I

(Acts whose publication is obligatory)

COMMISSION REGULATION (EEC) No 1696/87

of 10 June 1987

laying down certain detailed rules for the implementation of Council Regulation (EEC) No 3528/86 on the protection of the Community's forests against atmospheric pollution (inventories, network, reports)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community,

Having regard to Council Regulation (EEC) No 3528/86 of 17 November 1986 on the protection of the Community's forests against atmospheric pollution [1], and in particular Articles 2 (3) and 3 (2) thereof,

Whereas, pursuant to Article 2 (1) of Regulation (EEC) No 3528/86, the purpose of the Community scheme is to help Member States to:

— establish on the basis of common methods a periodic inventory of damage caused to forests, in particular by atmospheric pollution;

— establish or extend, in a coordinated and harmonious way, the network of observation points required to draw up this inventory;

Whereas, pursuant to Article 2 (2) of Regulation (EEC) No 3528/86 the Member States are to forward to the Commission the data gathered by the network of observation points;

Whereas, pursuant to Article 3 (1) of Regulation (EEC) No 3528/86, each Member State must, using a uniform scientific method, draw up, in particular on the basis of the inventory data referred to in Article 2, a periodic forest health report with reference to atmospheric pollution and forward the said report to the Commission;

Whereas the detailed rules for the application of the provisions of these two Articles and in particular those concerning the gathering, nature, comparability and forwarding of data from the inventory as well as the drawing up of the periodic forest health report should be adopted;

Whereas applications for aid submitted under Regulation (EEC) No 3528/86 for the purpose of carrying out a periodic inventory and of establishing or extending the network of points referred to in Article 2 (1) should contain all the information needed for an examination of these measures in the light of the objectives and criteria of that Regulation;

Whereas this information should be presented in a standardized form to facilitate examination and a comparison of applications;

Whereas the measures provided for in this Regulation are in accordance with the opinion of the Committee on Forest Protection,

HAS ADOPTED THIS REGULATION:

Article 1

1. A periodic inventory of damage caused to forests in particular by atmospheric pollution shall be established on the basis of a Community network of observation points corresponding to a systematic grid of 16 kilometres × 16 kilometres.

2. Observations shall be carried out at each point on trees chosen following an objective sampling procedure.

3. An evaluation of the state of health of the trees observed shall be made on the basis of specified criteria.

4. By 15 December each year, Member States shall forward to the Commission in a standardized form the data collected for each of the observation points of the Community network.

5. Technical details pertaining to the provisions of this Article are set out in Annex I hereto.

Article 2

1. Applications for aid from the Community:

[1] OJ No L 326, 21. 11. 1986, p. 2.

— to carry out the periodic inventory at Community level, and

— to establish or extend the network of points necessary for this inventory

within the meaning of Article 2 (1) of Regulation (EEC) No 3528/86 shall contain the information and documents specified in Annex II to this Regulation.

Applications shall be submitted in triplicate and in accordance with Annex II.

Member States shall submit applications to the Commission before 1 November each year in respect of the following year. For 1987 these applications shall be submitted by 15 July 1987.

2. Applications not meeting the requirements set out in paragraph 1 shall not be considered.

Article 3

The Member States' reports on forest health shall be drawn up annually, in particular, on the basis of data from the Community network of observation points and from any other representative network at national or regional level in respect of which the methodology specified in Annex I is applied.

The content of the reports shall comply with the requirements set out in Annex III.

Reports shall be forwarded to the Commission each year by 15 January.

Article 4

This Regulation shall enter into force on the third day following its publication in the *Official Journal of the European Communities*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 10 June 1987.

For the Commission

Frans ANDRIESSEN

Vice-President

ANNEX I

COMMON METHODS FOR THE ESTABLISHMENT OF A PERIODIC INVENTORY OF DAMAGE CAUSED TO FORESTS (Article 2 (1))

I. General remarks

The purpose of the scheme mentioned in Article 2 (1) is to establish a periodic inventory of the health status of forests in the Member States of the EEC by collecting representative data on the extent and intensity of forest damage and to monitor its development.

