

“SEDIMENTS ON THE MOVE”

**Sediment quality criteria: Derivation,
implementation and enforcement**

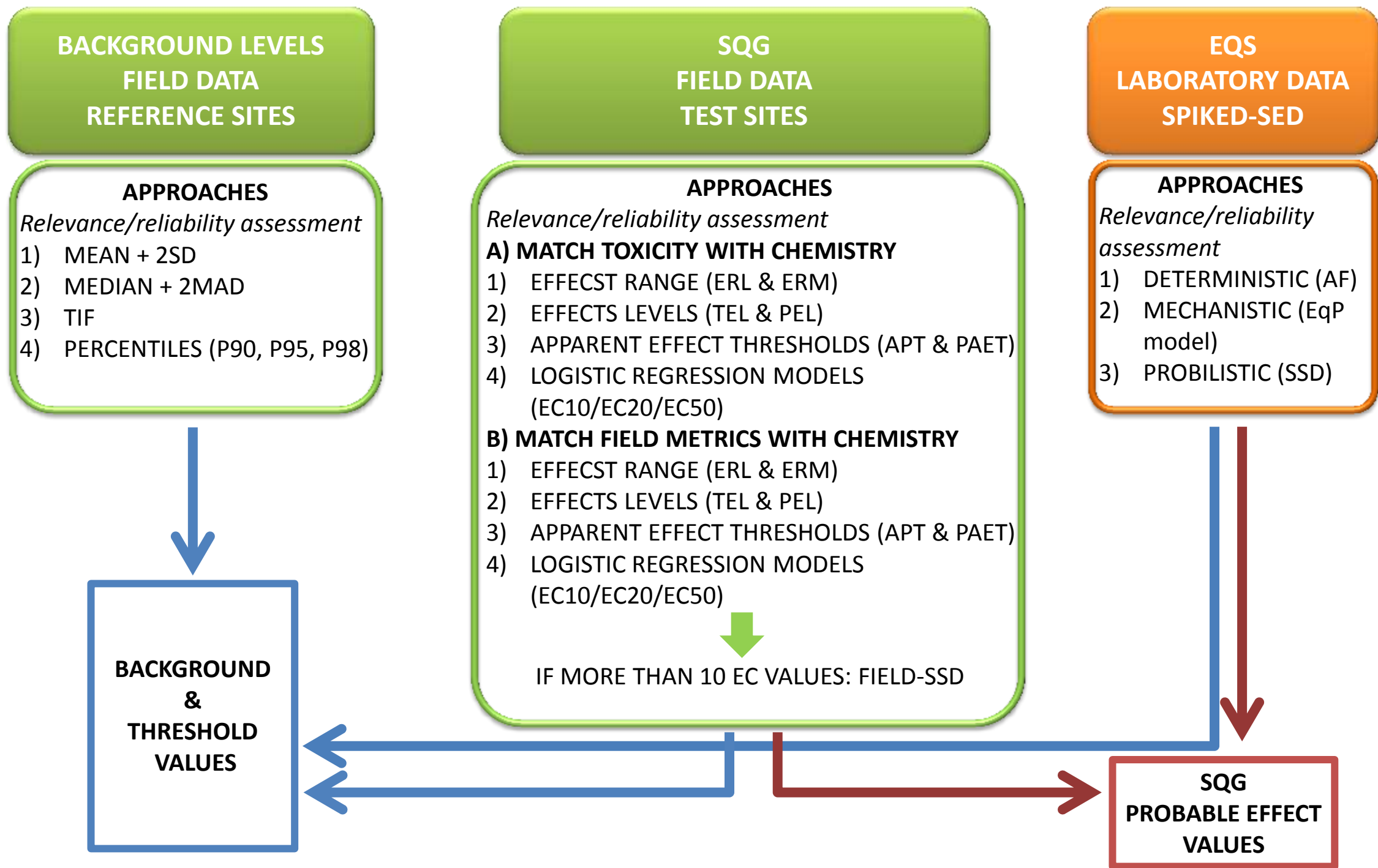
Genoa, 14 June 2017

Wed 14 June 2017

11.10-11.30	Using a pollution-sensitive biotic indicator to assess the predictive ability of Sediment Quality Guidelines (SQGs) for fine sediments Marvin Brinke, Federal Institute of Hydrology, Germany
11.30-11.50	Stepwise approach for the derivation of sediment quality criteria at different spatial scales: case study of mercury contamination in river basins from North Spain Leire Méndez-Fernandez, University of the Basque Country, Spain
11.50-12.10	Sediment quality classification based on Weight of Evidence approach in the recent Italian regulation Cristian Mugnai, ISPRA, Italy
12.10-12.30	Evolution of the monitoring network of seaports to a consideration of European priority substances Julie Droit, Cerema, France
Fri 16 June 2017 09.30-	Policy for sediment management Chairperson: Goedele Vanacker

Why a session on sediment quality guidelines?

