

# BIBLIOGRAPHY ABOUT FLUVIAL RIPARIAN VEGETATION IN TURKEY

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Authors: Dr. Pınar Gültekin and Dr. Yaşar Selman Gültekin

<sup>1</sup> Duzce University Faculty of Forest, Landscape Architecture Department

<sup>2</sup> Duzce University Faculty of Forest, Forest Engineering Department

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- Funded by the Horizon 2020 Framework Programme of the European Union
- Contact : Dr. Pınar Gültekin, [pinargultekin@duzce.edu.tr](mailto:pinargultekin@duzce.edu.tr)

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## 1. INTRODUCTION

This list of Turkey's Academics who Working on Riparian and Wetland Areas has been built based on the Turkish National Scientific Database.

## 2. LIST OF REFERENCES

### 1. STRUCTURAL, VEGETATIVE AND BIOTECHNICAL (COMBINED) METHODS FOR STREAMBANK REHABILITATION

Melih Meral, Master Thesis, Trakya University Architecture Department 2015

Streambanks are fields that are inevitable to protect and mend with their aesthetic, recreational functions and because of being home diverse species. With the industrial reform, pressure and damage on the environment has increased. Although this damage wasn't realized at the beginning, destruction of nature has made itself felt in time and made it inevitable for human to develop and apply certain precautions against these problems. Purpose of this study is to provide tight choice of method for river types and deterioration on the streambanks that has been damaged or for which protection precautions will be taken. Firstly, in the study, bioengineering concept and its usage in landscape mending was mentioned. In the third part, rivers according to their bed types and slope areas in terms of planting zones were mentioned. Information about the importance of biotechnic methods on slopes where there will be some applications and about the reason of deterioration on beds and slopes has been given. In the fourth part, protection and mending methods has been classed into three groups which are structural, biological and mixed (biotechnic) under twenty eight titles. Information about application, advantages and disadvantages has been given. Making the right choice of efficient factors to protect shore washout and plant types to be used has been mentioned. The study ends with the table that shows which protection and mending method can be chosen according to riverbed types.

### 2. VEGETATION ECOLOGY OF LOWER GEDIZ BASIN

Cenk Durmuşkahya, Phd Thesis, Celal Bayar University Biology Department 2005

This study consist of flora and vegetation of Lower Gediz Basin where located in zmir and Manisa Province. At the end of the flora studies, 1065 taxa belonging 99 families have been identified in this region. 44 of them are endemic and the ratio of the total flora is % 4,2. In this study, 8 plant associations have been found and 3 of them have been described in the first time. As a result, Lower Gediz Basin was heavily destroyed by antropojenic effects, which is in the Mediterrenian vegetation step. Today, natural vegetation is keeping on the lands which non convenient for farming in the Gediz Delta and slopes of the mountains which are boarded the basin. A big part of the natural vegetation is formed by valonia oak, red pine and frigana associations

### 3. EVALUATION OF SULTANSAZLIĞI IN TERMS OF WETLAND RESTORATION IMPLEMENTATIONS

Zerrin Karaarslan, Master Thesis, Ankara University Landscape Architecture Department, 2015

In this research, it is aimed to evaluate effects of hydrological operations carried out at Develi Basin on Sultan Marshes National Park and to specify the wetland restoration strategy. The changes on site ecosystem searched temporally. Preventive operations and their effects evaluated according to wetland restoration approach. At the first step, the ideal conditions of the area were determined by literature researches. At the second step the current conditions of the site were determined according to field works and literature researches. At next step ideal conditions of the area compared with current conditions. The main problem detected in this research is lack of evaluation for effects on wetland ecosystem of water which started to given from Zamantı River, by inter-basin water transfer. Site searched physically, chemically and ecologically as periodically which contain the time after water given from Zamantı River. Water quality of the lakes at site has been changed with the water inflow. It was determined considerably decrease at electrical conductivity of Yay Lake. There has been also changes amount of mineral matter at soil. Some changes at Yay Lake flora also monitored depending on these changes. Marshes which generally seen at freshwater lakes have been seen at around salty Yay Lake. It has seen that ecological processes at Sultan Marshes National Park are threatened. In this research wetland restoration strategy and suggestions for implementation specified for preventing changes connected to these threats and gain the wetland function and values back.

