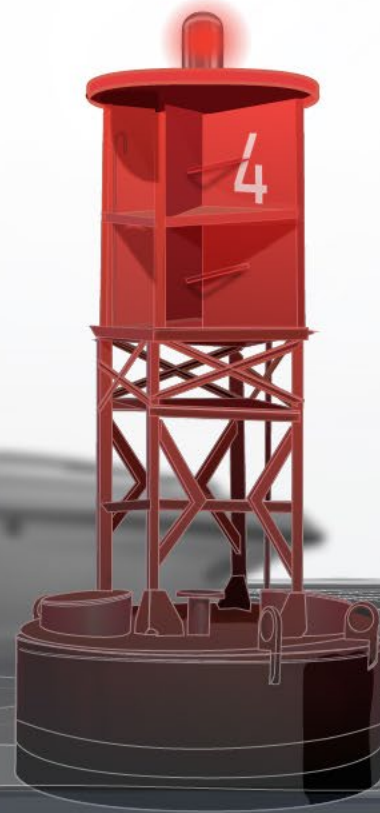


Boating 101

AIDS TO NAVIGATION



Intro to Navigational Aids

On land you have roads that you drive on. Roads have painted lines, signs and traffic lights to assist or help you navigate to where you are going.



Intro to Navigational Aids

On the water, there are no roads or defined paths, but rather just markers or **Navigation Aids** that assist you in keeping out of harm's way. Some are obvious to figure out (there this is a buoy in front of rocks ahead of you). Others, not so! There is a buoy in the middle of nowhere with water all around it?!?

It's amazing what the ocean can **HIDE**, especially 6hrs later with a tide change 😊.



Navigational Aids

Any device external to a vessel intended to assist in determining position and safe course, or to warn of dangers or obstructions (on lakes/remote places it could just be a bottle or a stick...).



Navigation Aids are designed for visual effect;

- At night – some have lights with different colours,
- For bright light – painted different colours,
- For dim light – specific shapes and top markers

PILLAR BUOYS



SPAR BUOYS



CANS
(GREEN)



NUNS
(RED)

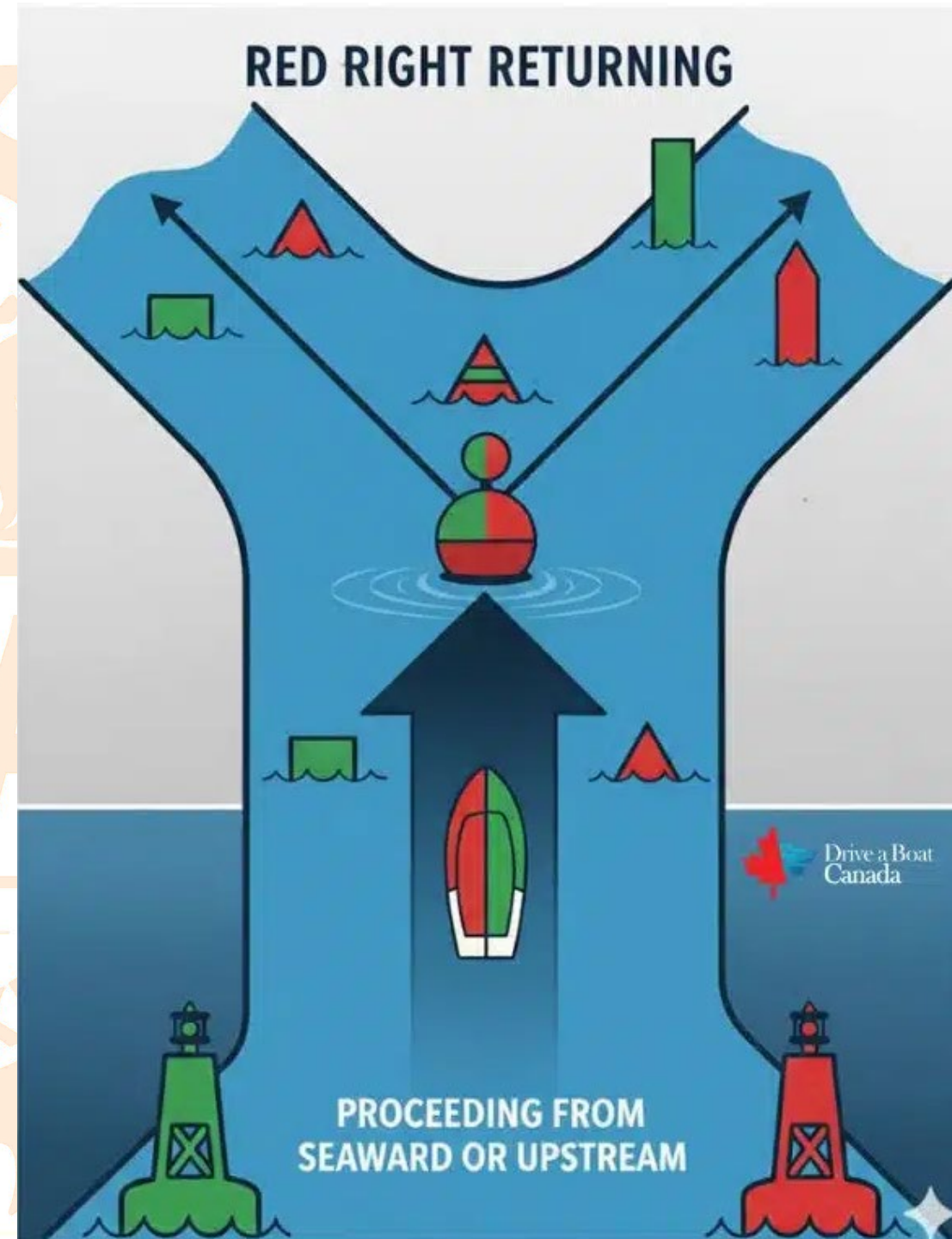


Direction of Travel

When using some Navigation Aids, you need to know one very important thing; are you **GOING UPSTREAM** (into harbour, up a river)? or **DOWNSTREAM**? This is not always easy to know.

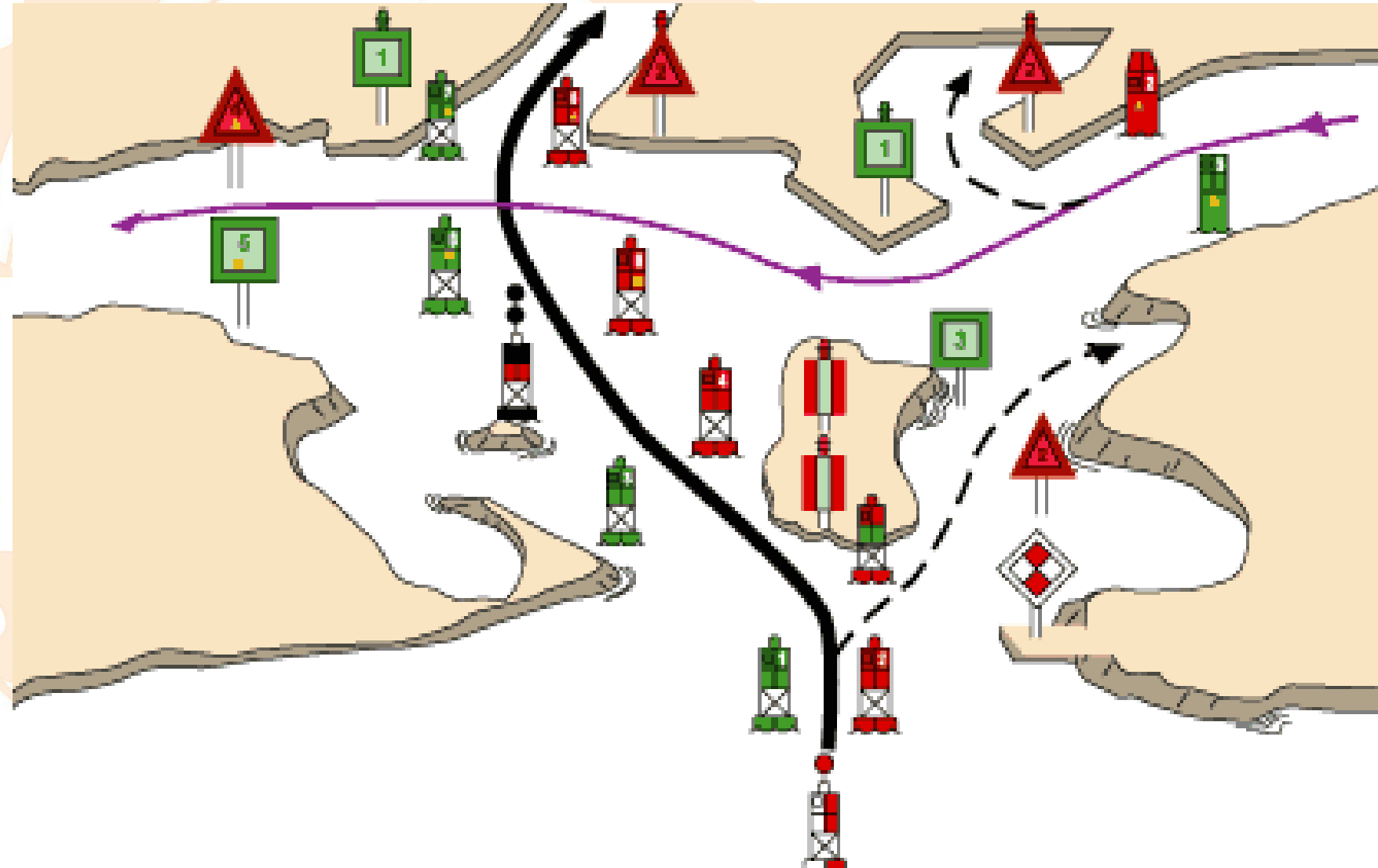
When proceeding Upstream – you keep Port buoys (green) to port and Starboard buoys (red) to starboard. Reversed when going downstream.

Remember: **Red, Right, Returning!!**



Buoyage System

- mark safe channels
- warn of dangers
- mark anchorages or
- keep-out areas



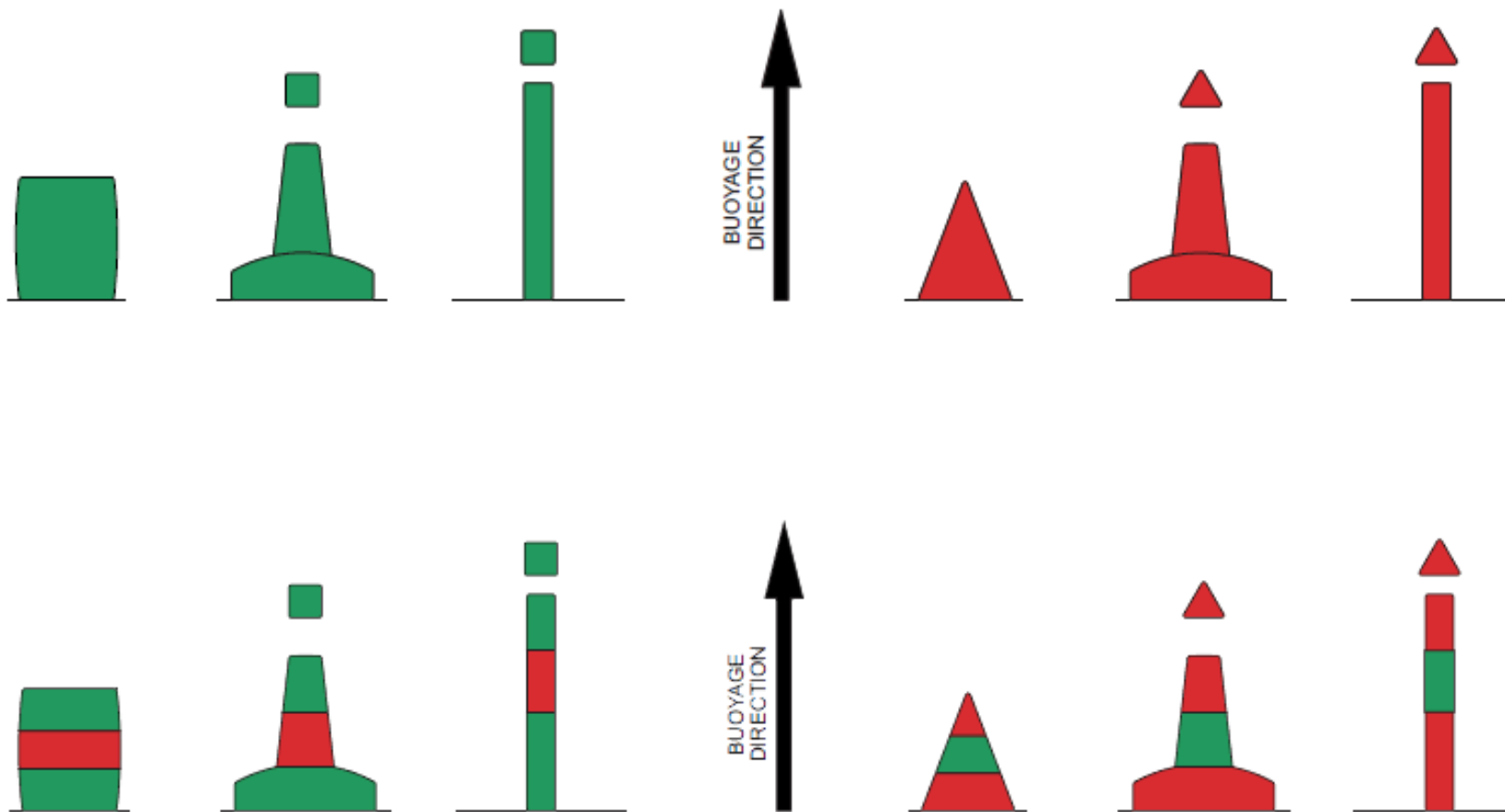
A WORD OF CAUTION!

Navigation buoys are not 100% accurate navigation points, as they are pushed in the direction of the tidal flow

The lower the tide the more the buoy itself can move away from the charted position.

A large storm or a vessel striking the buoy can also move its location as it is only anchored in position

Lateral Buoys



For these Remember: **Red, Right, Returning!!**

AIDS TO NAVIGATION

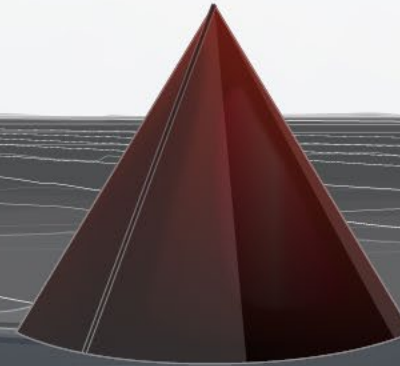
STARBOARD HAND BUOYS

POINTED TOP



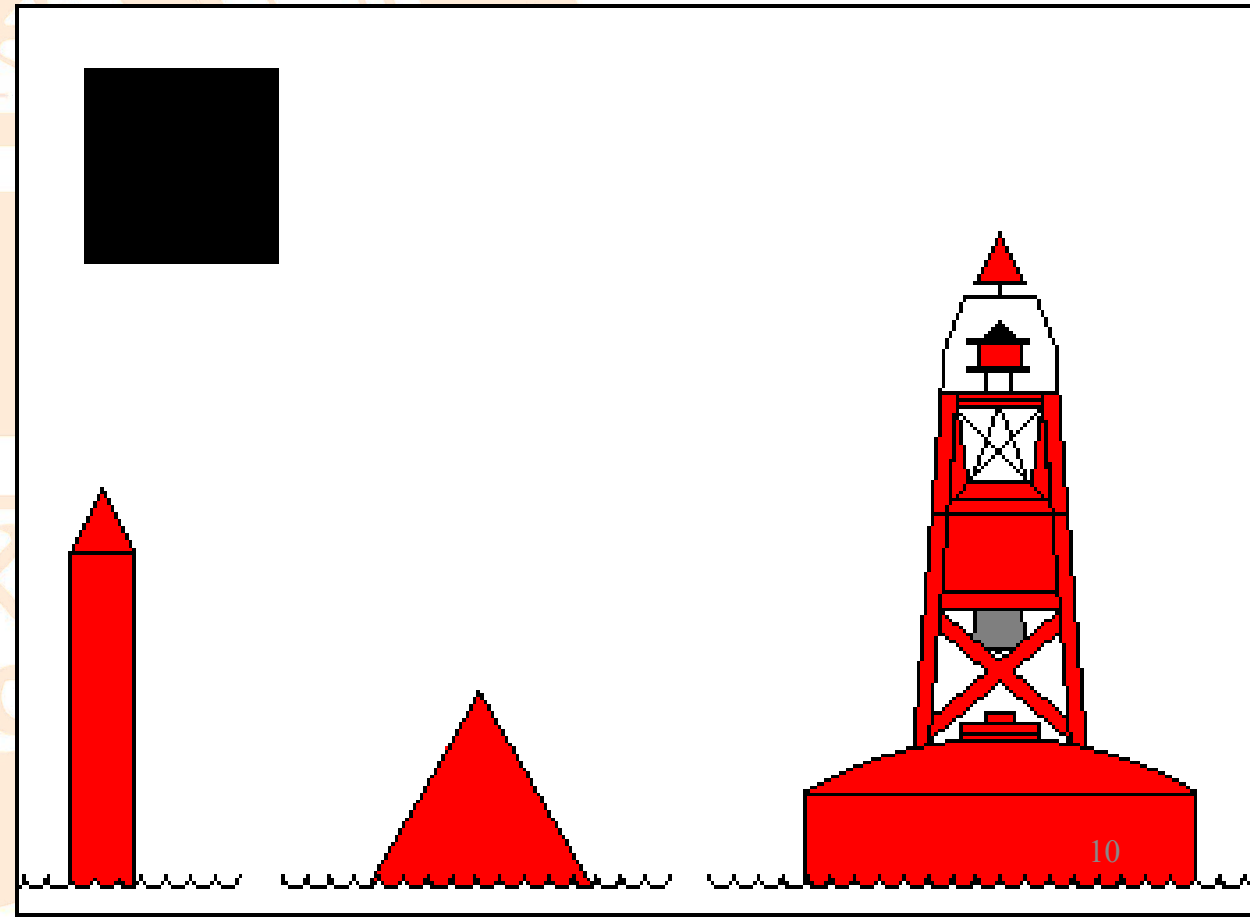
EVEN NUMBER

RED COLOUR



Starboard Hand Buoys

- **Red**
- Conical Top
- Spar, Can, Lighted Pillar
- Keep to starboard when traveling upstream or entering a harbour
- Red Light if equipped
- Even numbered



