON MISTAKE

Laying it canopy-up and turning round to get the pump.

02

Fit the handles or the boom before you inflate.

Deflated, the strut is soft and the feet of the handle seat properly. Inflated, they do not. Screws flush, no gap at the base.

COMMON MISTAKE

Fitting handles to an inflated strut and wondering why they never sit right.

03

Attach your leash. Then clip the pump to the same loop.

Both manufacturers put the leash before the pump, and it is not housekeeping: from the moment there is air in it, the wing can go.

COMMON MISTAKE

Pumping first. The one gust that matters arrives during this step.

04

Inflate the leading edge, then the strut, to the number on the label.

The label beside the valve is the authority. Not your memory of another wing, and not this guide.

COMMON MISTAKE

One remembered pressure for every wing you ever ride.

05

Cap it, cover the valve, and weight it until you go.

A rigged wing left loose is the single most common way a beach day goes wrong.

COMMON MISTAKE

“It is only for a minute.”

WATCH

There is no universal pressure. Duotone’s current wing runs at 6PSI, and suggests half a pound less for comfort. Cabrinha’s Vision and Mantis V3 run 6 to 10 depending on size. Cabrinha’s Mantis Apex runs **12 to 13.5**. The spread across current models is more than double, so the label beside the valve outranks any guide, including this one.

KNOW

Do not fold the window. Both manuals in the register warn that a folded window cracks, and both note that it is not covered. Roll the wing in from the tips, between the windows, never across one.

The foil goes together in an order too

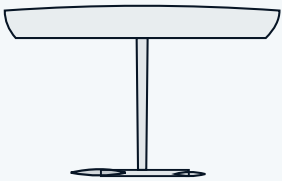
FIG 08.3

EXPLODED

ASSEMBLY ORDER

- 01 **MAST TO BOARD**
In the track, in the position your instructor set.
- 02 **MAST TO FUSELAGE**
Hand-tight, then fully tight, both screws.
- 03 **FRONT WING**
Logo down, into the joint.
- 04 **STABILISER**
Last, and the orientation matters.

SIDE



Anti-seize on the threads, the right driver, rinse in fresh water afterwards. A foil lives in salt and it is fastened together with bolts.

The assembly order one manufacturer gives explicitly and the others imply. Do it in this order and nothing has to be undone to reach something else. Yours may differ — check your own manual.

Mast to board, mast to fuselage, front wing, stabiliser. Done in that order nothing has to be taken apart to reach something else. Anti-seize on the threads, the correct Torx driver, tightened fully but not to the point of damaging the heads. The stabiliser's orientation matters and it is not obvious; if you are not certain, ask.

The check before every session

FIG 08.2

CHECKLIST

BEFORE EVERY SESSION, IN THE SAME ORDER EVERY TIME

- | | |
|---|--|
| ☐ 01 CANOPY Tears, abrasion, seam damage. | ☐ 06 FOIL BOLTS All of them, tight. |
| ☐ 02 PRESSURE Holding, and at the printed number. | ☐ 07 FOIL SURFACES No chips on a leading or trailing edge. |
| ☐ 03 VALVES Capped and seated. | ☐ 08 STRAPS If fitted, and you have decided you want them. |
| ☐ 04 HANDLES Flush, tight, no gap at the base. | ☐ 09 YOU Helmet, vest, and somebody who knows you are out. |
| ☐ 05 LEASH Attached, and the release operates. | |
- Anything showing wear stops being used until it is repaired or replaced. That is a manufacturer instruction, not a suggestion.

The pre-session check, assembled from three manufacturers' inspection instructions. C2SKY's own instructors run their own version of this; ask them for it and use theirs.

DANGER

Cabrinha's instruction is the one to internalise: *"If ANY products are found to show signs of wear & tear, STOP using the product immediately and repair or replace before further use."* On a wing that is a canopy tear you can live with for one more session until you cannot. On a foil it is a bolt.

AWAITING LOCAL DATA · W-13 · W-15

The pressures printed on C2SKY's own wings, and the fastener sizes on its own foils, are not recorded in this project. They are on the equipment, and your instructor knows them. This guide will not print a plausible number in their place, because on this page a plausible number is the dangerous kind.

09

PART B · ON LAND

WING HANDLING ON LAND

The first hour has no board in it, and that is not the school being cautious.

The wing is the only part of this sport you can practise without also being in deep water with a hydrofoil. So it goes first, and it goes first properly rather than as a briefing.

FIG 09.1

SEQUENCE · 3 FRAMES · ON LAND

01



FLAGGED

One hand, leading edge. It points itself downwind and gives you nothing.

02



NEUTRAL

Two hands, overhead. Least drive — and on land, the lofting position.

03



POWERED

Two hands, sheeted in. The back hand decides how much.

The first hour, in three pictures. Flagged is how you walk. Powered is how you go. Neutral is how people get lifted off a beach, which is why this guide teaches you to move through it rather than stand in it.

Pick it up with the wind behind you

Leading edge first, wind at your back, and the wing comes up already pointing the way it wants to go. Picked up from the wrong side it fills, and a filled wing you are not holding correctly is how a beginner's first minute goes badly.

Two hands, two jobs, and it takes about an hour

Front hand near the leading edge, setting the angle. Back hand sheeting. Almost every beginner grips both, holds one setting, and then tries to solve everything else with their body. Learning to treat the back hand as a dial is the actual content of the first hour.

Neutral is a place you pass through

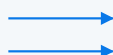
DANGER

On land, the overhead neutral position is the lofting position. Cabrinha's manual: "After launching, it is best to make your way to the water without delay. Do NOT linger on land with the wing in neutral position." Walk with it low and flagged, and put it overhead only in the water.

FIG 09.2

COMPARISON · ON LAND

WIND



LOW AND FLAGGED

It follows you. Nothing is trying to lift you.



LOFTING POSITION



OVERHEAD ACROSS A BEACH

A gust here takes you off the ground.

How to cross a beach with a wing, and how not to. The right-hand picture is the one that produces the injuries that happen before anybody reaches the water.

Walking with it is a skill you use every session

You will cross a beach with a wing in one hand and a foiled board under the other arm, twice, every time you go out. Doing that under control — without the tip dragging, without the wing filling, without swinging a foil past somebody at shin height — is not the boring part of the lesson. It is the part that happens most often.

Putting it down is a skill too

Leading edge on the ground, pointing into the wind, weighted or leashed. Chapter 04 has the picture. Do it every single time, including the time you are only going to be thirty seconds.

INSTRUCTOR CHECK

The gate at the end of this chapter is the wing equivalent of the one C2SKY already publishes for kite — *nobody moves on until they can stop and depower on command*. Here that means: you can make the wing powerless, on demand, without looking at it. Until that is true, the board is not a good idea.

10

PART B · ON LAND

NEUTRAL, POWER AND SHEETING

Where the power comes from, why it is a dial and not a switch, and the one idea that explains the rest of the guide.

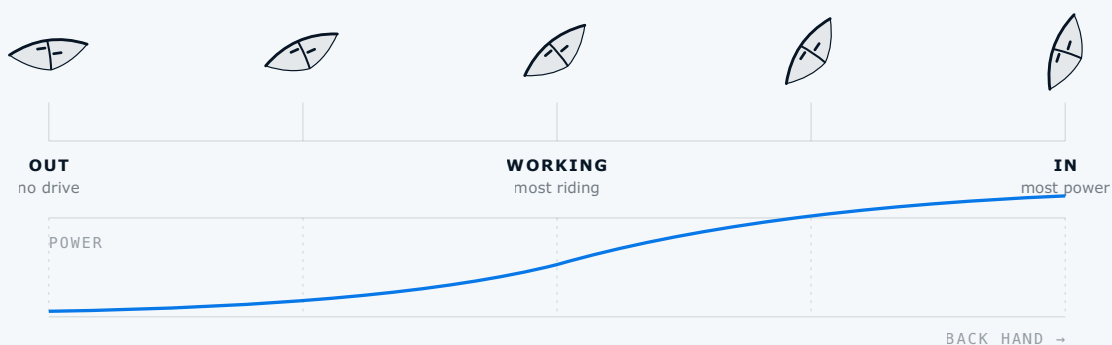
This is the theory under Chapter 09. It is short, and it pays for itself for the rest of the sport.

Power is an angle

A wing generates force because the canopy meets the wind at an angle. Increase the angle — sheet in — and it takes a bigger bite and pulls harder. Decrease it — sheet out — and the force falls away. Size matters too, but you cannot change size in the middle of a run and you can change angle continuously.

FIG 10.1

SCALE



It is continuous, not a switch. Almost everything a beginner does wrong with a wing is holding it at one setting and trying to solve everything else with their feet.

Sheeting, and the power that comes with it. The curve is illustrative; what matters is that it is a curve rather than two positions.

The neutral zone

The sector overhead and to either side of you where the wing produces least drive.

Cabrinha's glossary describes it as the place a rider can use on the water to rest, or to retrieve a board — and warns about it on land, in gusty wind, for the reasons in Chapter 09.

On the water it is genuinely useful. It is your pause button.

Overpowered has a definition

“A situation in which the rider has a wing too powerful for his/her ability level, weight, strength, and/or wind conditions.” Note that ability is in the list alongside wind. The same wing in the same wind is overpowered for one rider and correct for another.

KNOW

Cabrinha's rule for doubt is worth adopting whole: **“If in doubt about what size to use, choose smaller rather than bigger.”** A slightly small wing means a slow day. A slightly large one means a day you spend being pulled around by equipment.

Apparent wind, introduced early because it explains everything later

As soon as you move, you make a wind of your own. What you actually sheet against is the sum of the true wind and your own motion, and as you speed up that combined wind swings forward and gets stronger. This is why the wing feels completely different at speed, why you sheet differently once you are flying, and why a foiler can keep going in wind that has stopped being useful to anybody else.

FIG 10.2

VECTOR • 3 SPEEDS

01

TRUE



STOPPED

Apparent = true

02

APPARENT
TRUE
YOUR SPEED



TAXIING

Moves forward, builds

03

APPARENT
TRUE
YOUR SPEED



FLYING

Well forward, much stronger

Why the wing feels different once you are moving. Your own speed adds a wind of its own, and the wind you actually sheet against swings forward and gets stronger. This is the single idea behind everything in Chapter 18.

WATCH

It also explains the most common early frustration. You sheet in hard because nothing is happening, the board starts moving, the apparent wind swings forward, and now you are overpowered and being pulled over the front. The answer is almost always to sheet *out* a little as you accelerate.

11

PART C · ON THE WATER, NOT YET FLYING

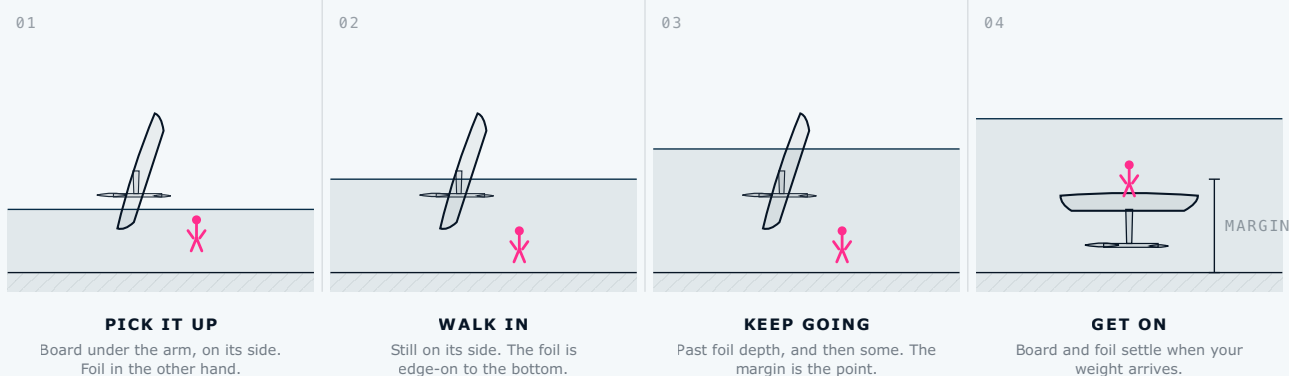
IN AND OUT OF THE WATER

The two moments when the foil is closest to the bottom, to you, and to everybody else.

