

# **CHAPTER 1**

## **FLORA**

**Table 1.1 - Forest area by category, 1998 - 2007**

	Hectares									
Category	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
<b>State - owned</b>	<b>22,519</b>	<b>22,492</b>	<b>22,089</b>	<b>22,089</b>	<b>22,089</b>	<b>22,068</b>	<b>22,200</b>	<b>22,185</b>	<b>22,181</b>	<b>22,176</b>
Plantations	12,609	12,608	12,359	12,362	12,418	12,256	11,816	11,828	11,848	11,878
Nature reserves	799	799	799	799	799	799	799	799	799	799
<i>on mainland</i>	200	200	200	200	200	200	200	200	200	200
<i>islets</i>	599	599	599	599	599	599	599	599	599	599
National Park <sup>1</sup>	6,574	6,574	6,574	6,574	6,574	6,574	6,574	6,574	6,574	6,574
Islet National Park <sup>2</sup>	-	-	-	-	-	-	134	134	134	134
Bras D'Eau & Poste La Fayette Reserves <sup>3</sup>	-	-	-	-	-	-	472	472	472	472
<b>Vallee D'Osterlog Endemic Garden</b>	-	-	-	-	-	-	-	-	-	275
<b>Other Forest Lands</b>	<b>1,885</b>	<b>1,859</b>	<b>1,705</b>	<b>1,702</b>	<b>1,646</b>	<b>1,804</b>	<b>1,770</b>	<b>1,743</b>	<b>1,719</b>	<b>1,413</b>
Pas Geometriques	652	652	652	652	652	635	635	635	635	631
<i>Plantations</i>	224	225	224	230	243	226	226	226	226	222
<i>Leased for grazing and tree planting</i>	230	230	230	230	230	230	230	230	230	230
<i>Unplanted, protective or to be planted</i>	198	197	198	192	179	179	179	179	179	179
<b>Privately - owned lands</b>	<b>34,540</b>	<b>34,540</b>	<b>34,540</b>	<b>34,540</b>	<b>34,540</b>	<b>34,540</b>	<b>25,000</b>	<b>25,000</b>	<b>25,000</b>	<b>25,000</b>
Reserves	6,553	6,553	6,553	6,553	6,553	6,553	6,553	6,553	6,553	6,553
<i>Mountain reserves</i>	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800
<i>River reserves</i>	2,740	2,740	2,740	2,740	2,740	2,740	2,740	2,740	2,740	2,740
<i>Nature reserves</i>	13	13	13	13	13	13	13	13	13	13
Other <sup>4</sup>	27,987	27,987	27,987	27,987	27,987	27,987	18,447	18,447	18,447	18,447
<b>Total</b>	<b>57,059</b>	<b>57,032</b>	<b>56,629</b>	<b>56,629</b>	<b>56,629</b>	<b>56,608</b>	<b>47,200</b>	<b>47,185</b>	<b>47,181</b>	<b>47,176</b>

Source : Forestry Service, Ministry of Agro Industry and Fisheries

<sup>1</sup> Black River Gorges National Park was proclaimed in 1994 and data on the area enclosed by the boundaries of the park were not available until 1997.

<sup>2</sup> Islet National Park was proclaimed in 1994.

<sup>3</sup> Bras D'Eau & Poste La Fayette Reserves were proclaimed in 2002 and data of the area is included as from the year 2004..

<sup>4</sup> Includes Plantations, forest lands, scrub and grazing lands. Forest area was decreasing gradually. New estimates in private lands worked out in 2004.

**Table 1.2 - Changes in forest-land cover, 1998 and 2007**

	Area (hectares)		% of total land area	
	1998	2007	1998	2007
Forests lands :	57,059	47,181	30.6	25.3
of which				
Plantations	12,672	11,878	6.8	6.4
Nature reserves	799	799	0.4	0.4
National park	6,574	6,574	3.5	3.5
Unplantable, protective or to be planted	1,822	1,413	1.0	0.8
Pas Geometriques	652	631	0.3	0.3
Other <sup>1</sup>	34,540	25,886	18.5	13.9

<sup>1</sup> Privately owned forest lands including reserves, plantation , scrub and grazing lands.

