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# HYDROGRAPHICAL OBSERVATIONS FROM SOGNEFJORDEN (WESTERN NORWAY)

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# HYDROGRAPHICAL OBSERVATIONS FROM SOGNEFJORDEN
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by

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ABSTRACT

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These observations were made during the years 1942 - 1945. A survey of the hydrographical conditions in the upper water layers of the fjord revealed a considerable lowering of salinity during the spring and summer. The salinity variations are correlated with variations in the supply of fresh water to the fjord from the glacier-fed rivers. The decrease in the salinity was more pronounced along the northern than along the southern side of the fjord.



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1) Zoological series 8

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# PREFACE

The present hydrographical research was carried out in connection with a biological investigation of the intertidal zone (Rustad, in print).

Since the observations were made during the period 1942-1945, the work was hampered in several ways by the prevailing war conditions. The low ration of gas oil for the research vessel and the lack of weather forecasts led to a regrettable reduction of the number of cruises, as well as in their regularity. We had to install a wood-gas generator, and when powered by methane (for want of gas oil) the maximum speed of the vessel was only 6 - 7 knots. Because of the nature of the area under investigation, a total distance of 165 km had to be covered and thus the hydrographical sections alone took about a week each time.

# INTRODUCTION

During the investigation of the intertidal fauna of Sognefjorden I soon discovered that some species occurred further inwards in the fjord on the southern than on the northern side of the fjord. I thought that this might reasonably be associated with the hydrographical conditions of the surface layers, since the Coriolis effect deflects outflowing, low-salinity, surface currents to the northern side of the fjord.

To find out if such a skewness in the hydrographical conditions existed and could explain the above-mentioned distribution of the littoral species, an investigation of the inshore temperature and salinity conditions was made.

## MATERIAL AND METHODS

The positions of the hydrographical stations investigated in Sognefjorden are shown in Fig. 1. They can be grouped as follows: Main fjord, north side: H1, H3, H5, H7, H9, H11, H13, H15, H17, H19, H21, H23, H25, H27. Main fjord, south side: H2, H4, H6, H8, H10, H12, H14, H16, H18, H20, H22, H24; Lusterfjorden, west side: H29, H31, H33; Lusterfjorden, east side: H26, H28, H30, H32.

The stations are numbered from the mouth of the main fjord (H1 and H2) inwards to the head of Lusterfjorden (H32 and H33). All these stations were sampled fairly regularly. Occasionally further hydrographical stations were investigated in other branches of the fjord.

From June 1942 to June 1944 the samples were taken , with a few exceptions, at depths of 0 - 2 - 5 - 10 and 20 m, but later on the hydrographical work had to be reduced and between July 1944 and July 1945 observations exist for 0 m only.

The surface water (0 m) samples were collected using a bucket. Samples from the other depths were taken with Nansen reversing water bottles. The salinities were determined by the Mohr-Knudsen titration method.

Taking the usual precautions, the 0 m temperatures were measured in the bucket with an ordinary thermometer. The thermometers used were not calibrated, but comparisons with readings given by the reversing thermometers were satisfactorily consistent. The significance of the second decimal place of these 0 m temperature observations may nevertheless be questioned. The temperatures at the other depths were measured with reversing thermometers of different makes. Unfortunately, I had only 5 reversing thermometers at my disposal, and therefore most of the temperatures were measured with a single thermometer. At each station only one of the water bottles could be furnished with two reversing thermometers, and for the sake of comparison the combination of single and double thermometers and depths was regularly alternated. Further disadvantage was that only one of the reversing thermometers was capable of registering temperatures above + 13$^{o}$C. In the summer months, therefore, I had to use this one thermometer all the time, which naturally hampered the work considerably. To cap our difficulties it so happened that the auxillary thermometer of just this particular thermometer was defective. When using this thermometer, therefore, the temperature was read immediately after the water bottle came on board. The temperature reading was corrected later on, on the assumption that the correction temperature (i.e. the temperature within the thermometer tube) was the same as the temperature read. Considering the relatively shallow depths in question this procedure was assumed to give sufficiently exact results for the purpose of the investigation. A comparison with the other reversing thermometers used (used together with the defective one at several depths on occasions when the temperature was lower than + 13°C) showed that the mean difference between the two temperature readings found did not exeed 0.03°C. - The mean differences between the readings from pairs of the other reversing thermometers were even less.

Water transparency was measured with a Secchi disc (Ø 50 cm), observed through a view box. Usually each observation was repeated three times. The transparency was calculated as the mean of the depth at which the disc became invisible on its way down and that at which it became visible once again on its way up. The observations were taken at different times of the day, between 10.00 and 16.00 (in the winter not later than 15.15). Sometimes the weather was clear and sunny, at other times more or less cloudy. Similarly the sea surface might be smooth or rippled by small waves. The light conditions, therefore, could vary somewhat on different occasions, but the depth at which the disc becomes invisible "... is not materially affected by the intensity of light at the surface, within fairly wide limits." (Harvey 1927, pp. 156-157), and the distribution of the values found seems reasonably consistent.

## TEMPERATURE AND SALINITY

Before I started the hydrographical investigations in Sognefjorden Professor Håkon Mosby kindly sent me the results of a previous survey of the hydrographical conditions in the surface layers made during the period 1917-1940 with temperature and salinity measurements at 0 - 5 - 10 and 20 m depth at 202 stations situated as follows: In the middle of the main fjord off Kyrkjebø and Vangsnes, in Eidsfjorden (a side branch of Sogndalsfjorden), off Buenes (at the mouth of Aurlandsfjorden), Skrophammer (in the outer part of Lusterfjorden, and Sørheim (in the inner part of Lusterfjorden).

Mosby states in his report that the spread in the temperature and salinity values from the individual stations was too great to provide any reliable degree of detail in the hydrographical diagrams for the separate depths at the individual stations, or to reveal any characteristic differences between stations. Instead he sent me diagrams which showed the mean yearly variations at 0 - 5 - 10 and 20 m depth for all stations combined. Proper consideration was given to the variation in the numbers of individual measurements made each month. Mosby's curves are presented in Fig. 2.

Furthermore Mosby states in his letters that some of the minor fluctuations have been smoothed out, whereas others have been allowed to stand since they agree with characteristic features which had been detected previously and which have a natural explanation.

Firstly, all the isotherms are skewed. The fall in temperature being slower than the rise. This may be explained by vertical convection, which starts by a cooling-off of the surface water, and which helps to delay the cooling-off. The isohalines, especially those for 0 m and 5 m, show a rapid fall in the spring, caused by the influence of fresh water from the snow-melt. Their subsequent rise in the autumn is due to an admixture from below of more saline water, which is therefore recorded somewhat earlier at the 5 m level than at the surface.

Secondly, the respective curves for 10 m and 20 m show a delayed temperature rise and fall in salinity in the spring compared to those recorded at 0 m and 5 m. This leads to a rapid increase in stability and a consequent decrease in turbulence. This considerable upwarming of the surface water layers (0 - 5 m) and fall in salinity is, therefore, not only transmitted downwards more slowly, but for some time may even almost come to a standstill. At 20 m depth there is even an increase in salinity during June/July, i.e. the admixture of more saline water from below still exceeds the admixture of less saline water from above.

In Fig. 3, the salinity and temperature values at 0 m at three of my own localities are plotted against time. Mosby's curves have been superimposed for comparison. In Sognefjorden the temperature and salinity values may often undergo great and rapid changes. At most of my stations the observations are too sporadic to reflect these sudden changes, but at one of the localities, H17, the observations happened to be taken so close together in time that these sudden changes are detectable. (See the H17 values given in Fig. 3 and Table 4; temperatures for 29 May and 2 June 1943, and salinities for 19 March, 13 April and 25 April 1945.) Taking the possibility of such rapid variations into account, the values found reasonably accord with those of Mosby's curves. The accordance is best at H17, which is situated in the middle part of Sognefjorden (Fig. 3) excepting the higher temperature and lower salinity values recorded by me during the summer months. This is natural, since Mosby's curves are in fact approximated means for the whole fjord. (N.B. In Mosby's data the inner part of Sognefjorden is better represented than the outer part.) At H1, which is my outermost station on the northern side of the fjord, the temperatures during the autumn and winter were on the whole somewhat higher than those recorded in the middle of the fjord and higher than those shown by Mosby's curves. On the other hand the summer temperatures at H1 tend to be lower than those in the middle part of the fjord, but were often higher than those recorded by Mosby. The salinity decrease during the summer is considerably less (at times) than that found in the middle of the fjord and is also less than that shown in Mosby's curves. At H33 - my innermost station on the northern (western) side - I found that the salinities at all depths were distinctly lower than those shown in Mosby's curves, and the summer temperatures were markedly lower.

As shown in Fig. 3, the salinity decrease in spring occurs first in the inner part of the fjord and is delayed further out towards the entrance. The salinity also decreases most (to 0 - 1 o/oo) in the innermost part; in contrast it never falls below 10 o/oo at the outermost stations. On the other hand, the rise in salinity in the autumn starts first in the outer part of the fjord and is progressively delayed towards the head.

The annual variation in water temperature of these upper layers was not markedly different in the outer and inner part of the fjord, excepting that the summer temperatures were on the whole lower in the innermost part than further out.

Fig. 4 shows the temperature (a) and salinity (b) variations in the upper 20 m at H5 from June 1942 to April 1944. The corresponding diagrams for the other stations show the same fundamental features, although the details do of course vary, especially for the uppermost layer.

We find the same features as those shown in Mosby's curves, viz. a rapid temperature rise during the spring and a slow fall in the autumn, with the time of the temperature maximum delayed in the deeper layers. Likewise, there is a rapid fall in salinity during the spring and a slower rise in the autumn, and the salinity minimum is attained later in the deeper layers (10 - 20 m) than in the upper layers (1 - 2 m). The temporary rise of salinity in spring in the deeper water layers was only faintly recorded in 1942, when the influx of fresh water was low. In 1943, however, when there was a massive influx of fresh water, the hydrographical conditions in the uppermost water layers became so stable that the temporary rise in salinity (by admixture from below) was manifested even at 3 - 4 m depth, though delayed in comparison to 10 - 20 m depth.

My material further shows that, as postulated, a real difference existed between hydrographical conditions on the northern and southern side of the fjord. Figs 5 and 6 show the temperature and salinity distributions from 0 to 20 m on either side of the fjord in the summer and winter. The summer sections (Figs 5a and 6a) refer to the data for July 12 - 23, 1943, and the winter sections (Figs 5b and 6b) to those for March 23 - 29, 1944 (cf. Figs 7 and 8). The positions of the individual stations and black squares, which indicate the mouths of the fjord branches have been shown on the sections as accurately as possible although the sharp changes in direction of the main fjord could not be shown in the diagrams.

Figs 7 and 8 show the temperature and salinity variations at 0 m depth on either side of Sognefjorden, including Lusterfjorden, between June 1943 and August 1945.

As mentioned previously, it was impossible to take so many observations as would have been desirable. The available salinity observations are nevertheless in most cases sufficient to document the conditions during the summer and winter; during the spring and autumn however, i.e. the seasons when the salinity changes considerably and rapidly, the observations are inadequate.

For example, only rarely it is possible to determine at what time the surface salinity started to fall in the spring, nor are the observations close enough together in time to indicate whether or not the fall in salinity proceeded gradually. In the annual diagrams which form the basis for Fig. 8, I have, especially when dealing with the inner half of the fjord, usually drawn the spring and autumn curves rectilinearly, only smoothing out the transitions to summer and winter as little as possible. Generally this represents a linear interpolation between the winter and summer observations; this is obvious in Fig. 8 from the parallel and equidistant course of the isohalines.

Many of the irregularities in the course of the curves shown in Figs 5 and 6 may be due to the fact that the sections do not represent a unitary situation in time, but in fact represent observations made up to 1 - 2 weeks apart. Some of the irregularities, however, probably reflect genuine situations, such as the sharp bends in both isotherms and isohalines shown at stations H26 and H24 (most distinct on the winter section). The course of the curves indicates that at H26, which was originally intended to represent the conditions on the east side of the mouth of Lusterfjorden, is in fact too far east, such that it falls under the influence of Årdalsfjorden. Indeed, it is quite possible that the station better represents the conditions on the north side of Årdalsfjorden. This influence from Årdalsfjorden is also indicated in Figs 7b and 8b, and it is probable that certain of the minor irregularities shown in the course of the curves between stations H18 and H20 are due to the fact that the one or the other of these stations - varying according to the prevailing surface current conditions at different times - may also be more or less influenced by the conditions in Aurlandsfjorden. The irregular course of the curves during the winter of 1943 (Figs 7a, b) was caused by an exceptionally strong westerly storm about February 19, during which surface water was obviously pushed up towards the head of the fjord. Because of this storm the stations between Lusterfjorden and H17 had to be omitted. On February 25 the cold surface water (below $5^{\circ}C$) had not yet extended so far outwards as to stations H15/H14. On April 14 up-warming of the surface water had already started, but the observations indicate that during March the cold surface water had once again spread outwards, to about H12 on the south side and somewhat further than H9 on the northern side of the fjord.

Other irregularities may have been caused by the local current conditions, e.g. at stations near bends in the fjord.

Despite all these irregularities in the curves, however, the fundamental hydrographical picture is clear. During the winter relatively high salinities prevailed everywhere in the fjord. Values of about 34 o/oo were recorded right up to 20 m depth and the supply of fresh water to the fjord only lowered the salinity of the surface layers by a few promille. The cooling of the surface layers was most pronounced in the inner part of the fjord (Table 4). This colder and fresher water extends further out on the northern side of the fjord, due to the Coriolis deflection of the outward-flowing surface current. On the southern side of the fjord, in March 1944 (Fig. 6b), water with salinity below 32 o/oo did not extend beyond H16, whereas on the northern side it reached station H11. Further out still, between Høyangsfjord and Vadheimsfjord, a thin layer of water with a salinity below 32 o/oo was also found at this time. This thin layer may perhaps be best interpreted as the result of some influence from one or both of these fjord branches.

With regard to the water temperatures at this time (Fig. 5b) surface temperatures were below $5^{\circ}C$ as far out as somewhere between H18 and H16 on the southern side. (The value of only $5^{\circ}C$ recorded at H4 may have been due to local cooling produced by sleet showers and an air temperature of about $1^{\circ}C$. Further inwards the air temperature was only a little higher, but there were no sleet showers (cf. below, . On the northern side (Fig. 5b) this cold water extended beyond H3, though locally somewhat warmer ($5.10^{\circ}C$) around H7. A month previously the body of water with temperatures below $5^{\circ}C$ had extended further out towards the fjord mouth (Fig. 7), but also at that time a distinct skewness in the temperature distribution was found. On the northern side this cold water probably reached out to some point beyond H1. On the southern side it may have formed a continous layer out to H4, where on March 23 a temperature of about $5^{\circ}C$ was recorded (cf. above). The anonalous course of the $5^{\circ}$ isotherm is probably due to the lack of observations from H6 and H8 on this date.

During the summer the surface water layer was warm (Figs 5a and 7), with a very low salinity in places (Figs 6a and 8). Also at this season the distribution of the water masses was skewed, although at 0 m the skewness is less marked than that shown by the winter sections. In Lusterfjorden water with a salinity below 1 o/oo was presented as far out as H27 on the western (right) side, but only to about H28 on the eastern (left) side. In the middle part of the fjord water with a salinity below 2 o/oo was more or less evenly distributed. Also further out in the fjord the skewing was less marked. Salinities below 5 o/oo extend out to about H9 on the northern side and to a point between Arnafjord and Finnefjord on the southern side. Salinities below 10 o/oo were recorded near to H1 on the northern side and to a point between Eikefjord and Risnefjord on the southern side.

The skewness of the temperature distributions is somewhat more pronounced in the surface layers above 10 m. On the northern side, though discontinuously, water with temperature above 15$^{\circ}$C extended all the way out to Høyangfjord (perhaps to station H3). When the section was taken, this warm water possibly did not extend further than Aurlandsfjorden on the southern side, although traces were found as far out as H12, and at a somewhat later date traces were also found at H10 and even at H4.

With regard to the hydrographical conditions at 1 - 2 m depth (Figs 5a and 6a), the skewing of the temperature and salinity distributions was more distinct than at 0 m, and since the tidal difference may be at least 1.7 m, it is obvious that also the hydrographical conditions in these layers may influence the intertidal fauna. At 2 m depth salinities below 5 o/oo were recorded as far out as H13 on the northern side and to H16 on the southern side. Salinities below 10 o/oo were recorded to beyond H3 on the northern side and to Finnefjord on the southern side. As far as water temperature is concerned, a corresponding difference existed - though less marked - between the northern and southern side of the fjord at 1 - 2 m depth. A considerably larger body of water warmer than 15$^{\circ}$C was found on the northern than on the southern side. At about 1 - 2 m depth this water could be traced out to H7 on the northern side, but only to H20 on the southern side.

Figs 7a and b and 8a and b show that similar, more or less distinct, skewness in the hydrographical conditions was also found in the other years covered by the investigations. In the summer of 1942 water with a salinity below 5 o/oo was present as far out as [illegible] between Sogndalsfjorden and Fjærlandsfjorden. However, this water salinity may have been due to admixture of fresh water from these fjord branches. The degree of skewness due to the current conditions alone would then be: Water of 5 o/oo salinity out to a point half-way between stations H25 and H23 on the northern side and to just west of H22 on the southern side. We see that the 20 o/oo isohaline also probably extended further out on the northern side than on the southern side, but the opposite seems true for the 15°C isotherm and there seems to be little, if any, difference between the courses of the 10 o/oo and 15 o/oo isohalines on either side of the fjord. However, only a few observations were obtained in June and July 1942. The exact courses of the curves drawn in the figures are therefore somewhat uncertain.

During the summer of 1944 the hydrographical skewness was not nearly so apparent as usual.

During the winter of 1945 conditions were rather uniform, with surface salinities of 32 - 33 o/oo well into Lusterfjorden, where the usual skewness was found, with salinities below 32 o/oo nearly as far out as H29 on the western side of Lusterfjorden, but not even as far out as H30 on the eastern side.

In the summer of 1945 there was again a distinct skewness in the distribution of the water masses, with salinities below 5 o/oo extending somewhat beyond H14 on the southern side, but right out to about H9 on the northern side of the main fjord. In the outer part of the fjord, however, no great differences existed in the hydrographical conditions on the northern and southern sides.

Some of the more sporadic observations from other parts of the fjord suggest a similar skewness of the hydrographical conditions also existed in the fjord branches, at least in the major ones, although the difference in conditions on the right- and left-hand sides of the fjord branches is less marked than those found in the main fjord, and more irregularities were also recorded. The best example of skewness is from Fjærlandsfjorden. Table 1 shows that in both November 1942 and February 1943 the salinity at 0 m was lower on the western side of the fjord - i.e. the right-hand side of the outwards-flowing surface current.

## SUPPLY OF FRESH WATER

The hydrographical observations cover the period from the summer of 1942 to the summer of 1945. To properly understand the cause of the fluctuations in the occurrence of littoral species it was also desirable to know something about the hydrographical conditions both before and after this observation period. The salinity conditions are of especial interest in this connection. Since the salinity of the surface layer in the fjord depends upon the amount of fresh water influx from the rivers, I contacted the Hydrographical Dept. of Norges Vassdrags- og Elektrisitetsvesen, who very kindly furnished me with the monthly data for the influx of fresh water to Sognefjorden during the years 1935 - 1946 and, for comparison, also with the mean monthly influxes of fresh water during the period 1910 - 1940. The estimates for the years 1910 - 1940 and 1935 - 1943 are based on daily readings of the water-level of four rivers (Fig. 1): Årøyelv, Aurlandselv, Flåmselv and Lærdalselv, which together account for about 14.3% of the total fresh water influx. For the years 1944 - 1946 the data are based on the corresponding data for five rivers: Årøyelv, Aurlandselv, Lærdalselv, Årdalselv, and Fortunelv, which together account for about 21.5 % of the total influx.

