

Interim Report III May 2015 - August 2015

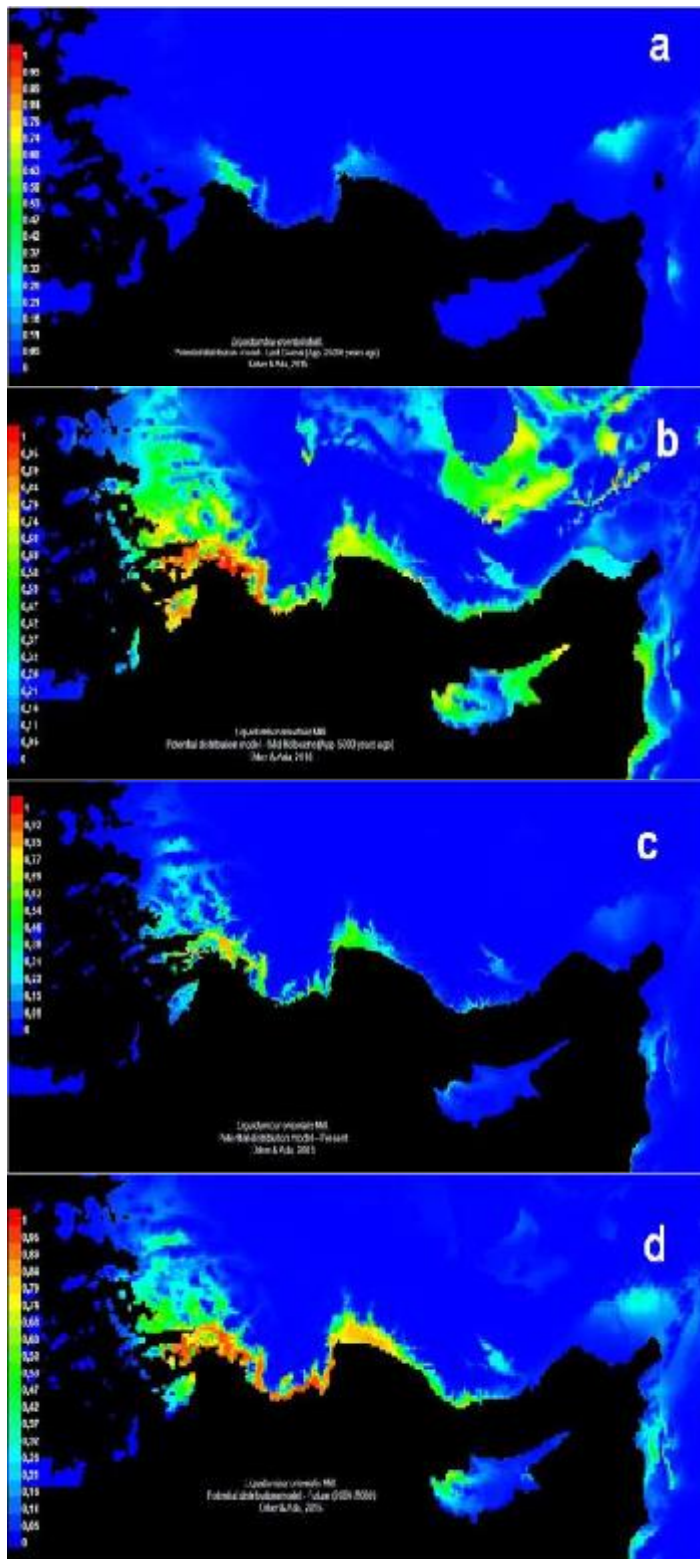
Okan URKER

1. Current Distribution Analysis: *Insufficient data belong to the sweetgum forest, leads to lack of conservation motivation of forestry departments. Thus, firstly we will collect related forest cover literature from 1800s to now, and analyse how the data is changing. Secondly we will show the changing of the forest cover between 1970-2015 over Turkey with using field trips and remote sensing data. Thirdly we will prepare distribution and corridor maps. Finally we will press a short communication.*

Progress: We've just finished our field trips (from Orontes River to Minor Meandros River), face to face interviews (in Turkey, Rhodes, Cyprus) and modelling studies. At the end of this study we created one current 'existent-absent map' by using Google Earth and some distribution model maps (last glacial, mid-holocene, present, year 2070) by using Maxent Program. We will explain the results in an ecology congress which will be held on Mugla University (which is the closest university to the sweetgum forests) in between 14-17 September, 2015. After that congress, we will also present our findings to the Turkish General Directorate of Forestry in order to take the future conservation efforts.