**Table 1.3 - Local production, imports and consumption of timber, poles and fuelwood, 1998 - 2007**

	cubic metre (roundwood)									
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
<b>Local Production</b>	<b>22,392</b>	<b>25,694</b>	<b>18,977</b>	<b>16,945</b>	<b>15,910</b>	<b>14,007</b>	<b>13,973</b>	<b>12,098</b>	<b>14,532</b>	<b>13,952</b>
Timber	8,261	7,049	5,402	4,941	4,346	4,565	5,057	4,818	6,869	5,332
<i>State Lands</i>	7,489	5,549	4,742	4,401	3,796	3,730	4,587	4,628	6,067	4,874
<i>Private Lands</i> <sup>1</sup>	772	1,500	660	540	550	835	470	190	802	458
Poles	4,032	6,511	3,404	2,670	2,642	2,976	3,111	2,187	1,605	1,553
<i>State Lands</i>	2,232	3,147	2,516	1,580	1,612	1,911	2,356	1,677	1,060	1,022
<i>Private Lands</i> <sup>1</sup>	1,800	3,364	888	1,090	1,030	1,065	755	510	545	531
Fuelwood	10,099	12,134	10,171	9,334	8,922	6,466	5,805	5,093	6,058	7,067
<i>State Lands</i>	8,524	10,539	9,256	8,429	7,992	5,189	5,170	4,578	4,765	6,116
<i>Private Lands</i> <sup>1</sup>	1,575	1,595	915	905	930	1,277	635	515	1,293	951
<b>Imports of timber</b> <sup>2</sup>	<b>84,641</b>	<b>67,441</b>	<b>63,407</b>	<b>106,277</b>	<b>85,488</b>	<b>65,558</b>	<b>108,677</b>	<b>111,764</b>	<b>89,085</b>	<b>132,503</b>
<b>Total Consumption</b> <sup>3</sup>	<b>107,033</b>	<b>93,135</b>	<b>82,384</b>	<b>123,222</b>	<b>101,398</b>	<b>79,565</b>	<b>122,650</b>	<b>123,862</b>	<b>103,617</b>	<b>146,455</b>