These data are presented in Table 2 and the same values shown graphically in Fig. 9.

The reduction of the salinity in the surface layers of the fjord usually reaches its maximum in the latter part of July or at the transition July/August, (Figs 2, 3 and 8). The influx of fresh water shows a marked peak in June - July. When estimating the influence of the supply of fresh water influx on the salinity of the surface water layers of the fjord it is necessary to bear in mind that the most important rivers (which include the six mentioned above) all empty into the inner part of Sognefjorden. There are also many rivers in the outer part of the fjord, but they are generally shorter in length and with smaller catchments.

Fig. 10 shows the good accord between the increase in the fresh water influx and the decrease in the salinity at 0 m depth. During the winter months - December to March - the fresh water influx is slightly reduced and a corresponding slight rise in the salinity occurs. In April influx increases slightly but salinity shows a slight decrease. In May the fresh water influx increases markedly and the salinity decreases rapidly. Influx reaches its maximum during the first half of July and the salinity attains its minimum value somewhat later, about the transition July/August. Later on the fresh water influx decreases quite rapidly, whereas the increase in the salinity, which at first was slow, gradually becomes more rapid. The increased influx of fresh water in the spring immediately leads to a decrease in surface salinity. The ample supply of fresh water in June is sufficient to reduce the surface salinity to about 0 o/oo in the inner part of the fjord (Fig. 3). Further out in the fjord, where the direct influx of river water is less, the decrease in surface salinity is correspondingly weaker. The abundant influx in July has little or no influence on the salinity of the surface water layer in the inner part of the fjord where the minimum has already been reached. The main effect of the July influx in the inner part of the fjord is that the salinity of deeper water layers now decreases in turn. As mentioned above (p. 11-12) the stability of the water column may by this time be so well developed that the admixture from below may for some time be more pronounced than the admixture from above, which leads to a salinity increase in these intermediate water layers. The salinity decrease of the deeper water layers is thus delayed. The large quantities of fresh water which are emptied into the inner part of the fjord during June and July gradually flow further and further out into the fjord and may cause a greater decrease in the salinity there than that produced by the local influx of fresh water. In the outer parts of the fjord, therefore, the decrease in the salinity may be expected to continue even after the fresh water influx has started to decrease.

Because of the comparatively scattered and sporadic nature of the salinity observations at different times and in different parts of the fjord, and without data to show whether the influx of fresh water was evenly distributed throughout each month or not, more detailed discussion of the abovementioned effects is impossible. That such a delay occurs in the salinity decrease is evident from the courses of the curves for mean fresh water influx and mean salinity at 0 m (Fig. 10). How far out in the fjord the effect is traceable and the overall degree of the decrease in the salinity depend of course on the extent of the fresh water influx in any particular year. The salinity of the surface water layer does gradually increase again, partly because, little by little, the fresh water is transported further and further out into the fjord and partly because it becomes admixed with more saline water from the layers below.

Bearing the above discussion of the theoretical relationship between salinity and fresh water influx in mind, we do in fact find a good accord in 1942 - 1945. The charts shown in Fig. 11 illustrate the distribution of the surface salinity values recorded at the transition July/August. It is reasonable to suppose that the outward distribution of low salinity water in the fjord at this time ultimately depends on the volume of the fresh water influx during July, whereas the distribution of more saline water (5 - 10 o/oo, 10 - 15 o/oo etc.) will be influenced to a higher degree by the June supply.

In 1942 the fresh water influx in June and July was much below its normal values (Table 2, Fig. 9), Figs 8 and 11 show that water with salinity of 0 - 5 o/oo only extended to a point somewhat beyond H25/H22 (cf. p. 17) and that water with salinity above 15 o/oo extended inwards to about stations H5 and H6.

In 1943 the fresh water influx in June and July was considerably above normal and in this year water with a salinity of 0 - 5 o/oo was found as far out as to about H9 and Finnefjord, and water with a salinity of 5 - 10 o/oo out near to H1 and Risnefjord.

In 1944 the fresh water influx in June was about normal and the surface salinity in the outer part of the fjord was accordingly lower than it was in 1942, although higher than in 1943. In 1944 water with a salinity of 5 - 10 o/oo did not extend quite as far out as in 1942, but water with a salinity of 10 - 15 o/oo extended beyond H1 and H2. On the other hand, the July influx was considerably greater in 1944 than in 1942, and only a little less than that in 1943, and in 1944 water with a salinity of 0 - 5 o/oo did not extend quite as far out as it did in 1943.

The fresh water influx in July 1945 was about the same as in 1944 and the distribution of the 0 - 5 o/oo water body was similar in both years (in 1945 extending a little farther out on the northern side of the fjord, but not so far out on the southern side as in 1944). On the other hand, the June influx in 1945 was a good deal greater than in 1943. At first sight this appears to have had no influence on the distribution of the salinity of the surface layers, since water with a salinity of 5 - 10 o/oo did not extend further out in 1945 than in 1943. In 1943, however, a patch of higher salinity water (10 - 15 o/oo and 15 - 20 o/oo) was present around station H6, whereas the 5 - 10 o/oo isohaline encompassed this area in 1945. This may indicate that the water layer with a salinity of 5 - 10 o/oo was thicker in 1945 than it was in 1943 (cf. also Fig. 11 - 1944). For 1945, unfortunately, observations only exist for 0 m depth.

Since the relationship between the surface salinity in the fjord and the fresh water influx seems to be so well-established and direct, it may be permissible, even in the absence of salinity observations, to infer the salinity distribution pattern from the fresh water influx data.

## TRANSPARENCY

The transparency and colour of the water in the fjord varies considerably during the course of the year. The colour may vary from blue-green in the winter to green or (especially in the inner part of the fjord) even to yellowish green or grey in the summer.

To get some idea of the variations in water transparency some observations were made with a Secchi disc (Ø 50 cm), especially in the innermost part of the fjord where the variation was greatest. Most of the observations were made at stations H33 and H27, with just a few additional observations, including some from the outer part of the fjord.

In the inner part of Lusterfjorden water transparency varied from 25 m in December to 1-2 m in July/August (station H33 and Flathammerholmen in Fig. 12). At the mouth of Lusterfjorden (H27) the water on the whole was somewhat more transparent, and after reaching a minimum at the beginning of July transparency then increased more rapidly here than in the inner part of the fjord.

The initial decrease in water transparency is due to an increase in the phytoplankton. Later on in the summer, glacial silt, discharged into the fjord from the glacier-fed rivers, is responsible for the discolouration of the fjord water. A discolouration due to coccolithophorids, as mentioned by Jorde & Klavestad (1962, p. 13), was not noticed in Sognefjorden during the investigated years.

Only a few, casual, water transparency observations exist for the outer part of the fjord. In 1943 the transparency at H4 on December 9 was similar to that recorded in Lusterfjorden on the same date. A single observation from H1 (11 July 1945) indicated that the water there was only a little more transparent than it was in Lusterfjorden at the same time of year. One observation made at H6 (23 March 1945) indicated an extraordinarily low water transparency. Elsewhere at that same time much phytoplankton was present in the fjord. Some observations from the mouth of Aurlandsfjorden (not included in Fig. 12) indicate an even more rapid recovery of the water transparency values than that recorded at H27.

However, I must explicitly point out that the curves shown in Fig. 12 undoubtedly provide a very schematic picture of the real situation. It is very questionable whether the transparency curve really has so smooth a course, more likely, with more observations, it would have shown several steps corresponding to the maxima of different groups of plankton. Only slight hints of this are given by the present material, e.g. the observation from H6 (23 March 1945). Furthermore on June 15, 1944, clear water was recorded at H27, whereas at H33 it was impossible to see the grey water bottle at a depth of even 3 m. Accordingly, the transparency recorded at H27 at that time was certainly considerably greater than that indicated by the curve in Fig. 12, whereas the situation at H33 may very well have been in accordance with that shown by the curve. I ought also to mention that the section of the schematic curve for H33 for September and October 1944 might perhaps just as well have been drawn as indicated by the dotted line, marked ? in Fig. 12, which would suggest that the low transparency recorded at H33 on October 17, 1944, was caused by a local phytoplankton maximum of limited duration. The water here was clear down to a depth of 2.6 - 2.9 m, below which there was a layer of brownish water, which on examination proved to be due to phytoplankton.

## CURRENTS

In the general remarks appended to the chart for Sognefjorden it is stated (translated from Norwegian): "As a rule the current runs out of the fjord more strongly under the northern shore than under the southern shore." This statement is scarcely based on any specific investigations, but is the result of practical experience accumulated during navigation in the fjord (especially from earlier times when boats were only powered by sails or oars). The situation described above is that which would be expected on hydrographical grounds. The ample fresh water influx from a large number of rivers naturally gives rise to an outward-flowing surface current, which on account of the Earth's rotation is deflected northward - i.e. towards the right-hand side.

Since surface currents may even have influence upon the distribution of members of the intertidal fauna, a more precise picture of the prevailing conditions seemed desirable. During the course of the hydrographical investigations a note was made, as often as possible, whether there was any current, and whether the current was running outwards or inwards in the fjord. We had no special equipment for making current measurements at our disposal, so the following statements are therefore based on direct observations of water motion and/or the drift of floating objects. In many cases a strong current flowed around headlands off which the hydrographical stations were situated. In other cases the direction of the current could only be ascertained by observing the drift of the vessel, or of other floating objects. It was often obviously difficult to decide whether the drift was caused by current or by wind, so only those cases have been considered where no doubt exsists concerning the current conditions - except that very weak currents may have been included under the heading "No current".

The results of the observations presented in Table 3, agree very well with the above-mentioned remarks appended to the chart. Considering Sognefjorden as a whole, out of a total of 364 observations in 212 cases (58%) the current was outward-flowing, whereas in only 100 cases (27%) was an inward-flowing current recorded (52 observations, 14%, recorded "No current"). In the absence of current measuring equipment it was impossible to determine whether or not the outward-flowing current was also stronger on the northern side of the fjord - as stated on the chart - than on the southern side. A distinction is also made in the table between the observations for the outer and inner parts of the fjord. Here the conspicuous difference in the direction of current-flow on the northern and southern sides of the fjord is even more obvious.

On the northern side of the fjord the percentage of inward-flowing currents recorded was only slightly lower in the outer part (18%) than in the inner part (22%), whereas on the southern side the respective values were 27 % and 41 %. On the southern side of the inner part of the fjord inward-flowing currents were observed on a greater number of occasions (41%) than were outward-flowing currents (38%), although this may of course be merely due to chance since the total number of observations is not very large. However, there seems hardly any reason to doubt that outward-flowing surface currents are more prevalent in the fjord as a whole and that this applies especially to conditions on the northern side of the fjord.

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Table 1. Salinity observations from 0 m in Fjærlandsfjorden
19-20 November 1942 and 9 February 1943

| | W. side | | | E.side | | |
|---|---|---|---|---|---|---|
| | Loc. | $T^{o}C$ | S o/oo | $T^{o}C$ | S o/oo | Loc. |
| Nov. 1942 | Hamrenes | 7.80 | 19.00 | 10.55 | 28.75 | Opposite Hamrenes |
| " " | Menes | 8.67 | 26.87 | 9.18 | 27.90 | -"- Menes |
| " " | Vegernes | 8.70 | 28.48 | 9.10 | 29.83 | -"- Vegernes |
| Feb. 1943 | Hamrenes | 5.40 | 32.41 | 5.04 | 32.43 | -"- Hamrenes |
| " " | Menes | 4.72 | 32.66 | 5.33 | 32.94 | -"- Menes |
| " " | Vegernes | 4.83 | 32.66 | 5.13 | 32.84 | -"- Vegernes |

Table 2. Supply of fresh water to Sognefjorden. Normal supply (i.e. mean monthly supply in the years 1910-1940), and monthly supply in the years 1935-1946 in mill. $m^3$

| | Jan. | Feb. | Mar. | Apr. | May | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. | Dec. | Total Mill. $m^3$ | Total % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Normal | 305 | 246 | 227 | 302 | 2052 | 5029 | 5615 | 3460 | 2218 | 1407 | 592 | 388 | 21850 | 100. |
| 1935 | 278 | 286 | 213 | 299 | 1162 | 5835 | 5140 | 2460 | 1715 | 1615 | 568 | 284 | 19710 | 90. |
| 1936 | 214 | 141 | 116 | 173 | 1631 | 4760 | 4069 | 2742 | 1450 | 682 | 509 | 642 | 17130 | 78. |
| 1937 | 523 | 181 | 132 | 324 | 4518 | 5930 | 4731 | 2553 | 2219 | 1542 | 564 | 211 | 23420 | 107. |
| 1938 | 213 | 338 | 667 | 509 | 1866 | 4995 | 7140 | 3830 | 3630 | 1930 | 1519 | 552 | 27210 | 124. |
| 1939 | 238 | 430 | 298 | 417 | 1264 | 7270 | 6405 | 3190 | 1758 | 316 | 380 | 262 | 22220 | 101. |
| 1940 | 157 | 95 | 133 | 138 | 1857 | 4490 | 3190 | 2540 | 2230 | 672 | 413 | 526 | 16490 | 75. |
| 1941 | 165 | 75 | 80 | 93 | 1365 | 4020 | 4221 | 2442 | 1595 | 791 | 294 | 359 | 15500 | 70. |
| 1942 | 224 | 87 | 78 | 229 | 1549 | 3983 | 4020 | 2760 | 3135 | 1920 | 741 | 582 | 19290 | 88. |
| 1943 | 264 | 385 | 625 | 791 | 1994 | 6095 | 6378 | 3508 | 2562 | 1992 | 735 | 367 | 25696 | 117. |
| 1944 | 563 | 447 | 280 | 318 | 1475 | 5040 | 6130 | 4480 | 2460 | 1640 | 477 | 286 | 23596 | 108. |
| 1945 | 245 | 179 | 466 | 689 | 2340 | 6625 | 6120 | 2880 | 1455 | 983 | 417 | 271 | 22670 | 103. |
| 1946 | 249 | 189 | 215 | 728 | 2342 | 4680 | 5225 | 2770 | 2670 | 1300 | 531 | 313 | 21212 | 97. |

Table 3. Current observations in Sognefjorden

| Side of the main fjord (and Lusterfjorden) | Current | Outer part from H1/H2 to H15/H14 | | Inner part from H19/H16 to H33/H32 | | Total | |
|---|---|---|---|---|---|---|---|
| | | Number of obs. | % | Number of obs. | % | Number of obs. | % |
| North (west) | Out | 71 | 76 | 50 | 56 | 121 | 66 |
| | In | 17 | 18 | 20 | 22 | 37 | 20 |
| | No c. | 6 | 6 | 20 | 22 | 26 | 14 |
| | Sum | 94 | 100 | 90 | 100 | 184 | 100 |
| South (east) | Out | 53 | 65 | 38 | 38 | 91 | 51 |
| | In | 22 | 27 | 41 | 41 | 63 | 35 |
| | No c. | 6 | 7 | 20 | 20 | 26 | 14 |
| | Sum | 81 | 99 | 99 | 99 | 180 | 100 |
| Both sides | Out | 124 | 71 | 88 | 47 | 212 | 58 |
| | In | 39 | 22 | 61 | 32 | 100 | 27 |
| | No c. | 12 | 7 | 40 | 21 | 52 | 14 |
| | Sum | 175 | 100 | 189 | 100 | 364 | 99 |

Table 4. Temperature (in $^{o}C$) and salinity (in o/oo) in 0-20 m at the stations H1-H33 in Sognefjorden 1942-1945.
In the date column the three two-figure groups give day, month and year, respectively.
Bracketed numbers signify uncertain values

| St. H1 : | Temperature | | | | | Salinity | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Date | 0 m | 2 m | 5 m | 10 m | 20 m | 0 m | 2 m | 5 m | 10 m | 20 m |
| 29 07 42 | 14.5 | | | | | 19.09 | | | | |
| 20 08 " | 14.13 | 13.93 | 13.74 | 13.65 | 13.26 | 23.17 | 23.30 | 24.94 | 28.15 | 31.64 |
| 27 10 " | 9.60 | 9.53 | 9.58 | 9.69 | 10.07 | 25.39 | 25.41 | 25.50 | 26.18 | 27.43 |
| 15 12 " | 6.90 | 6.88 | 6.88 | 7.06 | 7.07 | 30.59 | 30.61 | 30.62 | 30.91 | 31.17 |
| 24 02 43 | 5.84 | 5.78 | 5.95 | 6.06 | 6.08 | 32.79 | 32.86 | 33.03 | 33.19 | 33.21 |
| 13 04 " | 5.39 | 5.33 | 5.37 | 5.38 | 5.59 | 31.20 | 31.17 | 31.31 | 31.38 | 31.98 |
| 28 05 " | 10.57 | 10.37 | 8.90 | 7.47 | 7.26 | 22.23 | 23.19 | 27.81 | 31.06 | 32.23 |
| 13 07 " | 14.10 | 13.89 | 11.59 | 7.26 | 6.62 | 10.37 | 12.68 | 21.13 | 31.62 | 33.21 |
| 18 08 " | 13.90 | 13.79 | 13.37 | 11.99 | 9.12 | 17.14 | 16.91 | 31.13 | 32.92 | 33.22 |
| 20 10 " | 11.40 | 11.37 | 11.38 | 11.43 | 12.11 | 26.00 | 26.00 | 26.00 | 26.44 | 31.46 |
| 19 01 44 | 5.84 | 6.66 | 6.73 | 6.79 | 6.86 | 26.91 | 31.85 | 32.01 | 32.16 | 32.25 |
| 23 03 " | 5.26 | 5.27 | 5.35 | 5.68 | 7.96 | 32.86 | 32.88 | 33.01 | - | 34.36 |
| 20 06 " | 11.52 | 11.24 | 10.31 | 10.01 | 8.85 | 28.57 | 29.20 | 31.56 | 32.68 | 33.60 |
| 26 07 " | 16.59 | | | | | 13.42 | | | | |
| 24 10 " | 10.38 | | | | | 26.20 | | | | |
| 13 12 " | 7.42 | | | | | 31.55 | | | | |
| 03 02 45 | 4.82 | | | | | 33.01 | | | | |
| 21 03 " | 4.30 | | | | | 32.01 | | | | |
| 11 07 " | 20.70 | | | | | 11.37 | | | | |
| 31 07 " | 16.50 | | | | | 12.63 | | | | |
| St. H2 : | | | | | | | | | | |
| 20 08 42 | 14.13 | 13.89 | 13.81 | 13.79 | 13.25 | 26.08 | 26.04 | 26.22 | 26.29 | 31.87 |
| 27 10 " | 9.74 | 9.66 | 9.69 | 9.73 | 10.53 | 26.56 | 26.51 | 26.55 | 26.65 | 29.52 |
| 15 12 " | 7.05 | 6.95 | 7.02 | 7.07 | 7.46 | 31.73 | 31.80 | 31.98 | 32.00 | 32.92 |
| 24 02 43 | 6.00 | 5.94 | 5.96 | 5.02 | 6.18 | 32.39 | 32.54 | 32.86 | 32.95 | 33.30 |
| 13 04 " | 5.47 | 5.41 | 5.46 | 5.43 | 5.52 | 31.02 | 31.06 | 31.18 | 31.44 | 32.16 |
| 28 05 " | 10.64 | 10.62 | 8.91 | 7.94 | 7.45 | 22.27 | 22.92 | 29.16 | 31.17 | 32.20 |
| 13 07 " | 14.10 | 13.86 | 10.21 | 7.55 | 6.62 | 12.20 | 13.77 | 27.99 | 31.60 | 33.06 |
| 18 08 " | 13.99 | 13.86 | 13.91 | 11.92 | (10.42) | 17.77 | 18.19 | 30.68 | 32.50 | 33.33 |

