

APPENDIX 1: DATA SOURCES

Figure 2. Cameroon's Forest Types

Forest Types	Total Forest Area (square kilometers)	Percentage of Total Area	Protected Area (square kilometers)	Percentage of Total Protected Area
Mangrove	2,275	0.8%	44	0.2%
Swamp Forest	2,208	0.8%	0	0.0%
Upper Montane	3,188	1.1%	6	0.0%
Lowland Evergreen Broadleaf Rainforest	163,582	56.4%	11,354	63.6%
Deciduous and Semi-Deciduous Broadleaf Rainforest	31,111	10.7%	630	3.5%
Sparse Trees	24,163	8.3%	5,259	29.5%
Degraded	63,438	21.9%	560	3.1%
Total	289,965	100.0%	17,853	100.0%

Source: World Conservation Monitoring Centre, <http://www.wcmc.org.uk/forest/data>.

**Figure 3. Cameroon's Remaining Forest Cover from Various Sources
(in thousand hectares)**

	GFW 1992-1993 based on TREES data	Mayaux et al. 1992-93 TREES data	Laporte et al. 1992-93	WRI Historic Forest Cover	FAO 1980	FAO 1990	FAO 1995
Montane and Submontane	–	–	–	–	–	1,767	–
Mangrove	–	–	–	–	–	–	–
Other Closed Forest	17,915	17,378	17,385	–	–	18,499	–
Very Dry Forest	–	–	–	–	–	86	–
Degraded	4,879	–	6,477	–	–	–	–
Undetermined	–	–	–	37,400	21,573	–	19,582
Total	22,794	17,378	23,862	37,400	21,573	20,352	19,582
Total minus Dry	22,794	–	23,862	–	–	20,266	19,582

Sources: GFW based on Tropical Ecosystem Environment Observation by Satellite (TREES). “Tropical Forest Area Measurements.” Online at: <http://fellini.mtv.sai.jrc.it/trees/statistics> (January 27, 2000). See Appendix 2: *Technical Notes, for details*. CARPE, Laporte, Goetz, Justice, Heinicke, 1998, “A new land cover map of Central Africa derived from multiresolution multi temporal AVHRR data” in *International Journal of Remote Sensing* (19) #18, pp. 3537-3550; P. Mayaux, F. Archard, and J.P. Malingreau. 1998. “Global tropical forest area measurements derived from coarse resolution satellite imagery: a comparison with other approaches” in *Environmental Conservation* 25:37-52; World Resources Institute (WRI), *World Resources 1998-99* (Oxford University Press, NY, 1998); FAO 1990, Food and Agriculture Organization of the United Nations, Forest Resources Division, *Forest Resources Assessment 1990: Tropical Countries* (FAO, Rome 1993); FAO 1995, Food and Agriculture Organization of the United Nations, Forest Resources Division, *State of the World's Forests 1997* (FAO, Rome 1997). FAO undated, Food and Agriculture Organization of the United Nations, *Système Mondial de Surveillance Continue de l'Environnement*.

Notes: FAO 1980 and 1995, as well as historic forest cover refer to undetermined forest classes. GFW and Laporte forest cover refer to closed and degraded forests.

Mayaux forest cover refers to closed forests.

FAO 1990 forest cover refers to montane, submontane, closed and very dry forests.

Figure 4. Central African Countries' Log Exports as a Percentage of World Tropical Log Exports

	Volume Of Logs Exported (thousand cubic meters)						
	1992	1993	1994	1995	1996	1997	1998
Gabon	1,050	1,500	1,500	1,700	1,800	3,000	1,500
Cameroon	800	850	1,150	1,304	1,101	1,706	1,280
Republic of Congo	348	340	450	450	500	213	300
Democratic Republic of Congo	96	42	112	97	100	100	90
Central African Republic	–	–	84	73	42	127	100
Equatorial Guinea	133	156	216	267	406	510	510
World	–	–	18,351	–	–	17,685	–

Percentage of World Export

	1994	1997
Gabon	8.2	17.0
Cameroon	6.3	9.6
Republic of Congo	2.5	1.2
Equatorial Guinea	1.2	2.9
Democratic Republic of Congo	0.6	0.6
Central African Republic	0.5	0.7

Sources: International Tropical Timber Organization (ITTO), *Annual Review and Assessment of the World Timber Situation, 1998* (ITTO, 1999); Equatorial Guinea data from the Food and Agriculture Organization at <http://apps.fao.org>.