AIDS TO NAVIGATION

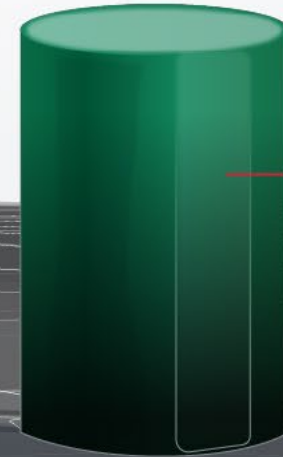
PORT HAND BUOYS

FLAT TOP



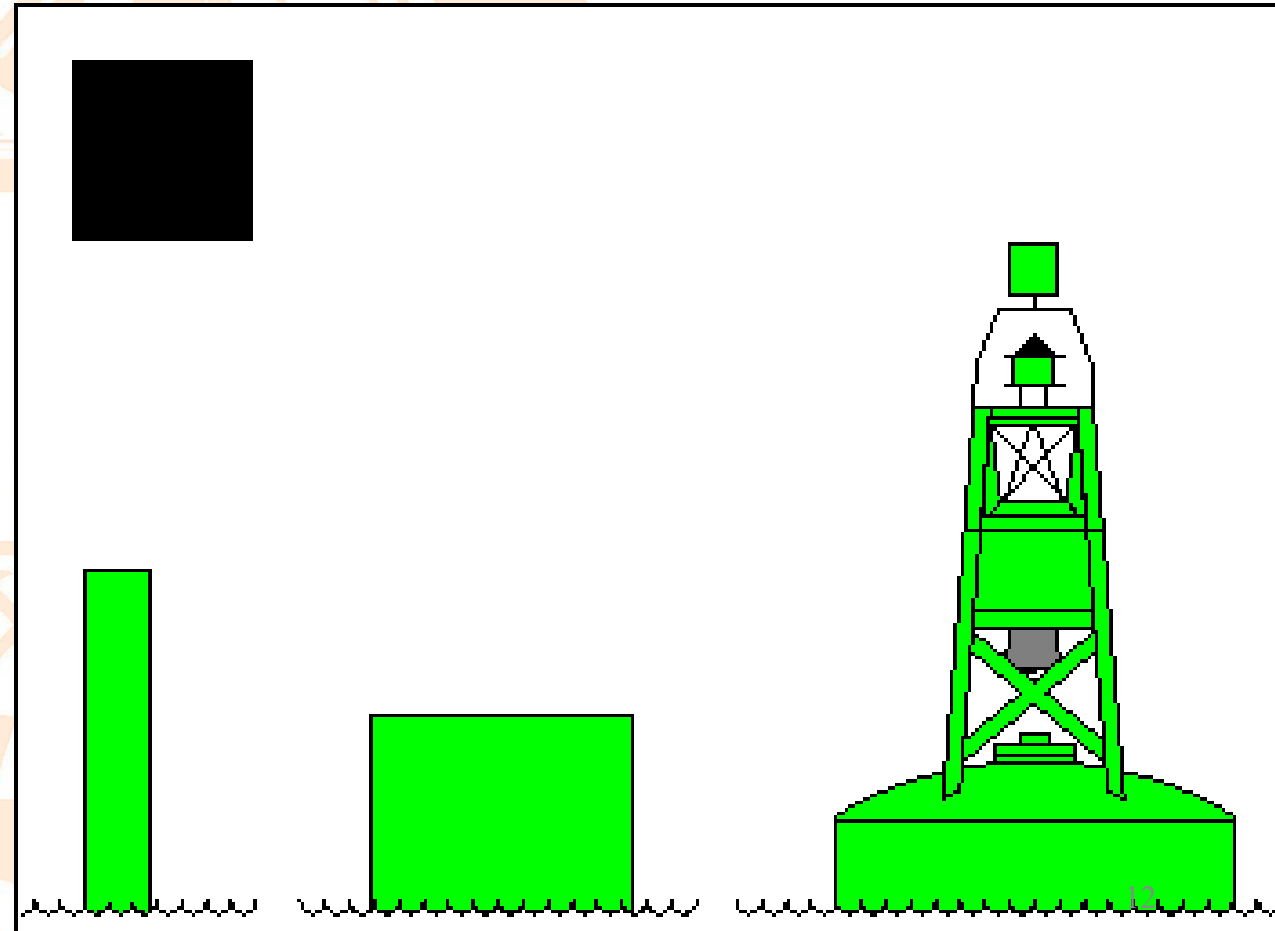
ODD NUMBER

GREEN COLOUR

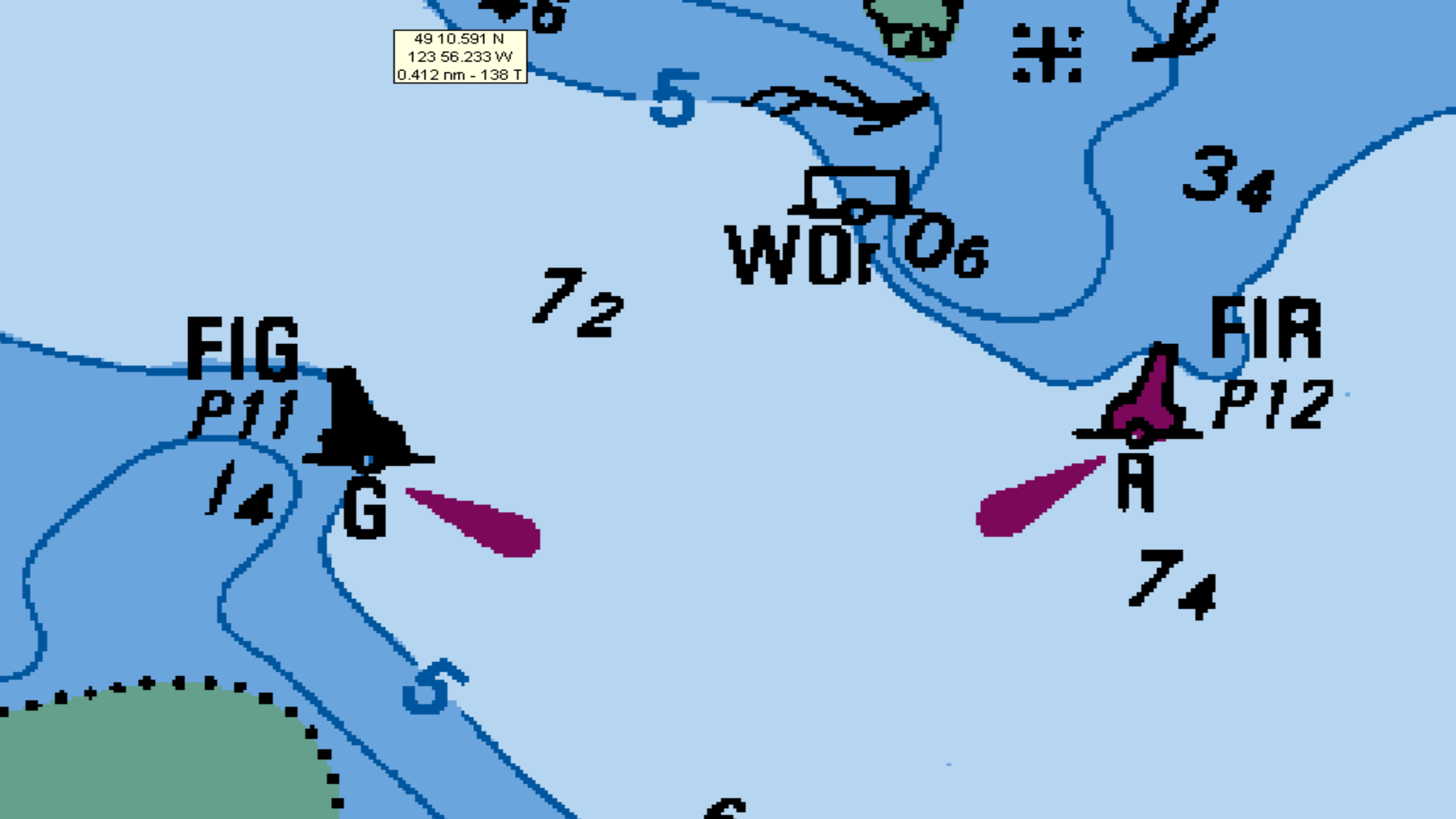


Port Hand Buoys

- **Green**
- Flat Top
- Spar, Can, Lighted Pillar
- Keep to port when traveling upstream or into harbour
- Green Light if Equipped
- Odd Numbered