This inventory is to be carried out at Community level on the basis of a 16 kilometres × 16 kilometres grid network covering the entire area of each Member State. In addition, Member States may collect information from denser networks in order to obtain for the presentation of their annual report representative data at a national or regional level. For both observation levels (Community and national or regional) the common methods (described below) regarding the choice of the tree sample and the observation criteria shall be adopted.

The inventory is to be undertaken annually between the end of the formation of new needles and leaves and before autumnal leaf discolouration.

II. Inventory methodology

II.1. *Selection of sample points*

Forests, within the meaning of this inventory, are forest tree stands with at least 20 % canopy closure at rotation age (closed forests according to the Food and Agricultural Organization of the United Nations (FAO) definition). However, for stands of *Quercus suber* and *Quercus ilex,* canopy closure should be of at least 10 %. The minimum size of the forests to be sampled should be 0,5 hectare.

At Community level, data should be collected by a field inventory using systematically distributed sample points with a grid density of 16 kilometres × 16 kilometres and covering the entire area of each Member State. The 16 kilometres × 16 kilometres grid network is established following the latitude, longitude coordinate system in north-south and east-west directions from the reference point: latitude 50°15′ 15′′, longitude 09°47′ 06′′. The coordinates of these points will be transmitted to each Member State by the Commission.

Grid intersection points falling outside a forested area (according to the above definition) should be rejected as sample points although if in the future a new stand is established they must be reconsidered.

Member States which have already established a systematic network may retain the corresponding observation points of these networks for the purpose of establishing the Community network (points coinciding with or those closest to the 16 kilometres × 16 kilometres intersection points) provided that the common methods described below are applied. Member States which do not have or have only partially established such a systematic network shall establish or extend new networks in order to complete the Community network. In this case, a sample point falling in a forest (according to the above definition) should be located precisely at its predetermined geographical location. However, if at such a coordinate point it is impossible to establish a sample, the actual sample point may be shifted within the stand following an objective (unbiased) procedure.

II.2. *Selection of sample trees*

At each sampling point, sample trees should be selected according to a stringently defined, objective and unbiased statistical procedure (e.g., four point cross cluster orientated along the main compass directions with corner points at 25 m distance from the grid point using a six-tree sampling process on each subplot or sample trees chosen following a spiral from the plot centre). In younger dense stands where individual crowns are not assessable, the selection of sample trees should be based on a defined geometrical process. This process should be repeated until a sufficient number of trees with assessable crowns has been found. The following selection criteria are to be taken into account:

— Member States may decide on the number of trees to be assessed at each point; however, the sample may not consist of less than 20 trees nor more than 30 and the number must remain constant,

— all tree species are to be included in the assessment. Sample trees should have a minimum height of 60 cm. Only predominant, dominant and co-dominant trees (Kraft: stem classes 1—3) qualify as sample trees for the purpose of damage assessment. Trees of these social groups with broken tops do not qualify as sample trees,

— trees removed as part of management operations may be replaced by new sample trees selected according to an unbiased procedure. If clear-cut, the sample point ceases to exist until a new stand has been established,

— the centre of a sampling unit should be marked for reassessment for the purpose of subsequent inventories. If possible, sample trees should also be permanently marked.

II.3. *Assessment of sample trees*

Visual assessment of defoliation and discolouration

It is recommended that defoliation should be estimated in 5 % steps in relation to a tree with full foliage. The final allocation to defoliation classes as defined below should be made after the observations.

Alternatively, defoliation may be evaluated and classified directly into final defoliation classes which are defined as follows:

Class	Degree of defoliation	Percentage of needle/leaf loss
0	not defoliated	0 – 10
1	slightly defoliated	11 – 25
2	moderately defoliated	26 – 60
3	severely defoliated	> 60
4	dead	

Discolouration of the remaining foliage is assessed according to the following 4 classes:

Class	Discolouration	Indicative percentage of needles/leaves discoloured
0	None or negligible	0 – 10
1	Slight	11 – 25
2	Moderate	26 – 60
3	Severe	> 60

If, in addition, defoliation and discolouration classes are combined, the following combined damage classes must be used:

Defoliation class	Discolouration class		
	1	2	3
	Resulting damage class		
0	0	I	II
1	I	II	II
2	II	III	III
3	III	III	III

0 = not damaged, I = slightly damaged, II = moderately damaged, III = severely damaged, IV = dead.