Getting in and getting out are the most controlled parts of a wingfoil session, and they are where a large share of beginner damage and beginner cuts actually happen.

FIG 11.1

SEQUENCE · 4 FRAMES · SECTION



Getting in. The board stays on its side until the water is deeper than the foil with a margin to spare, because the whole assembly settles the moment you stand on it. Coming back in is this sequence run backwards, and you get off at the same depth you got on.

Carry it on its side

F-One's instruction: the foil and board are carried on their side, with the board under your arm or held by its handle and your other hand on the foil. That way the foil is edge-on, it is in your hand rather than swinging, and you know where it is.

Wade out past the depth of the foil, and then further

— DANGER

The margin is the whole rule. *“Advance until you reach a water patch deep enough for the size of the foil. Warning: a safety margin is required as the board and foil will sink to some degree when the rider gets onto the board.”* Getting on at exactly foil depth puts the front wing into the bottom the moment your weight arrives.

Coming back in is the same rule, backwards

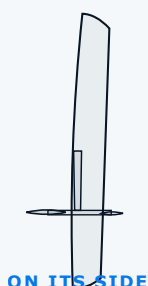
“When heading back to the shore, it is necessary to get down from the board at the same distance from the shore that had been required to start safely.” Riding all the way in is the single most expensive habit in the sport, and it is expensive in three different ways: the foil, the bottom, and whoever is standing in the shallows.

On land it lies on its side

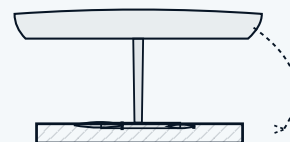
FIG 11.2

COMPARISON · ON THE BEACH

ON THE BEACH, BETWEEN RUNS



It cannot tip. Nothing sharp is at shin height.



UPRIGHT OR INVERTED

It falls over, and it damages itself or somebody's leg.

How a foiled board is put down, and why there is only one right answer. This is in F-One's manual as an instruction rather than a tip.

DANGER

“When left on the ground the foil should always be laid on its side otherwise it might tip over. Never leave the foil (assembled with the board) standing up or upside down.” A board stood on its tail with a foil in the air falls over, and it falls at exactly shin and face height for anybody walking past.

And never left alone

Naish's list is short and it is all consequence: never leave a foil unattended in high winds, or in shore break where it can be swept away, or in a launching and landing area where other people are working.

KNOW

Look before you launch and look before you land. You are quiet, you are sharp, and the person in the shallows has no reason to expect you.

12

PART C · ON THE WATER, NOT YET FLYING

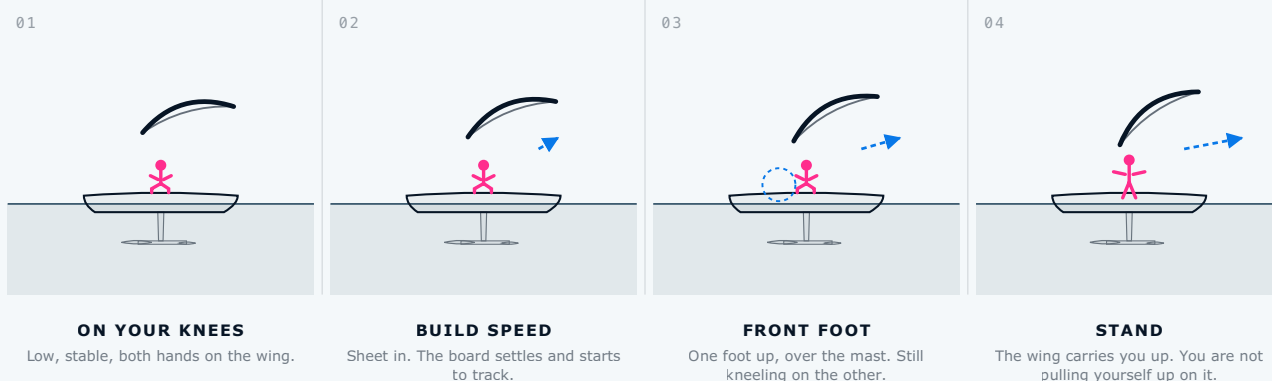
KNEES, THEN FEET

The sport starts on your knees, and that is a named skill rather than a warm-up.

IKO's wing course lists fourteen skills. "Ride on knees" is number seven and "ride standing" is number eight, and the foil does not appear until number nine. The knees are not the school being careful with you. They are the syllabus.

FIG 12.1

SEQUENCE · 4 FRAMES



Riding on your knees and standing up are two separate named skills in the published progression, and they both happen before the board ever flies. The knees are not a warm-up.

Why the knees work

Kneeling gives you a low centre of gravity, both hands free for the wing, and a board that physically cannot fly. It is the only configuration in which you can make wing mistakes cheaply, and you have a lot of wing mistakes left to make.

The board is stable when it is moving

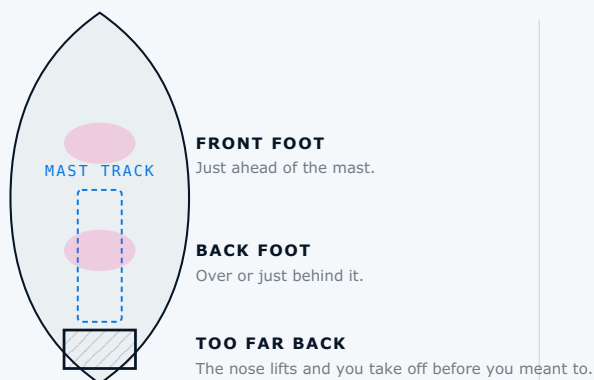
This is counter-intuitive and it is the key to the whole stage. A stationary board with a foil under it wobbles. A moving one tracks. So the sequence is always the same: get the wing under control, get the board moving, and only then change what your body is doing.

Standing up is a transfer, not a jump

Front foot up first, over the mast, while the other knee is still down. Let the wing's pull carry you upright rather than pulling yourself up on the handles. If you have to haul on the wing to stand, the board was not moving fast enough.

FIG 12.2

TOP-DOWN



WHY IT MATTERS

The foil is a lever and your feet are on the long end of it.

Weight forward pushes the nose down and keeps you on the water.

Weight back lifts it, whether or not you asked it to.

This is most of what an instructor is watching in your first hour of standing up.

Foot position relative to the mast track. Everything about pitch — whether you fly, when you fly, and how high — runs through this one relationship.

WATCH

Feet over the mast, not over the tail. The foil is a lever and your feet are on the long end of it. Weight back lifts the nose whether or not you asked it to, and an unplanned take-off in your first standing session is how people learn what Chapter 21 is about.

KNOW

You are not flying yet, and you are not supposed to be. How long this stage lasts is the one place the training bodies genuinely disagree — Chapter 16 sets out both positions.

13

PART C · ON THE WATER, NOT YET FLYING

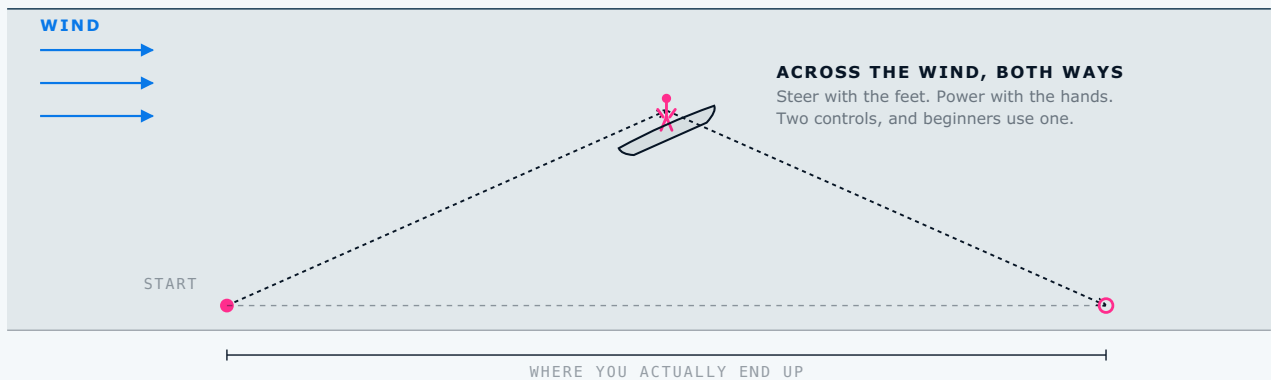
TAXIING

Riding across the wind without flying. Everything later is this, plus speed.

Taxiing is the whole of Gate 2 in one word: the board on the water, the foil loaded but not lifting, and you going somewhere you chose.

FIG 13.1

TOP-DOWN



You will drift downwind on every early run. Plan for it: start upwind of where you want to finish, and treat the walk back as part of the session.

Taxiing — riding across the wind without flying. Everything in the flight chapters is this, plus speed. The dashed line is the drift you have not beaten yet.

Two controls, and beginners use one

You steer with your feet and your body. You power with your hands. Almost every early problem — not going where you meant to, going too fast, stalling — comes from trying to do both with the wing.

Speed control is sheeting, not stopping

Let the back hand out and the board slows. You do not need to drop the wing, dig a heel in, or fall off. Learn to arrive somewhere at a chosen speed in this chapter, because in Chapter 17 you will be doing it at three times the speed and a metre higher.

The foil is already helping you

An immersed foil resists sideways drift far more than a fin does. F-One notes that a board with a foil “does not slide on the water the same way as a single board”. That resistance is what lets you hold a line at all, and it is what will eventually let you go upwind.

WATCH

Look at the water ahead of you, not at the board. Everyone looks at the board. The board is not where you are going.

You will go downwind. Plan for it.

Every early run loses ground. That is not a failure, it is arithmetic, and it has an easy answer: start upwind of where you want to finish, and treat the walk back as part of the session rather than as evidence that something went wrong.

KNOW

Do the weak side deliberately, from the first session. Almost everyone has a strong side and almost everyone quietly avoids the other one for weeks. The RYA's gate at the end of this part asks you to do both, and it asks for a reason.

