

Botany Honours



APPENDIX TO  
A PRELIMINARY REPORT ON THE RE-SURVEY OF THE  
ALIEN VEGETATION IN THE CAPE PENINSULA

by

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still incomplete.

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THIS PLOT WAS NOT DONE IN 1959.

M.

ALIEN VEGETATION SURVEY 1959/1976.

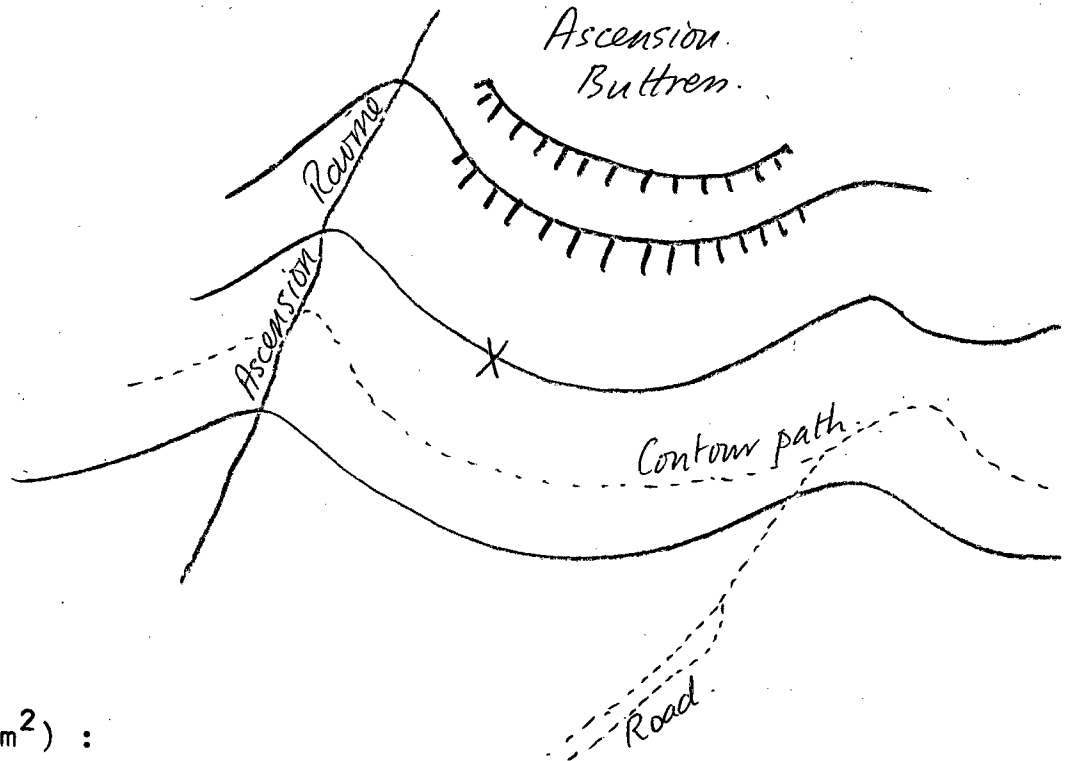
SITE : ASCENSION, T.M. Low alt.

V-93188-H

Altitude :

Local Map :

Bearings :



PLOT (In a 100m<sup>2</sup>) :

Aliens	1959		1976		1959		1976	
0 - 0,15m								
0,15m - 2m								
Over 2m								

In 200m Radius :

1959

1976

- Plantations of Pinus, towards the North and at lower altitudes.
- Indiginous forest -
- At a higher altitude, p. pinaster is v. dense on the steep slopes of Ascension above about 1500'.
- Very little encroachment of pine into the bareas covered by true indig. forest

DIFFERENT SITES WERE DONE IN 1959 & 1976 BUT THE SAME AREA WAS COMPARED.

ALIEN VEGETATION SURVEY 1959/1976.

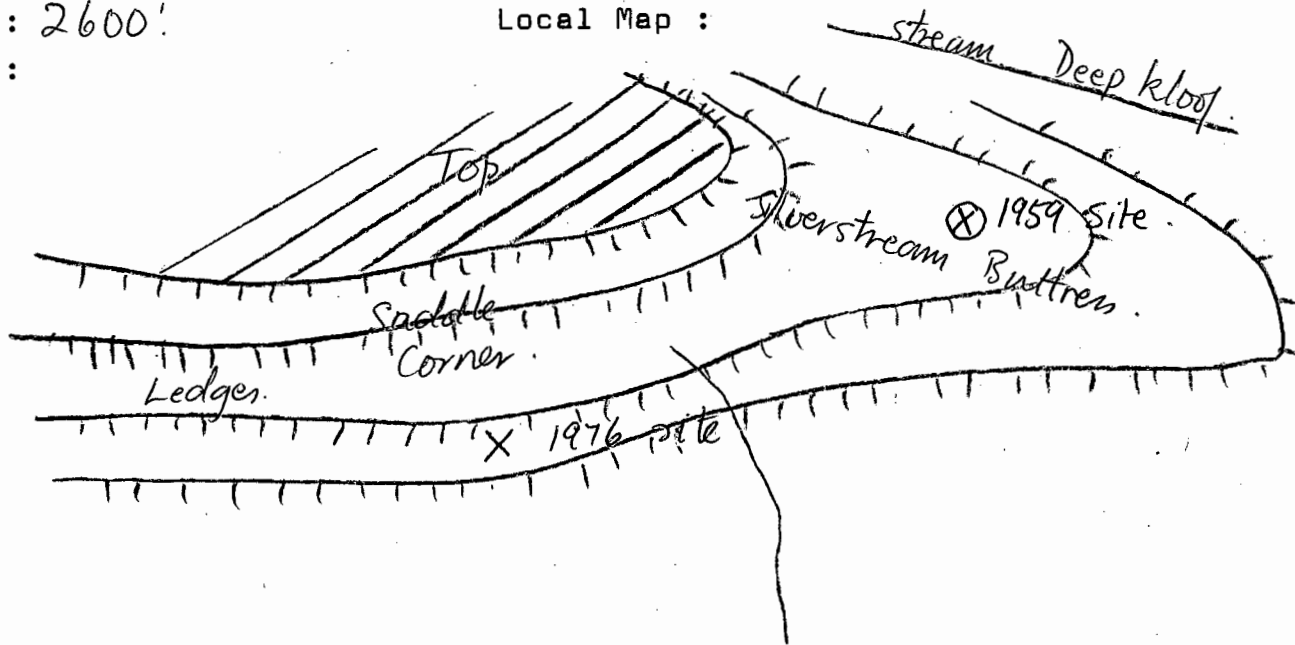
SITE : SADDLE CORNER, T.M.

v-92/89 -H

Altitude : 2600'

Local Map :

Bearings :



PLOT (In a 100m<sup>2</sup>) :

Aliens	nil					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	-	-				
0,15m - 2m	-	-				
Over 2m	-	-				

In 200m Radius :

1959

*P. pinaster*, ~ 30+

1976

- P. pinaster* :- A few isolated trees, mostly on the cliffs and inaccessible ledges. ~~is in~~ on Saddle Corner (30+)
- Young seedlings and young plants are more extensive on silverstream buttress and towards Silverstream Ravine.
  - Evidence of much pine cutting on Saddle & in Silverstream Ravine.

V-92189-H

FACTORS	1959-	1976- At Site	Infested	Near free
Dominants	see sheet.	Restio, Erica, Cliff. etc.	Pine Seedlings on Silverstream Briar.	
Cover age	20+	~7 yrs.		~7 yrs.
Cover height	1-2'	1/2 m.		1/2 m.
Density 1-5	dense	4		4
Detritus 1-5		+		+
Soil type & Moisture 1-5	TMS. dry.	TMS. 1		TMS. 1
Rock co. 1-5	large outcrop	3-4		3
Sheet rock		-		-
Rainfall		-		-
Aspect	N.	N. to NNE		N.
Slope		30°-50°		15-90°
Soil distur- bance		-		-
Biotic factors		maybe		Cutting of pines.
Other				

ALIEN POPULATIONS

Infested - Wind is NB. Near free

Seeding rates	high.	
Soil seed loads	u.	
Seedling mortality factors	low.	
Adult mortality factors	high in Ravine	
Regeneration	cutting.	
Pathology	- mod.	
General comment	→ Seeds probably blown up from the extensive trees that were in the Ravine.	

GENERAL NOTE :

- Pines often found in inaccessible places.

ALIEN VEGETATION SURVEY 1959/1976.

SITE : WINDOW GORGE , T.M.

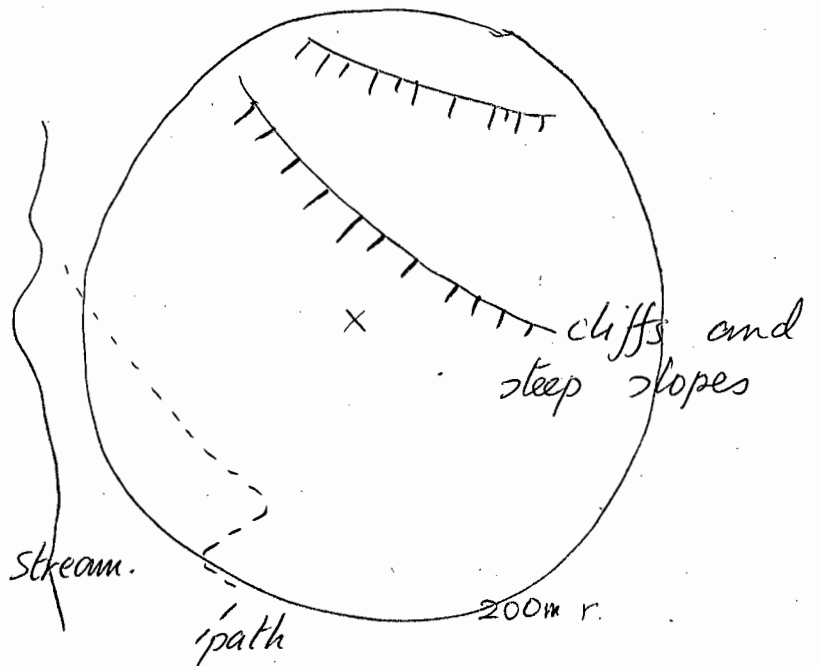
V-92187-H

Altitude : 1900'

Local Map :

Bearings :  
See Map.

(On very steep cliffs.)



Could not reach actual PLOT (In a 100m<sup>2</sup>) site.

approx. Aliens	<i>Pinus pinaster</i>					
	1959	1976	1959	1976	1959	1976
0 - 0,15m		-				
0,15m - 2m		~ 2				
Over 2m		~ 6				

In 200m Radius :

1959

*P. pinaster* , ~150 trees in 200yds radius.

No pines in kloof below with *Podocarpus*, *Halleria* & *Amomia* trees.

1976

*P. pinaster* , ~200-250 trees , and seedlings in 200-m radius.

No pines among forest trees in kloof, and no seedlings found beneath the indigenous canopy.

V-92187-H

FACTORS	1959-	1976- At Site	Infested	Near free
Dominants	Cliff flora,	-		Forest, (indigenous) down in the Gorge at 300m.
Cover age	20+ (1) yrs.		35 yrs.	50+ yrs.
Cover height	variable		1 - 15m.	20m +
Density 1-5	variable		5	5
Detritus 1-5			3	+
Soil type &	TMS		TMS	TMS
Moisture 1-5	much seepage		4-5 (damp)	5
Rock co. 1-5	Scree.		2	2
Sheet rock	-		-	-
Rainfall			High.	High
Aspect	East.		S & S.E.	East.
Slope	cliffs & steep		20°-40° & 90°	10-25°
Soil distur- bance				-
Biotic factors			path on the slope.	-
Other				-

ALIEN POPULATIONS

	Infested	Near free
Seeding rates	Relatively high	Low
Soil seed loads	high	?
Seedling mortality	med.	high
factors	competition	competition (light)
Adult mortality	low.	-
factors	-	-
Regeneration	Rel. fast.	nil.
Pathology	-	-
General comment	-	-

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

SITE : LEFT FACE , T.M.

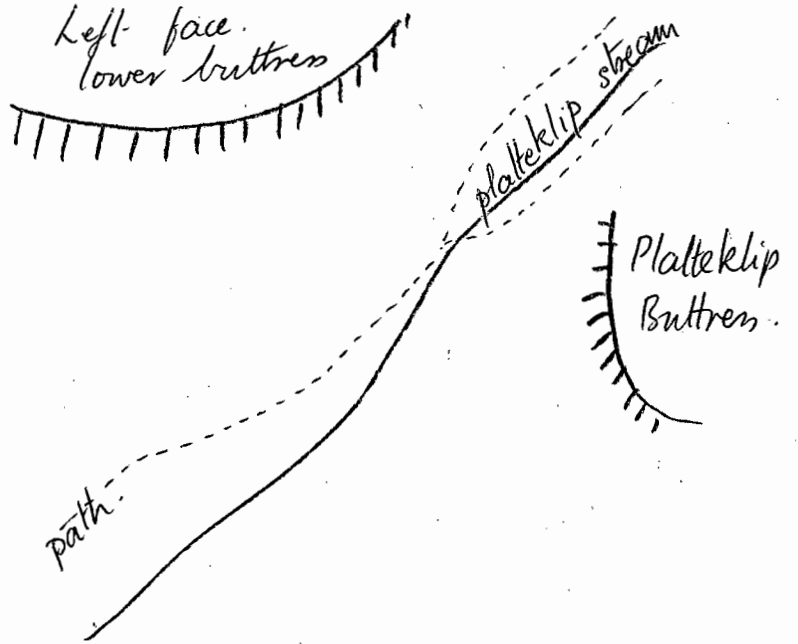
V-91 189 -H

Altitude : 2100'

Bearings :

Silverstream buttress gully  
133°

Local Map :



PLOT (In a 100m<sup>2</sup>) :

Aliens	nil					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	-	-				
0,15m - 2m	-	-				
Over 2m	-	-				

In 200m Radius :

1959

Somewhat sparse at this altitude -  
P. pinaster 14+

1976

P. pinaster - occ. isolated trees.  
- some in inaccessible place (for chopping)  
- evidence of pine cutting.

V-9/189-H

FACTORS	1959-	1976- At Site	Infested	Near free	
				In stream-Riverine shrub.	On slopes.
Dominants	Protea etc. Watsonia. Corymbium. etc.	Watsonia. Corymbium. Erica. sp.			
Cover age	20+			30+	5-7yr.
Cover height	2-4'			1-4m	1/2 m.
Density 1-5	dense			4-5	3-4
Detritus 1-5				+	+
Soil type &	TMS.			TMS	
Moisture 1-5	dry seepage			3	1
Rock co. 1-5	rocks.			3	1-2
Sheet rock				-	-
Rainfall				-	-
Aspect	NNE			N.E.	N & NNE
Slope	30°			25°	20-90°
Soil disturbance					Paths & Erosion
Biotic factors				Evidence of pine cutting.	
Other				Paths & Much Erosion.	

