



SACFOR abundance scale used for both littoral and sublittoral taxa from 1990 onwards

1 Use of the MNCR SACFOR abundance scales

This is an extract from Hiscock, K (ed.) (1996) Marine Nature Conservation Review: Rationale and methods. Coasts and seas of the United Kingdom. MNCR series. Joint Nature Conservation Committee, Peterborough.

The MNCR cover/density scales adopted from 1990 provide a unified system for recording the abundance of marine benthic flora and fauna in biological surveys. The following notes should be read before their use:

1. Whenever an attached species covers the substratum and percentage cover can be estimated, that scale should be used in preference to the density scale.
2. Use the massive/turf percentage cover scale for all species, excepting those given under crust/meadow.
3. Where two or more layers exist, for instance foliose algae overgrowing crustose algae, total percentage cover can be over 100% and abundance grade will reflect this.
4. Percentage cover of littoral species, particularly the furoid algae, must be estimated when the tide is out.
5. Use quadrats as reference frames for counting, particularly when density is borderline between two of the scale.
6. Some extrapolation of the scales may be necessary to estimate abundance for restricted habitats such as rockpools.
7. The species (as listed above) take precedence over their actual size in deciding which scale to use.
8. When species (such as those associated with algae, hydroid and bryozoan turf or on rocks and shells) are incidentally collected (i.e. collected with other species that were superficially collected for identification) and no meaningful abundance can be assigned to them, they should be noted as present (P).

2 Key

| S | A | C | F | O | R | P |
|----------------|----------|--------|----------|------------|------|---------|
| super-abundant | abundant | common | frequent | occasional | rare | present |



3 SACFOR abundance scale

| % cover scale | Growth form | | Size of individuals/colonies | | | | Density scale | |
|-----------------|--------------|--------------|------------------------------|--------|---------|--------|--|----------------------------|
| | Crust/meadow | Massive/Turf | <1cm | 1-3 cm | 3-15 cm | >15 cm | | |
| >80% | S | | S | | | | >1/0.001 m ² (1x1 cm) | >10,000 / m ² |
| 40-79% | A | S | A | S | | | 1-9/0.001 m ² | 1000-9999 / m ² |
| 20-39% | C | A | C | A | S | | 1-9 / 0.01 m ² (10 x 10 cm) | 100-999 / m ² |
| 10-19% | F | C | F | C | A | S | 1-9 / 0.1 m ² | 10-99 / m ² |
| 5-9% | O | F | O | F | C | A | 1-9 / m ² | |
| 1-5% or density | R | O | R | O | F | C | 1-9 / 10m ² (3.16 x 3.16 m) | |
| <1% or density | | R | | R | O | F | 1-9 / 100 m ² (10 x 10 m) | |
| | | | | | R | O | 1-9 / 1000 m ² (31.6 x 31.6 m) | |
| | | | | | | R | <1/1000 m ² | |