

**OBJECTS REGARDING THE FOREST STOCK IN IAȘI COUNTY
WITH SPECIAL REGARDS TOWARDS SILVIC WARDS IN PODU
ILOAIEI, HÂRLĂU AND PAȘCANI**

Angela Lupașcu¹, Maria Onofrei²

Key words: the forests in Iasi County, the forest formation.

Abstract. In the forest ward in Iasi County, several management units are differentiated: regular forest, gardening forest, poplar and willow crops selected for furniture, poplar and willow crops selected for pulp and timber, forests for cutting, poplar and willow pastures, forest with cynegetic interest, forests with special protection, reserves for nature protection, seed reserves.

Teritorial distribution for the forest ward

The national forest ward is composed of the public propriety forest stock (belonging to the state and to the administrative territorial units) and the private propriety; and it represents a national interest good.

It is composed by forests, lands destined for afforestation, lands serving to the needs of agriculture, production or silvic administration, ponds, riverbeds as well as unproductive lands included in silvic arrangements. Except these lands there are others forest areas placed outside the forest stock and whom are administrated by other institutions. Are also considered to be forest the lands occupied with forest vegetation larger than 0.25 ha forming the national forest stock.

For the year 2006 the forest stock represented in table 1 occupied a 75683 ha area from which: 73503 ha on Iași district area and 2179 ha on Vaslui district area.

1. Forest ward administration in Iași district

The practical way to administrate the forest stock is settled through silvic arrangements. These are formed on the basis of forest cadastre and on the state

¹ „Alexandru Ioan Cuza” University, lupascua@yahoo.com

² Inspector, Forestry Sector, Iași, Romania

propriety title and they secure in coordination with ecological objectives and socio-economical, the administrative goals and the ways to do it.

Silvic arrangements are elaborated by the Research Institute for Silvic Arrangements and by other legal units on silvic units and production units, for a 10 years period and are approved by the main public authority.

Tab. 1 - The state of the forest fund in Iasi County

	UM	1989	1990	1995	1996	1997	1998
Area of the total forests fund		97,6	97,2	96,8	96,8	96,9	96,6
Area of the forests, of which:		94,3	94,1	95,0	95,0	94,7	94,1
- coniferous		3,8	3,7	3,4	3,4	3,4	3,4
- deciduous		90,5	90,4	91,6	91,6	91,3	90,7
Reforestation and forestation		885	650	189	160	157	165

***(Statistic Yearbook of Iasi County,1999)

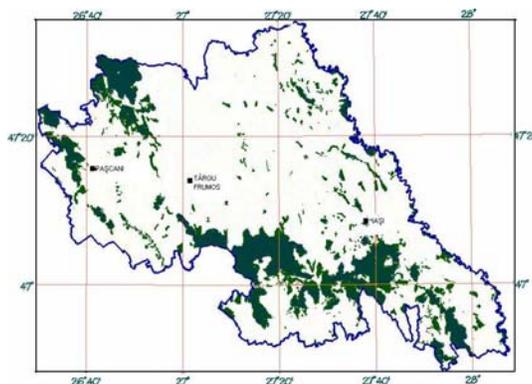


Fig. 1 – Distribution of forests on the territory of Iasi County

For Iași County there are 8 arrangements corresponding to 8 silvic units (fig.2), subordinated to the Silvic Institute Iași. The main objective of this institute is long-term administration and unitary in conformity with the laws and regards of the silvic organization.

The Silvific Institute Iași is a unit belonging to the National Institute of Forests – Romsilva, with the headquarters in Bucharest, and through the activities that it carries on it assures the national economy with wood, other products and services without unbalancing the forest ecosystem.

