



# Marine Monitoring Handbook

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# 6 Procedural guidelines

Caroline Turnbull and Jon Davies

The following table lists the techniques for which guidance will be available. The status column indicates the current stage of development for each procedural guideline. Those guidelines whose status is listed as 'in prep.' or 'planned' are not included in the current version (March 01).

<i>Attribute</i>	<i>Number</i>	<i>Full title of guideline</i>	<i>Summary title</i>	<i>Status</i>
<b>Extent</b>				
	1-1	Intertidal resource mapping using aerial photographs	Intertidal resource mapping	finished
	1-2	Fixed viewpoint photography	Viewpoint photography	finished
	1-3	Seabed mapping using acoustic ground discrimination interpreted with ground truthing	AGDS	finished
	1-4	The application of side scan sonar for seabed mapping	Side scan sonar	finished
	1-5	Mosaicing side scan sonar images to map seabed features	Mosaicing sonar images	in prep.
	1-6	Mapping extent using point samples	Point sample mapping	in prep.
		Satellite and airborne multispectral remote sensing	Remote imaging	planned
		Aerial photography and photogrammetry	Air photo interpretation	planned
		LIDAR	LIDAR	planned
<b>Physical properties</b>				
	2-1	Measuring water quality parameters: clarity, chemistry, density, salinity and temperature	Measuring water quality	in prep.
	2-2	Sediment profile imagery	Sediment profile imagery	finished
	2-3	Undertaking a physical survey of littoral and sublittoral sea caves	Surveying sea caves	finished
	2-4	Determining the structure and particle size composition of sediment	Particle size analysis	in prep.
		Routine monitoring of water chemistry parameters using in situ data loggers	Water chemistry data loggers	planned
		Analysing the chemical structure of marine sediments	Sediment chemical analyses	planned
		Measuring bathymetry using standard hydrographic techniques	Bathymetric mapping	planned

<i>Attribute</i>	<i>Number</i>	<i>Full title of guideline</i>	<i>Summary title</i>	<i>Status</i>
Biotic composition				
Biotopes				
	3-1	<i>In situ</i> intertidal biotope recording	Intertidal biotope ID	finished
	3-2	<i>In situ</i> survey of intertidal biotopes using abundance scales and checklists at exact locations (ACE surveys)	Intertidal ACE	finished
	3-3	<i>In situ</i> survey of subtidal (epibiota) biotopes and species using diving techniques	Subtidal biotope ID	finished
	3-4	Descriptive and quantitative surveys using remote operated vehicles	ROV	in prep.
	3-5	Identifying biotopes using video recordings	Drop-down video	finished
	3-6	Quantitative sampling of intertidal sediment species using cores	Intertidal core sampling	finished
	3-7	<i>In situ</i> quantitative survey of subtidal epibiota using quadrat sampling techniques	Subtidal quadrat sampling	finished
	3-8	Quantitative sampling of sublittoral sediment biotopes and species using diver-operated cores	Sublittoral coring by diver	finished
	3-9	Quantitative sampling of sublittoral sediment biotopes and species using remote-operated grabs	Grab sampling	finished
	3-10	Sampling marine benthos using suction samplers	Suction sampling	finished
	3-11	Littoral monitoring using fixed quadrat photography	Intertidal quadrat photography	finished
	3-12	Quantitative surveillance of sublittoral rock biotopes and species using photographs	Sublittoral photography	finished
	3-13	<i>In situ</i> surveys of sublittoral epibiota using hand-held video	Subtidal hand-held video	finished
	3-14	<i>In situ</i> survey of sublittoral epibiota using towed sledge video and still photography	Towed sledge	finished
Species				
	4-1	Sampling fish and demersal fish populations in subtidal rock habitats	Fish in subtidal rock habitats	finished
	4-2	Recording benthic and demersal fish in dense vegetative cover	Fish in vegetative cover	finished
	4-3	Sampling benthic and demersal fish populations on sediments	Fish on sediments	finished
	4-4	Sampling fish in rockpools	Fish in rockpools	finished
	4-5	Techniques for monitoring the abundance and behaviour of bottlenose dolphins	Bottlenose dolphins	draft
		Using the National biotope classification for monitoring		planned
Biological structure				
	5-1	Assessing the population structure of <i>Modiolus modiolus</i> reefs by shell ageing techniques	Mollusc shell ageing	in prep.
		Measuring the vertical distribution of species or biotopes using levelling	<i>Shore profiling</i>	planned
		Measuring spatial patterns using transect survey techniques	<i>Transect survey</i>	planned
General				
	6-1	Positioning by differential GPS in near-shore tidal waters	dGPS	finished
	6-2	Relocation of intertidal and subtidal sites	Site relocation	finished
	6-3	Specimen collection, preservation and storage	Specimen collection	finished