ALIEN POPULATIONS

	Infested	Near free
Seeding rates		
Soil seed loads		
Seedling mortality factors		
Adult mortality factors		
Regeneration		
Pathology		
General comment		

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

SITE : JUNCTION PEAK, T.M.

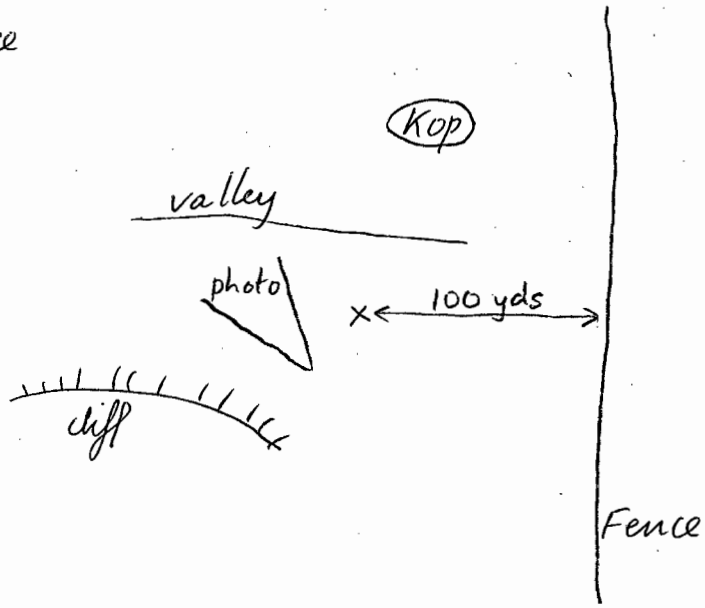
V- 91187-H

Altitude : 2890'

Local Map :

Bearings :

100 m W of the fence



PLOT (In a 100m<sup>2</sup>) :

Aliens	<i>P. pinaster</i>					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	1	1				
0,15m - 2m	15	7				
Over 2m	1	7				

In 200m Radius :

1959

Large areas of *P. pinaster*, ∞ within 200 yds.

1976

∞ numbers of *P. pinaster* within 200 m radius.

V-91187-H

FACTORS	1959-	1976- At Site	Infested	Near free
Dominants	<i>Osmitopsis</i> , <i>Elepia</i> , Narrow lfd <i>Leucodendron</i> , <i>Blechnum</i> , <i>Erisa</i> sp.			
Cover age	20+ yrs.		30+ yrs.	
Cover height	3-6'		1/2m - 15m.	
Density 1-5			4-5	
Detritus 1-5			2	
Soil type & Moisture 1-5	Black TMS v. wet.		TMS. 4	
Rock co. 1-5			2	
Sheet rock			-	
Rainfall			-	
Aspect	South.		South	
Slope			15°	
Soil distur- bance			-	
Biotic factors			-	
Other			-	

ALIEN POPULATIONS

	Infested	Near free
Seeding rates		
Soil seed loads		
Seedling mortality factors		
Adult mortality factors		
Regeneration		
Pathology		
General comment		

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

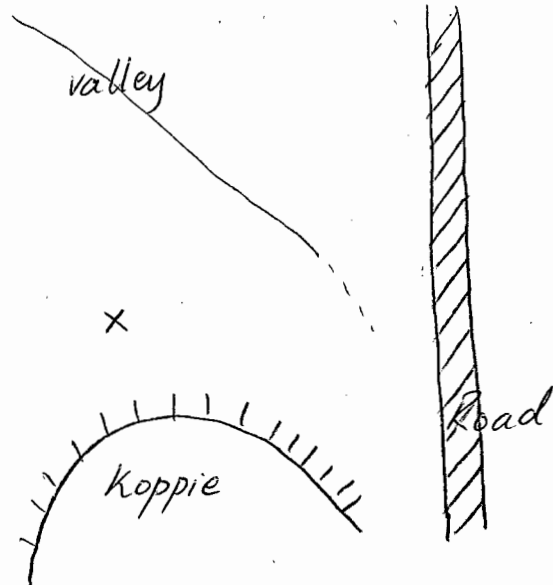
SITE : RANGERS HUT, J.M.

V-91185-H

Altitude : -

Local Map :

Bearings :



PLOT (In a 100m<sup>2</sup>) :

■ Rangers Hut

Aliens	<i>P. pinaster</i>					
	1959	1976	1959	1976	1959	1976
0 - 0,15m		2				
0,15m - 2m		1				
Over 2m		-				

In 200m Radius :

1959

1976

*P. pinaster* : all ages. 1/2 - 3m, about 150 trees,  
of these 50 were about 50 seedlings @ 30m.

*A. longifolia* : 40 plants @ 160m

*Eucalyptus* sp : 30+ " @ 80-200m.

V-91 185-H

FACTORS	1959-	1976- At Site	Infested	Near free
Dominants	-	Restio & grasses.	Eucalyptus stands @ 200m.	Area with Pine seedlings
Cover age		4-5 yrs.		4-5 yrs.
Cover height		20-50 cm.		0.2-0.5 m.
Density 1-5		2-3		2-3
Detritus 1-5		+, burnt bushes.		+, burnt bushes.
Soil type & Moisture 1-5		TMS		TMS.
Rock co. 1-5		1		1
Sheet rock		-		-
Rainfall		-		-
Aspect		South		South.
Slope		5°		5°-25°.
Soil disturbance		-		Road nrby.
Biotic factors		-		-
Other		-		-

ALIEN POPULATIONS

	Infested (Pine seedling)	Near free
Seeding rates	high.	
Soil seed loads	-	
Seedling mortality factors	low.	
Adult mortality factors	high	
Regeneration	cutting	
Pathology	fast.	
General comment		

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

SITE : Nr CABLE STATION, T.M.

V-90190-H

Altitude : 1400'

Local Map :

Bearings :

25 yds from stream  
100 yds from c. path

Pine tree

Tafelberg Rd.

India-Ranne

contour path.

PLOT (In a 100m<sup>2</sup>) :

Aliens	nil.					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	-	-				
0,15m - 2m	-	-				
Over 2m	-	-				

In 200m Radius :

1959

*P. pinaster* 100+  
*P. pinia* 50+

1976

Large pine @ ~~300m~~ 240m on contour path. (*P. pinia*)  
*P. pinaster* - v. few isolated pines on slopes.  
- @ 180m - 240m at Road, pines are along the Road side.

V-90190-H

FACTORS	1959-	1976- At Site	Infested	Near free	
	Dominants	<i>Protea grand.</i> <i>Watsonia.</i> <i>Rhus, Chytia.</i>	<i>Rhus</i> sp. <i>Erica</i> sp.		Riverine Shrub.
Cover age	10+	7 yr.		~25 yr.	Parts are 6-7 yr.
Cover height	1-3'	2/3 m.		1-2m.	1/2 m.
Density 1-5	dense	4		5	3
Detritus 1-5		1		1	+
Soil type & Moisture 1-5	TMS seepage dry.	TMS 2		2	1
Rock co. 1-5	boulders.	2		3	1-2
Sheet rock		-		-	-
Rainfall		-		-	-
Aspect	N.	N		N	N
Slope		10-15°		15°-20°	15-40°
Soil distur- bance				-	-
Biotic factors		maybe pine cutting		Cutting maybe.	Cutting of pines.
Other				?	

ALIEN POPULATIONS

	Infested	Near free	(Riverine Shrub) FREE
Seeding rates			low.
Soil seed loads			
Seedling mortality factors			
Adult mortality factors		high. cutting	
Regeneration			slow - nil.
Pathology			
General comment			

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

SITE : WESTERN TABLE , T.M.

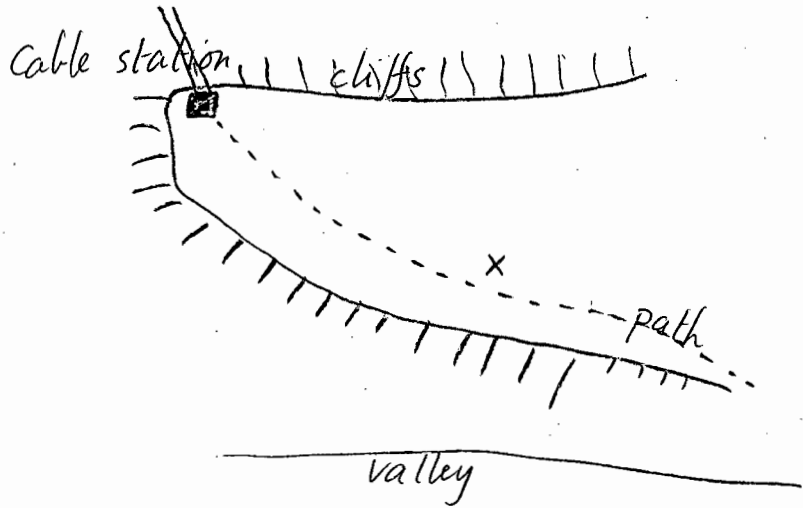
V-90189-H

Altitude : 3500'

Local Map :

Bearings :

Kopje next to W.  
Table 210°  
20 yds to N of the  
path.



PLOT (In a 100m<sup>2</sup>) :

Aliens	nil					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	-	-				
0,15m - 2m	-	-				
Over 2m	-	-				

In 200m Radius :

1959

37 pinus pmaster, mostly < 6ft.

1976

P. pmaster, about 15-20 pines 1-3m. @ 100-200m.

V-90189-H

FACTORS	1959-	1976- At Site	Infested	Near free
Dominants	Restionaceae, Cliffortia, Erica sp, Ficinia masses	Restio, Erica sp. Cliffortia.	-	Dense patches of Protea in Fountain Ravine @ 150m.
Cover age	20+ yrs.	15-20 yrs.		30+ yrs.
Cover height	1-2'	1/2-1m.		1-2m.
Density 1-5		3-4		5 in places.
Detritus 1-5		+ - 1		1
Soil type & Moisture 1-5	TMS. (shallow) moist.	TMS. -shallow semi-moist.		TMS. moist on S. slope
Rock co. 1-5		1		1-2
Sheet rock Rainfall	Below thin layer of sand.	(Below) (4) Mist		- -
Aspect		-		S. & W facing
Slope	Flat.	Flat.		30-5°.
Soil distur- bance				Paths.
Biotic factors		People walking		
Other				

ALIEN POPULATIONS

	Infested	Near free
Seeding rates		1 -
Soil seed loads		LOW
Seedling mortality factors		-
Adult mortality factors		
Regeneration		cutting
Pathology		
General comment		

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

SITE : ECHO VALLEY , T.M.

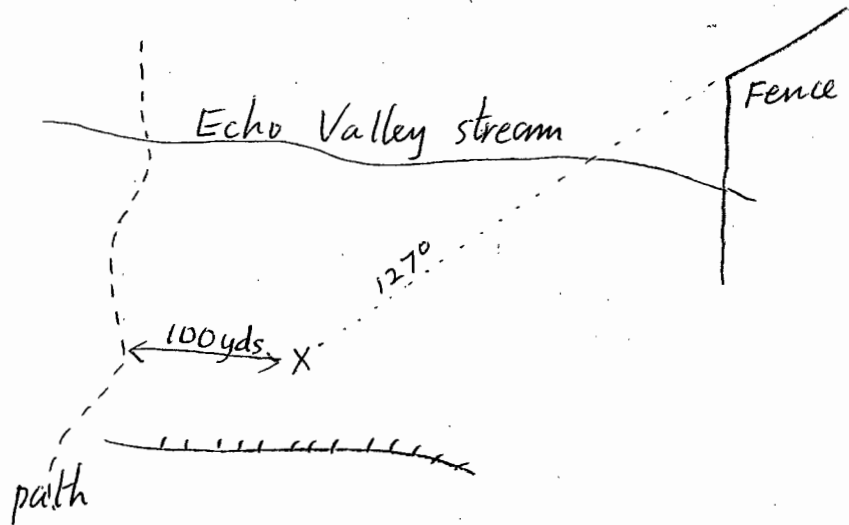
V-90188-H

Altitude : 3110'

Local Map :

Bearings :

Fence 127°



PLOT (In a 100m<sup>2</sup>) :

Aliens	<i>P. pinaster</i>					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	1	nil				
0,15m - 2m	2	"				
Over 2m	3	"				

In 200m Radius :

1959

*P. pinaster* , about 200+

1976

*P. pinaster* , about 20-25 trees , 1m high within 100m.

(evidence of much pine cutting.)

Evidence of old stumps in the plot.