#### 4. DEVELOPMENT OF LANDSCAPE RESTORATION AND MANAGEMENT STRATEGY IN BÜYÜK MELEN RIVER BASIN

Elif Güteryüz, Master Thesis, Düzce University Landscape Architecture Department, 2016

Restoration of environment destroyed by human interference that is a candidate of being the most important science and art topic of 21st century is among the nature/ bio-technique/landscape restoration issues. Purpose of the researchers is to develop some landscape restoration and management strategies, to emphasize necessity of totalitarian lands instead of point lands within the scope of landscape restoration studies by making evaluations and analysis about the man-made and nature-sourced interferences in basin. Research field includes the catchment area between Düzce Efteni Lake wetland area in Big Melen river basin in West Black Sea basin and Black Sea. In addition to this, Big Melen River is really important for the nation because it is a water supply for Big Melen Dam supplying drinking water to İstanbul. In the research analysis were made aimed at the function of landscape such as water permeability in basin and risk of erosion. The problems and solution offers about each basin were presented by identifying visual landscapes based upon main river stem usage. In the research it is tested in 35 spot with t test whether data obtained from land and the evaluations made in office are correspond with each other by creating form of 'River Immediate Environment Visual Habitat Quality Evaluation'. As a result of the analysis it is found that there is no significant difference. As a consequence in Big Melen Basin with reference to the evaluations of basin and main river stem, strategies have been developed in 3 main title related to existing land usage, protected areas according to water pollution control regulations and around main river stem and visual landscapes based upon land usage. Apart from these, as a result of obtained information, developments of some management strategies are provided. In the light of all evaluations, it is precipitated that evaluations of landscape restoration in the basin will put certain responsibilities on different shareholders in the concerned basin and the problems will be solved together

#### 5. FUNCTIONS OF RIPARIAN AREAS AND MEASURES TO BE TAKEN FROM SILVICULTURAL POINT OF VIEW

Mahmut D. Avşar, Fulltext Conference Proceedings, Kahramanmaraş University Forest Engineering Department, 2008

Riparian areas are very valuable ecosystems occurring along the banks of a water body such as stream, lake, watershed and spring. Natural vegetation in these areas considerably contributes to protection of soil and water, stability of stream bank and bed, water quality, wildlife and biodiversity. In Turkey, these areas have encountered various threats and have not sufficiently carried out their functions. Required measures should be taken against the threats in riparian areas and improvement activities should be carried out in riparian areas of which natural vegetation structure and species composition have been degraded. Care should be shown not to damage to riparian areas during various silvicultural activities in forest areas. The areas with certain width called the riparian management area should be separated in riparian areas, these areas should mainly include two different zones as reserve zone and management zone and silvicultural activities to be made in these zones should be restricted by certain principles.

## 6. IMPOTANCE OF RIVER ECOLOGY FOR LANDSCAPE PLANNING

Emrah Yıldırım, Tahsin Yılmaz, Ahmet Benliay, Akdeniz University Landscape Architecture Department, Article, 2013 Türk Bilimsel Derlemeler Dergisi (Turkish Scientific Collected Studies Journal) 6 (1): 51-54, 2013 ISSN: 1308-0040, E-ISSN: 2146-0132, www.nobel.gen.tr

Note: There isn't Abstract in English for this study. But Dr. Ahmet Benliay mostly studies about ecological restoration in riparian areas.

## 7. YEŞILIRMAK BASIN LANDSCAPE ATLAS PROJECT

Osman UZUN, Haldun Müderrisoğlu, Zeki Demir, Latif Gürkan Kaya, Sultan Gündüz, Pınar Gültekin, National Project, Duzce University Landscape Architecture Department, 2015 (This project supported by the Turkish Ministry of Agriculture and Forestry) The team won the 10 th national planning and analysis prize in 2018)

