INFOMAR vessels carry out seabed mapping in accordance with a set of standards defined by the International Hydrographic Organisation (IHO). The primary standard used is called IHO Order 1a - details of accuracies and criteria can be found at the following link:

https://iho.int/uploads/user/pubs/standards/s-44/S-44_Edition_6.0.0_EN.pdf

In terms of the expected accuracy of INFOMAR products, the following table lists the minimum uncertainties associated with depth soundings in relation to the depth of the seabed:

Depth (m)	Uncertainty (m)
1	0.17
5	0.24
10	0.31
20	0.42
50	0.63
100	0.88
200	1.23

All seabed features are positioned correctly, exceeding the Order 1a standard – this is achieved by using state of the art, high precision GNSS solutions. To ensure the data are consistent, each survey is checked with cross lines run perpendicular to the original vessel tracks in order to demonstrate repeatability. Further quality control is carried out by comparing adjacent, overlapping surveys to check that the results over the same area of seabed match within acceptable limits.

One example of the criteria involved in S-44 Edition 6.0.0 is object detection. In waters less than 40m deep, a survey vessel must be able to detect a submerged object greater than 2m in size. In depths beyond 40m, the minimum size of feature that must be detected increases as a function of 10% of depth - e.g. at 50m depth, the survey vessel must be able to detect a feature greater than 5m in size. This is demonstrated in the image below:
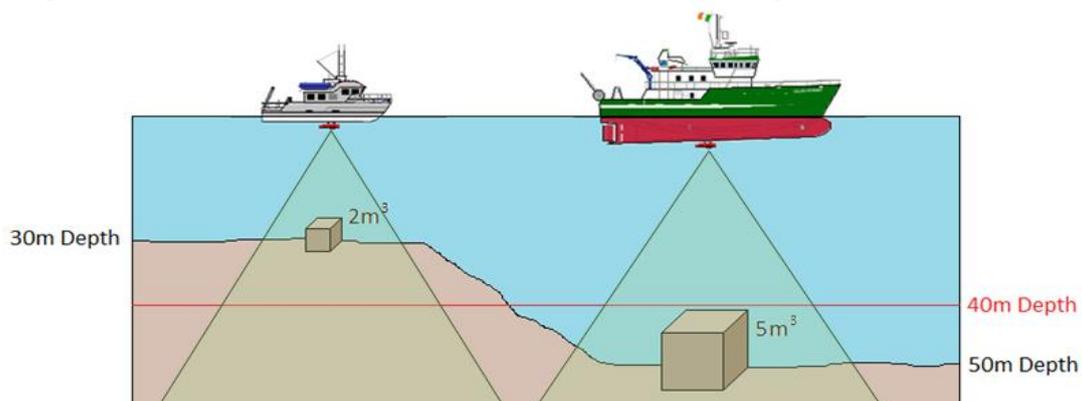
For shoal and wreck identification, additional care is taken by "boxing in" the object with an extra set of lines running perpendicular to one another so that it is pinged from all angles and the greatest resolution and accuracy is achieved – this ensures that the absolute shallowest depth of a rock, or mast jutting out from a wreck are not missed. An example of such a localised survey is shown below:

Survey line, with direction of survey vessel travel

Shipwreck
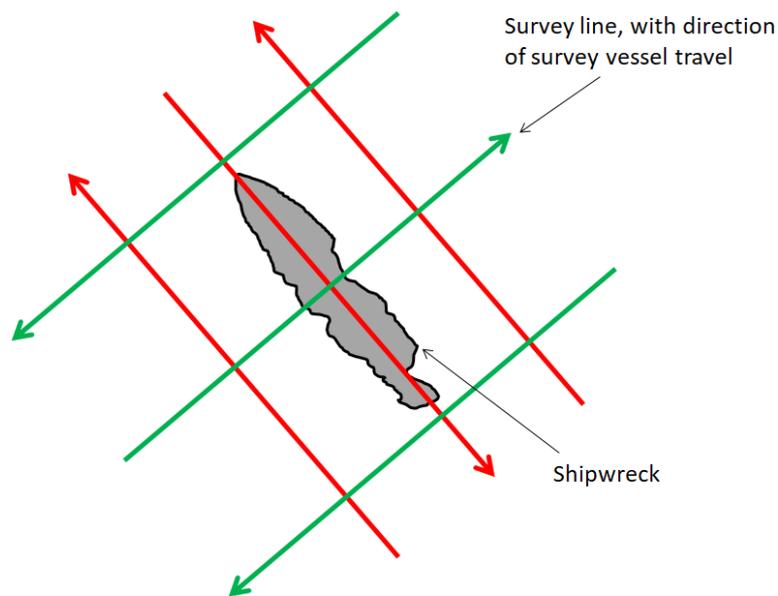
PLEASE NOTE THAT INFOMAR PRODUCTS ARE NOT TO BE USED FOR NAVIGATION