Source : Forestry Service, Ministry of Agro Industry and Fisheries

<sup>1</sup> Estimates

<sup>2</sup> Roundwood equivalent

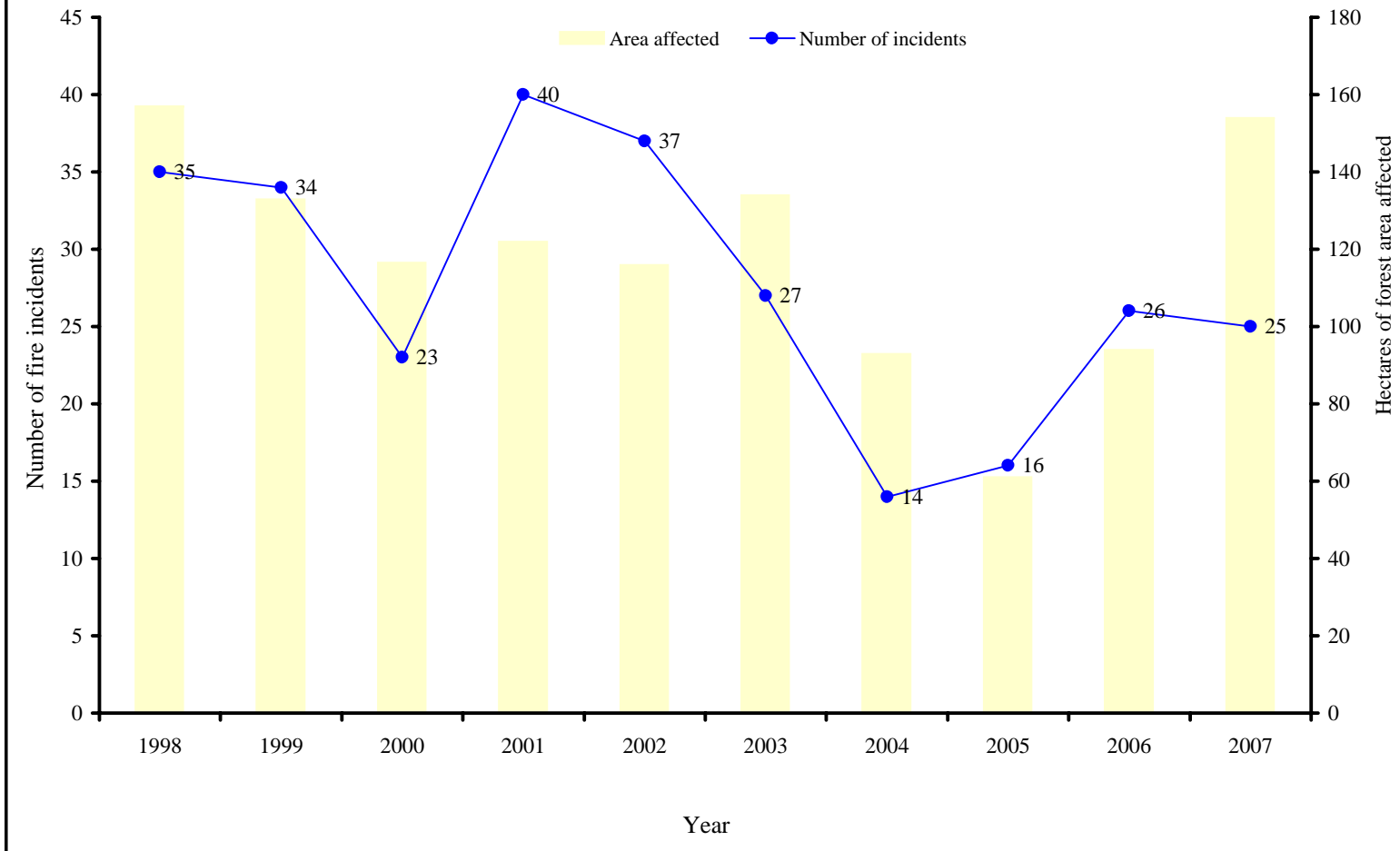
<sup>3</sup> Excludes plywood, paper and other wood products.

**Table 1.4 - Forest fires and area affected, 1998 - 2007**

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Number of incidents	35	34	23	40	37	27	14	16	26	25
Area affected ( Ha )	157	133	117	122	116	134	93	61	94	154
of which										
<i>Protected areas</i>	62	12	33	67	44	13	-	4	8	4
<i>Unprotected areas</i>	95	121	84	55	72	121	93	57	86	150

Source : Forestry Service, Ministry of Agro Industry and Fishries

**Fig.1 - Forest fires and area affected, 1998 - 2007**



**Table 1.5 - Silvicultural operations carried out in state forest land plantation, 1998 - 2007**

Type of operation	Hectares									
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Clearing for planting	120	182	79	34	84	56	97	107	54	56
Planting	145	155	117	133	151	110	110	92	80	50
Weeding	606	361	649	596	490	402	300	282	266	174
Recruiting	395	251	533	462	394	391	298	222	257	208
Staking	208	337	372	14	629	30	15	35	44	214
Cleaning	542	508	498	718	606	744	586	484	331	417
Pruning	18	24	39	50	33	89	46	49	26	5

Note: There may be overlapping of operations. For instance part of the area that is planted in a year could have been cleared in the same year.

Source : Forestry Service, Ministry of Agro Industry and Fisheries

**Table 1.6 - List of land protected areas, Republic of Mauritius, 2007**

Land protected areas	Area
<b>Black River Gorges National Park</b>	<b>6,574</b>
<b>Bras D'Eau &amp; Poste La Fayette Reserves</b>	<b>472</b>
<b>Vallee D'Osterlog Endemic Garden</b>	<b>275</b>
<b>Nature reserves (mainland)</b>	<b>225</b>
Pouce	69
Perrier	2
Bois Sec	6
Gouly Pere	11
Corps de Garde	90
Cabinet	18
Les Mares	5
Grande Montagne (Rodrigues)	14
Anse Quitar (Rodrigues)	10
<b>Islet National Park</b>	<b>134</b>
<b>Nature reserves (Islets)</b>	<b>621</b>
Gunner's Quoin	76
Iles aux Aigrettes	25
Iles aux Serpents	31
Flat Island	253
Round Island	169
Gabriel Island	42
Illot Marianne	2
Iles aux Cocos (Rodrigues)	15
Iles aux Sables (Rodrigues)	8
<b>Mountain Reserves (all privately owned)</b>	<b>3,800</b>
<b>River reserves (all privately owned)</b>	<b>2,740</b>
<b>Nature reserves (privately owned)</b>	<b>13</b>
Mondrain	5
Sir Emile Series	8
<b>Total</b>	<b>14,854</b>