II.4. *Data collection*

In addition to the above forest damage assessments, the parameters listed below are the mandatory minimum for data collection:

- descriptive code:
  - country
  - actual latitude, longitude coordinates
  - observation point number
- site data:
  - altitude
  - aspect
  - availability of water to principal species
  - humus type
- stand data:
  - mean age of dominant story
- sample tree data:
  - date of observation
  - tree number (visible marks) or azimuth and distance (invisible marks)
  - tree species
  - defoliation
  - discolouration
  - damage due to easily identifiable causes (insect, fungi, abiotic agents . . .)
  - sample trees replaced since the previous observations.

The common census form 1 of this Annex should be used for the 16 kilometres × 16 kilometres Community network, for the collection of the mandatory data and for the transmission of this data to the Commission.

II.5. *Training of field crews*

Field crews should consist of two professionals, at least one should be a diploma-level/graduate forester as responsible crew leader. Prior to the beginning of the annual field season, all inventory crews must undergo a period of intensive theoretical and practical training in measurement and assessment procedures and filling out the various forms.

II.6. *Check survey*

As customary in national forest inventories, a fraction e.g. 5 to 10% of field sample points must be remeasured by an independent check-survey crew.

This control survey concerns all measurements and assessments made by the field crews. In case of significant discrepancies, the necessary adjustments of instruments or clarification of instructions and their application must be immediately arranged to avoid serious systematic errors.

FORM 1

Common forest damage inventory data to be forwarded to the Commission

Country (1)					Date of observation (6)								
Observation point number (2)					Actual latitude coordinate (7)								
Availability of water to principal species (3)					Actual longitude coordinate (7)								
Humus types (4)					Aspect (8)								
Altitude (5)					Mean age of predominant story (9)								

Sample tree number (10)	Species (11)	Defoliation (12)	Discolouration (13)	Easily identifiable causes of damage Type: T (14)								Identification of damage type if possible (15)	Other observations (16):
				T 1	T 2	T 3	T 4	T 5	T 6	T 7	T 8		
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
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19													
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21													
22													
23													
24													
25													
26													
27													
28													
29													
30													

For the replacing of trees of the sample see the form in Annex.

FORM 1 — Annex

Replaced trees (17)

Sample tree number (10)	Species (11)	Defoliation (12)	Discolouration (13)	Easily identifiable causes of damage Type: T (14)								Identification of damage type if possible (15)
				T 1	T 2	T 3	T 4	T 5	T 6	T 7	T 8	
31												
32												
33												
34												
35												
36												
37												
38												
39												
40												
41												
42												
43												
44												
45												
46												
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53												
54												
55												
56												
57												
58												
59												
60												

Code lists for the common forest damage inventory data to be forwarded to the Commission

The following instructions and codes are to be adopted by the Member States to complete the common observation form.

(1) *Country*

01: France
02: België — Belgique
03: Nederland
04: BR Deutschland
05: Italia
06: United Kingdom
07: Ireland
08: Danmark
09: Ellas
10: Portugal
11: Espana
12: Luxembourg

(2) *Observation point number*

The observation point number corresponds to the number indicated for the intersection of the grid at this point on the list of latitude and longitude coordinates provided by the Commission (Forests and Forestry Division).

(3) *Availability of water to principal species*

1: Insufficient
2: Sufficient
3: Excessive

(4) *Humus type*

1: Mull
2: Moder
3: Mor
4: Anmor
5: Peat
6: Other

(5) *Altitude*

1: ⩽ 50 m	12: 551 — 600 m	23: 1 101 — 1 150 m
2: 51 — 100 m	13: 601 — 650 m	24: 1 151 — 1 200 m
3: 101 — 150 m	14: 651 — 700 m	25: 1 201 — 1 250 m
4: 151 — 200 m	15: 701 — 750 m	26: 1 251 — 1 300 m
5: 201 — 250 m	16: 751 — 800 m	27: 1 301 — 1 350 m
6: 251 — 300 m	17: 801 — 850 m	28: 1 351 — 1 400 m
7: 301 — 350 m	18: 851 — 900 m	29: 1 401 — 1 450 m
8: 351 — 400 m	19: 901 — 950 m	30: 1 451 — 1 500 m
9: 401 — 450 m	20: 951 — 1 000 m	31: > 1 500 m
10: 451 — 500 m	21: 1 001 — 1 050 m	
11: 501 — 550 m	22: 1 051 — 1 100 m	

(6) *Date of observation*

The date of observation is to be completed in the following order:

e.g.