Figure 5. Cameroon's Industrial Roundwood Exports Value

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Industrial Roundwood Exports Value (Million US\$)	37	48	75	72	180	157	205	138	161	304	267	237	190

Source: Food and Agriculture Organization Statistical Databases. <http://apps.fao.org>.

Figure 6. Cameroon Industrial Roundwood Production and Export, by Volume 1961-98

	Industrial Roundwood Production Volume (thousand cubic meters)	Industrial Roundwood Exports Volume (thousand cubic meters)	Industrial Roundwood Exports Value (thousand US\$)
1961	758	165	5
1962	769	157	5
1963	799	207	6
1964	903	228	7
1965	917	218	8
1966	994	286	9
1967	1,003	279	11
1968	1,064	364	14
1969	1,069	426	14
1970	1,195	511	15
1971	1,276	546	17
1972	1,287	515	18
1973	1,365	703	46
1974	1,493	647	49
1975	1,507	472	31
1976	1,721	599	49
1977	1,915	397	33
1978	2,154	654	79
1979	2,194	843	101
1980	2,196	743	114
1981	2,300	444	56
1982	2,324	448	46
1983	2,411	391	34
1984	2,576	496	33
1985	2,765	746	64
1986	2,779	411	37
1987	2,803	442	48
1988	2,708	538	75
1989	2,872	457	72
1990	3,136	623	180
1991	3,085	771	157
1992	2,929	680	205
1993	2,936	792	138
1994	3,311	1,255	161
1995	3,588	1,236	304
1996	3,733	1,307	267
1997	3,255	1,706	237
1998	2,980	1,280	190

Sources: Food and Agriculture Organization Statistical Databases. <http://apps.fao.org>.

Figure 7. Major Regional Importers of Cameroonian Logs, 1996-97

Regions	Volume (cubic meters)
Africa	42,016
Asia	853,614
Americas	572
Europe	809,817

Source: Centre pour l'Environnement et le Développement. *Etat des Lieux du Secteur Forestier au Cameroun* – Données Statistiques à partir de données de la Société Générale de Surveillance, 1998.

Figure 9. Number of Species (Plant, Mammal, and Bird) per 10,000 km² Land Area

Species/10,000 km ²	Mammals	Birds	Plants	Total
Cameroon	83	193	2,237	2,513
Central African Republic	53	137	921	1,111
Republic of Congo	62	140	1,356	1,558
Democratic Republic of Congo	69	153	1,817	2,039
Gabon	64	157	2,197	2,418
Equatorial Guinea	131	194	2,135	2,460

Source: World Resources Institute (WRI), *World Resources 1998-99* (Oxford University Press, NY, 1998).

Figure 8. Most Common Timber Species Exported in 1997, by Log Volume

Species	Volume (cubic meters)
Ayous	385,000
Sapeli	88,000
Other*	808,000

* includes 78 species

Source: International Tropical Timber Organization (ITTO), *Annual Review and Assessment of the World Timber Situation 1998* (Yokohama: ITTO, 1998).

Figure 10. Fuelwood Production, 1980-98

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Production (thousand cubic meters)	7,376	7,589	7,808	8,033	8,265	8,503	8,747	8,997	9,254	9,517	9,787	10,054	10,339	10,630	10,929	11,235	11,547	11,867	12,192

Source: Food and Agriculture Organization Statistical Databases. <http://apps.fao.org>.

Figure 11. Area Harvested in 1994-1999

	Number of Assiette de Coupe	Number of Vente de Coupe	Area (hectares)
1994	246	171	1,042,500
1995	233	168	1,002,500
1996	298	173	1,177,500
1997	–	–	–
1998	153	130	713,436
1999	64	77	348,645

Sources: Richard Eba'a Atyi, *Cameroon's Logging Industry: Structure, Economic Importance and Effects of Devaluation*. CIFOR, paper 14, August 1998; GFW Cameroon based on information provided by SIGIF.

Figure 12. Largest Concession Holders, by Surface Area in 1998-99

Company	Concession Area (hectares) 1998-1999	Percentage Of Concession Area 1998-1999
Others	2,019,341	50%
Thanry	650,124	16%
Bollore	411,575	10%
Coron	211,760	5%
Alpi	203,512	5%
Hazim	157,013	4%
Rougier	132,192	3%
Decolvenaere	75,306	2%
Itallegno	69,359	2%
Vasto-Legne	62,597	2%
Pasquet	60,780	1%
Total	4,053,559	100%

Sources: GFW Cameroon based on data provided by SIGIF; Greenpeace International, *Buying Destruction*, (Amsterdam 1999); JC Carret (Personal communication, December 1999), Alain Karsenty (Personal communication, December 1999), Dominiek Plouvier (Personal communication, December 1999).

