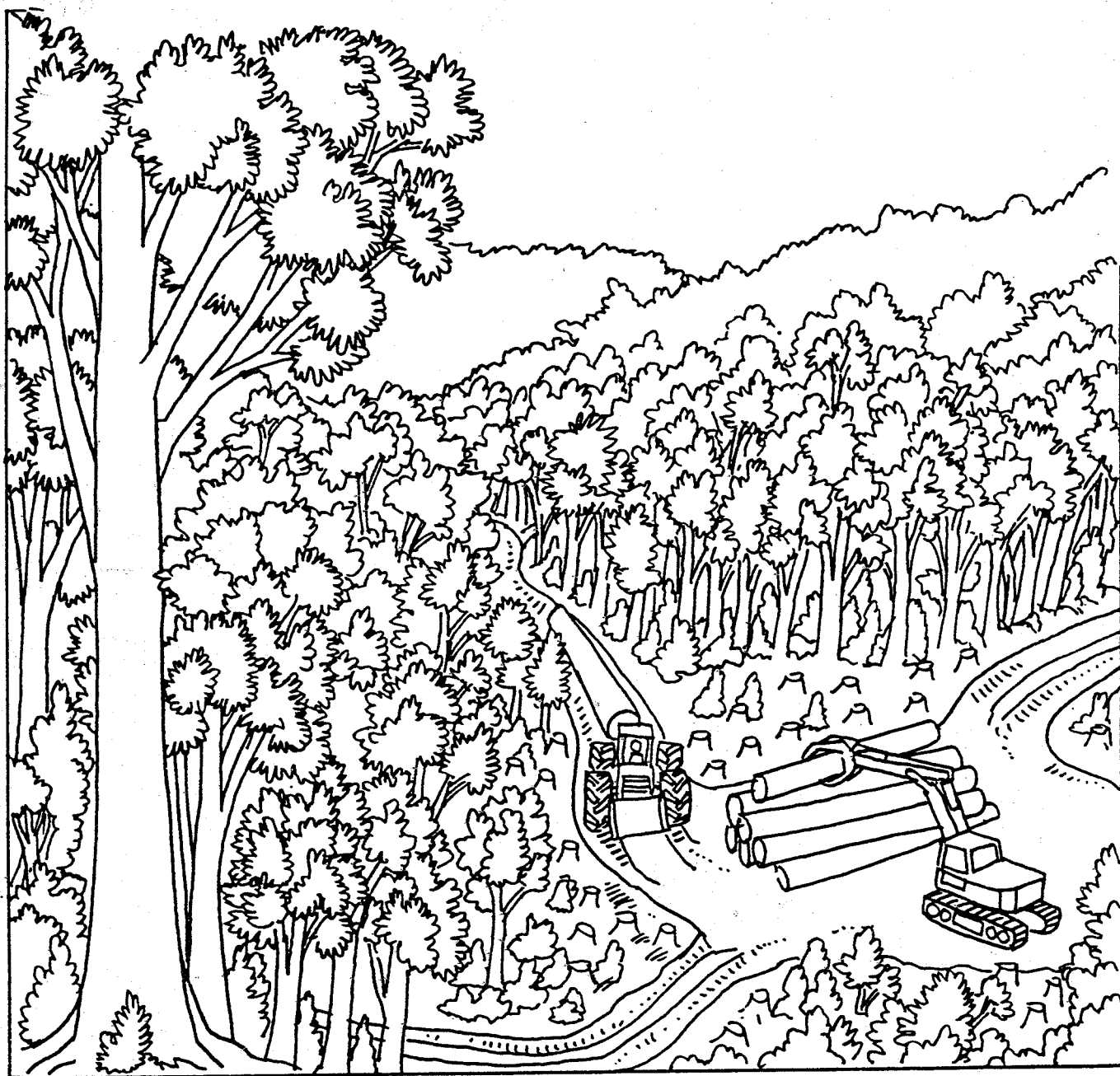


FOREST PRACTICES UNIT



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Introduction

The forest industry is a vital part of the Tasmanian economy. Approximately one in seven Tasmanians depend on it for a living.

Forest activities, like farming or tourism, have an impact on the environment.

The purpose of the Forest Practices Legislation is to ensure that this impact is environmentally and socially acceptable at an operational level and to ensure or encourage the proper reforestation of harvested or previously cleared areas on State Forest and private property.

The Forest Practices Act is but one facet of the total management of Crown forests. Over a quarter of Tasmania is already reserved in one form or another including large areas of forest on Crown lands. These areas include many representative plant and animal communities. Mechanisms exist for additional reservations in Crown production forests where such communities are under represented elsewhere. In addition the Forest Practices Code provides for management by prescription and for additional reservation of rare and endangered species when commercial timber harvesting takes place on forested private property.

The Act is based on the reasonable assumptions that with a soundly based publicly reviewable code of practices, a commitment by all sections of the industry to implement such a Code, proper training and education and a cost effective enforcement mechanism, most forest values and benefits are renewable and can be maintained in production forests in the long run. Other benefits can be maintained in the reserve system.

The Forestry Commission is charged with the implementation of the Act on private property and State Forest. The Forest Practices Unit of the Commission deals with the forest practices aspects of the legislation.

The main relevant aspects of the legislation provide for:

- A periodically reviewed Forest Practices Code.
- Timber Harvesting Plans, required for most commercial timber harvesting operations on private property and State forest (including roading, logging and reforestation where applicable). Its provisions must follow the Code.
- Three Year Plans showing location and transport routes of private property operations.
- Forest Practices Officers to administer the process.
- Enforcement provisions for making good unacceptable damage or for court action in case of repeated major breaches.
- A Forest Practices Tribunal.