V-90188-H

FACTORS	1959-	1976- At Site	Infested	Near free
Dominants	<i>Erica lutea</i> , penaeaceae <i>Elegia</i> , <i>Watsonia</i> , <i>Leucodendron</i> .	<i>Restio</i> , <i>Watsonia</i> , <i>Cliffortia</i> , <i>Protea</i> sp.	-	
Cover age	20+ yrs	~ 5 yrs		~ 5 yrs.
Cover height	1-2'	1/2 m		1/2 m
Density 1-5	dense	3		3
Detritus 1-5		1		1
Soil type & Moisture 1-5	TMS. wet	TMS 2 → 3		TMS 2
Rock co. 1-5		+		1
Sheet rock		3		1
Rainfall		-		-
Aspect		East North and East.		East East-
Slope		5°		0° - 10°
Soil distur- bance		-		-
Biotic factors		Cutting of pines.		Cutting of pines.
Other				

ALIEN POPULATIONS

	Infested	Near free
Seeding rates		
Soil seed loads		
Seedling mortality factors		low.
Adult mortality factors		high cutting
Regeneration		
Pathology		
General comment		

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

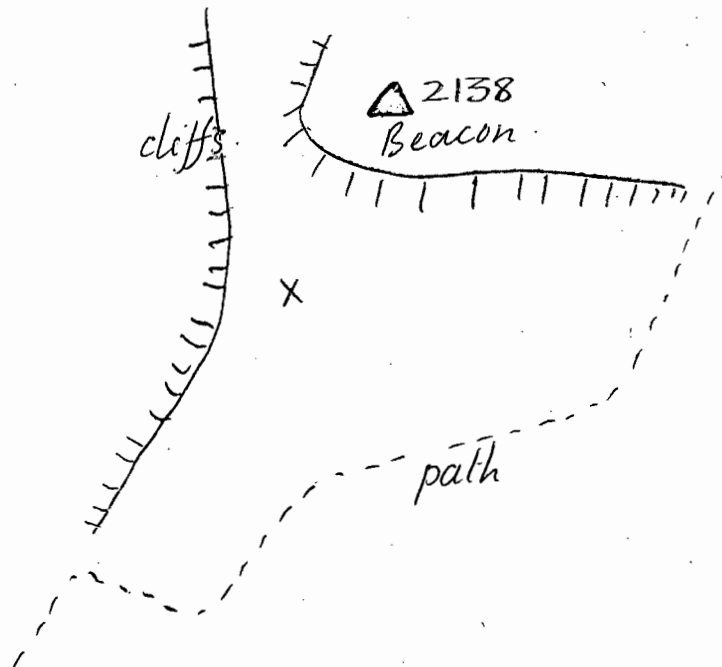
SITE : KLAASENS KOP, above CONSTANTIA NEK. V-90 184-H

Altitude : 2200'

Local Map :

Bearings :

(2378' Beacon 279°)



PLOT (In a 100m<sup>2</sup>) :

Aliens	nil					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	-	-				
0,15m - 2m	-	-				
Over 2m	-	-				

In 200m Radius :

1959

*P. pinaster*, 1x20' on cliffs untouched by fire  
6' trees (30) frequent nearby but burnt.

1976

*P. pinaster*, occasional trees on ridge @ 300m.  
and a few 2m-3m trees @ 200m. on cliffs.  
Otherwise almost free of aliens.

V-90184-H

FACTORS	1959-	1976- At Site	Infested	Near free
Dominants	Grasses, Tet therm, Watsonia Barbarta, regeneration after recent fire	Kestio, Corymbium Grasses.	-	
Cover age	4 mnlhs.	~ 4-5 yrs		~ 5 yrs
Cover height	3-6"	10-35 cm.		10-40 cm
Density 1-5	v. sparse	3		3
Detritus 1-5		+		+
Soil type & Moisture 1-5	Sandy TMS. rather dry.	TMS. dry		TMS. dry. exposed
Rock co. 1-5	freq.	1 → 2		2
Sheet rock	-	-		+
Rainfall		-		-
Aspect	South.	S. E.		koppie, mainly South.
Slope		10°		
Soil distur- bance		-		Path.
Biotic factors		-		Cutting of pines evident.
Other				

ALIEN POPULATIONS

	Infested	Near free
Seeding rates		-
Soil seed loads		low.
Seedling mortality factors		high recent fire.
Adult mortality factors		high probably due to cutting.
Regeneration		slow.
Pathology		
General comment		

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

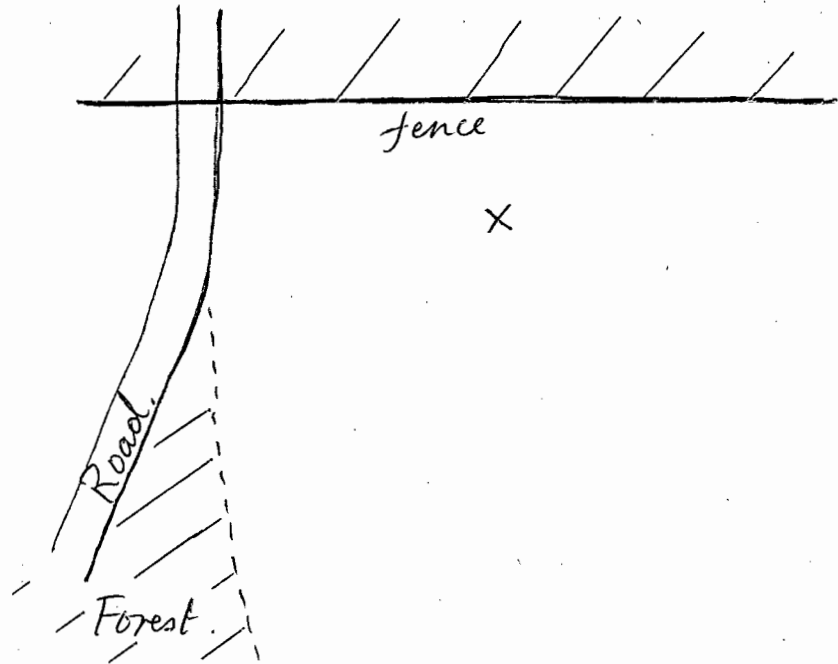
SITE : CONSTANTIA NEK, TM.

V-90183.-H

Altitude :

Local Map :

Bearings :



PLOT (In a 100m<sup>2</sup>) :

Aliens	<i>Eucalyptus</i> sp.		<i>Pinus pinea</i>		<i>P. pinaster</i>	
	1959	1976	1959	1976	1959	1976
0 - 0,15m	?	1	-		-	-
0,15m - 2m	?	2	-	1	-	1
Over 2m	?	1	-		-	-

In 200m Radius :

1959

1976

*Acacia* sp. present (*A. saligna*, *A. longifolia*)  
*Pinus* sp. present (*P. pinaster* & *pinea*)  
*Eucalyptus* sp.

V-90183-H

FACTORS	1959-	1976- At Site	Infested	Near free
Dominants	-		Plantations of Eucalyptus & Pine @ 70m.	Alien species spread from nearby plantations.
Cover age		4-6 yr.		Varying ages.
Cover height		1/2 - 1m.		1/2 - 1 1/2 m.
Density 1-5		4		4
Detritus 1-5		1		1
Soil type & Moisture 1-5		TMS.		TMS.
Rock co. 1-5		4 damp.		3-4
Sheet rock		+		+ → 2
Rainfall		-		-
Aspect		South.		South.
Slope		12°		8-15°
Soil disturbance		-		path & Road.
Biotic factors		-		fire break burning.
Other		-		

ALIEN POPULATIONS

	Infested (forests)	Near free (at site.)
Seeding rates		
Soil seed loads		high.
Seedling mortality factors		low.
Adult mortality factors		-
Regeneration		fast.
Pathology		
General comment		infestation from plantations

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

SITE : FILTRATION PLANT, T.M.

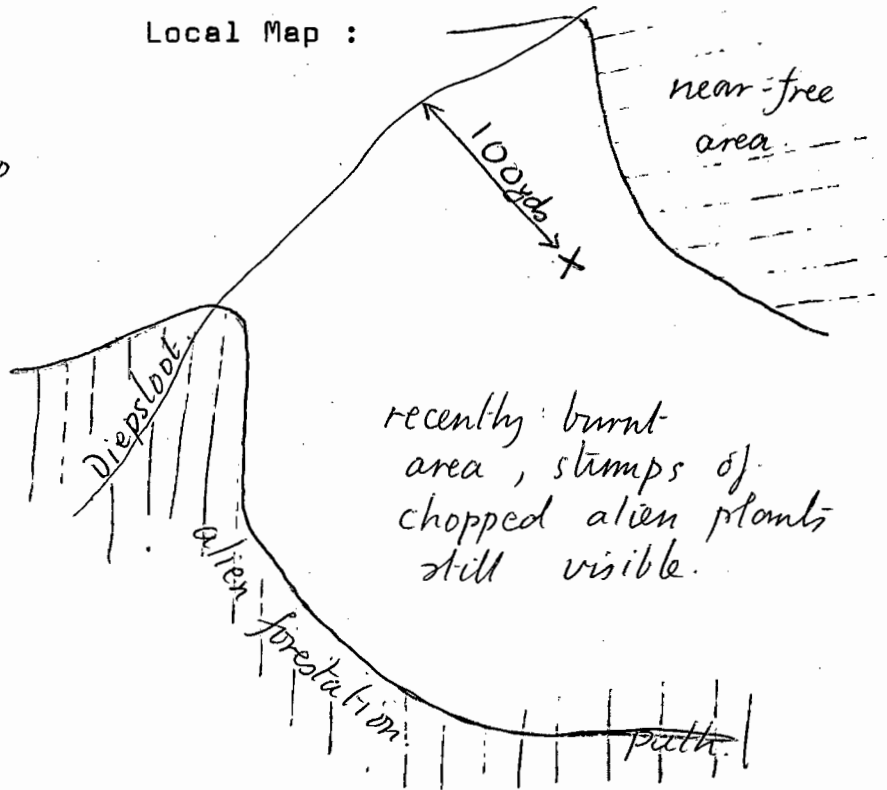
V-89190-H

Altitude : 1100

Local Map :

Bearings :

100 yds from river  
End of TM Beacon 69°  
Filter. pl. house 13°



PLOT (In a 100m<sup>2</sup>) :

Aliens	<i>Albizia distachya</i>					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	-	-				
0,15m - 2m	3	(10) ONLY STUMPS				
Over 2m	15	(23) ONLY STUMPS				

In 200m Radius :

1959

*Hakea gibbosa*, (occ. c.) *Pinus pinea* (fr), *P. pinaster* (c),  
*Acacia cyclops* (occ.) and *Albizia distachya*.

1976

*Albizia lophantha*,  
*Pinus pinea* @ 150m.  
*Acacia mearnsii* *menaoxylon*. @ 100m.

*P. pinaster*, occasional young plants in nearby ravine @ 100m.

V-89190-H

FACTORS	1959-	1976- At Site	Infested	Near free (-35%)
Dominants	<i>Albizzia distachya</i> , Dead protea, <i>Rhus</i> , <i>asporagos</i> .	Grasses & remains of old stumps.	Forest of <i>Albizzia</i> & <i>A. menaoxylon</i> .	<i>Protea</i> sp, <i>Erica</i> sp.
Cover age	?	2-4 yrs.	20+ yrs.	~10-12 yrs.
Cover height	30'	20-30cm	13m.	2m+
Density 1-5	Closely spaced	4	3-5	4-5
Detritus 1-5		2	3	2
Soil type & Moisture 1-5	Decomposed granite moist, seepage	Granite (course)	Granite	Sandy T.M. Granite & boulders
Rock co. 1-5		2	+ → 2	2
Sheet rock		-		-
Rainfall		-		-
Aspect	North.	North.	North & West.	North & N.W.
Slope		25°	10-40°	20-30°
Soil distur- bance		nearby.	paths etc.	
Biotic factors		Cutting & burning.	-	
Other				

ALIEN POPULATIONS

	Infested	Near free
Seeding rates	high.	low.
Soil seed loads	v. high	low.
Seedling mortality factors	rel. high in places competition.	-
Adult mortality factors	-	cutting.
Regeneration	fast.	v. slow.
Pathology	-	-
General comment	-	-

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

SITE : BLINKWATER / PIPE TRACK

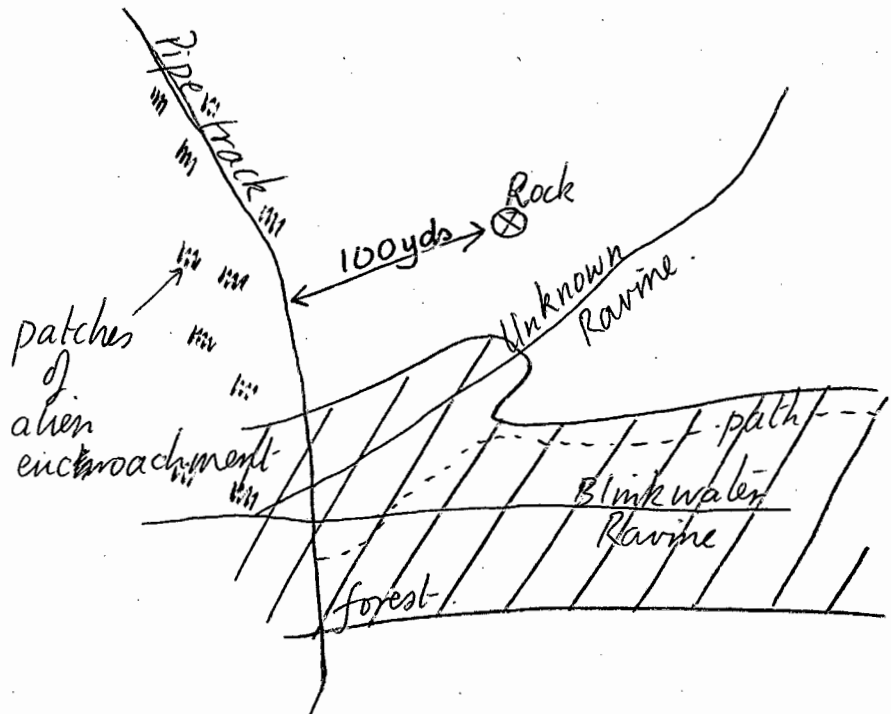
V-89 189 -H

Altitude : 1050

Local Map :

Bearings :

100 yds from pipe track, 30 yds from unknown Ravine and at a large rock.



PLOT (In a 100m<sup>2</sup>) :

Aliens	nil					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	-	-				
0,15m - 2m	-	-				
Over 2m	-	-				

In 200m Radius :

1959

*P. pinaster*, *P. pinia* & *Eucalyptus* sp.

1976

40 yr old pine cut down.  
*P. pinia*, *A. cyclops* & *A. menaoxylon*, *Eucalyptus* sp found isolated occ. along pipe track in disturbed soil. *P. pinaster*.