Source : Forestry Service, Ministry of Agro Industry and Fisheries

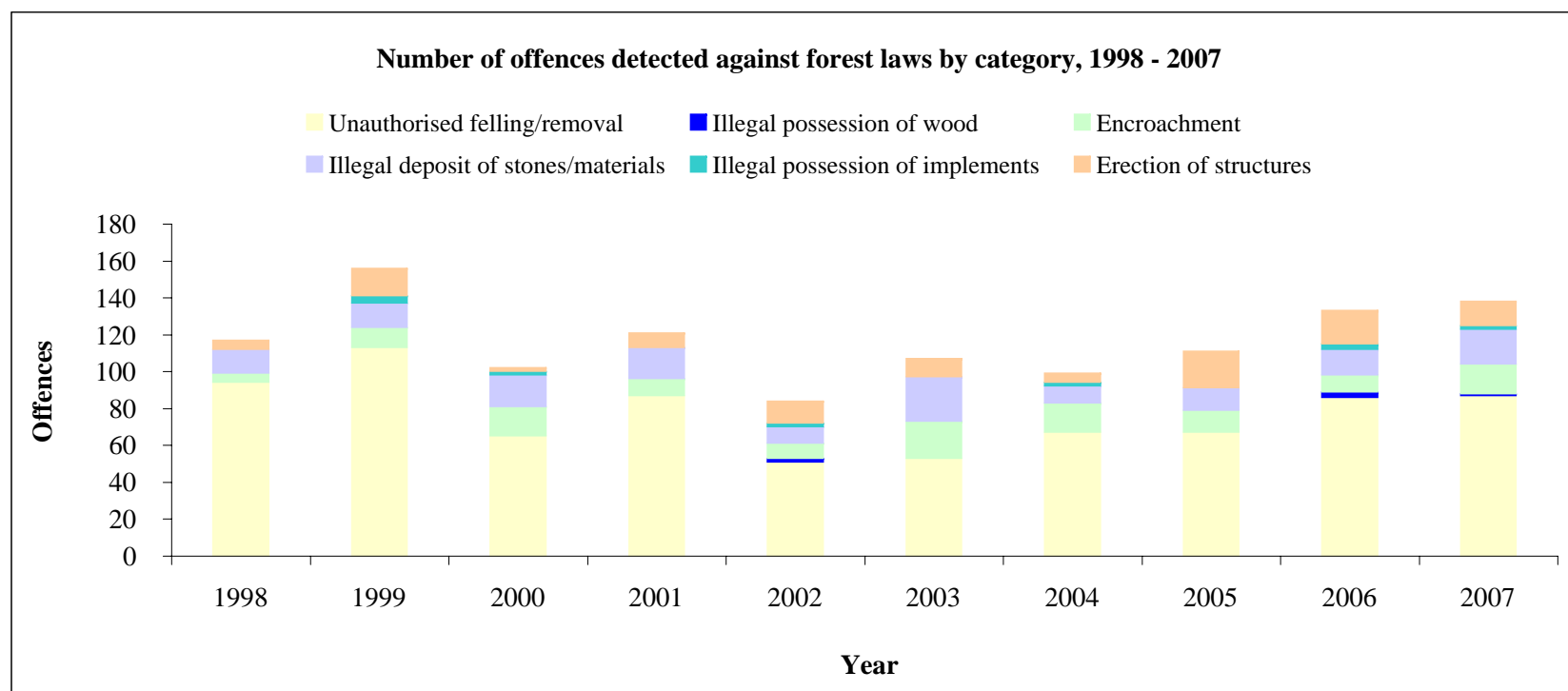
Note: The reserves constituted the state owned and privately-owned lands; under the state owned there were the "Reserves", "Nature Reserves (land)" and the Nature Reserves (islets); the rest were privately-owned.