Table 4 cont.

| St. H2 cont. : | Temperature | | | | | Salinity | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Date | 0 m | 2 m | 5 m | 10 m | 20 m | 0 m | 2 m | 5 m | 10 m | 20 m |
| 20 10 43 | 10.92 | 10.82 | 11.18 | 11.40 | 12.03 | 24.88 | 24.92 | 25.86 | 27.09 | 31.02 |
| 19 01 44 | 6.21 | 6.71 | 6.79 | 6.88 | 6.95 | 30.26 | 31.58 | 31.98 | 32.20 | 32.39 |
| 23 03 " | 6.67 | 6.71 | 6.74 | 6.77 | 7.32 | 33.64 | 33.64 | 33.64 | 33.68 | 34.02 |
| 20 06 " | 13.80 | 13.84 | 13.74 | 9.10 | 8.49 | 23.60 | 23.57 | 23.69 | 33.42 | 33.89 |
| 26 07 " | 17.27 | | | | | 13.93 | | | | |
| 24 10 " | 10.37 | | | | | 26.60 | | | | |
| 13 12 " | 7.30 | | | | | 31.58 | | | | |
| 03 02 45 | 4.80 | | | | | 32.97 | | | | |
| 21 03 " | 4.49 | | | | | 31.24 | | | | |
| 11 07 " | 19.57 | | | | | 12.90 | | | | |
| 31 07 " | 16.60 | | | | | 11.74 | | | | |
| St. H3 : | | | | | | | | | | |
| 30 07 42 | - | - | - | - | - | 16.04 | - | - | - | - |
| 20 08 " | 14.40 | - | 13.82 | - | - | 18.35 | - | 24.44 | - | - |
| 15 12 " | 6.67 | 6.65 | 6.71 | 6.83 | 7.07 | 29.76 | 29.96 | 30.07 | 30.23 | 30.93 |
| 24 02 43 | 5.76 | 5.77 | 5.83 | 5.96 | 5.94 | 32.00 | 32.52 | 32.84 | 33.15 | 33.17 |
| 13 04 " | 5.36 | 5.32 | 5.32 | 5.34 | 5.54 | 31.44 | 31.46 | 31.47 | 31.55 | 31.85 |
| 28 05 " | 10.96 | 10.71 | 8.71 | 7.31 | 7.10 | 19.89 | 21.11 | 27.38 | 30.64 | 32.14 |
| 14 07 " | 15.00 | 13.65 | - | 6.92 | 6.84 | 8.89 | 9.04 | 15.72 | 31.87 | 33.64 |
| 19 08 " | 13.90 | 13.83 | 13.48 | 12.52 | 8.49 | 15.44 | 15.44 | 28.93 | 32.30 | 32.86 |
| 19 10 " | 11.01 | 10.96 | 11.04 | 11.41 | 12.30 | 23.69 | 23.91 | 24.18 | 26.04 | 31.06 |
| 19 01 44 | 6.16 | 6.36 | 6.43 | 6.49 | 6.63 | 30.53 | 31.00 | 31.42 | 31.38 | 31.80 |
| 23 03 " | (4.78) | 4.82 | 5.26 | 6.19 | 8.04 | 32.32 | 32.34 | 32.54 | 33.30 | 34.34 |
| 20 06 " | 13.59 | 12.94 | 10.15 | 9.84 | 8.84 | 22.50 | 23.68 | 31.53 | 32.50 | 33.62 |
| 23 10 " | 9.82 | | | | | 24.79 | | | | |
| 13 12 " | 7.18 | | | | | 31.42 | | | | |
| 03 02 45 | 4.64 | | | | | 32.94 | | | | |
| 21 03 " | 4.14 | | | | | 31.49 | | | | |
| 01 08 " | 16.23 | | | | | 12.00 | | | | |

Table 4 cont.

| St. H4 : | Temperature | | | | | Salinity | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Date | 0 m | 2 m | 5 m | 10 m | 20 m | 0 m | 2 m | 5 m | 10 m | 20 m |
| 30 07 42 | - | - | - | - | - | 17.03 | - | - | - | - |
| 20 08 " | 14.53 | - | 13.84 | - | - | 23.01 | - | 28.64 | - | - |
| 15 12 " | 7.08 | 6.98 | 7.29 | 7.36 | 7.46 | 31.26 | 31.31 | 31.76 | 32.00 | 32.77 |
| 24 02 43 | 5.69 | 5.62 | 5.68 | 5.70 | 5.99 | 31.44 | 31.60 | 31.84 | 32.23 | 33.10 |
| 13 04 " | 5.55 | 5.46 | 5.51 | 5.51 | 5.69 | 31.83 | 31.71 | 31.80 | 31.87 | 32.20 |
| 28 05 " | 10.69 | 10.62 | 9.90 | - | 7.22 | 18.57 | 20.95 | 25.68 | 30.44 | 32.32 |
| 14 07 " | 14.70 | 14.14 | 10.16 | - | 6.70 | 9.63 | 11.71 | 28.62 | 31.31 | 33.19 |
| 19 08 " | (13.80) | 13.87 | 13.26 | 12.60 | 8.57 | 14.49 | 24.51 | 30.73 | 31.96 | 33.49 |
| 19 10 " | 11.30 | 11.27 | 11.43 | 11.63 | 12.03 | 26.64 | 26.83 | 27.30 | 28.04 | 31.53 |
| 19 01 44 | 6.44 | 6.47 | 6.51 | 6.73 | 6.77 | 30.88 | 30.97 | 31.11 | 31.83 | 32.18 |
| 23 03 " | (4.98) | 5.68 | 6.42 | 7.96 | 8.36 | 32.75 | 32.95 | 33.26 | 34.18 | 34.72 |
| 20 06 " | 13.88 | 13.84 | 12.77 | 9.34 | 8.49 | 22.41 | 22.41 | 24.09 | 32.84 | 33.86 |
| 23 10 " | 10.50 | | | | | 26.47 | | | | |
| 13 12 " | 7.49 | | | | | 31.62 | | | | |
| 01 02 45 | 4.90 | | | | | 32.99 | | | | |
| 22 03 " | 4.29 | | | | | 31.13 | | | | |
| 12 07 " | 18.75 | | | | | 8.24 | | | | |
| 01 08 " | 16.50 | | | | | 12.02 | | | | |
| St. H5 : | | | | | | | | | | |
| 26 06 42 | 13.05 | 12.98 | 11.08 | 8.40 | 7.06 | 21.94 | 21.94 | 26.53 | 31.85 | 33.08 |
| 21 08 " | 14.82 | 14.89 | 13.80 | 13.10 | 12.57 | 16.76 | 17.50 | 25.95 | 30.23 | 31.96 |
| 28 10 " | 9.59 | 9.55 | 9.62 | 9.94 | 11.54 | 25.72 | 25.81 | 25.97 | 26.85 | 31.47 |
| 15 12 " | 5.90 | 6.47 | 6.53 | 6.55 | 7.22 | 27.27 | 29.16 | 29.61 | 29.72 | 31.20 |
| 24 02 43 | 5.70 | 5.70 | 5.73 | 5.73 | 5.78 | 32.34 | 32.57 | 32.68 | 32.97 | 33.10 |
| 13 04 " | 5.34 | 5.27 | 5.29 | 5.27 | 5.30 | 30.97 | 31.20 | 31.24 | 31.27 | 31.29 |
| 28 05 " | 9.71 | 11.30 | 7.65 | 7.02 | 6.93 | 12.30 | 18.15 | 29.09 | 30.84 | 32.25 |
| 16 07 " | 14.80 | 14.55 | 10.73 | 7.27 | 6.11 | 7.63 | 7.74 | 24.43 | 31.87 | 33.13 |
| 20 08 " | 13.60 | 13.55 | 13.44 | 11.92 | 8.31 | 10.16 | 11.17 | 29.74 | 32.07 | 32.90 |
| 19 10 " | 10.92 | 10.85 | 11.19 | 11.26 | 12.27 | 23.40 | 23.48 | 24.22 | 24.79 | 31.55 |
| 19 01 44 | 5.56 | 6.05 | 6.23 | 6.56 | 6.69 | 28.01 | 29.25 | 31.02 | 31.56 | 31.92 |
| 23 03 " | (4.61) | 5.28 | 5.29 | 5.33 | 7.84 | 31.58 | 32.61 | 32.65 | 32.72 | 34.14 |
| 20 06 " | 12.76 | 12.33 | 10.83 | 9.98 | 8.68 | 22.03 | 23.24 | 28.93 | 31.91 | 33.39 |
| 28 07 " | 15.73 | | | | | 11.15 | | | | |

Table 4 cont.

| St. H5 cont. : | Temperature | | | | | Salinity | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Date | 0 m | 2 m | 5 m | 10 m | 20 m | 0 m | 2 m | 5 m | 10 m | 20 m |
| 23 10 44 | 9.60 | | | | | 23.69 | | | | |
| 13 12 " | 6.73 | | | | | 31.02 | | | | |
| 03 02 45 | 3.72 | | | | | 32.18 | | | | |
| 20 03 " | 4.37 | | | | | 31.24 | | | | |
| 13 07 " | 18.60 | | | | | 6.78 | | | | |
| 02 08 " | 16.61 | | | | | 9.51 | | | | |
| St. H6 : | | | | | | | | | | |
| 26 06 42 | 13.33 | 13.21 | 10.52 | 7.95 | 6.55 | 20.53 | 20.52 | 29.74 | 32.42 | 33.28 |
| 21 08 " | 14.85 | 14.28 | 14.12 | 13.35 | 13.23 | 17.50 | 22.55 | 24.31 | 31.09 | 31.82 |
| 28 10 " | 9.68 | 9.64 | 9.69 | 9.74 | 11.16 | 26.00 | 26.02 | 26.02 | 26.20 | 31.89 |
| 15 12 " | 7.18 | 7.20 | 7.21 | 7.26 | 7.39 | 31.69 | 31.82 | 31.80 | 31.83 | 32.18 |
| 24 02 43 | 5.56 | 5.54 | 5.58 | 5.60 | 5.72 | 31.33 | 31.36 | - | 31.83 | 32.88 |
| 13 04 " | 5.51 | 5.65 | 5.76 | 5.88 | 6.72 | 32.09 | 32.09 | 32.21 | 32.43 | 33.57 |
| 28 05 " | 11.43 | 10.97 | 8.69 | 6.98 | 6.92 | 18.04 | 20.41 | 27.86 | 31.06 | 32.50 |
| 16 07 " | 12.71 | 11.89 | 10.28 | 7.46 | 6.68 | 17.85 | 22.41 | 29.60 | 31.55 | 32.88 |
| 20 08 " | 13.73 | 13.69 | 13.24 | 11.16 | 8.63 | 10.84 | 11.20 | 28.86 | 32.39 | 33.33 |
| 19 10 " | 12.03 | 12.02 | 12.11 | 12.41 | 12.20 | 29.74 | 29.78 | 30.16 | 30.81 | 31.20 |
| 19 01 44 | 5.86 | 6.31 | 6.49 | 6.67 | 6.85 | 29.33 | 30.52 | 31.44 | 31.82 | 32.21 |
| 23 03 " | 5.58 | 5.64 | 5.90 | 6.48 | 7.92 | 32.99 | 33.01 | 33.12 | 33.26 | 34.23 |
| 20 06 " | 13.78 | 13.59 | 13.32 | 9.73 | 8.52 | 20.37 | 20.64 | 20.95 | 32.34 | 33.69 |
| 28 07 " | 14.43 | | | | | 19.38 | | | | |
| 23 10 " | 11.06 | | | | | 28.69 | | | | |
| 13 12 " | 7.54 | | | | | 31.58 | | | | |
| 01 02 45 | 5.20 | | | | | 33.15 | | | | |
| 23 03 " | 4.73 | | | | | 29.45 | | | | |
| 13 07 " | 18.39 | | | | | 7.07 | | | | |
| 02 08 " | 16.80 | | | | | 7.63 | | | | |

Table 4 cont.

| St. H7: | Temperature | | | | | Salinity | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Date | 0 m | 2 m | 5 m | 10 m | 20 m | 0 m | 2 m | 5 m | 10 m | 20 m |
| 31 07 42 | - | - | - | - | - | 13.55 | - | - | - | - |
| 21 08 " | 14.88 | - | 13.64 | 13.22 | - | 16.20 | - | 27.05 | 29.69 | - |
| 28 10 " | 10.25 | 10.11 | 10.18 | 10.92 | 11.83 | 26.55 | 26.56 | 26.58 | 28.26 | 31.76 |
| 15 12 " | 6.27 | 6.26 | 6.29 | 6.41 | 7.29 | 29.36 | 29.36 | 29.51 | 29.61 | 31.46 |
| 24 02 43 | 5.47 | 5.44 | 5.45 | 5.48 | 5.51 | 32.05 | 32.12 | 32.52 | 32.90 | 32.97 |
| 13 04 " | 5.30 | 5.28 | 5.28 | 5.28 | 5.68 | 30.75 | 31.18 | 31.24 | 31.29 | 32.21 |
| 28 05 " | 11.33 | 11.06 | 8.23 | 7.05 | 6.91 | 16.83 | 20.48 | 28.06 | 30.23 | 32.34 |
| 16 07 " | 15.79 | 14.63 | 9.51 | 7.34 | 6.59 | 6.85 | 7.59 | 28.42 | 31.58 | 33.06 |
| 20 08 " | 14.33 | 14.00 | 12.73 | 11.30 | 7.88 | 9.61 | 10.26 | 31.26 | 32.05 | 33.15 |
| 19 10 " | 10.87 | 10.79 | 11.69 | 12.51 | 12.53 | 22.38 | 22.43 | 27.20 | 30.44 | 30.50 |
| 20 01 44 | 5.16 | 5.59 | 6.12 | 6.32 | 6.78 | 29.09 | 30.50 | 31.17 | 31.47 | 32.05 |
| 23 03 " | 5.10 | 5.14 | 5.23 | 5.72 | 7.41 | 32.30 | 32.61 | 32.65 | 32.90 | 33.64 |
| 20 06 " | 13.15 | 12.33 | 11.03 | 9.95 | 8.79 | 20.59 | 22.94 | 27.86 | 31.80 | 33.39 |
| 28 07 " | 15.70 | | | | | 10.41 | | | | |
| 23 10 " | 10.20 | | | | | 25.10 | | | | |
| 12 12 " | 7.50 | | | | | 31.49 | | | | |
| 03 02 45 | 4.50 | | | | | 32.83 | | | | |
| 20 03 " | 3.91 | | | | | 31.65 | | | | |
| 13 07 " | 18.92 | | | | | 6.20 | | | | |
| 02 08 " | 16.81 | | | | | 8.87 | | | | |
| St. H8: | | | | | | | | | | |
| 21 08 42 | 14.81 | - | 13.96 | 13.48 | - | 16.69 | - | 25.44 | 29.79 | - |
| 28 10 " | 9.64 | 9.54 | 9.55 | 9.71 | 11.15 | 25.19 | 25.48 | 25.59 | 26.09 | 31.33 |
| 15 12 " | 6.87 | 6.84 | 7.17 | 7.39 | 7.49 | - | 30.88 | 31.67 | 32.09 | 32.66 |
| 24 02 43 | 5.42 | 5.39 | 5.40 | 5.43 | 5.68 | 30.44 | 30.46 | 30.50 | 30.79 | 32.92 |
| 13 04 " | 5.41 | 5.36 | 5.41 | 5.40 | 6.46 | 31.42 | 31.44 | 31.56 | 31.67 | 32.22 |
| 28.05 " | 11.60 | 10.80 | 8.71 | 7.12 | 6.94 | 17.45 | 22.25 | 27.59 | 30.43 | 32.48 |
| 16 07 " | 14.62 | 14.03 | 8.47 | 7.01 | 6.62 | 9.34 | 11.09 | 30.90 | 31.76 | 32.97 |
| 20 08 " | 13.80 | 13.66 | 13.61 | 11.20 | 7.77 | 9.92 | 10.35 | 29.45 | 32.25 | 33.48 |
| 19 10 " | 11.30 | 11.31 | 11.61 | 12.52 | 12.14 | 26.53 | 26.58 | 27.57 | 29.94 | 31.36 |
| 20 01 44 | 5.95 | 6.01 | 6.32 | 6.76 | 6.83 | 30.34 | 30.46 | 30.93 | 31.85 | 32.14 |
| 23 03 " | 5.28 | 5.27 | 5.59 | 6.01 | 7.73 | 32.63 | 32.68 | 32.83 | 33.13 | 34.14 |
| 20 06 " | 14.00 | 13.40 | 13.19 | 9.80 | 8.44 | 16.17 | 19.56 | 22.66 | 32.29 | 33.69 |

Table 4 cont.

| St. H8 cont.: | Temperature | | | | | Salinity | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Date | 0 m | 2 m | 5 m | 10 m | 20 m | 0 m | 2 m | 5 m | 10 m | 20 m |
| 28 07 44 | 15.60 | | | | | 13.77 | | | | |
| 23 10 " | 10.63 | | | | | 27.47 | | | | |
| 12 12 " | 7.40 | | | | | 31.44 | | | | |
| 01 02 45 | 4.60 | | | | | 32.88 | | | | |
| 23 03 " | 5.30 | | | | | 19.58 | | | | |
| 02 08 " | 17.13 | | | | | 8.21 | | | | |
| St. H9: | | | | | | | | | | |
| 22 08 42 | 14.63 | 14.52 | 13.52 | 13.28 | 13.05 | 11.74 | 15.66 | 28.33 | 30.50 | 31.31 |
| 28 10 " | 8.72 | 10.22 | 10.52 | 11.27 | 11.94 | 20.14 | 26.33 | 27.00 | 28.93 | 31.71 |
| 16 12 " | 6.46 | 6.51 | 6.52 | 6.56 | 6.98 | 30.50 | 30.50 | 30.50 | 30.55 | 31.27 |
| 25 02 43 | 5.16 | 5.13 | 5.29 | 5.52 | 5.59 | 30.32 | 30.30 | 32.12 | 32.94 | 33.04 |
| 14 04 " | 5.31 | 5.20 | 5.27 | 5.30 | 6.04 | 30.55 | 30.55 | 31.02 | 31.48 | 32.92 |
| 29 05 " | 10.85 | 10.70 | 7.95 | 6.90 | 6.86 | 14.33 | 17.70 | 28.26 | 30.35 | 32.09 |
| 17 07 " | 14.70 | 14.51 | 10.06 | 7.55 | 6.61 | 4.99 | 5.35 | 27.70 | 31.46 | 33.03 |
| 20 08 " | 14.80 | 14.41 | 12.65 | 11.22 | 7.82 | 9.06 | 9.25 | 30.46 | 32.10 | 33.10 |
| 18 10 " | 10.88 | 10.76 | 10.74 | 12.60 | 12.25 | 22.27 | 22.23 | 22.23 | 30.75 | 31.40 |
| 20 01 44 | 5.36 | 5.44 | 5.70 | 6.01 | 6.77 | 30.77 | 30.77 | 31.08 | 31.26 | 32.05 |
| 24 03 " | (4.74) | 4.68 | 4.70 | 4.81 | 7.99 | 32.10 | 32.10 | 32.10 | 32.18 | 34.22 |
| 19 06 " | 13.36 | 13.32 | 12.01 | 9.73 | 8.73 | 18.24 | 18.28 | 23.66 | 31.24 | 33.28 |
| 28 07 " | 14.98 | | | | | 14.61 | | | | |
| 23 10 " | 10.09 | | | | | 24.70 | | | | |
| 12 12 " | 7.32 | | | | | 31.33 | | | | |
| 03 02 45 | 4.00 | | | | | 32.66 | | | | |
| 19 03 " | 3.78 | | | | | 31.51 | | | | |
| 03 08 " | 17.11 | | | | | 9.29 | | | | |
| St. H10: | | | | | | | | | | |
| 01 08 42 | - | - | - | - | - | 9.13 | - | - | - | - |
| 22 08 " | 14.45 | 14.33 | 14.03 | 13.25 | 13.15 | 15.86 | 20.72 | 24.14 | 30.19 | 30.95 |
| 28 10 " | 9.50 | 9.38 | 9.42 | 9.49 | 11.59 | 25.01 | 24.99 | 25.14 | 25.25 | 31.71 |
| 16 12 " | 6.29 | 6.81 | 7.15 | 7.37 | 7.59 | 31.02 | 31.15 | 31.87 | 32.39 | 32.88 |
| 25 02 43 | 5.34 | 5.28 | 5.48 | 5.40 | 5.48 | 30.32 | 30.37 | 31.60 | 32.16 | 32.84 |
| 14 04 " | 5.46 | 5.32 | 5.35 | 5.33 | 6.57 | 30.72 | 30.84 | 31.33 | 31.42 | 33.46 |