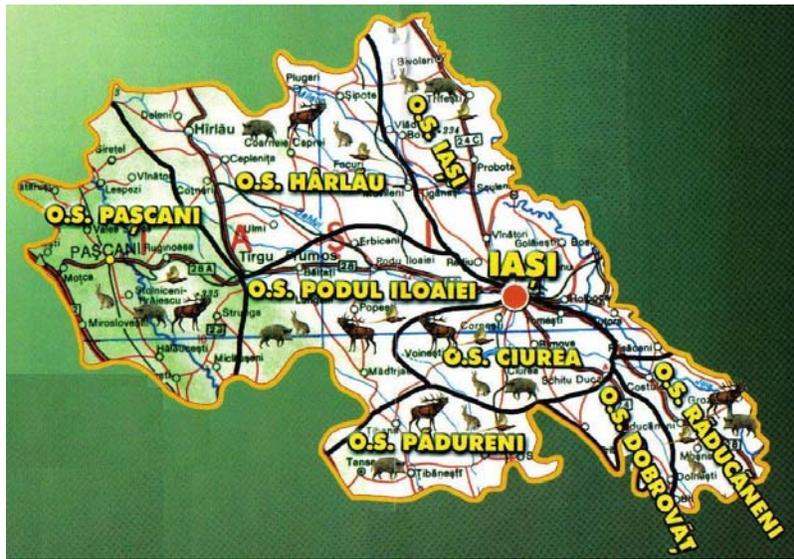


Fig. 2 – The territorial distribution of the forest wards in Iasi County

Forest Ward Podu Iloaiei has in administration forests situated in Moldavian plain, in the middle basin of Bahlui and it is fully situated in Iași district. The forest stock state property occupies a surface of 16373.2 ha and the private propriety stock 407.8 ha, in conformity with the last arrangement made in year 1998.

In the territorial area of the Silvific Unit Podu Iloaiei also exist lands covered with forest vegetation with a surface of 31.8 ha and it contains:

- protective belt administrated by S.N.C.F.R. Iași – 5.8 ha;
- plantation S.N.I.F.(The National Institute of Funciar Improvement) Iași – 14 ha;
- plantation for protection oh the hidrotechnic works in the radius of action of commune Oțeleni administrated by R.G.A. Iași – 2 ha;
- forest plantation on degraded fields administrated by Oțeleni Townhall – 10 ha.

Tab. 2 - The distribution of the forest fund of Forest Ward Podu Iloaiei on production units

Nr.	Production unit	Surface (ha)	The communes in the radius of action the forest are in
I	Strunga	1560,6	Oțeleni, Strunga, Butea, Mircești, orașul Târgul Frumos
II	Brăiești	3747,2	Oțeleni, Brăiești, Lungani, Bălțați, Sinești, orașul Târgu Frumos
III	Popești	4434,3	Popești, Sinești, Dumești, Erbiceni, Bălțați, Mădârjac, Lungani, orașul Podu Iloaiei
IV	Frumușica	2249,4	Dumești, Horiaști, Mădârjac
V	Gheorghiuoaia	2461,8	Sinești, Mădârjac
VI	Cenușa	1919,9	Sinești

Tab. 3 - Repartition of the ward surface on use categories

Usage category	Surface
Forests, plantations, for which is regulated the production process	14910,5
Forests for which the production process is not regulated	1129,1
Osier willow	11,6
Lands for reforestation	27,4
Lands for collective farms	236,7
Unproductive lands	47,5
Lands that are not in the forest ward	10,4
Total	16373,2

On the radius of this ward were identified several types of forest formations. Dominant are durmast, which are differential in several types: hill durmast, durmast with *Poa nemoralis*, mull durmast, and they are aprox. 30 percent of the forests. Big procents also have:

- hill forests with durmast (*Quercus petraea*) and *Fagus Silvatica* - 25%;
- hill forest with oak tree (*Quercus robur*) - 15%;

- hill forests with durmast (*Q. petraea*) - 10%,
- oak - 10%;
- floodplain forests- 7%;
- willow pots- 2%;
- *fagus Silvatica* - 1%.

From the mixed hill forests i mention : *Tilia cordata*, *Fraxinus ornus*, *Robinia pseudacacia*, *Carpinus betulus*, *Acer campestre*. In the table 3 are presented the useage categories and the afferent surfaces.

Forest Ward of Hârlău is territorially placed in two different geographical areas. A surface that represents 20 % from the entire ward is placed in Suceava plateau, occupying the largest side of the superior basin of Bahlui; the other side is situated in Jijia plain and in separated by the other one through a lower area situated on the line of the Târgu Frumos-Hârlău-Frumușica localities.

The forest ward has the residence in Hârlău city, and its territory is separated in 5 production units, each having the surface indicated below: UP.I. Cotnari – 2141.6 ha; UP.II.Maxnut – 2563.1 ha; UP.III.Humosu – 2622.1 ha; UP.IV.Deleni – 2030 ha; UP.V. Belcești – 1109.6 ha.

Tab. 4 - The category of use of the forest ward

Category of use	Surface (hectares)	%
Fields covered with forest	10154,6	97,01
Fields that serve the need of cultures	6,2	0,06
Fields that serve the need of silvic production	32,7	0,23
Fields that serve the need of administration	72,0	0,69
Fields affected for afforestation	113,8	1,09
Unproductive fields	28,9	0,28
Fields temporary removed from the forest ward	67,2	0,64

Based on the arrangement made in 2005, the forest ward public propriety is occupying a surface of 10466.4 ha. On the radius of the ward there are another 708.1 ha with forest private propriety, returned conformable to the Laws 18/1991 and 1/2000. The category of use of the forest ward is given in tab.4, we mention that 97.1% represents the fields covered with forests.