Day		month		year	
0	8	0	9	8	8

(7) *Latitude/longitude coordinates*

Fill in the full six figure latitude and longitude coordinates of the observation point. These coordinates will differ from the coordinates of the corresponding point of the network provided by the Commission each time that the observation point in question does not exactly coincide with the said point of the network.

e.g.:

— latitude:

+	5	0	1	0	2	5

the first box is used to indicate a + or — coordinate

	degrees		minutes		seconds	
— longitude:	—	0	1	1	5	3	2

(8) *Aspect*

1: N	4: SE	7: W
2: NE	5: S	8: NW
3: E	6: SW	9: flat

(9) *Mean age of dominant story (years)*

1: ⩽ 20	5: 81 — 100
2: 21 — 40	6: 101 — 120
3: 41 — 60	7: > 120
4: 61 — 80	8: Irregular stands

(10) *Sample tree number*

The tree sample at each observation point for the evaluation of forest damage must consist of a minimum of 20 sample trees. However, the number of sample trees may not exceed 30.

(11) *Species* (Ref. *Flora Europaea)*

Broadleaves

001: *Acer campestre*
002: *Acer monspessulanum*
003: *Acer opalus*
004: *Acer platanoïdes*
005: *Acer pseudoplatanus*
006: *Alnus cordata*
007: *Alnus glutinosa*
008: *Alnus incana*
009: *Alnus viridis*
010: *Betula pendula*
011: *Betula pubescens*
012: *Buxus sempervirens*
013: *Carpinus betulus*
014: *Carpinus orientalis*
015: *Castanea sativa* (C. *vesca)*
016: *Corylus avellana*
017: *Eucalyptus* sp.
018: *Fagus moesiaca*
019: *Fagus orientalis*
020: *Fagus sylvatica*
021: *Fraxinus angustifolia* spp. *oxycarpa* (F. *oxyphylla)*
022: *Fraxinus excelsior*
023: *Fraxinus ornus*
024: *Ilex aquifolium*
025: *Juglans nigra*
026: *Juglans regia*
027: *Malus domestica*
028: *Olea europaea*
029: *Ostrya carpinifolia*
030: *Platanus orientalis*
031: *Populus alba*
032: *Populus canescens*
033: *Populus hybrides*
034: *Populus nigra*
035: *Populus tremula*
036: *Prunus avium*
037: *Prunus dulcis (Amygdalus communis)*
038: *Prunus padus*
039: *Prunus serotina*
040: *Pyrus communis*
041: *Quercus cerris*
042: *Quercus coccifera* (Q. *calliprinos)*
043: *Quercus faginea*
044: *Quercus frainetto* (Q. *conferta)*
045: *Quercus fruticosa* (Q. *lusitanica)*
046: *Quercus ilex*
047: *Quercus macrolepis* (Q. *aegilops)*
048: *Quercus petraea*
049: *Quercus pubescens*
050: *Quercus pyrenaica* (Q. *toza)*
051: *Quercus robur* (Q. *pedunculata)*
052: *Quercus rotundifolia*
053: *Quercus rubra*
054: *Quercus suber*
055: *Quercus trojana*
056: *Robinia pseudacacia*
057: *Salix alba*
058: *Salix caprea*
059: *Salix cinerea*
060: *Salix eleagnos*
061: *Salix fragilis*
062: *Salix* sp.
063: *Sorbus aria*
064: *Sorbus aucuparia*
065: *Sorbus domestica*
066: *Sorbus torminalis*
067: *Tamarix africana*
068: *Tilia cordata*
069: *Tilia platyphyllos*
070: *Ulmus glabra* (U. *scabra*, U. *montana)*
071: *Ulmus laevis* (U. *effusa)*
072: *Ulmus minor* (U. *campestris*, U. *carpinifolia)*
099: *Other broadleaves*