**Table 1.7 - Number of offences detected against forest laws<sup>1</sup> by category, 1998 - 2007**

Category	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Unauthorised felling/removal	94	113	65	87	51	53	67	67	86	87
Illegal possession of wood	-	-	-	-	2	-	-	-	3	1
Encroachment	5	11	16	9	8	20	16	12	9	16
Illegal deposit of stones/materials	13	13	17	17	9	24	9	12	14	19
Illegal possession of implements	-	4	2	-	2	-	2	-	3	2
Erection of structures and others	5	15	2	8	12	10	5	20	18	13
<b>Total</b>	<b>117</b>	<b>156</b>	<b>102</b>	<b>121</b>	<b>84</b>	<b>107</b>	<b>99</b>	<b>111</b>	<b>133</b>	<b>138</b>

Source : Forestry Service, Ministry of Agro Industry and Fisheries

<sup>1</sup> include cases taken to court, treated departmentally, outstanding, and in which offenders were unknown.



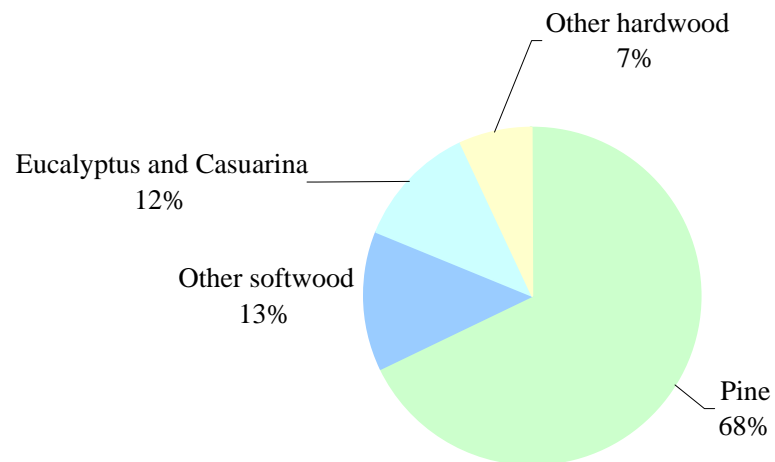
**Table 1.8 - Forest plantations <sup>1</sup> by type of plants, 1998 - 2007**

Type of plant	Hectares									
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Soft wood										
Pine	8,169	8,192	8,078	8,035	8,062	8,113	8,136	8,143	8,162	8,195
Other softwood	1,601	1,601	1,597	1,599	1,609	1,609	1,609	1,612	1,613	1,613
Hardwood										
Eucalyptus and Casuarina	2,039	2,015	1,884	1,906	1,919	1,921	1,450	1,450	1,450	1,443
Other hardwood	800	800	800	822	828	839	847	849	849	849
<b>Total</b>	<b>12,609</b>	<b>12,608</b>	<b>12,359</b>	<b>12,362</b>	<b>12,418</b>	<b>12,482</b>	<b>12,042</b>	<b>12,054</b>	<b>12,074</b>	<b>12,100</b>