This review focuses on achievements and problems encountered during the year in implementing the legislation and provides relevant statistics. It is also required for reporting to the Private Forestry Council, the Department of Primary Industry & Energy (Canberra) and the Forestry Commission.

Steady progress has been made. Some problems identified previously have been resolved. If the transfer of production forests to other uses continues more pressure will be put on the remaining forests where timber harvesting is permitted.

Bert Witte
Chief Forest Practices Officer
December 1992

Highlights of the year

Review of the Forest Practices Code

- The review of the Forest Practices Code continued and the consultation process has reached the final stages. An amended code will be issued in 1992-93.
- The National Parks and Wildlife Act 1970 was amended to provide for the protection of rare and endangered species when commercial timber harvesting takes place on forested private land.

Monitoring

- A major survey monitoring the application of forest practices was again completed by three senior technical staff covering a random sample of about 15 per cent of all commercial timber harvesting operations on Crown and private land.

Independent Private Property Operation

- The Forest and Forest Industry Council funded and appointed a Forest Practices Officer to the Country Sawmillers Federation for one year. It also approved the funding of an additional two Forest Practices Officers (in the South and North West) to deal with forest practices on private property. These will be appointed in 1992-93.

Timber Harvesting Plans

- Some 732 Timber Harvesting Plans were approved this year by Forest Practices Officers relating to commercial timber harvesting operations and reforestation on private property and State forest, an increase of some 21 per cent over 1991-92. Timber Harvesting Plan approval by consulting Forest Practices Officers increased 15 fold.

Forest Practices Specialists (Fauna, Flora, Archaeology, Geomorphology, Soils)

- A soil scientist, Mr M. Laffan, was appointed to the Forest Practices Unit. He has been seconded and will be funded by the Forest and Forest Industry Council for one year, largely to deal with proposed cable logging areas.
- Some 50 per cent of specialists' time has been spent on forest practices related research or on the supervision of such research. Part of this research is funded by the Tasmanian Forest Research Council and supervised by the Division of Silvicultural Research and Development. Additionally, a number of forest practices related research projects have been funded by the National Estate Grants Programme, the National Soil Conservation Programme and the Australian National Parks and Wildlife Service. Such research is generally directed towards testing or improving the effectiveness of Forest Practices Code provisions and increasing or improving the data base for special values so that better decisions can be made.

Manuals

- 'Fauna Conservation in Production Forest in Tasmania' (Dr R. Taylor) was printed. The Forest Soil Manual is nearing completion and a booklet concerning archaeology in State forests was produced during the year.

Steep Country Logging

- A panel of scientists and other persons under the Chairmanship of Dr J. Madden presented a report on steep country logging to the Forest Industry Council and the Minister for Forests early in the year. It included recommendations for inclusion in an amended Forest Practices Code. Virtually all were adopted.

Summary of Main Aspects Requiring Attention

- ***Implementation of the Forest Practices Act/Code***

Implementation is below reasonable standards on many private property operations which do not supply pulpwood to the major pulpwood companies or are not supervised by staff of major companies.

- The temporary appointment of Forest Practices Officers to deal with this issue will help but longer firm arrangements will need to be put into effect.

Minor breaches also still occur too frequently on State forest and other private property operations.

- A concerted effort is required to improve drainage and restoration of landings and snig tracks on all land tenures (see Section 9.2).

- ***Enforcement***

The difficulty, delays and costs of dealing with major breaches of the Forest Practices Act through the court system remain. How to effectively deal with repeated minor breaches by some contractors or operators also remains a problem. The suggested introduction of additional training and registration of operators and contractors and a demerit point system along Victorian lines as an effective alternative or addition has received a mixed reaction from industry, the main doubt being the effectiveness of such a system on private property.

- ***Private Landowners Responsibilities***

Some non-industrial forest owners still actively encourage the clearing of stream side reserves after logging. The need for a complimentary agricultural code of practices remains.

- ***Local Government - Planning Schemes***

There is still no uniformity in the restrictions imposed on forest activities in some recent local government planning schemes. Rather than use the Forest Practices Code (amended if need be) as the basis for forest activities many municipalities appear to draw up their own provisions, often varying considerably between adjoining municipalities. This is likely to cause considerable confusion to contractors and the public alike. The policies proposed by at least one municipality could potentially close down much of the forest industry in this state if implemented state wide.

- ***Requirement for Timber Harvesting Plans (THPs)***

- Whether a THP is required or not depends at present on how much the receiver of the timber processes each year in his mill. It might be better to base the requirement for THPs on actual volume cut in the bush in a particular operation with a lower limit below which THPs are not required or can be dealt with in a simplified way.
- Extending THP requirements to include all timber harvested in log form (e.g. commercial firewood operators not presently covered by the Forest Practices Act).

- ***Act Amendments***

- Discussions have been held with various organisations and some progress made towards amending the Forest Practices Act 1985, particularly in relation to land owners responsibilities, enforcement procedures and when Timber Harvesting Plans should be required.

- ***Regeneration - Reforestation***

There have no follow up surveys of the effectiveness of reforestation on independent private lands listed on the THP to be reforested after harvesting.

