SOME FACTS ABOUT HYDROGRAPHY IN THE UNITED STATES NAVY

by

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It has been the belief in the United States Navy that officers should not specialize and remain indefinitely in any one branch of the many representing the technical requirements of the Navy; that "new blood" vitalized a specialty, and the education obtained by those in whom the new blood flowed benefitted the Navy as a whole.

Please note the second and third words in the above paragraph; the one responsible for this brief article is no longer on the active list of officers of the United States Navy and is not qualified to state beliefs of that sort for to-day. He realizes that specialization has become increasingly necessary in many of the details concerned with an efficient Navy and that much has been accomplished, but it has not yet been decided that naval officers must specialize in Hydrography and remain in that branch for the remainder of their active career.

Therefore but few United States Naval Officers obtain more than three years of experience afloat in surveying vessels, though of course it can readily happen that those who have been in surveying ships as younger officers are again detailed for service in higher capacities aboard similar ships, and also those who have surveyed can later go to the Hydrographic Office on duty.

When the writer became Hydrographer of the U. S. Navy Department he soon learned that many young officers ordered to surveying vessels did not know what it was all about until they had served for some months in those vessels. He developed and accomplished a plan by which all officers ordered to a surveying vessel for the first time had a preliminary course of instruction in the Hydrographic Office before going to sea; and in this way they were able to learn a great deal about the use made of the material and data they were ordered to produce.

The ships returned after a season spent on their surveying grounds for their necessary overhaul and to permit the personnel of the surveying party to smooth up their work for the use of the Hydrographic Office, and, after their work in that respect had been completed the officers concerned were again ordered to the Hydrographic Office so they might observe just what use was made of the material they had produced, learn its faults, if any, and be that much better prepared for the work of the following season.

In this way officers "specialized" temporarily in Hydrography, as they do in other departments when ordered to duty therein, and who can deny that the education and experience gained in that way was thereafter always valuable to them and consequently to the service of which they were parts! I have heard it said that the only way to obtain real sailors in these days

of machinery afloat is to send men to sea in surveying vessels where certainly they do obtain experience in handling boats, avoiding dangers and piloting generally which can be obtained otherwise only in isolated cases.

Civilian expert surveyors are employed aboard United States naval surveying ships more or less continuously and in numbers depending upon the size and consequent accommodations of the vessel concerned. They not only take part in all field work but also assist in the preparation of the smooth sheets sent to the Hydrographic Office. They also serve afloat as a permanent corps of instructors of officers who have had no experience in actual accurate surveying in the field.

These civilian hydrographic engineers are, from time to time, ordered to the Hydrographic Office where their experience is frequently of value in the preparation of charts and sailing directions of areas they have surveyed. When one of them, because of age or a disability of a temporary sort, becomes incapacitated for the field work, some of which, of course, includes rather strenuous physical activity and at times actual hardships, he may be ordered to the Hydrographic Office to give it the benefit of his field experience. I have used one of them to great advantage as an instructor for officers without experience before they joined their surveying ships.

In 1925 it became evident that, with the great improvement in airplanes and also in photographic apparatus, planes could be used to considerable advantage in connection with surveying. It was originally planned that they would be used for preliminary reconnaissances from the air of the areas to be surveyed and that later they would be able to take photographs from the air which would be useful to the actual chart makers. Arrangements were therefore made for planes to report to the surveying vessels at prearranged times, when their services could be employed to the best advantage. That one season so very clearly demonstrated their great value that it has not been successfully disputed in the several years which have followed the experiment.

The use in hydrography of photographs taken from the air is now an accomplished fact and is almost indispensable in certain cases, it being quite possible to overlap and join photographs in such a manner that the resulting mosaic is of the greatest value to the Hydrographic Office, not only for chart work but also in connection with the preparation of data for Sailing Directions. The use of photography has become increasingly valuable with the development of cameras capable of depicting heights of contours within quite reasonable limits. Also the technical apparatus for the restitution of photographs has been highly developed and perfected.

An unexpected use of seaplanes resulted from their presence with surveying vessels. They have been used with complete success for the purpose of transporting personnel and material in special cases, thus saving very considerable time and effort. One can readily visualize an island of some extent and not far off shore, or a spit of land extending along the coast, with open water of great area between them and the mainland, but which water could only be reached from seaward by boat after a long and tedious journey, not unattended by dangers.

Men, instruments and materials for signals can be ferried by air from the surveying ship to such waters in the same number of minutes it would require of hours to make the same trip by boat.

Then again, it can become essential to send an expedition to a particular place along a coast where neither ship nor boat is safe, for a particular purpose; and when ship and boats are otherwise usefully employed the sea-plane affords a ready and very rapid manner of safe communication; in fact, no surveying expedition is now complete without this modern method available for speedy transportation and observation of large areas not otherwise possible.