



Annex 5: Logical and structural overview for the Pan-European quantitative indicators: indicator by indicator

		Links to other indicators	Potential DPSIR categories	SoEF 2011 data provider	Proposed category in ECE/FAO pilot project on assessment of SFM
C1 Forest resources and carbon					
1.1	Forest area	C2: 2.4 C3: 3.5 C4: 4.1; 4.2; 4.3; 4.4; 4.6; 4.7; 4.9 C5: 5.1; 5.2	State	NC	Context/Assessment
1.2	Growing stock	C1: 1.3; 1.4 C2: 2.3; 2.4 C3: 3.5 C4: 4.3; 4.5	State	NC	Context/Assessment
1.3	Age structure and/or diameter distribution	C1: 1.2 C3: 3.5 C4: 4.2;4.3; 4.5	State	NC	Background
1.4	Carbon stock	C1: 1.2 C2: 2.1 C6: 6.9	State	NC	Background
C2 Health and Vitality					
2.1	Deposition of air pollutants	C1: 1.4 C2: 2.2; 2.3; 2.4 C3: 3.1 C4: 4.5; 4.8 C5: 5.1; 5.2	Pressure	IDP	Assessment
2.2	Soil condition	C2: 2.1; 2.3 C5: 5.1; 5.2	State	IDP	Assessment
2.3	Defoliation	C1: 1.2 C2: 2.1; 2.2; 2.4 C3: 3.1	State	IDP	Background
2.4	Forest damage	C1: 1.1; 1.2 C2: 2.1; 2.3 C3: 3.1 C5: 5.1; 5.2	Pressure	NC	Assessment



C3 Productive functions					
3.1	Increment and fellings	C2: 2.1; 2.3; 2.4 C3: 3.5	Pressure	NC	Assessment
3.2	Roundwood	C3: 3.3; 3.4	Impact	NC	Assessment
3.3	Non-wood goods	C3: 3.2; 3.4 C6: 6.10	Impact	NC	Context
3.4	Services	C3: 3.2; 3.3 C6: 6.10	Impact	NC	Context
3.5	Forests under management plans	C1: 1.1; 1.2; 1.3 C3: 3.5	Response	NC	Assessment
C4 Biodiversity					
4.1	Tree species composition	C1: 1.1 C4: 4.3	State	NC	Assessment
4.2	Regeneration	C1: 1.1; 1.3 C4: 4.3	State	NC	Assessment
4.3	Naturalness	C1: 1.1; 1.3 C4: 4.1; 4.2; 4.4; 4.5; 4.7; 4.9	Impact	NC	Context
4.4	Introduced tree species	C1: 1.1 C4: 4.3	State	NC	Assessment
4.5	Deadwood	C1: 1.2; 1.3 C2: 2.1 C4: 4.3	State	NC	Assessment
4.6	Genetic resources	C1: 1.1	Response	IDP	Background
4.7	Landscape pattern	C1: 1.1 C4: 4.3 C5: 5.1; 5.2	Impact	IDP	Background
4.8	Threatened forest species	C2: 2.1	Impact	NC	Assessment
4.9	Protected forests	C1: 1.1 C4: 4.3 C5: 5.1; 5.2 C6: 6.11	Response	NC	Assessment
C5 Protective functions					
5.1	Protective forests-soil, water and other ecosystem functions	C1: 1.1 C2: 2.1; 2.2; 2.4 C4: 4.7	Response	NC	Assessment
5.2	Protective forests-infrastructure and management natural resources	C1: 1.1 C2: 2.1; 2.2; 2.4 C4: 4.7; 4.9	Response	NC	Assessment



C6 Socio-economic functions					
6.1	Forest holdings	N/A	Driving force	NC	Context
6.2	Contribution of forest sector to GDP	N/A	Driving force	IDP	Context
6.3	Net revenue	N/A	Driving force	NC	Assessment
6.4	Expenditures for services	N/A	Response	NC	Context
6.5	Forest sector workforce	N/A	Driving force	IDP	Context
6.6	Occupational safety and health	N/A	Impact	IDP	Assessment
6.7	Wood consumption	C6: 6.8	Driving force	IDP	Context
6.8	Trade in wood	C6: 6.6	Driving force	IDP	Context
6.9	Energy from wood resources	C1: 1.4	Driving force	IDP	Context
6.10	Accessibility for recreation	C3: 3.3	Driving force	NC	Assessment
6.11	Cultural and spiritual values	C4: 4.9	Driving force	NC	NA (no meaningful parameter found)

Notes:

- i. Links to other indicators: Requardt, A., 2007: Pan-European Criteria and Indicators for Sustainable Forest Management: Networking Structures and Data Potentials of International Data Sources. University of Hamburg, Germany.
- ii. Potential DPSIR categories: Wolfslehner, B., Vacik, H. 2011: Mapping indicator models: from intuitive problem structuring to quantified decision-making in sustainable forest management. *Ecological Indicators* 11:274-283.
- iii. SoEF 2011 data provider:
 - NC: data is supplied by national correspondents
 - IDP: data is supplied by international data provider (see SoEF 2011, annex 2, annex table K for list of data providers)
- iv. Proposed category in ECE/FAO pilot project on assessment of SFM: ECE/FAO has proposed a system for assessment of SFM at the national level, based on the pan-European criteria and indicators. See the analytical annex of the background paper submitted to the Working Party in 2013, available at: <http://www.unece.org/fileadmin/DAM/timber/meetings/20130422/WP2013-4b1-Annex.pdf> In this system, parameters, based on the indicators, are used to identify “areas of concern” and the measures taken to address them. The parameters are divided into three categories as follows:
 - Context parameter: describes the situation of a country with respect to a given pan-European indicator, but cannot be used to assess the sustainability of forest management, for instance because the value of the parameter is largely determined by geography, ecology, economy or history, and is therefore not susceptible to influence by forest management or policy.
 - Assessment parameter: provides information useful to assess the sustainability of forest management in a country for a given pan-European indicator.
 - Background parameter: Cannot be used to provide reliable description or assessment of the situation with regard to sustainable forest management. Causes might be problems with data quality or methodology of data analysis, preventing meaningful use of the information available.