Conifers

100: *Abies alba*
101: *Abies borisii-regis*
102: *Abies cephalonica*
103: *Abies grandis*
104: *Abies nordmanniana*
105: *Abies pinsapo*
106: *Abies procera*
107: *Cedrus atlantica*
108: *Cedrus deodara*
109: *Cupressus lusitanica*
110: *Cupressus sempervirens*
111: *Juniperus communis*
112: *Juniperus oxycedrus*
113: *Juniperus phoenica*
114: *Juniperus sabina*
115: *Juniperus thurifera*
116: *Larix decidua*
117: *Larix kaempferi* (L. *leptolepis*)
118: *Picea abies* (P. *excelsa*)
119: *Picea omorika*
120: *Picea sitchensis*
121: *Pinus brutia*
122: *Pinus canariensis*
123: *Pinus cembra*
124: *Pinus contorta*
125: *Pinus halepensis*
126: *Pinus heldreichii*
127: *Pinus leucodermis*
128: *Pinus mugo* (P. *montana*)
129: *Pinus nigra*
130: *Pinus pinaster*
131: *Pinus pinea*
132: *Pinus radiata* (P. *insignis*)
133: *Pinus strobus*
134: *Pinus sylvestris*
135: *Pinus uncinata*
136: *Pseudotsuga menziesii*
137: *Taxus baccata*
138: *Thuya* sp.
139: *Tsuga* sp.
199: Other conifers

(12) *Defoliation*

0: not defoliated (0 — 10 %)
1: slightly defoliated (11 — 25 %)
2: moderately defoliated (26 — 60 %)
3: severely defoliated (> 60 %)
4: dead

(13) *Discolouration*

0: no discolouration (0 — 10 %)
1: slight discolouration (11 — 25 %)
2: moderate discolouration (26 — 60 %)
3: severe discolouration (> 60 %)

(14) *Easily identifiable causes of damage*

Add a cross in the corresponding column(s).

T1 = game and grazing
T2 = insects
T3 = fungi
T4 = abiotic agents (wind, snow, frost, drought, . . .)
T5 = direct action of man
T6 = fire
T7 = known local/regional pollutant
T8 = other

(15) *Identification of damage type*

Where possible, further identification of the damage type should be added e.g. for insects: the species or group (e.g. 'bark beetles').

(16) *Other observations*

Any additional observations which may be of interest shall be clearly noted on the form.

(e.g. possible influencing factors (recent drought, temperature extremes); other damage/stress symptoms.)

(17) *Replacing of sample trees*

In the case where trees of the original sample have been removed (extraction, windthrow etc.) and replaced in the sample, these trees receive a new number (above 30) and are the subject of the page in annex to form 1.

ANNEX II

Applications for aid from the Community in respect of the measures to be carried out pursuant to Article 2 (1) of Regulation (EEC) No 3528/86 in 19 . .

Applications for aid must be presented in accordance with Annex A (1) to Commission Regulation (EEC) No 526/87 (2) together with Annex B to this Regulation.

ANNEX B

1. **Short description of the measures**

2. **Applicant** (1)

2.1. Links between the applicant and the measures

3. **Agency responsible for carrying out the measures** (2)

3.1. Object and scope of the agency's main activities

4. **Detailed description of the measures**

Where:

(a) a network of points meeting the requirements set out in Annex I to this Regulation and covering the entire area of the country already exists with the result that the measures relate only to observations in the Community network:

1. Description of the existing situation,
2. Number of observation points corresponding to the Community network of points,
3. Detailed description of the sampling procedure used at point level (number of trees, disposition, etc.),
4. Indication of the timetable for the execution of the projected measures;

(b) the measures relate both to the carrying-out of the inventory of forest damage and to establishing or extending the Community network of observation points

1. Description of the existing situation,
2. Geographical location and area of the region(s) concerned (+ cartographical document),
3. Number of observation points corresponding to the Community network of points,
4. Detailed description of the sampling procedure used at point level (number of trees, disposition, etc.),
5. Indication of the timetable for the execution of the projected measures.