Forests form in Bahlui basin a uninterrupted massive, which in fallowed by the neighbouring wards (Pașcani, Mihai Eminescu, Flămânzi). By difference, U.P.I

Cotnari and U.P.V.Belcești, being more far away from the central basin, are made from numerous massive of forests. The forest massive existent in this basin of Bahlui added to the neighbouring wards, increases the area of 25 000 hectars, being one of the biggest in the hills area.

Because the area of the ward is situated on two relief units there can be separated two vegetation areas:

- forest steppe in the east part; where prevail oak species- *Quercus pedunculiflora* and *Q. pubescens* and the beech is missing;
- the higher area in the west, where forest formations appear: durmast, durmast-beech, hill beech, hill forest with durmast and oak.

As main characteristics of this territory we can mention the lack of cerris (*Quercus cerris*) and Hungarian oak (*Quercus frainetto*), as well as a bigger percentage of the beech (*Fagus sylvatica*).

On the radius of silvic ward Harlau has been established that a surface of 2342 ha (22%) of forest should have a protection role of the following objectives:

- a. Water protection -957,3 ha:
- b. Soil protection -1244.4 ha
- c. Forests with recreational function - 29.8 ha:
- d. Forest with scientific interest – 73.3 ha – natural reservations.

Forest ward Pașcani is situated in the central part of Moldaw region at the west limit of Iași district and has the residence in Pașcani town.

The territory of the ward occupies the direct slopes of the river Siret and of its affluents between the locality Lespezi in north and Podu Șcheia in south. It also includes the left slope of the river Moldova, from Drăgășani to Hanu Ancuței.

The area administrated by this ward is 10927,2 hectares public propriety of the state and 3730,1 hectares private propriety, conformable with „Arrangement of the Forest ward Pașcani”, made in year 2004.

The distribution of the Forest Ward Pașcani by production units is the following: UP.I.Pașcani, 3004,5 hectares; UP.II. Tătăruși, 2994,7 hectares; UP.III. Zăvoaiele Siretului, 789,3 hectare; UP.IV. Sirețel, 2421,3 hectares; UP.V.Hărmănești, 1717,4 hectares.

On the level of distribution of the ward by communes and towns we observe a big variation of the forest areas. The town Pașcani holds a area of 124,5 hectares, and the city Târgu Frumos 96,4 hectares. The procent of afforestation of the ward territory este relatively low (16 %) witch gives the region a pronounced agrarian character.

The distribution of the forest ward area on the teritorial radius of the communes is presenting like this: 10-100 hectares: Ruginoasa, Lespezi, Valea Seacă; 100-500 hectares: Mircești, Hălăucești, Cucuteni, Al.I. Cuza, Stolniceni, Prăjescu, Mogoșești- Siret, Vânători; 500-2000 hectares: Miroslăvești, Todirești,

Moțca, Cristești where the variate bodys are interrupted by agricultural fields and many human locations.

Forest formations most comun are:

- hill forests, mostly oak (*Quercus petraea*) and beech (*Fagus sylvatica*) and which occupy toghether 50 % of the total ward surface. They also have *Picea abies* and also *Carpinus betulus*, *Acer platanoides*, *Fraxinus excelsior*;

- pure oak (*Quercus petraea*) or mixxed -32%;

- hill beech and beech and *Carpinus betulus* -9%

- *Carpinus betulus* -5%;

- *Salix alba* and *Populus alba* in the river meadow – 3%;

- meadow oak -1%.

Tab. 5 - Percentage composition for species of the forest fund in silvic ward

Silvic ward	FA	CA	TE	FR	SC	GO	ST	PAM	MO	DT	DM	R
Podu Iloaiei	4	13	18	11	5	19	15			13	2	1
Hârlău	22	15	7	4	7	15	4		6	16	2	2
Pașcani	26	16			7	13	11	3	7	9	7	1

*** FA- beech; CA-hornbeam; TE-tile; FR-common ash; SA-willow; SC-locust tree; GO-common oak; ST-oak; PAM-american poplar; PLEA-euroamerican poplar; MO-spruce fir; DT-other hard; DM-other soft; DR-other rare.

From the table we can observ two dominant species in forest composition. Not all the species find favorable conditions in this territory. So, gorunul, oak and the hornbeam, are almost evenly spread in the territory. The beech prevails in the north and north - west of the area in U.P II. Tătăruși and U.P. IV. Sirețel. Regarding the spruce, we observ that this species are outside their territory, but in the north and north+west it appears insular, making the pass to the spruce forests from Neamț ward.