Source : Forestry Service, Ministry of Agro Industry and Fisheries

<sup>1</sup> State land

**Fig. 3 - Percentage composition of forest plantations, 2007**



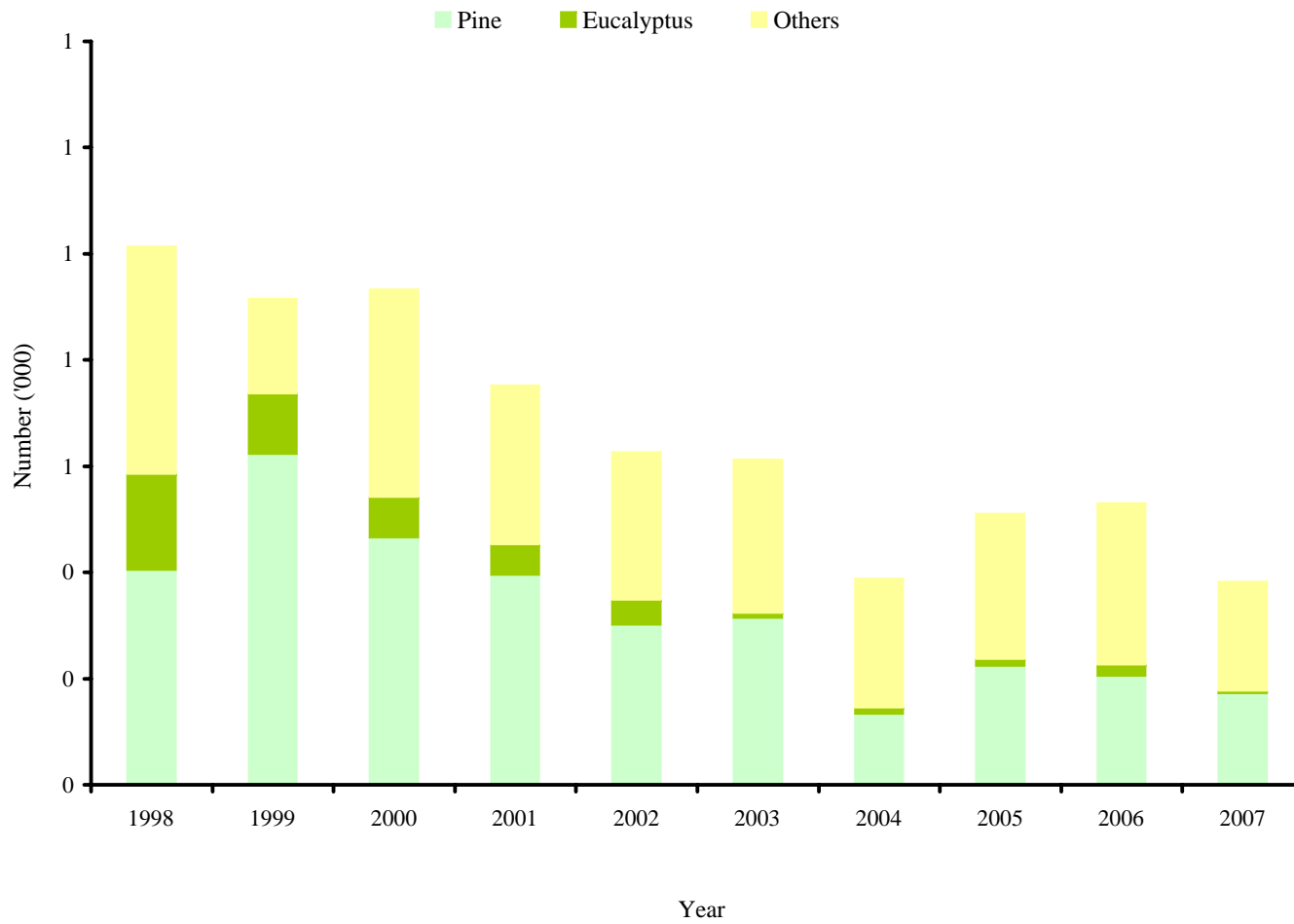
**Table 1.9 - Number of seedlings raised, by species, at the nurseries of the Forestry Service, 1998 - 2007**

Species	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Pine	404,306	622,154	465,060	393,768	300,119	313,293	133,162	222,975	203,594	170,840
Eucalyptus	180,444	113,500	75,510	57,871	47,018	10,000	11,400	12,535	20,950	5,000
Cryptomoria	4,471	15,455	3,285	4,100	14,531	6,265	14,722	8,820	455	1,382
Casuarina ( Filao )	162,900	25,585	36,842	45,519	23,198	32,650	6,449	-	5,091	6,000
Araucaria	34	1,485	52,601	22,347	47,961	19,291	5,098	1,026	20,578	22,780
Juniper	-	842	-	-	818	-	55	-	7	-
Other <sup>1</sup>	262,650	135,828	299,612	228,313	193,063	231,219	189,397	264,990	279,615	200,578
Total	1,014,805	914,849	932,910	751,918	626,708	612,718	360,283	510,346	530,290	406,580