49 10.591 N
123 56.233 W
0.412 nm - 138 T



FIG

P11



G



WDR O6

FIR

P12



R

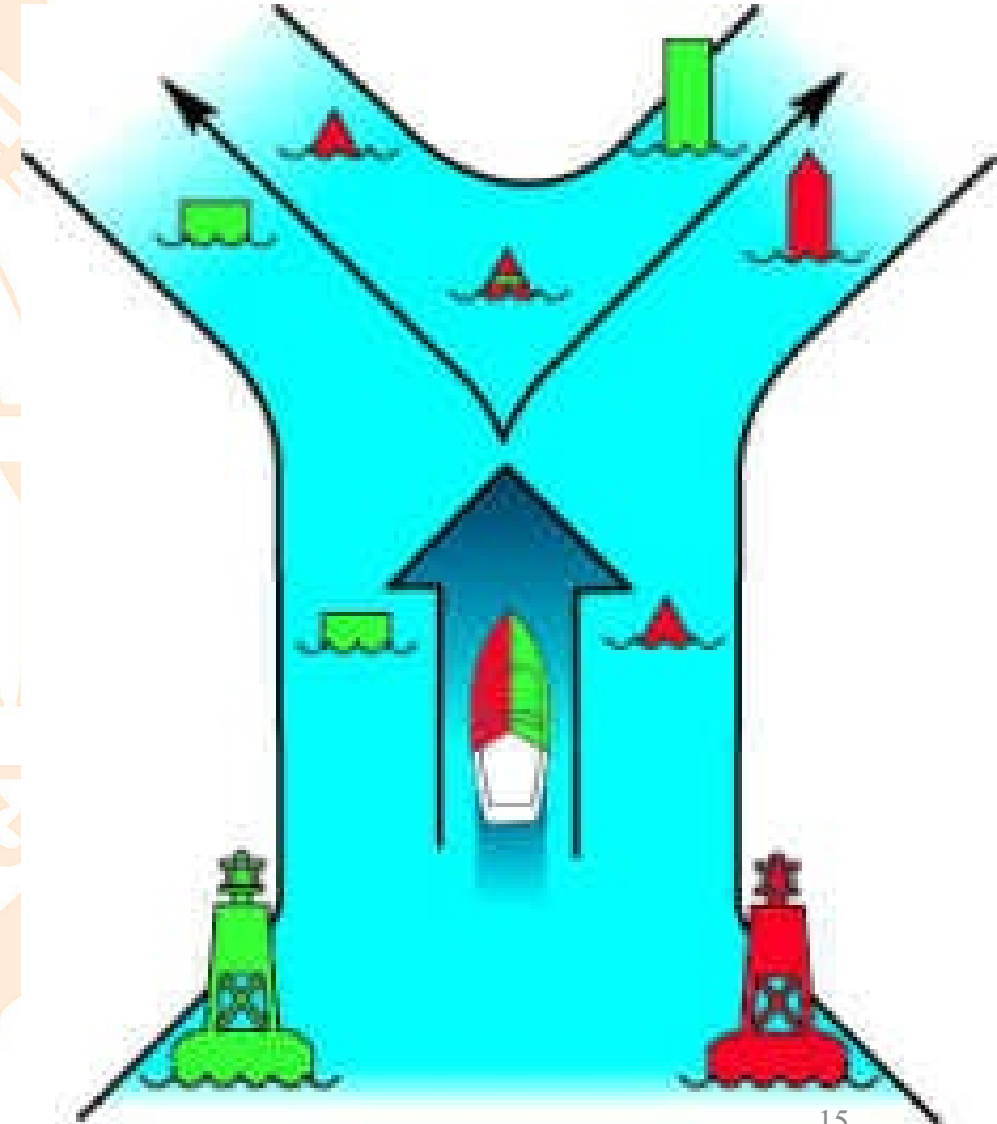
74

Bifurcation Buoys



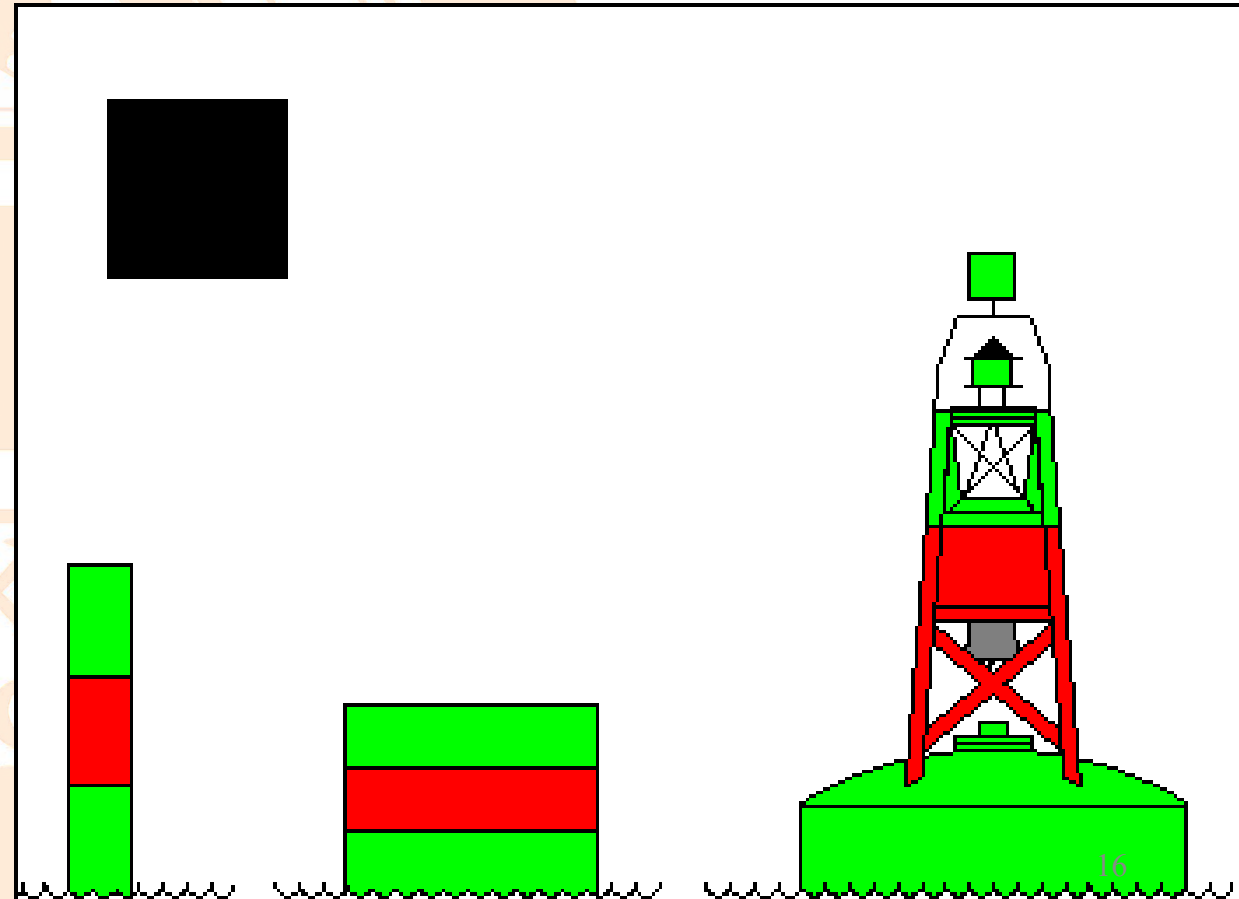
Bifurcation Buoys

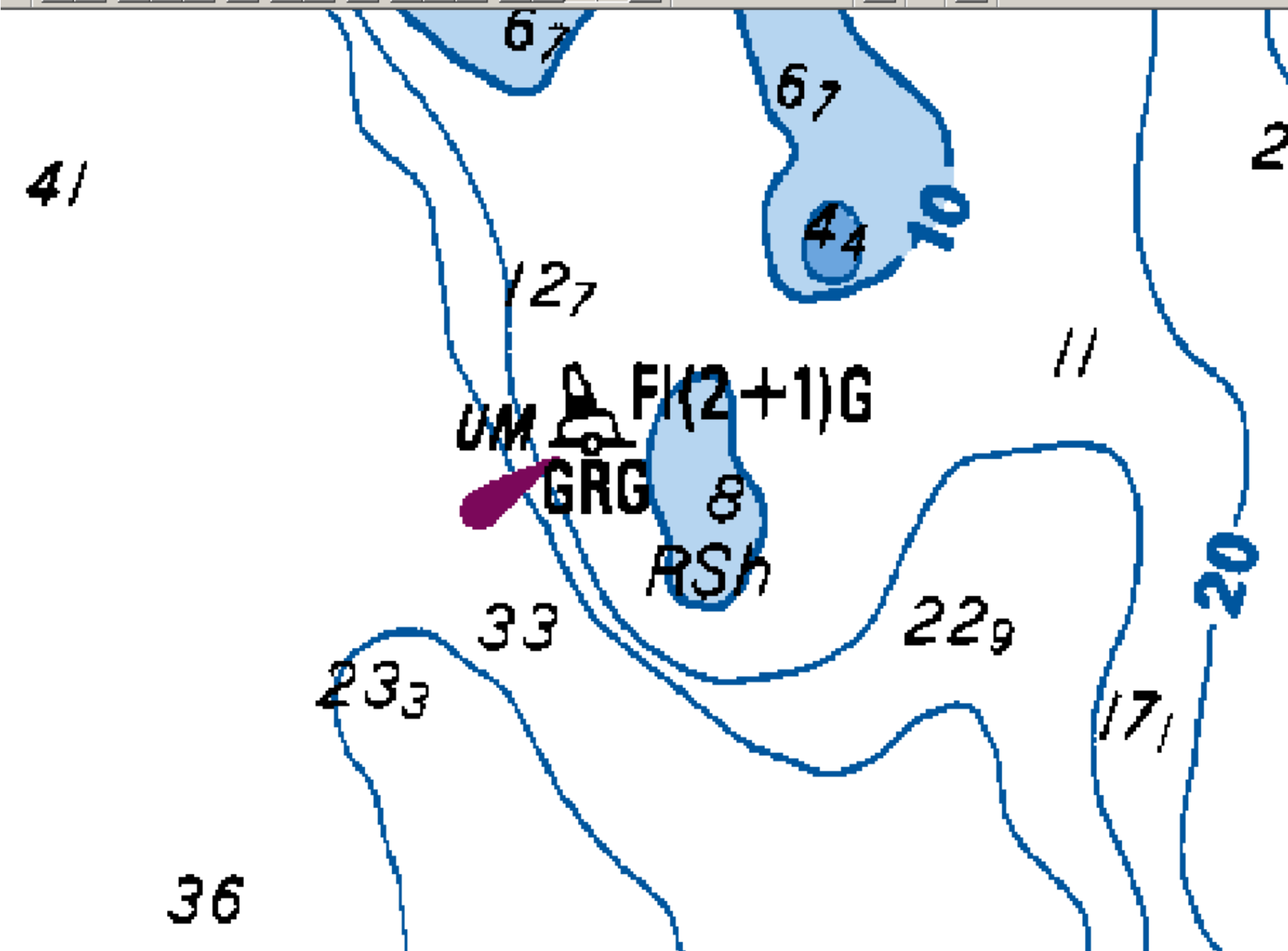
- Marks where a channel divides when traveling upstream
- Either side can be traveled
- Preferred side is indicated by top colour
- Can, Spar, Lighted Pillar Buoy



Port Bifurcation Buoy

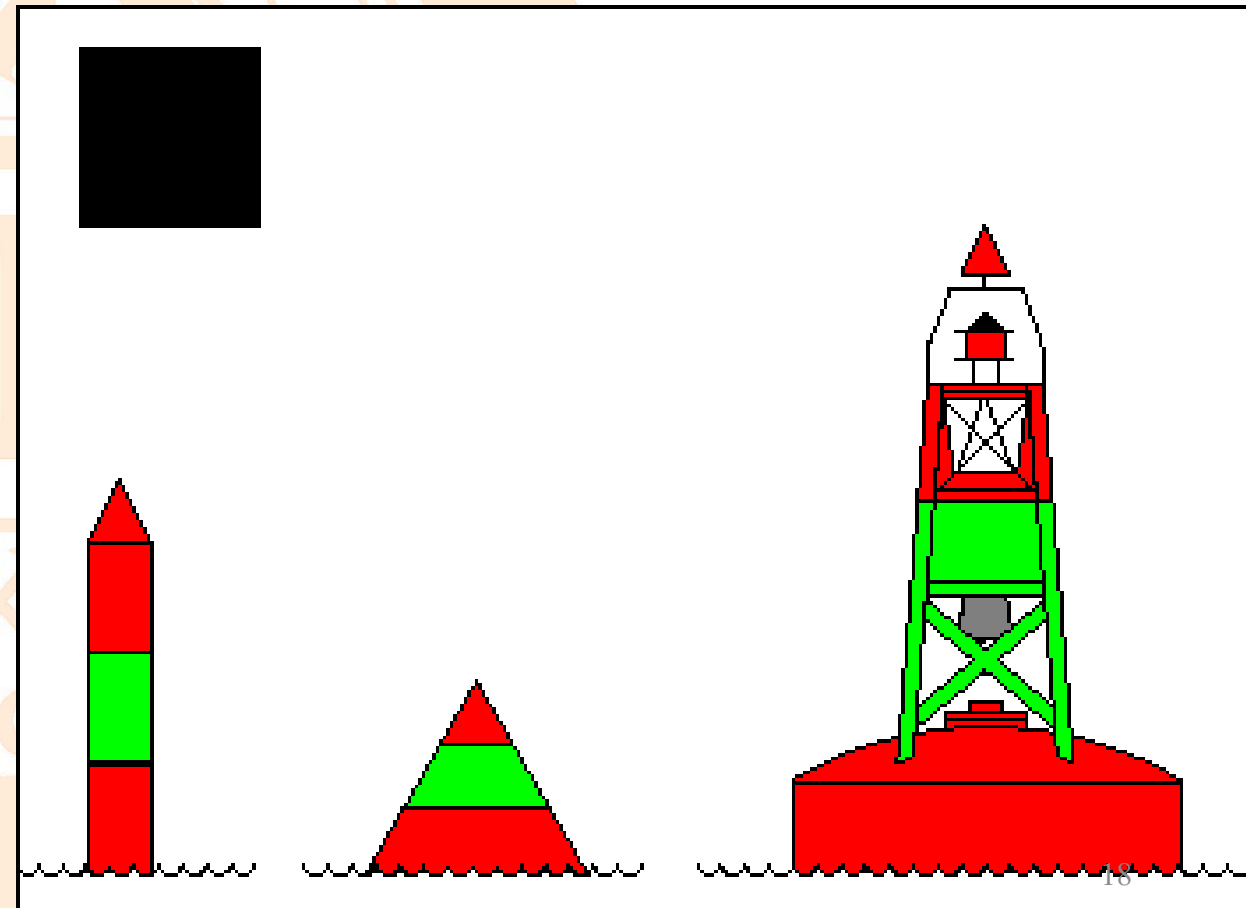
- **Green Red Green**
- Keep on port side is preferred
- Green Light if lighted
- Odd Numbered

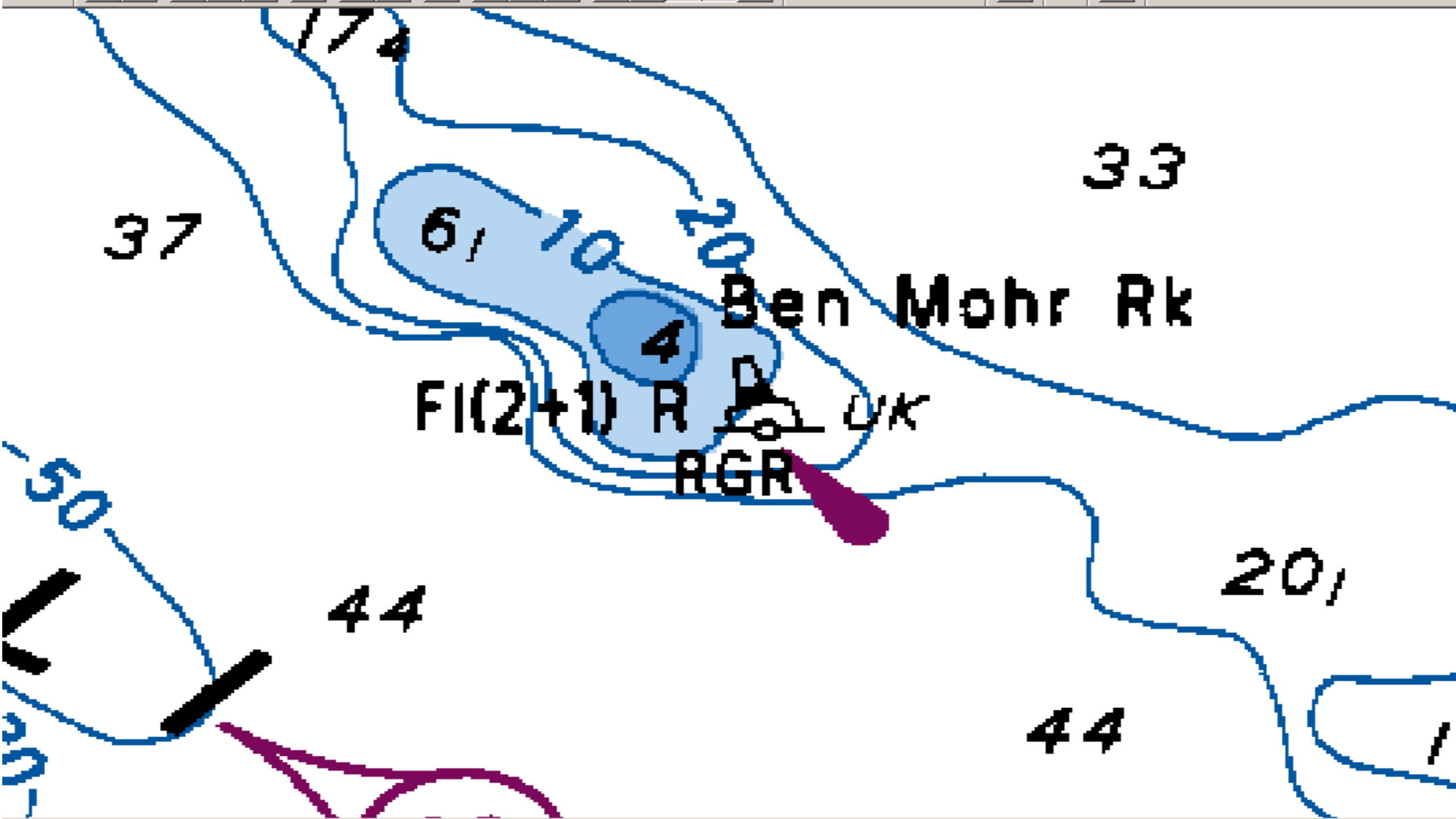




Starboard Bifurcation Buoy

- **Red Green Red**
- Keep on Starboard side is preferred
- Red Light if lighted
- Even Numbered

