



SWIM and Horizon 2020 Support Mechanism

Working for a Sustainable Mediterranean, Caring for our Future

Title: Training Monitoring of non-point source pollution

Presented by: Roel Knobens, Royal HaskoningDHV

Ministry of Environmental Planning, 10-12 July 2018, Tel Aviv Israel

This Project is funded by the European Union



umweltbundesamt[®]

ATKINS

Session Proposal for thresholds

Thresholds can serve different objectives or functions:

a.o.:

- Surface water for production of drinking water
- Bathing water
- Industrial process water
- Agricultural use (sprinkling)
-

- Ecosystem protection: no or little harm to living creatures in the aquatic ecosystem (following WFD ecosystem approach)
= EQS Environmental Quality Standards or Environmental Objectives (WFD)

This enables in general most human functions!

Session Proposal for thresholds

Existing EQS:

Most general parameters and metals

Proposal:

- No specific reason to adjust
- If biological objectives are defined these can be updated

- Metals dissolved or total?

| Environmental quality standards in Israel | | | |
|---|----------|---------|---------|
| | units | average | maximum |
| pH | - | 7-8.5 | 7-8.5 |
| TSS (105 ⁰ c) | mg/l | 10 | 15 |
| BOD | mg/l | 10 | 15 |
| COD | mg/l | 70 | 100 |
| Mineral oil | mg/l | 1 | 1.5 |
| NH ₄ -N | mg/l | 1.5 | 2.5 |
| Total N | mg/l | 10 | 15 |
| Total P | mg/l | 1 | 2 |
| detergents | mg/l | 0.5 | 1 |
| Cl | mg/l | 400 | |
| CN | mg/l | 0.005 | 0.01 |
| Chlorine | mg/l | 0.05 | 0.1 |
| Hg | mg/l | 0.0005 | 0.0025 |
| As | mg/l | 0.1 | 0.5 |
| Cd | mg/l | 0.005 | 0.025 |
| Cr | mg/l | 0.05 | 0.25 |
| Cu | mg/l | 0.02 | 0.1 |
| Na | mg/l | 200 | |
| Ni | mg/l | 0.05 | 0.25 |
| Pb | mg/l | 0.008 | 0.04 |
| Zn | mg/l | 0.2 | 1 |
| Fecal coliforms | CFU/0.1l | 200 | 800 |
| Entrococs | CFU/0.1l | | 105 |

Session Proposal for thresholds

Priority substances: make use of EQS from EU – Directive of priority substances

- Generic EQS for all waterbodies of all types in all Member States
- Scientifically derived on ecotoxicity tests
- Only 45 substance (groups)
- Two testing levels: AA and MAC
- Metals: dissolved

Session Proposal for thresholds

ANNEX I: ENVIRONMENTAL QUALITY STANDARDS FOR PRIORITY SUBSTANCES AND CERTAIN OTHER POLLUTANTS

PART A: Environmental Quality Standards (EQS) for Priority Substances in surface water

Priority substances:

AA: annual average;

MAC: maximum allowable concentration.

Unit: [$\mu\text{g/l}$].

| (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|-----|--|------------|---|----------------------|--|-----------------------|
| N° | Name of substance | CAS number | AA-EQS ²¹ | AA-EQS ²¹ | MAC- EQS ²² | MAC-EQS ²² |
| | | | Inland surface waters | Other surface waters | Inland surface waters | Other surface waters |
| (1) | Alachlor | 15972-60-8 | 0.3 | 0.3 | 0.7 | 0.7 |
| (2) | Anthracene | 120-12-7 | 0.1 | 0.1 | 0.4 | 0.4 |
| (3) | Atrazine | 1912-24-9 | 0.6 | 0.6 | 2.0 | 2.0 |
| (4) | Benzene | 71-43-2 | 10 | 8 | 50 | 50 |
| (5) | Pentabromodiphenylether ²³ | 32534-81-9 | 0.0005 | 0.0002 | <i>not applicable</i> | <i>not applicable</i> |
| (6) | Cadmium and its compounds <i>(depending on water hardness classes²⁴)</i> | 7440-43-9 | ≤ 0.08 (Class 1) 0.08 (Class 2) 0.09 (Class 3) 0.15 (Class 4) 0.25 (Class 5) | 0.2 | ≤ 0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5) | |
| (7) | C10-13 Chloroalkanes | 85535-84-8 | 0.4 | 0.4 | 1.4 | 1.4 |
| (8) | Chlorfenvinphos | 470-90-6 | 0.1 | 0.1 | 0.3 | 0.3 |

Session Proposal for thresholds

Other micropollutants: borrow from Dutch system

- Scientifically derived,
- based on chronic ecotoxicity tests for 4 trophic levels: algae, plants, invertebrates, fish
- most are based on Species Sensitivity curves, some derived with safety factors
- these EQS protect 95% of the aquatic species

Emerging pollutants with no EQS:
apply effect based monitoring