Annual Review 1991-92: details

1. Forest Practices Legislation

- There were no amendments made to the Forest Practices Act 1985, nor were any regulations proclaimed thereunder during the financial year.
- Some aspects of the Act and regulations are still under review. They include:
 - Providing for shared and increased land owner responsibility for the implementation of forest practices on his/her own land. (Private property owners have little responsibility in this regard at present).
 - Timber Harvesting Plan requirements to relate to actual volume cut (rather than on what is processed by the receiver of the timber as in the case at present).
 - Changing present provisions relating to rules of evidence and proof of major breaches of the Act.
 - Registration of bush operators to be subject to basic training in or knowledge of the Forest Practices Code.
 - Extending THP requirements to include all timber harvested in log form (e.g. commercial firewood contractors are exempt at present).
 - Three year plan process.

2. Private Timber Reserves

Dealt with by the Private Forestry Division.

3. Timber Harvesting Plans

3.1 General

- The Act requires that, with minor exceptions, all commercial timber harvesting operations on private property and Crown land be subject to approved Timber Harvesting Plans. The provisions in the THP must be in accordance with the Forest Practices Code. The plan is signed by the main parties involved. This provides an opportunity for all the parties to know what is required before operations start. Harvesting includes roading, logging and reforestation where applicable.
- There is concern among FPOs that because of continued staff reductions and the transfer of some forest practices responsibilities from the larger processors to contractors insufficient time is available for proper THP preparation, approval and supervision.
- A process for monitoring the implementation of special values is being included.
- The THP format will be reviewed when the amended Forest Practices Code is introduced.

3.2 Statistics

THPs approved 1991-92

	Roads Only	Hardwood PP CL, SF	Softwoods PP CL, SF	Total	%	90-91 %
By industry FPOs	35	214 28	18 -	295	40	41
By FC FPOs	27	70 161	14 54	326	45	56
By Consulting FPOs	1	110 -	- -	111	15	3
TOTAL	63	394 189	32 54	732	100	100
Percent	9	54 26	4 7	100		
(Percent 90-91)	9	39 35	7 10	100		

**Percentage of Operations by Harvesting Method,
Future Land use and Tenure (Native forests only)**

Future land use	Native Forest Clearfelling followed by				Non- clearfelling in native forest(1)	Total
	Sown NF regeneration	Plantation eucalypt	pine	Clearing for agriculture		
Crown lands	35%	10%	4%	-	51%	100%
Private Property	17%	17%	1%	20%	45%	100%

(1) regrowth retention, shelterwood, selective logging etc

PP=private property. SF=State forest. CL=Crown land.
NF-native forest

3.3 Matters requiring attention

- Presentation of THPs is generally fair to good for plans prepared by forestry consultants, Forestry Commission or industry staff. More precision is still required in the wording.
- THP boundaries need to be clearly marked on the THP map and areas to be reserved from logging included within the THP boundary.
- Contractors have a responsibility to ensure their employees know the forest practices requirements of a particular operation. This responsibility is not always honoured.
- Contractors should ensure that a copy of the THP is on the job at all times.
- Some municipalities continue to raise concerns about the lack of consultation for operations they perceive to be important. More emphasis is still required on local government consultation before THPs are approved.

3.4 Approval and Inspection

- **State Forest**

On State forest, Forestry Commission Forest Practices Officers approve THPs and inspect THP operations. On the whole, basic THP and Forest Practices Code requirements are reasonably well adhered to although further improvements are still needed in some areas and problem areas still exist (see Section 9.2 on Forest Practices Code Monitoring).

Minor breaches still occur too often particularly with some contractors with large quotas.

- **Industrial freehold**

The comment above applies to industrial freehold or private property operators supplying pulpwood to the major companies with Forest Practices Officers on their staff as well. These companies accept responsibility for approving THPs and inspecting operations; commitment varies between companies and individuals.

- **Independent operations**

While there has been a steady improvement, a number of operations, particularly those conducted by inexperienced contractor/land owners, do not measure up to reasonable forest practices requirements. The areas affected by these operations are probably less than five per cent of the total State cut but they appear to have a disproportionate adverse effect as they generally occur on private blocks within the more settled areas of the State (see Section 9.3).

4. Three Year Plans

The Forest Practices Act 1985 provides for the production of three year plans for private property operations showing their location and the carting routes for the timber produced. Such plans are to be produced by companies harvesting or causing to be harvested more than 100 000t in the preceding year. Hence, all operations from which pulpwood is supplied to these companies should appear on a three year plan. Plans are required to be sent to relevant local government authorities.

- The three year plan process needs to be re-evaluated. The plans are costly to produce. The smaller independent operators are not included in the plans yet appear to present local government with the bulk of perceived problems (e.g. access to council roads). Local government has generally made little use of the plans. A change to the Act may be required.

5. Forest Practices Code

5.1 Review

- A draft amended Code was issued in November 1991 after wide consultation, including the Private Forestry Council.
- A public comment period of three months (December 1991, January and February 1992) was provided for.
- The draft amended Code addressed the issues raised by the Forest and Forest Industry Council, particularly steep slope protection. Most of the recommendations of the report produced by a working group under the chairmanship of Dr J. Madden were included in the Code, with these provisions to be reviewed in two years time (see Section 5.3).
- Some 40 submissions were received and relevant adjustments made.
- The amended Code will be issued in 1992-93 after further consultation.

5.2 Implementation - Monitoring

- A pre-Code survey of logging operations mainly on State forest was carried out before the Code came into effect.
- Follow up surveys have been carried out annually by Forestry Commission Senior Technical Foresters seconded from the three regions and covering Crown and private forests. Their services are greatly appreciated.
- See Section 9.2 for details.

5.3 Main Issues

- Steep Country Logging

Cable logging featured prominently in the media. A Technical Working Group under the chairmanship of Dr. J. Madden of the University of Tasmania was set up by the Minister for Forests. A report was largely finalised in 1990-91 but presented to the Minister in August 1991.