Table 4 cont.

| St. H10 Cont.: | Temperature | | | | | Salinity | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Date | 0 m | 2 m | 5 m | 10 m | 20 m | 0 m | 2 m | 5 m | 10 m | 20 m |
| 29 05 43 | 10.31 | 10.41 | 8.73 | 7.16 | 6.88 | 19.65 | 23.15 | 27.50 | 29.61 | 32.05 |
| 17 07 " | 14.88 | 13.94 | 8.10 | 7.22 | 6.77 | 5.43 | 10.61 | 30.23 | 31.64 | 32.59 |
| 20 08 " | 14.13 | 13.84 | 11.62 | 10.50 | 7.89 | 9.22 | 9.96 | 31.73 | 32.05 | 33.21 |
| 18 10 " | 10.62 | 11.08 | 12.74 | 12.60 | 12.20 | 22.41 | 27.00 | 30.57 | 31.20 | 31.67 |
| 20 01 44 | 5.72 | 5.94 | 6.01 | 6.81 | 6.92 | 30.64 | 30.88 | 31.15 | 31.67 | 32.25 |
| 24 03 " | 5.26 | 5.24 | 5.90 | 7.06 | 8.07 | 32.54 | 32.54 | 32.99 | 33.69 | 34.65 |
| 19 06 " | 14.24 | 14.21 | (13.47) | (7.65) | 8.71 | 16.09 | 16.09 | 17.07 | 32.23 | 33.37 |
| 28 07 " | 15.31 | | | | | 10.72 | | | | |
| 23 10 " | 10.04 | | | | | 24.74 | | | | |
| 12 12 " | 7.46 | | | | | 31.51 | | | | |
| 01 02 45 | 4.83 | | | | | 32.97 | | | | |
| 23 03 " | 4.35 | | | | | 31.76 | | | | |
| 03 08 " | 17.13 | | | | | 9.69 | | | | |
| St. H11: | | | | | | | | | | |
| 01 08 42 | - | - | - | - | - | 6.71 | - | - | - | - |
| 22 08 " | 15.03 | - | 13.28 | - | - | 7.72 | - | 27.79 | - | - |
| 16 12 " | 6.16 | 6.16 | 6.34 | 7.35 | 7.54 | 29.27 | 29.27 | 29.76 | 31.53 | 32.32 |
| 25 02 43 | 5.46 | 5.29 | 5.55 | 5.56 | 5.60 | 32.68 | 32.75 | 32.94 | 32.99 | 33.03 |
| 14 04 " | 5.41 | 5.30 | 5.33 | 5.26 | 5.77 | 30.82 | 30.82 | 30.88 | 31.17 | 32.47 |
| 29 05 " | 11.90 | 10.93 | 8.44 | 6.70 | 6.54 | 10.64 | 19.27 | 27.72 | 30.43 | 32.21 |
| 17 07 " | 15.40 | 14.52 | 10.45 | 7.13 | 6.56 | 4.29 | 6.02 | 28.75 | 31.26 | 32.88 |
| 21 08 " | 13.80 | - | 11.42 | 9.56 | - | 4.43 | - | 31.15 | 32.29 | - |
| 18 10 " | 9.10 | 9.68 | 13.15 | 13.22 | 13.09 | 15.08 | 17.43 | 29.85 | 30.64 | 31.27 |
| 21 01 44 | 5.46 | 5.72 | 5.96 | 6.44 | 6.71 | 30.73 | 30.93 | 31.17 | 31.38 | 31.80 |
| 24 03 " | (4.78) | 4.73 | 4.94 | 6.07 | 7.60 | 32.00 | 32.01 | 32.23 | 32.83 | 34.22 |
| 10 06 " | 14.31 | 14.00 | 11.85 | 9.77 | 8.54 | 12.43 | 13.28 | 23.40 | 30.99 | 33.35 |
| 23 10 " | 8.22 | | | | | 16.78 | | | | |
| 12 12 " | 7.22 | | | | | 31.20 | | | | |
| 01 02 45 | 4.00 | | | | | 32.36 | | | | |
| 03 02 " | 3.41 | | | | | 32.27 | | | | |
| 19 03 " | 3.17 | | | | | 28.31 | | | | |
| 24 03 " | 4.95 | | | | | 25.79 | | | | |
| 13 07 " | 19.27 | | | | | 3.77 | | | | |
| 04 08 " | 17.33 | | | | | 6.67 | | | | |

Table 4 cont.

| St. H12 : | Temperature | | | | | Salinity | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Date | 0 m | 2 m | 5 m | 10 m | 20 m | 0 m | 2 m | 5 m | 10 m | 20 m |
| 01 08 42 | - | - | - | - | - | 8.71 | - | - | - | - |
| 22 08 " | 15.03 | - | 13.73 | - | - | 8.24 | - | 25.08 | - | - |
| 16 12 " | 6.89 | 6.91 | 7.06 | 7.33 | 7.69 | 31.09 | 31.09 | 31.44 | 32.14 | 33.03 |
| 25 02 43 | 5.33 | 5.28 | 5.30 | 5.34 | 5.42 | 31.20 | 31.35 | 31.58 | 32.12 | 32.90 |
| 14 04 " | 5.28 | 5.19 | 5.25 | 5.28 | 5.42 | 30.68 | 30.66 | 31.13 | 31.42 | 31.91 |
| 29 05 " | 11.63 | 9.66 | 7.91 | 6.97 | 6.64 | 11.58 | 24.11 | 28.51 | 30.17 | 32.09 |
| 17 07 " | 15.03 | 14.71 | 9.28 | 7.08 | 6.54 | 4.40 | 7.27 | 29.83 | 31.64 | 32.81 |
| 21 08 " | 13.83 | - | 11.12 | 8.39 | - | 6.19 | - | 31.80 | 32.29 | - |
| 18 10 " | 9.50 | 9.61 | 12.68 | 12.86 | 12.93 | 16.71 | 17.20 | 30.25 | 30.82 | 30.90 |
| 21 01 44 | 4.85 | 5.03 | 6.76 | 6.06 | 6.97 | 30.14 | 30.35 | 31.13 | 31.31 | 32.23 |
| 24 03 " | 5.35 | 5.33 | 5.56 | 6.12 | 7.61 | 32.57 | 32.59 | 32.65 | 32.92 | 34.25 |
| 19 06 " | 14.88 | 14.41 | (13.47) | (7.13) | 8.54 | 14.51 | 14.94 | 15.97 | 32.45 | 33.28 |
| 29 07 " | 15.79 | | | | | 5.48 | | | | |
| 23 10 " | 8.70 | | | | | 20.34 | | | | |
| 12 12 " | 7.30 | | | | | 31.33 | | | | |
| 24 03 45 | 4.64 | | | | | 29.13 | | | | |
| 04 08 " | 17.69 | | | | | 6.83 | | | | |
| St. H13: | | | | | | | | | | |
| 22 08 42 | 15.11 | 15.02 | 13.45 | 12.91 | 12.43 | 7.45 | 7.43 | 24.96 | 30.44 | 31.62 |
| 29 10 " | 8.06 | 8.16 | 9.49 | 11.14 | 11.14 | 19.24 | 19.72 | 23.03 | - | 32.25 |
| 16 12 " | 6.07 | 6.07 | 6.07 | 6.08 | 7.74 | 29.02 | 29.04 | 29.04 | 29.02 | 32.29 |
| 15 02 43 | 5.06 | 5.43 | 5.46 | 5.51 | 5.55 | 31.22 | 32.75 | 32.77 | 32.90 | 33.01 |
| 14 04 " | 5.42 | 5.18 | 5.19 | 5.36 | 5.40 | 29.00 | 29.99 | 30.61 | 31.46 | 31.92 |
| 29 05 " | 12.06 | 11.97 | 8.05 | 6.67 | 6.41 | 10.46 | 20.88 | 27.16 | 30.17 | 32.14 |
| 12 07 " | 15.32 | 15.19 | 10.40 | 6.93 | 6.68 | 4.70 | 4.70 | 26.55 | 31.29 | 33.40 |
| 21 08 " | 13.80 | 13.70 | 13.24 | 10.36 | 7.14 | 4.09 | 4.11 | 27.48 | 32.10 | 33.10 |
| 18 10 " | 8.63 | 8.62 | 9.65 | 13.27 | 13.05 | 13.62 | 13.89 | 17.23 | 30.32 | 31.29 |
| 21 01 44 | 5.38 | 5.44 | 5.50 | 6.00 | 6.70 | 30.73 | 30.73 | 30.90 | 31.13 | 31.82 |
| 24 03 " | 4.98 | 4.68 | 4.76 | 5.13 | 7.40 | 31.67 | 31.82 | 32.07 | 32.38 | 33.80 |
| 19 06 " | 14.10 | 13.94 | 12.60 | 9.39 | 8.56 | 12.57 | 13.82 | 20.72 | 31.44 | 33.33 |
| 23 10 " | 7.93 | | | | | 16.20 | | | | |
| 12 12 " | 7.23 | | | | | 31.17 | | | | |

Table 4 cont.

| St. H13 cont.: | Temperature | | | | | Salinity | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Date | 0 m | 2 m | 5 m | 10 m | 20 m | 0 m | 2 m | 5 m | 10 m | 20 m |
| 19 03 45 | 2.39 | | | | | 25.44 | | | | |
| 13 07 " | 19.70 | | | | | 3.44 | | | | |
| 04 08 " | 18.14 | | | | | 5.68 | | | | |
| St. H14: | | | | | | | | | | |
| 19 08 42 | 14.63 | 13.88 | 13.34 | 12.12 | 12.34 | 9.31 | 17.52 | 26.92 | 30.25 | 31.64 |
| 22 08 " | 15.01 | 14.34 | 14.02 | 13.26 | 12.89 | 7.06 | 16.17 | 22.38 | 29.63 | 31.67 |
| 29 10 " | 9.43 | 9.62 | 11.00 | 11.01 | 11.29 | 24.54 | 25.12 | 26.09 | 28.03 | 31.56 |
| 16 12 " | 6.72 | 7.29 | 7.71 | 7.76 | 7.78 | 30.50 | 31.76 | 32.66 | 32.84 | 32.94 |
| 25 02 43 | 5.26 | 5.22 | 5.23 | 5.24 | 5.36 | 32.01 | 32.07 | 32.10 | 32.21 | 32.61 |
| 14 04 " | 5.36 | 5.16 | 5.20 | 5.18 | 6.26 | 29.27 | 29.85 | 30.35 | 30.55 | 33.04 |
| 29 05 " | 13.51 | 11.87 | - | 6.88 | 6.52 | 13.51 | 19.16 | 28.26 | 30.08 | 32.05 |
| 12 07 " | 14.95 | 14.55 | 9.58 | 6.63 | 7.02 | 4.70 | 7.41 | 27.54 | 31.83 | 33.91 |
| 21 08 " | 13.80 | 12.61 | 11.43 | 9.52 | 7.30 | 4.18 | 27.16 | 30.93 | 32.25 | 33.33 |
| 18 10 " | 9.61 | - | 13.11 | 13.22 | 12.60 | 16.69 | 26.22 | 29.38 | 30.41 | 31.42 |
| 21 01 44 | 5.20 | 5.25 | 5.38 | 5.85 | 6.87 | 30.62 | 30.66 | 30.72 | 31.06 | 32.03 |
| 24 03 " | 5.55 | 5.20 | 5.51 | 5.76 | 7.74 | 32.36 | 32.45 | 32.57 | 32.75 | 34.22 |
| 19 06 " | 14.27 | 13.73 | 12.13 | 9.47 | 8.62 | 11.33 | 11.78 | 22.18 | 31.76 | 33.39 |
| 29 07 " | 15.89 | | | | | 3.08 | | | | |
| 23 10 " | 8.59 | | | | | 18.57 | | | | |
| 12 12 " | 7.38 | | | | | 31.36 | | | | |
| 01 02 45 | 4.00 | | | | | 32.36 | | | | |
| 03 02 " | 4.20 | | | | | 32.72 | | | | |
| 19 03 " | 3.51 | | | | | 29.90 | | | | |
| 24 03 " | 5.04 | | | | | 29.92 | | | | |
| 14 07 " | 19.00 | | | | | 4.89 | | | | |
| 04 08 " | 18.28 | | | | | 5.39 | | | | |
| St. H15: | | | | | | | | | | |
| 19 08 42 | 13.97 | 14.03 | - | - | - | 3.62 | 7.41 | 15.28 | 28.82 | 31.92 |
| 22 08 " | 15.13 | - | 14.22 | - | - | 5.48 | - | 19.07 | - | - |
| 29 10 " | 8.28 | 8.36 | 10.28 | 12.05 | 11.85 | 19.94 | 20.39 | 24.88 | 28.21 | 31.67 |
| 16 12 " | 5.49 | 5.57 | 5.89 | 6.83 | 7.90 | 27.48 | 27.56 | 28.26 | 30.70 | 32.84 |
| 25 02 43 | 5.38 | 5.38 | 5.44 | 5.45 | 5.51 | 32.27 | 32.54 | 32.88 | 32.95 | 33.01 |

Table 4 cont.

| St. H15 cont.: | Temperature | | | | | Salinity | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Date | 0 m | 2 m | 5 m | 10 m | 20 m | 0 m | 2 m | 5 m | 10 m | 20 m |
| 14 04 43 | 5.31 | 5.23 | 5.26 | 5.27 | 5.54 | 30.62 | 30.90 | 31.09 | 31.33 | 32.25 |
| 29 05 " | 11.61 | 11.72 | 8.26 | 6.81 | 6.30 | 10.81 | 14.15 | 26.51 | 30.12 | 31.87 |
| 12 07 " | 14.74 | 14.82 | 10.16 | 6.36 | 6.74 | 3.28 | 3.57 | 28.19 | 31.35 | 33.35 |
| 21 08 " | 13.70 | 13.58 | 11.42 | 10.09 | 7.02 | 2.92 | 2.95 | 28.21 | 31.78 | 33.01 |
| 18 10 " | 8.89 | 9.19 | 12.35 | 13.33 | 12.98 | 14.22 | 14.79 | 25.55 | 30.25 | 31.27 |
| 21 01 44 | 5.66 | 5.76 | 5.83 | 5.96 | 6.27 | 30.88 | 30.95 | 31.08 | 31.17 | 31.38 |
| 24 03 " | 4.75 | 4.70 | 4.64 | 4.76 | (7.52) | 31.60 | 31.60 | 31.74 | 31.91 | 33.86 |
| 19 06 " | 13.80 | 12.96 | 12.36 | 9.51 | 8.11 | 11.06 | 11.62 | 19.36 | 30.59 | 33.51 |
| 29 07 " | 16.33 | | | | | 2.79 | | | | |
| 23 10 " | 7.52 | | | | | 14.43 | | | | |
| 12 12 " | 7.20 | | | | | 31.18 | | | | |
| 01 02 45 | 3.86 | | | | | 32.21 | | | | |
| 03 02 " | 3.21 | | | | | 32.25 | | | | |
| 19 03 " | 3.40 | | | | | 29.43 | | | | |
| 14 07 " | 18.40 | | | | | 5.70 | | | | |
| 04 08 " | 17.64 | | | | | 4.27 | | | | |
| St. H16: | | | | | | | | | | |
| 04 09 42 | 14.16 | 14.20 | 13.76 | 13.06 | 13.23 | 12.59 | 13.55 | 26.64 | 30.39 | 32.32 |
| 04 11 " | 9.70 | 11.42 | 12.11 | 11.89 | 11.33 | 23.68 | 27.07 | 28.69 | 31.56 | 32.21 |
| 19 12 " | 6.65 | 6.63 | 6.66 | 6.98 | 7.80 | 30.75 | 30.75 | 30.73 | - | 33.08 |
| 17 04 43 | 5.45 | 5.39 | 4.45 | 5.43 | 5.43 | 30.61 | 30.66 | 30.84 | 30.88 | 30.93 |
| 02 06 " | 12.67 | 12.43 | 8.69 | 6.37 | 6.51 | 11.92 | 14.33 | 26.78 | 30.90 | 32.05 |
| 20 07 " | 14.81 | 14.91 | 8.94 | - | 6.64 | 2.00 | 2.90 | 29.58 | 31.82 | 33.21 |
| 24 08 " | 14.01 | 13.83 | 12.13 | 9.87 | 7.40 | 3.93 | 4.04 | 27.48 | 31.65 | 32.79 |
| 25 10 " | 9.62 | 12.35 | 13.35 | 12.76 | 12.10 | 18.12 | 26.53 | 30.19 | 31.55 | 31.96 |
| 26 01 44 | 5.44 | 5.54 | 5.59 | 5.78 | 6.09 | 31.00 | 31.02 | 31.09 | 31.22 | 31.47 |
| 29 03 " | 5.26 | 5.40 | 5.62 | 5.80 | 7.21 | 32.18 | 32.18 | 32.39 | 32.63 | 33.91 |
| 19 06 " | 13.80 | 13.60 | 12.43 | 9.15 | 8.55 | 9.58 | 9.60 | 18.77 | 31.46 | 33.28 |
| 03 08 " | 18.08 | | | | | 2.02 | | | | |
| 18 10 " | 9.80 | | | | | 16.35 | | | | |
| 09 12 " | 8.00 | | | | | 31.47 | | | | |
| 06 02 45 | 3.56 | | | | | 32.34 | | | | |
| 06 03 " | 3.38 | | | | | 32.00 | | | | |

Table 4 cont.