14

PART C · ON THE WATER, NOT YET FLYING

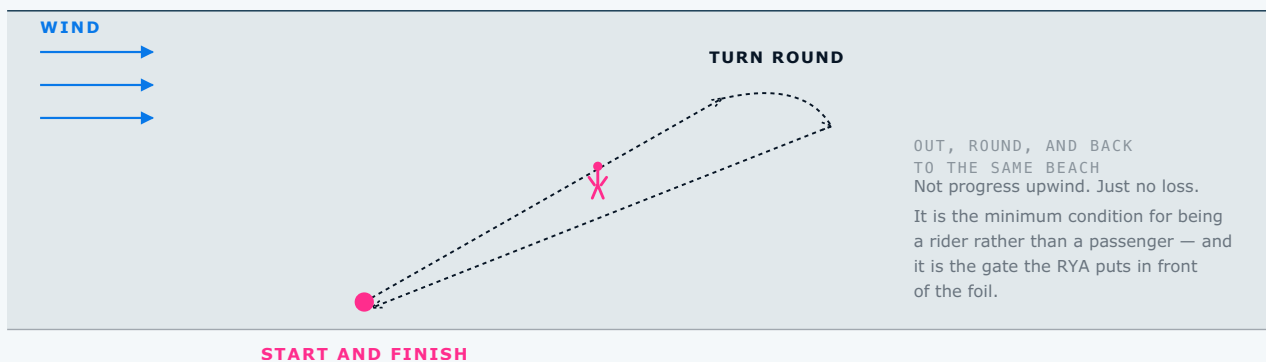
STEERING AND HOLDING GROUND

Out, round, and back to the piece of beach you started on. That is the gate, and it is not measured in hours.

There is one sentence in the published guidance that says more about how to learn this sport than any other, and it is the RYA's entry requirement for its first foiling course.

FIG 14.1

TOP-DOWN



A rider who cannot get back to the start cannot get back to the beach, which is the situation every self-rescue exists to solve.

Holding ground. Out, turn, and back to where you started — the demonstration that ends Gate 2. The RYA gates the whole of foiling behind it and this guide agrees.

The gate, quoted

Entry to *First Flights* requires the rider to be “**confident holding ground upwind, gybing, and returning to start point**”. Not confident on the board. Not a number of sessions. Able to leave from a place and come back to it.

What holding ground means

It does not mean making progress upwind. It means not losing any. You point as high as the wing will still drive you, you resist the sideways drift, you turn round, and the two halves cancel. If you finish the lap on the same piece of beach you left, you have held ground.

Turning round is learned here, cheaply

A jibe on the water at walking pace teaches the same footwork, the same wing movement and the same weight change as a jibe in the air, for none of the consequence. Every minute spent turning round badly on the water is a minute you do not have to spend turning round badly at speed.

INSTRUCTOR CHECK

This is also a safety gate, and that is the real reason it is here. **A rider who cannot get back to where they started cannot get back to the beach**, and that is precisely the situation every self-rescue in Chapter 22 exists to solve. Passing this gate is what makes going further out a reasonable thing to do.

The disagreement, stated

IKO's fourteen-skill ladder does not put a hard gate here; the foil arrives at skill nine of fourteen, in one continuous progression. The RYA puts two complete named courses in front of it. C2SKY's own published outcome for its four-hour course is "your first time up on the foil", which sits closer to IKO. This guide sides structurally with the RYA — the gate is a demonstrated skill rather than a duration — and says plainly that most schools, including this one, run the continuous ladder.

AWAITING LOCAL DATA · W-16

Whether C2SKY runs a distinct no-foil stage, and for how long, is a school decision that is not recorded in this project. It is the most useful single question you can ask on your first morning.

15

PART D · FLIGHT

WHY THE BOARD FLIES

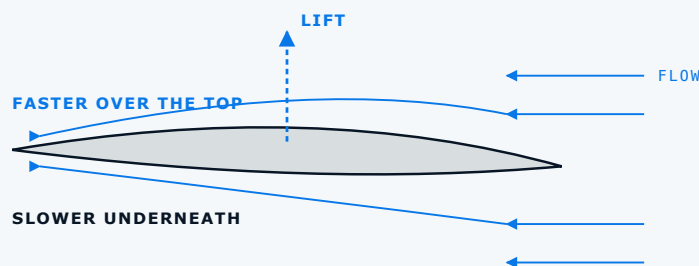
Lift rises with speed and with area. Everything in the next five chapters is a consequence of that sentence.

You do not need physics to wingfoil. You do need this much of it, because otherwise half of what an instructor tells you sounds arbitrary.

FIG 15.2

SECTION

FRONT WING, IN SECTION, WATER FLOWING RIGHT TO LEFT



Change the angle too far and the flow stops following the top surface. That is a stall, and it is one of the two ways a flight ends. The other is getting so high that air reaches the foil from the surface.

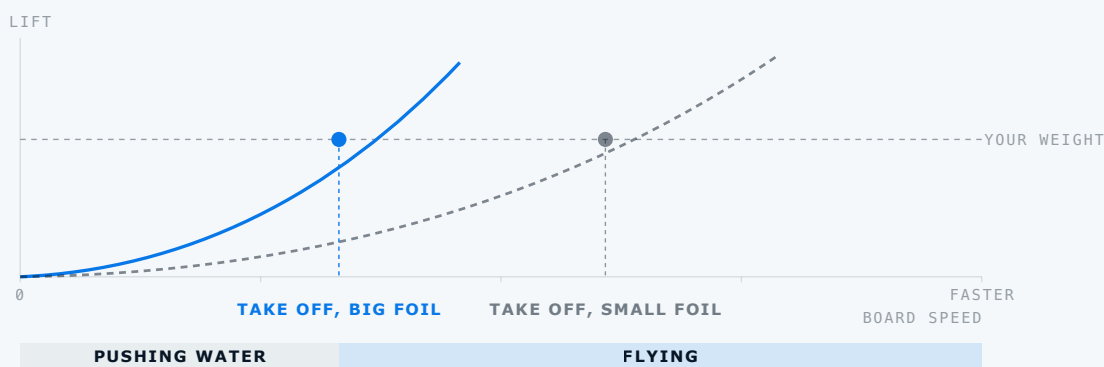
Why a shaped piece of carbon lifts a person out of the water. It is the same mechanism as an aircraft wing, in a fluid about eight hundred times denser — which is why the foil can be so small.

The mechanism

“The front and rear wings work as lifting devices, which means they can create a lifting force from the flow of water that travels across them at speed.” The section is shaped so that water travelling over the top has further to go than water going underneath. That difference is the lift, and it is the same mechanism as an aircraft wing — in a fluid roughly eight hundred times denser, which is why the foil can be so small.

Take-off is a threshold, not a ramp

Lift rises with the square of speed. Below the speed at which lift equals your weight, nothing happens and you are pushing water. Above it, the board leaves. There is no gradual middle, which is why the first flight feels sudden even when you were expecting it.



Take-off is a threshold, not a ramp. Below it you are pushing water. Above it the drag collapses and almost nothing is holding you back — which is why the wind you need to keep flying is far less than the wind you needed

Lift against speed, with your own weight drawn as the line that has to be crossed. Where it crosses is take-off speed, and a bigger front wing moves it left. Curves are illustrative; the relationship is from the manufacturer and the RYA.

KNOW

Bigger front wing, lower take-off speed. That is the whole reason a teaching foil is a big one, and it is the RYA's stated teaching guidance: *"The larger the surface area of the front wing the earlier the flight in lighter winds."*

What changes once you are up

The hull is out of the water, so almost all of the drag goes with it. This is why the wind you need to *keep* flying is so much less than the wind you needed to *start*, why a foiler is silent, and why the sport works at all in a place with an eleven-knot afternoon.

The stabiliser sets the trim

The front wing lifts; the tail wing holds the attitude. The balance between them is what you feel through your feet as a pitch that wants to go one way. Move your feet and you change that balance, which is Chapter 17.

Two ways a flight ends

Stall. Too much angle of attack and the flow stops following the top surface. Lift collapses and you come down.

Ventilation. Fly too high and air reaches the foil from the surface. The water is no longer solid to it, lift collapses, and you come down from the top of the mast.

WATCH

A damaged surface causes both. F-One warns that surface imperfections risk “stalling, unbalancing the user, and sudden falls”, and that the profile must never be sanded or filled. A chipped leading edge is not cosmetic.

16

PART D · FLIGHT

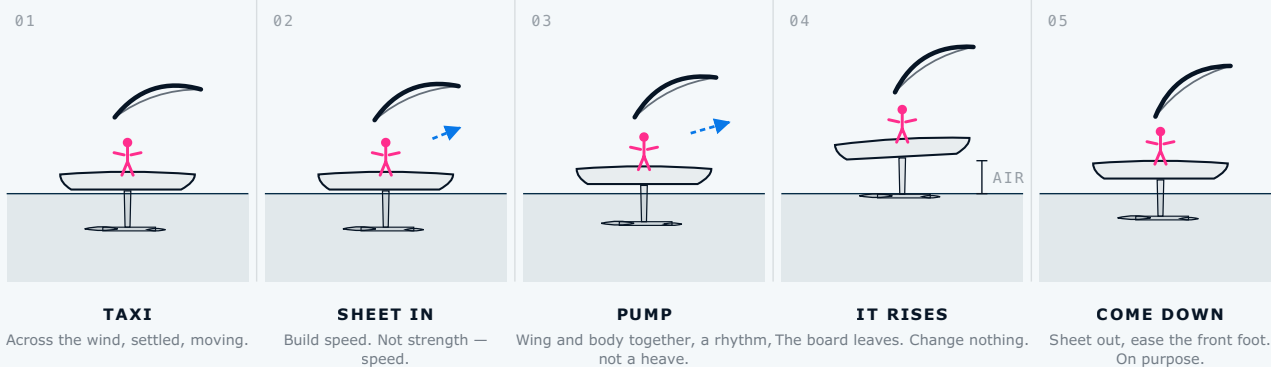
THE FIRST FLIGHT

A speed problem, not a strength problem. And two seconds is a complete success.

This is the moment the trip was booked for. It is also the shortest chapter in the guide, because there is less to say about it than people expect.

FIG 16.1

SEQUENCE · 5 FRAMES · SECTION



The first flight. Two seconds in the air and a controlled return to the water is a complete success, and coming down on purpose is learned in the same session as going up.



Flight. The board is out, the foil is doing the work, and the wing has stopped being a sail and started being a wing.

C2SKY

You do not lift the board

You get it fast enough that the foil does. Every beginner tries to muscle the board into the air with the wing, and every beginner discovers that pulling harder produces a nose-dive rather than a take-off. Build speed, then let it happen.

Pumping is a rhythm

Wing and body together, loading and unloading, finding a frequency that adds speed rather than one that scrubs it off. It looks energetic and it is not; a rider who is fighting is a rider who has not found the rhythm yet.

Come down on purpose

Sheet out a little, ease the front foot forward, and set the board back on the water. Learn this in the same session you learn to go up. A rider who can only take off is a rider whose flights all end in a fall, and Chapter 21 has the numbers on what falls cost.

KNOW

Two seconds of flight and a controlled touchdown is a complete first flight. Chasing a long one on day one is how the second hour goes badly — and the second hour is when 55% of wingfoil injuries happen.

— DANGER

Depth applies to the whole flight path, not just to where you took off. A run that starts in four metres and ends in one metre ends on the bottom. This is the specific reason the RYA tells its centres to assess the depth of the whole operating area rather than the launch.

Where this sits, and the disagreement again

IKO puts “pumping / getting on the hydrofoil” at skill nine of fourteen, in one continuous ladder. The RYA makes it an entire course, *First Flights*, gated behind two complete wingsurfing courses. C2SKY’s published outcome puts “your first time up on the foil” at the four-hour rung.

— INSTRUCTOR CHECK

None of those three is wrong. They are three defensible answers to the same question, and which one you meet depends on the school you walk into. What they all agree on is that the foil comes after the wing, not alongside it.