We visited 82 field-points. While we detected to oriental sweetgum trees in 42 field-points, we couldn't see the species in 39 field-points.



We created some distribution model maps (a-last glacial, b-mid-holocene, c-present, d-year 2070) by using Maxent Program for *Liquidambar orientalis*.

2. Wildlife Research: *We know that there is a special wildlife inside the forest due to its flooded properties (otter, water vole, jungle cat, caracal etc.), and it must be discovered. Within this scope we are going to focus on these keystone species. When we achieve this aim, we can create a new special value for the forest in the eyes of locals and decision makers. Due to the limited project time, we will use the camera trap methodology. We'll select 8 big forests & coppices along the coastal districts of Mugla Province. Finally we will identify the key wildlife species for the forest and their conservation action plans.*

Progress: Until today, our camera-traps have taken 455 camera-trap/day records. And they will be still going on to take records until at the end of the 2016 winter period. Also we are working with 30 metal traps (catch-release methodology) for small mammals. We are recording amphibians, reptilians and birds with empirical observations too.

During our camera-trap studies we've recorded otter, wild boar, red fox, marten, badger and caracal species inside the sweetgum forests. We've also recorded 4 small mammal, 4 amphibian, 8 reptilian and 28 bird species until today.

When we look at the community parameters such as dominance, similarity, diversity, richness, frequency; we can see low diversity but high similarity ratio due to the stable forest structure (floodplains, high humidity, low plant diversity etc.). Nearly all species' frequency is low inside the forest, but it is getting higher if the forest parts are next to red-pine forests or any other ecotone zones.

If we compare 8 different forest parts (natural & unfragmented, natural & fragmented, plantation & unfragmented, plantation & fragmented); when we couldn't record any medium and big mammalian species from plantation & fragmented parts which don't have any connectivity with natural areas, but we've recorded nearly all medium and big mammalian species in high frequency from plantation & unfragmented parts which have still good connectivity with natural areas. Diversity is high in natural & fragmented parts due to their heterogeneity. By the way, natural & unfragmented forest parts are unique areas for the otter species. During our observations, although it's not certain yet, it looks like the otter species will be the key species for the sweetgum forests depend on the forest structure and the species' behaviour.

We will explain the results in an ecology congress which will be held on Mugla University (which is the closest university to the sweetgum forests) in between 14-17 September, 2015. Our action plan will be finalized after we take the latest records. The wild life research activity took place in the press with 7 National and 25 Local news (1 regional and 1 national interviews).



Until today, we have recorded 6 medium and big mammalian species inside from the Anatolian Sweetgum Forests.



Also our camera-traps have recorded some bird species inside the sweetgum forests.