The main findings of the Group were:

- There is no evidence to indicate that, responsibility used, cable logging is not a viable option.
- Because of its potential low soil impact, cable logging should be preferred over logging with ground based equipment in many situations.
- While some minor landslips occurred, there was no evidence of broad scale erosion produced, although the potential exists.
- Logging across streamside reserves had generally not been successful.
- Rapid regeneration or ground cover is required. This was not always the case.
- Cable logging is basically a clear felling system. It is costly if partial logging is essential for regeneration.
- Visual impact needs to be considered carefully and the Forestry Commission visual management system applied.
- The flora and fauna provisions in the Code for wildlife priority areas, wildlife habitat strips coupled to dispersed logging smaller coupes, streamside reserve retention etc plus the Recommended Areas for Protection (RAPs), other reserves and the large areas reserved in National Parks and the like (over a quarter of Tasmania) should provide reasonable maintenance of biodiversity in this State.

The main recommendations were:

- The appointment of a soil scientist to the Forest Practices Unit.
- The appointment of an independent Soils Advisory Group consisting of soil scientists from the University of Tasmania, CSIRO, Department of Primary Industry, Department of the Environment and Resources and the Forestry Commission and others.
- Adoption of interim slope limits for inclusion in the Forest Practices Code and any logging above these limits to be subject to soil expert inspections.
- Additional research.

The recommendations were adopted by the Forests and Forest Industry Council, the Forestry Commission and the Minister for Forests. Relevant recommendations will be included in the amended Forest Practices Code.

- **Poor regeneration** in some of the more marginal non-industrial private property areas being logged or lack of subsequent protection of young regeneration against grazing or fires by some non-industrial landowners.
- Increased funding required for **maintenance of established road networks** (cleaning of culverts, table drains, etc). Failure to maintain these road networks properly may cause blockages and consequent erosion problems.
- Most of the forest industry still has a holiday shut down in the driest part of the year. Stockpiling to any extent is the exception rather than the rule. **Suitable wet weather areas** are becoming scarcer and the loss of State forest to other land tenures has reduced the alternatives available.
- Applying the **visual management system** to private property and particularly to smaller private property blocks is difficult. Many landowners have different views on landscape management than the general community or neighbours. Where reforestation is to take place, many private landowners consider logging as a temporary change in the landscape, similar to agricultural cropping.
- Lack of basic a **code of agricultural practices** similar to the Forest Practices Code to ensure protection of streamside reserves after completion of timber harvesting operations.

6. Forest Practices Tribunal

- There were no appeals to the Tribunal in 1991-92.

7. Staff

7.1 Forest Practices Officers

	As at 30.6.91 ^{*1}	Left/ Retired during year	Changed Inspecting to Planning	New Appointments	As at 30.6.92	%
FPO(Planning)						
- Industry	28	-	-	-	28	38
- Independent Consultants	4	-	-	-	4	5
- FC	41	-	+2	-	43	57
	73	-	+2	-	75	100
FPO (Inspecting)						
- Industry	30	-	-	-	30	49
- Independent Consultants	-	-	-	-	-	-
- FC	33	-	-2	-	31	51
	63	-	-2	-	61	100
TOTAL	136	-	0	-	136	

^{*1} Corrected figures from 1990-91

7.2 Forest Practices Unit Staff

as at 31-6-91

Bert Witte	B.Sc.(For), Dip.For.	Chief Forest Practices Officer
Paul Wilkinson	B.Nat.Res.	Environmental Officer
Sheryl Wolfe		Clerk/Typist, Registrar for the Forest Practices Tribunal
Kevin Kiernan	Ph.D. Geomorphology	Geomorphologist
Fred Duncan	B.Sc.	Botanist
Anne McConnell	B.Sc.(Geology, Anthropology) M.Sc.(Geology)	Archaeologist
Robert Taylor	Ph.D. Zoology	Zoologist
Mike Laffan	M.Agr.Sc.	Soil Scientist
Rolan Eberhard	B.A.	Technical Officer (temporary, geomorphology)

Senior Technical Forester, Bill Manning, was seconded from the NE region to the Forest Practices Unit for another year. Senior Technical Forester, Gary Richardson, was seconded to the Tasmanian Forest Industry Council for one year (Country Sawmillers Federation). Mike Laffan was also seconded to the Tasmanian Forest Industry Council for one year.

8. Forest Practices Training, Education

8.1 Forest Practices Officer

The prerequisite qualifications are: **Forest Practices Officer (Planning)** - a degree in forestry or equivalent academic qualifications or demonstrated personal expertise together with at least five years practical field forestry in planning and supervision of operations. **Forest Practice Officers (Inspecting)** - a tertiary qualification or equivalent technical expertise and at least five years experience in supervising forest operations. In addition, staff nominated for FPO's attend a training course consisting of a number of formal teaching sessions, field trips and practical exercises in various parts of the State.

- Training courses for some 25 FPO's were started during the year. Appointment will be made in 1992-93.
- Additional training sessions have been organised by the Forest Practices Specialists.

8.2 Other Forestry Commission and Company Staff

- In house training has been done by most Commission districts and major companies.

8.3 Contractors

- Training of company contractors is a responsibility of the companies concerned. Intensity of training has varied between companies.

8.4 Operators

Training of forest operators appears to remain a weak link in improving forest practices.

