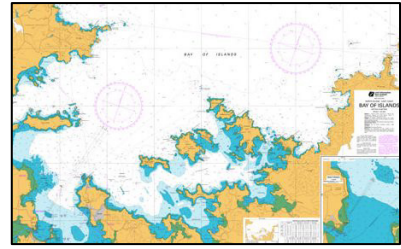


Practical exercise: charts and baselines

(75 minutes)



Introduction

This exercise provides participants with an opportunity: (i) to explore the content of navigational charts at different scales; and (ii) to consider the application bay-closing lines and straight baselines using coastal charts.

1. Charts

Examine the three charts depicting sections of the coastline of the North Island of New Zealand. Attempt to answer the following questions:

- (i) When were the charts first published? When were the current versions published? What are the dates of the most recent corrections?
- (ii) At what scale is each of the charts published? What does 1 millimetre on each chart represent on the ground? Has each chart been reproduced at the published scale for this exercise?
- (iii) What coordinate reference system is used for the charts? Is there any reason to be concerned about positions identified using the charts?
- (iv) What projections are used for the charts? Do any differences matter?
- (v) What is the Chart Datum of the charts? Is the datum suitable for defining baselines?
- (vi) What is the oldest data source for the charts? Do the source data raise any concerns for baseline definition?
- (vii) How far offshore is Mahenotapuku located?
- (viii) What bearing would you need to follow to take the shortest route from Motutakupu Island to Mahenotapuku?
- (ix) Where is the deepest point in the Bay of Islands?
- (x) How many low-tide elevations can you find on chart 5125?
- (xi) Does Chart 5125 depict any low-tide elevations that are not depicted on Chart 512?
- (xii) Are there any islands relevant to maritime limit and boundary definition that appear on chart 5125 but are not depicted on chart 23?
- (xiii) What were the most interesting / curious features of the charts (not necessarily just features relating to maritime jurisdiction)?

2. Baselines

Using the information contained in the three charts, identify the following for the northeast facing coast of New Zealand between North Cape and East Cape:

- (i) Closing lines for bays that can be closed under Article 10 of UNCLOS;
- (ii) Straight baselines that could be applied under Article 7 of UNCLOS.

If you have access to the internet, a complete set of charts covering North Island can be viewed online as a zoomable composite chart at <https://data.linz.govt.nz/set/4758-north-island-charts>. Feel free to make use of this dataset in your analysis.

Note

New Zealand has withdrawn its version of the publication *Symbols, Terms and Abbreviations Used on Charts*, but your team will be provided with a copy of the UK Hydrographic Office's UKHO Chart 5011 (INT 1) *Symbols and Abbreviations used on Admiralty Paper Charts* to assist you in interpreting the charts. Similar publications from the governments of Canada and the USA are both in the public domain at waves-vagues.dfo-mpo.gc.ca/library-bibliotheque/chs-shc-chart1-carte1-202304-41066261.pdf and www.nauticalcharts.noaa.gov/publications/docs/us-chart-1/ChartNo1.pdf respectively. The section on Rocks, Wrecks and Obstructions from Canada's Chart No. 1 is appended to these instructions for reference purposes.