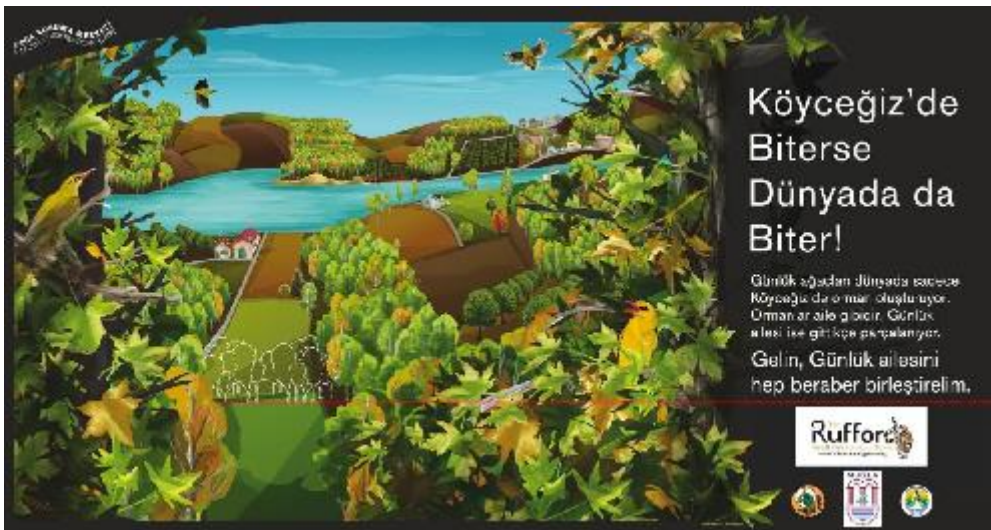


3. **Therapy Forest Experiment:** *We will study how and how much Sweetgum Forest will play a role as the therapeutic effects (anti-aging, relaxation, rehabilitation, supporting the mental health etc.). We selected 170 hectares wide sweetgum forest within the border of Fethiye District because of it has suitable research conditions (pure forest, older trees, any saplings, some gaps in the forest etc.). We will reveal the chemical structures of the volatile components of sweetgum tree. We will also research the conditions (contents, intra-day temperature and seasonal changes etc.) of the chemical compounds of sweetgum tree. During those experiments, we will collect sweetgum leaves, oils, barks etc. in different time frames and analyse their volatile components with using some organic chemistry tools.*

Progress: We've finished the experiment design, chosen right place, and collected the necessary equipment for the experiment. But due to the negative weather conditions (heavy rain in the start of summer season), the experiment has to be delayed to the end of this summer.

4. **Poster, Short Movie & Viral Advertisement Making and Delivering:** *Younger local people less know about the importance of sweetgum forests, thus they aren't motivated to protect the forests. That's why, we will collect data related with environmental history belong to sweetgum forest. Then we will prepare a poster, short film and viral advertisement which will include the material and moral worthies of sweetgum forests, especially for elementary & high schools, and university departments in Mugla.*

Progress: We used to one of our old poster design (which had been designed by our partner NGO is Nature Conservation Centre) for this project. Mugla University distributed it to the public institutions, schools, NGOs and other related stakeholders. We want to diversify the social products in cheapest ways. Nowadays we are preparing one animation-short film for youths, and planning to show in the beginning of fall semester. Also we have still 250 ceramic magnets with sweetgum leaf and fruit themed as a gift which were left from the first sweetgum planting festivals in March-April 2015, and we want to use them within the third festival that will be held in the fall of 2015.



One of our old posters had been revised and distributed to the related stakeholders and locals.

5. **Lobbying & Communication:** *We will follow a lobbying & communication strategy, related with disseminate to applying of corridor methodology, Sweetgum Oil Action Plan and monitoring the key wildlife species. Also we will communicate with local ecotourism sectors and local youths during the second edition.*

Progress: We regularly share our project's progressive information reports to General Directorate of Natural Heritage Conservation (GDNHC), General Directorate of Nature Conservation and National Parks, General Directorate of Forestry, Mugla Regional Directorate of Forestry, Rectorate of Mugla University, District Governorate of Koycegiz, Municipality of Koycegiz, Koycegiz Forestry Department, and Fethiye Forestry Department.

We've prepared a current road map as an annotation report for the new General Director of GDNHC. But the process is stable for now because of the position of General Director is still uncertain due to the Turkish Republic's 2015 Elections. But their regional office is willing to spend time on the reviving of the sweetgum action plan. That's why we prefer to communicate with their regional office in Mugla to speed up the process.

We are following and orienting to Koycegiz Municipality about their recreational projects inside the sweetgum forests. They have 8km length walk way project inside the sweetgum forests. We encourage them to use ecological methods. Also we orient them about diversify the recreational events which are harmony with nature in the sweetgum forests. Nowadays we are guiding them how they can build a nature park (inside the sweetgum forests) that is one of official conservation status in Turkey.

To strengthen to our corridor methodology's application, we diversify to our stakeholders. Nowadays we are co-working with the Koycegiz Hunters and Shooters Association that is one of the very powerful stakeholders in the eyes of locals and local authorities. They want to sustainable hunting in the forest openings of the sweetgum forest by planting as corn, wheat, sesame etc. We agreed with them in case of they do plant and conserve sweetgum saplings where we show the zones. This situation goes to a development agency project of Turkish Government. If we are handling this job, then we win one stakeholder group too.