| St. H16 cont.: | Temperature | | | | | Salinity | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Date | 0 m | 2 m | 5 m | 10 m | 20 m | 0 m | 2 m | 5 m | 10 m | 20 m |
| 02 07 45 | 16.29 | | | | | 3.96 | | | | |
| 28 07 " | 17.60 | | | | | 2.83 | | | | |
| St. H17: | | | | | | | | | | |
| 19 08 42 | 13.03 | - | - | - | - | 5.12 | - | - | - | - |
| 22 08 " | 15.13 | - | - | - | - | 4.92 | - | - | - | - |
| 31 08 " | 13.90 | - | 13.93 | - | - | 8.78 | - | - | - | - |
| 04 09 " | 13.76 | 14.13 | 13.77 | 13.23 | 13.24 | 5.16 | 7.07 | 26.58 | 30.55 | 31.47 |
| 04 11 " | 7.53 | 7.75 | 11.29 | 12.29 | 11.34 | 17.39 | 18.50 | 28.26 | 31.04 | 32.12 |
| 21 11 " | 8.69 | 8.81 | 8.79 | 8.94 | 9.08 | 29.79 | 29.85 | - | 29.92 | 30.01 |
| 28 11 " | 8.49 | - | 8.59 | - | 9.11 | 29.99 | 29.99 | 30.08 | 30.10 | 30.64 |
| 19 12 " | 5.86 | 6.06 | 6.07 | 7.11 | 7.23 | 28.21 | 28.69 | 28.73 | 30.79 | 32.75 |
| 25 02 43 | 5.12 | 5.18 | 5.25 | 5.30 | 5.41 | 31.20 | 32.03 | 32.36 | 32.56 | 32.92 |
| 14 04 " | 5.39 | 5.28 | 5.21 | 5.20 | 5.56 | 30.28 | 30.32 | 30.55 | 30.90 | 32.47 |
| 29 05 " | 13.70 | 11.53 | - | 6.66 | 6.28 | 8.62 | 16.98 | 25.99 | 30.17 | 32.01 |
| 02 06 " | 9.33 | 12.07 | 9.12 | 6.72 | 6.36 | 4.80 | 8.53 | 25.82 | 30.34 | 31.96 |
| 12 07 " | 15.12 | 15.03 | 9.76 | 6.45 | 6.57 | 3.15 | 3.15 | 22.38 | 31.46 | 33.13 |
| 23 07 " | 18.96 | 16.41 | 9.20 | 7.16 | 6.64 | 2.05 | 2.03 | 29.65 | 31.69 | 32.94 |
| 21 08 " | 13.57 | 13.44 | 11.48 | 8.74 | 6.92 | 2.90 | 2.92 | 29.34 | 31.87 | 33.12 |
| 18 10 " | 8.89 | 9.04 | - | 13.23 | 13.22 | 14.27 | 14.76 | 26.44 | 29.74 | 31.04 |
| 25 10 " | 8.98 | 12.80 | (13.27) | 13.27 | 12.30 | 14.29 | 28.04 | 30.53 | 31.08 | 31.83 |
| 22 11 " | 5.28 | 7.15 | 8.74 | 11.00 | 11.27 | 19.69 | 27.48 | 29.09 | 31.04 | 32.70 |
| 26 01 44 | (4.95) | (5.47) | 5.50 | 5.51 | 5.51 | 30.41 | 30.88 | 30.88 | 30.93 | 30.97 |
| 24 03 " | (4.80) | 4.82 | 4.83 | 4.81 | 7.40 | 30.08 | 31.92 | 31.51 | 31.55 | 34.07 |
| 19 06 " | 13.66 | 13.67 | 12.28 | 9.45 | 8.34 | 9.06 | 9.85 | 18.03 | 30.90 | 33.39 |
| 03 08 " | 17.95 | | | | | 1.82 | | | | |
| 23 10 " | 7.23 | | | | | 13.75 | | | | |
| 12 12 " | 7.22 | | | | | 31.13 | | | | |
| 01 02 45 | 3.50 | | | | | 31.78 | | | | |
| 19 03 " | 3.13 | | | | | 27.00 | | | | |
| 13 04 " | 4.40 | | | | | 18.78 | | | | |
| 25 04 " | 7.10 | | | | | 28.13 | | | | |
| 24 05 " | 9.70 | | | | | 13.96 | | | | |
| 13 06 " | 12.82 | | | | | 9.78 | | | | |

Table 4 cont.

| St. H17 cont.: | Temperature | | | | | Salinity | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Date | 0 m | 2 m | 5 m | 10 m | 20 m | 0 m | 2 m | 5 m | 10 m | 20 m |
| 02 07 45 | 16.32 | | | | | 3.17 | | | | |
| 14 07 " | 18.90 | | | | | 4.31 | | | | |
| 28 07 " | 18.51 | | | | | 2.43 | | | | |
| 19 08 " | 18.55 | | | | | 3.13 | | | | |
| 17 09 " | 12.10 | | | | | 17.50 | | | | |
| 20 05 46 | 14.99 | | | | | - | | | | |
| St. H18: | | | | | | | | | | |
| 06 08 42 | - | - | - | - | - | 7.50 | - | - | - | - |
| 01 09 " | 14.32 | 14.41 | 13.82 | 12.99 | 13.00 | 6.44 | 8.66 | 27.29 | 30.66 | 31.55 |
| 04 11 " | 7.59 | 11.37 | 12.10 | 12.11 | 11.55 | 17.21 | 22.79 | 29.13 | 31.13 | 31.89 |
| 19 12 " | 5.64 | 5.82 | 6.19 | 7.66 | 7.70 | 27.86 | - | 29.20 | 32.23 | - |
| 17 04 43 | 5.55 | 5.44 | 5.49 | 5.47 | 5.51 | 30.79 | 30.66 | 30.91 | 31.04 | 31.17 |
| 02 06 " | 11.86 | 12.29 | 8.14 | 6.44 | 6.58 | 6.33 | 15.95 | 27.97 | 30.66 | 32.14 |
| 20 07 " | 13.22 | 11.97 | 8.12 | 7.03 | 6.55 | 1.44 | 2.81 | 30.19 | 31.47 | 33.15 |
| 24 08 " | 14.27 | 13.73 | 12.93 | 9.22 | 6.96 | 2.79 | 3.26 | 24.74 | 31.44 | 32.83 |
| 25 10 " | 10.36 | 12.36 | 13.32 | 12.93 | 11.74 | 19.74 | 23.37 | 29.85 | 31.42 | 32.14 |
| 29 10 "[7] | 8.89 | 10.11 | 10.53 | 13.18 | - | 20.32 | 21.60 | 30.37 | - | - |
| " " "[8] | 10.00 | 10.30 | 12.59 | 13.23 | - | 21.80 | 28.03 | 30.08 | - | - |
| 26 01 44 | 5.27 | 5.31 | 5.41 | 5.60 | 6.62 | 30.72 | 30.72 | 30.73 | 30.95 | 31.80 |
| 29 03 " | 4.64 | 4.70 | 4.72 | 4.96 | 7.50 | 31.18 | 31.26 | 31.38 | 31.69 | 34.27 |
| 15 06 " | 11.12 | 11.93 | 12.02 | 9.26 | 8.01 | 6.96 | 8.41 | 20.93 | 31.42 | 33.57 |
| 03 08 " | 17.89 | | | | | 1.64 | | | | |
| 09 12 " | 7.61 | | | | | 31.15 | | | | |
| 06 02 45 | 4.01 | | | | | 32.52 | | | | |
| 02 07 " | 16.09 | | | | | 3.73 | | | | |
| 28 07 " | 16.19 | | | | | 2.05 | | | | |

7) Fotnote no.7.

8) Fotnote no.8.

Table 4 cont.

| St. H19: | Temperature | | | | | Salinity | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Date | 0 m | 2 m | 5 m | 10 m | 20 m | 0 m | 2 m | 5 m | 10 m | 20 m |
| 04 09 42 | 14.08 | 14.08 | 13.54 | 13.20 | 13.10 | 6.65 | 6.83 | 28.37 | 30.26 | 31.44 |
| 04 11 " | 8.07 | 8.24 | 12.26 | 12.17 | 11.45 | 18.69 | 19.52 | 29.76 | 31.06 | 31.96 |
| 19 12 " | 6.00 | 6.01 | 6.04 | 7.35 | 7.78 | 28.37 | - | - | - | - |
| 17 04 43 | 5.50 | 5.45 | 5.50 | 5.48 | 5.56 | 30.88 | 30.88 | 30.90 | 30.99 | 31.46 |
| 02 06 " | 13.30 | 12.87 | 8.74 | 6.79 | 6.36 | 7.72 | 7.79 | 25.41 | 30.26 | 31.98 |
| 20 07 " | 17.00 | 16.04 | 9.16 | - | 6.70 | 2.11 | 2.23 | 29.47 | 31.67 | 33.40 |
| 24 08 " | 14.06 | 13.96 | 13.17 | 9.50 | 7.10 | 4.07 | 5.01 | 23.17 | 31.65 | 33.01 |
| 25 10 " | 9.40 | 12.60 | (13.24) | 13.23 | 12.33 | 17.70 | 27.11 | 29.88 | 31.08 | 31.83 |
| 26 01 44 | 4.62 | 5.14 | 5.33 | 5.51 | 5.54 | 29.87 | 30.39 | 30.57 | 30.86 | 30.91 |
| 29 03 " | 4.95 | 5.04 | 5.05 | 6.12 | 7.31 | 31.67 | 31.69 | 31.69 | 32.75 | 33.93 |
| 19 06 " | 13.82 | 13.22 | 12.52 | 9.39 | 8.38 | 8.30 | 10.70 | 14.79 | 30.64 | 33.33 |
| 03 08 " | 17.62 | | | | | 1.80 | | | | |
| 20 10 " | 8.83 | | | | | 16.67 | | | | |
| 09 12 " | 7.51 | | | | | - | | | | |
| 06 02 45 | 3.84 | | | | | 32.14 | | | | |
| 10 03 " | 3.78 | | | | | 32.32 | | | | |
| 02 07 " | 17.10 | | | | | 3.33 | | | | |
| 28 07 " | 17.63 | | | | | 2.23 | | | | |
| St. H20: | | | | | | | | | | |
| 01 09 42 | 14.58 | 14.40 | 13.40 | 12.77 | 12.92 | 6.85 | 7.02 | 28.53 | 30.86 | 31.67 |
| 04 11 " | 6.46 | 8.95 | 12.13 | 12.01 | 11.20 | 15.44 | 20.97 | 29.13 | 31.09 | 31.96 |
| 19 12 " | 5.96 | 6.68 | 7.41 | 8.14 | 7.91 | 28.87 | - | 30.50 | 32.18 | - |
| 17 04 43 | 5.46 | 5.43 | 5.46 | 5.44 | 5.52 | 29.72 | 29.70 | 29.94 | 30.55 | 31.27 |
| 02 06 " | 12.42 | 10.50 | 7.67 | 6.61 | 6.34 | 7.38 | 24.29 | 28.26 | 30.32 | 21.80 |
| 20 07 " | 14.84 | 14.82 | 8.38 | 6.84 | 6.56 | 1.51 | 1.63 | 30.28 | 31.65 | 31.80 |
| 24 08 " | 13.88 | 13.74 | 12.81 | 8.97 | 6.92 | 2.02 | 2.14 | 21.37 | 31.73 | 33.08 |
| 25 10 " | 8.58 | 12.34 | 13.33 | 13.25 | 12.24 | 14.63 | 26.74 | 30.44 | 30.97 | 31.78 |
| 26 01 44 | 5.30 | 5.47 | 5.62 | 5.81 | 6.08 | 30.75 | 30.82 | 30.86 | 31.08 | 31.29 |
| 29 03 " | (4.74) | 4.64 | 4.56 | 4.93 | 7.90 | 31.22 | 31.27 | 31.31 | 31.58 | 33.91 |
| 15 06 " | 11.22 | 11.43 | 11.67 | 9.13 | 8.20 | 6.71 | 8.15 | 22.99 | 31.15 | 33.28 |
| 03 08 " | 18.01 | | | | | 1.26 | | | | |
| 06 12 " | 7.10 | | | | | 30.82 | | | | |
| 09 12 " | 7.50 | | | | | 31.22 | | | | |
| 06 02 45 | 3.30 | | | | | 32.14 | | | | |

Table 4 cont.

| St. H20 cont.: | Temperature | | | | | Salinity | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Date | 0 m | 2 m | 5 m | 10 m | 20 m | 0 m | 2 m | 5 m | 10 m | 20 m |
| 07 03 45 | 1.77 | | | | | 29.85 | | | | |
| 10 03 " | 3.66 | | | | | 31.76 | | | | |
| 02 07 " | 17.40 | | | | | 2.72 | | | | |
| 24 07 " | 17.16 | | | | | - | | | | |
| 28 07 " | 16.05 | | | | | 1.91 | | | | |
| St. H21: | | | | | | | | | | |
| 04 09 42 | 14.20 | 14.30 | 13.56 | 13.22 | 13.18 | 9.78 | 12.50 | 26.67 | 29.88 | 31.56 |
| 04 11 " | 7.76 | 8.16 | 12.27 | 11.98 | 11.41 | 18.48 | 19.02 | 29.52 | 31.44 | 31.98 |
| 19 12 " | 5.85 | 5.89 | 5.94 | 7.44 | 7.80 | 28.40 | 28.46 | 28.51 | 31.47 | - |
| 17 04 43 | 5.26 | 5.44 | 5.49 | 5.51 | 5.54 | 27.05 | 30.70 | 30.95 | 31.11 | 31.26 |
| 02 06 " | 12.38 | 12.20 | 8.88 | 6.79 | 6.39 | 8.31 | 8.46 | 25.99 | 30.37 | 32.14 |
| 24 08 " | 14.47 | 14.25 | 11.86 | 9.30 | 7.01 | 3.22 | 3.42 | 21.64 | 31.87 | 33.10 |
| 25 10 " | 9.03 | 12.95 | 12.81 | (13.04) | 12.18 | 15.97 | 27.65 | 29.33 | 31.33 | 31.91 |
| 26 01 44 | 5.35 | 5.42 | 5.43 | 5.47 | 5.75 | 30.82 | 30.82 | 30.86 | 30.86 | 31.06 |
| 29 03 " | 4.85 | 4.85 | 4.94 | 5.59 | 7.41 | 31.64 | 31.64 | 31.71 | 32.21 | 33.98 |
| 15 06 " | 11.50 | 11.60 | 11.65 | 8.83 | (8.20) | 7.90 | 8.71 | 23.68 | 31.24 | 33.19 |
| 03 08 " | 18.05 | | | | | 1.85 | | | | |
| 09 12 " | 7.70 | | | | | 31.24 | | | | |
| 06 02 45 | 3.28 | | | | | 32.14 | | | | |
| 10 03 " | 3.96 | | | | | 31.96 | | | | |
| 02 07 " | 17.74 | | | | | 3.28 | | | | |
| 28 07 " | 17.97 | | | | | 2.45 | | | | |
| St. H22: | | | | | | | | | | |
| 06 08 42 | - | - | - | - | - | 4.45 | | | | |
| 01 09 " | 13.98 | 14.02 | 12.82 | 13.04 | 12.68 | 5.10 | 5.43 | 28.93 | 30.72 | 31.51 |
| 03 09 " | 14.08 | - | 13.53 | - | - | 5.91 | - | 26.49 | - | - |
| 04 11 " | 7.32 | 8.33 | 12.41 | 12.16 | 11.18 | 16.17 | 17.56 | 28.30 | 31.18 | 31.96 |
| 19 12 " | 5.74 | 5.82 | 6.22 | 7.64 | 7.84 | 27.32 | 27.65 | 28.59 | 32.07 | 32.94 |
| 17 04 43 | 5.26 | 5.35 | 5.42 | 5.38 | 5.38 | 28.69 | 30.05 | 30.28 | 30.43 | 30.88 |
| 02 06 " | 12.21 | 12.84 | 8.66 | 6.49 | 6.16 | 7.00 | 10.28 | 26.00 | 30.30 | 31.80 |
| 23 07 " | 16.90 | 14.91 | 9.45 | 7.04 | 6.62 | 1.26 | 1.63 | 29.14 | 31.35 | 33.22 |
| 12 08 " | 14.42 | 14.38 | 14.32 | 10.82 | 7.79 | 3.59 | 3.48 | 3.60 | 31.33 | 32.16 |

Table 4 cont.

| St. H22 cont.: | Temperature | | | | | Salinity | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Date | 0 m | 2 m | 5 m | 10 m | 20 m | 0 m | 2 m | 5 m | 10 m | 20 m |
| 26 10 43 | 9.33 | 10.95 | 12.83 | 12.83 | 11.93 | 18.77 | 21.24 | 21.26 | 31.15 | 31.55 |
| 26 01 44 | (4.99) | 5.04 | 5.14 | 5.40 | 6.07 | 30.52 | 30.55 | 30.61 | 30.72 | 31.09 |
| 29 03 " | (4.28) | 4.49 | 4.76 | 5.42 | 7.37 | 30.84 | 30.95 | 31.08 | 32.01 | 34.23 |
| 15 06 " | 11.62 | 11.64 | 11.41 | 8.93 | 7.78 | 6.44 | 6.44 | 25.41 | 31.11 | 33.48 |
| 03 08 " | 17.92 | | | | | 1.09 | | | | |
| 18 10 " | 9.20 | | | | | 11.35 | | | | |
| 09 12 " | 7.33 | | | | | 30.84 | | | | |
| 06 02 45 | 3.52 | | | | | 32.21 | | | | |
| 08 03 " | 2.55 | | | | | 29.04 | | | | |
| 02 07 " | 15.86 | | | | | 2.12 | | | | |
| 27 07 " | 16.58 | | | | | 1.60 | | | | |
| St. H23: | | | | | | | | | | |
| 06 08 42 | - | - | - | - | - | 7.38 | - | - | - | - |
| 01 09 " | 14.30 | 14.31 | 13.58 | 13.02 | 12.93 | 7.34 | 9.42 | 25.86 | 30.23 | 31.53 |
| 04 11 " | 7.34 | 10.05 | 12.59 | 12.15 | 11.28 | 16.67 | 25.01 | 29.23 | 31.22 | 31.96 |
| 19 12 " | 5.71 | 5.77 | 6.56 | 7.57 | 7.81 | 27.66 | - | 29.33 | 32.00 | - |
| 17 04 43 | 5.53 | 5.45 | 5.48 | 5.44 | 5.50 | 29.38 | 29.29 | 29.49 | 29.56 | 31.51 |
| 02 06 " | 12.01 | 9.75 | 7.70 | 6.53 | 6.31 | 7.47 | 24.33 | 28.30 | 30.55 | 31.96 |
| 20 07 " | 16.50 | (18.58) | 9.38 | 6.99 | 6.65 | 1.71 | 1.85 | 29.13 | 31.40 | 33.21 |
| 24 08 " | 14.30 | 13.90 | 11.46 | 8.85 | 7.00 | 2.27 | 2.86 | 29.45 | 31.80 | 33.06 |
| 25 10 " | 8.51 | 11.54 | 13.33 | 13.23 | 11.95 | 13.77 | 23.53 | 30.03 | 30.95 | 31.94 |
| 26 01 44 | 5.08 | 5.15 | 5.17 | 5.57 | 6.48 | 30.64 | 30.64 | 30.64 | 30.90 | 31.40 |
| 29 03 " | (4.81) | 4.80 | 4.90 | 5.23 | 7.41 | 31.42 | 31.49 | 31.55 | 31.82 | 34.14 |
| 15 06 " | 10.94 | 11.02 | 12.03 | 9.62 | 7.83 | 6.67 | 6.85 | 18.06 | 29.81 | 33.46 |
| 03 08 " | 18.56 | | | | | 1.65 | | | | |
| 18 10 " | 9.71 | | | | | 14.69 | | | | |
| 09 12 " | 7.60 | | | | | 31.13 | | | | |
| 06 02 45 | 3.30 | | | | | 32.16 | | | | |
| 10 03 " | 3.71 | | | | | 31.98 | | | | |
| 02 07 " | 17.30 | | | | | 2.67 | | | | |
| 28 07 " | 17.21 | | | | | 2.18 | | | | |

Table 4 cont.