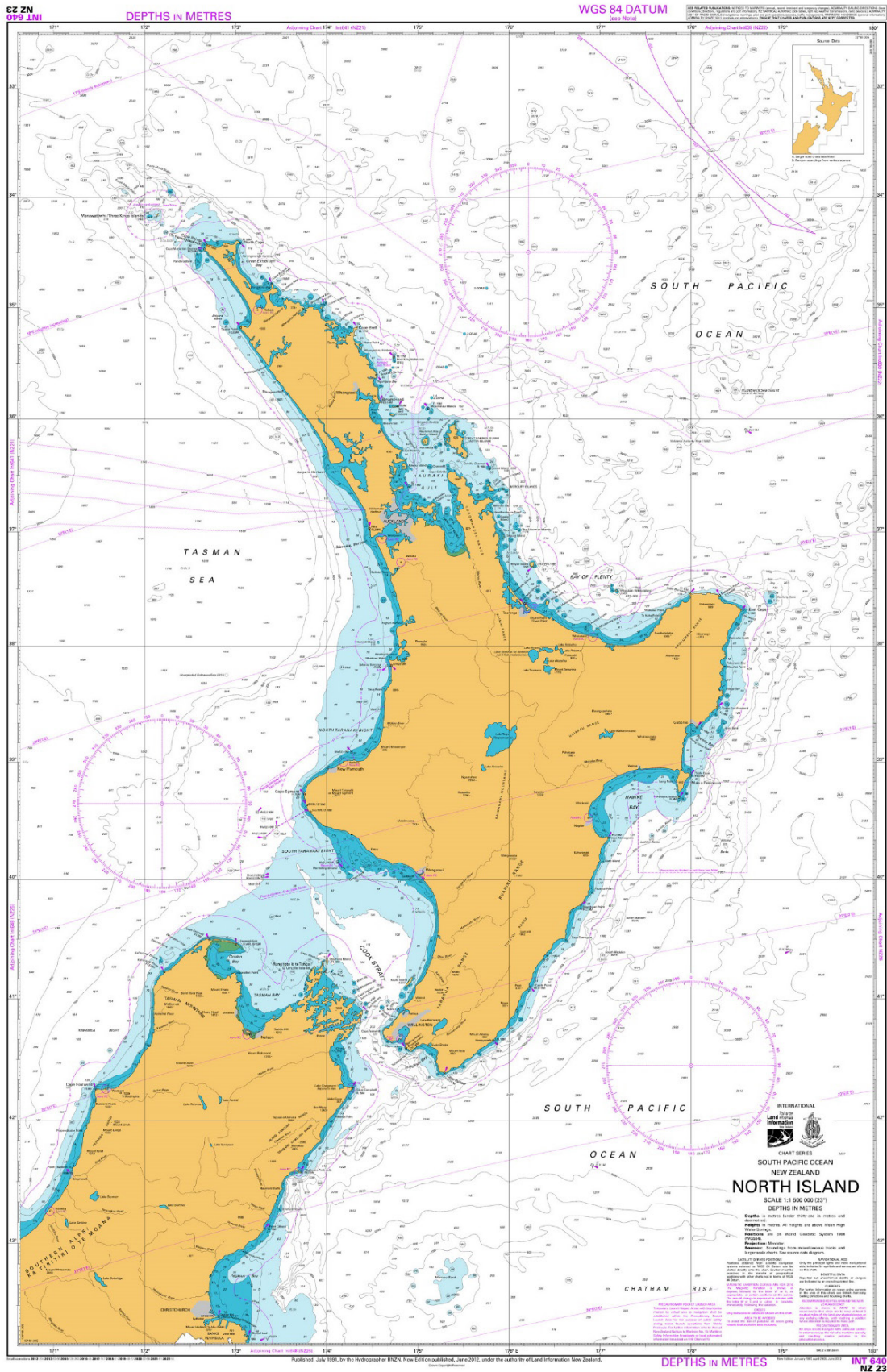


Chart NZ23: North Island

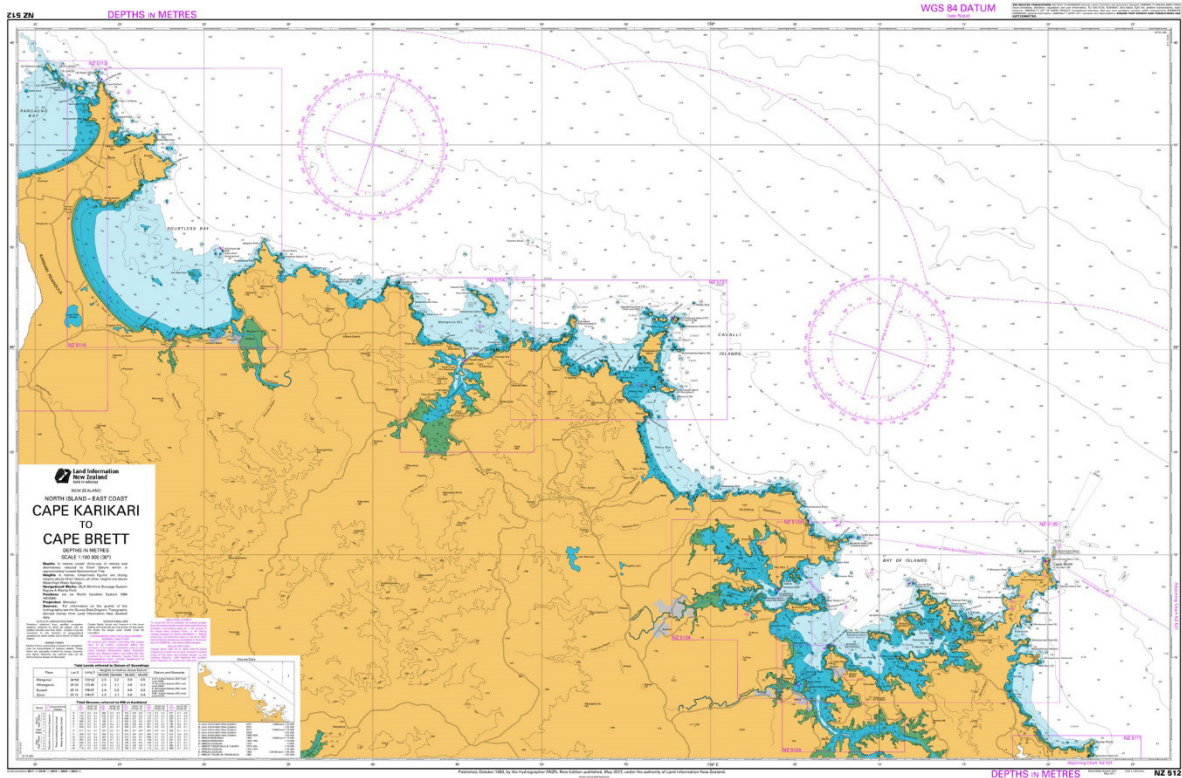


Chart NZ512: Cape Karikari to Cape Brett

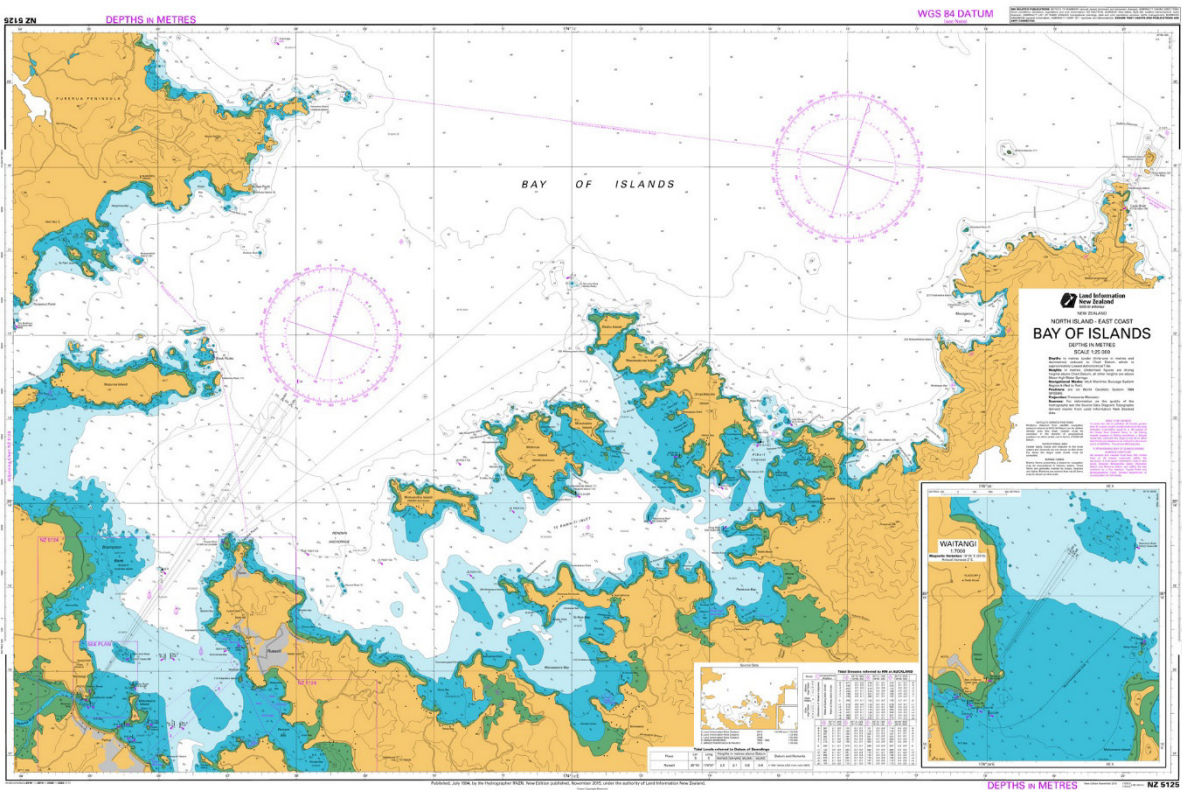


Chart NZ5125: Bay of Islands

UNCLOS Article 10

Bays

1. This article relates only to bays the coasts of which belong to a single State.
2. For the purposes of this Convention, a bay is a well-marked indentation whose penetration is in such proportion to the width of its mouth as to contain land-locked waters and constitute more than a mere curvature of the coast. An indentation shall not, however, be regarded as a bay unless its area is as large as, or larger than, that of the semi-circle whose diameter is a line drawn across the mouth of that indentation.
3. For the purpose of measurement, the area of an indentation is that lying between the low-water mark around the shore of the indentation and a line joining the low-water mark of its natural entrance points. Where, because of the presence of islands, an indentation has more than one mouth, the semi-circle shall be drawn on a line as long as the sum total of the lengths of the lines across the different mouths. Islands within an indentation shall be included as if they were part of the water area of the indentation.
