RMS Titanic versus NR16020

Assuming one or more of the deep ocean searches actually puts to sea, what are the chances that Amelia's Electra will be found? As a means of getting some perspective on the probabilities, we thought it would be interesting to run some comparisons between the deep ocean search for the lost Lockheed and history's most famous successful undersea quest – the 1986 discovery of RMS *Titanic*. It's apples and oranges to be sure. The technology has improved and the sea floor in the Central Pacific is not as rugged as the bottom of the North Atlantic, but the biggest difference, of course, is that there was never any doubt that the *Titanic* was down there somewhere within a reasonably definable area, whereas the Earhart Electra is truly lost. Maybe it's on the bottom of the Pacific and maybe it's not. All that can be said with any degree of certainty is that it came down somewhere within an expanse of ocean and islands that represents the airplane's maximum estimated range from it's last estimated general position. The area portrayed here is based upon the assumptions shown and represents just under 160,000 square miles. It is a conservative estimate.

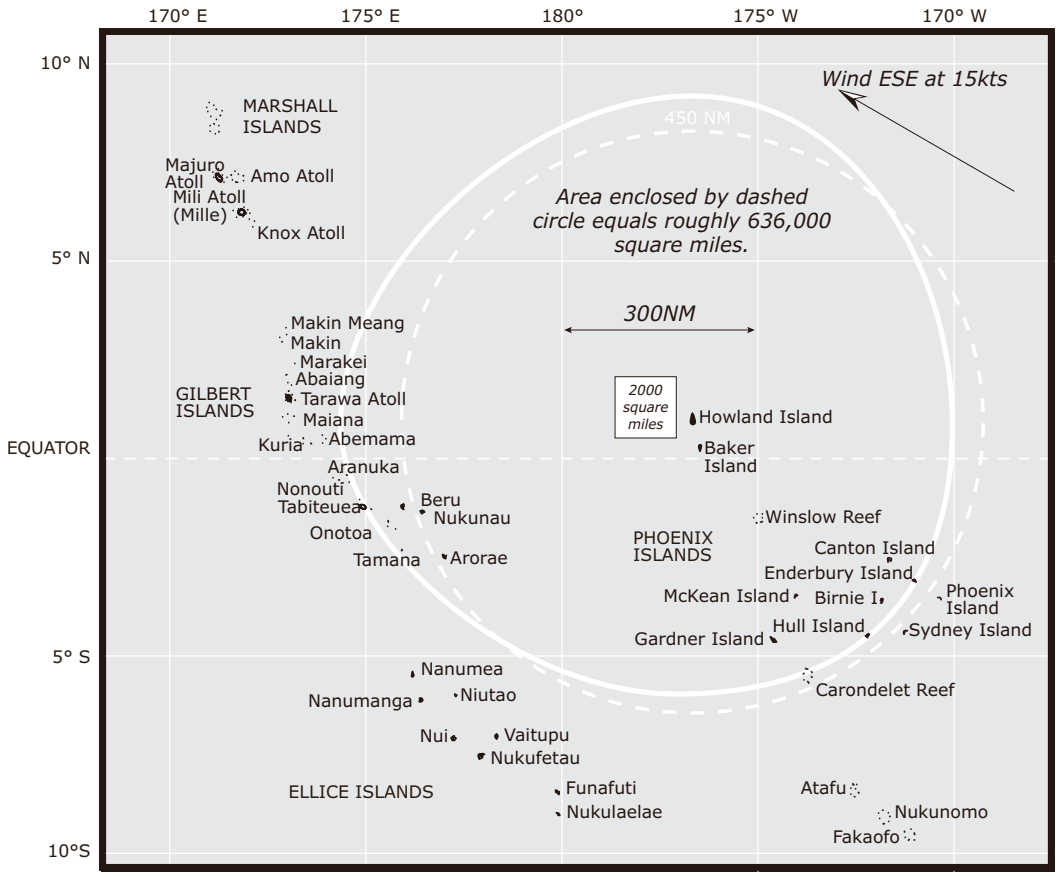
Constraining the search area to practical limits requires that guesses be made about what actually happened. We at TIGHAR, for example, launched our investigation in 1988 based upon the guess (or "hypothesis" if you prefer more syllables) that the flight had flown down the navigational line Earhart had said they were following and had landed at Gardner Island (now Nikumaroro). Searches of that location have uncovered compelling, but not yet conclusive, evidence that our guess is correct. All of the proposed deep water searches are based upon Elgen Long's guess that the airplane ran out of gas very shortly after 08:43 that morning and that it is possible to reconstruct, within searchable limits, where the airplane was when that happened – hence, the 2,000 square mile search area.