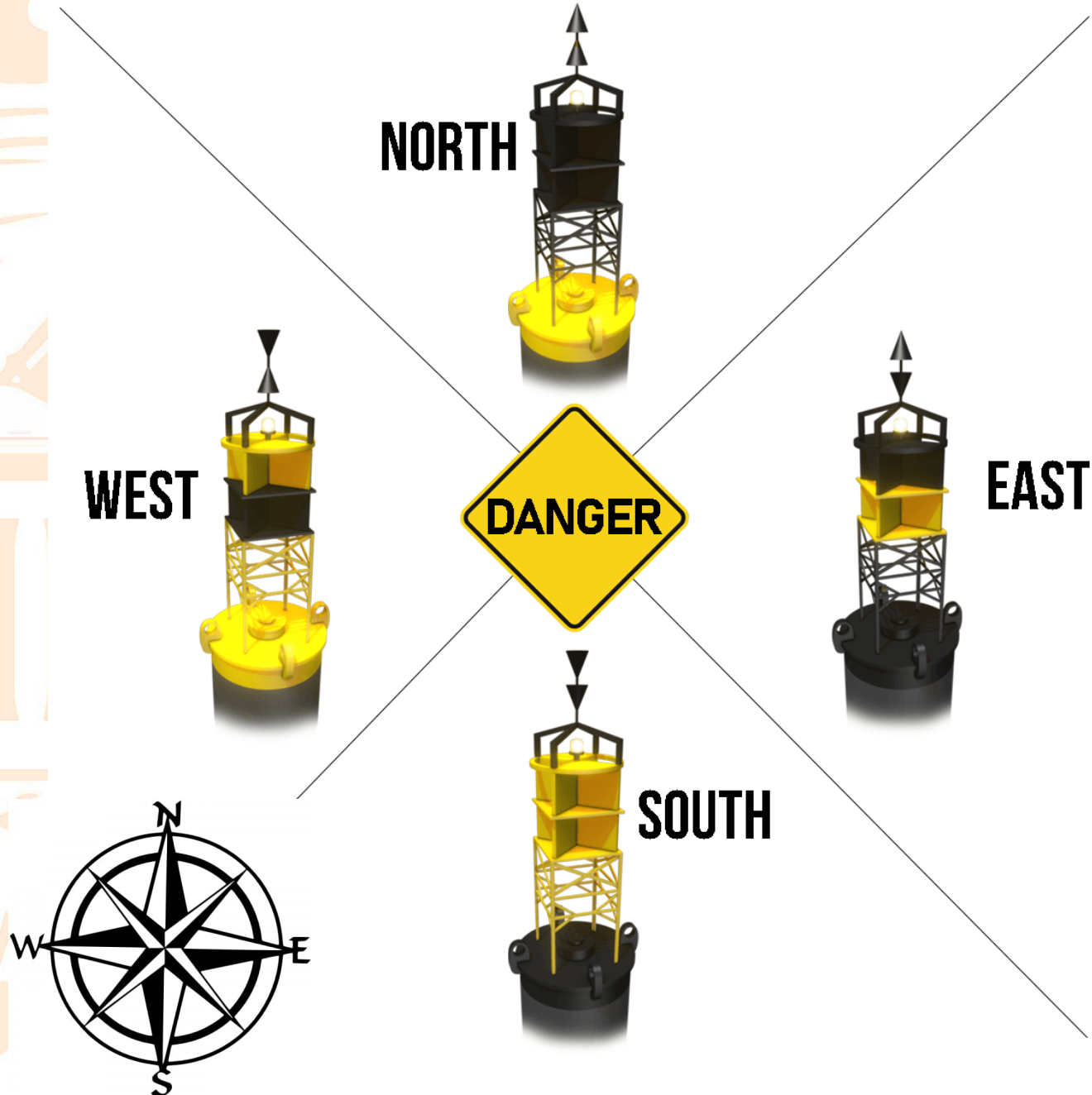




Cardinal System of Buoys

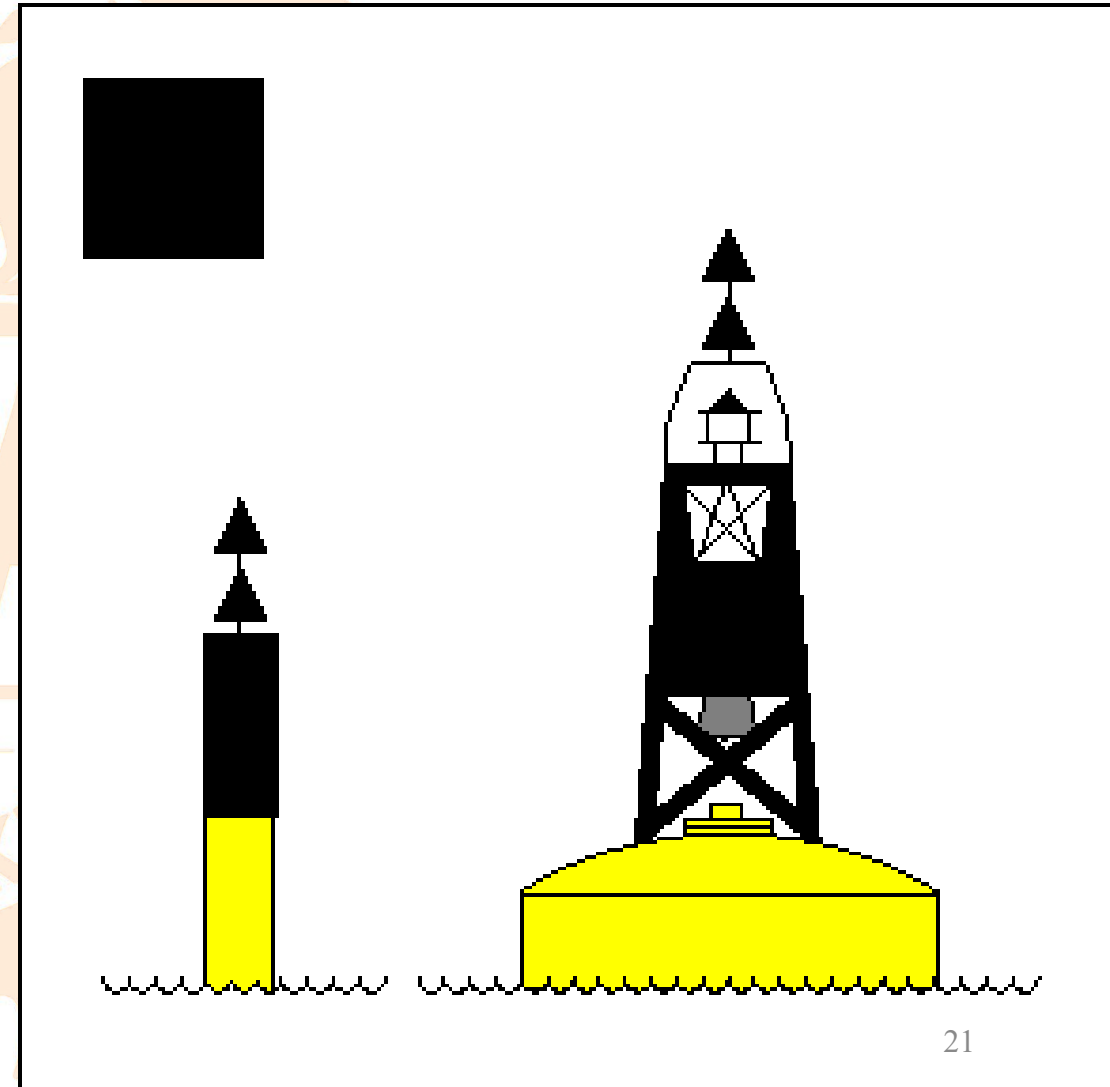
Indicate the approximate true bearing of safe water from the danger it marks.

- Mark offshore rocks, shoals, and islets.
- Mark dangers in and near the open sea.



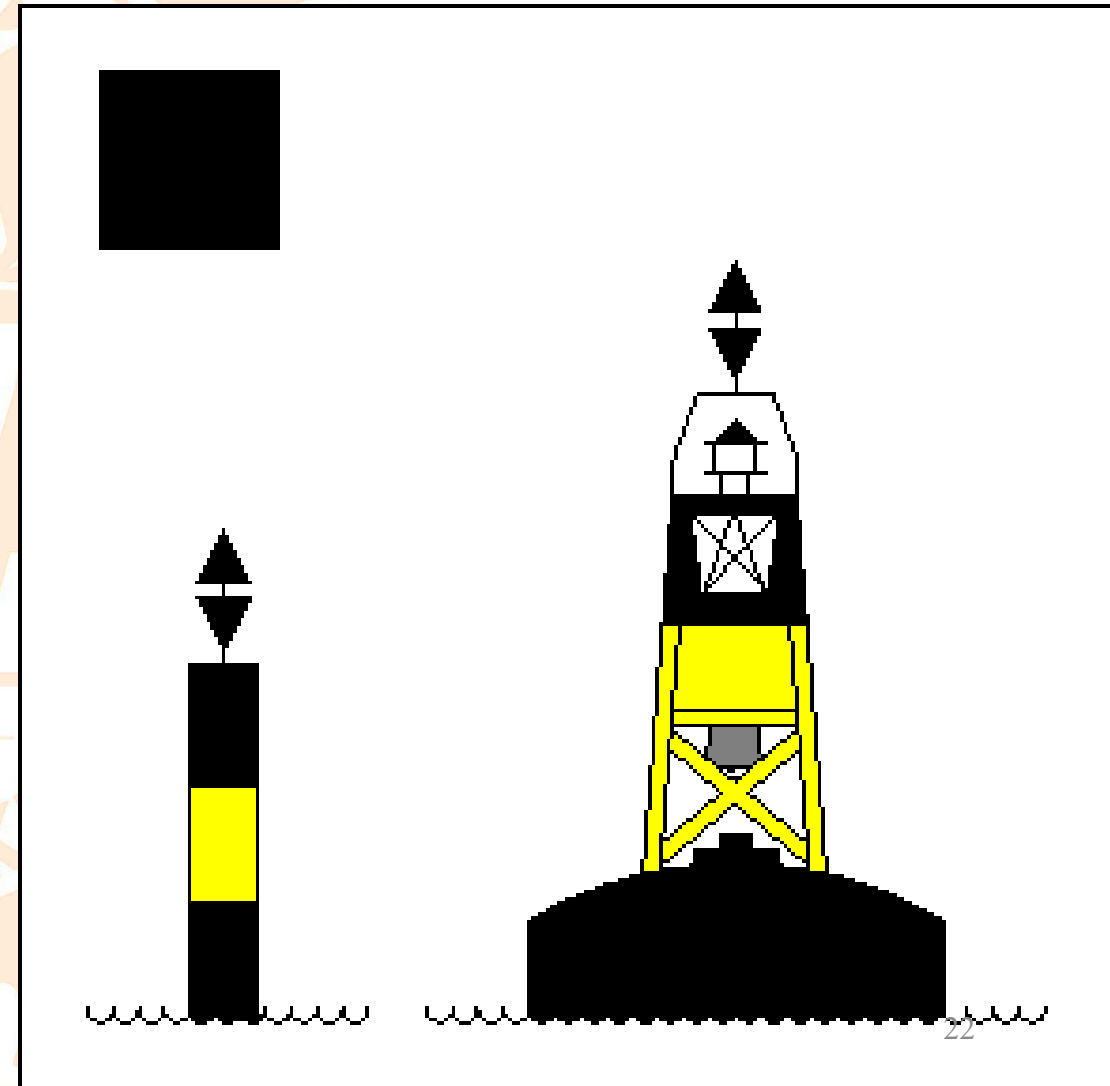
North Cardinal Buoy

- Both cones point up
- **Black** over **Yellow**
- Indicates safe water is to the north
- Buoy lies north of the danger



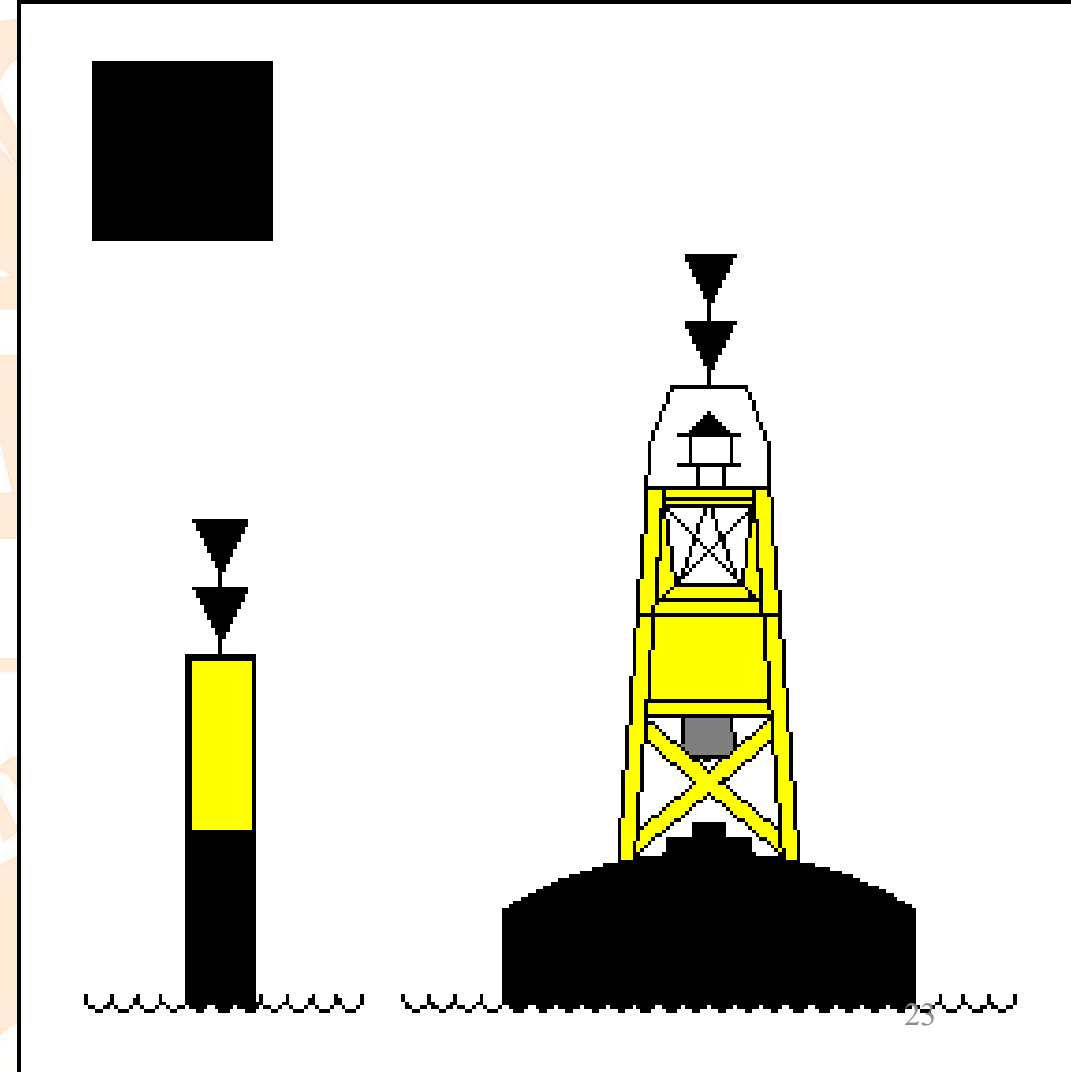
East Cardinal Buoy

- Both cones point away from each other
- **Black Yellow Black**
- Indicates safe water is to the east
- Buoy lies east of the danger



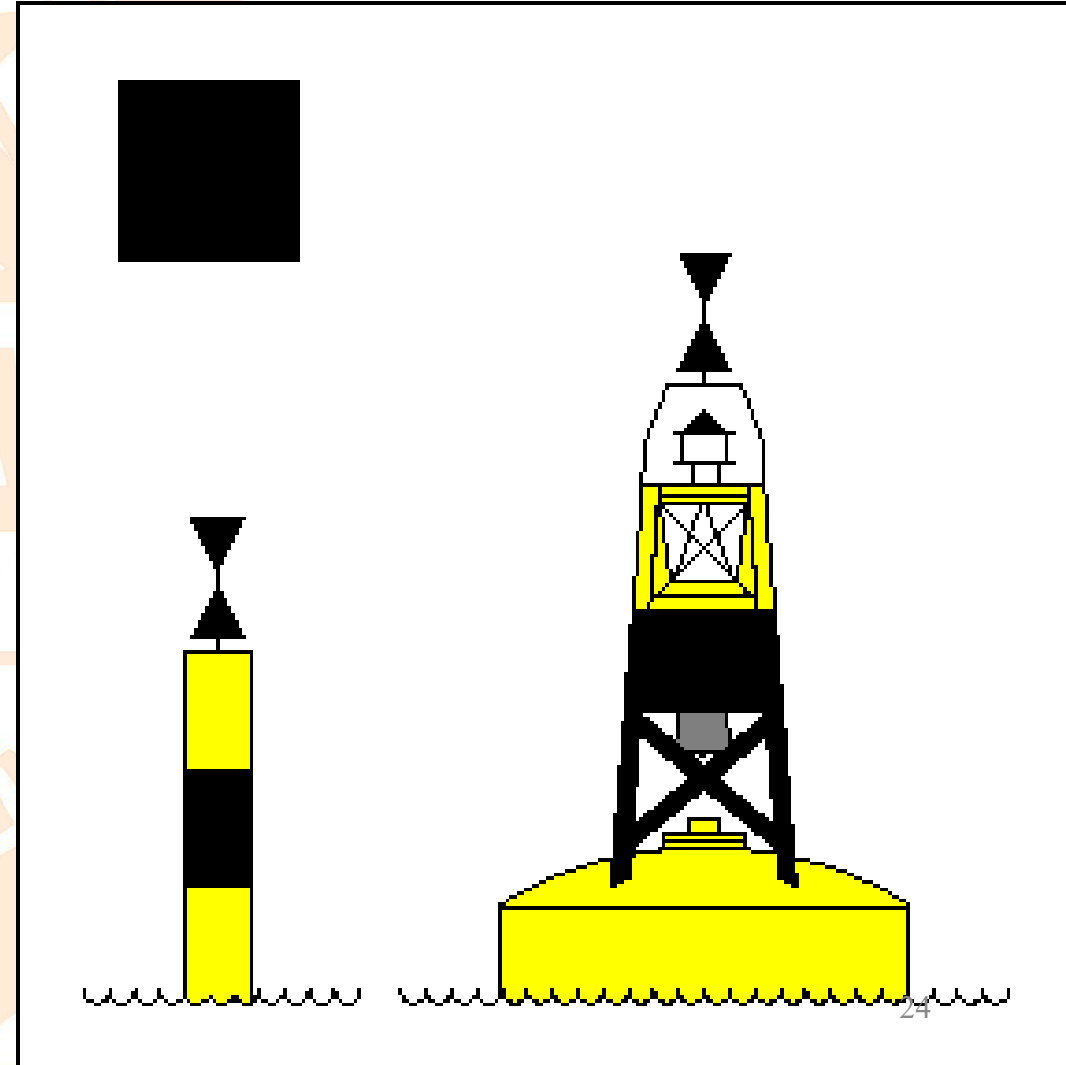
South Cardinal Buoy

- Both cones point down
- **Yellow** over Black
- Indicates safe water is to the south
- Buoy lies south of danger

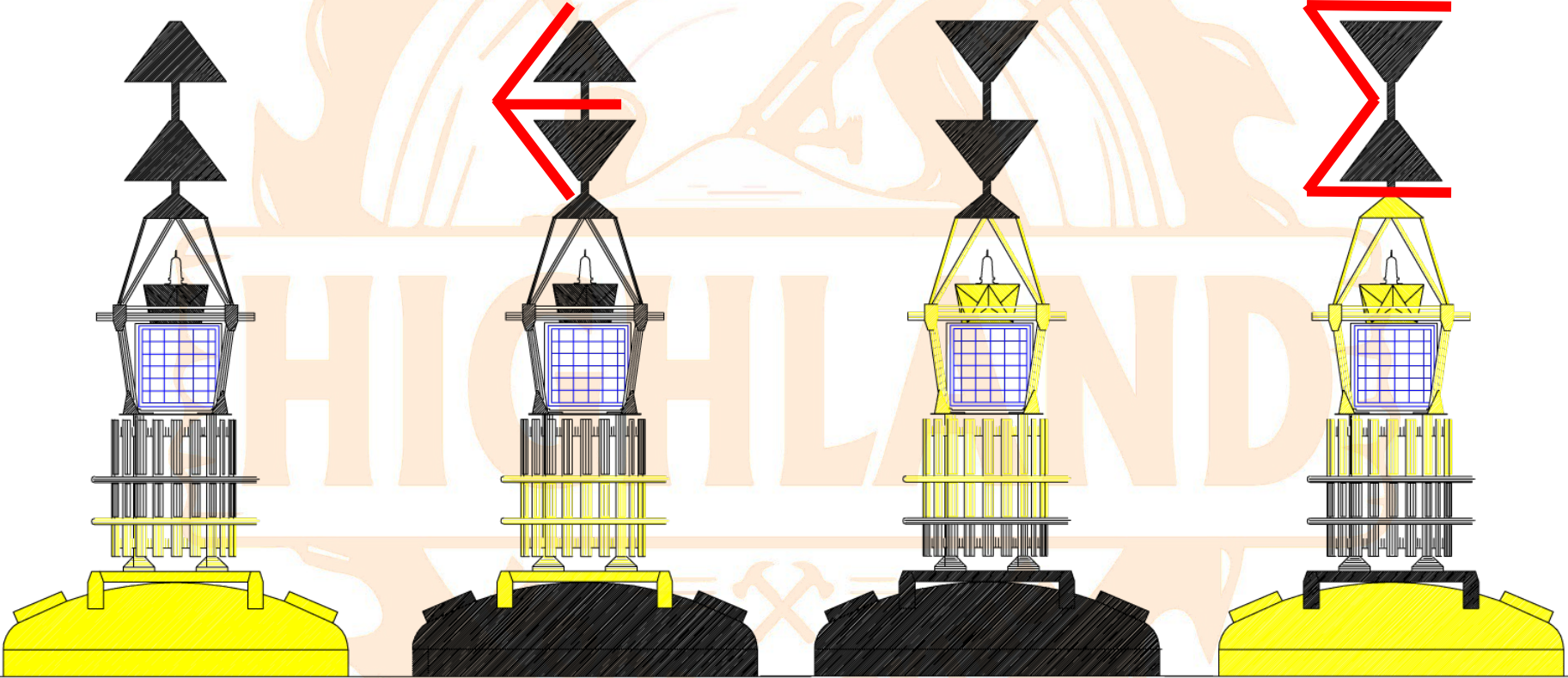


West Cardinal Buoy

- Both cones point towards each other
- **Yellow Black Yellow**
- Indicates safe water is to the west
- Buoy lies west of the danger