4. If the distance between the low-water marks of the natural entrance points of a bay does not exceed 24 nautical miles, a closing line may be drawn between these two low-water marks, and the waters enclosed thereby shall be considered as internal waters.
5. Where the distance between the low-water marks of the natural entrance points of a bay exceeds 24 nautical miles, a straight baseline of 24 nautical miles shall be drawn within the bay in such a manner as to enclose the maximum area of water that is possible with a line of that length.
6. The foregoing provisions do not apply to so-called "historic" bays, or in any case where the system of straight baselines provided for in article 7 is applied.

UNCLOS Article 7

Straight baselines

1. In localities where the coastline is deeply indented and cut into, or if there is a fringe of islands along the coast in its immediate vicinity, the method of straight baselines joining appropriate points may be employed in drawing the baseline from which the breadth of the territorial sea is measured.
2. Where because of the presence of a delta and other natural conditions the coastline is highly unstable, the appropriate points may be selected along the furthest seaward extent of the low-water line and, notwithstanding subsequent regression of the low-water line, the straight baselines shall remain effective until changed by the coastal State in accordance with this Convention.
3. The drawing of straight baselines must not depart to any appreciable extent from the general direction of the coast, and the sea areas lying within the lines must be sufficiently closely linked to the land domain to be subject to the regime of internal waters.
4. Straight baselines shall not be drawn to and from low-tide elevations, unless lighthouses or similar installations which are permanently above sea level have been built on them or except in instances where the drawing of baselines to and from such elevations has received general international recognition.
5. Where the method of straight baselines is applicable under paragraph 1, account may be taken, in determining particular baselines, of economic interests peculiar to the region concerned, the reality and the importance of which are clearly evidenced by long usage.
6. The system of straight baselines may not be applied by a State in such a manner as to cut off the territorial sea of another State from the high seas or an exclusive economic zone.