Source : Forestry Service, Ministry of Agro Industry and Fisheries

<sup>1</sup> includes ornamentals and indigenous forest tree:

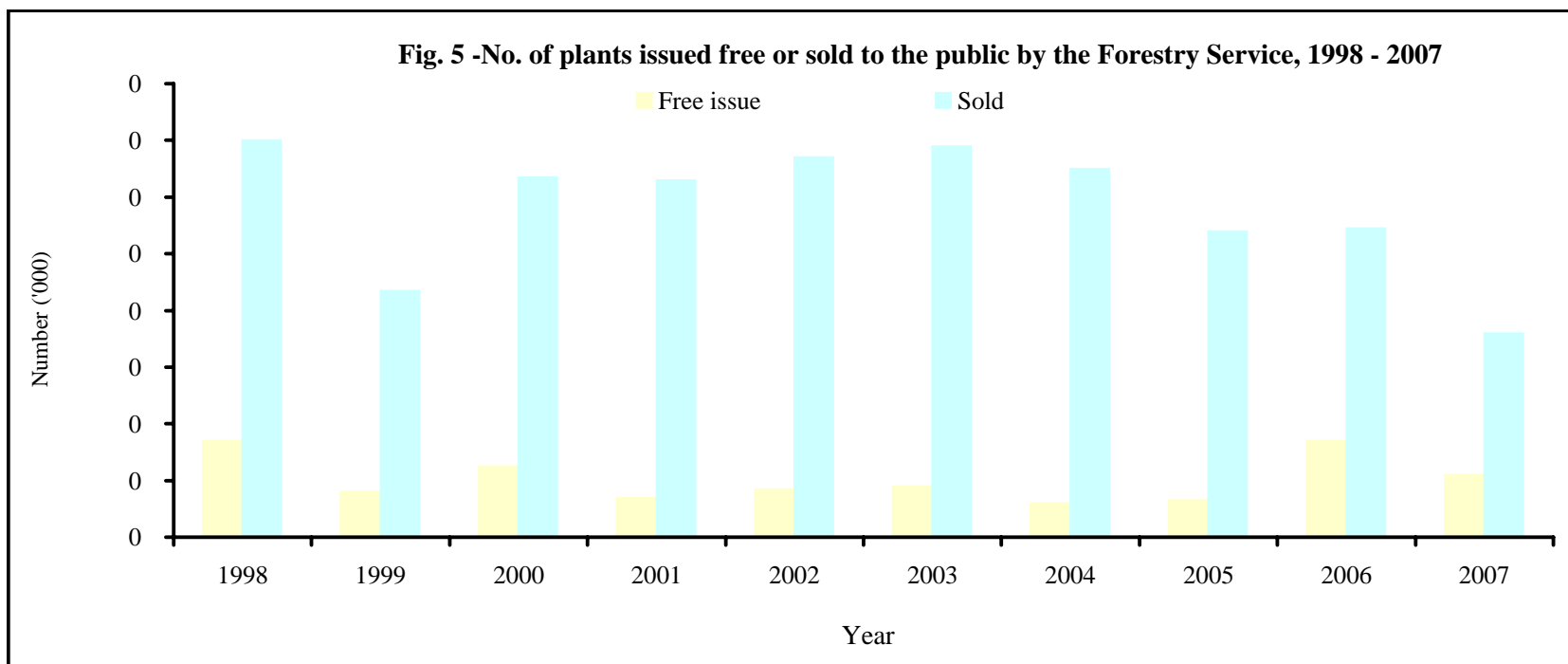
**Fig. 4 -Number of seedlings raised, by species, at the nurseries of the Forestry Service, 1998 - 2007**



**Table 1.10 - Number of plants issued free or sold to the public by the Forestry Service, 1998 - 2007**

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Free issue	34,018	15,869	24,754	14,384	16,523	18,181	11,820	13,888	34,476	22,292
Sold	139,912	86,790	126,681	125,823	134,393	138,320	129,768	107,573	108,933	71,779