V-89/89-H  
(5-10%) (90%)

FACTORS	1959-	1976- At Site	(5-10%) Infested	Near free	
Dominants	Rhus sp. + many others of Bush/Talos community	Rhus sp.	Along, and below pipe track.	Forest veg. in Rowine.	On slopes North of stream.
Cover age	15+ yrs.	25 yrs. +	4 yrs. & 20+ yrs.	50 yrs. +	30 yrs.
Cover height	2-5'	1-2 m	variable.	8 m.	1-2 m
Density 1-5	dense	5	3	5	5
Detritus 1-5		2		+	2
Soil type & Moisture 1-5	Sandy-TMS. moist/DRY	TMS. medium. 3.	TMS./Granite 3	TMS. Moist(4)	TMS. 3
Rock co. 1-5		1 → 2	3	3	1
Sheet rock		-	-	-	-
Rainfall		-	-	streambed.	-
Aspect	West	West.	West.	W.	W
Slope	10°-30°.	10°-30°.	15°.	10°	15°
Soil disturbance		-	path	path	-
Biotic factors		-	pedes trampling.	trampling & cutting	-
Other		-		-	-

ALIEN POPULATIONS

	Infested	Near free
Seeding rates	-	Low.
Soil seed loads	high.	Low.
Seedling mortality factors	-	high competition
Adult mortality factors		(cutting)
Regeneration	fast.	v. slow.
Pathology		-
General comment	On disturbed ground.	almost nil.

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

SITE : VALLEY of RED GODS, T.M.

V-89/88 -H

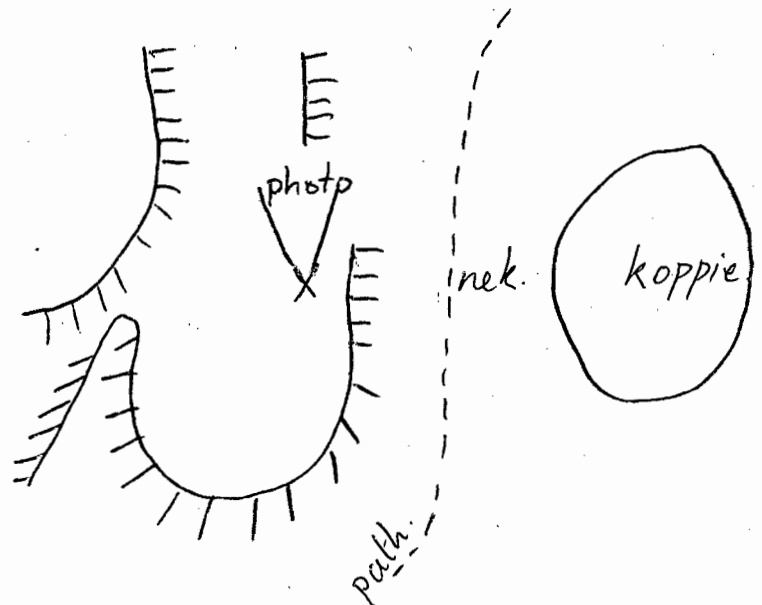
Altitude : 2700'

Local Map :

Valley of Red Gods.

Bearings :

30m above the neck.



PLOT (In a 100m<sup>2</sup>) :

Aliens	nil.					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	'	'				
0,15m - 2m	'	'				
Over 2m	'	'				

In 200m Radius :

1959

*Pinus pinaster*, > 2m, about 5 to the East.  
10 trees on spur below (W) @ ca 200m radius.

1976

*P. pinaster* - dead pines on the spur below @ 300-400m.

V-89189-H

FACTORS	1959-	1976- At Site	Infested	Near free
Dominants	<i>Leucodendron</i> <i>Pentuschistis</i> <i>Ericas, Proteas</i> <i>etc.</i>	<i>Restionaceae</i>	-	
Cover age	20+	245 yrs.		4-5 yrs.
Cover height	1-2'	20-60cm.		0.2 - 1m
Density 1-5	v. dense	3-4		3-4
Detritus 1-5		+		1
Soil type &	TMS	TMS.		TMS.
Moisture 1-5	seepage.	3		2-3
Rock co. 1-5	occ. outcrop.	2		0-2
Sheet rock		-		-
Rainfall		-		-
Aspect	W	S.W.		S&W.
Slope	<del>W</del> 10-30°	20°		5°-35°
Soil distur- bance		-		-
Biotic factors		-		cutting of pines.
Other		-		

ALIEN POPULATIONS

	Infested	Near free
Seeding rates		
Soil seed loads		low.
Seedling mortality factors		
Adult mortality factors		
Regeneration		cutting slow - ml.
Pathology		maybe.
General comment		

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

SITE :

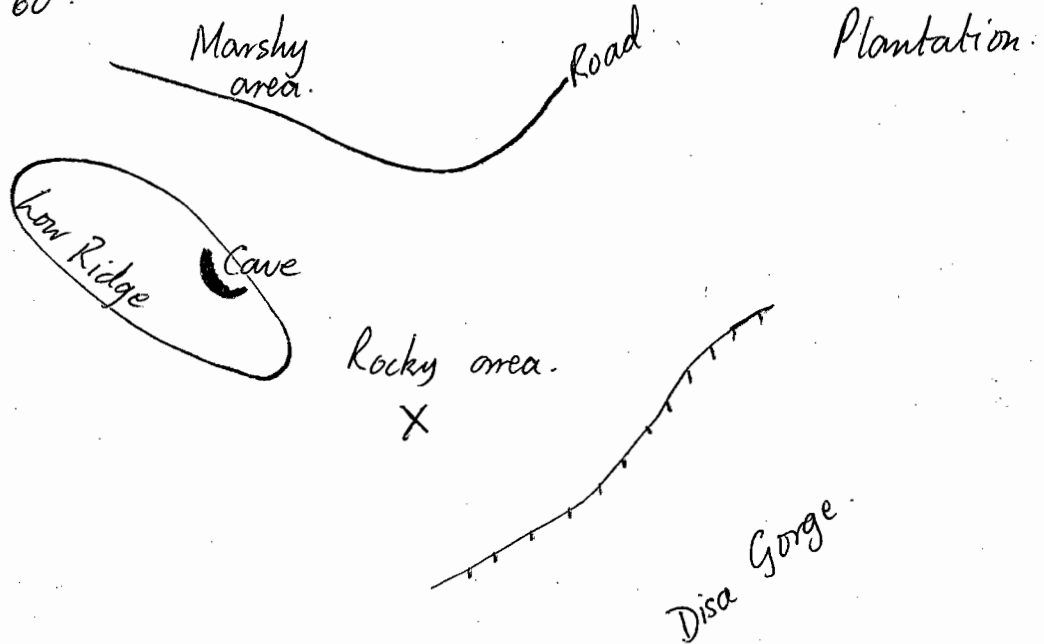
V-89, 87-H

Altitude :

Local Map :

Bearings :

Coloured club hut 60°.



PLOT (In a 100m<sup>2</sup>) :

Aliens	<i>P. pinaster</i> (STUMPS.)					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	nil	(1)				
0,15m - 2m	"	(1)				
Over 2m	"					

In 200m Radius :

1959

*P. pinaster*, 100<sup>+</sup> in 200 yd radius, mostly > 2m.  
Pines cut down in 100 m r.

*A. cyclops* - dense colony in kloof below Woodhead Res.  
1976 200<sup>+</sup>, 30' trees @ 400 yds.

*P. pinaster* : 1/2 - 1 1/2 m trees, about 10 @ 180m.  
about 20-20 trees, 3m+ cut down @ 30-50m.  
Seedling regeneration in marshy area nr. road.

V-89187-H

FACTORS	1959-	1976- At Site	Infested	Near free	
Dominants	Cliff. rusc. Rutaceae, etc. see sheet.	Cliffortia, x Rhms sp.	-	Rocky Areas	Marshy Areas
Cover age	20+	30+ yrs.		20-30	15+ ?
Cover height	1-2'	1-2m.		1-2m	1/2 m
Density 1-5		5		5	5
Detritus 1-5		1-2		1	1
Soil type & Moisture 1-5	Shallow TMS. seepage	shallow TMS.		TMS.	
Rock co. 1-5	much broken by Rocks.	2/3		2	5
Sheet rock	Large Rock sheets	-		3	0
Rainfall				(3)	
Aspect	Flat.	slightly E.		-	-
Slope		0-5°		E	S.E
Soil distur- bance				0-5°	0-5°
Biotic factors		-			Road
Other		cutting of pines.		cutting	of pines
		-			

ALIEN POPULATIONS

Seedling infestation in Rocky area that did v.   
~~Infested~~ Marshy area. ~~Near free~~ recently have pines

Seeding rates	nil.	low.
Soil seed loads	presumably high.	rel. low.
Seedling mortality factors	low.	high. (v. few seedlings.)
Adult mortality factors	-	high.
Regeneration	fast	cutting slow.
Pathology	-	-
General comment	-	-

(the cut down were still slightly green.)

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

SITE : BACK TABLE CLIFFS, T.M.

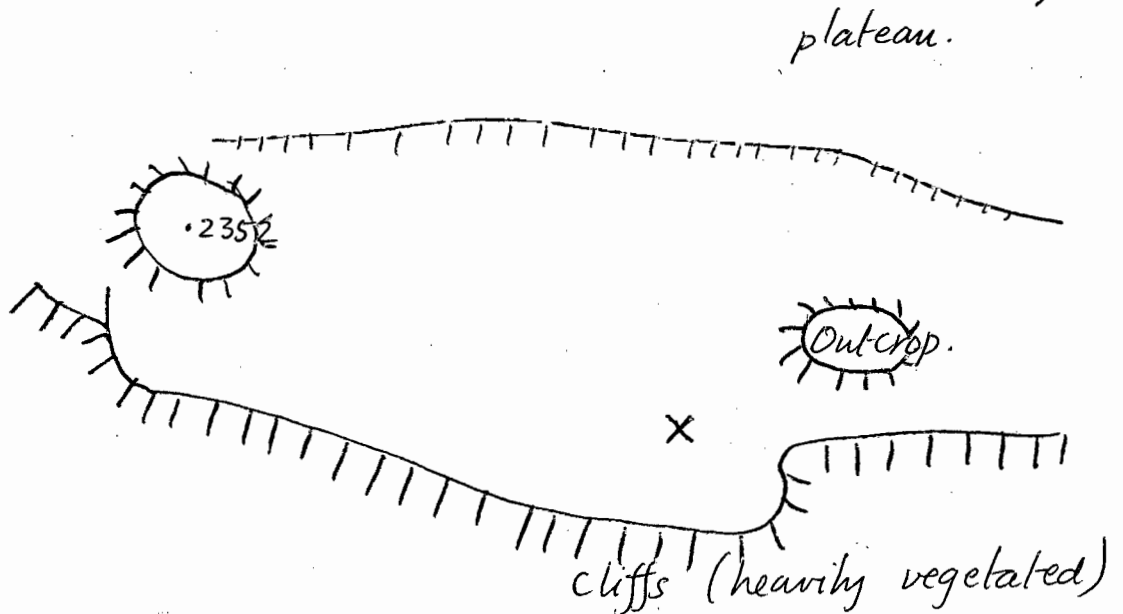
V-89186 -H

Altitude : 2200

Local Map :

To Road  
↑

Bearings :



PLOT (In a 100m<sup>2</sup>) :

Aliens	<i>P. pinaster</i>					
	1959	1976	1959	1976	1959	1976
0 - 0,15m						
0,15m - 2m		/				
Over 2m						

↑ recently cut down.

In 200m Radius :

1959

*P. pinaster*, 14 trees all > 15'. Probably more present.

1976

*P. pinaster*, 1/2 m - 3m about 100 trees, v. recently cut down in 200 m r.  
also evidence of previous chopping (~5 yrs ago)  
~ 9-15 live plants (mostly hidden) about 2m.

V-89186-H

FACTORS	1959-	1976- At Site	Infested	Near free
Dominants	Deep. S-facing cliff ledge veg. grassy & restio slopes	Widderringtonia, Protea, Cliffortia.	Trees on steep cliffs cannot be groomed	Plateau -
Cover age	20+ yrs.	30+ yrs.	aces for cutting.	20-30 yrs
Cover height	ca 5'	1 1/2 - 2 m +		1 1/2 - 1 1/2 m.
Density 1-5	dense	5		4
Detritus 1-5		2		1
Soil type & Moisture 1-5	TMS. moist.	TMS. 3		TMS. 3+
Rock co. 1-5		1		1
Sheet rock		-		3
Rainfall		-		-
Aspect	South.	S.		Flat.
Slope 70°	Steep cliffs.	20°		-
Soil disturbance	-	-		-
Biotic factors	-	Cutting of Pines.		Cutting of Pines.
Other	-			

ALIEN POPULATIONS

	Infested	Near free
Seeding rates		
Soil seed loads		
Seedling mortality factors		
Adult mortality factors		
Regeneration		
Pathology		
General comment		

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

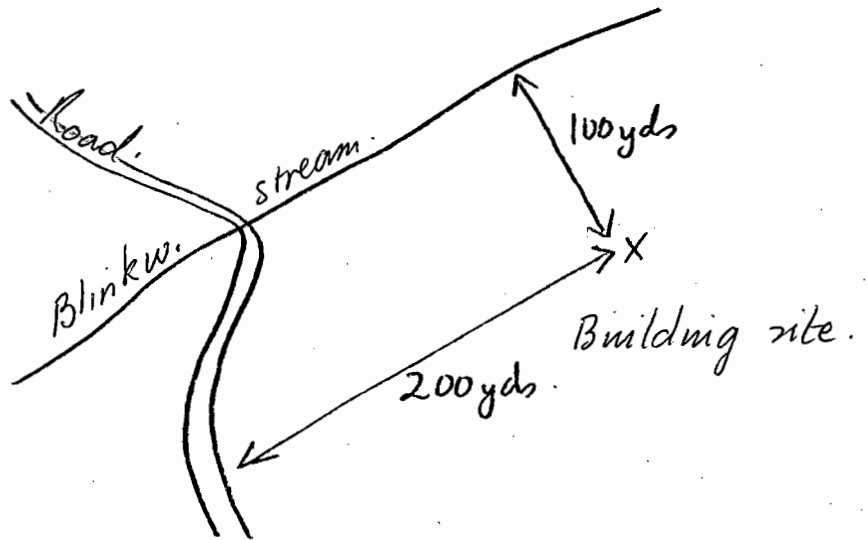
SITE : BAKOVEN, BLINKWATER, (Roundtree Estate) V-88, 89-H  
on T.M.