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ROCKS, WRECKS, OBSTRUCTIONS




























ROCHES, ÉPAVES, OBSTRUCTIONS

Rocks		Roches	
10	<p>Height datum CD</p>	<p>Rock (islet) which does not cover, height above the plane of reference for elevations</p> <p>Roche (îlot) qui ne couvre pas, cote rapportée au niveau de référence des altitudes</p>	<p>(9) (7) (3) (2)</p>
11	<p>Height datum CD 5m</p>	<p>Rock which covers and uncovers, with height known or unknown above chart datum</p> <p>Roche qui couvre et découvre, avec cote audessus du zéro des cartes inconnue ou connue</p>	<p>(7) (5) (3)</p>
12	<p>Height datum CD 5m</p>	<p>Rock awash at chart datum</p> <p>Roche à fleur d'eau au zéro des cartes</p>	<p>(0) (0)</p>
13	<p>Height datum CD 5m</p>	<p>Underwater rock of unknown depth, dangerous to surface navigation</p> <p>Roche submergée de profondeur inconnue, présentant un danger à la navigation de surface</p>	<p>(0) (0)</p>
14	<p>Height datum CD 5m 10m 20m</p>	<p>Underwater rock of known depth</p> <p>Roche submergée, de profondeur connue</p>	<p>17 R 17 R</p>
14.1	<p>- inside the corresponding depth area</p> <p>- dans la zone de profondeur correspondante</p>	<p>17 R 17 R</p>	
14.2	<p>- outside the corresponding depth area, dangerous to surface navigation</p> <p>- hors de la zone de profondeur correspondante, dangereuse pour la navigation de surface</p>	<p>17 R 17 R</p>	
15	<p>21 R</p>	<p>Underwater rock of known depth, not dangerous to surface navigation</p> <p>Roche submergée de profondeur connue, non dangereuse pour la navigation de surface</p>	<p>21 R</p>
16	<p>5.8</p>	<p>Submerged coral reef</p> <p>Récif corallien submergé</p>	<p>2 Co 5 Co</p>
17	<p>5.8 Br 19</p>	<p>Breakers</p> <p>Brisants</p>	<p>Br</p> <p>Breakers/Brisants</p>

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ROCKS, WRECKS, OBSTRUCTIONS




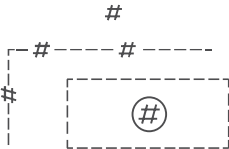
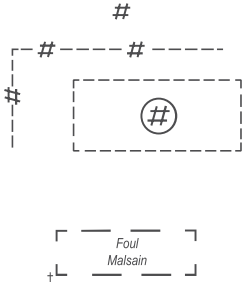
ROCHES, ÉPAVES, OBSTRUCTIONS

Wrecks	SNS/SCNS c,d	Épaves	
20	 Wk	Wreck, hull always dry, on largescale charts Épave, coque toujours découverte, sur cartes à grande échelle	
21	 Wk	Wreck, covers and uncovers, on largescale charts Épave qui couvre et découvre, sur cartes à grande échelle	
22	 Wk  Wk	Submerged wreck, depth known, on largescale charts Épave submergée, profondeur connue, sur cartes à grande échelle	 Wk  Wk
23	 Wk	Submerged wreck, depth unknown, on largescale charts Épave submergée, profondeur inconnue, sur cartes à grande échelle	 Wk  Wk
24		Wreck showing any portion of hull or superstructure at level of chart datum Épave montrant une portion de la coque ou superstructure au niveau du zéro des cartes	
25	 Masts  Masts (1s)	Wreck of which only the mast or masts are visible at chart datum Épave dont seul(s) le(s) mât(s) est (sont) visible(s) au niveau du zéro des cartes	 Masts/Mâts  Masts/Mâts (1s)
26	 Wk  Wk	Wreck, least depth known by sounding only Épave, la profondeur connue a été déterminé seulement par sondage	 Wk  Wk
27	 Wk  Wk	Wreck, least depth known, swept by wire drag or diver Épave, profondeur moindre connue vérifiée à la drague hydrographique ou par plongeur	 Wk  Wk
28		Wreck, least depth unknown, considered to be potentially dangerous to some surface vessels Caution: Not all wrecks which are potentially dangerous have this symbol, see caution at K 29 Épave de brassage inconnu, constituant un danger potentiel pour certains bâtiments de surface. Avertissement important : certaines épaves constituant un danger potentiel, ne comportent pas ce signe conventionnel; voir l'avertissement à K29	

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ROCKS, WRECKS, OBSTRUCTIONS






























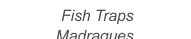
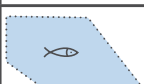



