

OSLO AND PARIS CONVENTIONS FOR THE PREVENTION OF MARINE POLLUTION

JOINT MEETING OF THE OSLO AND PARIS COMMISSIONS

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Agreed ecotoxicological assessment criteria for trace metals, PCBs, PAHs, TBT and some organochlorine pesticides¹

1. The ecotoxicological assessment criteria in the accompanying table should be used to assess the JMP/JAMP chemical monitoring data, e.g. for the QSR 2000, giving due consideration as to whether the EACs are classified as "provisional" or "firm".
2. The ecotoxicological assessment criteria should be used to identify potential areas of concern and to indicate which substances could be considered as a priority, and should not be used as firm standards or as triggers for remedial action.
3. Caution should be exercised in using generic, particularly provisional, ecotoxicological assessment criteria in specific situations. Their use does not preclude the use of common sense and expert judgement with regard to the natural concentrations of for example trace metals when assessing the (potential for) environmental effects. Furthermore, the ecotoxicological assessment criteria do not take into account specific long-term biological effects such as carcinogenicity, genotoxicity and reproductive disruption due to hormone imbalances and do not include combination toxicity.
4. The effects of environmental contamination should ultimately be assessed in biological terms and an integrated chemical and biological effects monitoring programme should be implemented as soon as possible.
5. If, in an integrated chemical and biological effects programme, effects are found then ecotoxicological assessment criteria could be used to diagnose which compounds may be responsible.
6. Ecotoxicological assessment criteria need to be further refined and updated at periodic intervals (every 5-10 years for example) in order to take account of changes to the JAMP (e.g. in the parameter list) and changes in the availability of new marine toxicity data. Biological effect monitoring data should be taken into account in further deriving such criteria.

¹ The UK endorses the role that EAC values can play in the assessment of the data collected in an integrated monitoring programme (cf point 4 above) but is concerned their use for retrospective evaluation of chemical monitoring data could be misleading. EAC values derived from a relatively limited marine database do not address adequately factors such as bioavailability, long-term field exposure and contaminant interactions.

Agreed ecotoxicological assessment criteria (EAC)

Cautionary note: These assessment criteria have no legal significance and should only be used for the preliminary assessment of JMP/JAMP chemical monitoring data with the aim of identifying potential areas of concern. When applied, an indication should be given as to whether the EAC was firm or provisional.

The EAC for lindane in water is 2 ng/l (firm, OSPAR, 2004a).

Substance	Water (μ g/l)	Sediment (mg/kg dw)	Fish (mg/kg fw)	Mussel (mg/kg dw)
Trace metals				
As	1-10 (f)	1-10 (p)	n.r.	n.r.
Cd	0,01-0,1 (f)	0,1-1 (p)	f.c.	f.c.
Cr	1-10 (f)	10-100 (p)	n.r.	n.r.
Cu	0,005-0,05 (f) ¹	5-50 (p)	f.c.	f.c.
Hg	0,005-0,05 (f)	0,05-0,5 (p)	f.c.	f.c.
Ni	0,1-1 (p)	5-50 (p)	n.r.	n.r.
Pb	0,5-5 (f)	5-50 (p)	f.c.	f.c.
Zn	0,5-5 (f)	50-500 (p)	n.r.	n.r.
Organochlorine pesticides				
DDE	n.r.	0,0005-0,005 (p)	0,005-0,05 (f)	0,005-0,05 (f)
Dieldrin	n.r.	0,0005-0,005 (p)	0,005-0,05 (f)	0,005-0,05 (f)
Lindane	0,0005-0,005 (f)	n.r.	0,0005-0,005 (f)	n.r.
PAHs				
Naphthalene	5-50 (f)	0,05-0,5 (f)	n.r.	0,5-5 (p)
Phenanthrene	0,5-5 (p)	0,1-1 (f)	n.r.	5-50 (p)
Anthracene	0,001-0,01 (p)	0,05-0,5 (f)	n.r.	0,005-0,05 (p)
Fluoranthene	0,01-0,1 (p)	0,5-5 (p)	n.r.	1-10 (p)
Pyrene	0,05-0,5 (p)	0,05-0,5 (p)	n.r.	1-10 (p)
Benzo[a]anthracene	n.d.	0,1-1 (p)	n.r.	n.d.
Chrysene	n.d.	0,1-1 (p)	n.r.	n.d.
Benzo[k]fluoranthene	n.d.	n.d.	n.r.	n.d.
Benzo[a]pyrene	0,01-0,1 (p)	0,1-1 (p)	n.r.	5-50 (p)
Benzo[ghi]perylene	n.d.	n.d.	n.d.	n.d.
Indeno[123-c,d]pyrene	n.d.	n.d.	n.r.	n.d.
ΣPCB₇	n.r.	0,001-0,01 (p)	0,001-0,01 (f)	0,005-0,05 (f)
TBT	0,00001-0,0001(f)	0,000005-0,00005 (p)	n.r.	0,001-0,01 (f)

f = firm

p = provisional

f.c. = for future consideration

n.r. = not relevant in relation to the current monitoring programme

n.d. = no data available or insufficient data available

1 = this range is within the background range for natural water. This value should be compared to the bioavailable fraction of Cu in seawater