A Basic Introduction to Nautical Chart Symbols
(or "What the heck are these marks doing all over my expensive map?")

Nautical Charts are full of **symbols**. At first glance, these symbols might look cryptic and a little confusing.

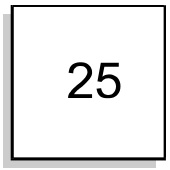
It's helpful to start by remembering three basic questions chart symbols answer:

How deep is the water? (Make sure it's deeper than your boat.) **What's on the bottom?** (Something that's handy to know when you want to drop anchor). And **What the heck is that!?** (Identifying objects above and below, natural or fabricated).

Here are a few symbols you should be able to identify…

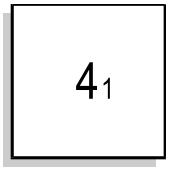
How deep is the water?

Remember, a boat is much more fun when it's afloat…



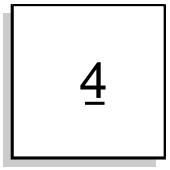
Numbers in the water area of a chart show *depth below chart datum* (or **soundings**).

Is the depth it **feet** or **meters**? The **Title Block** of the Chart will tell you. On **Metric Charts**, the word *Metric* will also be printed in magenta on the border of the chart.



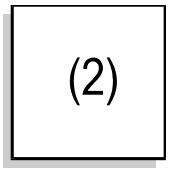
This is a sounding with depth in **meters** and tenths of a meter, or **decimeters** (the *small* number, literally).

Would a chart ever show fractions of a foot? No. A foot is accurate enough, so *No Fractured Feet!* An imperial chart that appears to show tenths or fractions is actually showing fathoms and feet.



If the number is **underlined**, it's indicating elevation **above chart datum**. Think of the line as being the *waterline*, with the height shown *above this line*.

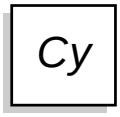
This is commonly used to indicate the **drying height** of a **rock that covers and uncovers** with the rise and fall of the water level.



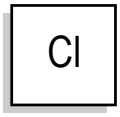
Usually the number is placed *directly over* the point it's indicating. When there isn't room to show the number in the right place, it will appear in **brackets** to indicate the sounding is **out of position**.

What's on the bottom?

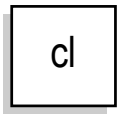
Knowing what the bottom is like helps you find a good place to anchor and what type of anchor to use…



Letters in the water area of a chart show what you'll find on the bottom. These are mostly *obvious abbreviations* for typical **seabeds**, like **R**ock, **M**ud, **S**and, **G**ravel, **W**ee**ds**, O**oz**e, and — here's a tricky one — **C**la**y**, **Cl**ay, or **cl**ay.



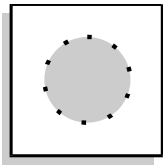
Canadian charts can show seabed abbreviations in a variety of ways: a single upper-case letter, single lower-case letter, two-letters or three, with the first letter capitalized or not. And any chart may show a MIXED seabed, like **SM**. (Clear as *Sand and Mud*, right!?)



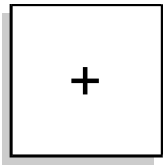
The trick: *Have an idea of the different types of seabed*, then hold the chart at arms length and stare at the abbreviation until it makes sense. If you know what you're looking for, you're more likely to find it.

What the heck *was* that!?

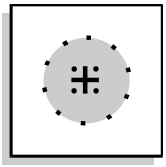
Because a lot of a boat is below the waterline (arguably, the most important parts), you need to know if there are **hazards** under the water that could spoil your cruise…



The doted circle *catches your attention*, that's why it's used! It's a **danger line** that can be used alone, or in combination with a other hazard symbols.

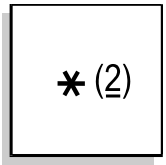


Remember: *a **rock** you can't see can still make you **cross***. Apart from this **dangerous underwater rock**, variations include rocks that are partly submerged (awash) or occasionally submerged (covers and uncovers with changing water levels).

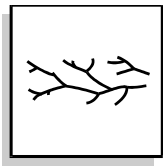


Here's the rock "cross", now think of the *dots* as little waves breaking over a **rock awash** at chart datum.

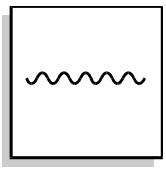
This **rock awash** is surrounded by a **danger line** so you can't miss it — or rather, *can miss it!*



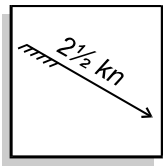
Think of this asterisk symbol as a rock "cross" *covered* with an extra line, and it'll help you remember this rock is sometimes *covered* with water, sometimes not. It's a **rock which covers and uncovers**. The **drying height** when the rock is exposed is underlined because it's above chart datum. It's in brackets because it's offset (or **out of position**) from the hazard's actual location.



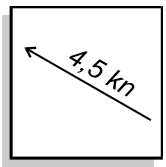
If it's the only symbol on the chart that looks *kinda like* ***kelp***, it is.



This is either the *Loch Ness Monster or a submerged cable*. Unless you're on Loch Ness, it's a **submerged cable**. (Officially: **submarine cable**). Monster or not, you don't want to drop an anchor on it.

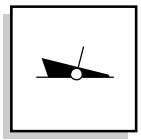


Like a one way street, these arrows show *which way to go* if you want to travel **in the direction of the tidal current**. With ***f***eathers, with the ***f*lood**…



…otherwise it's showing the direction of the **ebb**. The numbers show how fast in ***Kn*ots**, with decimals used on some charts, fractions on others.

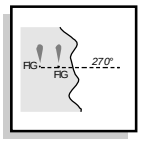
Why do you need to know the direction and rate of the tide? Well, if the chart tells you the tidal flow is greater that, say, 5kts, and you're trying to sail against it at full flood or ebb, you'll know why you're going backwards.



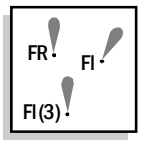
This symbol might make you feel a little uneasy. Understandably: It's a **wreck** with a portion of its hull or superstructure visible.

Shedding Some Light

Chart symbols can also represent navigational aids, and sometimes these aids are lit. Boating is a pastime you can enjoy 24 hours a day!



A magenta teardrop symbol identifies a lit object. Two of these objects in line are called **Leading Lights**, or not surprisingly, **Lights in Line**.



Abbreviations tell us the characteristics of the light. These include the colour (**R**ed or **G**reen usually), and whether the light is **F**ixed, **Fl**ashing, **Q**uick flashing, or flashing in groups, with a pause between each group, like **Fl(3)** or **GpFl(3)**.