LOCAL NOTE

Students new to foiling tire quickly — that is the RYA’s own instruction to its centres, and it asks them to plan rests into the session. If your instructor calls a break before you feel you need one, that is the guidance being followed correctly.

17

PART D · FLIGHT

HEIGHT CONTROL

You fly in a band, not at a height. Both ends of it drop you.

The first flight is a threshold. The second problem is staying on the useful side of it, and it is a completely different skill.

FIG 17.1

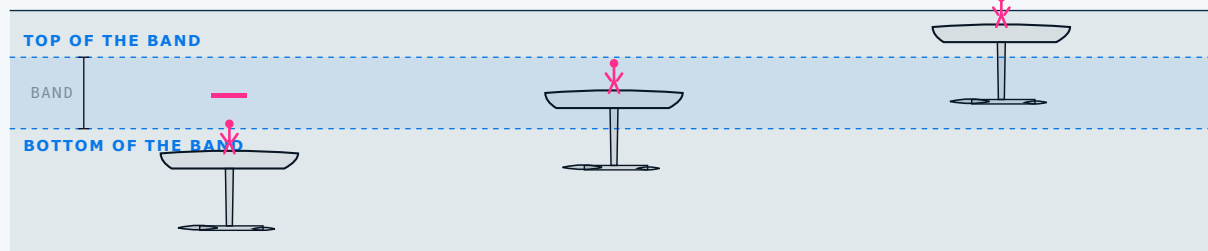
SECTION

SECTION · MAST LENGTH SETS THE CEILING

TOP OF THE BAND

BAND

BOTTOM OF THE BAND



TOO LOW

The board touches and stops flying.

IN THE BAND

Nothing is happening. That is correct.

TOO HIGH

Air reaches the foil. It stops lifting.

You fly in a band, not at a height. Too low and the board touches down. Too high and the foil ventilates and drops you from the top of the mast. A short teaching mast makes the band narrower and the top of it much less expensive.



Height control is the skill that separates a flight from a splash, and it is almost entirely in the front foot.

C2SKY

Too low

The board touches the water, drag arrives instantly, and the flight ends. Cheap, undramatic, and the way most early flights finish.

Too high

The foil approaches the surface, air reaches it, and lift disappears. You fall from the top of the mast with the board and the foil above you. This is the expensive end of the band, and it is the one worth being disciplined about.

The two controls

Front-foot pressure and the sheeting hand, together, in small amounts. Push the front foot down slightly and the nose drops. Sheet in and you accelerate, which generates more lift, which raises you. They interact, and learning them as one control rather than two is the content of this chapter.

WATCH

Small and early. A late correction becomes an oscillation — up, down, up, down, faster each time — and an oscillation always ends the flight. The moment you notice you are porpoising, do less rather than more.

Mast length changes the stakes

The RYA's teaching standard is a mast below 85cm for first flights. A short mast makes the band narrower, so you find its edges sooner — and it makes the top of the band much closer to the water, so finding it costs less. That is a deliberate trade in your favour.

DANGER

Flying high in shallow water does not give you clearance. It gives you further to fall onto a foil that is still in shallow water. Height and depth are not the same axis.

18

PART D · FLIGHT

SUSTAINED FLIGHT

Both directions, and the wind you are sheeting against is no longer the wind that is blowing.

C2SKY's published outcome for its six-hour course is "sustained flight in both directions", and the second half of that phrase is the harder half.

Apparent wind is now doing the work

You met it in Chapter 10. Now it matters constantly. As you accelerate, the wind you feel swings forward and strengthens, so the wing that felt right at rest is sheeted wrong at speed. The correction is almost always to ease out as you build speed, not to pull in harder.

FIG 10.2

VECTOR · 3 SPEEDS

01

TRUE



STOPPED

Apparent = true

02

APPARENT

TRUE

YOUR SPEED



TAXIING

Moves forward, builds

03

APPARENT

TRUE

YOUR SPEED



FLYING

Well forward, much stronger

Why the wing feels different once you are moving. Your own speed adds a wind of its own, and the wind you actually sheet against swings forward and gets stronger. This is the single idea behind everything in Chapter 18.

Both directions is a second sport

Almost everybody has a strong side. On the weak side the wing is in the other hand, the foot forward is the other foot, and the balance point feels wrong. It is trained deliberately or it never arrives, and it does not arrive by itself no matter how many hours you do on the good side.

The marginal-wind trap

DANGER

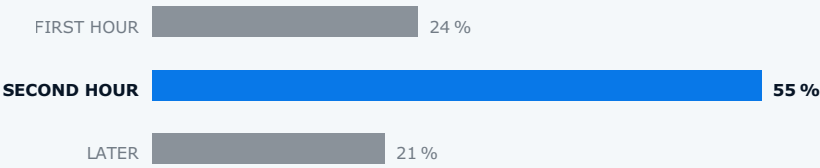
F-One says it plainly: a foil “can let you ride in marginal conditions. **Keep in mind the wind can quickly die completely.**” This is the wing-specific way of getting into trouble. You go further out than you would have done, in less wind than you would have gone out in, because it is working — and then it stops working and you are a long way from the beach with no propulsion.

Fatigue, with numbers

Sustained flight is when sessions get long, and the one study of the sport has something to say about long sessions. **Riders attributed 77.5% of their injuries to riding errors when tired** — that is what the injured riders said caused it, not something the study measured. What the study did count is *when*: **24% of injuries in the first hour on the water, 55% in the second, 21% later.** Those two things point the same way, and the second hour is plausibly the hour in which you are tired and confident at the same time.

FIG 18.1 DATA · WINGFOIL INJURY STUDY, 2023

WHEN THE INJURY HAPPENED, BY HOUR ON THE WATER



The second hour is when the injuries were counted. Separately, injured riders attributed 77.5% of them to riding errors when tired — that is what they reported, not something the study measured.

The paper’s own suggestion is that a break might help. That is an inference from these two numbers, not a tested intervention — and it is why this guide counts gates rather than hours.

When the injuries in the study happened. Not at the start, when riders are cold and cautious — in the second hour. Riders’ own explanation was fatigue; the timing is the part that was counted.

KNOW

Cabrinha’s instruction, and it is the one experienced riders actually follow: “*ALWAYS save a reserve of energy; end your Wing Surfing session before you are exhausted.*” The last run of a session is where the tired mistakes get made, and you always know which run that is before you take it.

WATCH

Recalculate the swim back as you get better, not once at the start. Confidence takes you further out than a plan did. Never further from shore than you can swim — and swimming back towing a board and a wing is slower than swimming.

19

PART D · FLIGHT

GOING UPWIND

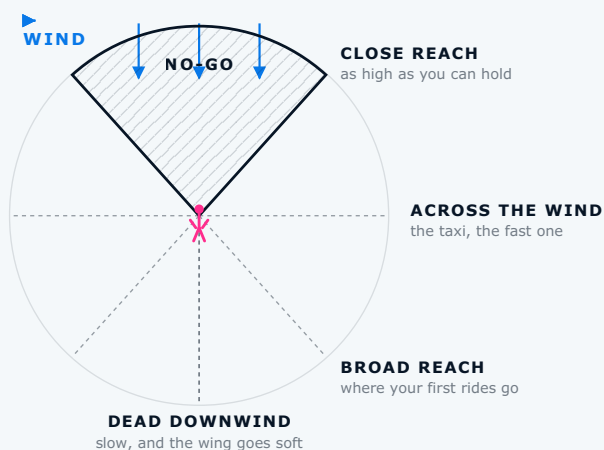
The difference between a session and a walk.

Until you can go upwind, every session ends downwind of where it started and the last part of it is on foot. Upwind is the skill that ends that, and it is the skill schools use to define independence.

FIG 19.1

ROSE · WIND FROM THE TOP

WIND FROM THE TOP OF THE FRAME — THE ONE FIGURE THAT DEPARTS FROM THE LEFT-TO-RIGHT RULE



Points of sail for a wingfoiler. The hatched wedge is the no-go zone — too close to the wind for the wing to drive you. Your first rides all go to the broad reach, and getting back out of it is what Chapter 19 is about.

Three things at once, all of them small

Pointing. Steer the board higher, up to the edge of the no-go zone, without stalling the wing.

Foil efficiency. A settled, level ride loses less than a bouncing one. Upwind rewards smoothness rather than effort.

Wing angle. Sheeted to keep driving at the higher angle, which is a finer setting than you have been using.

The foil is already doing part of it

An immersed foil resists sideways drift far more than a fin. That is why a foiler points higher than a windsurfer on the same water, and it is why upwind on a foil is a technique problem rather than an equipment problem.

Downwind is the half people forget

IKO lists them as one skill — “ride upwind/downwind” — and it is right to. Going downwind you catch the wind up: your speed subtracts from the true wind, the apparent wind collapses, and the wing goes soft at exactly the moment you have the most speed. It feels like the wing has failed. It has not; you have run away from it.

WATCH

Downwind space matters more as you get better, not less, and the RYA says so: the room a developing rider needs downwind is comparable to what a planing windsurfer needs. Know where your run ends before you start it.

LOCAL NOTE

C2SKY's published gate for renting kite equipment is that you can *ride upwind, self-rescue and pack down alone*. Whether the wing gate is worded the same way is not recorded in this project — but the three things it names are the three things Chapters 19, 22 and 08 are about, and that is not an accident.

20

PART D · FLIGHT

TURNING ROUND

Jibe first, tack second, and while you are turning you are the one who gives way.

There are two ways to change direction and every published progression teaches them in the same order, for a reason that is entirely about speed.

FIG 20.1

SEQUENCE · 5 FRAMES · TOP-DOWN

01



SET UP

Speed on, weight even, looking where you are going.

02



TURN DOWNWIND

Carve with the feet. The board follows the foil.

03



THE WING CROSSES

Front hand leads it over the nose.

04



NEW TACK

Hands swap. You are still flying.

05



AWAY

Sheet in on the new side and go.

— While you are turning you are the one who gives way. That is a rule, not a courtesy — GWA 19.1.8.

The jibe — the downwind turn, and the first one you learn, because it turns through the fast, powered part of the arc. A tack turns through the slow part, and a foil does not forgive slow.

The jibe turns through the fast part

A jibe is the downwind turn. You carry speed all the way round, so the foil keeps flying, so you keep the option of correcting anything. This is why it is first.

The tack turns through the slow part

A tack goes upwind, through the no-go zone, and there is a moment in the middle with no drive at all. A foil does not forgive a moment with no drive: below take-off speed it stops being a wing and becomes a lot of drag. This is why it is later, and why it is on the far side of Gate 4.

The foot change is its own skill

IKO lists it separately, at skill eleven, before either turn — because changing which foot is forward while flying is hard enough to be worth learning on its own. A first jibe usually keeps the feet where they are; the foot-change version comes later.

A stopped turn is a legitimate stage

Coming off the foil, turning round on the water, and going again is not a failed jibe. It is the version of the skill you can do now, and it is exactly what you were doing in Chapter 14 — which is why Chapter 14 was worth the time.

DANGER

While you are turning, you keep clear. The GWA rulebook, rule 19.1.8: “A competitor making a transition shall keep clear of a competitor on a tack.” And 19.1.7: when you change tack to gain an upwind position, you keep clear until you are moving on an upwind course. Turning removes your priority; it does not create any.

What is past this

Tacks, foot-change jibes, riding swell, downwinders and jumps are Gate 5. They are named here so you know where they sit, and they are not taught in this guide.