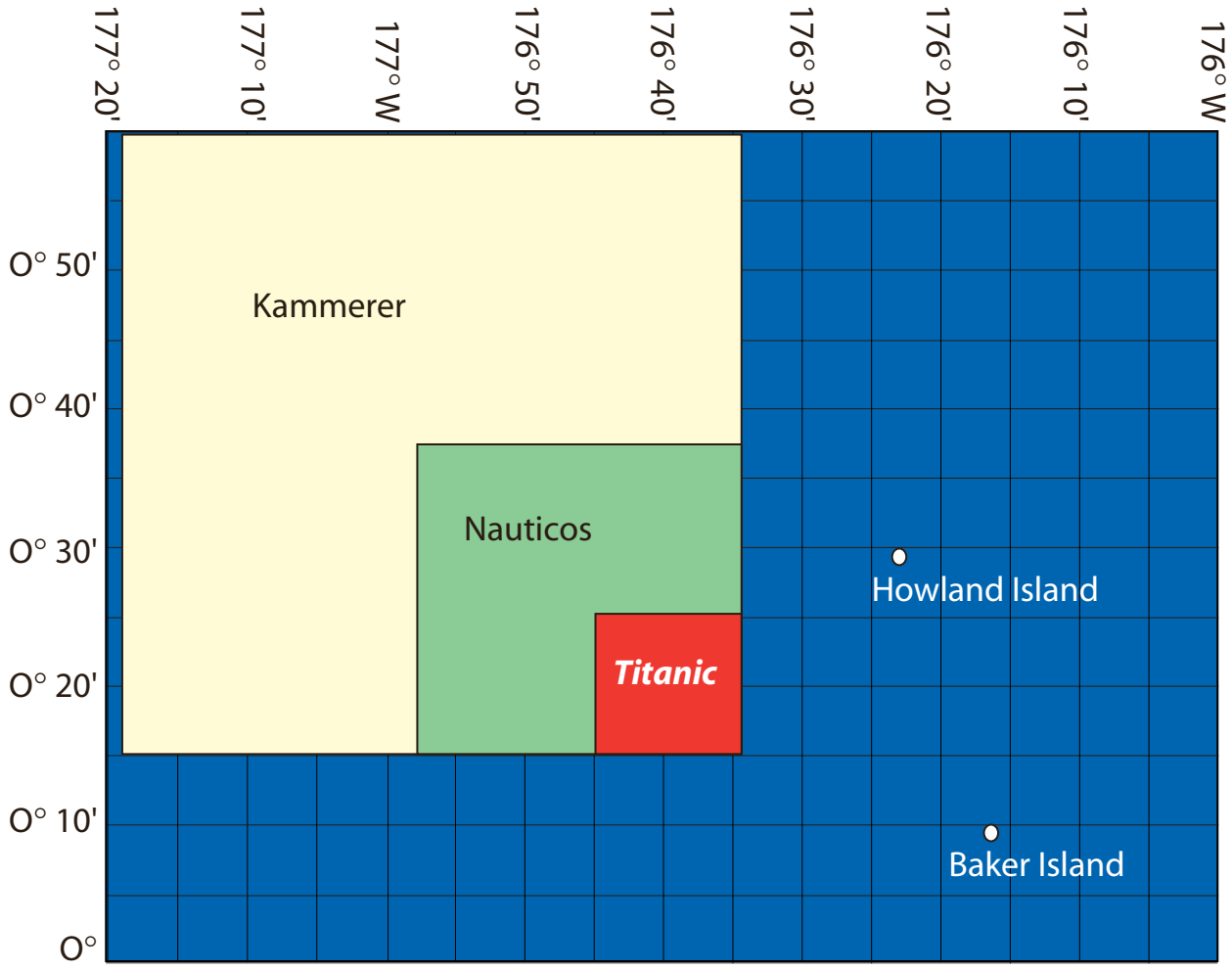
Nauticos, in fact, is willing to pile the guesses higher and feels that the search area can be narrowed to a mere 500 square miles. In the 1986 *Titanic* search, the primary area covered by the French research vessel *Le Suroit* and the American ship *Knorr*, was 100 square miles, and the ship was only found after the French sonar search had

Area Enclosed by Solid White Line Represents Estimated Maximum Possible Range of Earhart Electra.

<u>Assumptions:</u>

1. Aircraft is 100 nm from Howland at 20:13 GCT (based on strength of last message received by *Itasca*).
2. Four hours fuel remaining at 20:13 GCT (based on known fuel load at takeoff, Lockheed fuel consumption tables, and known time en route).
3. Altitude 1,000 ft as reported to *Itasca*.
4. Airspeed 110 kts. Fuel consumption 38 GPH. (Twenty knots have been subtracted from the the flight-planned cruising speed of 130 kts which assumed an altitude of 10,000 ft.)
5. Weather, scattered cumulus at 2650 feet. Wind ESE at 15 (actual weather observation at Howland Island).