The older arborete (over 80 years) are found only in Tătăruși. Refering to the floristic composition of the pure or mixed forests, except the arboricol layer also exists the bush layer which is well represented by species like: corn (*Cornus mas*), păducel (*Crataegus monogyna*), alun (*Corylus avellana*), călinul (*Viburnum lantana*), lemnul căinesc (*Ligustrum vulgare*), trandafirul sălbatec (*Rosa canina*), cătina (*Hyppophae rhamnoides*), părul pădureț (*Pyrus pyraister*), *Rubus hirtus*.

The herbaceu layer is rich in species that variate from one area to another, beeing gruped on much more floores and with a degree of covering that variates. The most representative species are: *Carex pilosa*, *Asarum europaeum*, *Melica*

nutans and *M. Uniflora*, *Asperula odorata*, *Poa nemoralis*, *Dactylis polygama*, *Stelaria holostea*, *Cardamine bulbifera*, *Sanicula europaea*, *Festuca gigantea*, *Campanula rapunculoides*.

The utilisation of the forest ward on usage categories with afferent surfaces is the following: fields covered with forest – 97,38%; fields that serve the needs of agriculture- 0,01%; fields that serve the needs of production – 0,4 %; fields for afforestation – 0,45 % etc.

The functional distribution of the forests from the silvic Ward Paşcani is presenting like this:

a. Forests with water protection role:

-bands of forests made out of a row of parcels along side Siret river -501,1 hectares;

-forests situated in the dig-mal area from the Siret meadow – 148,7 hectares;

-forests situated in the albia majora of the rivers – 32,6 hectares;

b. Forests with protection role for the soil:

-forests situated on fields with the slope bigger than 30° - 69,6 hectares;

-forest plantations made on degraded fields -267,8 hectares;

-forests situated on fields with slide risk – 169,6 hectares;

c. Forests with relaxation role

-forests that have view interest from about the cultural monuments, or historical importance – 7 hectares;

-bands of forest about the hotels, motels and turistic cabans – 30 hectares;

d. Forests with scientific interest and preservation of the genofund and of the forest ecofund

-bands of forest along side the communication ways – 298,3 hectares;

-forests that protect the special objectives – 152,4 hectares;

-natural reservations, scientific role – 98,5 hectares;

2. Forest management measures

The silvic arrangements have the role to establish the management manner for the forests with achieving a dynamic ecological balance and to ensure in the same manner protection for the forests as well as producing raw material in big quantities and with maximum quality. In this context is necessary a deepened knowledge of the functional role for the forest.

The forests accomplish multiple functions: ecologic, economic and social. In agreement with the main functions, according to the silvic code provisions, forests divide in two groups: group I, forests with special functions of protection and group II, forests with functions of production and protection. Forests from group I enclose more functional subgroups: water protection, soil protection, protection

against climatic and industrial factors that are damaging, forests with recreation functions; forests of scientific interest and preservation of the genofund etc;

The functional zoning was revised and correlated with the new objectives of the politics and forest strategies, which determined the continuous growth of the forest surface with the main role of protection.

In the silvic ward from Iași county are differentiated more units of management regulated forest, managed forest, willow and poplar crops, reservations etc.

Within the process of management were accomplished a series of technical works with development role: silvotehnic works and hidrotehnic works.

The high diversity of the forest ward, the interests of management impose the application especially of the forest regime, which consists in renewing from seed and taking the particular forests at big ages and which implies certain treatments.

Bibliography:

- Băcăuanu V., Barbu N., Pantazică M., Ungureanu Al.** (1980), *Podișul Moldovei*, Ed. Științifică și Enciclopedică, București.
- Chiriță C.** (1979), *Stațiuni forestiere*, Ed. Academiei, București.
- Erhan E.** (1995) *The annual regime of the atmospheric precipitations in the moldavian plain*, Anal.Șt.Univ.,„Al.I.Cuza”, Iași, tom.XL-XLI, s.II.c..
- Ioniță I.** (2000), *Relieful de cuate din Podișul Moldovei*, Ed. Corson, Iași.
- Mititelu D., Chifu T., Scarlat A., Aniței L.** (1995), *Flora și vegetația județului Iași*, Ed. Universității Iași.
- *** *Amenajamentul Ocolului silvic Podu Iloaiei – Studiu general*, București, 1998.
- *** *Amenajamentul Ocolului silvic Hârlău – Studiu general*, Roman, 2005.
- *** *Amenajamentul Ocolului silvic Pașcani – Studiu general*, Roman, 2005.

