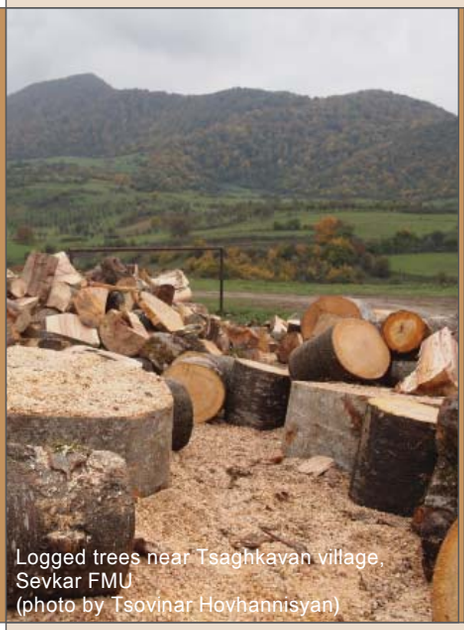
BioTopic



Logged trees near Tsaghkavan village, Sevkar FMU
(photo by Tsovinar Hovhannisyan)

Sevkar Forest, Tavush region
(photo by Tsovinar Hovhannisyan)

Multifunctional Zoning in Sevkar Forest Management Unit, Tavush Marz

Multifunctional zoning is an essential tool for multiple-use forest management planning, aiming to analyze and delimitate ecological, environmental, social and other functions for all the forest areas managed by a Forest Management Unit (FMU) with a view to balancing the sometimes divergent objectives of wood production, societal needs and nature conservation.

Forest function mapping and multifunctional zoning is in compliance with the legal requirements of the Forest Code (2005) of the Republic of Armenia. According to the latter, forests in Armenia are classified based on specific functional criteria as forests of protection significance and special significance, where these categories are equal to forest functions. In contrast to the mentioned classification system, in multifunctional zoning the forest may have a number of functions, some of which may overlap. For each forest function, specific management restrictions are defined, and depending on their effects on wood production they are allocated to different management zones, which are managed under different silvicultural systems.

There is a dire need in Armenian forestry to recognize the multifunctional nature of forests, which will serve as a crucial prerequisite for sustainable and multiple-use forest management. For this purpose, multifunctional zoning should become an indispensible part of forest management planning.

With this respect, Sustainable Management of Biodiversity,

Table 1: Distribution of forest functions

Forest Function		Code	Total	
Type	Name		(ha)	%*
Economic Functions	Non Productive Areas	ENP	358,2	1,8
	Wood Production (unrestricted)	EWP	734,1	3,7
Soil Conservation	Soil Protection	SP	2189,0	11,2
	Soil Conservation I	SCI	10591,9	54,2
	Soil Conservation II	SCII	4768,6	24,4
Water Conservation	Riparian Buffer Protection	WRP	984,0	5,0
	Water Catchment Conservation	WCC	217,5	1,1
	Water Supply Protection	WSP	272,4	1,4
Nature Conservation	Wildlife Protection	NWP	1628,9	8,3
	Wildlife Habitat Conservation	NWC	1619,8	8,2
	Rare Ecosystem Protection	NEP	317,8	1,6
	Biodiversity Conservation	NBC	5570,8	28,5
Socio-economic Services	Cultural Sites Conservation	SocCC	248,4	1,3
	Arable Land Conservation	SocAC	126.6	0,6
	Local Use only	SocL	5904,8	28,5
	Local cum Commercial use	SocLC	902,4	4,6
Others	Road and Infrastructure Conservation	ORC	1647,2	8,4
Total Forest Area			19529,0	100,0

Note: forest functions overlap, therefore the total of all functions is higher than the total forest area.