- Department of Labour and Industry registration of operators is a legal requirement. Forest practices training and competency could be tied to this registration as is already the case for safety and operational competence.
- Hollybank Inc. have developed a short operators forest practices training course but it appears industry has made little use of this course to date.
- The actual or proposed appointment by the Tasmanian Forest Industry Council of three FPO's for one year should help in training of operators on independent operations, but a longer term solution still needs to be found.

- Some Forestry Commission districts run open forest practices field days to which company staff, contractors and operators are invited.
- See also 10.2

9. Monitoring and Enforcement

9.1 Field Visits by Chief Forest Practices Officer, Environmental Officer

- During the year a considerable number of requests were received for interpretation of advice on the Code.

1990-91 Forest Practices Visits

State Forest	Native Forest	Plantation	Total
Smithton District	2		2
Burnie District	1	1	2
Devonport District	1	1	2
Launceston/Deloraine District	2	2	
Scottsdale District	1	1	2
Fingal District	1	1	2
Triabunna District	1	1	
Geeveston District	2	2	
Queenstown District	1	1	
Norfolk District	2	1	3
TOTAL SF	14	5	19
Private Property	Native Forest	Plantation	Total
<i>Major Company Operations:</i>			
ANM	1	1	2
TPFH	1		1
APPM (Tamar)	3		3
Forest Resources	2		2
APPM (Burnie)	1		1
TOTAL	8	1	9
<i>Independent Operations:</i>			
Norfolk	1		1
Deloraine/Launceston	3		3
Geeveston	1		1
Burnie	2		2
Fingal	1		1
Smithton	3		3
TOTAL PP	11		11
GRAND TOTAL	33	6	39

Some 200 visits were also made to independent operations by B. Manning and G. Richardson.

9.2 Monitoring of Standards

- In 1984 a survey of the implementation of the then Forestry Commission environmental guidelines on State forest was carried out.
- Following the introduction of the Forest Practices Code in late 1987 annual surveys have been carried out since 1988-89.
- These surveys have covered a random sample of approximately 15 per cent of the timber harvesting operations taking place on private property and State forest.
- The 1991-92 survey was carried out by Senior Technical Foresters J. Cunningham, G. Richardson, G. Siely and R. Smith, all seconded from Forestry Commission field administration staff. Their efforts have been greatly appreciated.
- Results from the surveys have become important in improving forest practices as:
 - Both good examples and problem areas shown up in operations visited are discussed in detail with the relevant district staff and/or companies to effect future improvements.
 - A questionnaire for each operation provides a basis to measure progress in implementation of the Forest Practices Code in subsequent years.
 - Some of the key questions are shown below and are plotted in Tables 1 and 2.

Key Survey Questions

Road Construction

- 7 1. Is drainage diverted 50m before stream crossing?
11 2. Is culvert size and spacing correct?

Harvesting

- 20 3. 15 years between aggregates?
21 4. One year between coupes?

Snig Tracks

- 24 5. Are stream crossing minimised?
25 6. Were temporary log crossings used?
34 7. Have snig tracks been drained?
32 8. Is grip spacing as per Code/THP?
37 9. Is grip spacing adequate (no erosion)?

Landings

- 40 10. Are landings on elevated areas?
41 11. Are landings >40m from streamside reserves?
44 12. Do snig tracks approach landings from below?
50 52 13. Minimal rutting and erosion of landings?
53 14. Have landings been drained?
54 15. Has water flowing towards landings been diverted?
50 16. Has rubbish been removed?

Streamside Reserves

17. Is retained vegetation intact?
 18. Has equipment been excluded from streamside reserves?
 19. No evidence of sediment in streams?

Note: Question 3 (dispersal) is not really applicable to many private property operations and has not been plotted for private property in Figure 2.

Conclusions:

- Forest Practices have improved considerably over the sampling period (Figure 1).
- Little or no improvement occurred in 1991-92 compared to previous year (Figure 1). Results have plateaued out.
- Application of the Code is still quite variable. While many aspects are starting to reach acceptable levels, of say 80 per cent or better, other aspects surveyed (particularly use of temporary crossings, drainage and restoration of landings and snig tracks) have not (Figure 1).

The following table gives an indication of progress made:

Figure 1: Comparison of pre-Code survey (mainly State forest) with post-Code surveys in 1991-92 (State and private forests). Shows percentage of operations where listed key forest practice aspects were well implemented.