Simple way to remember



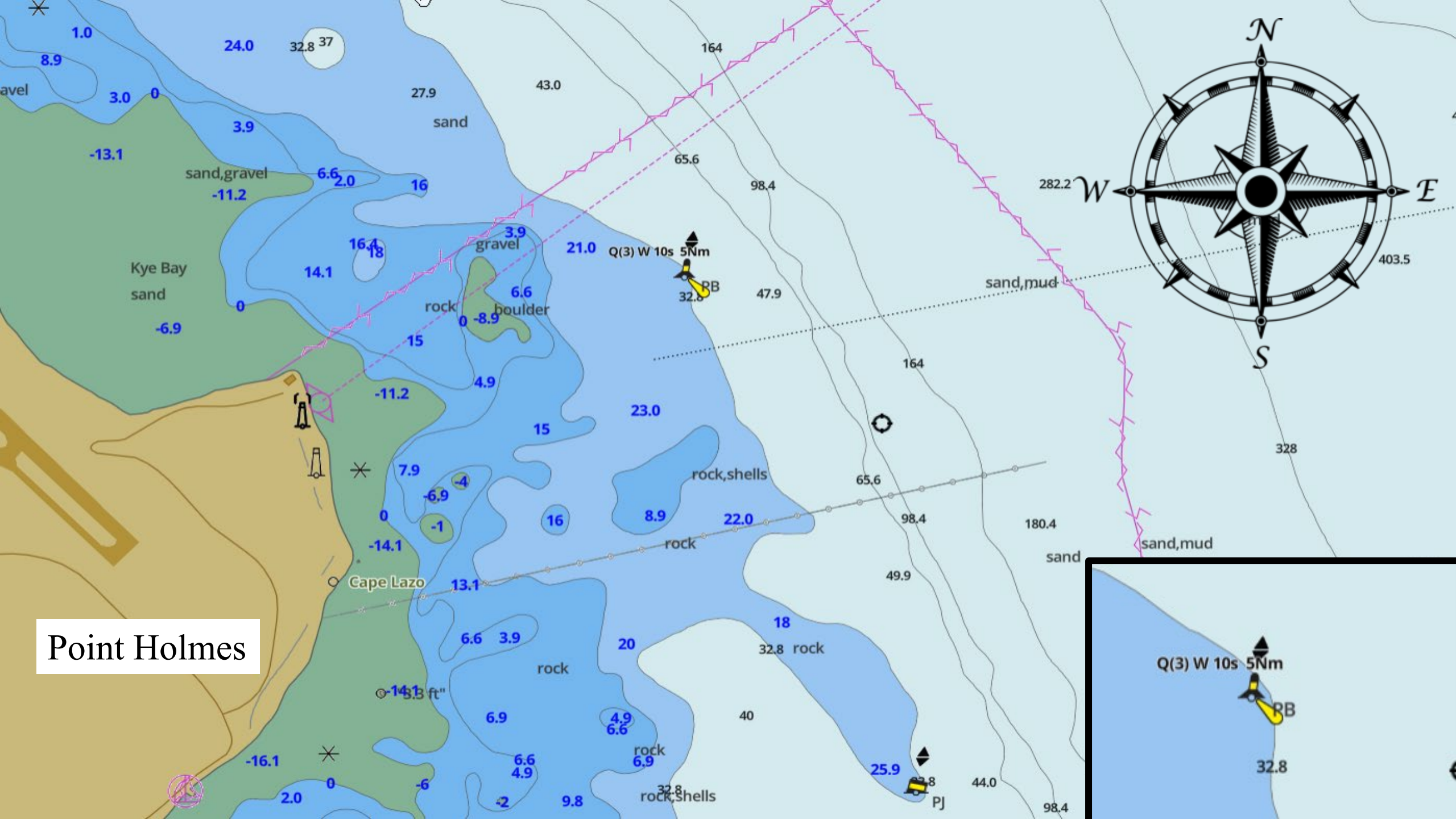
North

East

South

West

Point Holmes

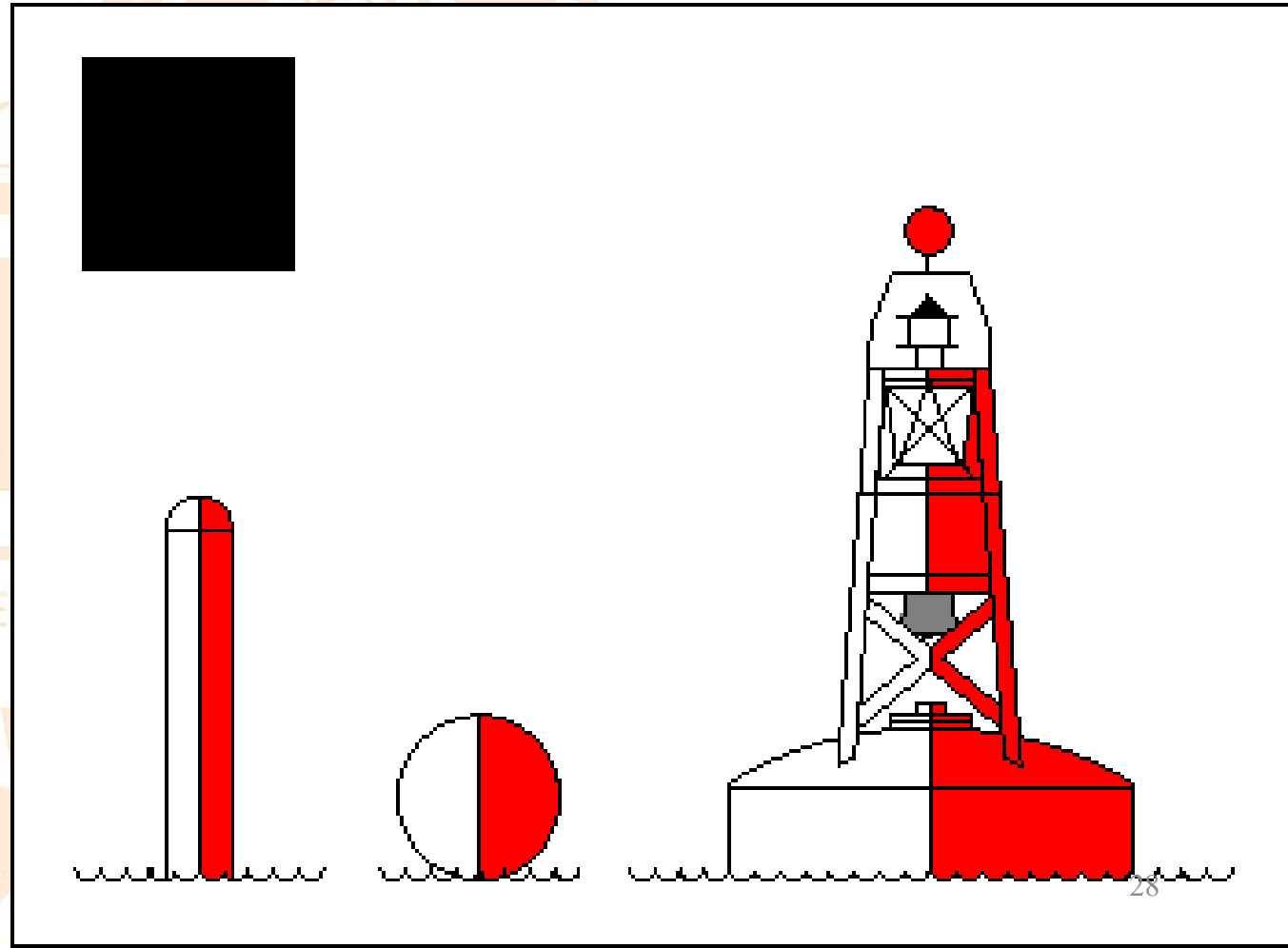


Special Buoys



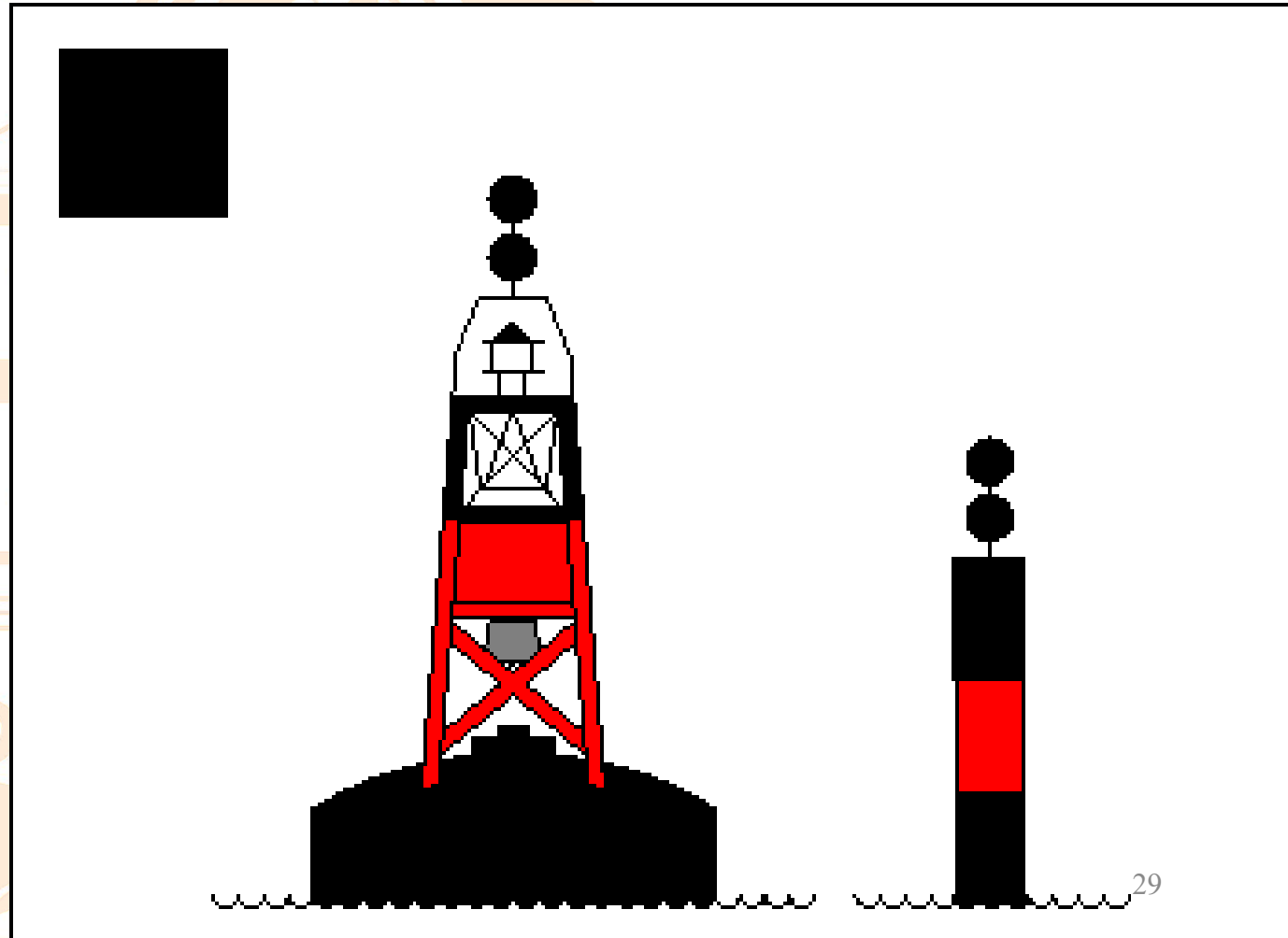
Fairway Buoy

- **Red** and **White** vertical stripes
- Spherical Top
- White light if equipped
- Used to mark channel entrance or channel centre



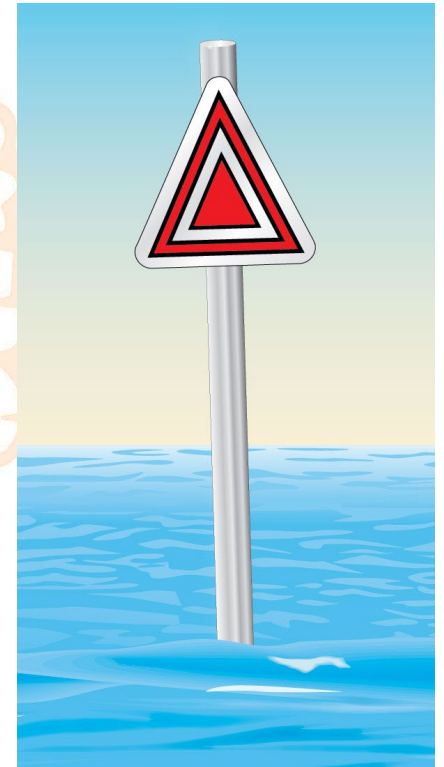
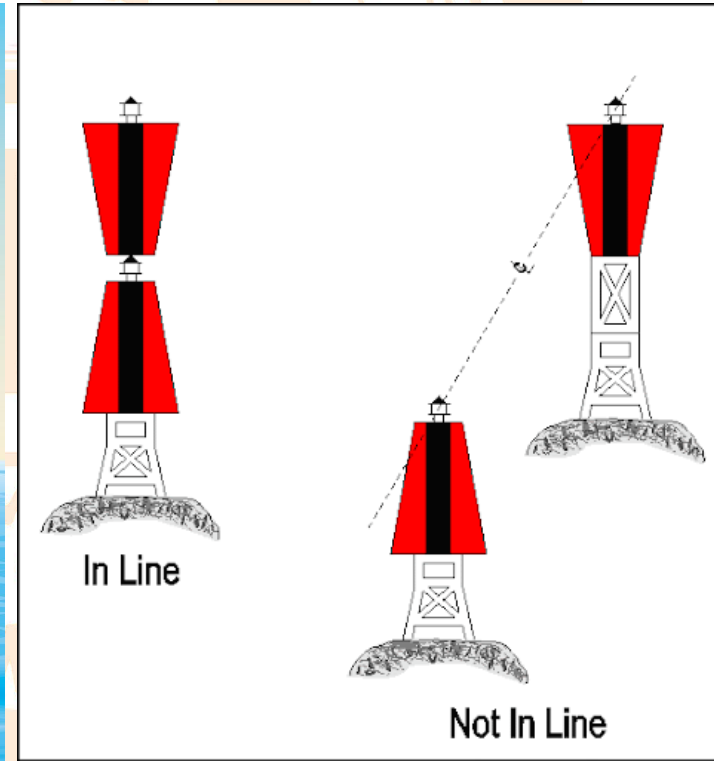
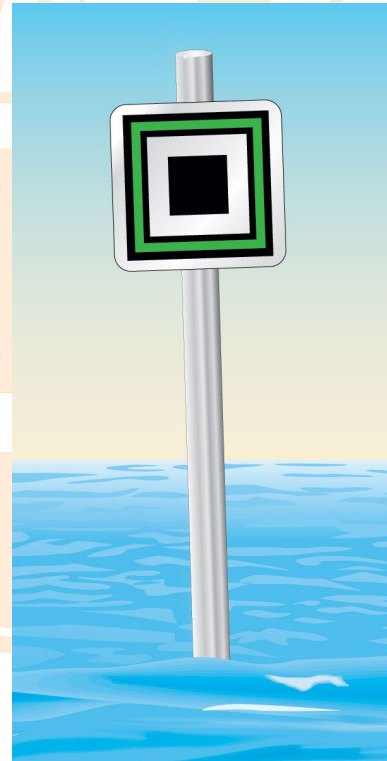
Isolated **Danger** Buoy

- **Black Red Black**
- Two black spherical top marks
- White light if equipped
- Moored on or above an isolated danger such as shoal or wreck