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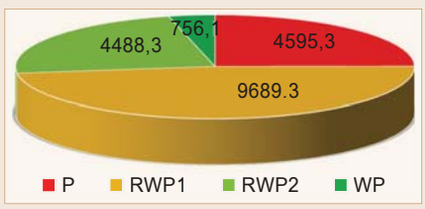
Table 2: Management zones based on functions

Management Zone Name	Code	Function Code	Total (ha)	%
Protection (no production)	P	ENWP, ENP, SP, WRP, WSP, NWP, NEP, SocSP, ONDP	**4.595,3**	23,5
Restricted Wood Production 1 (high)	RWP 1	SCI, WCC, NWC, SocCC, ORC	**9.689,3**	49,6
Restricted Wood Production 2 (low)	RWP 2	SCII, NBC, SocRC, SocAC, SocL, SocLC	**4.488,3**	23,0
Wood Production (no restrictions)	WP	All other areas	**756,1**	3,9
Total forest area			**19.529,0**	100,0

South Caucasus Programme conducted a forest function mapping for the area of Sevkar Forest Management Unit (FMU) in October/November 2012 by a team of specialized experts. The identification and mapping of forest functions was based on the following: GIS analysis of topography, taxation data from Forest Management Plans, interpretation of high resolution MS satellite imagery, Bio-D study, social study, the review of other regional plans, particularly spatial land use and infrastructure plans. The following forest functions were identified in Sevkar FMU (Table 1).

Sevkar FMU is located in a mountainous terrain and is characterized by a high erosion risk for landslides, stonefall, wind and soil. Thereby, the percentage of soil protection and soil conservation areas is quite high. The same way, the protection of water resources, as one of the most valuable natural resources, gains highest priority, and the function "Water Conservation" focuses on the conservation of the cleanliness of the groundwater and surface water bodies and the maintenance of a continuous water supply.

Figure 1: Area distribution of management zones in ha

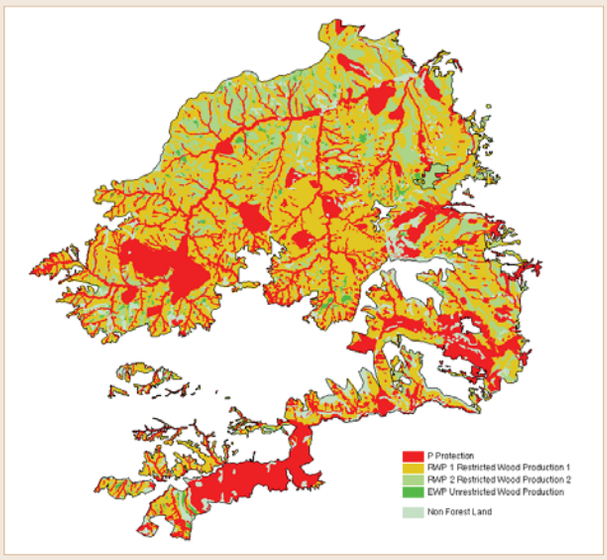


Sevkar FMU is very rich in biodiversity, and hosts a large number of rare and red listed animals as well as a considerable number of endangered and relict species of both trees and plants. Therefore, different nature conservation functions have been identified for the FMU. For instance, Wildlife Protection (NWP) sites (1629 ha or 8.3 % of the total area) are located in highly dense forested areas that are rich in endangered and red listed species. In the NWP area no commercial use should be allowed to protect the wildlife from human disturbance.

Forests serve as an important source of livelihood for the locals in terms of firewood, non wood forest products, leisure, etc. There are altogether 11 communities adjacent to Sevkar FMU. Forest areas located next to human settlements should be managed with the main objective to supply the locals with firewood. As such, the whole eastern part of Sevkar FMU (28.5 %) has been defined as Local Use Only (SocL) forests.

When the forest functions are identified, they are grouped into four different management zones depending on the restrictions on forest management. All areas, not falling under a specific function belong to management zone WP "Wood Production" (Table 2). The total area of Sevkar FMU is 20.445 ha of which 19.529 is forest land and 916 ha is non forest land. The *net production area is 14.934 ha*, which forms 76,5% of the forest land. Since Sevkar FMU is located in a mountainous area with steep/very steep slopes, the percentage of protected areas is comparatively high and forms 23,5 % (4.595 ha). Another 49,6 % of the forest land has to be managed with considerable restrictions in silviculture and/or in harvesting technology.

Map 1: Multifunctional Zoning in Sevkar FMU



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