- Sediment Quality Guidelines are essential tools for effective sediment monitoring and management.
- Different contexts, different purposes and (often) different methodologies: Limit Levels for dredged material management, Predicted No Effect Concentrations (PNECs) for voluntary risk assessment of chemicals, Environmental Quality Standards (EQS) for sediment within the EU Water Framework Directive.
- For EQS development, Technical Guidance Document (not legally binding) 2011 updated in 2016, sediment section not changed substantially



Why a session on sediment quality guidelines?

Principles for Environmental Risk Assessment of the Sediment Compartment

Proceedings of the Topical Scientific Workshop
Natura 2000, 7-8 May 2013

SCIENTIFIC OPINION

Scientific Opinion on the effect assessment for pesticide organisms in edge-of-field surface water

EFSA Panel on Plant Protection Products and their Residues

European Food Safety Authority (EFSA), Parma, Italy

Environmental Toxicology and Chemistry, Vol. 34, No. 1, pp. 5-11, 2015
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Critical Review

CRITICAL REVIEW OF MERCURY SEDIMENT QUALITY VALUES FOR THE PROTECTION OF BENTHIC INVERTEBRATES

Toward Ecosystem-Based Sediment Quality Guidelines for Polychlorinated Biphenyls (PCBs)

Jennifer Arblaster, Michael G. Ikonomin, and Frank APC Gobas*

School of Resource and Environmental Management, Simon Fraser University, Burnaby, British Columbia, Canada
Present address: ENVIRON International, Irvine, California, USA
† Fisheries and Oceans Canada, Institute of Ocean Sciences, Ocean Sciences Division, Sidney, British Columbia, Canada

Guidelines for copper in sediments with varying properties

Stuart L. Simpson*, Graeme E. Batley, Ian L. Hamilton, David A. Spadaro

Phase II: Methodology Development and Derivation of Minimum Values for Benthic Sediment Quality Criteria

UC DAVIS
UNIVERSITY OF CALIFORNIA

Prepared for the Federal Water Research Institute (FWRI) Board

Stuart L. Simpson, Ph.D.,
Graeme E. Batley, Ph.D.,
Ian L. Hamilton, Ph.D.,
and
David A. Spadaro, M.Sc.

Department of Environmental Science
University of California, Davis

February 2012

Phase I: Review of Existing Methodologies

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September 2012

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Journal homepage: www.elsevier.com/locate/scitotenv

EQSPA – 2016

International Conference on Deriving Environmental Quality Standards for the Protection of Aquatic Ecosystems

18-20 June 2016

ENVIRONMENTAL QUALITY BENCHMARKS FOR PROTECTING AQUATIC ECOSYSTEMS

Sediment quality guidelines: challenges and opportunities for improving sediment management

Kevin W. H. Kwak · Graeme E. Batley · Richard J. Wenning · Liangyan Zhu · Marcin Vangheluwe · Shirley Lee

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458

Editorial

Harmonization of Water and Sediment Quality Guideline Derivation

Modernizing Water Quality Criteria in the United States: A Need to Expand the Definition of Acceptable Data

David B. Buchwalter,*† William H. Clements,‡ and Samuel N. Luoma§

Development and application of freshwater sediment-toxicity benchmarks for currently used pesticides

Lisa H. Nowell^{1,2*}, Julia E. Norman³, Christopher G. Ingersoll⁴, Patrick W. Moran⁵

Why a session on sediment quality guidelines?

- Action levels, environmental quality standards, PNECs, RACs, they are named differently, but are they all the same? Are they interchangeable?
- What if we use them in a different context and with a different use from the intended one, does it matter? What are the implications?
- Have we appropriately developed, implemented and enforced sediment quality criteria in different river basins? What are the effects on water quality? Do we comply now with the EU-WFD?

Are sediment quality guidelines on the move?

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Genoa, 14 June 2017

Why a session on sediment quality guidelines?

- Identified challenges
 - *Laboratory sediment ecotoxicity data:*
 - Lack/limited data and toxicity tests for probabilistic methods
 - Data quality (relevance and reliability)
 - *K_{OC} and K_{OW} for Equilibrium Partitioning model (non-ionic contaminants)*
 - *Bioavailability models*
 - Lack/limited comprehensive data sets for further development and validation
 - *Field data:*
 - Data quality (reliability)
 - Relevance
 - *Level of ecosystem protection (development metrics)*
 - *Predictive ability*
 - Consistency
 - *Among member states*
 - *Transboundary water bodies*
 - How to implement the TGD recommendations, feasible?