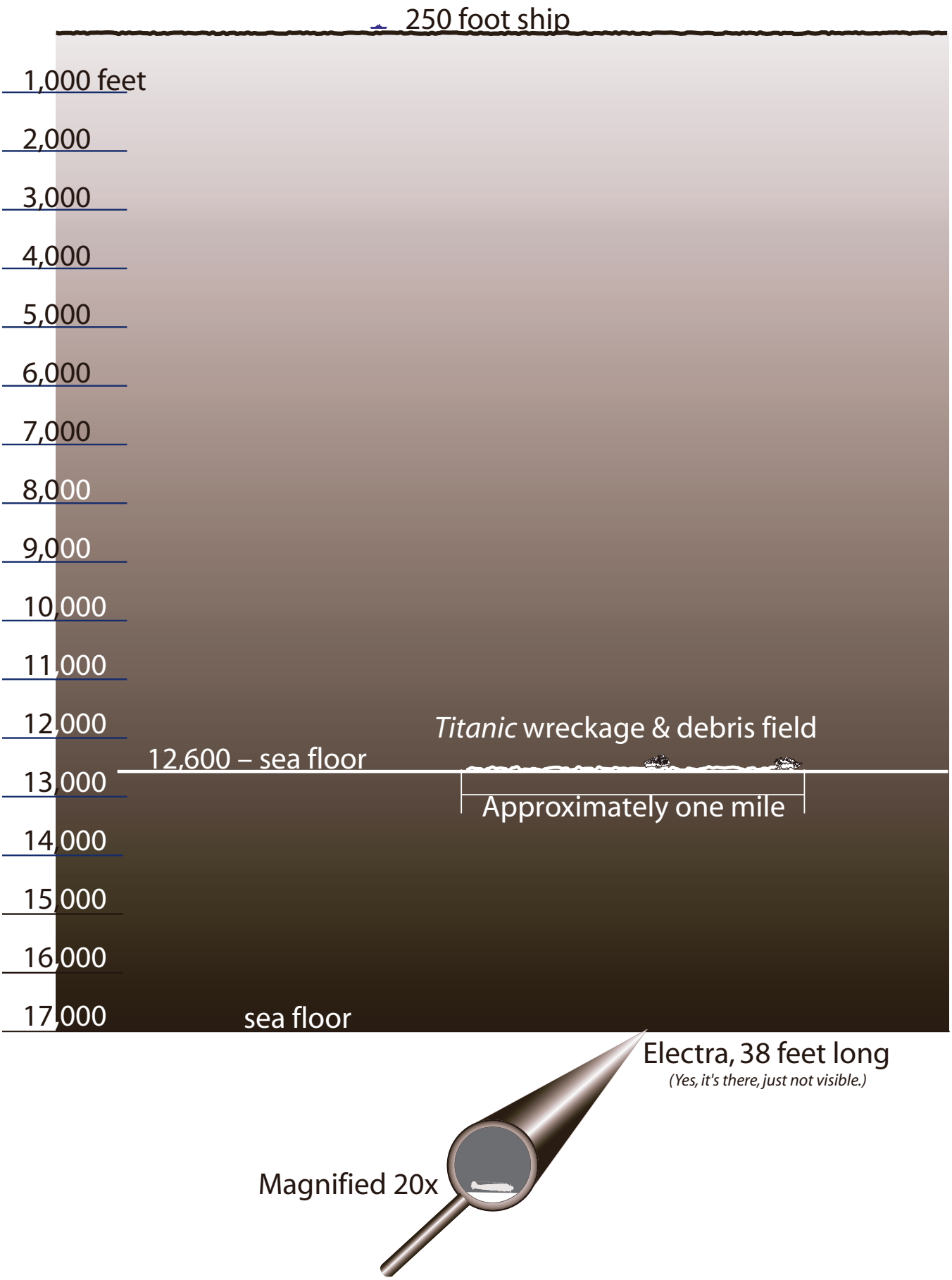


Note: Squares shown are for size comparison only. Exact delineation of the search areas planned is not known to TIGHAR.

failed and Dr. Ballard's team aboard the *Knorr* decided to cover one last corner with a visual search using the Remote Operated Vehicle (ROV) "Alvin."

More daunting, perhaps, than the immensity of the proposed search area is the tinyness of the target. What Ballard's team initially found was not the sunken ship but part of the mile-long trail of debris deposited when the ship broke up as it sank. Not only is the lost Lockheed infinitely smaller than the aptly-named *Titanic*, but there will be no traceable debris field to stumble across even if the plane did not remain intact as Elgen Long supposes it did – and remember, the sea floor in the proposed search area is more than a mile deeper than where the *Titanic* was found.

Think of it this way: Climb aboard a blimp and take it up to 17,000 feet (remember to put on your oxygen mask). Look down and see if you can pick out that Lockheed Electra parked on the airport three miles below (did you bring your binoculars?). Now look out toward the horizon and imagine a square of countryside that's about 45 miles on each side. Your job is to find a crashed Electra somewhere out there and the fastest you can go is 5 knots. Oh, and by the way, you have to do it in the dark. And there's an excellent chance that's it's not there at all.


250 foot ship
1,000 feet
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000
10,000
11,000
12,000
13,000
14,000
15,000
16,000
17,000
Titanic wreckage & debris field
12,600 – sea floor
Approximately one mile
sea floor
Electra, 38 feet long
(Yes, it's there, just not visible.)
Magnified 20x