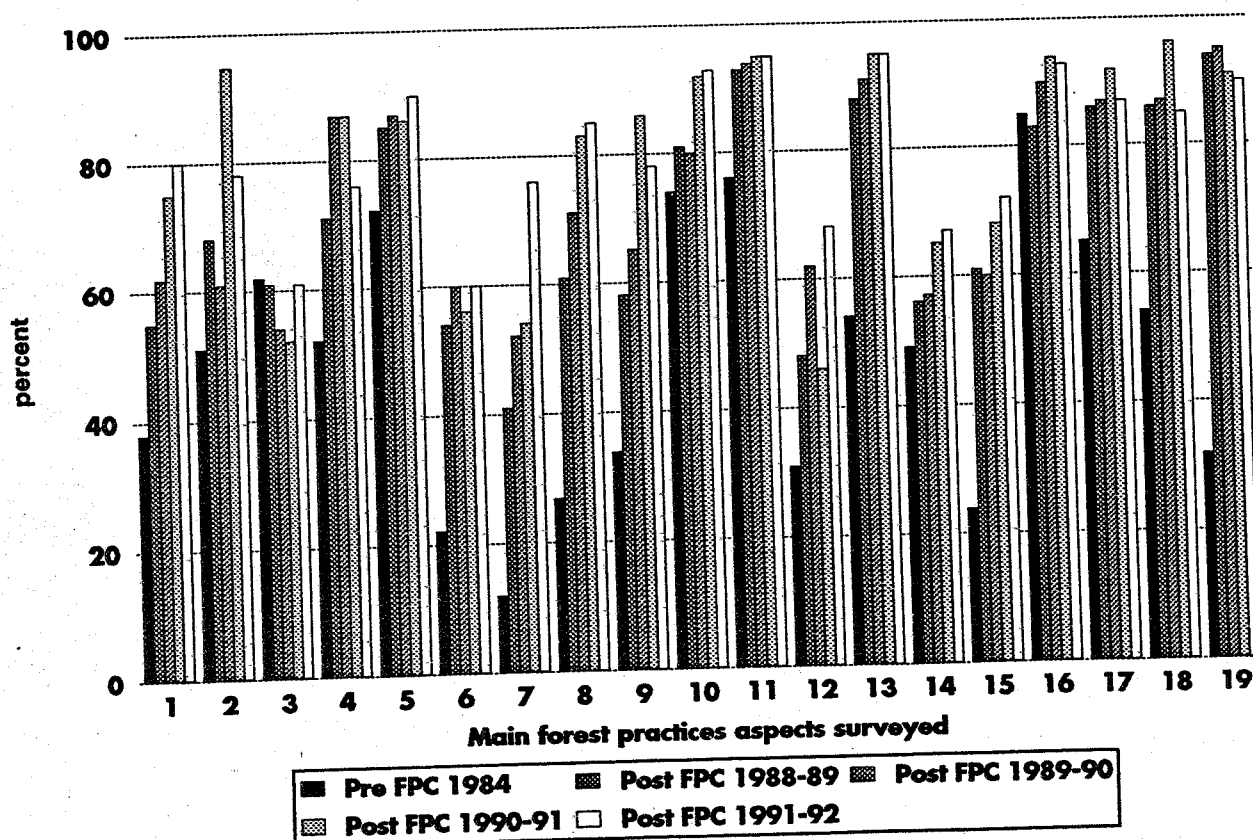
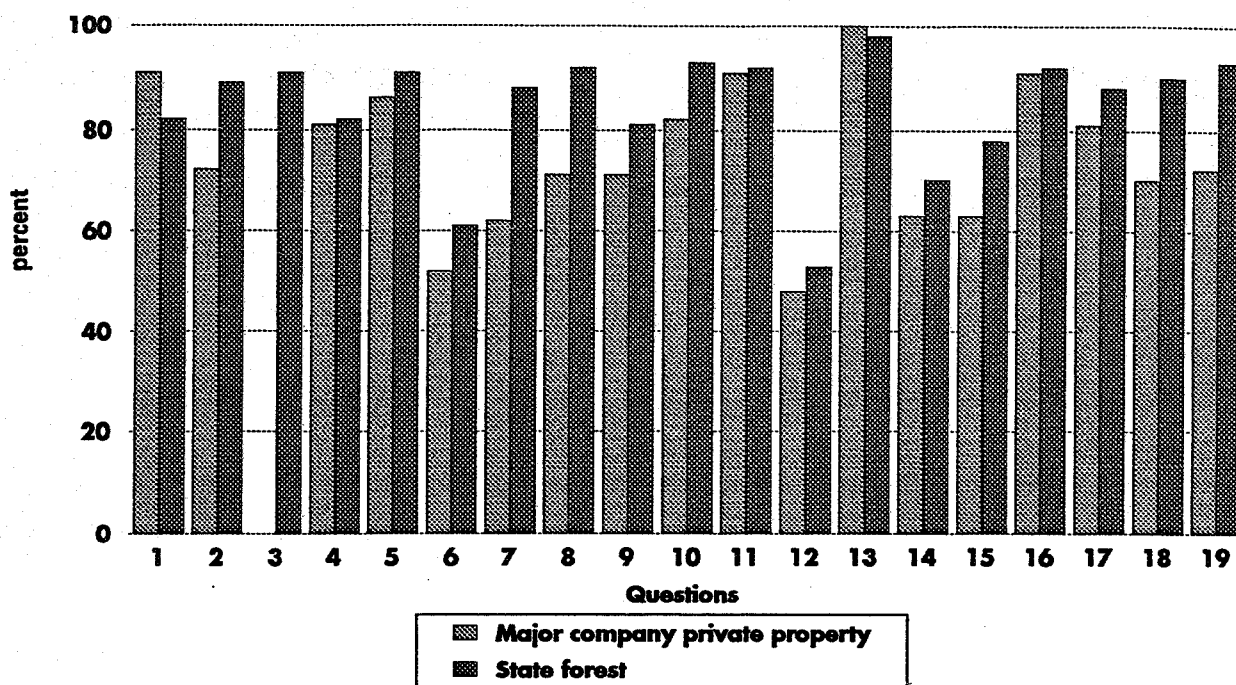


Figure 2: Comparison of Forest Practices Code application on Major Forest Company controlled harvesting operations on privately owned forests and harvesting operations on State Forest during 1991-92. Shows percentage of operations surveyed where listed forest practices were well implemented.