Turkey has come a long way in the accession process to European Union by having initiated its inner dynamics. "Yeşilirmak Basin Landscape Atlas (Landscape Character, Landscape Diversity and Biodiversity, Landscape Quality, Landscape Strategies) project is a significant milestone in fulfilling the requirements of European Landscape Convention (ELS) adopted in 2003 by our country. This project demonstrates the method and the approach of integration with sectoral plans, primarily spatial planning within the conventions highlighted under the European Landscape Convention (European Union Water Directive, Basin Development Plans, Water Action Plans, Strategic Environmental Impact Assessment, Natura 2000 etc). Objectives of Yeşilirmak Basin Landscape Atlas are to carry out the landscape character assessment (landscape character, landscape function, change and pressures and landscape quality analyses) on the basis of natural and cultural landscape inventory of Yeşilirmak Basin, to identify the landscape character types and landscape character areas, as well as landscape diversity and biodiversity, to create the map of landscape quality, and consequently, to establish sectoral landscape guidelines.

The project consists of 3 fundamental stages: study-inventory-evaluation and landscape database preparation; landscape function analyses, indicators and landscape character evaluation; issuing the sectoral landscape guides and landscape atlas. The project, was initiated on 31 October 2012, and

concluded on 20 April 2015. The kick-off meeting was held under the scope of the project in Amasya, in 2013, and the workshops were held with the participation of relevant public bodies, non-governmental organizations and public in Samsun, and also in Tokat and Çorum, in 2013 and 2014, respectively. The training meeting was held in Ankara in 2014, and the closing meeting was held on December 2015.

In the project, the landscape planning approaches were directed at the microbasins levels, as well as the decisions on protection, management and planning. In this context, the backbone of the analyzes was constructed by landscape function analyzes which were constructed in coordination with the notion of ecosystem services; indicators of human use, socio-economic structure, riparian corridors along with other indicators of basin evaluation; and landscape impact, change and pressure analyzes. By taking into consideration the factors increasing or decreasing landscape quality, first, potential landscape quality/factors to increase landscape quality were determined under the Landscape Quality and Landscape Quality Objectives heading. Secondly the existing landscape quality was revealed, as a result of integration of factors decreasing/increasing the landscape quality. Quality objectives were defined and mapped on the basis of existing landscape quality of the basin, the microbasins, and finally spatial objectives were determined.

In the Spatial Cohesion-Noncohesion-Conflict Areas section, existing context was evaluated with regards to the preparation of ecology based environmental plans and development plans which is a hot debate especially last few years. This assessment focuses on the concept of landscape quality of the environmental plans that were prepared for the provinces within the Yeşilirmak Basin. It was revealed that some of the decisions taken in the relevant environmental plans were conflicting with the landscape quality concept that focuses on ecology in some microbasins. These assessments show that there is an urgent legal and administrative need for the integration of landscape plans and landscape planning approaches with the spatial planning activities and sector plans (protection, forestry, agriculture, etc).

The ecological vulnerabilities were presented related to the forest, protection, agriculture and urbanization sectors utilizing the relevant landscape functions within the scope of "Landscape Development Strategies and Landscape Guides". In addition to that, the guidelines for development strategies and landscape were produced for each sector. The microbasins, vulnerable to erosion (potential erosion risk, surface water flow, landslide and Hydro Electric Power Plants (HEPPs), the microbasins which require the rehabilitation due to urban solid wastes and discharge points and the microbasins requiring the rehabilitation due to agricultural contaminants were determined in order to define the strategies related to the landscape rehabilitation. Moreover, priorities of rehabilitation were determined for microbasins in the 1st, 2nd and 3rd rank microbasins.

Consequently, Yeşilirmak Basin Landscape Atlas has the quality to be a guide to all public organizations and institutions (governors, district governors, mayors, heads of the villages, field services of departments, etc.), NGO representatives during the spatial planning and decision-making processes at the microbasin level. Atlas is user-friendly; since it was prepared to have a language and mapping system that everybody can understand. Furthermore, "Preparation of Yeşilirmak Basin Landscape Atlas" is a project that will pave the way to removing the significant shortcomings of spatial and sector plans in Turkey. That being said, the most important step to realize all these aspects is to enact the laws related to the landscape protection, management and planning, and to implement them.