21

PART E · JUDGEMENT

FALLING

You will fall many times per session for weeks.
The whole point of this chapter is that all of them
are cheap.

Falling is the normal case in this sport, not the failure case. Nobody learns to fly without coming down badly a great many times, and there is nothing to be gained from pretending otherwise. What is worth knowing is exactly what does the damage, because it is not what most people assume.

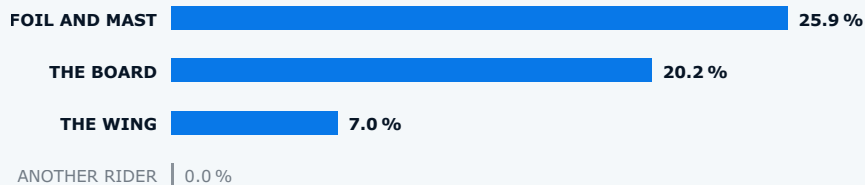
What actually hurts wingfoilers

There is one published study: 415 riders, twelve months, 356 injuries. Its findings on mechanism are unusually clear.

FIG 06.3

DATA · WINGFOIL INJURY STUDY, 2023

MECHANISM OF INJURY, ALL WINGFOIL INJURIES



Your own equipment does this, and 99.15% of it happens on the water rather than on the beach. In 415 riders over twelve months, not one injury came from contact with another water user.

What injures wingfoilers. The foil is the largest single mechanism, and other people are not a mechanism at all. That second fact is worth as much as the first.

Your own equipment — foil and mast 25.9%, board 20.2%, wing 7.0%.

99.15% of it happened on the water, not on the beach.

Not one injury was caused by contact with another water user.

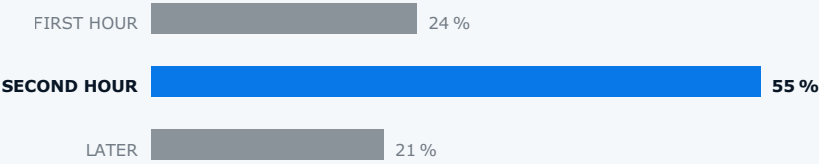
77.5% were riding errors that the injured riders themselves attributed to being tired. That is the one figure on this list that is an opinion rather than a count.

And when

FIG 18.1

DATA · WINGFOIL INJURY STUDY, 2023

WHEN THE INJURY HAPPENED, BY HOUR ON THE WATER



The second hour is when the injuries were counted. Separately, injured riders attributed 77.5% of them to riding errors when tired — that is what they reported, not something the study measured.

The paper’s own suggestion is that a break might help. That is an inference from these two numbers, not a tested intervention — and it is why this guide counts gates rather than hours.

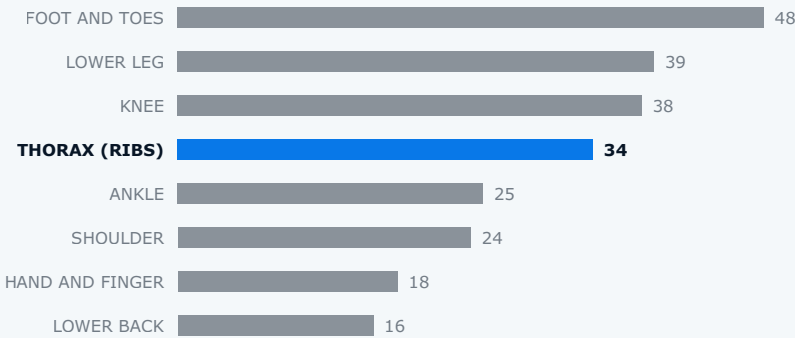
When the injuries in the study happened. Not at the start, when riders are cold and cautious — in the second hour. Riders’ own explanation was fatigue; the timing is the part that was counted.

Twenty-four per cent in the first hour, **fifty-five in the second**, twenty-one later. And the rate falls as experience rises: 37% of beginners were injured over the year, 34.6% of advanced riders and 22.6% of experts. That is a **statistically significant association** (p=0.026) — the trend is real in the data. It is not proof that getting better is what protects you: experts may also ride different water, in different conditions, and stop earlier. The study did not separate those.

And where, on you

FIG 21.2 DATA · WINGFOIL INJURY STUDY, 2023

INJURIES BY BODY REGION, 356 REPORTED INJURIES



The thorax row is the one to read twice: 23 of its 34 injuries were fractures. Ribs are how this sport breaks bones.

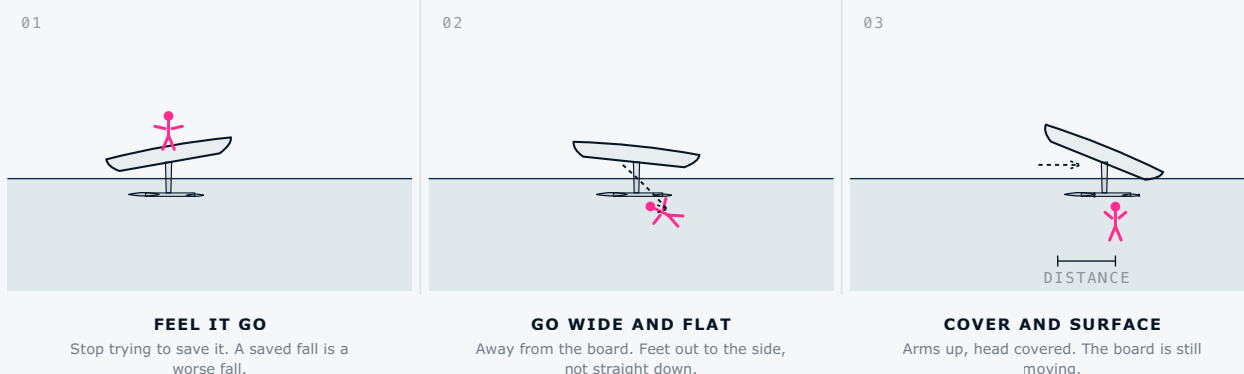
Where wingfoilers get hurt. The lower limb dominates by count — and the chest, far down the list, is where the count turns into fractures.

DANGER

Read the thorax row twice. It is fourth by count, with thirty-four injuries — but **twenty-three of those thirty-four were fractures**. The feet and legs are where you collect the cuts and bruises. The ribs are where this sport breaks bones.

How to fall

No training body and no manufacturer in our source register publishes a falling procedure, so what follows is a principle rather than a drill, and it is the thing to rehearse with an instructor in water you have checked.



Falling away from the foil. This is a principle rather than a drill — no training body or manufacturer in the register publishes a falling procedure, and this guide does not invent one. Rehearse it with an instructor.

01 Recognise it early and stop trying to save it.

A save you were never going to make turns a flat fall into a fall onto the equipment. The riders who get hurt are usually the ones who fought.

COMMON MISTAKE

Two extra seconds of trying, which is exactly enough to end up on top of the foil.

02 Go away from the board, wide and flat.

Not down. Feet out to the side rather than straight beneath you, and as much of you on the surface as possible.

COMMON MISTAKE

Landing feet-first, which is how a foot finds a stabiliser.

03 Cover your head and surface with your arms up.

The board and the foil keep moving after you stop. That is F-One's own warning, and the moment after the fall is the moment you cannot see them.

COMMON MISTAKE

Standing straight up under a board that is still travelling.

KNOW

"When falling, the board and foil can keep their pace for some time before stopping. Beware of impacts. The board and foil can drift away at higher speed than a normal single board." You have a moment in the water in which the sharp object is still moving and you do not know where it is.

Foot straps, honestly

Straps caused **6% of knee injuries and 24% of ankle injuries**, by holding the foot while the rest of the rider went round. The paper's authors, who are trauma surgeons, note that the obvious answer — a strap that releases only in a fall — has not been built. You do not need straps to learn.

Helmets and vests, more honestly still

Eighty per cent of riders in the study used some protective equipment; of those, 91.3% wore helmets and 71.2% impact vests. Comparing them against the riders who wore none, the study **did not detect a significant difference** in head injuries ($p=0.763$) or in chest injuries ($p=0.881$).

KNOW

What that does and does not mean. It means one survey, at this size, did not detect a difference. **It does not mean helmets and vests do not work**, and nothing in the paper says they do not. Three limitations, all of them the authors' own. **The comparison group was tiny** — four out of five riders wore protection, so there were only about eighty unprotected riders to measure against, which is far too few to detect anything but a very large effect. **Nothing was adjusted for** age, experience, conditions or how hard people were riding; the authors write that these factors make an exact injury-risk calculation “very difficult”. And they raise the possibility that riders **take more risk when they are wearing protection**, which would hide a real benefit rather than disprove one. A study that does not find an effect has not found the absence of one.

INSTRUCTOR CHECK

The statistic is in this guide because you will meet it somewhere eventually and you should meet it here first, with the authors' own conclusion attached: *“Since helmets and impact vests do not interfere with the practice of sports, we see them as useful injury prevention and endorse them”* — and they add, in the same breath, that their own data do not demonstrate it. The same paper recommends cut-resistant neoprene shoes and shin guards for the foot and lower-leg injuries that dominate its own results. Every manufacturer in our register recommends a helmet and a vest, and the GWA makes a helmet mandatory in competition. **Wear both.** This guide shows its working rather than overstating the case, and the working still points one way.

DANGER

Stopping is the one thing on this page that is entirely yours. The injured riders blamed being tired more than anything else, the injury count peaks in the second hour, and the paper's own suggestion is that *“a break might help to prevent injuries”*. That is a reasonable inference rather than a tested intervention — nobody has run the trial — but it is free, it is yours to make, and every other line on this page is about something you cannot control.

22

PART E • JUDGEMENT

SELF RESCUE

Your board is a raft. That single fact is the biggest safety advantage this sport has, and it is worth arriving knowing it.

Naish makes it a precondition of going on the water: “Make sure you know on the water self-rescue techniques before using this product.” IKO makes it skill five of fourteen — before the rider ever gets on the foil. Both are telling you the same thing about when to learn it.

The board floats, and it floats you

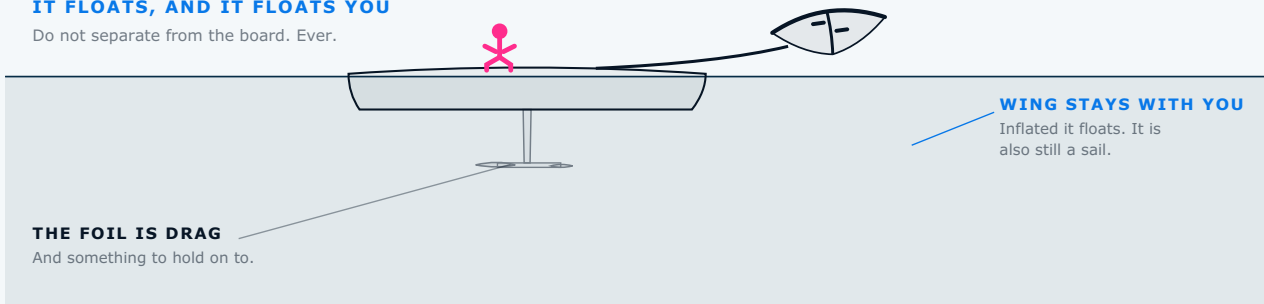
FIG 22.2

SIDE • ON THE WATER

THE THING A KITEBOARD IS NOT

IT FLOATS, AND IT FLOATS YOU

Do not separate from the board. Ever.