9.3 Investigation of Public Concerns/Enquiries/Complaints

Some ninety enquiries/concerns/complaints about forest practices were received from adjoining landowners, the public, local government, and industry. They were all followed up with the following results:

Tenure	A	B	C	D	E	Total
State Forest	-	-	-	4	5	9
Company operations	-	-	2	5	7	14
Independent private property operations	2	10	20	27	8	67
Total	2	10	22	36	20	90

A = Complaints laid with Department of Public Prosecutions

B = Notices issued under the Forest Practices Act or 'making good' requested

C = Warnings given

D = Doubtful if spirit of the Forest Practices Code was breached. Otherwise resolved

E = No grounds, misunderstanding of Code

Some two hundred inspections were carried out by Forest Practices Officers on private property and State forest as part of regular monitoring operations. This resulted in the issue of another 19 notices under the Forest Practices Act. A number of warnings were also given.

Numerous enquiries about the Forest Practices Act/Code were received from mainland organisations and departments and from overseas.

9.4 Prosecutions

The emphasis for achieving improvements in forest practices needs to remain on education, training, cooperation and fostering commitment to sound forest practices. Without commitment Forest practices will not continue to improve.

However, formal legal complaints are laid with the Department of Public Prosecution when substantial deliberate breaches knowingly committed (and potentially provable in court) occur after fair warning:

- Formal complaints with the DPP were laid in two cases. One was withdrawn for technical reasons.
- Of the four complaints laid in 1990-91, two had to be withdrawn, one was successful (encroachment of a major streamside reserve on the Leven River, the defendant was fined \$2,600) and one was unsuccessful as the magistrate considered that the proof submitted was not 'beyond all reasonable doubt'.
- The delays in the court system, and the criminal rather than civil nature of offences against the Act (requiring proof beyond all reasonable doubt) makes the process costly and cumbersome to all parties.
- An alternative - the training and registration of all operators and contractors and a demerit point system along Victorian lines - has received a mixed reaction from Industry.

10. Forest Practices Specialists

The general function of specialists is to provide advice to the Commission and the forest industry on how relevant special values can be given reasonable protection in production forestry and to provide assistance in implementing the advice adopted. As such the specialists are involved in three overlapping areas: operations, management and research.

10.1 Operations Input

- **Forest Practices Code**

Advice was provided to the Chief Forest Practices Officer on amendments to the Forest Practices Code and to Industry and Commission field staff as to the interpretation and implementation of the Forest Practices Code.

- **Training**

Flora:	Forestry Commission trainee Technical Foresters course. Instructions at three Land Care courses.
Fauna:	Forestry Commission Technical Foresters course.
Archaeology:	One day refresher course for Archaeology trained Forestry Commission and Industry staff. APPM (Triabunna) and Forestry Commission (West Coast): Cultural Heritage Seminars.
Soils:	Limited training and education of Forestry Commission and Industry staff when inspecting field operations.

- **Manuals**

The Forest Practices Code sets out principles and basic approaches to forest practices. The resource manuals provide background and further details to aid Forest Practices Officers and area managers in decision making. Fauna, geomorphology, Archaeology and (Nature conservation Region 7) botany manual were produced previously. 'Fauna Conservation in Production Forestry in Tasmania' was printed in 1991-92. A soils manual is nearing completion and good progress is made on Botany manuals for other nature conservation regions.

- **Surveys and inspections by specialists on State Forest and private property.**

Surveys and Inspections by Specialists on State Forest and Private Property

Flora	Fauna	Geomorphology	Archaeology ^{*1}	Soils ^{*2}
Florentine (2X)	Bronte Park (PP FOR RES)	Loatta	Hoyle Road	Fingal (7x)
Balfour (2x)	Ellendale	Mayberry	Junction Spur	Deloraine
Stanley River (Huon Pine stand)	(eagles nest)	South Mole Creek	Lowanna	(4x)
Picton (4x)	Geeveston	Dazzler	Stanley River	Scottsdale
Western Creek	Smithton	Blue 9	Priests sawmill	(6x)
Meals Spur (W.H.A.)	(eagles nest)	(Florentine)	Signal Hill	New Norfolk
Mount Communication	Norfolk	Arm River	Central Plateau	(6x)
Mountain Creek	Stokers Hill	Frankford	(priv. prop)	Geeveston
Taskeys Creek	(PP APPM,	Picton Valley		(5x)
Lagoon Plain	eagles nest)	Smithton	Dilgers Farm	Burnie
Griffith Rivulet	Surveyors Crk	Chudleigh	Dilgers sawmill	(25x)
Wielangta Hill	(crayfish)	Mount Cripps		Devonport
Spring Creek	Mount Elephant	Bream Creek	Catamaran 8C	(1x)
Silver Plains	(blind velvet		Corinna Track	Triabunna
Oyes Marsh	worm)		Teepookana	(1x)
Broad River	Bruny Island		Winterbrook	
Warra 17B	(40 spotted		Beginners Luck Cave	
Jubilee 4	pardalote)			
			Kent battery	
			Three Notch Track	
			Mount Dromedary	
			Camden Road	

^{*1} An additional 16 coupes were assessed by archaeology trained Industry and Forestry Commission staff (P. Lockwood, B. Miller, E. Pettett, M. Bloom, P. Crossing, D. Clarke).

^{*2} Inspection for soil erodibility and landslide hazard rating for 55 coupes considered for cable logging.

