



B1. ENVIRONMENTAL RISK ASSESSMENT

Instructors: Francesco Regoli, Ioannis Karakassis

Course outline-lectures

1. Introductory issues

- Definition of Ecological Risk Assessment (ERA) procedure
- European Directives and normative guidelines referring to ERA procedures

2. Definition of site-oriented Conceptual Model for ERA

- Anthropogenic use and sensitivity of sites
- Biological and ecological receptors
- Sources and fate of pollutants
- Human health implications

3. Screening ERA and Detailed ERA

- Discussion and criteria for deciding appropriate, site-oriented lines of evidence (LOEs)
- Habitat morphology, dynamics and use
- Chemical characterization
- Toxicity Identification Evaluation (TIE) and Effect Directed Analysis (EDA)
- Biological, toxicological effects (biomarkers, bioassays, bioaccumulation, biomagnification)
- Biological, ecological effects (benthic communities, microbial communities, colonization)

4. Elaboration of complex and heterogeneous data

- Qualitative decisional matrices
- Quantitative Weight Of Evidence (WOE) approach
- Logical flow-charts and mathematical algorithms
- Hazard indices for different LOEs (sediment chemistry, bioavailability, ecotoxicological bioassays, biomarkers, benthic communities)
- WOE elaboration and integrated Risk assessment

5. Conclusion of an ERA procedure

- Ecological Risk indices and potential management suggestions
- Risk communication



ERACOM

JOINT MASTER PROGRAM IN
ENVIRONMENTAL RISK ASSESSMENT
AND COASTAL MANAGEMENT

2

6. Discussion and application of real, field case-studies

ARISTOTLE UNIVERSITY OF THESSALONIKI, SCHOOL OF BIOLOGY ■ 541 24 THESSALONIKI,
GREECE ■ www.auth.gr, www.bio.auth.gr ■ INFO: Tel. 0030-2310-998260, 0030-2310-
998998 ■ FAX: 0030-2310-998252, E-MAIL: info@bio.auth.gr