Figure 13. Survey of Violation Reports, East and Central Provinces, 1985-99

Year	Number of Violation Reports	Violation Reports Followed Through in the Judicial System	Violation Reports not Followed Through in the Judicial System	Percentage of Violation Reports not Followed Through in the Judicial System
1985-1986	106	78	29	27
1986-1987	100	59	41	41
1987-1988	93	38	55	59
1988-1989	129	71	60	47
1989-1990	106	42	64	60
1990-1991	71	28	43	61
1991-1992	64	7	57	89
1992-1993	26	1	25	96
1993-1994	20	–	–	–
1994-1995	27	–	–	–
1995-1996	15	–	–	–
1996-1997	7	–	–	–
1997-1998	24	–	–	–
1998-1999	15	–	–	–

Source: Field survey 1998-1999. Cameroon Environmental Watch, as commissioned by Global Forest Watch.

Figure 14. Types of Violations in the East Province, 1995-98

Type of Violation in the East Province	Number of Violations
Outside of Concession Boundaries	9
Within Concession Boundaries	24
During Transport or Sawing	12
Other	4
Total	49

Source: Field survey and analysis of data from the Délégation Provinciale de l'Environnement de l'Est, by Cameroon Environmental Watch, 1999, as commissioned by Global Forest Watch.

Figure 15. Types of Violations in the Central Province, 1995-98

Type of Violation in the Central Province	Number of Violations
Outside of Concession Boundaries	34
Within Concession Boundaries	24
During Transport or Sawing	3
Total	61

Source: Field survey and analysis of data from the Délégation Provinciale de l'Environnement du Centre, by Cameroon Environmental Watch, 1999, as commissioned by Global Forest Watch.

Figure 16. Number of Violations in the East Province, by Department, 1985-98

Department	Number of Violations	Percentage
Lom et Djérem	16	46%
Kadey	9	26%
Haut Nyong	7	20%
Boumba et Ngoko	3	9%
Total	35	100%

Source: Field survey and analysis of data from the Délégation Provinciale de l'Environnement de l'Est, by Cameroon Environmental Watch, 1999, as commissioned by Global Forest Watch

Figure 17. Number of Violations in the Central Province, by Department, 1995-98

Department	Number of Violations	Percentage
Lékié	158	20%
Nyong et So'o	121	15%
Nyong et Kéllé	110	14%
Mfoundi	107	13%
Nyong et Mfoumou	77	10%
Mefou et Akono	74	9%
Mbam	65	8%
Mefou et Afamba	46	6%
Haute Sanaga	25	3%
Autres	11	1%
Total	794	100%

Source: Field survey and analysis of data from the Délégation Provinciale de l'Environnement du Centre, by Cameroon Environmental Watch, 1999, as commissioned by Global Forest Watch.

Figure 18. Justification for Incomplete Judicial Follow-through of Violation Reports, 1995-98

Justification	Number of Violations Reports	Percentage
After intervention of an influential person	13	21
Irregularity in the administrative procedure	6	10
No justification	4	6
First-time offender	5	8
No proof	7	11
Cannot be held legally responsible	8	13
Other	20	32
Total	63	

Source: Cameroon Environmental Watch, 1999, as commissioned by Global Forest Watch.

Figure 19. Categories of Offenders, 1995-98

Number of Violations	1 Violation	2 Violations	3 Violations	More than 3 Violations	Total
Individuals	647	10	2	0	659
Companies	76	14	7	1	98
Other	11	0	0	0	11

Source: Cameroon Environmental Watch, 1999, as commissioned by Global Forest Watch.

Figure A. Concession Area per Agent

Provinces	East	South	Central	Littoral	South-West
Number of agents	116	115	232	167	163
Concession area (hectares)	2,419,601	759,949	640,803	51,160	5,000
Concession area per agent (hectares)	20,859	6,608	2,762	306	31

Source: Théophile Ndjodo, Présentation Succincte des Conditions de Travail et des Capacités Logistiques du Ministère de l'Environnement et des Forêts du Cameroun, (Unpublished)