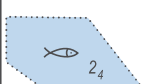




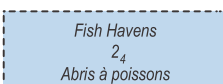




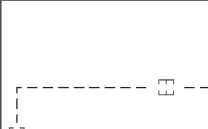

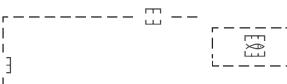




ROCHES, ÉPAVES, OBSTRUCTIONS

29		<p>Wreck, least depth unknown Caution: On many charts, this symbol is used for wrecks of unknown least depth, but considered to be covered by more than 20m of water. The wrecks thus represented are then potentially dangerous to vessels with a draught greater than 20m. Note: This symbol is also used for all wrecks in water over 200m deep.</p> <p>Épave de brassiage inconnu Avertissement important : sur de nombreuses cartes, ce symbole est utilisé pour les épaves de brassiage inconnu, supposées couvertes de plus de 20 mètres d'eau. Les épaves ainsi représentées sont alors potentiellement dangereuses pour les navires d'un tirant d'eau supérieur à 20 mètres. Note : ce symbole est aussi utilisé pour toutes les épaves dans des fonds supérieurs à 200m.</p>	
30		<p>Wreck, least depth unknown, but considered to have a safe clearance to depth shown Épave, profondeur moindre inconnue, mais avec estimation du plafond de brassiage à la profondeur indiquée</p>	
31 & 31.2		<p>Remains of a wreck or other foul ground, non dangerous to navigation but to be avoided by vessels anchoring, trawling etc. CAUTION: On some CHS charts, this symbol may represent a foul area dangerous to surface navigation</p> <p>Vestige d'une épave ou autre sol de fonds malsains, non dangereux pour la navigation mais qui constituent un danger pour le mouillage, le chalutage, etc. ATTENTION: Sur certaines cartes du SHC, ce signe peut représenter un fond dangereux pour la navigation de surface</p>	

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ROCKS, WRECKS, OBSTRUCTIONS

ROCHES, ÉPAVES, OBSTRUCTIONS

Obstructions and Aquaculture		Obstructions et aquicole	
40	 	Obstruction, depth unknown Obstruction de profondeur inconnue	  †  † 
41	 	Obstruction, least depth known by sounding only Obstruction, profondeur moindre connue, a été déterminé seulement par sondage	  † 
42	 	Obstruction, least depth known, swept by wire drag or diver Obstruction, profondeur moindre connue, vérifiée à la drague hydrographique ou par plongeur	  † 
43.1	 	Stumps of posts or piles, wholly submerged Souches de pieux ou piliers, entièrement submergés	
43.2		Submerged pile, stake, snag or stump (with exact position known) Pile, pilier, poteau, souche ou structure immerges (position précise)	
44.1		Fishing stakes Pêcheries	  † 
44.2		Fish trap, Fish weirs, Tunny nets Madragues, Thonaires	
45	 	Fish trap area, tunny nets area Zone de madragues ou de thonaires	
46.1	 	Fish haven Abri à poissons	 
46.2	 	Fish haven with minimum depth Abri à poissons avec profondeur moindre	  †  
47	 	Shellfish beds with no obstructions Parcs à coquillages ne comprenant pas d'obstructions	 
48.1		Marine farm (on largescale charts) Ferme marine (sur cartes à grande échelle)	 † 
48.2	 	Marine farm (on smallscale charts) Ferme marine (sur cartes à petite échelle)	 

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ROCKS, WRECKS, OBSTRUCTIONS

ROCHES, ÉPAVES, OBSTRUCTIONS

Supplementary national symbols		Symboles nationaux supplémentaires	
a		Depth over an artificial feature Profondeur couvrant une entité artificielle	(2 ₃) † (2 ₃)
b		Awash À fleur d'eau	0 (0)
c		Foul area dangerous to surface navigation Fond dangereux pour la navigation de surface	<div style="border: 1px dashed black; padding: 5px; width: fit-content; margin: 0 auto;"> <i>Numerous rocks / Nombreuses roches</i> </div> † ⚓ † #
d		Wreck, on smallscale charts (non-dangerous to navigation) Épave, sur cartes à petite échelles (non dangereux à la navigation)	