## 8. DEVELOPMENT OF EFTENI LAKE WETLAND ECOSYSTEM MANAGEMENT PLAN

Osman Uzun, Pınar Gültekin, Güniz Akıncı Kesim, Duzce University Landscape Architecture Department, 2011. Duzce University Scientific Research Project

The research area is called "Efteni Lake Wetland Area" and nearby Uğursuyu, Aksu Watersheds and North of Efteni Lake which has a 786 km square size. In this research which aims to develop the wetland management plan for Efteni Lake.

In this research, a landscape ecology based on the analysis of processes occur with in landscape was used as a method. These analyses were used to determine of wetland protection zones and to constitute of wetland management plan and plan decisions. By considering the idea that landscape quality which is made by water, habitat, biodiversity, stream corridor futures and cultural landscape functions of landscape and reducing factors of landscape quality which are erosion, landslide, flood, plant harmful, polluting and hydroelectric power plant effects were analyzed in the area.

In order to get an idea the area has 3043.8 hectare size buffer zone with 170 hectare absolute protection zone, 492.3 hectare wetland area zone and 989.9 hectare ecological affected zone was investigated in this research. As a result, management plans were developed for each protection zones in "Efteni Lake Wetland Area".

## 9. LANDSCAPE RESTORATION AND RECLAMATION IN RIVER CORRIDORS

Şükran Şahin, Ekrem Kurum, Halim Perçin, Yalçın Memluk. Ankara University Landscape Architecture Department, 2014, National Project. (This Project was supported by the Turkish Ministry of Agriculture and Forestry)

Note: There isn't abstract in English for this study. But Prof. Şükran Şahin studies about ecological restoration in wetland

## 10. GENERAL FLORISTICAL, ECOLOGICAL AND PHYTOSOCIOLOGICAL PROPERTIES OF WETLANDS VEGETATION IN TURKEY

Hasan Korkmaz, Ümmü Gülsüm Mumcu, Ondokuz Mayıs University Biology Department, Conference Proceedings, 2014

The plant communities adapted to ecological conditions of wetlands come out with their own changing floristical composition according to different habitat. This provides forming unique phytosociological units in unique ecosystems. In Turkey, many syntaxon were described and hierarchically classified by the means of phytosociological researchs of vegetations carried on aquatic, amphibious, wet meadow, flooding forest and halophyllous wetland areas.

## 11. DIVERSITY OF FLOODPLAIN FORESTS IN THE IGNEADA REGION (NW THRACE – TURKEY)

Ali KAVGACI, Andraž ČARNI, Hüseyin Barış TECİMEN, Gülen ÖZALP, Article, (<https://content.sciendo.com/view/journals/hacq/10/1/article-p73.xml>), 2011.



The work deals with the floodplain forests of the Igneada region (NW Trace, Turkey). 69 relevés were sampled from wet to mesic sites according to the Braun-Blanquet approach and analyzed using different multivariate methods. The dataset was divided into five groups (associations), which demonstrate the diversity of forests in the region. In the wettest sites, forests dominated by *Alnus glutinosa* and *Fraxinus angustifolia* appear; on wet and nutrient rich sites along rivers there are forests dominated by *Ulmus laevis* and *Fraxinus angustifolia*; on wet and less nutrient rich sites *Ulmus minor* and *Fraxinus angustifolia* appear; on humid sites *Fraxinus angustifolia* and *Carpinus betulus* forests thrive and on mesic sites *Carpinus betulus* forests appear. The ecological conditions re estimated by bioindicator values and the gradient from wet and nutrient rich forests to mesic and nutrient poor forests is presented by numerical analysis. The species richness and geo-elemental structure for each community is evaluated. Finally, a syntaxonomical scheme is proposed and the following associations were determined *Leucojo aestivi-Fraxinetum angustifoliae*, *Fraxino angustifoliae-Ulmetum laevis*, *Smilaco excelsae-Fraxinetum angustifoliae* (*Alno-Quercion roboris*, *Populetales albae*) and *Geranio robertiani-Carpinetum betuli*, *Trachystemo orientalis-Carpinetum betuli* (*Castaneo-Carpinion betuli*, *Rhododendro pontici-Fagetalia orientalis*) all within *Querco-Fagetea*.