



**NATIONAL SCHOOL
SAILING ASSOCIATION**

**FIVE MEN
IN A BOAT**

**Curriculum
Development
Paper No 12**

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SIMPLE HYDROGRAPHIC SURVEY OF A RESERVOIR OR RIVER

1. The first requirement is a topographical survey of the bank and surroundings. If this is already embodied in a large scale map or chart, well and good, if not, the ordinary techniques of terrestrial survey by chaining, plane-tabling or triangulation must be resorted to.
2. The next step is to choose, mark and record the position of a number of fixed objects - sheds, trees, etc., -around the water's edge from which the position of transit markers may later be plotted and recorded as the survey proceeds.
3. Once this basis has been laid (and recorded in writing and on the topographical Map) , a few trial transects are selected at fairly widely separated intervals (say 25 or 50 yards apart). Transit markers, made of striped coloured poles with bright flags on top are set up to fix the line of one or two transits at a time and their position accurately recorded as well as the position the line reaches on the opposite bank (if there is one). A third and similar marker is set up at as wide an angle to the transit as possible, and its position similarly recorded.
4. All is now ready to proceed. Boats require the following (apart from paddles or oars):
 - Hand bearing compass or sextant
 - Hand lead and line marked in feet (or metres)
 - Note book

The crew should consist of:

- Cox'n
- Surveyor (with note book)
- Leadsman (with lead line)
- Position fixer (with compass)
- Paddlers or Oarsmen

5. The drill is for the boat to work its way down the line of a transit, taking continuous soundings as it goes and at the same time keeping a check on the bearing of the third marker . Records of depth and bearing are made at each unit change in depth (eg at each metre) and of course if there should be a sharp change to a swatch of deep water or a shoal.
6. On return to base, the note books should be neatly written up in a "field book" laid out as under:

B	Compass Bearing of
345°	C
1 M -	085°
2 M	065°
3 M	031°
4 M	012°
A	

Note: The writing starts at the bottom of the page as the boat goes from A to B.

7. Plotting up on the chart is simple: See Page 4

When the survey is completed, this method of working by unit depth changes makes the drawing of contours an easy task. Further transits can be added in between the original widely separated ones if there seems a need by reason of rapidly changing contours. If it should be desired, a simple core sampler could be used to record the quality of the bottom as well.