Fixed Aids to Navigation

These are near shorelines or on built-up, man-made piers in or near waterways



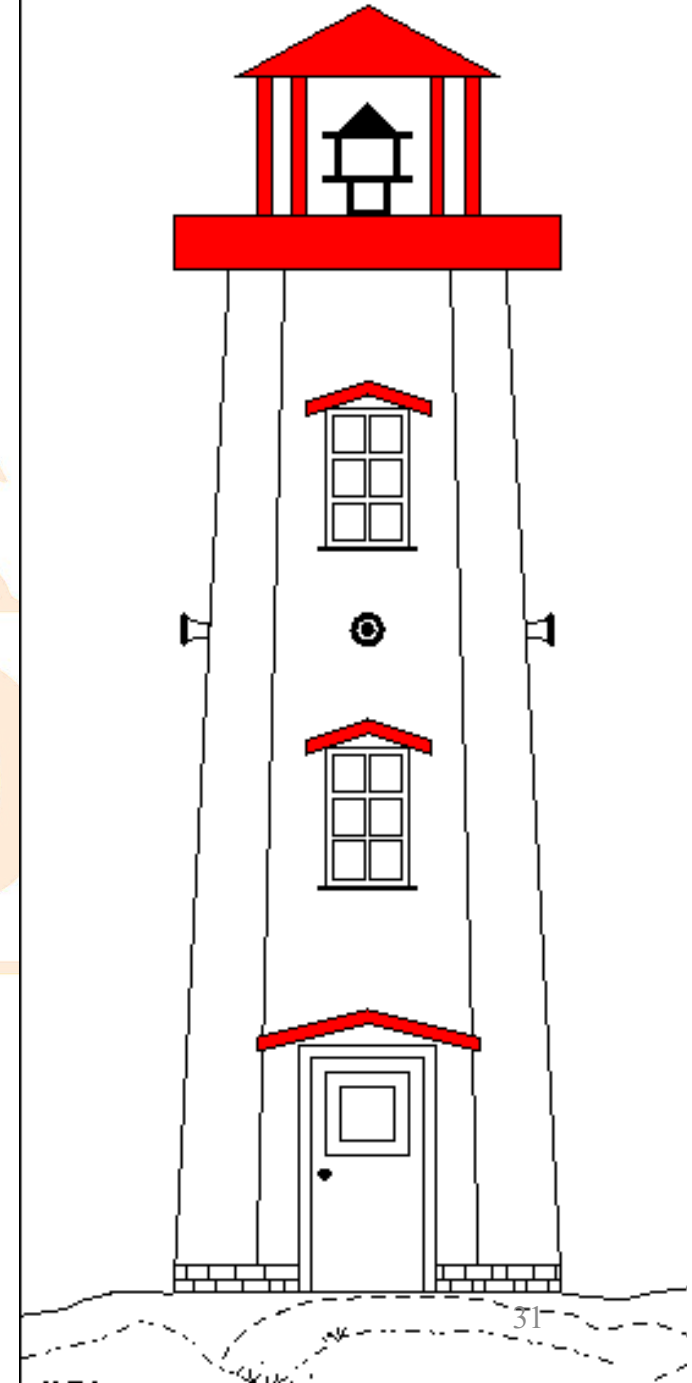
Light Station

- List of light characteristics are displayed on chart
- May have light, fog signal, Radio Beacons



Sisters Island Lighthouse

(In the far distance looking from Tribune Bay on Hornby)



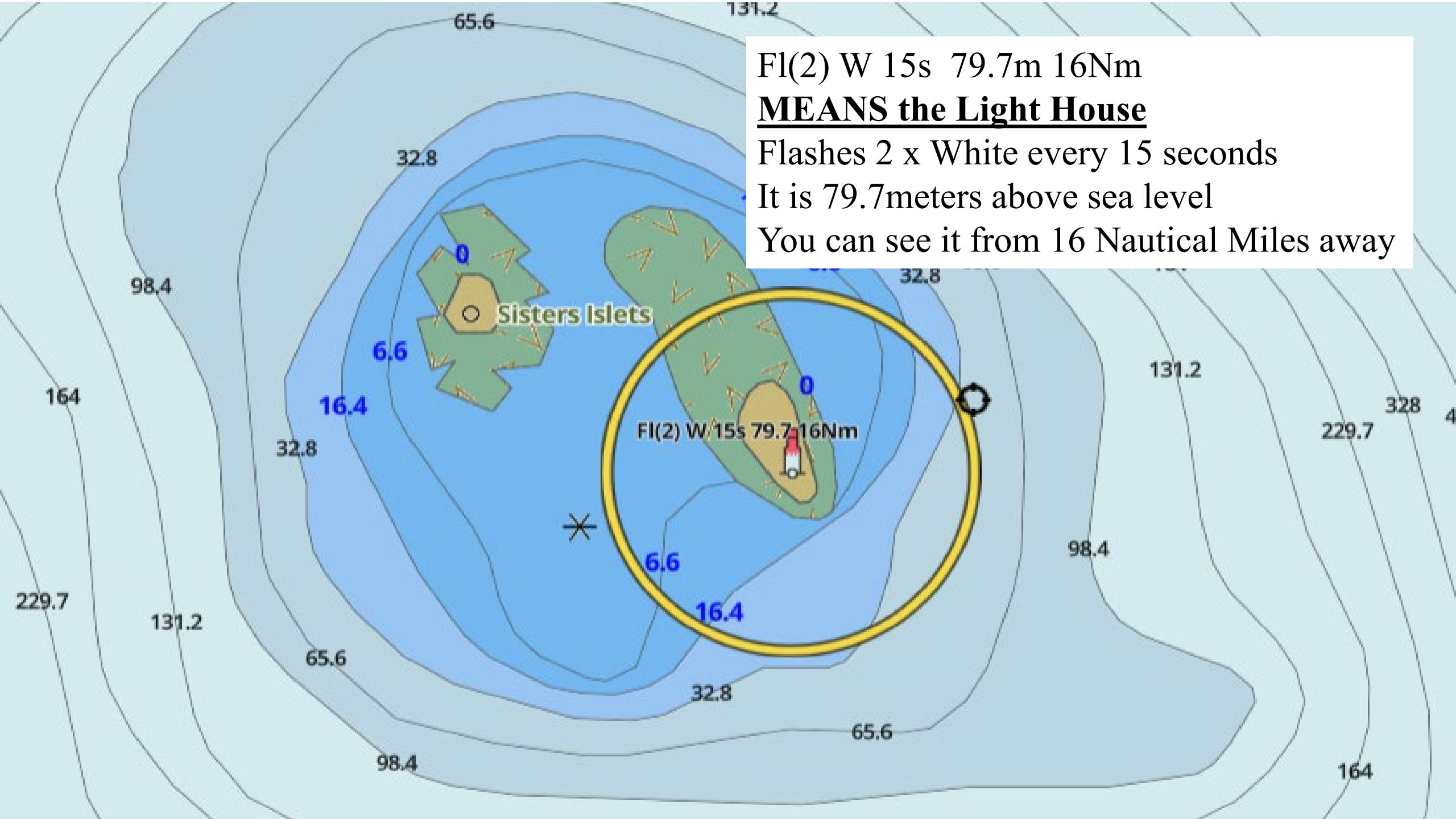
Fl(2) W 15s 79.7m 16Nm

MEANS the Light House

Flashes 2 x White every 15 seconds

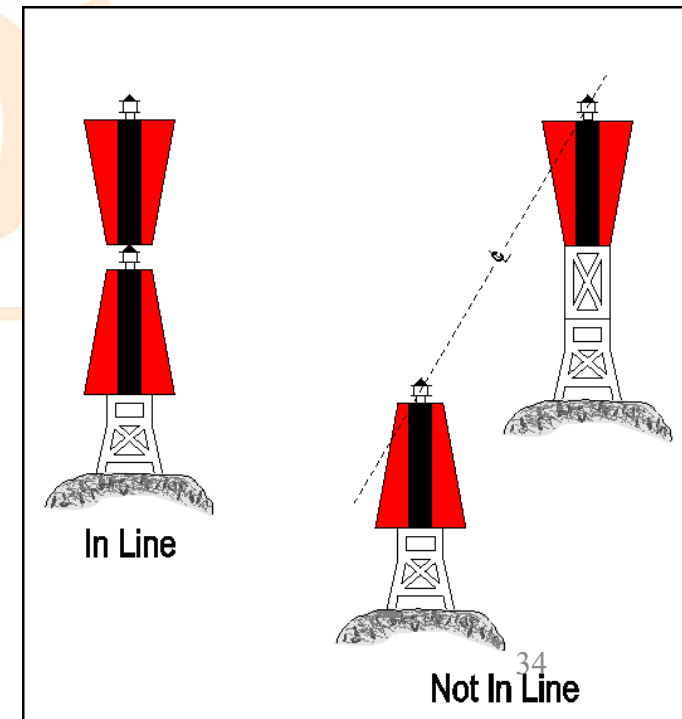
It is 79.7meters above sea level

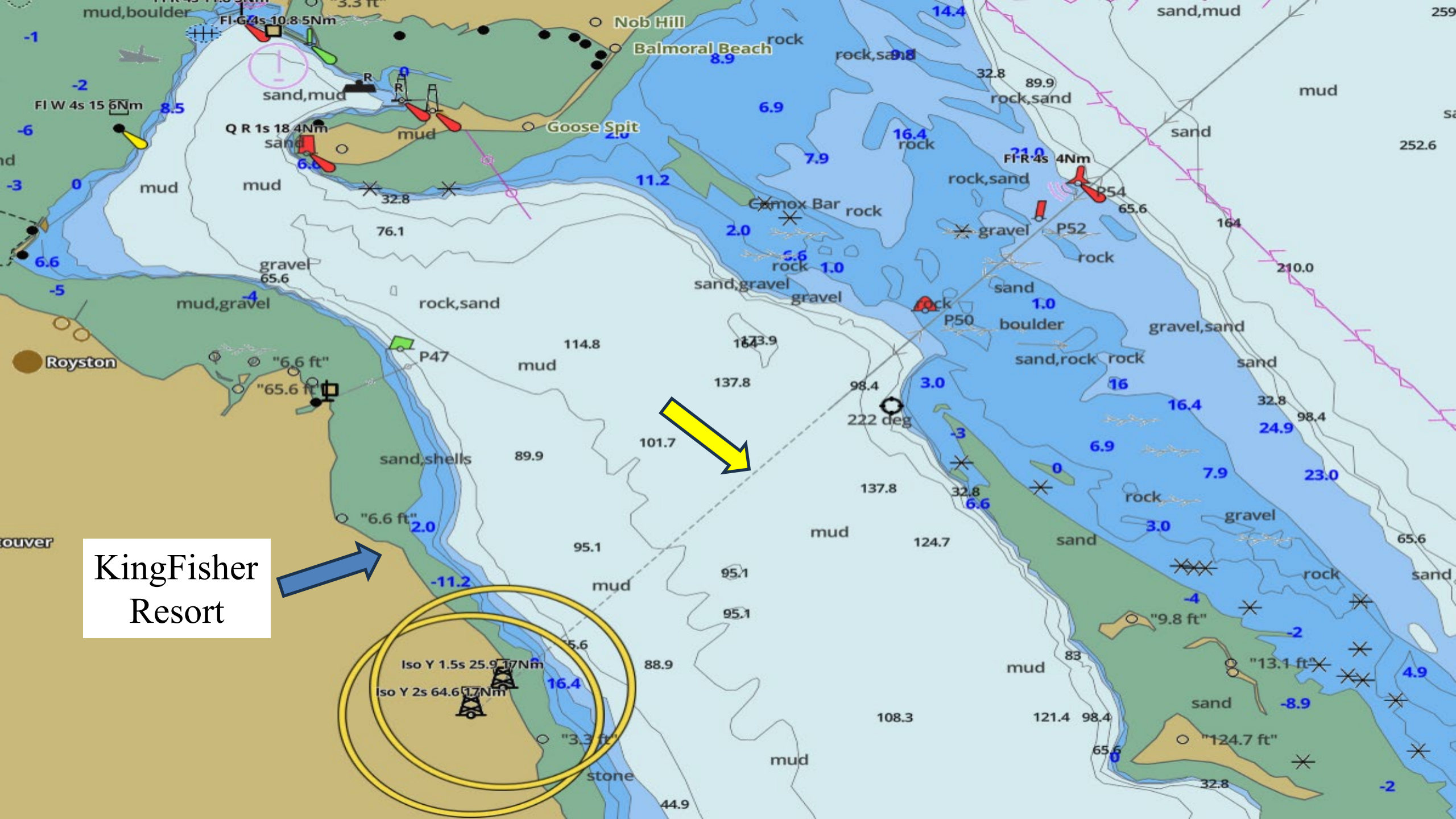
You can see it from 16 Nautical Miles away



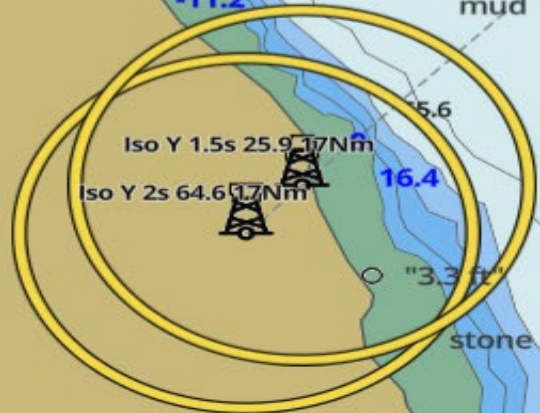
Range Markers

- You can see these on posts in the water along Dyke Road here in the valley
- Provides a leading line for navigators
- When both marks are in line you are on the recommended track
- Steer to the lowest marker if off track
- Can have lights (Between Royston/Union Bay on land to line up the channel between Goose Spit and Tree Island)