| St. H24: | Temperature | | | | | Salinity | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Date | 0 m | 2 m | 5 m | 10 m | 20 m | 0 m | 2 m | 5 m | 10 m | 20 m |
| 02 09 42 | 12.73 | 12.91 | 12.59 | 12.24 | 12.62 | 3.15 | 4.49 | 25.44 | 30.73 | 31.55 |
| 05 11 " | 6.98 | 9.75 | 12.17 | 12.09 | 10.91 | 16.09 | 20.46 | 30.08 | 31.13 | 32.00 |
| 18 12 " | 5.69 | 5.65 | 6.03 | 7.56 | 7.90 | - | - | - | - | - |
| 16 04 43 | 5.56 | 5.48 | 5.49 | 5.43 | 5.33 | 28.68 | 28.84 | 29.16 | 29.23 | 30.07 |
| 01 06 " | 12.13 | 12.27 | - | 6.38 | 5.77 | 5.35 | 7.07 | 26.00 | 29.81 | 31.60 |
| 23 07 " | 15.54 | 14.11 | 8.49 | 6.49 | 6.61 | 1.35 | 1.55 | 29.43 | 31.40 | 33.24 |
| 27 08 " | 13.43 | 13.51 | 13.05 | 9.68 | 6.83 | 1.47 | 1.52 | 14.38 | 31.22 | 32.43 |
| 26 10 " | 8.31 | 12.82 | 13.05 | 12.63 | 11.66 | 15.10 | 26.38 | 30.55 | 31.04 | 31.83 |
| 26 01 44 | (4.45) | 4.49 | 4.63 | 5.44 | 7.65 | 29.70 | 29.72 | 29.78 | 30.41 | 31.78 |
| 29 03 " | (4.28) | 4.48 | 5.36 | 6.96 | 7.29 | 30.61 | 30.75 | 31.18 | 32.59 | 34.27 |
| 15 06 " | 10.11 | 10.89 | 11.40 | 9.00 | 7.79 | 4.07 | 5.07 | 22.16 | 31.17 | 33.37 |
| 03 08 " | 18.80 | | | | | 1.28 | | | | |
| 09 12 " | 8.10 | | | | | 31.13 | | | | |
| 06 02 45 | 3.44 | | | | | 32.00 | | | | |
| 08 03 " | 2.47 | | | | | 27.72 | | | | |
| 27 07 " | 16.20 | | | | | 1.28 | | | | |
| St. H25: | | | | | | | | | | |
| 01 09 42 | 13.79 | 13.73 | 12.86 | 12.93 | 12.67 | 3.73 | 3.82 | 27.79 | 30.73 | 31.33 |
| 02 09 " | 13.85 | - | - | - | - | 4.38 | - | - | - | - |
| 04 11 " | 7.02 | 8.33 | 12.53 | 12.11 | 11.39 | 15.72 | 18.84 | 29.05 | 30.99 | 31.73 |
| 10 12 " | 5.43 | 5.50 | 6.20 | 7.46 | 7.88 | 27.03 | 27.11 | 27.65 | 31.09 | 32.99 |
| 17 04 43 | 5.14 | 5.21 | 5.32 | 5.39 | 5.26 | 27.03 | 28.40 | 29.14 | 30.01 | 31.44 |
| 02 06 " | 11.78 | 11.73 | 7.73 | 6.38 | 6.05 | 5.84 | 5.88 | 27.38 | 30.14 | 31.89 |
| 23 07 " | 19.05 | 17.10 | 8.83 | 6.56 | 6.63 | 1.15 | 1.16 | 29.34 | 31.73 | 33.24 |
| 12 08 " | 14.47 | 14.36 | 14.57 | 11.40 | 7.95 | 3.24 | 3.28 | 4.96 | 30.99 | 32.03 |
| 26 10 " | 9.29 | 10.01 | 13.23 | 13.02 | 11.69 | 17.97 | 19.04 | 30.64 | 30.95 | 31.94 |
| 26 01 44 | (4.25) | 4.36 | 4.50 | 4.84 | 7.36 | 29.79 | 29.83 | 29.88 | 30.08 | 31.55 |
| 29 03 " | (4.35) | 4.14 | 4.12 | 7.32 | 7.30 | 30.44 | 30.50 | 30.57 | 32.94 | 34.25 |
| 15 06 " | 10.50 | 11.07 | 11.23 | 8.87 | 7.90 | 4.40 | 7.79 | 24.13 | 31.85 | 33.33 |
| 03 08 " | 18.50 | | | | | 1.26 | | | | |
| 09 12 " | 7.19 | | | | | 30.82 | | | | |
| 06 02 45 | 3.45 | | | | | 32.23 | | | | |
| 10 03 " | 3.53 | | | | | 31.67 | | | | |

Table 4 cont.

| St. H25 cont.: | Temperature | | | | | Salinity | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Date | 0 m | 2 m | 5 m | 10 m | 20 m | 0 m | 2 m | 5 m | 10 m | 20 m |
| 02 07 45 | 17.16 | | | | | 2.12 | | | | |
| 27 07 " | 16.30 | | | | | 1.29 | | | | |
| St. H26: | | | | | | | | | | |
| 02 09 42 | 12.98 | 13.56 | 13.21 | 12.61 | 12.43 | 4.04 | 7.59 | 24.81 | 30.75 | 31.51 |
| 05 11 " | 8.29 | 8.66 | 12.23 | 11.91 | 11.05 | 17.72 | 18.75 | 30.30 | 31.47 | 31.96 |
| 18 12 " | 7.06 | 7.41 | 7.66 | 7.74 | 8.08 | 29.47 | 29.67 | 30.12 | - | - |
| 19 02 43 | 4.55 | 4.46 | 4.53 | 4.59 | 4.90 | 32.39 | 32.41 | 32.47 | 32.54 | 32.66 |
| 16 04 " | 5.55 | 5.46 | 5.48 | 5.41 | 5.23 | 29.61 | 29.65 | 29.70 | 29.70 | 31.51 |
| 01 06 " | 10.64 | 12.61 | - | 6.54 | 5.80 | 4.60 | 6.94 | 25.90 | 29.69 | 31.82 |
| 23 07 " | 17.62 | 11.33 | 10.46 | 6.44 | 6.33 | 1.35 | 2.30 | 27.92 | 31.13 | 32.95 |
| 27 08 " | 13.55 | 13.54 | 12.83 | 7.89 | 6.90 | 1.14 | 1.16 | 22.03 | 31.31 | 32.38 |
| 26 10 " | 8.62 | 9.12 | 12.70 | 12.30 | 11.51 | 15.34 | 17.00 | 30.53 | 31.29 | 31.83 |
| 26 01 44 | (4.05) | 4.89 | 5.12 | 5.33 | 8.28 | 29.45 | 29.74 | 30.10 | 30.28 | 31.82 |
| 29 03 " | (3.79) | 3.78 | 3.81 | 6.29 | 7.26 | 30.23 | 30.25 | 30.32 | 31.87 | 34.34 |
| 15 06 " | 9.90 | 11.43 | 10.27 | 10.20 | 8.00 | 4.49 | 5.72 | 5.61 | 28.69 | 32.95 |
| 03 08 " | 19.90 | | | | | 1.09 | | | | |
| 09 12 " | 7.09 | | | | | 30.73 | | | | |
| 06 02 45 | 3.50 | | | | | 32.03 | | | | |
| 08 03 " | 3.13 | | | | | 30.30 | | | | |
| St. H27: | | | | | | | | | | |
| 06 08 42 | - | - | - | - | - | 2.56 | - | - | - | - |
| 02 09 " | 12.13 | 13.20 | 13.18 | 12.59 | 12.64 | 2.83 | 6.51 | 14.99 | 30.46 | 31.55 |
| 03 09 " | 12.06 | - | - | - | - | 2.61 | - | - | - | - |
| 05 11 " | 7.87 | 7.92 | 12.13 | 12.00 | 11.22 | 16.74 | 16.98 | 30.23 | 31.20 | 31.89 |
| 18 12 " | 4.93 | (5.30) | 6.36 | (7.72) | 7.96 | 25.59 | - | 29.09 | 31.11 | 32.61 |
| 19 02 43 | 3.66 | 3.73 | 4.17 | 4.26 | 5.28 | 31.94 | 32.07 | 32.34 | 32.39 | 32.88 |
| 16 04 " | 5.48 | 5.45 | 5.46 | 5.39 | 5.17 | 29.78 | 29.79 | 29.87 | 30.14 | 31.76 |
| 01 06 " | 12.90 | 12.62 | 8.26 | 6.58 | 5.89 | 5.52 | 6.00 | 24.79 | 29.76 | 31.64 |
| 23 07 " | 16.58 | 13.98 | 10.05 | 6.24 | 6.40 | 1.05 | 1.42 | 27.99 | 31.82 | 32.84 |
| 27 08 " | 13.40 | 13.32 | 12.63 | 8.37 | 7.01 | 1.12 | 1.14 | 18.37 | 31.06 | 32.41 |
| 26 10 " | 6.30 | 12.82 | 12.69 | 12.71 | 11.63 | 12.45 | 28.51 | 30.54 | 31.08 | 31.82 |
| 26 01 44 | (3.54) | 4.17 | 5.06 | 6.08 | 7.68 | 28.95 | 29.49 | 30.03 | 30.79 | 31.83 |

Table 4 cont.

| St. H27 cont.: | Temperature | | | | | Salinity | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Date | 0 m | 2 m | 5 m | 10 m | 20 m | 0 m | 2 m | 5 m | 10 m | 20 m |
| 29 03 44 | 4.23 | 4.12 | 4.04 | 7.14 | 7.26 | 30.10 | 30.23 | 30.35 | 32.54 | 34.14 |
| 15 06 " | 11.67 | 11.83 | 12.15 | 9.18 | 7.87 | 4.90 | 6.42 | 16.82 | 30.75 | 33.22 |
| 03 08 " | 19.42 | | | | | 1.11 | | | | |
| 18 10 " | 8.90 | | | | | 9.27 | | | | |
| 09 12 " | 7.10 | | | | | 30.70 | | | | |
| 06 02 45 | 3.20 | | | | | 32.03 | | | | |
| 10 03 " | 3.67 | | | | | 31.71 | | | | |
| 02 07 " | 16.30 | | | | | 1.71 | | | | |
| 27 07 " | 15.51 | | | | | 11.29 | | | | |
| St. H28: | | | | | | | | | | |
| 02 09 42 | 11.53 | 11.93 | 12.70 | 12.32 | 12.20 | 1.77 | 2.81 | 25.35 | 30.37 | 31.35 |
| 05 11 " | 6.02 | 10.02 | 12.30 | 11.61 | 10.53 | 13.06 | 21.55 | 28.17 | 31.17 | 31.98 |
| 18 12 " | 5.94 | 6.84 | 9.48 | 8.87 | 8.33 | 26.67 | 27.47 | 29.92 | 32.12 | 32.81 |
| 19 02 43 | 4.67 | 4.58 | 4.67 | 4.80 | 5.51 | 32.48 | 32.50 | 32.56 | 32.59 | 32.90 |
| 16 04 " | 5.62 | 5.55 | 5.41 | 5.26 | 5.18 | 28.21 | 28.31 | 30.26 | 30.97 | 31.33 |
| 01 06 " | 11.40 | 13.24 | 8.34 | 6.07 | 5.58 | 3.46 | 6.64 | 25.72 | 29.97 | 31.91 |
| 22 07 " | 20.06 | 11.05 | 8.88 | - | 6.41 | 0.99 | 1.73 | 28.44 | 31.46 | 32.97 |
| 26 08 " | 13.10 | 11.93 | 12.21 | 8.15 | 6.31 | 0.96 | 1.08 | 7.94 | 29.90 | 32.38 |
| 26 10 " | 9.44 | 12.76 | 12.19 | 11.84 | 11.02 | 15.90 | 25.95 | 30.05 | 30.82 | 31.60 |
| 25 01 44 | (3.74) | 4.90 | 4.96 | 5.35 | 7.31 | 28.51 | 29.54 | 29.90 | 30.25 | 31.36 |
| 28 03 " | (4.83) | 4.80 | 6.57 | 7.55 | 7.11 | 30.26 | 30.25 | 32.32 | 33.37 | 34.09 |
| 14 06 " | 10.50 | 11.66 | 11.21 | 9.00 | 7.73 | 2.09 | 6.13 | 24.63 | 30.95 | 33.57 |
| 03 08 " | 19.00 | | | | | 1.13 | | | | |
| 18 10 " | 8.82 | | | | | 7.81 | | | | |
| 09 12 " | 7.86 | | | | | 30.91 | | | | |
| 06 02 45 | 3.87 | | | | | 32.27 | | | | |
| 08 03 " | 3.90 | | | | | 31.20 | | | | |
| 26 07 " | 14.15 | | | | | 0.99 | | | | |
| St. H29: | | | | | | | | | | |
| 05 08 42 | - | - | - | - | - | 1.56 | - | - | - | - |
| 02 09 " | 11.72 | 11.56 | 12.55 | 12.42 | 12.06 | 1.71 | 2.11 | 24.88 | 30.34 | 31.36 |
| 05 11 " | 5.56 | 10.69 | 12.15 | 11.76 | 10.82 | 12.39 | 20.12 | 29.52 | 31.18 | 31.85 |

Table 4 cont.

| St. H29 cont.: | Temperature | | | | | Salinity | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Date | 0 m | 2 m | 5 m | 10 m | 20 m | 0 m | 2 m | 5 m | 10 m | 20 m |
| 18 12 42 | 5.40 | 5.39 | 5.86 | 9.26 | 8.22 | 25.99 | 26.00 | 26.38 | 32.21 | 32.81 |
| 19 02 43 | 4.75 | 4.73 | 4.70 | 4.75 | 4.82 | 32.41 | 32.41 | 32.45 | 32.56 | 32.63 |
| 16 04 " | 5.52 | 5.43 | 5.37 | 5.30 | 5.20 | 29.07 | 29.34 | 30.43 | 30.61 | 31.18 |
| 01 06 " | 10.52 | 10.81 | 8.63 | 5.96 | 5.50 | 2.50 | 3.33 | 25.21 | 30.16 | 31.71 |
| 22 07 " | 20.96 | 11.62 | 8.89 | - | 6.34 | 0.95 | 1.23 | 27.25 | 31.89 | 32.84 |
| 26 08 " | 13.52 | 13.39 | 11.73 | 6.95 | 6.23 | 1.00 | 1.00 | 1.04 | 30.95 | 32.43 |
| 26 10 " | 6.73 | 12.72 | 12.03 | 12.32 | 11.44 | 10.30 | - | - | - | - |
| 25 01 44 | (3.44) | 3.56 | 4.26 | 4.95 | 7.50 | 28.08 | 28.13 | 28.89 | 28.54 | 31.46 |
| 28 03 " | (4.85) | 4.90 | 6.10 | 7.71 | 7.13 | 29.99 | 30.16 | 31.42 | 32.84 | 34.22 |
| 14 06 " | 10.98 | 11.61 | 11.18 | 8.85 | 7.74 | 2.41 | 3.53 | 24.92 | 30.72 | 33.57 |
| 03 08 " | 20.27 | | | | | 0.95 | | | | |
| 09 12 " | 7.60 | | | | | 30.77 | | | | |
| 06 02 45 | 3.56 | | | | | 32.18 | | | | |
| 10 03 " | 4.10 | | | | | 31.62 | | | | |
| 26 07 " | 15.29 | | | | | 0.90 | | | | |
| St. H30: | | | | | | | | | | |
| 02 09 42 | 12.68 | 12.45 | 11.72 | 11.66 | 11.68 | 1.62 | 2.43 | 27.48 | 30.17 | 31.17 |
| 05 11 " | 8.31 | 10.90 | 11.53 | 11.36 | 10.54 | 15.93 | 21.29 | 29.05 | 30.93 | 31.67 |
| 18 12 " | 5.21 | 5.82 | 7.82 | 9.38 | 8.17 | 24.52 | 26.27 | 28.42 | 32.01 | 32.94 |
| 19 02 43 | (4.00) | 4.19 | 4.27 | 4.46 | 5.04 | 31.91 | 32.00 | 32.09 | 32.18 | 32.45 |
| 16 04 " | 5.17 | 5.42 | 5.62 | 5.50 | 5.25 | 24.78 | 27.61 | 28.64 | 29.47 | 31.98 |
| 01 06 " | 11.80 | 13.15 | 8.77 | 6.16 | 5.41 | 3.55 | 8.95 | 25.39 | 29.99 | 31.53 |
| 21 07 " | 14.78 | 11.55 | 8.68 | - | 6.17 | 0.82 | 1.06 | 28.73 | 31.33 | 32.81 |
| 26 08 " | 13.34 | 12.43 | 10.83 | 7.06 | 6.09 | 0.55 | 0.77 | 2.76 | 30.62 | 32.34 |
| 26 10 " | 5.36 | 12.48 | 11.66 | 11.06 | 9.62 | 6.91 | 24.47 | 29.40 | 30.62 | 31.22 |
| 25 01 44 | (3.84) | 3.89 | 4.22 | 7.30 | 8.36 | 28.51 | 28.49 | 28.78 | 31.22 | 31.82 |
| 28 03 " | 5.42 | 5.39 | 6.40 | 7.64 | 7.05 | 30.37 | 30.70 | 31.40 | 33.06 | 34.23 |
| 14 06 " | 9.94 | 10.51 | 11.81 | 9.70 | 7.75 | 2.48 | 2.90 | 23.13 | 31.44 | 33.69 |
| 04 08 " | 18.37 | | | | | 0.77 | | | | |
| 08 12 " | 9.00 | | | | | 31.18 | | | | |
| 07 02 45 | 3.80 | | | | | 32.09 | | | | |
| 09 03 " | 3.90 | | | | | 30.28 | | | | |
| 26 07 " | 15.96 | | | | | 0.86 | | | | |

Table 4 cont.

