

WOODS HOLE OCEANOGRAPHIC INSTITUTION  
WOODS HOLE, MASSACHUSETTS

HENRY B. BIGELOW, DIRECTOR  
MUSEUM OF COMPARATIVE ZOOLOGY  
CAMBRIDGE, MASS.

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May 15, 1930

*copy sent mm*

Dr. Max Mason  
Rockefeller Foundation  
61 Broadway  
New York, N. Y.

My dear Dr. Mason:

I am very much encouraged to hear, from Dr. Lillie, that the estimates we have arrived at for the different items of construction for the Woods Hole Oceanographic Institution met your approval.

We put much thought on the allocation, to different objects, of the appropriation for building and equipment, trying to give the various considerations their proper weight. And we feel that the final schedule is sound, for the institution.

I can assure you that our conclusion that the only way to get a ship meeting our very exacting requirements is to build, was not reached without a thorough canvass of the situation, for in the beginning, we all had the idea that we might find something to suit, secondhand, with the consequent saving. The point is that to be entirely satisfactory, and at the same time to be operated within the appropriation the Institution can allot thereto, an oceanographic ship must have characteristics that are not combined in any other type of vessels in usual service, whether yacht or commercial.

Thus a definite limit of size is set by the expense of operation, so we must hold ourselves to a small vessel, with 140 foot over all length and tonnage of about 350 as the maximum. But in spite of these limits, she must be thoroughly sea going, able to keep the seas for protracted cruises at any time of year and anywhere; she must be extra strong, with good quarters for scientists and with ample laboratory space; above all, she must be as steady as it is possible for a ship to be, to facilitate work with delicate instruments, and her framing and general construction must be so arranged that all the special hoisting machinery can be properly installed and located. On the other hand speed is no object, in fact often a detriment.

No ship driven wholly by power, can meet these requirements if as small as ours must be; steam trawlers, mine sweepers, patrol boats etc., etc. all roll and toss about so much that they are not satisfactory working platforms. The only satisfactory type for the work of the Institution is an auxiliary, using sails and power in about equal proportions, with the power provided by Diesel engine.

Here are the reasons in brief, which I hope may interest you.

1. Seaworthiness. This type, because of hull form and of ability to heave to, is safer at sea in heavy weather than any small vessel driven exclusively by motor.
2. Steadiness, both because of hull form with its deep draught, and because of the steadying effect of the sails.
3. Comfort and practicality, because of greater volume with the same length and operating cost, allowing better accommodations both for living and laboratory space as well as ample deck space for handling nets etc.
4. Wide cruising radius made possible by auxiliary use of sails as well as of motor.

The only other vessels now built of this general type are fishermen and yachts. Secondhand fishermen cannot be considered, they are built so badly that their lives are very short while the whole arrangement and rig are unsuitable. We have canvassed the yacht market through brokers, both in this country and in England. And while we have seen the specifications of a number of large auxiliary yachts, our requirements differ so widely from those of the average yacht builder and owner that there is in each case some fatal defect from our standpoint. Either the boat is too old and run down, or its construction is not strong enough, or the cabin arrangement can't be made to suit, or there is not sufficient accommodation, or the hull form is not suitable for serious sea going purposes.

It comes down to this; any yacht would at best be only a makeshift, with which no one would be content, for as we see it, it is as important for the new Institution to have the most satisfactory ship possible, as it is for an astronomical observatory to have a suitable telescope. So build we must, if our marine equipment is to measure up to the scientific importance that we expect the Institution to attain.

Dr. Mason

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We have therefore had plans and specifications embodying all these requirements, prepared by the naval architects, who, I believe, are best fitted for this particular job, Messrs. Owen & Minot, and I can only say that on paper she is a sweet ship.

We hope to break ground for the laboratory building at Woods Hole next month, and altogether I feel that we are progressing well.

Sincerely,

*Henry B. Bigelow*