A wing board has the volume of a small paddleboard. That single fact is the biggest safety advantage this sport has over kitesurfing, and it is worth arriving knowing it.

The board is a raft. It is the difference between a long paddle and an emergency, and it is why every source says the same thing about staying with it.

A wing board has the volume of a small paddleboard. Unlike a kiteboard, it will carry you, and it will carry you for a long time. **Do not separate from the board.** Everything else in this chapter is negotiable and that is not.

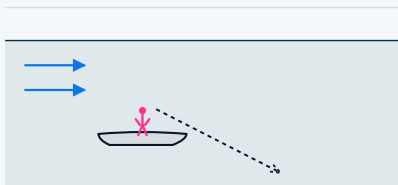
The wing is floating and it is also a sail

While it is inflated it holds you up, and it also catches wind. Those two facts are in tension, and which one matters depends entirely on which way you need to go. That is the decision this chapter is really about.

FIG 22.1

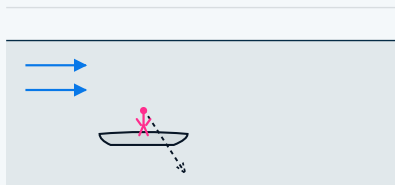
DECISION · 3 BRANCHES

WHERE IS THE SHORE, RELATIVE TO THE WIND?



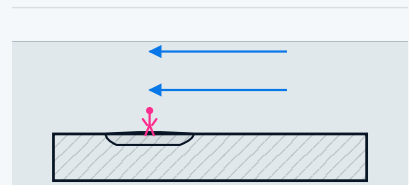
SHORE IS DOWNWIND USE THE WING

Sheet a little and let it take you in. Slowest possible, most control.



SHORE IS ACROSS PADDLE, WING NEUTRAL

Board under you, wing depowered and kept with you.



SHORE IS UPWIND THIS IS THE HARD ONE

It is also why offshore wind is a no for a learner.

Principles, not a procedure. No source in the register publishes a wing self-rescue sequence, so this guide does not print one — it prints what decides between them, and then tells you to rehearse it in deep water with somebody watching.

What decides a wingfoil self-rescue: not a technique, but where the beach is relative to the wind. Two of these three are manageable. The third is the reason every manual in the register forbids offshore wind.

Three broad options

No source in our register publishes a wingfoil self-rescue procedure, so this guide does not print one. What it prints is what decides between them:

Use the wing. If the beach is downwind, sheet a little and let it take you in, slowly and under control. This is the best case and it is why cross-onshore is the good direction.

Neutralise the wing and paddle. If the beach is across the wind, the wing becomes something you keep with you and stop using, and the board becomes a paddleboard.

Make the wing into cargo. Depower it, secure it to you or to the board, and paddle. Slower, and sometimes the only option.

— DANGER

If the beach is upwind of you, you are in the situation that every rule about offshore wind exists to prevent. F-One: in offshore conditions “it is more difficult to swim back to shore because of the wind and current pushing away from the beach.” This is not a technique problem to be solved on the day. It is a decision that was made wrongly on the beach.

The foil, while you paddle

It is drag, and it is under you the whole way. It is also something solid to hold. What it is not is a reason to take the board apart in deep water.

Signal, and signal early

Cabrinha requires that somebody knows where you have gone and when you are expected back. Both Cabrinha and F-One require that you do not go alone. A self-rescue that starts when you first realise you have a problem is a long paddle; one that starts when you are exhausted is something else.

INSTRUCTOR CHECK

Reading this is not rehearsal. A self-rescue is performed once, in deep water, with an instructor watching, before you need it — and then you know whether your version of it works. Ask when it happens in your course.

The eight rules that mean you never need any of this

Never further from shore than you can swim back.

Never alone, and somebody knows when you are due.

Never in offshore wind.

Never in wind above your ability, or wind that is about to change.

Never where a single component breaking would leave you unable to return unassisted — that is Cabrinha's wording, and it is a good test.

Keep a reserve of energy. Finish before you are tired.

Know what is downwind of you before you go out.

Come in when the conditions change, in either direction.

AWAITING LOCAL DATA · W-04 · W-05

When C2SKY teaches deep-water self-rescue, and whether there is boat or jetski cover on a wing lesson, are not recorded in this project.

23

PART E · JUDGEMENT

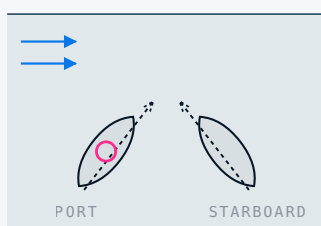
RIGHT OF WAY

There is exactly one published wing right-of-way code in the world, and these are its rules.

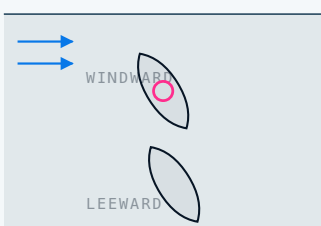
The rules below come from the GWA Wingfoil World Tour Rulebook. It is a racing document, and that is not a weakness: racing is where the sailing conventions had to be written down precisely for wings, and nobody else has written them down at all.

FIG 23.1

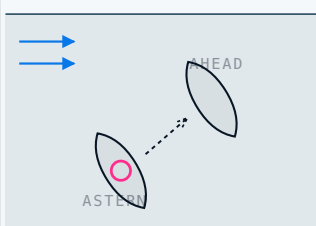
TOP-DOWN · 4 ENCOUNTERS



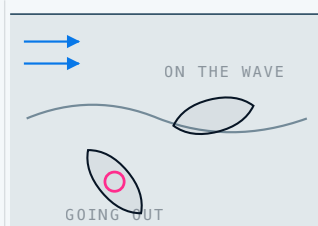
OPPOSITE TACKS
PORT GIVES WAY
GWA 19.1.4



SAME TACK, OVERLAPPED
WINDWARD GIVES WAY
GWA 19.1.5



SAME TACK, IN LINE
THE ONE BEHIND GIVES WAY
GWA 19.1.6



ONE IS ON A WAVE
THE ONE GOING OUT GIVES WAY
GWA 19.1.3

○ The circled rider is the one who keeps clear. Having right of way is never a right to hit anybody — GWA 19.1.10 requires you to avoid contact anyway.

The four situations you will actually meet, from the only published wing-specific right-of-way code there is. They are the sailing conventions, written for wings. Local rules and collision regulations outrank them.

The four you need

Opposite tacks: the port-tack rider keeps clear of the starboard-tack rider. (19.1.4)

Same tack, overlapped: the windward rider keeps clear of the leeward rider. (19.1.5)

Same tack, not overlapped: the rider clear astern keeps clear of the rider clear ahead. (19.1.6)

One of you is on a wave: the rider going out keeps clear of the rider riding in. (19.1.3)

The two that catch beginners

DANGER

Turning removes your priority rather than granting it. Rule 19.1.8: a rider making a transition keeps clear of a rider on a tack. Rule 19.1.7: a rider changing tack to gain an upwind position keeps clear until they are moving on an upwind course. The moment you decide to turn is the moment you become the give-way rider, and it is also the moment you can see least.

Right of way is not a right to hit anybody

The rulebook is explicit. A rider must avoid contact where reasonably possible even with right of way (19.1.10). A rider acquiring right of way must initially give the other rider room to keep clear (19.1.11). A right-of-way rider changing course must give room (19.1.12). And a windward rider must not jump when a leeward rider is close (19.1.13).

What outranks all of it

These are racing rules. On open water, international collision regulations, national law and local spot rules come first, and every manufacturer manual says the same thing: observe local rules and regulations, and ask the locals what they are. A rulebook does not know that a particular channel is a boat lane.

DANGER

Silence is the part of this that is not in the rulebook. Chapter 03 has the RYA's finding that foiling craft travel much more quietly than other craft; the consequence belongs here. A swimmer, a paddler or somebody standing in the shallows gets no acoustic warning at all, so the whole burden of avoidance is yours. Naish's hundred metres from obstructions, and its instruction to steer clear of crowded line-ups, exist for exactly this reason.

KNOW

And the reassuring fact, which is real: in 415 riders over twelve months, **not a single injury was caused by contact with another water user**. The rules work. Follow them anyway — the population that produced that number was following them.

AWAITING LOCAL DATA · W-11 · W-22

Who else uses C2SKY's wing spot, whether it is shared with kites, and what the local conventions are, are not recorded in this project. They are exactly the kind of thing only the school knows.

24

PART E • JUDGEMENT

WHEN NOT TO GO

The last skill to arrive, and the one that keeps the experienced riders in the low-injury column.

Almost everything in this guide is about doing something. This chapter is about not doing it, and it is the chapter that separates riders who have been doing this for ten years from riders who did it for two.

FIG 24.1

DECISION

IF ANY OF THESE IS TRUE, TODAY IS NOT THE DAY

THUNDER OR LIGHTNING

Leave the water. Immediately.

OFFSHORE WIND

No. Under every source in the register.

ABOVE YOUR ABILITY

The wind does not care what you booked.

CHANGING FAST

Either direction. Rising wind and dying wind both.

ALONE

Nobody watching, nobody expecting you back.

TIRED

The second hour is when it happens.

AND ONE MORE A foil hides marginal conditions from you. It will keep flying in wind that would have stopped a board — right up until the wind stops entirely.

The list every manufacturer in the register agrees on, in the words they use. Deciding not to go out is the last skill to arrive and the one that keeps the experienced riders in the low-injury column.

The unanimous list

Every manufacturer manual in the register says all of these, in its own words:

Thunderstorm or lightning — and leave the water immediately if one is approaching.

Offshore wind.

Wind above your ability level.

Conditions that are likely to change dramatically.

Alone.

Under the influence of alcohol, drugs or medication.

In poor physical condition, or unable to swim confidently.

DANGER

Lightning is the one with no judgement in it. Duotone: “Leave the water immediately when a storm is approaching. You are in a life threatening situation since you may be struck by lightning!” There is no wing size answer to a thunderstorm.

Changing conditions, in both directions

Cabrinha’s instruction is to return to the beach if there is a significant change — “*i.e. wind dropping or wind & waves increasing*”. Dropping wind is as much a reason as rising wind, and on a foil it is the more dangerous of the two because the foil hides it from you until it is gone.

Fatigue is a condition

It is what injured riders blamed most often — 77.5% of them — and the injury count peaks in the second hour on the water. Treat “I am tired” the way you would treat “the wind has doubled”: as a change in conditions that ends the session.

Forecast, measurement, and the honest answer

A model tells you what it expects; a station tells you what is happening. C2SKY keeps those two apart on every one of its own surfaces, and states plainly that when there is no measured reading to give you, you get the camera rather than an invented figure. Adopt the same standard for your own decisions.

KNOW

The experts in the study were injured at 22.6% over the year, against 37% for beginners — a real and statistically significant association. **The study does not say why**, and this guide is not going to invent a reason. Skill is one candidate. So is riding in easier conditions, so is stopping earlier, and so is simply having already had the day where you drove to the beach, looked at it, and went home. Whatever the mechanism, deciding not to go out is the one part of it available to you today.

25

PART E · JUDGEMENT

CHOOSING YOUR OWN EQUIPMENT

Three decisions, three different authorities, and two of them disagree with themselves.

At some point you will buy your own. This chapter is not a shopping list; it is a way of reading the ones you will find.

FIG 25.1

MATRIX

THREE DECISIONS, THREE DIFFERENT AUTHORITIES

THE WING

2.8 – 4 m

RYA, beginner range

Published size/wind tables are “a rough guide only”. In doubt, smaller.