Altitude : 510'

Local Map :

Bearings :

(HAS NOW  
BECOME A  
BUILDING SITE)



PLOT (In a 100m<sup>2</sup>) :

Aliens	<i>H. gibbosa</i>		<i>P. piniaster</i>			
	1959	1976	1959	1976	1959	1976
0 - 0,15m	BURNT	/	BURNT	/		
0,15m - 2m	± 30	/	/	/		
Over 2m	± 30	/	2	/		

In 200m Radius :

1959

*H. macleodensis* occ., regenerating 100+

*P. pinea* 20+

*P. piniaster* 200+

*H. gibbosa* 200-∞

1976

*H. gibbosa*.

*P. pinea*.

*P. piniaster*.

*A. menaoxylon*.

*A. saligna*.

*A. cyclops*.

present around the new buildings

V-88189-H

FACTORS	1959-	1976- At Site	Infested	Near free
Dominants	See sheet.		Near Road.	
Cover age	6 months.		16-20 yrs.	
Cover height			1 - 1 1/2 m.	
Density 1-5			4-5	
Detritus 1-5			2	
Soil type & Moisture 1-5	dry.		<del>FMS</del> /Granite	
Rock co. 1-5			2	
Sheet rock			-	
Rainfall				
Aspect	North.		N & West.	
Slope			20°	
Soil disturbance			-Erosion.	
Biotic factors			Road disturbance.	
Other				

ALIEN POPULATIONS

	Infested	Near free
Seeding rates		
Soil seed loads		
Seedling mortality factors		
Adult mortality factors		
Regeneration		
Pathology		
General comment		

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

SITE :

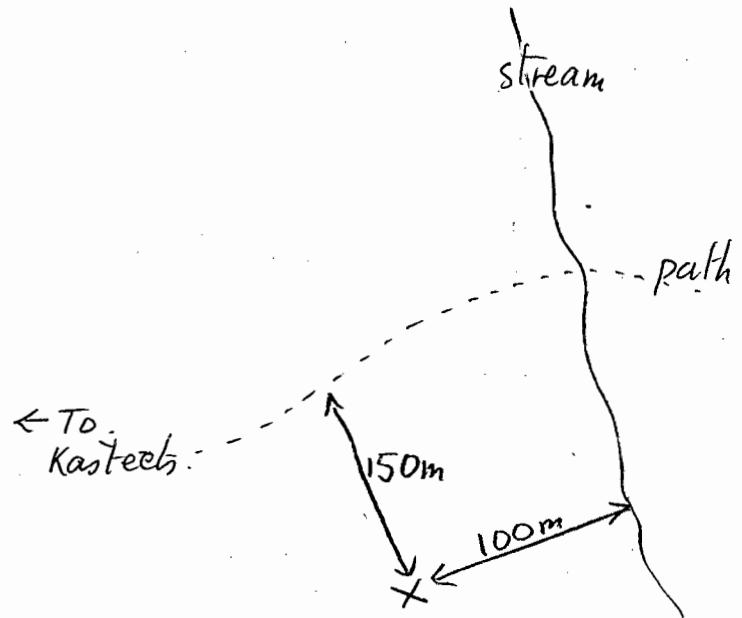
V-88/88-H

Altitude : 900'

Local Map :

Bearings :

Old cable standard 160°



PLOT (In a 100m<sup>2</sup>) :

Aliens	<i>H. gibbosa</i>					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	-	-				
0,15m - 2m	2	-				
Over 2m	12	-				

In 200m Radius :

1959

*P. pinea* ; ~~60+~~ @ 50m. occ (10-30)  
*P. pinaster* occ/freq. *A. cyanophylla* 4+ *A. cyclops* 2+  
*H. gibbosa* c. (1000+) *H. maveslens* 1.

1976

~~*P. pinea* 60+ @ 50m, *P. pinea*.~~  
*P. pinaster* occ./freq. ~~60+ @ 50m.~~  
*A. satigna* occ  
*A. cyclops* occ.  
*H. gibbosa*.

V-88188-H

FACTORS	1959-	1976- At Site	Infested	Near free
Dominants	<i>Protea, Stilbe, Brunia, Rubiaceae Tetraria sp. etc.</i>			
Cover age	15+			
Cover height	1-2' / 4-10'			
Density 1-5	dense / sparse			
Detritus 1-5				
Soil type & Moisture 1-5	Granite intrusion. dry.			
Rock co. 1-5	TMS. Boulders			
Sheet rock				
Rainfall				
Aspect	W.			
Slope	10-30°			
Soil distur- bance				
Biotic factors				
Other				

ALIEN POPULATIONS

	Infested	Near free
Seeding rates		
Soil seed loads		
Seedling mortality factors		
Adult mortality factors		
Regeneration		
Pathology		
General comment		

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

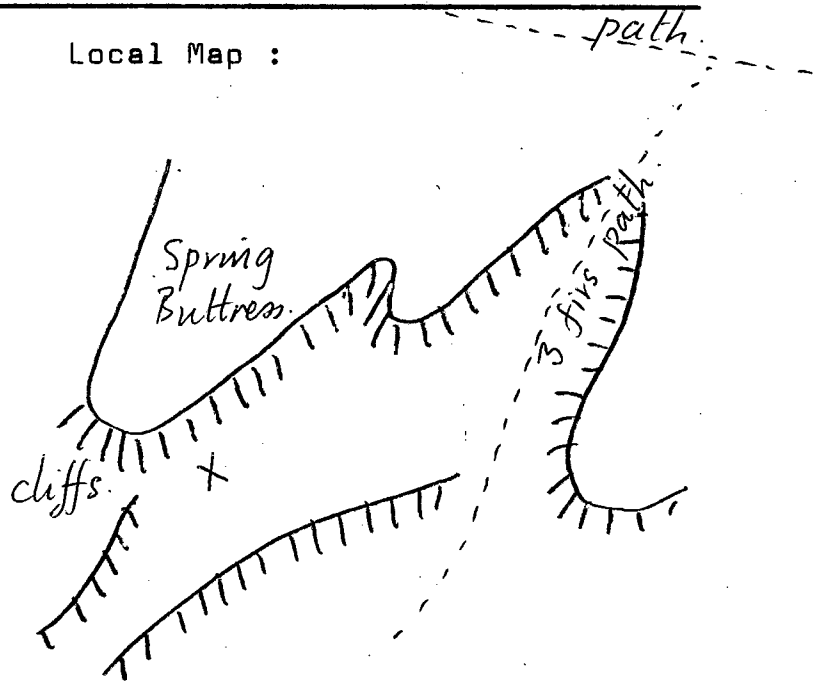
SITE : SPRING BUTTRESS, T.M.

v-88, 87-H

Altitude : 2250'

Local Map :

Bearings :



PLOT (In a 100m<sup>2</sup>) :

Aliens	nil.					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	"	"				
0,15m - 2m	"	"				
Over 2m	"	"				

In 200m Radius :

1959

*P. pinaster*, one 12' & one 3' tree @ 50 y/r.

1976

*P. pinaster* - evidence of frequent dead (burnt) pines  
- also chopping.

V-88187-H

FACTORS	1976- 1959-Podocarpus Site		Infested	Near free
	1959-Podocarpus	1976- Site		
Dominants	<i>Cliffortia rusc.</i> <i>Erica sp.</i> , <i>restio</i> <i>leucodendron</i> etc.	<i>Cliffortia</i> , <i>Restio</i> , <i>Erica sp.</i>	-	
Cover age	15+ yrs.	4-5 yrs.		4-5 yrs.
Cover height	variable	10-50 cm.		10-60 cm.
Density 1-5	dense	2+		2/3
Detritus 1-5		0 → 1		1
Soil type & Moisture 1-5	variable dry -	TMS, Course. Dry.		TMS Dry.
Rock co. 1-5		3		2
Sheet rock		-		-
Rainfall		-		-
Aspect	E.	S. E.		S & E
Slope		10°-20°		10°-90°
Soil distur- bance		Erosion.		Erosion.
Biotic factors		(some cutting.)		cutting of prunes.
Other		fires.		

ALIEN POPULATIONS

	Infested	Near free
Seeding rates		-
Soil seed loads		low.
Seedling mortality		high. (4-5 yrs ago)
factors		fire.
Adult mortality		high.
factors		fire.
Regeneration		slow - ml.
Pathology		-
General comment		-

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

SITE : ORANGE KLOOF, HAWK RIDGE, High alt. V-88 186 -H

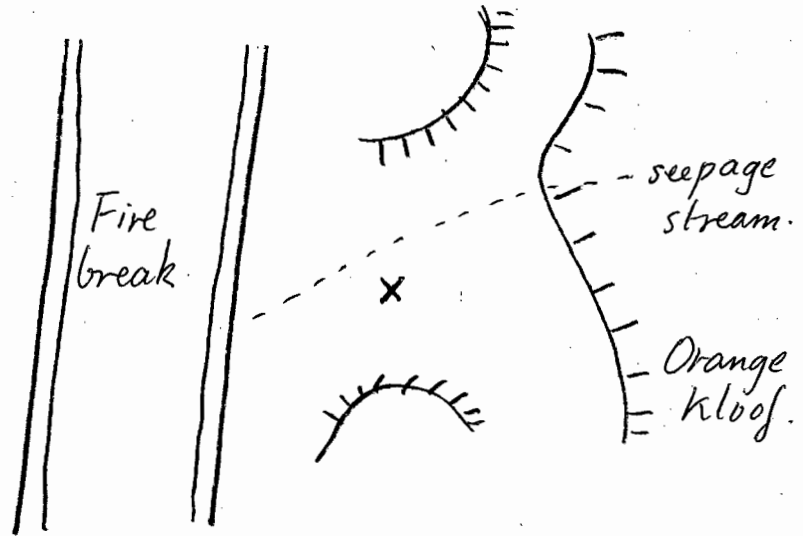
Altitude : 2190.

Local Map :

Bearings :

(In line with telephone poles to Woodhead) ?

Intake 82°.



PLOT (In a 100m<sup>2</sup>) :

Aliens	<i>P. pinaster</i> (CUT DOWN)					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	nil	-				
0,15m - 2m	"	4				
Over 2m	"	-				

(v. recently chopped)

In 200m Radius :

1959

*P. pinaster* : in slight kloof 50 yds from pt, 80 trees mostly >6' , about 15 of which are >20'.

1976

*P. pinaster* - evidence of v. recent cutting of about 80-120 pines of about 2-3 m. high (all about the same age.)

V-88/86-H

FACTORS	1959-	1976- At Site	Infested	Near free
Dominants	<i>Penta.</i> <i>Cliffortia,</i> <i>leucodendron,</i> <i>Widderringtonia</i>	<i>Cliffortia,</i> <i>Widderringtonia</i> <i>leucodendron</i> <i>Rhus</i>	Area that was infested.	
Cover age	20+	8-10 yrs.	8-10	8-10
Cover height	1-2-3'	70 cm.	50-70cm.	1/2 - 1m
Density 1-5	dense	4	3-4	4
Detritus 1-5		1	2	1
Soil type &	Gray TMS.	TMS	TMS.	TMS
Moisture 1-5	rather dry.	dry - moist.	moist 3.	2/3
Rock co. 1-5	occ. outcrops.	1	+	+ → 2.
Sheet rock		-	-	-
Rainfall		-	-	-
Aspect	S.E.	E	S.E.	E
Slope	10°	10°	10°	5°
Soil distur- bance		-		
Biotic factors		cutting of pines.	cutting of pines.	
Other		-		

ALIEN POPULATIONS

	Infested	Near free
Seeding rates	low - ?	
Soil seed loads	high	
Seedling mortality factors	- high cutting.	
Adult mortality factors	"	
Regeneration	fast	
Pathology		
General comment	all same age	

GENERAL NOTE :

- all the 80-120 pines appeared to be about the same age. (~ 4+ years) - with a open clustered sociability.

ALIEN VEGETATION SURVEY 1959/1976.

SITE : GROOTKOP HIGH ALT, T.M.

V-87185-H

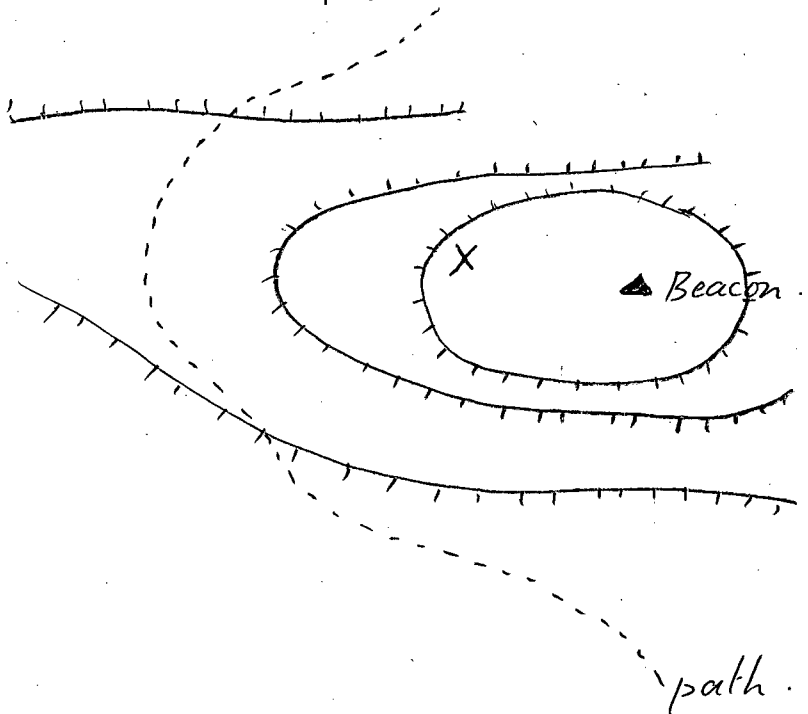
Altitude : 2700'

Local Map :

Bearings :

352° from spot ht 2802,  
ca about 60 yds from  
same.

172° southwards from  
ben.