Source : Forestry Service, Ministry of Agro Industry and Fisheries



**Table 1.11 - Revenue and expenditure<sup>1</sup> of the Forestry Service, 1998 - 2007**

Rupees thousand

Revenue item	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Sales of forest produce	6,557	8,172	8,172	6,879	7,159	7,494	8,216	8,093	9,122	9,309
Shooting and fishing rights (Rental)	1,085	1,056	1,056	1,955	2,153	3,157	3,357	5,087	4,924	5,428
Registration Fees	-	-	-	-	-	-	-	-	-	1,374
Horticulture Lease	-	-	-	-	-	-	-	-	-	24
Miscellaneous (Wood exploitation licence)	198	246	246	210	207	212	213	213	219	198
<b>Total revenue</b>	<b>7,840</b>	<b>9,483</b>	<b>9,474</b>	<b>9,044</b>	<b>9,519</b>	<b>10,863</b>	<b>11,786</b>	<b>13,393</b>	<b>14,265</b>	<b>16,333</b>
<b>Total expenditure</b>	<b>107,365</b>	<b>115,201</b>	<b>115,201</b>	<b>125,460</b>	<b>128,419</b>	<b>137,738</b>	<b>147,595</b>	<b>148,221</b>	<b>152,851</b>	<b>146,985</b>

Source : Forestry Service, Ministry of Agro Industry and Fisheries

<sup>1</sup> Total expenditure including both recurrent and capital expenditures.

**Table 1.12 - Selling rates of timber by type, class <sup>1</sup> and category <sup>2</sup>, 1998 - 2007**

Item	Rupees per cubic metre									
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Standing timber (basic royalty)										
Class I	1,430	1,640	1,640	1,640	1,810	1,810	1,960	1,960	2,160	2,160
Class II	880	1,010	1,010	1,010	1,110	1,110	1,200	1,200	1,320	1,320
Class III										
<i>Category I</i>	690	800	800	800	880	880	950	950	1,050	1,050
<i>Category II</i>	550	650	650	650	715	715	770	770	850	850
Class IV	250	300	300	300	330	330	360	360	400	400
Sound logs at roadside (basic royalty+labour)										
Class I	2,090	2,400	2,400	2,400	2,640	2,640	2,850	2,850	3,140	3,140
Class II	1,540	1,770	1,770	1,770	1,950	1,950	2,110	2,110	2,320	2,320
Class III										
<i>Category I</i>	1,430	1,640	1,640	1,640	1,810	1,810	1,960	1,960	2,160	2,160
<i>Category II</i>	1,210	1,390	1,390	1,390	1,530	1,530	1,650	1,650	1,820	1,820
Class IV	940	1,080	1,080	1,080	1,190	1,190	1,290	1,290	1,420	1,420
Sound logs at Curepipe timber store ( basic royalty+labour+transport)										
Class I	3,080	3,540	3,540	3,540	3,900	3,900	4,210	4,210	4,630	4,630
Class II	2,530	2,910	2,910	2,910	3,200	3,200	3,460	3,460	3,810	3,810
Class III										
<i>Category I</i>	2,200	2,530	2,530	2,530	2,780	2,780	3,000	3,000	3,300	3,300
<i>Category II</i>	1,760	2,020	2,020	2,020	2,220	2,220	2,400	2,400	2,640	2,640
Class IV	1,540	1,770	1,770	1,770	1,950	1,950	2,110	2,110	2,320	2,320

Source : Forestry Service, Ministry of Agro Industry and Fisheries

<sup>1</sup> Quality of wood, in decreasing order from Class I to Class IV. <sup>2</sup> Category I - timber of 24 cm diameter and above ; Category II - timber of 18 cm to less than 24 cm diameter.

**Table 1.13 - Private households using wood and charcoal for cooking, 1990 and 2000 Housing and Population Censuses, Republic of Mauritius**

	1990		2000	
	Wood	Charcoal	Wood	Charcoal
Island of Mauritius	55,659	2,577	11,412	521
Urban	7,436	2,093	1,273	349
Rural	48,223	484	10,139	172
Island of Rodrigues	4,011	10	1,509	17
Agalega	...	...	2	-
Republic of Mauritius	59,670	2,587	12,923	538
(% of households)	(25.2)	(1.1)	(4.3)	(0.2)