THE BOARD

your kg + 40 L

IWO rule of thumb

IWO’s own level bands are wider than IWO’s own formula. Try before you buy.

THE FOIL

big, low aspect, short mast

RYA teaching guidance

For 700 cm² front wing, mast under 85 cm. Bigger area, earlier flight.

Nobody in the register offers all three numbers, and where two of them come from the same body they disagree with each other. Buy the kit for the rider you are, and use the school’s before you use your own.

The three sizing decisions with each one attributed to whoever actually published it. Every number here carries the words its source put around it.

The wing

Beginner range 2.8 to 4 square metres, per the RYA. Manufacturer size-and-wind tables exist and are useful, and their authors describe them as “a rough guide only” with a one-size adjustment for a significantly heavier or lighter rider. Cabrinha’s rule for doubt: choose smaller rather than bigger.

The board

IWO’s published rule of thumb is your weight in kilograms plus forty, in litres. IWO’s own published level bands are wider than that and overlap it. Both are on the same page of the same article. Take the formula as a starting point and the bands as the honest error bar.

The foil

Big front wing, low aspect ratio, short mast. The RYA's teaching guidance for centres is a front wing over 700cm² and a mast below 85cm for first flights; IWO says masts of 65 to 75 cm are the most used. Bigger area means earlier flight in less wind, and a lower top speed you will not miss for a year.

The leash

A wing leash with a quick release, without exception. For the board leash, read Chapter 07 and then ask the person who knows your conditions.

Protection

Helmet and impact vest. Chapter 21 sets out exactly what the evidence does and does not show, and every manufacturer and the sport's association recommend or require them regardless.

WATCH

If you are buying second-hand school kit, read the warranty. Duotone's states that it "does not cover products used in rental or teaching operations", and F-One's excludes rental use as well. Ex-school equipment is ex-warranty equipment, which does not make it a bad buy — it makes it a buy you inspect properly.

KNOW

The most useful thing you can do before buying anything is ride several of the school's setups and notice which one you stopped thinking about. That is what a school quiver is for, and it is a better instrument than any chart on this page.

AWAITING LOCAL DATA · W-13 · W-14 · W-15

What C2SKY has in its own quiver is not recorded in this project, so this guide cannot tell you what you will be riding. It can tell you what to ask: wing sizes, board volumes, front wing area and mast length.

26

PART F · MUI NE & INDEPENDENCE

WINGFOILING IN MUI NE

A monsoon, a sea breeze, two beaches and one honest gap.

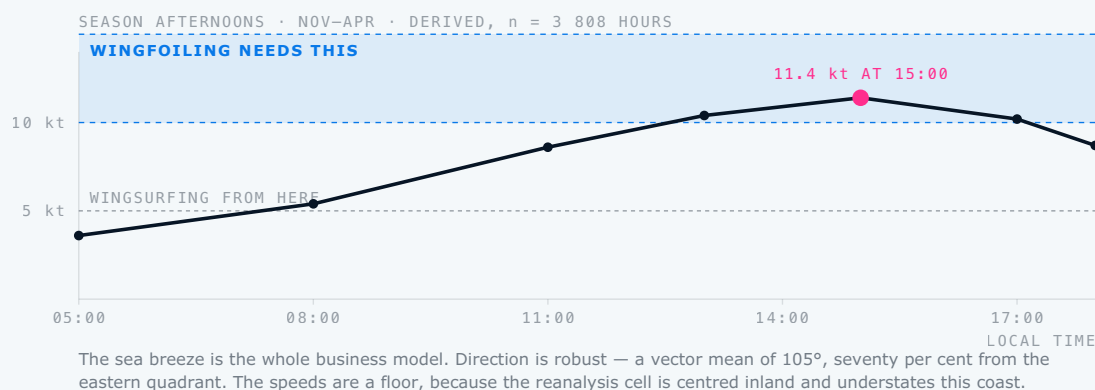
Mui Ne works for wind sports for a reason that is physical rather than promotional, and it is worth understanding before you book.

The mechanism

The northeast monsoon sets the season. On top of it sits a coastal afternoon thermal sea-breeze enhancement — the land heats, the air over it rises, and air comes in off the sea to replace it. That is why the wind is an afternoon phenomenon here, and it is why a morning that looks hopeless is not evidence about the day.

FIG 26.1

DATA · DERIVED · COMPASS-REFERENCED



Mui Ne's season afternoons, hour by hour, derived from 3808 hours of reanalysis at the verified C2SKY coordinate. Read the shape, not the numbers: it is a textbook sea breeze, and it is why the lessons are in the afternoon.

The curve above is derived from 3808 hours of reanalysis over season afternoons at C2SKY's verified coordinate: 3.6 knots at five in the morning, **11.4 knots at three in the afternoon**, 8.7 by six. Direction is robust — a vector mean of 105°, with seventy per cent of the hours from the eastern quadrant.

WATCH

Read the shape, not the numbers. Those speeds are a floor. The reanalysis cell that produced them is centred inland and understates this coast — a finding this project made on its own data before it made this chart. The diurnal shape is the reliable part.



The C2SKY coastline in the afternoon. **This is the kite beach, not the wing spot** — Wingfoil Beach is a different location twenty minutes away, and C2SKY has no photograph of it. Ask the school where to meet rather than navigating to this one.

C2SKY

The season

Roughly October to the end of April for wing, which starts a little earlier than the kite season. May to September is the Mui Ne monsoon: weather, not a marketing failure.

KNOW

You will not find a percentage of windy days per month in this guide. Those figures exist in this project, they are modelled rather than measured, and there is a standing decision that no percentage is published while there is no wind station at the beach. A forecast is a forecast and a measurement is a measurement, and C2SKY does not merge them.

Two beaches

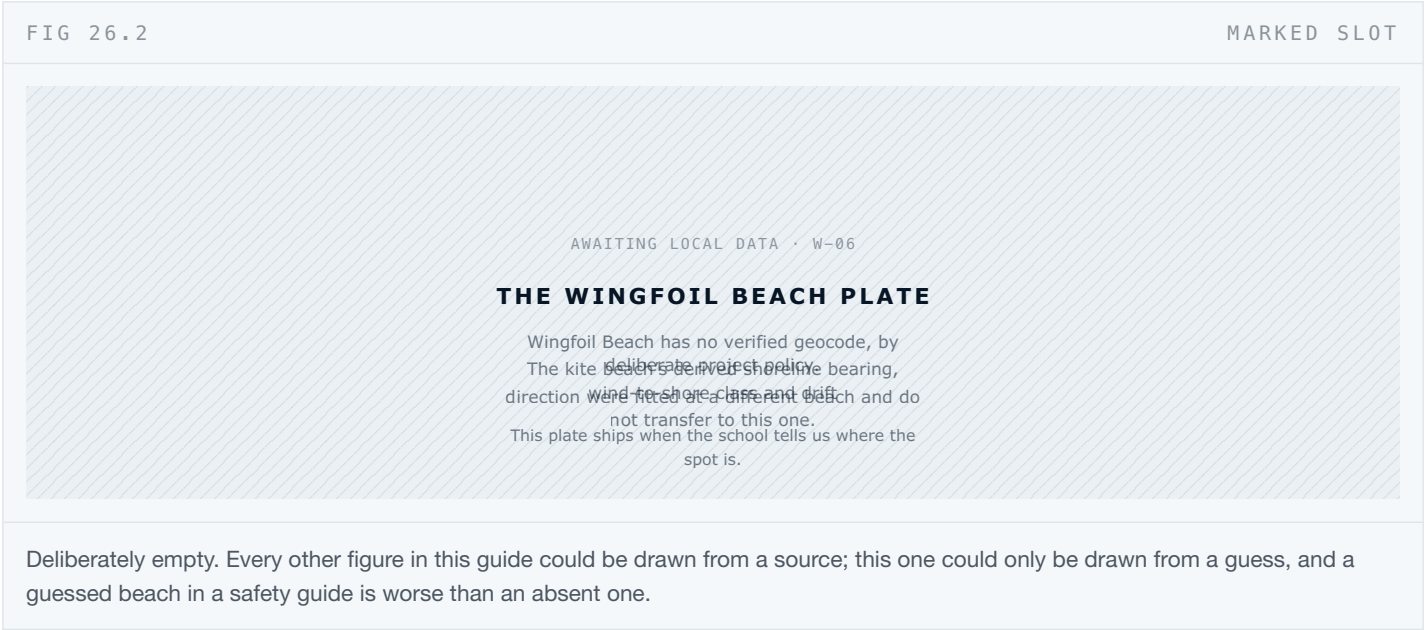
Wing does not happen at the kite beach by default. C2SKY uses a separate flat-water spot, about twenty minutes away, described in the school’s own words as “shallower and calmer than the kite beach, and a different place entirely” — and elsewhere as “more open water, deeper sooner, better for foiling”.

Both descriptions are true and the combination is exactly what a foil beach needs: flat water, which the RYA wants for teaching, and a bottom that reaches foil depth without a long wade, which F-One’s entry rule requires. Which spot a given session runs from is decided on the day, on the wind.

The tide

Derived range about 2.6 metres. That is a material tide for a shallow teaching beach: it moves the waterline, it changes the depth where the lesson happens, and it covers and uncovers whatever is on the bottom. Chapter 03 is the reason that matters more here than it would to a windsurfer.

What this guide will not tell you, and why



LOCAL NOTE

The shoreline bearing, the wind-to-shore angle and the longshore drift published in C2SKY’s kitesurfing guide were derived at the **kite beach**. The wing spot has no verified coordinate — deliberately, because this project does not publish a location it has not verified. So none of that geometry transfers, and none of it is guessed here. Your instructor knows the spot. Ask them, on the beach, on the day.

27

PART F · MUI NE & INDEPENDENCE

THE PROGRESSION MAP

Five gates, two published syllabuses and one price list, laid over each other.

Three organisations describe this journey and none of them describes it the same way. Here they are together.

KNOW

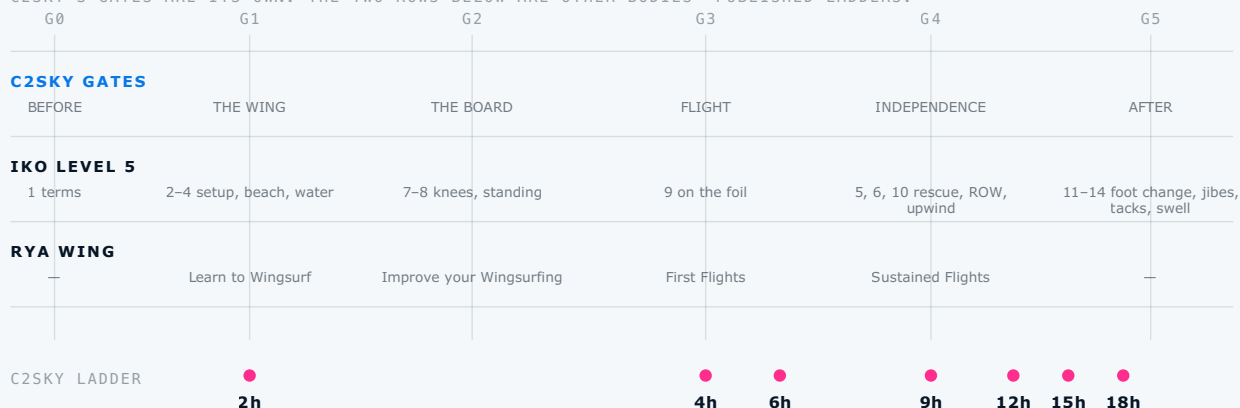
The gates are C2SKY's, informed by established training frameworks — they are not an IKO, IWO or RYA level system. IKO and the RYA publish their own ladders and those are shown alongside for comparison, not as equivalents. Reaching G3 in this guide is not reaching IKO skill 9 and is not passing RYA First Flights. No gate in this guide certifies anything or issues any card; only a training body does that, through a school affiliated to it.