PLOT (In a 100m<sup>2</sup>) :

Aliens	nil.					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	-	-				
0,15m - 2m	-	-				
Over 2m	-	-				

In 200m Radius :

1959

*P. pinaster*, 1 30' tree among rocks.

1976

*P. pinaster*, 4-7 trees, mostly large (10m) @  
50m, 100m and 200m.

Also evidence of pine chopping.  
1 dead pine.

V-87/85-H

FACTORS	1959-	1976- At Site	Infested	Near free	
	Dominants	Restio, ELEGIA, Thamn, Protea (tuffed.) e.l.c.	Restio, Watsonia, Cliffortia, Protea sp.	Large trees (Podocarpus)	Restio, Watsonia, Corymbium, Pentaschistis. (Forest)
Cover age	1 yr.	6-9 <del>to</del> yr.		18+	<del>6-9</del>
Cover height	0.5-1'	1/2 - 1m.		1-3m	1/2 - 1m
Density 1-5	sparse.	4		5	3-4
Detritus 1-5	-	1		1-2	+
Soil type &	TMS	TMS		TMS	TMS
Moisture 1-5	loc. seepage dry.	2		3	1
Rock co. 1-5		2-3		3	2
Sheet rock		-		-	-
Rainfall		-		-	-
Aspect	South.	S / SW.		N & E	All.
Slope		15-25°		15°	10-40°
Soil distur- bance		-		-	
Biotic factors		-		-	Cutting of
Other		-			pines

ALIEN POPULATIONS

	Infested	Near free
Seeding rates		
Soil seed loads		
Seedling mortality factors		
Adult mortality factors		
Regeneration		
Pathology		
General comment		

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

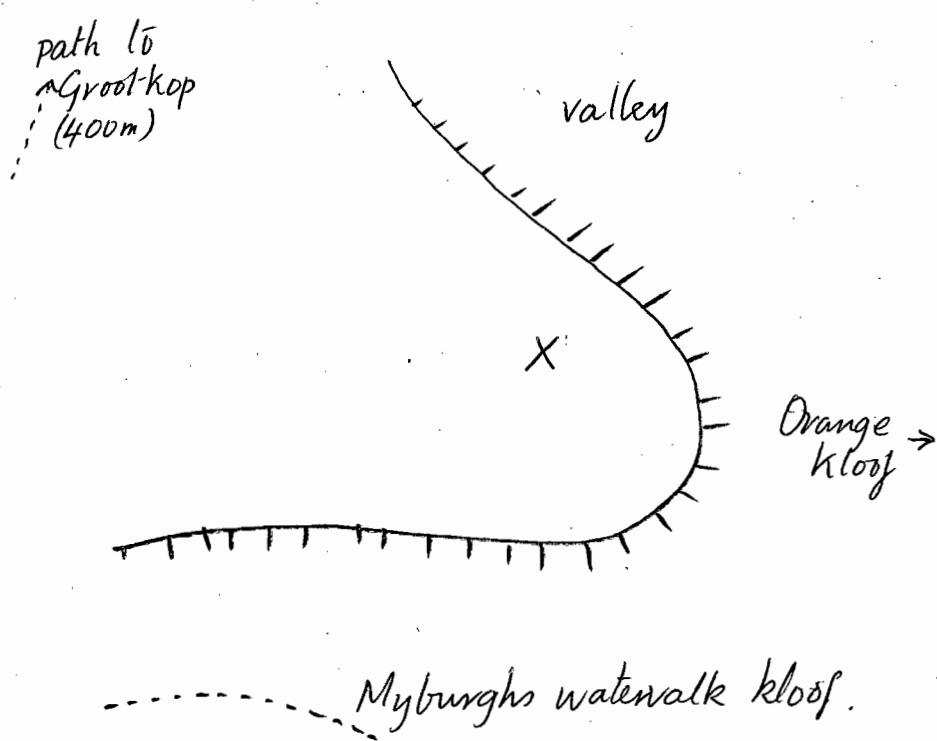
SITE :

V-87184 -H

Altitude :

Local Map :

Bearings :



PLOT (In a 100m<sup>2</sup>) :

Aliens	<i>P. pmaster</i>					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	nil					
0,15m - 2m	"	(1) dead				
Over 2m	"					

In 200m Radius :

1959 *Albizia distachya* 1 pl (12') in nearby ravine @ 75 yds.  
*P. pmaster* 5 > 6', 1 < 6'.

1976

*P. pmaster* - 15 dead (burnt) trees in 150m/r.

V-87184-H

FACTORS	1959-	1976- At Site	Infested	Near free
Dominants	Tetragia, Erica, Stible, Watsonia, etc.	Restio, grames, Watsonia Pentastictis		Restio's, & grames.
Cover age	20+	5-6 yrs.		5-6 yrs.
Cover height	1-3'	~70 cm.		50-70cm.
Density 1-5	v. dense	3-4		3
Detritus 1-5	-	0-2 (burnt trees)		0-1
Soil type & Moisture 1-5	TMS. rather dry	TMS 2 (dry)		TMS 2
Rock co. 1-5	rocky	2/3		2
Sheet rock		-		+
Rainfall		-		-
Aspect	E	N/E.		East.
Slope	5°	5°		5-35°
Soil distur- bance		-		-
Biotic factors		-		Cutting of pines.
Other		-		

ALIEN POPULATIONS

	Infested	Near free
Seeding rates		low.
Soil seed loads		-
Seedling mortality factors		high fire & cutting
Adult mortality factors		high. fire & cutting
Regeneration		slow. - nil.
Pathology		-
General comment		-

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

SITE : LLANDUDNO / HOUT BAY, *Buttress nr*  
Beacon no: 39., T.M. V-86 / 84-H

Altitude : 2250' ca.

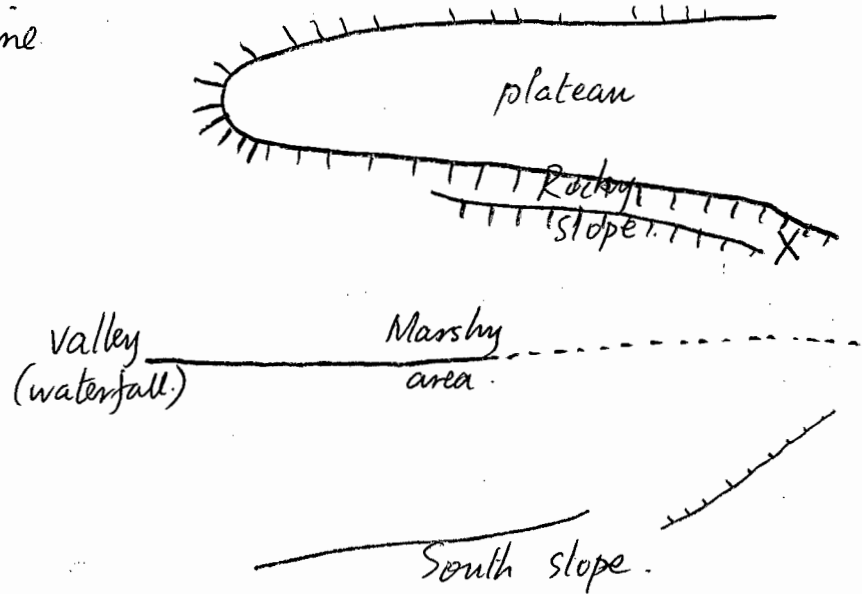
Local Map : valley.

Bearings :

Beacon 39 - 292°

Top of Victoria Ravine  
(Koppie) 20°

Edge of cliffs 5°



PLOT (In a 100m<sup>2</sup>) :

Aliens	nil					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	-	-				
0,15m - 2m	-	-				
Over 2m	-	-				

In 200m Radius :

1959

*P. pinaster*, 2 trees under 6' on rocky parts with *tetraria* etc.

1976

*P. pinaster*, about 45 trees, 2-5m, @ 60-200m.  
some small pines < 3m have been burnt  
in recent fire

V-86184-H

FACTORS	1959-	1976- At Site	Infested		Near free	
			NEAR FREE		NEAR INFESTED.	
Dominants	Elegia, Cyperaceae Leucosp, Erica Struthiola, etc. Chondropetalum	Elegia, Erica sp. Restio sp.	Rocky slopes, Podocarpus. etc		Plateau & in Myburghs kloof-	
Cover age	20+	~ 5 yrs.	~ 5 yrs.	30+	~ 5 yrs.	
Cover height	2-3'	0,2 - 0,8m.	0-1/2m	4m	1/2 - 1m	1/2-1m.
Density 1-5	dense	2	1-2	5	2	3/4
Detritus 1-5		2 (burnt bushes)	3 (burnt trees)	-	1-2	1-2
Soil type & Moisture 1-5	deep TMS marshy	3 TMS	1-2	2-3	TMS	TMS
Rock co. 1-5		3	3	3/4	2	1
Sheet rock		-	-	-	2/3	-
Rainfall		-	-	-	-	-
Aspect	E	E	E	N	E	S
Slope	5°	5°	15°	15°	0-10°	25°
Soil distur- bance		-	-	-	-	-
Biotic factors		-	-	-		
Other		-	-	-	Burnt pines	

ALIEN POPULATIONS

	Near Infested areas	Near free
Seeding rates		
Soil seed loads		
Seedling mortality factors	high from fire	
Adult mortality factors	med, fire (? cuttings)	
Regeneration		
Pathology		
General comment		

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

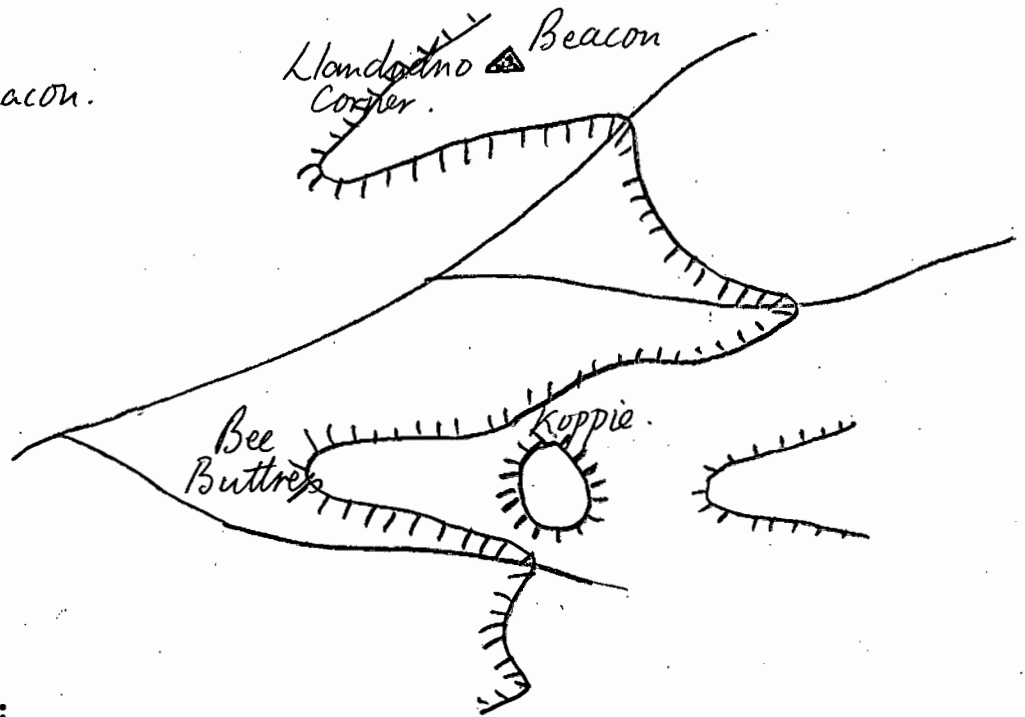
SITE : LLANDUDNO CORNER, High alt, T.M. V-85184-H

Altitude : 1950'

Local Map :

Bearings :

Beacon 343, 0°  
200 yds S. of Beacon.



PLOT (In a 100m<sup>2</sup>) :

Aliens	nil					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	-	-				
0,15m - 2m	-	-				
Over 2m	-	-				

In 200m Radius :

1959

nil.  
(*P. radiata* @ 400 yds)

1976

*P. pinaster* - 2 large trees @ 200m.

*Hakea serica* - 2, 2m tree @ 60m.

Evidence of pines (and maybe *Hakea*) being cut.

ALIEN VEGETATION SURVEY 1959/1976.

SITE : PLATEAU, MUIZEMBERG MNT,

V-95172-H

Altitude : 1380.

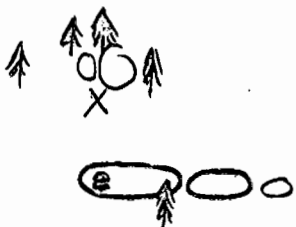
Local Map :

Bearings :

Lower Steenberg peak 340°  
(stream bend with pines 220°)



Map 1959:



Large  
Rocks



~~Overgrown Road~~



PLOT (In a 100m<sup>2</sup>) :

Aliens	<i>P. pinaster</i>					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	12	-				
0,15m - 2m	9	-				
Over 2m	2	-				

In 200m Radius :

1959

Clumps of *pinus pinaster*

1976

3 *P. pinaster* @ 200m  
(*A. sabigna*? @ 400m.)  
(*A. cyclops*)

ALIEN VEGETATION SURVEY 1959/1976.