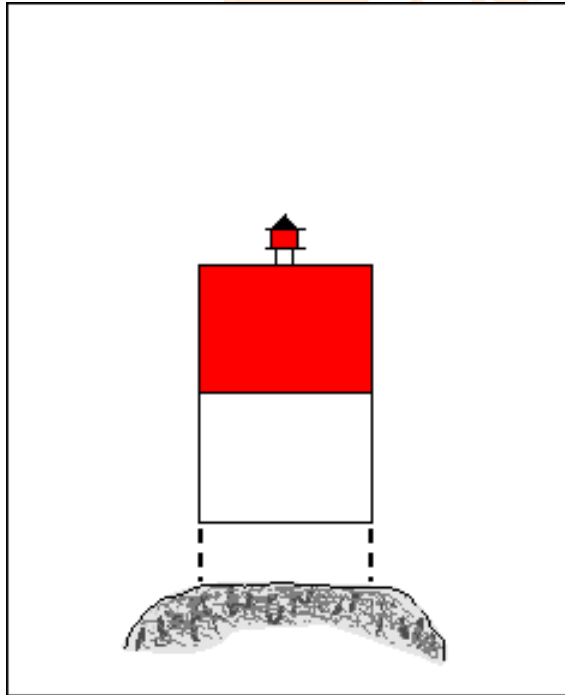




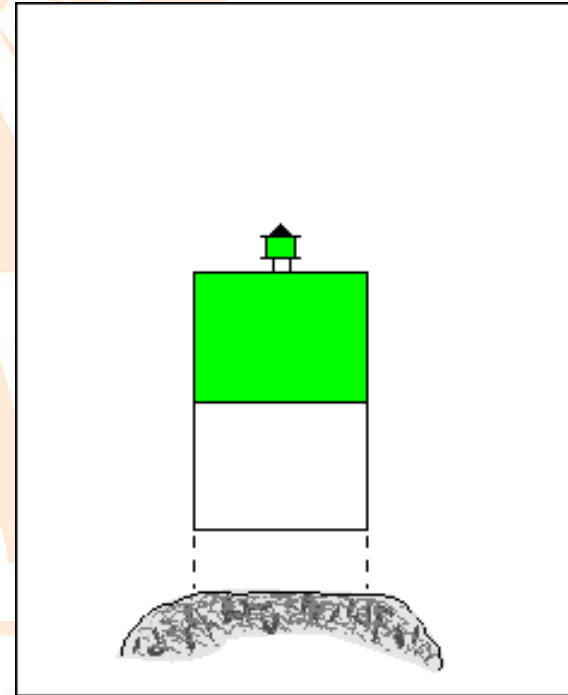
KingFisher
Resort



Fixed Aids To Navigation

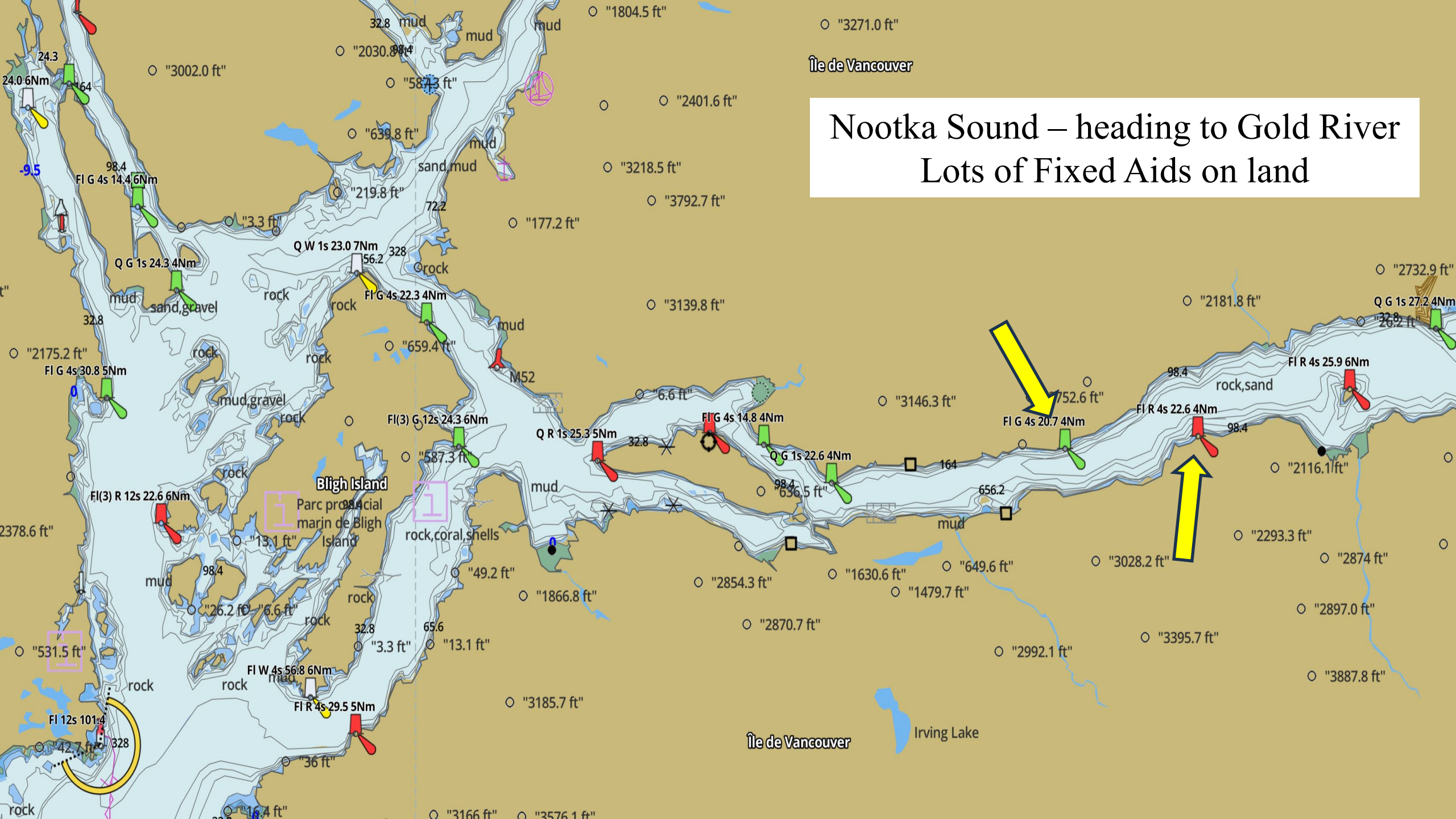


Starboard Hand Lighted Aid

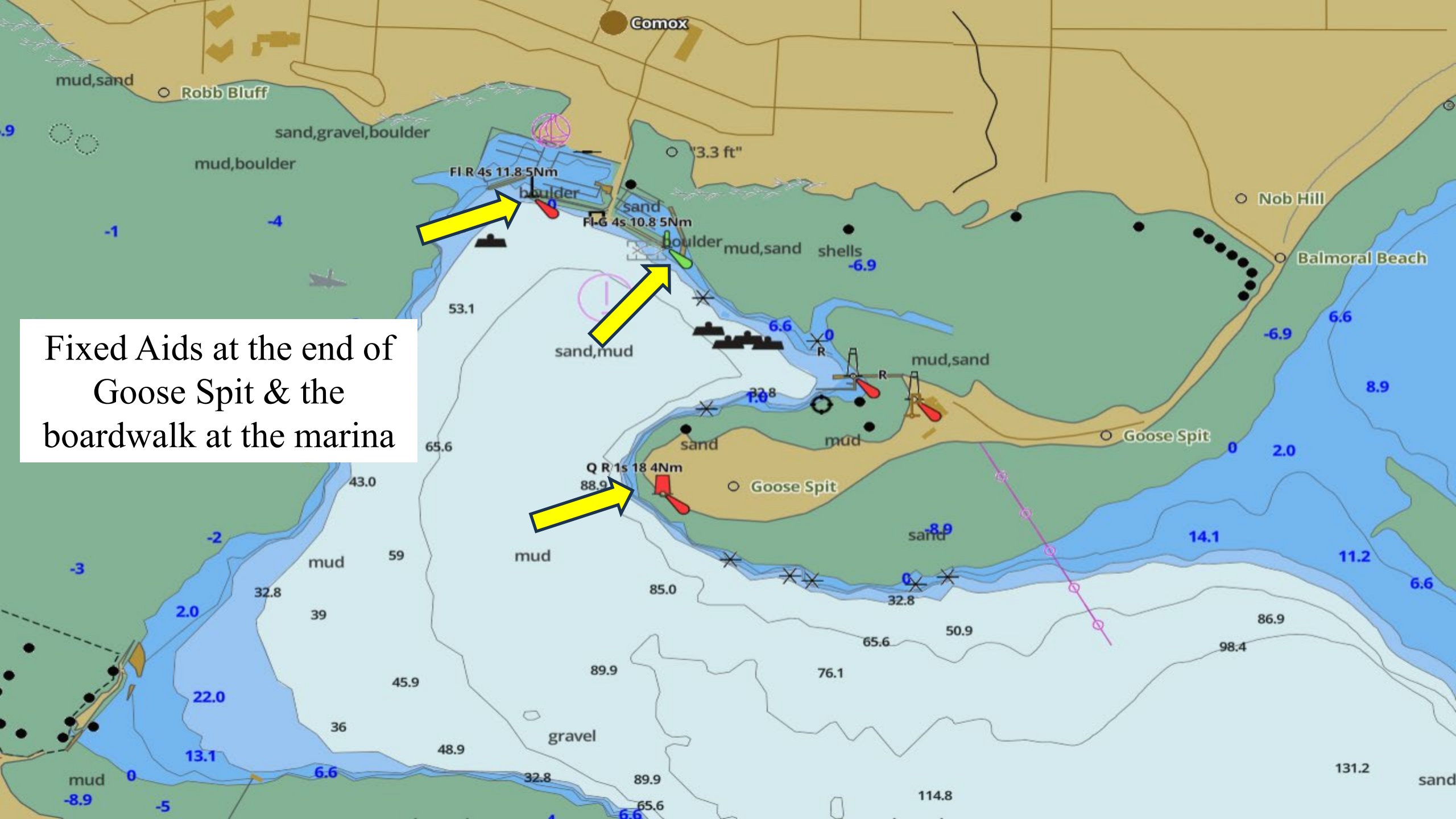


Port Hand Lighted Aid

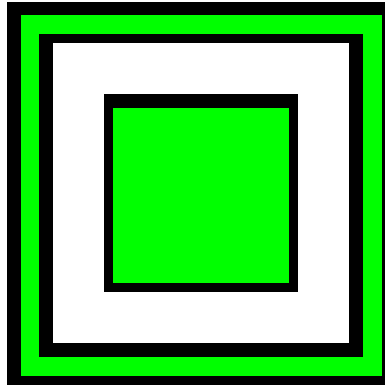
Nootka Sound – heading to Gold River Lots of Fixed Aids on land



Fixed Aids at the end of
Goose Spit & the
boardwalk at the marina

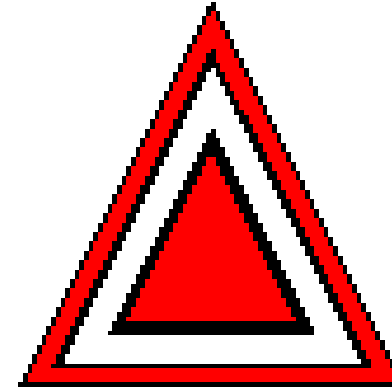


Day Beacons



Port Hand Day Beacon

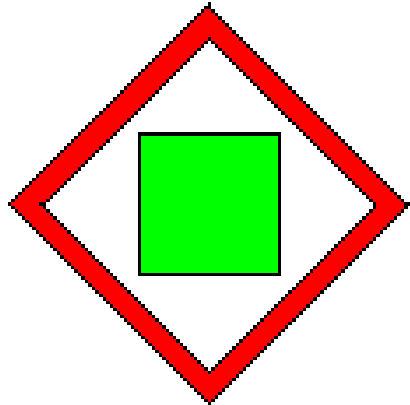
- **Black or Green** square centred on White background with Green reflective border



Starboard Hand Day Beacon

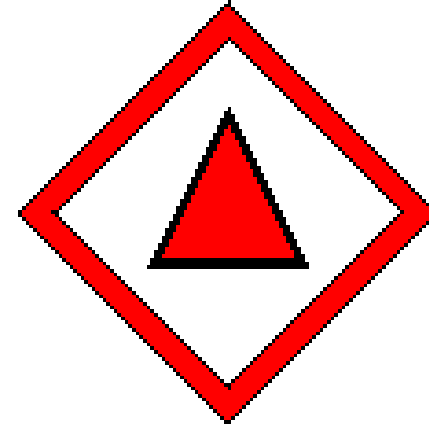
- **Red** triangle centred on White background with red reflective border

Fixed Aids To Navigation



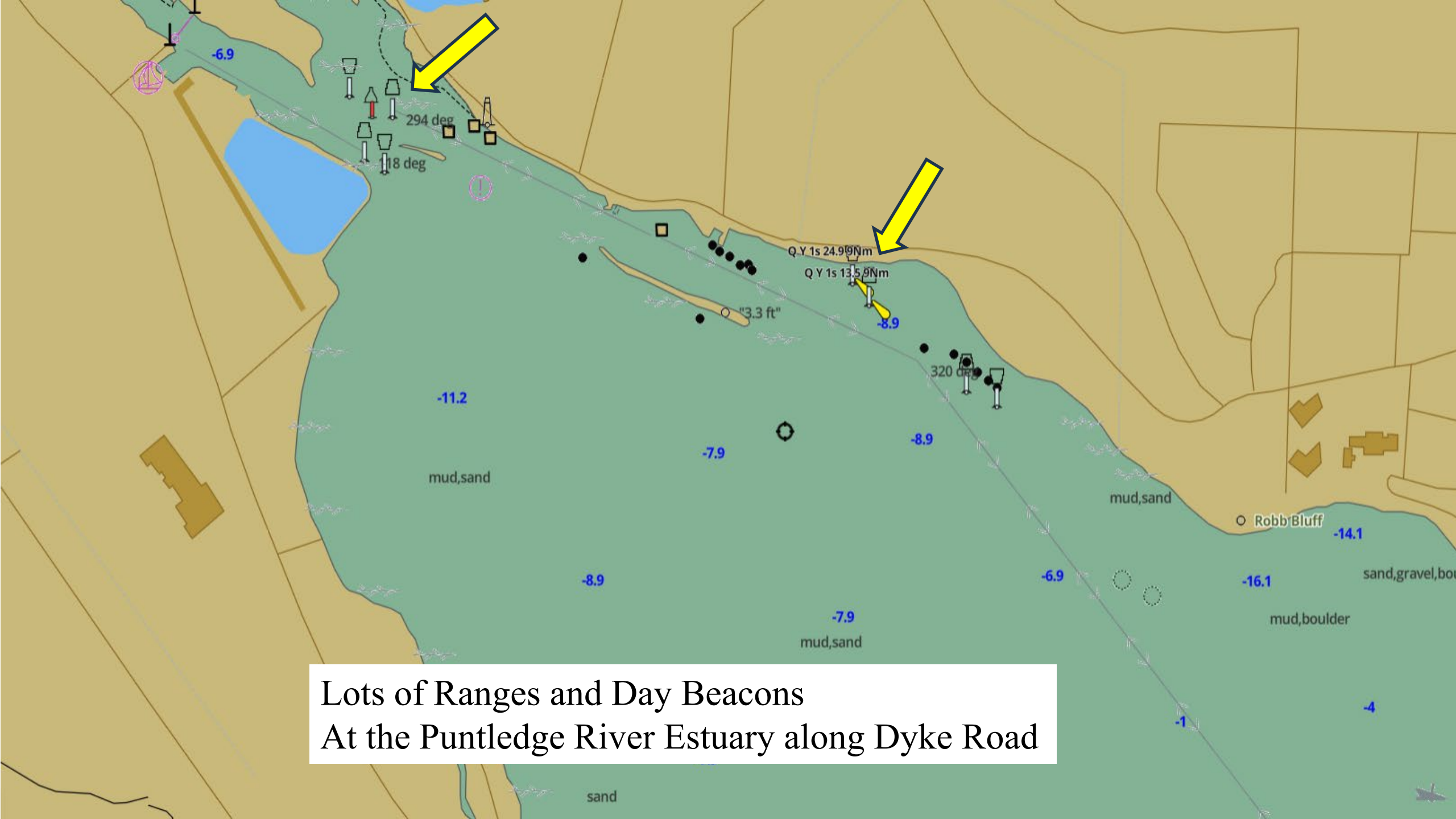
Port Bifurcation Daybeacon

- Marks where channel divide
- Keep marker on port side is the preferred channel

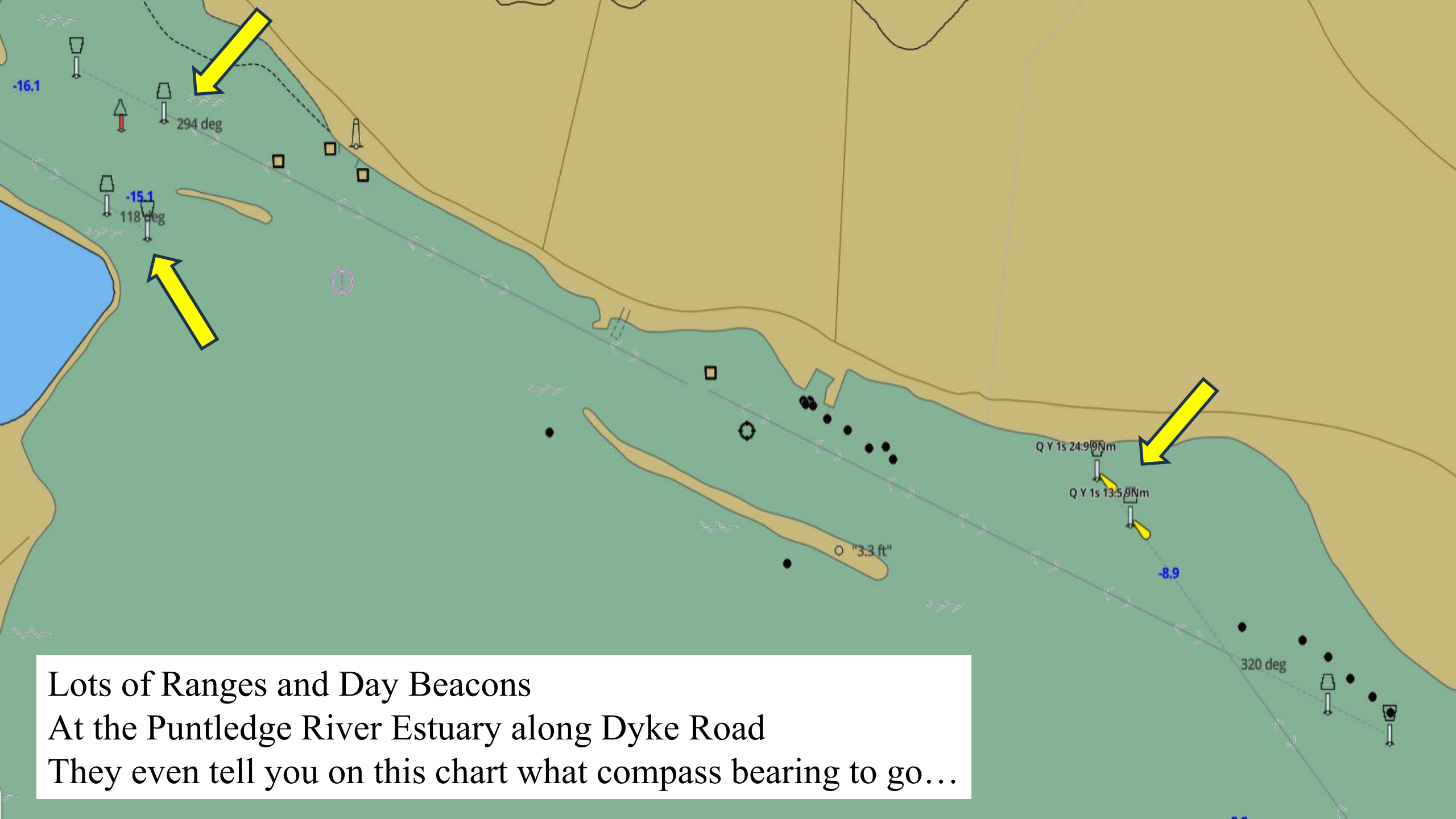


Starboard Bifurcation Daybeacon

- Marks where channel divides
- Keep marker on starboard side is the preferred channel



Lots of Ranges and Day Beacons
At the Puntledge River Estuary along Dyke Road



Lots of Ranges and Day Beacons
At the Puntledge River Estuary along Dyke Road
They even tell you on this chart what compass bearing to go...

