

### **Minutes: EDA-EMERGE Local Course 3:**

#### **“Monitoring and Assessment in the context of the Water Framework Directive”**

Venue: Istituto Superiore di Sanità, Viale Regina Elena 299, 00161, Rome, Italy

Organizer: Dr. Mario Carere

Date: 04.12.2014

Time: 9h00 – 13h00

#### **Course description**

The LC3 was a half-day EDA-EMERGE training course on monitoring and assessment in the context of the Water Framework Directive. Said training course focused on the monitoring obligations and most recent assessment criteria of chemical and ecological status in the context of the water framework directive 2000/60/EC. Emerging topics such as the water reuse were also highlighted.

Therefore, the course included lectures on the European Water Framework Directive, chemical monitoring, chemical and ecological status assessment of surface waters and the water reuse in the EU.

This amounted to a minimum total academic involvement of 4h hours (0.125 ECTS) for the participants.

## AGENDA

Thursday, 04.12.2014		
Time	Title	Lecturer
14:00	The Water Framework Directive (overview)	G. Pineschi (ministry of environment)-t.b.c.
14:30	The chemical status and the use of effect-based tools in the WFD	M. Carere (ISS)
15:00	Coffee break (30 min)	
15:30	Chemical monitoring and assessment of sediment and biota	S. Polesello (CNR-IRSA)
16:15	Ecological status assessment in surface waters	S. Marcheggiani, L. Mancini (ISS)
17:00	Water Reuse in the WFD	B. Gawlik (JRC-European Commission)
17:30	End of the course	

## COURSE CONTENT

In detail the course covered the following topics:

- Monitoring and Assessment in the context of the Water Framework Directive
  - Guiding principles
  - National and International River basin Districts
  - Criteria for the classification of water bodies
  - Quality status of surface water – Quality elements
    - Biological Quality Elements
    - Hydro - morphological Quality Elements
  - Assessment to ecological status EQS (high, good, moderate, insufficient, bad)
  - Conflict between ecological status and hydro-morphological status → need for new tools
  - A Blueprint to Safeguard Europe's Water Resources - COM(2012)673
  - Policy options and targets
- The chemical status and the use of effect-based tools in the WFD
  - EQS (environmental quality standard)-WFD definition,
  - Scope of EQS (Annual Average EQS - Maximum Acceptable Concentration EQS)
  - Protection objectives (pelagic community, benthic community, top predators, human health for inland and marine water)
  - New Directive 2013/39/EU (12 new PS, EQS for some existing PS modified)
  - Role of sediment

- WFD - Chemical monitoring frequency
  - Aim of the activity on aquatic effect-based tools in the WFD
  - Regular use, regulatory aspects and current use of effect-based tools
  - Objectives of the WFD-Effect based tools
- Chemical monitoring and assessment of sediment and biota
  - How to choose the priority substances? Consider:
    - Sediment phase
    - Secondary poisoning (overall assessment, risk to birds, mammals and humans)
  - Deriving EQS for biota and sediment
  - Limitations in the applicability of EQS for sediments
  - Compound and matrix selection for sediment and biota monitoring
  - Monitoring of chemical substances in sediment and in aquatic biota
  - Key issues of new biota guidance
  - Which matrix has to be analysed?
  - Trophic level correction
- Ecological status assessment in surface waters
  - Quality elements for the classification of ecological status
    - Biological Quality Elements (Phytoplankton, macrophytes and phytobenthos, macroinvertebrates and fish)
    - Hydro-morphological quality elements (hydrological regime, river continuity, morphological condition)
    - Physico-chemical quality elements (general elements, specific pollutants)
  - Definition of the ecological status based on biological quality elements
  - Classification in high, good, moderate, poor, bad ecological status
  - The intercalibration between member states
  - Italian diatom communities are evaluated based on ICMi
- Water reuse in the WFD
  - Europe and water scarcity
  - Opportunities for water reuse
  - Barriers to innovation on water reuse
  - Guidance on water reuse
    - DEMOWARE project - enhance the availability and reliability of innovative water reuse solutions
    - DemEAUmed - Demonstrating integrated innovative technologies for an optimal and safe closed water cycle in Mediterranean tourist facilities