Except of above, we've started to baseline surveys for our next year conservation efforts. We are planning to purchase of lands that are suitable for corridors. We are looking for the best places, best prices and searching legal processes (land's freehold transferring to a NGO, land's plantation, rehabilitation and conservation issues with Forestry Departments etc.) for on creating proprietary in sweetgum forest conservation. We're also arguing about establishing a new association for this aim, and looking for suitable donation campaigns and project donors.

6. Sweetgum Plantation Festivals: *We will continue “The Festivals” which will be done in another pilot corridor area where we will decide together with Koycegiz and Fethiye Forestry Departments. We will plant nearly 4,000 sweetgum saplings in this event with elementary & high school, and university students.*

Progress: We did 2 sweetgum plantation festivals until today. One of them was done in Koycegiz within the World Forest Week in March 24, 2015. About 200 students (elementary, high school and university degree) had attended to the first festival. Nearly 2000 sweetgum saplings were planted during the festival. The festival took place in the press with 4 National and 20 Local news. Also during the festival we gave 1 regional interview.

The second festival had been done in Fethiye District in April 2, 2015. Before the festival we gave a seminar about the sweetgum forests to the students of Fethiye Vocational School (Mugla University). About 100 students from Fethiye Vocational School’s Environmental Protection Department had attended to the second festival. Nearly 1000 sweetgum saplings were planted during the festival. The festival took place in the press with 1 national and 8 local news. Also during the festival we gave 2 regional and 1 national interviews. National interview was published on TRT Haber (Official State Channel in Turkey) that is the biggest news channel in Turkey and reached to the millions of Turkish people.

We regularly follow the property cases of Koycegiz Forestry Department (KFD) with private persons related with Anatolian Sweetgum Forests. The places where the cases continue, mostly line with citrus trees now. If KFD wins the cases then those places will be planted with Anatolian Sweetgum Trees. This fall KFD will be planting 2 sites (nearly 4 hectares) as the corridor method will be applied where is next to the town of Toparlar that is one of the most important fragmented sweetgum forest parts in Koycegiz. We will give them scientific and public support during their afforestation efforts. Also this event will be turned to our third planting festival by our project team and Koycegiz Forestry Department.

7. Meeting, Reporting & Preparing of Scientific Papers: *Except of interim and final reports, we will write technical reports to Departments of Forestry & Conservation. Suitable data will be integrated to articles for international journals. We will prepare publications for popular-science-magazines in Turkey. We will also attend to the scientifically organizations to raise the awareness.*

Progress: We gave a special speech for “Koycegiz Workshop” which will be held in Koycegiz-Mugla, TURKEY, in between 24 and 25 April, 2015. The Workshop had been organized by Mugla University, Mugla Governorship, Koycegiz Municipality and District Governorate of Koycegiz. The workshop had been focused to socio-economic, biodiversity, cultural and historical importance of Koycegiz Region. We gave a special speech about the importance of Anatolian Sweetgum Forests and what to do for the conservation of those forests in Koycegiz Region.

We attended to the National Ecology Congress of Turkey which had been done in Sinop University (Sinop Province-Turkey) between 6 and 9 May, 2015. We presented an oral presentation that titled *“The Importance of Social Environmental Sciences on Nature Conservation via Case Study on Anatolian Sweetgum Forests”*.

We will give an oral presentation about the results of our current project’s two most important research topics (species distribution and wild life situations) in an ecology congress which will be held on Mugla University (which is the closest university to the sweetgum forests) in between 14-17 September, 2015. Oral presentation will be titled *“A current assessment about Anatolian Sweetgum Forests’ (Liquidambar orientalis Mill.) Bio- ecological situations and its’ wild life properties”*.

On the other hand, we will give a big support to *the Anatolian Sweetgum Workshop* that will be held in the middle of November 2015, in Marmaris (where is the 3rd important sweetgum forest region). City Council of Marmaris Municipality will organize to the workshop. We will also give 3 speeches (1-current situation of sweetgum forests-what to do, 2-wild life properties of the sweetgum forests, 3-sweetgum forests within the concept of the social sciences) in the workshop.