Sector Light

- Lights are divided into different sectors RWG
- As you cross a sector light the different coloured sectors provide a warning or leading line for mariners

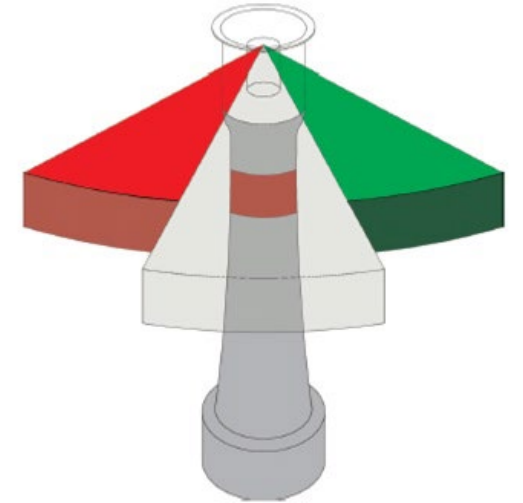
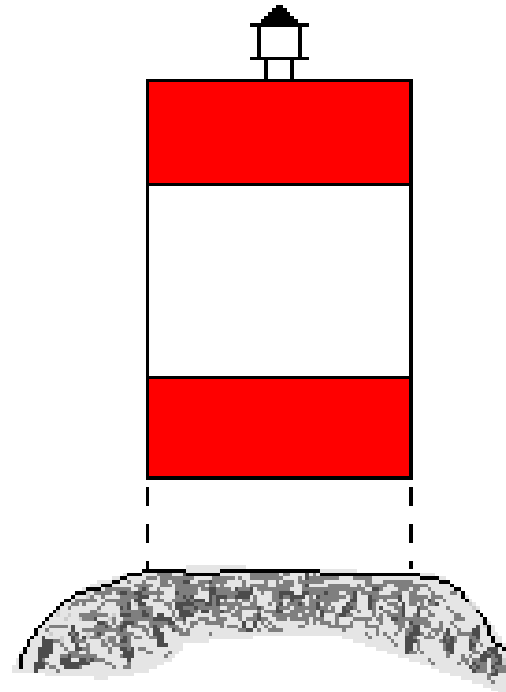
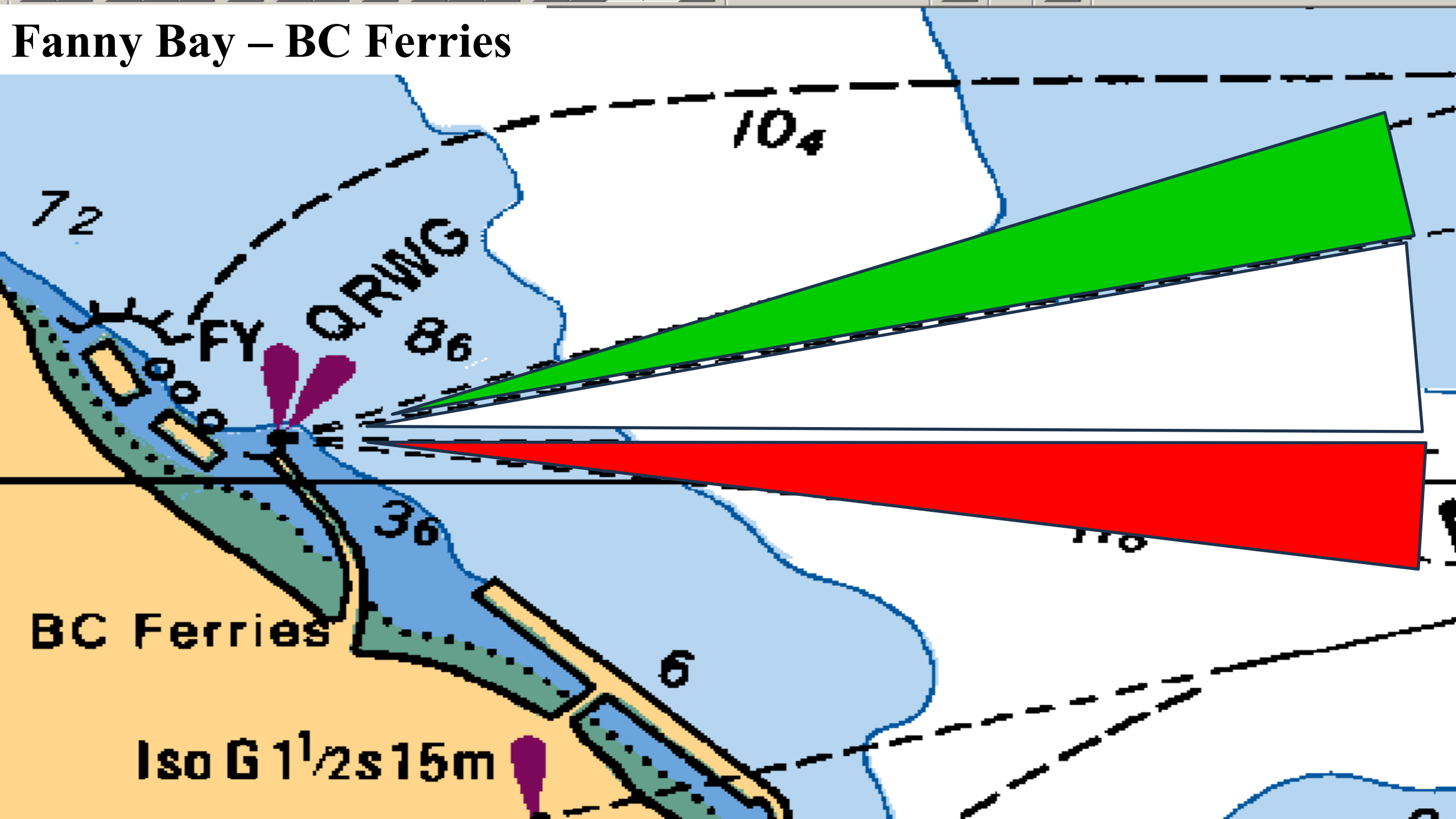


FIG: SECTOR LIGHT



Fanny Bay – BC Ferries



Special Buoys

CAUTIONARY BUOY:



ANCHORAGE BUOY:



MOORING BUOY:



DIVING BUOY:



SWIMMING BUOY:



KEEP OUT BUOY:



CONTROL BUOY:



INFORMATION BUOY:

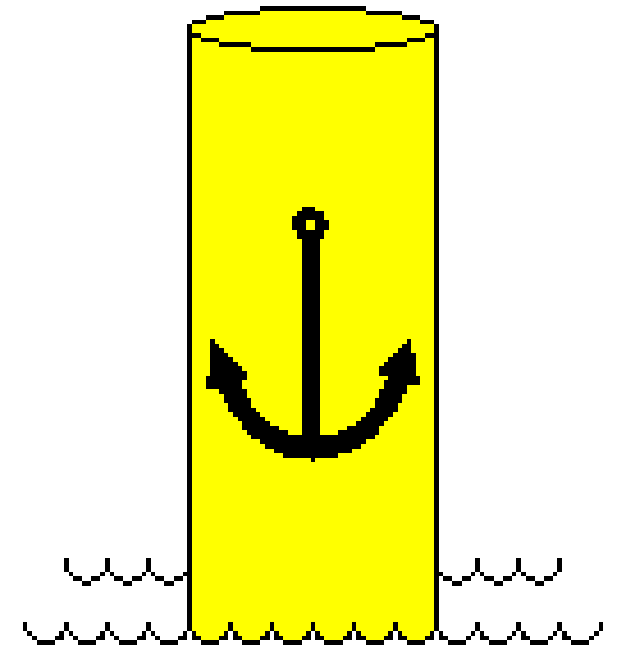


HAZARD BUOY:



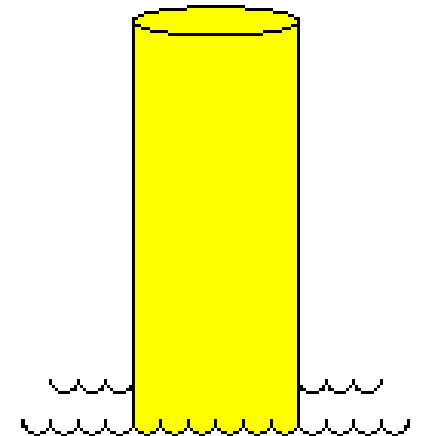
Anchorage

- Yellow
- Marks the perimeter of a designated anchorage area
- Yellow light if lighted



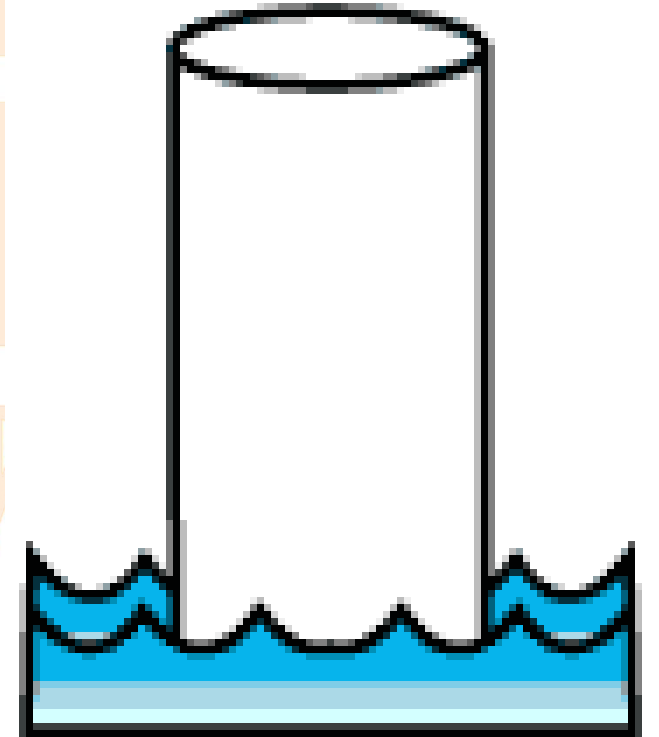
Cautionary

- **Yellow**
- Marks dangers such as race course, seaplane base, fish farm, and areas where no through channel exists
- Yellow light if lighted



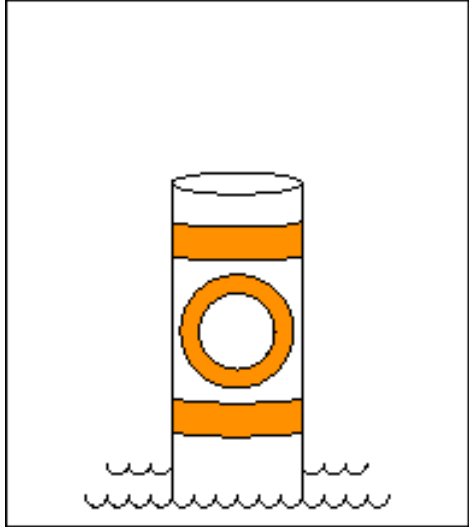
Swimming

- **White**
- Marks perimeter of a swimming area



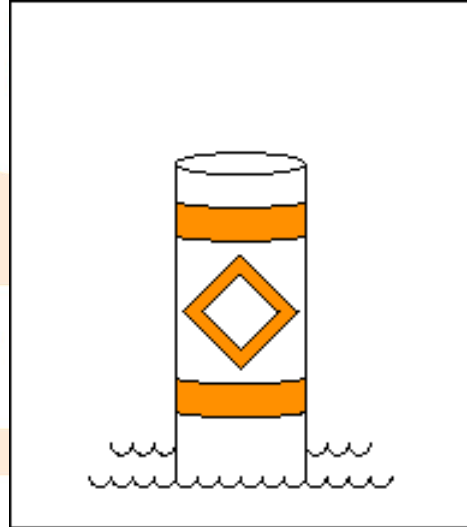
Other Buoys

(Control/Hazard/Information/Keep Out)



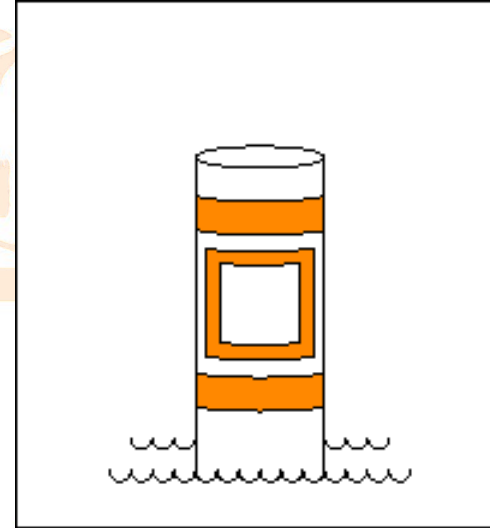
Control Buoy

- Speed limits
- Wash restrictions



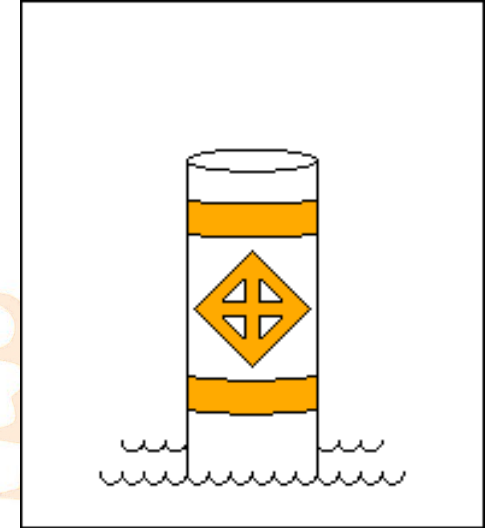
Hazard Buoy

- Marks random hazards such as shoals and rocks



Information Buoy

- Displays information, marina, campsite etc.



Keep Out Buoy

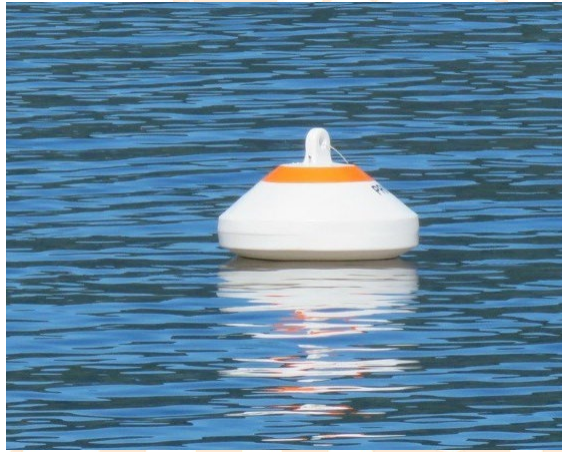
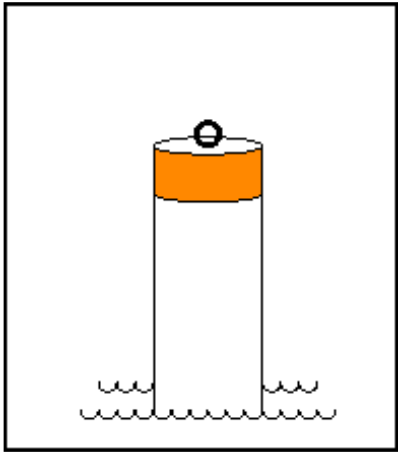
- Marks area where boats are prohibited/not allowed

Other Buoys

(Control/Hazard/Information/Keep Out)

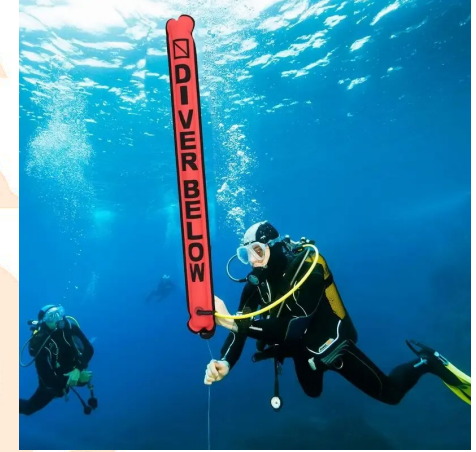
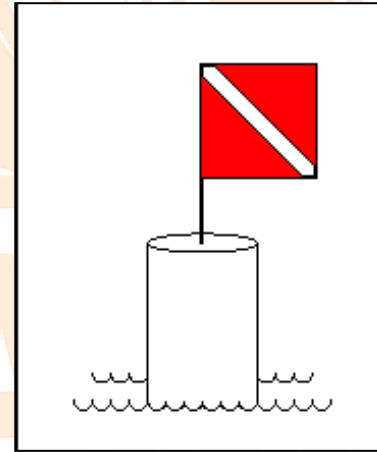


Other Special Buoys



Mooring Buoy

Used for mooring or securing a vessel to.



Diving Buoy

Marks area where SCUBA or other diving is in progress