10.2 Input of Specialists in Management Plans, Reviews, Reports, etc.

Flora	Fauna	Archaeology	Geomorphology	Soils
FP Code	ditto	ditto	ditto	ditto
Western Tiers MP	"	"	"	NW Tasmania Soils Study
Broad Area MP	"	"	"	
Bruny Island MP	"	"	"	
Tasman Forestier MP	"	"	"	
WHA draft MP	"	"	"	
RAC report	"	"	"	
District MDC	"	"	"	ditto
Steep country Task Force & SAG	"	"	"	"
Gog range	Pelham SF	"	Snowy Range	
RAP's		Welcome Stranger DMP	Kublakhan Cave MP	
WG for Forest Conservation		Granville SF DMP	Croesus Karst area DMP	
Jacky's Marsh & Quamby Bluff NE areas		Teepookana Reserve DMP	ditto	
Western Tasmania NE areas		Forest Reform Bill Draft Cultural (Historic) Heritage Bill		
Buckland Military Training Area MP		ditto		

MP = Management Plan

DMP = Draft Management Plan

SAG = Soil Advisory Group

RAP = Representative area for protection

WG = Working Group

NE = National Estate

WHA = World Heritage Area

MDC = Management Decision Classification (Forestry Commission Districts)

RAC = Resource Assessment Commission

10.3 Research

The research work of the specialists is supervised by the Division of Silvicultural Research and Development. Details are listed in its annual report. The main purpose of the research is to test the effectiveness of the code provisions in integrating special values in production forestry, propose amendments if required and to build up a data base and predictive models allowing improved and more cost effective decision making.

The following forest practices related research projects are in progress or have been completed (generally supervised by FPU specialists with the exception of those marked *).

Project	Personnel	Source of Funding
<i>Flora</i>		
Effect of steep country harvesting on vegetation	Ross Peacock	Commonwealth DPIE
Survey of Tasmanian Swamp Forest Communities (Blackwood swamps)	John Panell	Commonwealth DPIE & FC
Predictive modelling (eventually providing computer maps of known and predicted distribution of plant species of high conservation significance)	Simon Orr	TFRC
Vegetation surveys (also allowing monitoring of long term changes in plant composition)	Fred Duncan	TFRC
<i>Fauna</i>		
Wildlife Habitat Strips (testing the value of retaining 100 m wide strips for fauna conservation in production forests)	Raymond Brereton, Rob Taylor	TFRC
Birds in regeneration forests (recording bird populations before and after logging)	Rob Taylor Triabunna District	DPWH FC
Silvicultural systems and birds	Murray Hasler	TFRC
Control of browsing animals	Susan Parsons	IFMP *
Impact of logging operations on fish populations and habitat	Dr P. Davies <i>et al</i>	IFC *
<i>Geomorphology</i>		
Tasmanian karst atlas (to provide and improve the data base on the distribution, character and significance of karst and karst land forms)	Kevin Kieman Rolan Eberhard	TFRC

Project	Personnel	Source of Funding
Effect of logging on limestone caves	Rolan Eberhard Kevin Kiernan	ANP & WS
Landslide research (to determine the incidence of landslides in disturbed and undisturbed forest areas as an aid to predictive modelling)	Dr Alloy Pereira	Commonwealth DPIE
<i>Hydrology</i>		
Impact of forest operations on water and site values as compared to agricultural activities	Tom Lynch	APPM - FC TFRC with CSIRO input and supervision
<i>Soils</i>		
Soil mapping on State forests	Mike Laffan	NSCP
<i>Archaeology</i>		
Historic site inventory project (in wood production forests in SE, NE & NW completed previous by)	David Parham	NEGP
Silver Plains archaeological survey (P.P.)	David Parham	APPM
Archaeological physical history of the Tasmanian timber industry project (Wielangta, Mount Horror, Sidling Range now completed, Southern Forests in progress)	Paris Kostoglou	TFRC
Lisle-Denison goldfield study (study of mining remains in areas now predominantly wood production forests)	Cosmos Coroneos	NEGP
North Central aboriginal archaeological survey	Garry Dunett	NEGP
Burnt area survey (for aboriginal sites, providing good ground visibility and may be used in refining predictive statements)	Denise Gaughwin B. Brown	DCF FPU
Predictive modelling for sandstone shelters	A. McConnell M. Brown	TFRC CSIRO

DPIE = Department of Primary Industry & Energy
 DPWH = Department of Parks, Wildlife and Heritage
 IFC = Inland Fisheries Commission
 NEGP = National Estate Grants Programme
 NSCP = National Soil Conservation Programme

TFRC = Tasmanian Forest Research Council
 IFMP = Intensive Forest Management Programme
 ANP & WS = Australian Parks and Wildlife Service
 DCF = District Conservation Fund
 FC = Forestry Commission

11. Publications

Forest Practices Unit:

Draft amended Forest Practices Code November 1991

Archaeology in Tasmanian Forests

Fauna Conservation in Production Forests in Tasmania

Research:

See *Annual Report, Division of Silvicultural Research and Development* - page 55.

The *Historic Sites Inventory Project, North East Tasmania* was published and complements similar publications for the south-east region and the north-west region (1990)

12. Expenditure

	\$ 1991-92	%	\$ 1990-91	
Forestry Commission				
Forest Practices Unit	403,000		360,000	458,000
Temporary officer	45,000		45,000	-
Annual monitoring of private property and State Forest	14,000		14,000	14,000
Total Forestry Commission	462,000	81	419,000	472
Industry				
Industry contribution to specialists through the Tasmanian Forest Research Council	105,000		130,000	142
Total Industry	105,000	19	130,000	142
Total	567,000	100	549,000	614,000

Note for 1991-92 expenditure:

- (1) Does not include funding of research by other organisations.
- (2) The Forestry Commission has also agreed to provide \$200,000 for the integration of special values in District Management Plans (= District Conservation Fund, not part of FPU budget).
- (3) Does not include the funding of the Forest Practices Officer seconded to the Country Sawmillers Federation for one year (funded by F & FIC).
- (4) FPU expenditure (1991-92) includes salary of newly appointed soil scientist for part of the year.