FIG 27.1

MAP

THE SAME JOURNEY, DESCRIBED THREE WAYS

C2SKY'S GATES ARE ITS OWN. THE TWO ROWS BELOW ARE OTHER BODIES' PUBLISHED LADDERS.



The 2, 4, 6 and 9 hour positions are C2SKY's own published outcomes. Everything to the right of them is proposed, and labelled as proposed, because three of the seven rungs carry no published outcome at all.

C2SKY's five gates, with IKO's fourteen Level5 skills and the RYA's four Wing courses laid alongside for comparison, and C2SKY's hours marked underneath. **The three rows are three separate systems.** Reaching G3 is not reaching IKO skill 9 or passing RYA First Flights, and it issues no card. Where the bodies place a skill differently — self-rescue and right of way, notably — both positions are shown.

The gates, restated

GATE	YOU ARE THROUGH IT WHEN
G0 · BEFORE YOU ARRIVE	You can read a forecast, name the kit, and say what a foil is and why it is sharp.
G1 · THE WING	You can hold, sheet, flag and park a wing on land, walk with it, and secure it.
G2 · THE BOARD	You can get in and out with a foil, ride on your knees, stand, taxi, steer — and come back to where you started.
G3 · FLIGHT	You can get onto the foil, hold a height, fly sustained in both directions, and come down on purpose.
G4 · INDEPENDENCE	You can hold ground upwind, turn without stopping, apply the rules in traffic, self-rescue in deep water, and decide not to go out.
G5 · AFTER	Tacks, foot-change jibes, swell, downwinders. Named here, taught elsewhere.

A gate is passed by demonstrating something, not by spending an hour.

C2SKY's ladder, exactly as published

HOURS	COURSE	DAYS	PUBLISHED OUTCOME
2	Intro to Wing	1	Wing handling and your first runs on the board
4	Taster	1–2	Your first time up on the foil
6	Wind Runner	3	Sustained flight in both directions
9	Aero	4–5	Independent wingfoiling
12	Full Throttle	6	—
15	Master Wing	7–8	—
18	Supreme	8+	—

One-to-one private is the only published variant. Three rungs carry no published outcome and this guide does not write one for them — they are continued work at Gate 4 and into Gate 5.

KNOW

Hours buy instruction, not outcomes. IKO's own wing course page says roughly one hour per skill, "varying based on student knowledge, weather, and location conditions". The variance is not a caveat. It is the honest description of how learning a wind sport works.

Where the bodies disagree, and it matters

IKO puts **self-rescue at skill five and right of way at skill six** — before the rider ever gets on the foil. This guide's gates put both at G4. Both are defensible and they are answering different questions: IKO is ordering what gets *taught*, and the gates describe what has been *demonstrated*. Read Chapters 22 and 23 early. Expect to prove them late.

What a lesson price covers

In the owner's own words, confirmed in writing: *"Every lesson price covers the instruction and all the equipment you need for that lesson."* And if the wind fails: *"No suitable wind: we reschedule, and you pay only for the hours you complete."* That is a commitment about payment and an undertaking to try on rescheduling. It is not a money-back guarantee and this guide does not present it as one.

INSTRUCTOR CHECK

The mapping of rungs to gates beyond C2SKY's four published outcome lines is **proposed**, not confirmed. It is this guide's reading of the school's own copy, and it is labelled as a reading rather than as a promise.

Every rung of that ladder is a C2SKY course, and the hours and outcomes above are the school's own published figures.

Compare the wing courses →

28

PART F · MUI NE & INDEPENDENCE

THE INDEPENDENT WINGFOILER

Eighteen things you can either do or not do.
Nothing on this list is a feeling.

Independence is not a card and it is not a number of days. It is a set of demonstrations, and this is the set. Every line traces back to a chapter, and the last one is on the list because the evidence puts it there.

0 OF 18 CONFIRMED

- | | |
|--|-------|
| ☐ I can assess a spot for wind, depth and space before touching any equipment. | IW-01 |
| ☐ I can rig a wing and assemble a foil in the same order every time, and check both. | IW-02 |
| ☐ I know my wing's pressure from its own label, not from a remembered number. | IW-03 |
| ☐ I can carry, launch and land a foiled board without putting the foil near the bottom or near anybody. | IW-04 |
| ☐ I can operate my wing leash quick release without looking for it. | IW-05 |
| ☐ I can say why the board leash is a conditional decision, and who makes it. | IW-06 |
| ☐ I can hold, sheet, flag and park a wing on land, and secure it when it leaves my hands. | IW-07 |
| ☐ I can ride on my knees and stand up on a moving board. | IW-08 |
| ☐ I can taxi across the wind in both directions and stop where I meant to. | IW-09 |
| ☐ I can hold ground and return to my start point without flying. | IW-10 |
| ☐ I can get onto the foil, and come down on purpose. | IW-11 |
| ☐ I can hold a ride height without porpoising. | IW-12 |
| ☐ I can sustain flight in both directions. | IW-13 |
| ☐ I can ride upwind. | IW-14 |
| ☐ I can turn round without stopping. | IW-15 |

-
- | | |
|--|-------|
| ☐ I can fall away from the foil, and I know what the board does after I do. | IW-16 |
| <hr/> | |
| ☐ I have performed a self-rescue in deep water, with an instructor watching. | IW-17 |
| <hr/> | |
| ☐ I can apply the right-of-way rules in traffic — and I can decide not to go out, and stop before I am tired. | IW-18 |
-

KNOW

Two of these are not skills. “*I can decide not to go out*” and “*I can stop before I am tired*” are on the list because injured riders blamed being tired more often than anything else — 77.5% of them — and because the injury count peaks in the second hour on the water. They are the two items most likely to be the reason you get to do this for twenty years.

What a school means by it

C2SKY’s published gate for renting kite equipment is that you can ride upwind, self-rescue and pack down alone, with a short check on the water to settle it either way. Whether the wing gate is worded identically is not recorded in this project — but if it is, everything it names is on the list above.

LOCAL NOTE

The list above is this guide’s — a C2SKY checklist informed by established training frameworks, assembled from the gates, from IKO’s fourteen skills, from the RYA’s gate wording and from the safety chapters. **It is not an IKO, IWO or RYA assessment, it is not C2SKY’s admission test, and ticking every box certifies nothing.** It is a mirror.

THE OTHER FIELD GUIDES

THE PLACE

THE MUI NE FIELD GUIDE

Wind, coast and a twelve-kilometre strip

18 CHAPTERS • 77 PAGES IN PRINT

THE THEORY

KITESURFING FIELD GUIDE

From zero to independent rider

29 CHAPTERS • 87 PAGES IN PRINT

All three are free to read and free to download. [See all three →](#)

Ready to put this into practice?

Reading is the half you can do anywhere. The rest happens on flat water, with somebody watching, on equipment that is already the right size.

BOOK A LESSON SEE THE WING COURSES ASK ON WHATSAPP

GLOSSARY

Every word in this guide, in the form your instructor will say it.

Assembled from the manufacturers' own parts diagrams and glossaries, IKO's skill names and the GWA's rule definitions. The definitions are written fresh; none is reproduced.

The wing

TERM	WHAT IT MEANS
Leading edge	The inflated front tube. The wing's spine, and the reason it floats.
Strut	The inflated centre spine running back from the leading edge. Carries the handles or boom.
Canopy	The cloth between the tubes. Where the force comes from.
Window	The transparent panel you look through. Never folded.
Luff panel	The section of canopy nearest the leading edge, on some designs.
Flagging handle	The handle nearest the leading edge. Held alone, the wing weathervanes and depowers.
Sheeting	Pulling the back hand in or letting it out, to increase or reduce power. Continuous, not a switch.
Neutral position	Wing held overhead. Least drive — and on land, the position from which riders get lofted.
Neutral zone	The sector around and above you where the wing produces least power. Your pause button, on the water.
Lofting	Being lifted off the ground by a gust with the wing overhead. The land hazard.
Luffing	What the canopy does when it loses its shape in a lull.
Lull	A drop in wind strength, for any length of time.
Overpowered	A wing too powerful for the rider's ability, weight, strength or the conditions. All four count.
Wing leash	The line connecting you to the wing. Always worn, and it must carry a quick release.

The board and the foil

TERM	WHAT IT MEANS
Volume	The board's flotation, in litres. Flotation is learning time.
Mast track	The slot the foil bolts into, and how far forward or back it sits.
Mast	The vertical part of the foil. Sets how deep it runs and how high you can fly.
Fuselage	The horizontal spine holding the two wings at a fixed distance and angle.
Front wing	The large lifting surface. Bigger area, earlier flight, lower top speed.
Stabiliser	The small rear wing. Holds the attitude, and it is the part feet find.
Aspect ratio	Span against chord. Low aspect is stable and lifts early; high aspect is fast and unforgiving.
Surface area	The front wing's area in cm ² . It sets your take-off speed.
Take-off speed	The speed at which the foil's lift equals your weight. A threshold, not a ramp.
Ventilation	Air reaching the foil from the surface. Lift collapses and you fall from the top of the mast.
Breach	The foil coming out of the water entirely.
Porpoising	An oscillation up and down, caused by corrections that are late and large.
Board leash	The line connecting you to the board. Conditional — see Chapter 07.

Wind, water and traffic

TERM	WHAT IT MEANS
True wind	The wind that is blowing, measured by somebody standing still.
Apparent wind	True wind combined with your own motion. What you actually sheet against.
Onshore / offshore	Blowing from the water toward the land, or from the land out to the water.
Cross-shore	Blowing along the beach. Cross-onshore is the angled, onshore-leaning version, and it is the good one.
Taxiing	Riding on the water with the foil loaded but not lifting.
Holding ground	Finishing where you started. Not progress upwind — no loss.
Tack (the manoeuvre)	Turning upwind, through the no-go zone. Learned after the jibe.
Jibe / gybe	Turning downwind, through the powered part of the arc. Learned first.
Transition	Any change of direction. While in one, you are the rider who keeps clear.
Starboard tack	Wind coming over your right side. Has right of way over port.
Windward / leeward	The side toward the wind, and the side away from it. Windward keeps clear.
Overlapped	Two riders whose positions overlap when projected across their line of travel.
No-go zone	The arc too close to the wind for the wing to drive you.
Broad reach	Angled downwind of across. The fastest point of sail, and where every first ride goes.

Certification

TERM	WHAT IT MEANS
IKO	International Kiteboarding Organization. Publishes a fourteen-skill wing foil course as Level 5 · Winging.
IWO	International Wingfoil Organization, founded in 2022 by IKO. Certifies wingfoil instructors and centres.
RYA	Royal Yachting Association. Publishes a four-stage Wing scheme, and the foiling guidance its centres teach to.
GWA	Global Wingsports Association. Publishes the sport's only right-of-way code, in its competition rulebook.

THEORY → LESSON → INDEPENDENCE

The water half happens with an instructor.

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