

Mediterranean-Climate Landscapes (IAS C229 & LA C229)

The EU Water Framework Directive: Lessons for California?

Spring 2011 (1 unit)

Selected Wednesdays 6-8p (and other dates as noted), Rm 315-A Wurster Hall

Instructor: G.Matt Kondolf, Professor of Environmental Planning

Offered concurrently with LA205 Environmental Planning Studio (or can be taken with prerequisite LA222 Hydrology for Planners or equivalent, with instructor's permission)

Jan 19 Course overview, description of application process.

Jan 26 - What is Mediterranean? Damming Mediterranean-climate rivers

Batalla, R.J., C.M. Gomez, G.M. Kondolf., 2004. River impoundment and changes in flow regime, Ebro River basin, northeastern Spain. *Journal of Hydrology*, 290, 117-136.

Conacher, A.J., Sala, M., 1998. Land degradation in Mediterranean environments of the world. Nature, extent, causes and solutions. John Wiley and Sons, Chichester, 491 pp.

Gasith, A., and V.H. Resh, 1999. Streams in Mediterranean climate regions: abiotic influences and biotic responses to predictable seasonal events. *Annual Review of Ecology and Systematics*, 30.

Kondolf, G.M. River restoration and meanders. 2006. *Ecology and Society* 11(2) article 42 [online] <http://www.ecologyandsociety.org/vol11/iss2/art42/ES-2006-1795.pdf>

Kondolf, G.M., and R.J. Batalla. 2006. Hydrological effects of dams and water diversions on rivers of Mediterranean-climate regions: Examples from California. In C. Garcia and R.J. Batalla (eds.) *Catchment dynamics and river processes: Mediterranean and other climate regions*. Elsevier, London. pp.197-211.

Feb 02 - Overview of water management in the US/California and the EU WFD river basin assessment, setting goals.

California Department of Water Resources. Water Plan Update 2005: Water Allocation, Use and Regulation in California. Online at:

<http://www.waterplan.water.ca.gov/previous/cwpu2005/index.cfm>

Kaika, Maria. 2003. The Water Framework Directive: A New Directive for a Changing Social, Political and Economic European Framework. *European Planning Studies*, 11 (3).

Kallis and Butler, 2001. The EU water framework directive: measures and implications. *Water Policy* 3 (2001) 125-142

Moss, Timothy. 2004. The governance of land use in river basins: prospects for overcoming problems of institutional interplay with the EU Water Framework Directive. *Land Use Policy* 21, 85–94.

EUROPA website on the WFD: http://europa.eu.int/comm/environment/water/water-framework/index_en.html, section entitled “WFD – introduction and overview.” Under the section entitled “Implementing the Directive” Strategic Document (December 2004): "[Moving to the next stage in the Common Implementation Strategy for the Water Framework Directive - Progress and Work Programme 2005/2006](#)".

Feb 23 Adapting to climate change: EU, California. Member state progress reports

Cooley, H. 2009. Water Management in a Changing Climate. In: *The World’s Water 2008-2009*. Covelo, CA: Island Press.

California Air Resources Board. 2008. Climate Change, Proposed Scoping Plan (Executive Summary). Online at:
<http://www.arb.ca.gov/cc/scopingplan/document/psp.pdf>

***Mar 02 River Basin Management under the WFD. Lessons for the US?
Member state progress reports (cont)***

Grantham, T., J. Christian-Smith, G.M. Kondolf, and S. Scheuer. 2008. A Fresh Perspective for Managing Water in California: Insights from Applying the European Water Framework Directive to the Russian River. Water Resources Center Report 208. Available on line:
http://www.lib.berkeley.edu/WRC/WRC/pubs_contri.html#208

***Mar 15 Assessing ecological status in waterbodies of Member States: comparing methods.
A comparative study of applications in Southern California – Clare O’Reilly***

European Environmental Bureau RSPB and Pond Conservation. 2006. European Environmental NGO Technical Review of the Water Framework Directive Intercalibration Process.
<http://www.eeb.org/activities/water/200609-NGO-review-WFD-Intercalibration.pdf>

Apr 02-03 field trip to Russian and Garcia Rivers (with visiting Portuguese PhD students)

Apr 05 Application of assessment methods from EU member states to US sites.

Apr 20 Portugal: regions, rivers, restoration (Pedro Pinto). Portugal workshop preview.

Apr 27 Term project presentation dry runs

May 07 Symposium

May 22 appx depart to Portugal

May 25-June 03 Workshop on River Management, Portugal

Instructor bios, office hours, online readings, and other course information:

[URL to be established](#)

Other Relevant Readings

California State Lands Commission, 1993. *California's rivers: a public trust report*. Sacramento. 334 pp.

Hecht, B., 1994. South of the Spotted Owl: restoration strategies for episodic channels and riparian corridors in Central California, Western Wetlands. In: Kent, D.M. and Zentner, J.J. (eds.). *Selected proceedings of the 1993 Conference of the Society of Wetland Scientists*, 104-117.

Heinz, I., M. Pulido-Velasquez, J.R. Lund, and J. Andreu. 2006. Hydro-economic Modeling in River Basin Management: Implications and Applications for the European Water Framework Directive. *Water Resources Management* DOI 10.1007/s11269-006-9101-8.

Inbar, M., 1992. Rates of fluvial erosion in basins with a Mediterranean type climate. *Catena*, 19, 393-409.

Kondolf, G.M. 1998. Lessons learned from river restoration projects in California. *Aquatic Conservation*. 8:39-52

Kondolf, G.M., A. Boulton, S. O'Daniel, G. Poole, F. Rahel, E. Stanley, E. Wohl, A. Bang, J. Carlstrom, C. Cristoni, H. Huber, S. Koljonen, P. Louhi, and K. Nakamura. 2006. Process-based ecological river restoration: Visualising three-dimensional connectivity and dynamic vectors to recover lost linkages. *Ecology and Society* 11(2) article 5 [online] <http://www.ecologyandsociety.org/vol11/iss2/art5/ES-2006-1747.pdf>

Piegay, H., Gregory, K.J., Bondarev, V., Chin, A., Dalhstrom, N., Elozegi, A., Gregory, S.V., Joshi, V., Mutz, M., Rinaldi, M., Wyzga, B. and Zawiejska, J., 2005. Public perception as a barrier to introducing wood in rivers for restoration purposes. *Environmental Management* 36(5):665-674.

Scheuer, S., editor 2005. EU Environmental Policy Handbook: A Critical Analysis of EU Environmental Legislation. Chapter IV.5 http://www.eeb.org/publication/chapter-4_5.pdf

Swyngedouw, E., Ben Page, and Maria Kaika. Achieving Participatory Governance: Sustainability and Policy Innovation in a Multi-Level Context Crosscutting Issues in the Water Sector.