5. **Cost of the measures**

5.1. Carrying-out observations at the Community points

5.1.1. Cost per point

5.1.2. Total cost of observations

5.1.3. Aid applied for from the Community for the observations

5.2. Installing the points corresponding to the Community network

5.2.1. Installation cost per point

5.2.2. Total cost of installing the points

5.2.3. Aid applied for from the Community to install these points

5.3. Total cost of project (sum of the costs of the two measures) as set out in point 4.3 of Annex A

5.4. Total aid applied for from the Community for the project (sum of the aids applied for for the two measures), as set out in point 4.5. of Annex A

5.5. Complete form B

.....
Date and signature

(1) To be completed only if the applicant is not also the agency responsible for carrying out the measures.
(1) To be completed for each agency.

(1) For the purpose of this Regulation, the following measures should be considered with a view to completing figure 4.1 of Annex A:
— measures to carry out observations for the Community level inventory of damage caused to forests, in particular by atmospheric pollution;
— measures to establish or extend the Community network of observation points.
(2) OJ No L 53, 21. 2. 1987, p. 14.

B — PROPOSED FINANCING

Measure	Forest area concerned (ha)	Number of community plots	Total cost (1)	Non-Community participation				Aid requested (1)
				State (1)	Region (1)	Other public funds (1)	Private (1)	
To carry out observations for the Community level inventory of damage caused to forests in particular as a result of atmospheric pollution								
To establish or extend the Community network of observation plots								
Total								

(1) In national currency.

ANNEX III

PERIODIC FOREST HEALTH REPORTS (Article 3 (1))

Each Member State must submit an annual report on the health status of their forests. This report should be based, in particular, on data collected from the 16 km × 16 km forest damage inventory and other observation networks.

The national reports should contain information relating to the following subjects:

I. General information on the carrying-out of the forest damage inventory

— agency centralizing results
— national forested area (20 % canopy cover)
— total area covered by network(s)
— grid size of other networks
— total number of observation plots
— total number of trees observed
— number of sample trees per plot
— disposition/choice of sample trees
— observation period
— execution and control of inventory (training period, number of observers etc.)
— processing of data
— problems encountered.

II. Forest damage results

Results shall only be presented in terms of the percentage of trees falling into the different defoliation, discolouration and, where evaluated, combined damage classes (optional). The percentage of needle/leaf loss refers to damage as a result of unknown and known causes. In all tables, the number of trees observed and where possible, the corresponding forested area, should be included.

Total national results must be presented in the above terms by age (< 60 years, ≥ 60 years) and the principal coniferous and broadleaved species following the same tabular presentation on Form T_{1+2+3}. These results should be further broken down to produce a presentation with the same age distinction for each species (Forms TA_{1+2}, TA_3, TB_{1+2}, TB_3). A table indicating easily identifiable causes of damage should be presented separately.

Where possible, a comparison of the present situation with the previous years is to be made in order to study damage trends.

In addition to the results compiled at national level, Member States should submit results by administrative units (Region, Land, Province, . . .) and where possible ecological unit (growth area, Wuchsgebiet) insofar as these are available. Results are to be presented using Forms A_{1+2}, A_3, B_{1+2} and B_3. These tables shall be accompanied by a map indicating the geographical location and extent of the units referred to.

If different grid densities are used within one Member State, the results must be calculated separately for each geographical unit for which a particular grid density has been used.

All results should be commented on and tables clearly explained.

III. Information regarding possible causes of observed damage

A section of the national report should be devoted to the analysis of important information on the possible causes of the observed damage in particular with reference to atmospheric pollution. Results of any correlations made between different types and stages of forest damage (defoliation, discolouration, other signs of damage) and parameters such as site or stand characteristics, climatic data etc. should be included in the annual report.

IV. Measures to restore damaged forests

Principal results of any measures or field experiments aimed at maintaining and restoring damaged forests should be presented in the report.

V. Socio-economical impact of forest damage

Member States should provide any relevant information available on the socio-economical influence of forest damage.