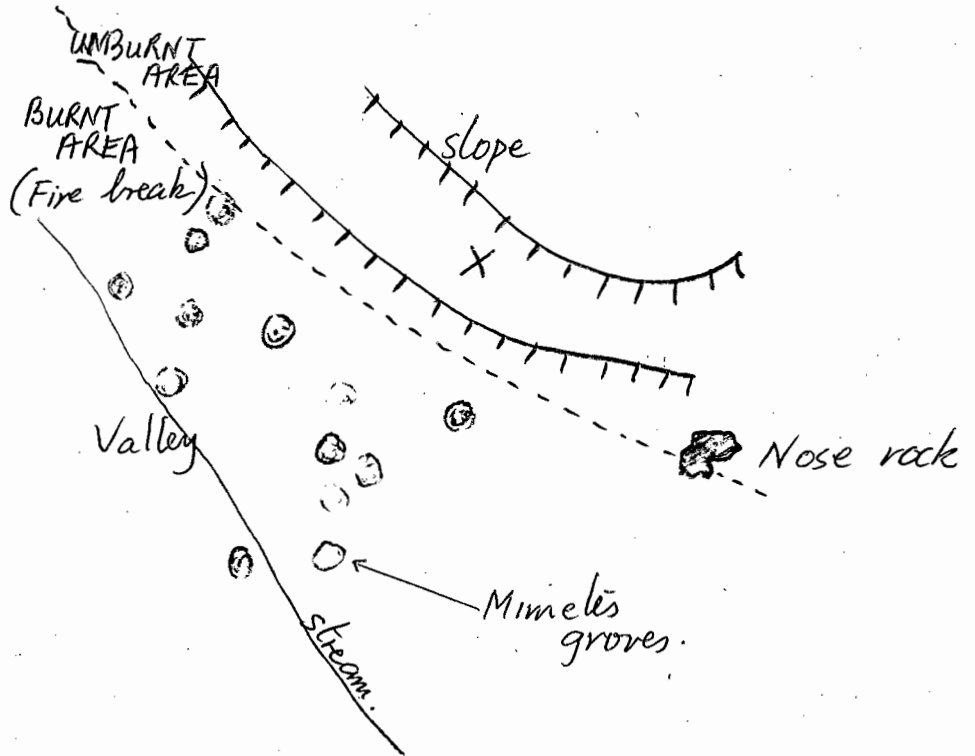
SITE : SLOPE nr NELLIE'S POOL, Mzbg Mnts, V-95171-H

Altitude : 1310'

Bearings :

Kalkbay berg 277°  
 1489 peak 300°  
 150 yds from ...  
 Nose rock.

Local Map :



PLOT (In a 100m<sup>2</sup>) :

Aliens	<i>P. priaster</i>					
	1959	1976	1959	1976	1959	1976
0 - 0,15m		-				
0,15m - 2m	(1) stump.	2				
Over 2m		-				

In 200m Radius :

1959

*P. priaster*, @ 400 yds in next valley.

1976

*P. priaster*: About 100+ pines, 1-2½ m high in 200m/r.  
 (see factors sheet.)

(IMPORTANT)

V-95171-H

FACTORS	1959-	1976- At Site	Infested	Near free
Dominants	Restios chiefly	Protea sp, Erica sp, Diversity of veg.	Protea sp. Erica sp. Pinus pinaster	Restios, grasses & Mimetes (4-5m high)
Cover age	4 yrs.	21 yrs.	21 yrs.	4-5 + <sup>1/2</sup> yrs.
Cover height	6" - 1'	1/2 - 1 1/2 m	1/2 - 1 1/2 m	20-50cm x 4m
Density 1-5	± sparse	5	5	3
Detritus 1-5		2-3 # <del>###</del>	2-3	+
Soil type & Moisture 1-5	TMS dry, exposed	TMS 1	TMS 1	TMS 1-2
Rock co. 1-5	v. rocky	3	3	1
Sheet rock		-	-	-
Rainfall		-	-	-
Aspect	S	S	S	S and E
Slope	10-30°	10-30°	10-30°	5° - 25°
Soil distur- bance				
Biotic factors				Fire break.
Other				

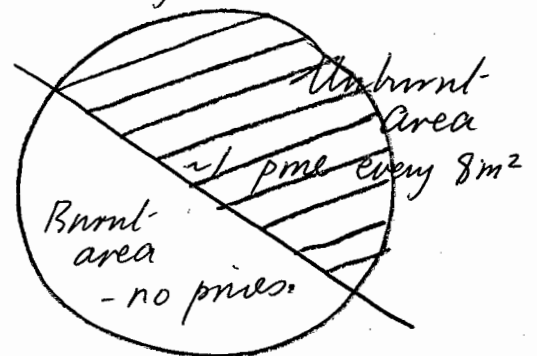
ALIEN POPULATIONS

Infested (UNBURNT AREA) Near free (BURNT AREA)

	Infested (UNBURNT AREA)	Near free (BURNT AREA)
Seeding rates		
Soil seed loads		
Seedling mortality factors	Low.	high.
Adult mortality factors	low. (upto 3m.)	high.
Regeneration	good.	fine.
Pathology		fine.
General comment		mil.

GENERAL NOTE :

- All the trees in the infested area are about 1/2 - 2 1/2 m high of about the same age. They are scattered. They were all found in the area of unburnt. Presumably the seedlings were also in the burnt area but were burnt out.



ALIEN VEGETATION SURVEY 1959/1976.

SITE : ABOVE ST. JAMES

V-95 / 70-H

Altitude : 680'

Local Map :

Bearings :

St James Pool 141°

PLOT (In a 100m<sup>2</sup>) :

Aliens	nil.					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	-					
0,15m - 2m	-					
Over 2m						

In 200m Radius :

1959

nil.

1976

*P. pinaster* @ 150m, 2 trees.

ALIEN VEGETATION SURVEY 1959/1976.

SITE : STEENBERG / MZBG PK.

V-94 172 -H

Altitude : 1250'

Bearings :

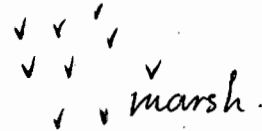
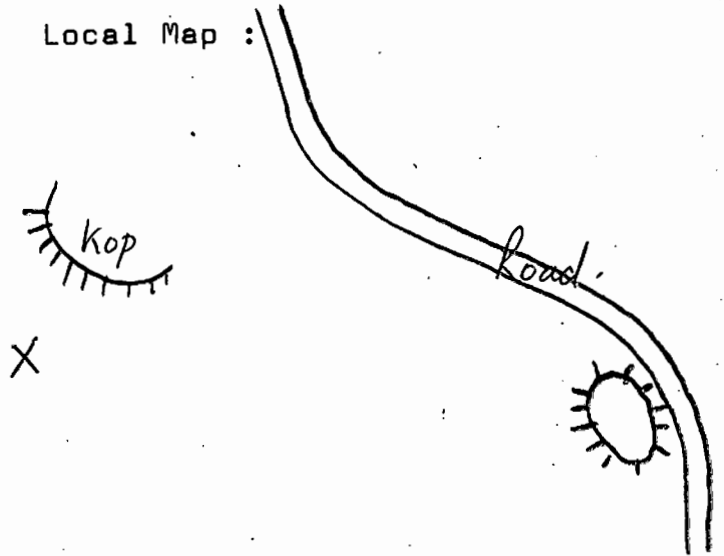
Kbbg 1694, 223°

Mzbg 1663, 114°

75 yds from marsh

20 yds from kop.

Local Map :



PLOT (In a 100m<sup>2</sup>) :

Aliens	<i>P. piniaster</i>					
	1959	1976	1959	1976	1959	1976
0 - 0.15m	-	nil				
0.15m - 2m	7 (3 dead)	"				
Over 2m	(4 dead)	"				

In 200m Radius :

1959

*P. piniaster*, 200+ in 200 yd/r, in dense local stands.  
some occ. escapes.

1976

*P. piniaster* : 1, 3m tree @ 200m

*A. Saligna* 1 @ 200m.

ALIEN VEGETATION SURVEY 1959/1976.

SITE : PLATEAU N. OF KAIK BAY - BERG,

V-94171-H

Altitude : -

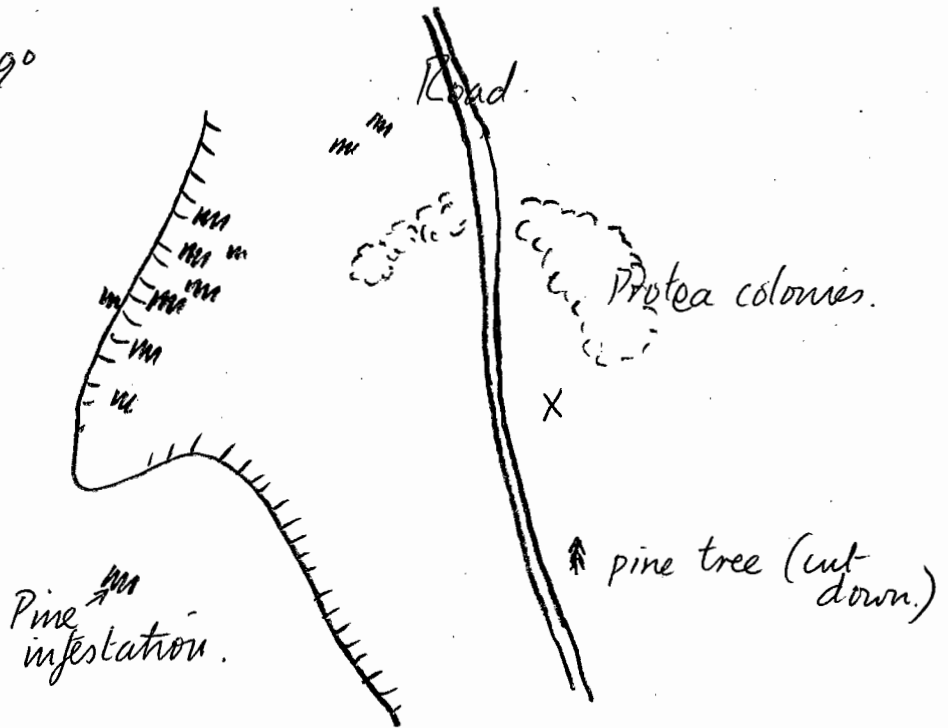
Local Map :

Bearings :

Beacon K Berg (1694') 249°

Mzby Cave Peak 111°

15 yds from Rd.



PLOT (In a 100m<sup>2</sup>) :

Aliens	<i>P. pinaster</i>					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	-	nil				
0,15m - 2m	1	-"				
Over 2m	-	-"				

In 200m Radius :

1959

*P. pinaster* - very scattered large trees and seedlings.

1976

*P. pinaster* - clumped infestation, of about 30 trees (2-5m) @ 180m+

V-94 171-H

FACTORS	1959-	1976- At Site	Infested	Near free	
Dominants	Erica sp. Restio Thymeleaceae	Protea sp. Mimetes Erica, Leucodendron	At base of hill	Protea sp., Dense stands of Leucodendron	
Cover age	4 yrs.	12-20 yrs.	12-20 yrs	12-20 yrs.	
Cover height	1/2 - 1 1/2'	1/2 - 1 1/2 m	1m	1 - 1 1/2 m.	
Density 1-5	dense	4-5	4-5	4-5	5
Detritus 1-5	-	2	2	2	2
Soil type & Moisture 1-5	TMS sl. damp.	TMS 2	TMS 1	TMS 1	TMS 1
Rock co. 1-5	little cover	+	2-3	1	2-3
Sheet rock		-	-	-	-
Rainfall		-	-	-	-
Aspect ↙	± level.	± level - 5°	0 - 10°	5°	0-15°
Slope ↘	-	-	N	-	N
Soil disturbance	-				
Biotic factors		Cutting of pines	?	Road. Cutting of pines.	
Other					

(on plat.) (nr hill)

ALIEN POPULATIONS

	Infested	Near free
Seeding rates	rel. high.	-
Soil seed loads	rel. high	low
Seedling mortality factors	low.	(high) competition
Adult mortality factors	-	-
Regeneration	rel. fast.	cutting? N. slow
Pathology		
General comment	-	

GENERAL NOTE :

At the base of the hill, the infested area is similar to the near free area at the base of the hill, except for the lesser degree of Protea and Leucodendron sp. present

ALIEN VEGETATION SURVEY 1959/1976.

SITE : SILVERMINE WATERFALL.

V-93172-H

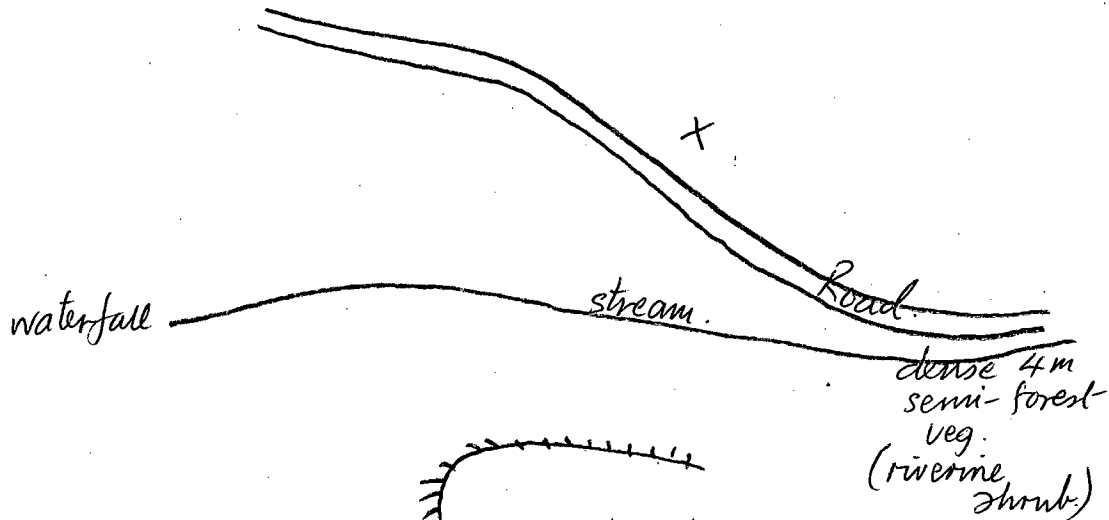
Altitude : 1010'

Local Map :

Bearings :

Centre ridge (1220 kop) 228°

S. facing slopes.



PLOT (In a 100m<sup>2</sup>) :

Aliens	<i>A. cyanophylla</i>					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	-					
0,15m - 2m	1					
Over 2m	-					

(*A. ~~long~~ saligna*)

In 200m Radius :

1959

*P. pinaster* 30-40, 10-30' trees in 200 ylr.  
*A. cyanophylla* (or *A. saligna*)

1976

*A. Saligna*, 30 trees @ 200m in riverine forest.  
*P. pinaster*, 3 trees @ 200m. (2m)

