

## ~~ASSESSING IMPACTS IN MEDITERRANEAN WATERSHEDS: WADI LESSONS~~

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~~Watershed issues in the Mediterranean can be considered in two ways: (i) as site-specific factors dependent on the unique geomorphology, ecology and social context of each watershed, or (ii) as pan-Mediterranean issues that transcend individual sites. In the case of the latter, several such factors were identified through research conducted within the ambit of the WADI project. These include the critical links which often exist between biological resources and watershed dynamics, land use conflicts within the watershed, the range of demands and pressures placed upon watersheds, economic and social dependence on the watershed for activities and services, as well as the political difficulties involved in managing watersheds due to the fact that these often span local, regional and national jurisdictions and are the subject of fragmented responsibilities. The resources and services rendered by watersheds can be conceptualised as four priority compartments, namely biodiversity, land, ecosystem services and water. These are nested within a framework of biophysical and anthropogenically induced pressures. Management needs to act outside this system boundary to address watersheds holistically. Trade-offs will be inevitable in managing watersheds, and negative impacts cannot be avoided. However, there is also strong potential for developing management systems based on subsidiarity which render socio-economic benefits for locals.~~

## RE-ASSESSING ENVIRONMENTAL CHALLENGES IN OUED LAOU, NORTHERN MOROCCO

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In 1998, an assessment of environmental challenges in the Rif mountains of northern Morocco was carried out by Moore, Fox, Harrouni and El Alami. The authors identified population growth as a driving force of environmental pressures in the region, with the latter falling into three main categories, specifically (i) non-sustainable use of natural forests, (ii) changes in the agricultural system, and (iii) *Cannabis* cultivation. Through research conducted within the ambit of the WADI project, the environmental situation in Oued

Laou was reviewed, with the aim of evaluating changes and trends since the 1998 assessment, and in order to identify key management issues. Clearance of natural forests appears to persist as a problem, also leading to secondary impacts of gullyng, soil erosion and sedimentation of water bodies. Agriculture also appears to be expanding into more marginal areas, as does the cultivation of *Cannabis*, both also contributing to accelerated soil erosion. In addition, a new and substantial pressure was identified, namely urbanization, which poses a major threat to the landscape character of the Oued Laou area. The study provides several pointers for management, including the need for addressing problems at a broad landscape scale and in a holistic manner, including not only conservation aspects but also socio-economic components. It is suggested that appropriate planning concepts, such as that of biosphere reserves, may be well suited to the Oued Laou area.

### ~~DIVERSITE ET DISTRIBUTION DE QUELQUES ARTHROPODES LITTORAUX DE QUATRE PLAGES DU N-E DE LA TUNISIE~~

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~~La diversité des peuplements d'arthropodes littoraux ainsi que la densité et la distribution spatiale des talitridés semi-terrestres ont été étudiées pendant la même saison (Mars 2008) au niveau de quatre plages voisines de la basse vallée de la Majerda. Ces plages, diffèrent par quelques structures morphologiques notamment la présence de ports et par le degré de fréquentation. En effet, les deux plages de la région de Kalaat Landalous, dont l'une située au niveau du port, sont étroites, distantes de quelques centaines de mètres et dépourvues de dunes bordières mais limitées par une sebkha occasionnellement couverte par les eaux des pluies. Les deux autres plages, celles de Sidi Ali El Mekki et du port de Ghar El Melh, sont bordées par quelques petites dunes bordières séparant la plage de la lagune. Les résultats ont montré que la plage du port de Kalaat Landalous abrite l'effectif le plus élevé en arthropodes probablement dû à la faible fréquentation de cette plage. Pour la région de Ghar El Melh, la plage de Sidi Ali El Mekki renferme plus d'insectes que celle du port, tandis que la plage du port abrite plus de talitres. La sex ratio des talitres de ces deux plages est en faveur des femelles. Deux espèces de talitres, *Talitrus saltator* et *Talorchestia brito* sont présentes au niveau des 2 plages de Kalaat Landalous avec un effectif plus réduit dans la station plage du port. Dans les 2 stations, *Talorchestia brito* est plus abondante que *Talitrus saltator*. La distribution spatiale des talitres diffère d'une plage à l'autre en fonction de la richesse en sable, de la présence ou non des dunes bordières, de la morphologie, de la nature et du degré de fréquentation de la plage. Les talitres occupent les endroits les plus humides et les moins érodés.~~