FORM T_{1+2+3}

Total forest damage broken down by species on the basis of defoliation, discolouration and combined assessments

CLASSIFICATION		CONIFERS						BROADLEAVES						TOTAL OF ALL SPECIES		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
species							others						others	< 60 years	⩾ 60 years	Total
PERCENTAGE OF TREES DEFOLIATED																
Defoliation class	Percentage of foliage loss	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
0: not defoliated	0 – 10 %															
1: slightly defoliated	11 – 25 %															
2: moderately defoliated	26 – 60 %															
3: severely defoliated	> 60 %															
4: dead																
PERCENTAGE OF TREES DISCOLOURED																
Discolouration class	Percentage of foliage discolouration	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
0: not discoloured	0 – 10 %															
1: slightly discoloured	11 – 25 %															
2: moderately discoloured	26 – 60 %															
3: severely discoloured	> 60 %															
PERCENTAGE OF TREES DAMAGED (DEFOLIATION AND DISCOLOURATION COMBINED)																
Combined damage class		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
0: not damaged																
I: slightly damaged																
II: moderately damaged																
III: severely damaged																
IV: dead																

FORM TA_{1+2}

Total forest damage for conifers presented by defoliation and discolouration

CONIFERS

CLASSIFICATION		Trees up to 59 years old							Trees 60 years and older							Total of all conifers
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9) = (3) to (8)	(10)	(11)	(12)	(13)	(14)	(15)	(16) = (10) to (15)	(17) = (9) + (16)
Species:							Others	Total						Others	Total	Grand Total
Area of species:																
In % of total forest area:																100
No of trees observed:																

PERCENTAGE OF TREES DEFOLIATED

Defoliation class	Percentage of needle loss	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
0: not defoliated	0 – 10 %															
1: slightly defoliated	11 – 25 %															
2: modertely defoliated	26 – 60 %															
3: severely defoliated	> 60 %															
4: dead																

PERCENTAGE OF TREES DISCOLOURED

Discolouration class	Percentage of needle discolouration	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
0: not discoloured	0 – 10 %															
1: slightly discoloured	11 – 25 %															
2: moderately discoloured	26 – 60 %															
3: severely discoloured	> 60 %															

FORM TA_3

Total forest damage for conifers on the basis of the combined assessments

CONIFERS

CLASSIFICATION		PERCENTAGE OF TREES DAMAGED (DEFOLIATION AND DISCOLOURATION COMBINED)														
		Trees up to 59 years old							Trees 60 years and older							Total of all conifers
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9) = (3) to (8)	(10)	(11)	(12)	(13)	(14)	(15)	(16) = (10) to (15)	(17) = (9) + (16)
Species:							Others	Total						Others	Total	Grand total
Area of species:																
In % of forest area:																100
No of trees observed:																
Combined damage class		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
0: not damaged																
I: slightly damaged																
II: moderately damaged																
III: severely damaged																
IV: dead																

FORM TB_{1+2}

Total forest damage for broadleaves presented by defoliation and discolouration

BROADLEAVES

CLASSIFICATION		Trees up to 60 years old							Trees 60 years and older							Total of all broad-leaves
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9) = (3) to (8)	(10)	(11)	(12)	(13)	(14)	(15)	(16) = (10) to (15)	(17) = (9) + (16)
Species:							Others	Total						Others	Total	Grand Total
Area of species:																
In % of total forest area:																100
No of trees observed:																

PERCENTAGE OF TREES DEFOLIATED

Defoliation class	Percentage of leaf loss	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
0: not defoliated	0 – 10 %															
1: slightly defoliated	11 – 25 %															
2: moderately defoliated	26 – 60 %															
3: severely defoliated	> 60 %															
4: dead																

PERCENTAGE OF TREES DISCOLOURED

Discolouration class	Percentage of leaf discolouration	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
0: not discoloured	0 – 10 %															
1: slightly discoloured	11 – 25 %															
2: moderately discoloured	26 – 60 %															
3: severely discoloured	> 60 %															