| St. H31: | Temperature | | | | | Salinity | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Date | 0 m | 2 m | 5 m | 10 m | 20 m | 0 m | 2 m | 5 m | 10 m | 20 m |
| 05 08 42 | - | - | - | - | - | 1.22 | 0.90 | -- | -- | -- |
| 02 09 " | 12.43 | 12.33 | 12.07 | 11.60 | 11.27 | 1.38 | 2.38 | 26.22 | 30.12 | 31.06 |
| 05 11 " | 5.78 | 11.13 | 11.53 | 11.34 | 10.47 | 10.28 | 21.96 | 30.21 | 30.91 | 31.67 |
| 18 12 " | 5.67 | 6.01 | 9.68 | 9.14 | 8.22 | 24.36 | 26.06 | 29.74 | 32.07 | 32.84 |
| 19 02 43 | (3.92) | 4.16 | 4.51 | 4.57 | 5.07 | 31.92 | 32.05 | 32.18 | 32.20 | 32.45 |
| 16 04 " | 5.59 | 5.55 | 5.62 | 5.61 | 5.18 | 28.59 | 28.59 | 28.68 | 28.89 | 31.13 |
| 01 06 " | 11.03 | 12.93 | - | 6.23 | 5.46 | 2.50 | 7.07 | 27.27 | 29.36 | 31.55 |
| 21 07 " | 14.00 | 9.83 | 7.97 | - | 6.25 | 0.94 | 1.39 | 28.89 | 31.33 | 32.83 |
| 26 08 " | 13.25 | 12.13 | 10.59 | 6.63 | 6.05 | 0.38 | 0.51 | 3.13 | 30.91 | 32.34 |
| 26 10 " | 7.30 | 11.52 | 11.74 | 11.51 | 9.78 | 8.96 | 25.68 | 29.33 | 30.70 | 31.42 |
| 25 01 44 | (3.38) | 4.50 | 5.08 | 6.90 | 8.51 | 27.54 | 28.93 | 29.78 | 30.91 | 31.87 |
| 28 03 " | (5.09) | 5.87 | 6.12 | 7.60 | 7.02 | 28.69 | 31.09 | 31.46 | 33.08 | 34.23 |
| 14 06 " | 8.20 | - | 11.11 | 8.81 | 7.74 | 1.49 | 2.56 | 26.74 | 31.26 | 33.44 |
| 04 08 " | 17.60 | | | | | 0.55 | | | | |
| 08 12 " | 8.40 | | | | | 30.81 | | | | |
| 07 02 45 | 3.72 | | | | | 31.44 | | | | |
| 09 03 " | 2.06 | | | | | 16.76 | | | | |
| 26 07 " | 15.62 | | | | | 0.89 | | | | |
| St. H32: | | | | | | | | | | |
| 02 09 42 | 10.97 | 10.75 | 11.37 | 10.54 | 10.16 | 3.41 | 4.87 | 27.43 | 30.07 | 31.89 |
| 05 11 " | 6.46 | 11.99 | 11.23 | 10.92 | 9.84 | 12.16 | 25.77 | 30.14 | 30.82 | 31.85 |
| 18 12 " | 6.57 | 7.64 | 9.72 | 9.21 | 7.54 | 24.72 | 26.87 | 29.11 | 31.67 | 32.83 |
| 19 02 43 | (3.29) | 3.52 | 4.27 | 4.49 | 5.05 | 30.10 | 30.77 | 31.73 | 32.00 | 32.27 |
| 16 04 " | (3.56) | 5.67 | 5.71 | 5.64 | 5.04 | 4.60 | 23.78 | 27.56 | 28.48 | 31.22 |
| 01 06 " | 7.75 | 8.60 | - | 6.14 | 5.45 | 1.04 | 3.32 | 26.46 | 29.45 | 31.35 |
| 21 07 " | 9.77 | 9.49 | 7.14 | - | 6.18 | 1.75 | 2.29 | 29.85 | 31.82 | 33.01 |
| 25 08 " | 10.74 | 10.01 | 9.75 | 6.07 | 6.33 | 0.57 | 0.61 | 9.58 | 31.06 | 32.97 |
| 27 10 " | 7.48 | 12.17 | 10.76 | 9.82 | 8.36 | 8.39 | 25.59 | 29.67 | 30.32 | 31.20 |
| 25 01 44 | (3.54) | 5.17 | 6.58 | 7.58 | 8.33 | 27.12 | 29.38 | 30.68 | 31.33 | 31.83 |
| 28 03 " | Ice | - | - | - | - | - | - | - | - | - |
| 13 06 " | 6.99 | 7.28 | 11.34 | 9.91 | 7.84 | 1.05 | 1.93 | 24.67 | 28.80 | 33.40 |
| 04 08 " | 15.00 | | | | | 0.43 | | | | |
| 17 10 " | 7.43 | | | | | 4.54 | | | | |

Table 4 cont.

| St. H32 cont.: | Temperature | | | | | Salinity | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Date | 0 m | 2 m | 5 m | 10 m | 20 m | 0 m | 2 m | 5 m | 10 m | 20 m |
| 08 12 44 | 9.20 | | | | | 31.00 | | | | |
| 07 02 45 | 6.11 | | | | | 31.47 | | | | |
| 04 07 " | 10.06 | | | | | 1.08 | | | | |
| 26 07 " | 14.70 | | | | | 0.55 | | | | |
| St. H33: | | | | | | | | | | |
| 02 09 42 | 10.47 | 10.71 | 11.53 | 10.67 | 10.19 | 2.03 | 2.50 | 28.17 | 30.10 | 30.95 |
| 05 11 " | 8.81 | 11.27 | 11.61 | 10.94 | 9.91 | 15.63 | 21.87 | 29.33 | 30.10 | 31.47 |
| 08 12 " | 5.76 | 8.30 | 9.51 | 8.78 | 7.66 | 20.41 | 27.36 | 28.77 | 32.00 | 32.74 |
| 19 02 43 | (2.45) | 3.90 | 4.30 | 4.27 | 4.89 | 26.71 | 31.18 | 31.55 | 31.76 | 32.16 |
| 16 04 " | (4.27) | 5.80 | 5.69 | 5.61 | 5.08 | 7.76 | 23.82 | 27.61 | 28.24 | 30.97 |
| 01 06 " | 6.04 | 10.09 | - | 6.14 | 5.44 | 0.70 | 4.06 | 26.96 | 29.96 | 31.58 |
| 21 07 " | 9.90 | 9.17 | 7.43 | - | 6.13 | 2.05 | 2.38 | 30.72 | 31.58 | 32.88 |
| 25 08 " | 9.73 | 9.55 | 9.87 | 5.98 | 6.32 | 0.55 | 0.46 | 4.83 | 31.38 | 33.03 |
| 27 10 " | 7.12 | 12.03 | 10.67 | 10.18 | 8.58 | 7.41 | 26.60 | 29.74 | 30.39 | 31.15 |
| 25 01 44 | (3.69) | 3.74 | 5.56 | 7.43 | 8.39 | 27.20 | 27.25 | 29.96 | 31.20 | 31.92 |
| 28 03 " | Ice | - | - | - | - | - | - | - | - | - |
| 13 06 " | 6.14 | 6.36 | 11.55 | 9.38 | 7.89 | - | 1.24 | 23.98 | 30.17 | 33.39 |
| 04 08 " | 14.21 | | | | | 0.45 | | | | |
| 17 10 " | 6.83 | | | | | 2.39 | | | | |
| 08 12 " | 8.07 | | | | | 28.75 | | | | |
| 07 02 45 | 5.10 | | | | | 31.53 | | | | |
| 04 07 " | 9.10 | | | | | 0.50 | | | | |
| 26 07 " | 13.53 | | | | | 0.41 | | | | |

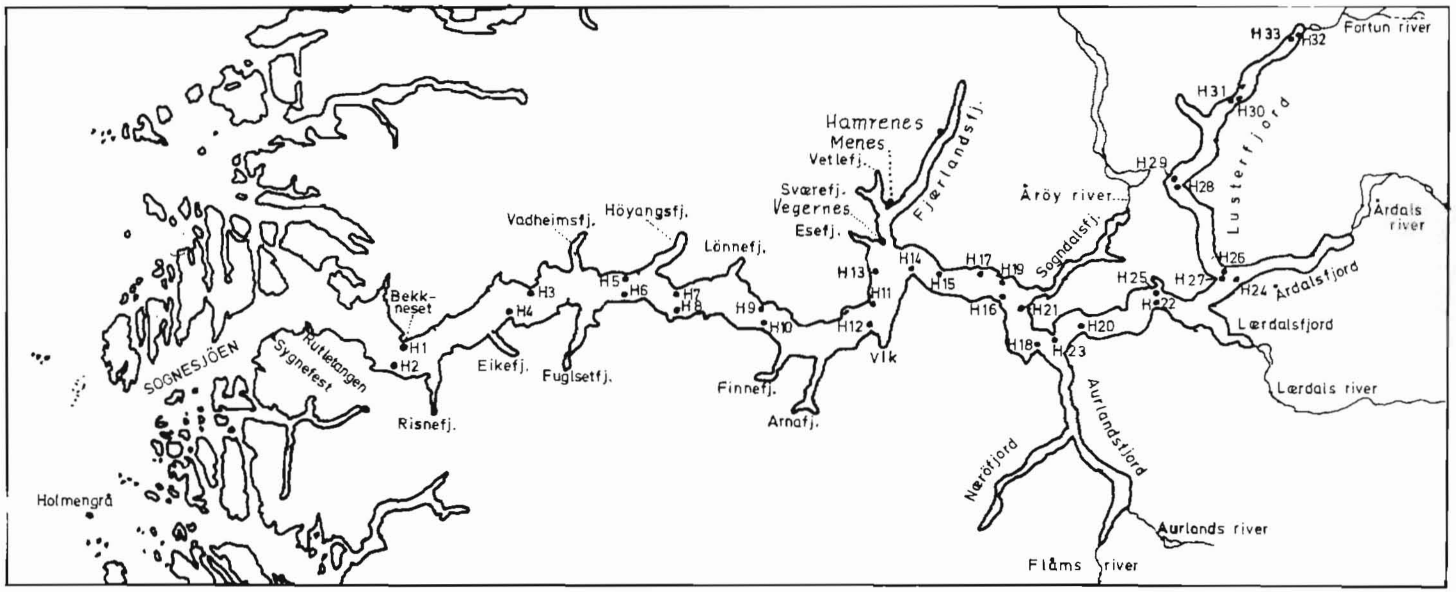



Fig. 1. Map of Sognefjorden showing fjord branches, main rivers (on which the calculations of the supply of fresh water were based), and hydrographical stations.

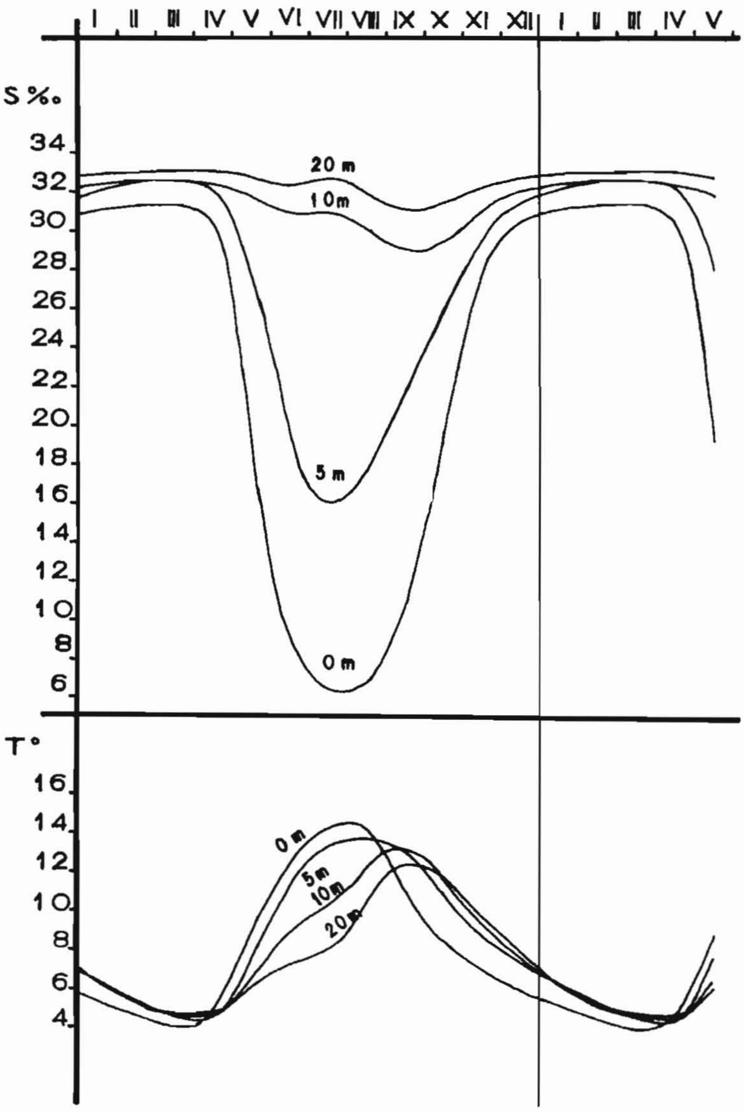



Fig. 2. Mean yearly variations at 0 - 5 - 10 and 20 m during the years 1917-1940 according to Mosby's survey.

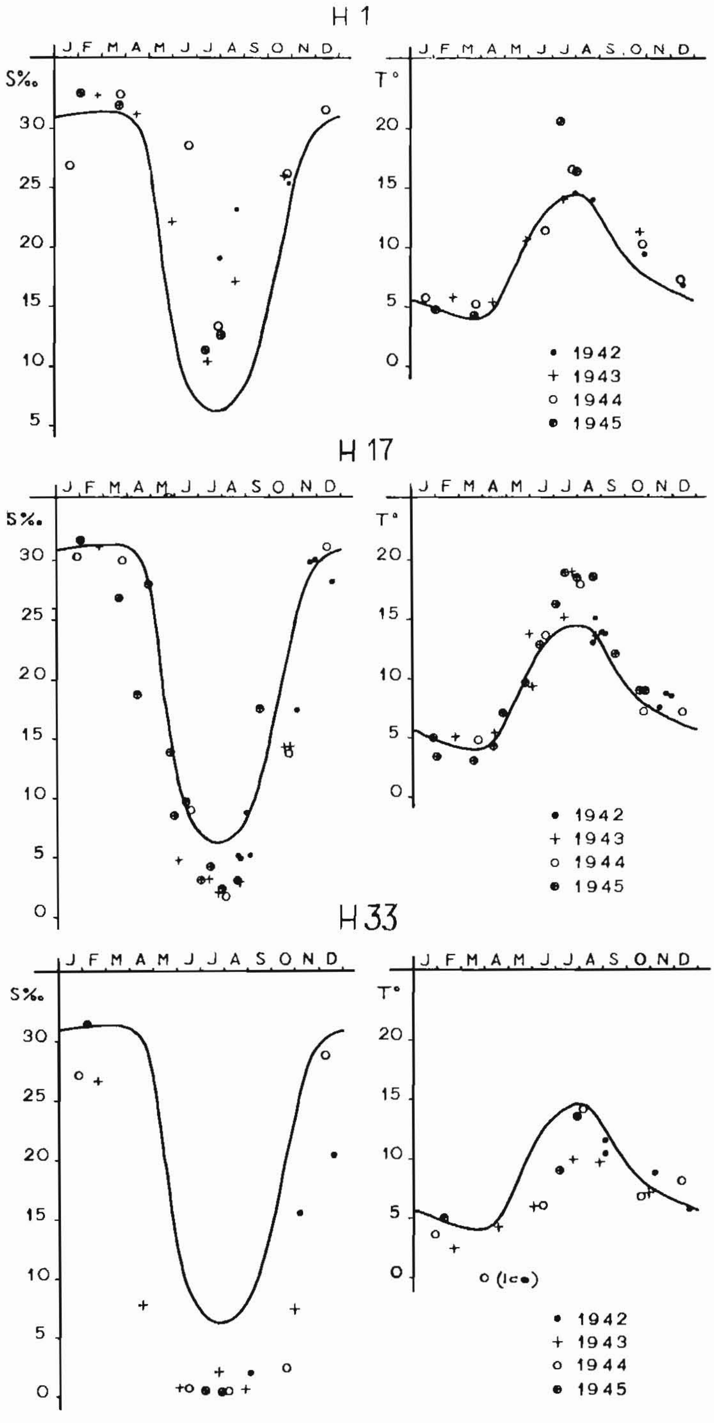



Fig. 3. Values of salinity and temperature in 0 m at three stations plotted agairis the month of observation with Mosby's curves superimposed.

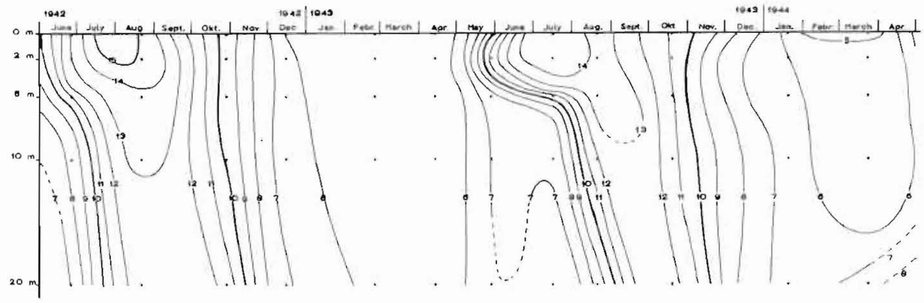


Fig. 4a.

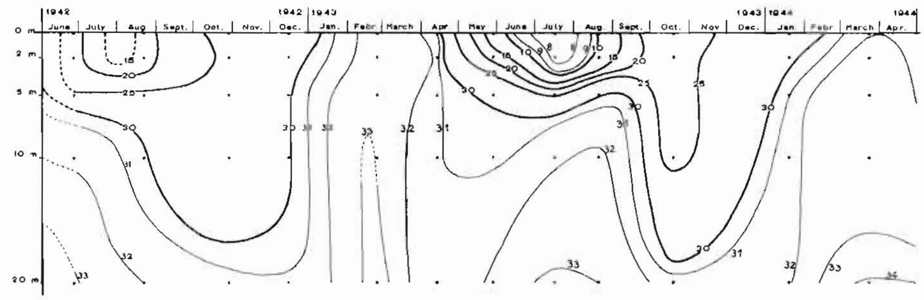


Fig. 4b.

Fig. 4. Isopleths of temperature (a) and salinity (b) in the upper 20 m at station H5 from June 1942 to April 1944.

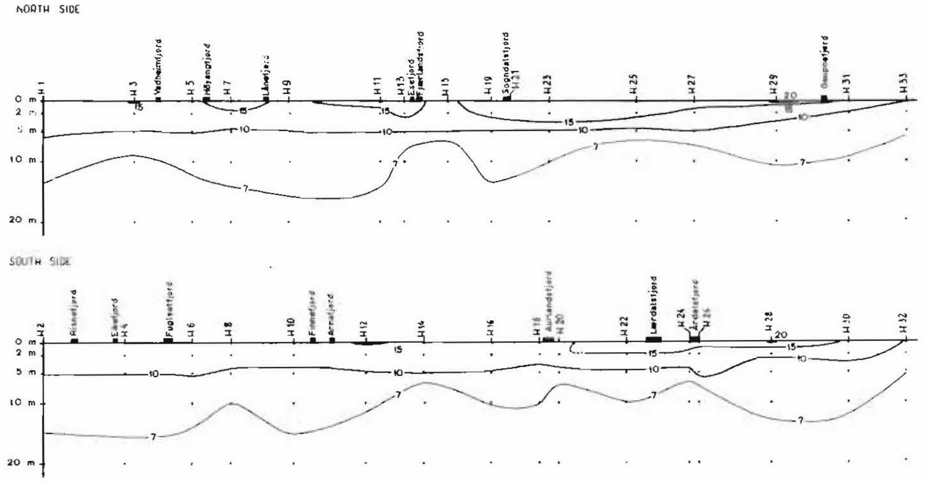
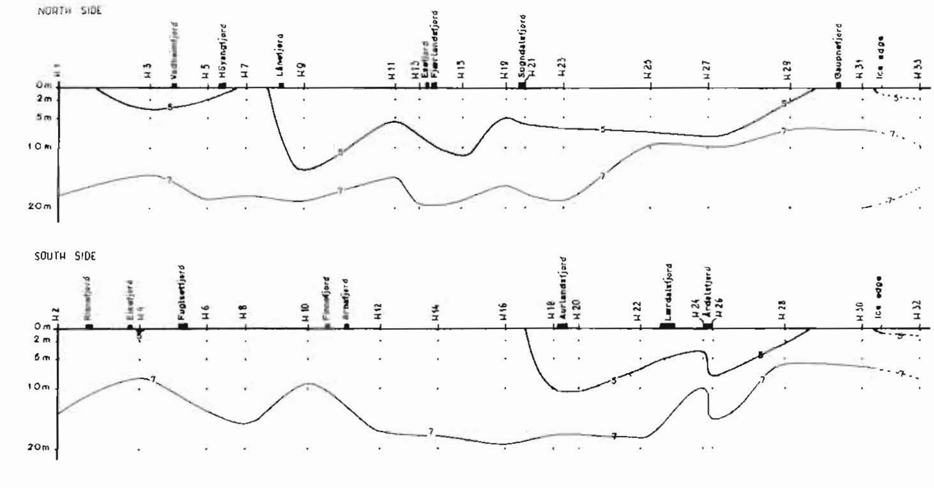



Fig. 5a.




-Fig. 5b.

Fig. 5. Temperatures of the upper 20 m along the north and south sides of Sognefjorden during July 1943 (a) and March 1944 (b).