FORM TB_3

Total forest damage for broadleaves on the basis of the combined assessments

BROADLEAVES

CLASSIFICATION		PERCENTAGE OF TREES DAMAGED (DEFOLIATION AND DISCOLOURATION COMBINED)														
		Trees up to 60 years old							Trees 60 years and older							Total of all broad-leaves
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9) = (3) to (8)	(10)	(11)	(12)	(13)	(14)	(15)	(16) = (10) to (15)	(17) = (9) + (16)
Species:							Others	Total						Others	Total	Grand total
Area of species:																
In % of forest area:																100
No of trees observed:																
Combined damage class		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
0: not damaged																
I: slightly damaged																
II: moderately damaged																
III: severely damaged																
IV: dead																

FORM A_{1+2}

Health status of principal coniferous species presented by defoliation and discolouration

CONIFERS

Regional unit:

CLASSIFICATION		Trees up to 59 years old							Trees 60 years and older							Total of all conifers
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9) = (3) to (8)	(10)	(11)	(12)	(13)	(14)	(15)	(16) = (10) to (15)	(17) = (9) + (16)
Species:							Others	Total						Others	Total	Total
Area of species:																
In % of forest area of regional unit:																100
No of trees observed:																

PERCENTAGE OF TREES DEFOLIATED

Defoliation class	Percentage of needle loss	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
0: not defoliated	0 – 10 %															
1: slightly defoliated	11 – 25 %															
2: moderately defoliated	26 – 60 %															
3: severely defoliated	> 60 %															
4: dead																

PERCENTAGE OF TREES DISCOLOURED

Discolouration class	Percentage of needle discolouration	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
0: not discoloured	0 – 10 %															
1: slightly discoloured	11 – 25 %															
2: moderately discoloured	26 – 60 %															
3: severely discoloured	> 60 %															

FORM A_3

Health status of principal coniferous species on the basis of the combined assessments

CONIFERS

Regional unit:

CLASSIFICATION		PERCENTAGE OF TREES DAMAGED (DEFOLIATION AND DISCOLOURATION COMBINED)														
		Trees up to 59 years old							Trees 60 years and older							Total of all conifers
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9) = (3) to (8)	(10)	(11)	(12)	(13)	(14)	(15)	(16) = (10) to (15)	(17) = (9) + (16)
Species:							Others	Total						Others	Total	Total
Area of species:																
In % of forest area of regional unit:																100
No of trees observed:																
Combined damage class		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
0: not damaged																
I: slightly damaged																
II: moderately damaged																
III: severely damaged																
IV: dead																

FORM B_{1+2}

Health status of principal broadleaved species presented by defoliation and discolouration

BROADLEAVES

Regional unit:

CLASSIFICATION		Trees up to 60 years old							Trees 60 years and older							Total of all broadleaves
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9) = (3) to (8)	(10)	(11)	(12)	(13)	(14)	(15)	(16) = (10) to (15)	(17) = (9) + (16)
Species:							Others	Total						Others	Total	Total
Area of species:																
In % of forest area of regional unit:																100
No of trees observed:																

PERCENTAGE OF TREES DEFOLIATED

Defoliation class	Percentage of leaf loss	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
0: not defoliated	0 – 10 %															
1: slightly defoliated	11 – 25 %															
2: moderately defoliated	26 – 60 %															
3: severely defoliated	> 60 %															
4: dead																

PERCENTAGE OF TREES DISCOLOURED

Discolouration class	Percentage of leaf discolouration	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
0: not discoloured	0 – 10 %															
1: slightly discoloured	11 – 25 %															
2: moderately discoloured	26 – 60 %															
3: severely discoloured	> 60 %															

FORM B_3

Health status of principal broadleaved species on the basis of the combined assessments

BROADLEAVES

Regional unit:

CLASSIFICATION		PERCENTAGE OF TREES DAMAGED (DEFOLIATION AND DISCOLOURATION COMBINED)														
		Trees up to 60 years old							Trees 60 years and older							Total of all broad-leaves
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9) = (3) to (8)	(10)	(11)	(12)	(13)	(14)	(15)	(16) = (10) to (15)	(17) = (9) + (16)
Species:							Others	Total						Others	Total	Total
Area of species:																
In % of forest area of regional unit:																100
No of trees observed:																
Combined damage class		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
0: not damaged																
I: slightly damaged																
II: moderately damaged																
III: severely damaged																
IV: dead																