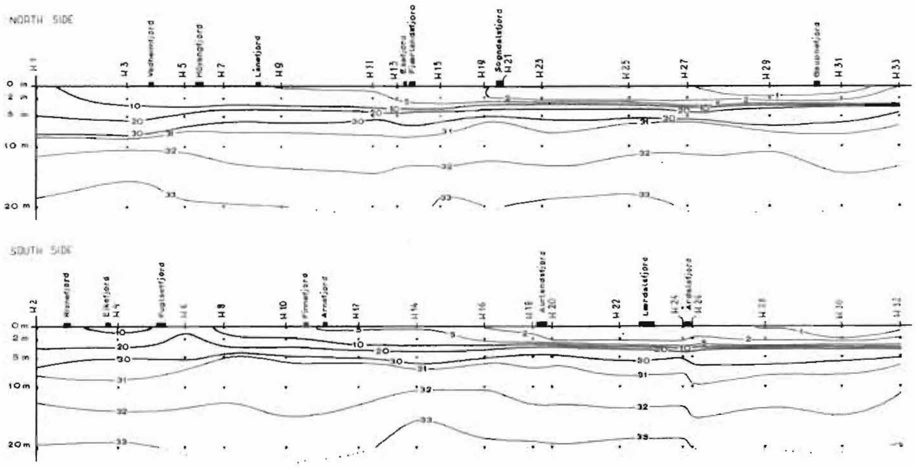


Fig. 6a.

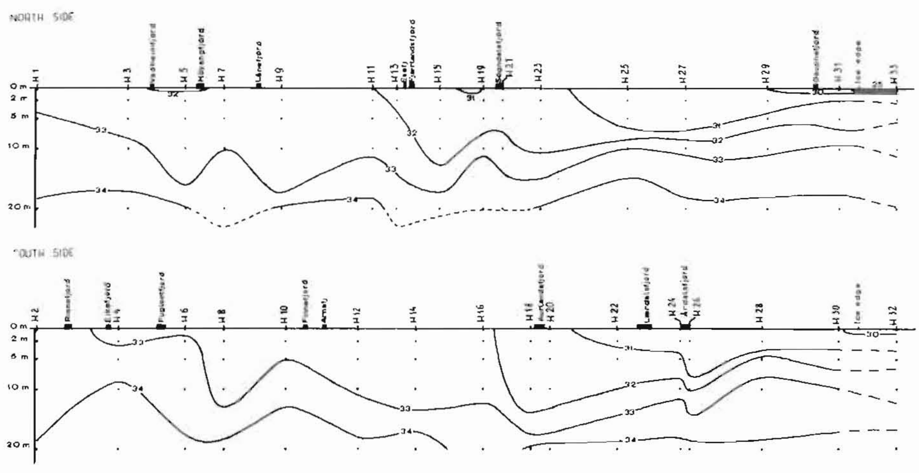


Fig. 6b.

Fig. 6. Salinities of the upper 20 m along the north and south sides of Sognefjorden during July 1943 (a) and March 1944 (b).

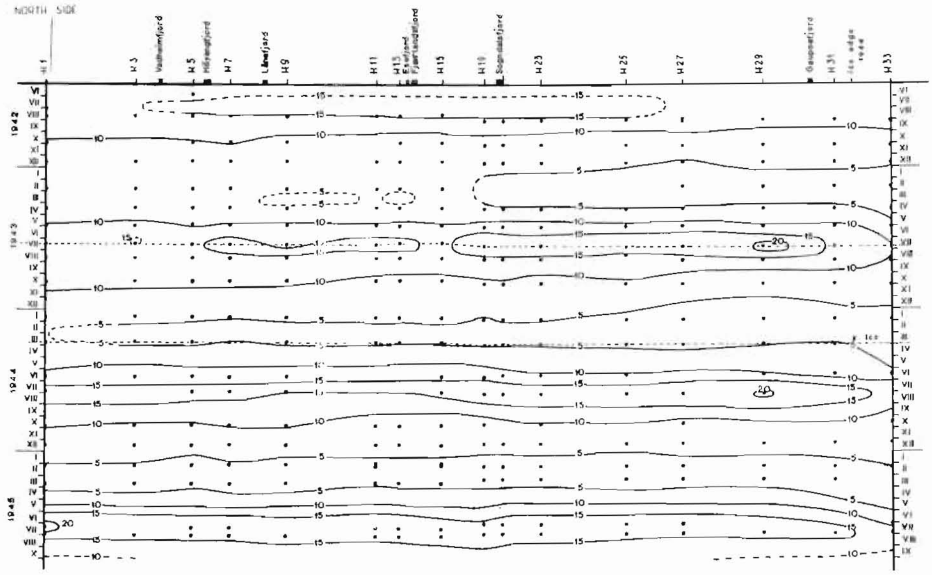


Fig. 7a.

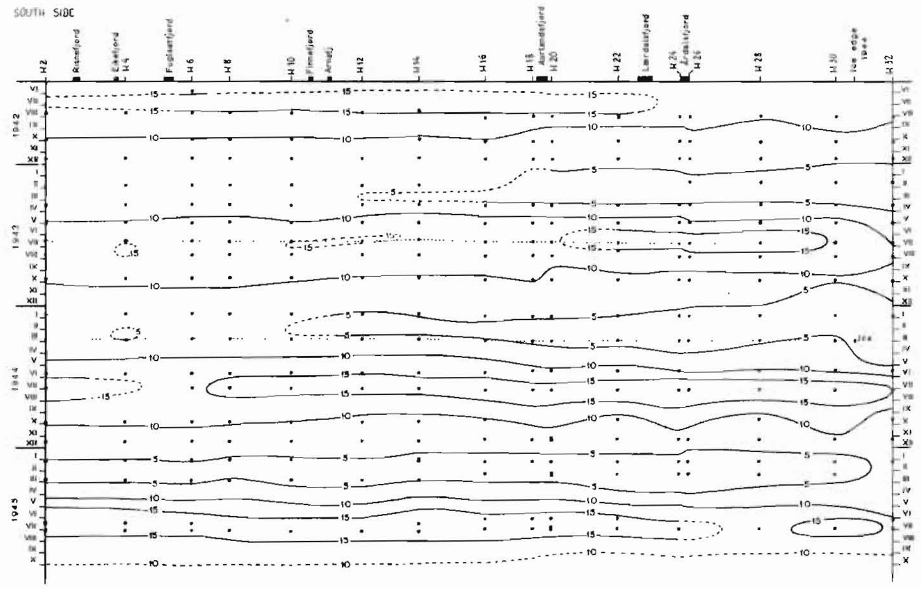


Fig. 7b.

Fig. 7. Temperature throughout the investigation period in 0 m on the north (a) and south (b) side of Sognefjorden.

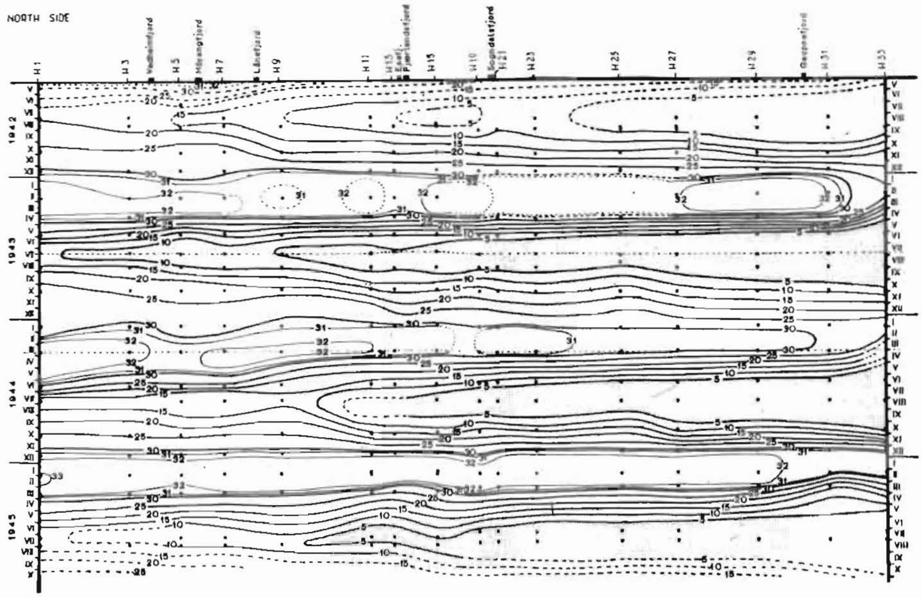


Fig. 8a.

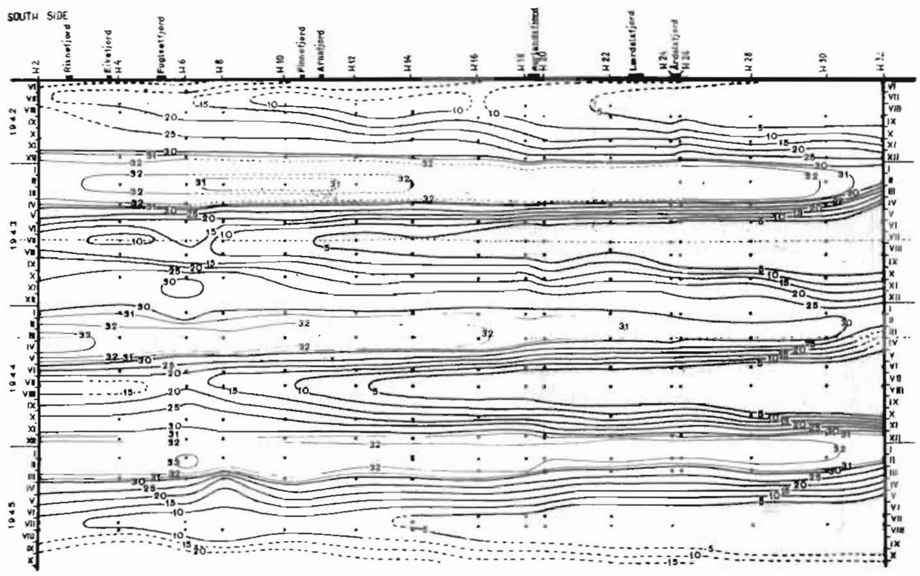


Fig. 8b.

Fig. 8. Salinitiy throughout the investigation period in 0 m on the north (a) and south (b) side of Sognefjorden.

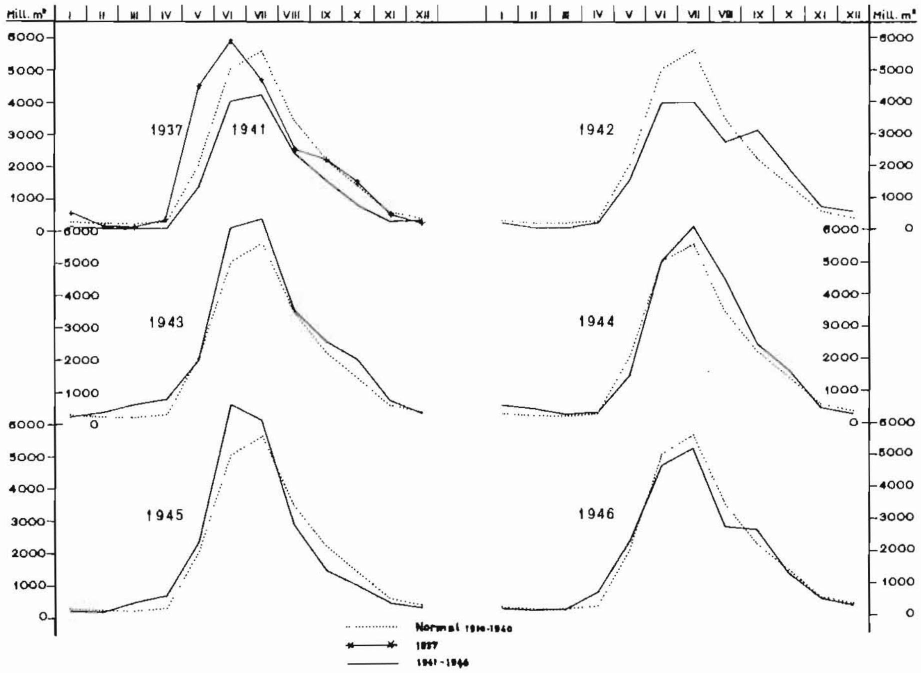



Fig. 9. Monthly supply of fresh water to Sognefjorden in 1937 and 1941-1946 with the normal supply of the years 1910-1940 superimposed.

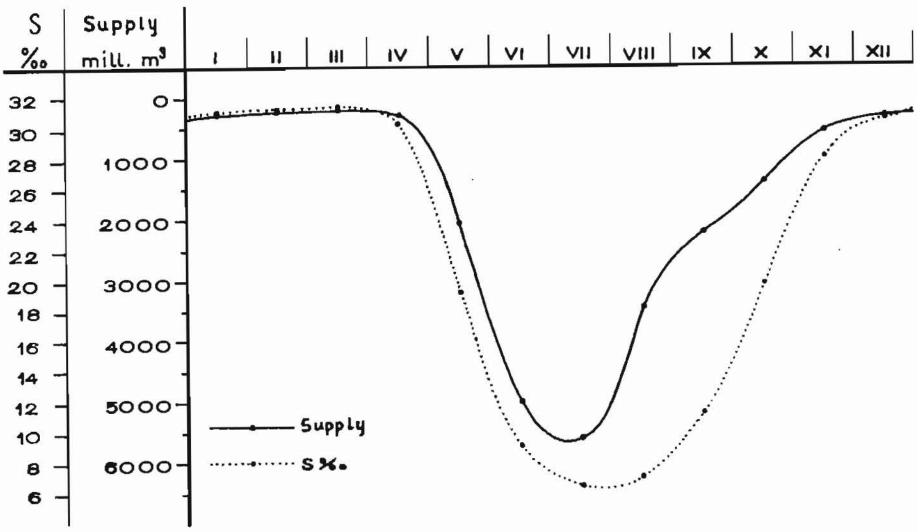



Fig. 10. Mean monthly salinity in 0 m in Sognefjorden 1917-1940 (after Mosby) and mean monthly supply of fresh water (inverted scale).

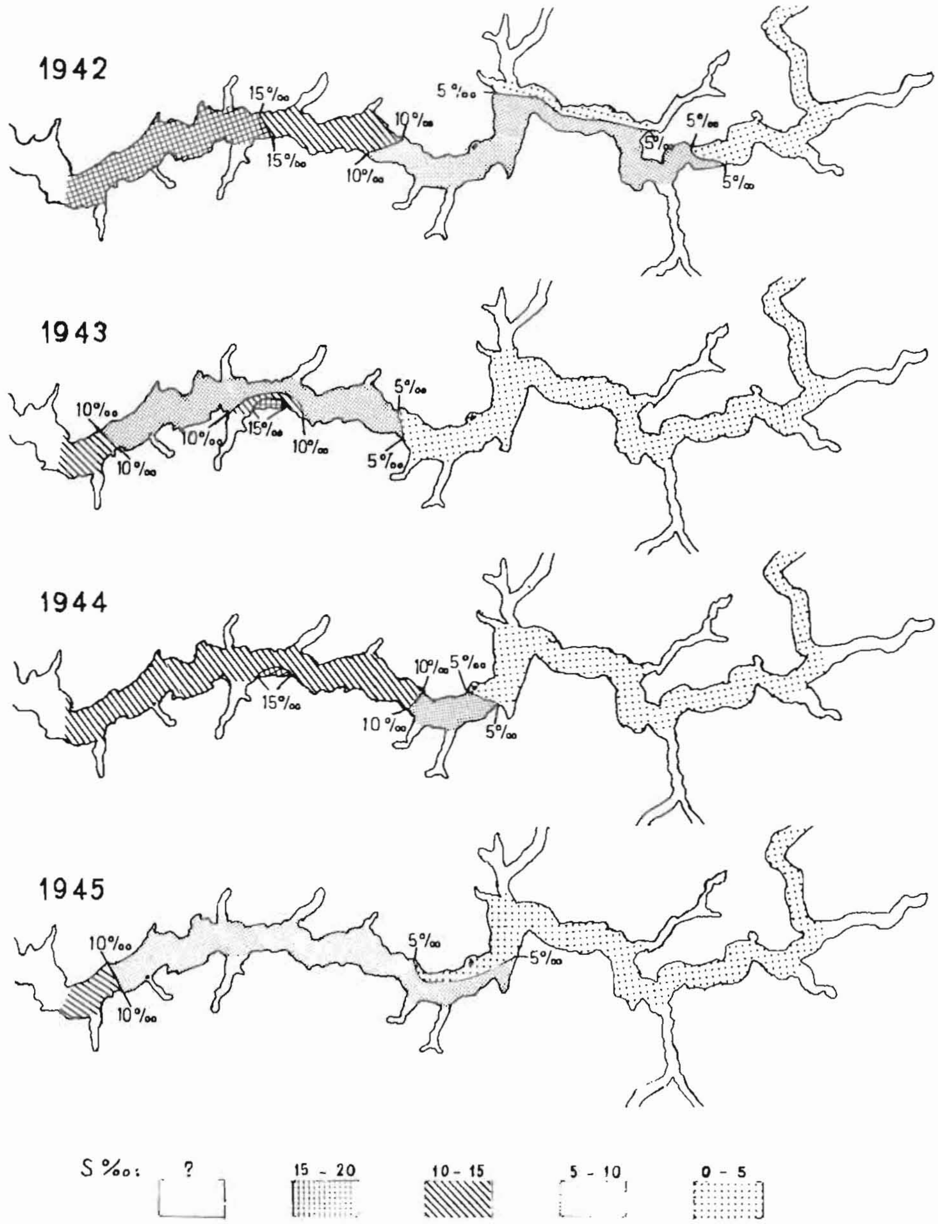



Fig. 11. Surface salinity of Sognefjorden at the turn of the month July/August in the years 1942-1945.

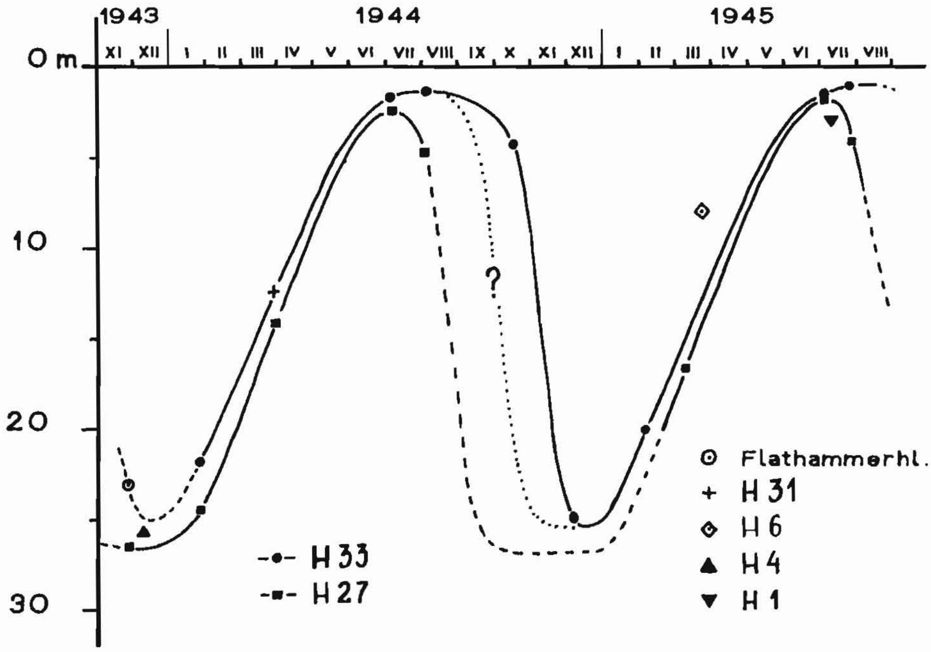



Fig. 12. Variations in the transparency of the upper layers of Sognefjorden from November 1943 to August 1945.