V-93172-H

FACTORS	1959-	1976- At Site	Infested	Near free	
Dominants	<i>Restio sp. etc.</i>	<i>Restio sp.</i>	<i>A. saligna</i> infestation at stream.	NORTH SIDE OF ROAD	SOUTH SIDE OF ROAD. (dump)
Cover age	3 yrs.	7-11 yrs	25-30 yrs.	7-11	10-20+
Cover height	1-1.5'	30-80 cm.	1-5 m	0.3-1 m.	1-2 m
Density 1-5	mod. dense	3	5	3	5
Detritus 1-5	-	1	2	1	3
Soil type &	TMS.	TMS	TMS	TMS	TMS
Moisture 1-5	Rather moist	2	4	2	4
Rock co. 1-5	small boulders	1	+	1-2	+
Sheet rock	-	-	-	-	-
Rainfall	-	-	-	-	-
Aspect	S.	S.W.	W.	S.W.	S.W.
Slope		5-8°	5-10°	5-30°	10°
Soil distur- bance		-	-	-	-
Biotic factors		Cutting of aliens.	near Road.	Cutting down of aliens.	
Other			in low riverine zone.	FIRE	

ALIEN POPULATIONS

	Infested	Near free
Seeding rates	nil. (young plants)	
Soil seed loads	high.	
Seedling mortality factors	rel. low. (competition)	
Adult mortality factors		
Regeneration	cutting rel. fast.	
Pathology	-	
General comment	-	

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

SITE : KTK / CENTRAL RIDGE VALLEY

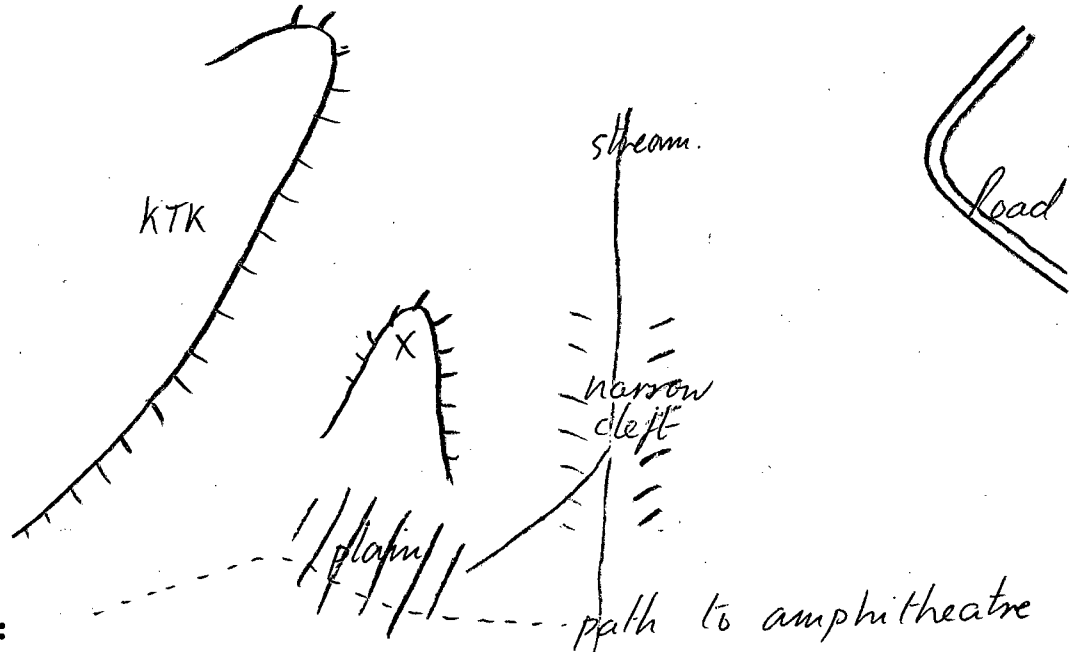
V-93 / 71 -H

Altitude : 1190'

Local Map :

Bearings :

KTK 284°  
Centre Kap 7°  
(1220')



PLOT (In a 100m<sup>2</sup>) :

Aliens	<i>P. piniaster</i>					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	-	nil				
0,15m - 2m	1	"				
Over 2m	-	"				

In 200m Radius :

1959

*P. piniaster* well dispersed, rather more freq on moist stream bank.

1976

*P. piniaster* - , 2 seedlings @ 150 (nr stream) I think in unburnt area.  
- evidence of much cutting down of pms.

*A. saligna* - 1-2m trees, about 10-15 @ 180m.

V-93171-H

FACTORS	1959-	1976- At Site	WAS Infested	Near free			
Dominants	<i>Rectio, Erica, Tetr. therm Helichrysa Watsonia.</i>	<i>Erica, Protea sp.</i>	<i>Pines have now been cut down.</i>	<i>slopes and plateau</i>		<i>Marshy damp areas.</i>	
Cover age	<i>5</i>	<i>15-20 yn.</i>	<i>~7 yn.</i>	<i>15- 20</i>	<i>7</i>	<i>15- 20</i>	<i>7</i>
Cover height	<i>1-2'</i>	<i>1/2 - 2 m</i>	<i>1/2 - 1m.</i>	<i>1m+</i>	<i>2/3m</i>	<i>1/2-1m</i>	<i>1/2m</i>
Density 1-5	<i>± dense</i>	<i>4</i>	<i>2-3</i>	<i>4</i>	<i>3</i>	<i>5</i>	<i>3</i>
Detritus 1-5		<i>2</i>	<i>2</i>	<i>1</i>	<i>+</i>	<i>1</i>	<i>+</i>
Soil type & Moisture 1-5	<i>Sandy TMS. ± dry</i>	<i>TMS</i>	<i>TMS</i>	<i>TMS</i>			
Rock co. 1-5		<i>1</i>	<i>2</i>	<i>1</i>	<i>3</i>		
Sheet rock	<i>large sheets</i>	<i>4</i>	<i>1</i>	<i>2</i>	<i>+</i>		
Rainfall		<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>		
Aspect	<i>W</i>	<i>W</i>	<i>NW</i>	<i>N&amp;W</i>			
Slope		<i>5°+</i>	<i>5°</i>	<i>0-20°</i>		<i>5°</i>	
Soil distur- bance		<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>		
Biotic factors		<i>Cutting of pines.</i>	<i>Pines have been cut.</i>	<i>Much cutting of pines.</i>			
Other							

ALIEN POPULATIONS

	Infested	Near free
Seeding rates		<i>-</i>
Soil seed loads		<i>Low.</i>
Seedling mortality factors		<i>high.</i>
Adult mortality factors		<i>cutting &amp; fire</i>
Regeneration		<i>high</i>
Pathology		<i>cutting</i>
General comment		<i>almost nil.</i>

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

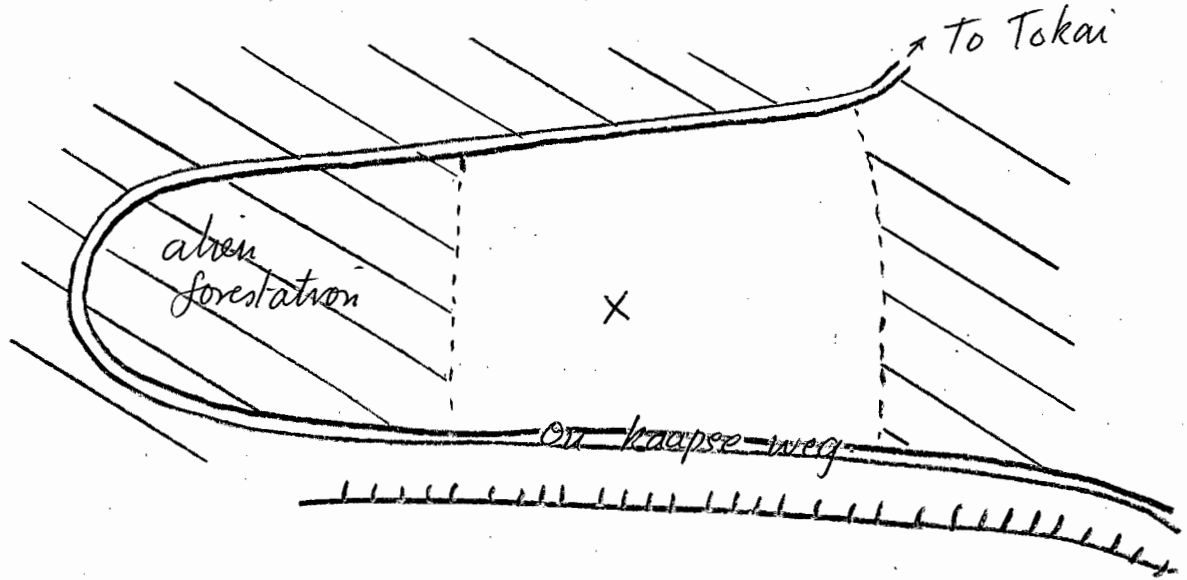
SITE : OU KAAPSE WEG , Mzbg Mnts.

v-92 / 74-H

Altitude :

Local Map :

Bearings :



PLOT (In a 100m<sup>2</sup>) : (not done in 1959.)

Aliens	nil.					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	-	-				
0,15m - 2m	-	-				
Over 2m	-	-				

In 200m Radius :

1959

1976

*Eucalyptus* sp.  
*A. longifolia*, *A. saligna* & *A. cyclops*.

*P. pinaster*

*Hakea* sp.

..... all present @ 150-400m.  
 and v. dense.

V-92174-H

FACTORS	1959-	1976- At Site	Infested	Near free
Dominants	—	No vegetation	100% infestation; (plantations)	No vegetation ; free of aliens
Cover age		1 yr.	20-30 yr.	1
Cover height		—	5-15m	—
Density 1-5		+	5	+
Detritus 1-5		3 (burnt matter)	2	3
Soil type & Moisture 1-5		TMS / Granite 1 intrusion	TMS / Granite 1	TMS / Granite 1
Rock co. 1-5		+ > 1	+	+
Sheet rock		—	—	—
Rainfall		—	—	—
Aspect		N.	N	N
Slope		25°	20-25°	20-25°
Soil distur- bance		Erosion	—	Erosion.
Biotic factors		Cutting & burning	Planting	Cutting & burning.
Other				

ALIEN POPULATIONS

	Infested	Near free
Seeding rates	high.	
Soil seed loads	ex. high	
Seedling mortality factors	med. competition	
Adult mortality factors	low.	
Regeneration	Fast.	
Pathology	—	
General comment	—	

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

SITE : Tip of WOLFKOP

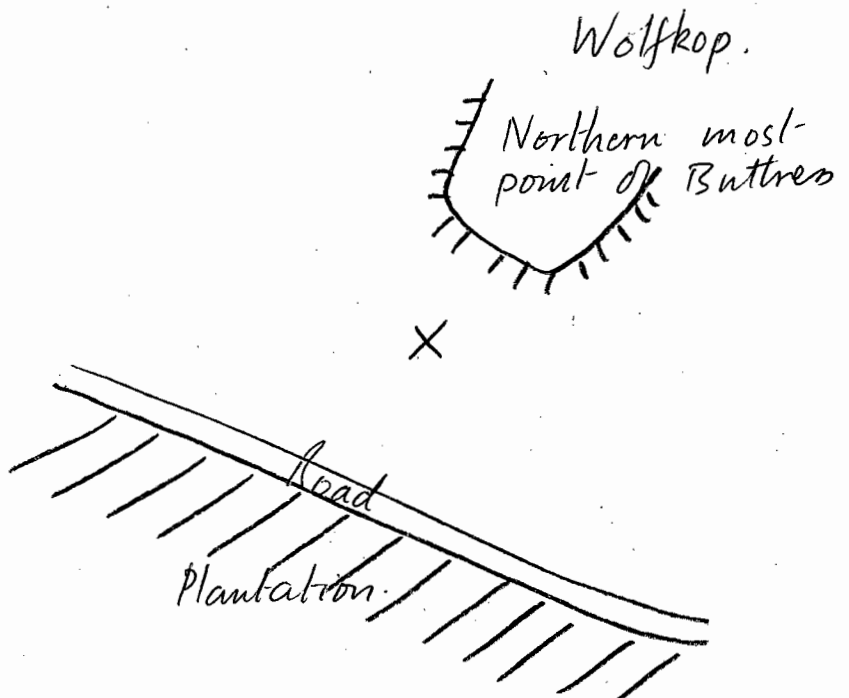
V-92173-H

Altitude : 1050'

Local Map :

Bearings :

Bokkop 270°  
 Steenbergkoppie 352°  
 75 yds from North  
 most point on buttres



PLOT (In a 100m<sup>2</sup>) :

Aliens	<i>A. cyclops</i>		<i>P. pinaster</i>		<i>A. saligna</i>	
	1959	1976	1959	1976	1959	1976
0 - 0.15m	3	nil	-	<del>nil</del>	nil	-
0.15m - 2m	7	-	2	1	"	2
Over 2m	-	-	-	-	"	-

In 200m Radius :

1959

*A. cyclops* and *P. pinaster*  
*P. pinaster*, clumps ~~at~~ of pines @ 120m on side of slope. (~ 50+ trees.)

1976

Pine plantation, @ 30 m.  
*P. pinaster*, about 30-50 seedlings  
*Hakea serica*, 20+ @ 80 and 160m.  
*A. cyclops* -  
*A. saligna*, 1-2m plants, about 30+ @ 75m.

Evidence of cutting of pines.

V-92173-H

FACTORS	1959-	1976- At Site	Infested	Near free
Dominants	<i>Kestios</i> on burnt patches <i>Leucodendron</i> sal. in old vld		Plantation. (15 yrs old)	
Cover age 20yr	<del>1/2-2-8'</del> 1/2-1yr	15 yrs.	16 yrs.	8-15 yrs.
Cover height	1/2-2-8' 1/2-low	1/2 - 2m	8-10m	1/2 - 1m.
Density 1-5		4	4	4
Detritus 1-5		1		1
Soil type &	TMS	TMS		TMS
Moisture 1-5	average	2-3		2
Rock co. 1-5	little surface rock	+		1-2
Sheet rock		-		-
Rainfall		-		-
Aspect	N	N (E)		N, E & S.
Slope	0-10°	5°		5-30°
Soil distur- bance	-	-		-
Biotic factors	-	Cutting of aliens.		path, roads, Cutting of pines.
Other				

ALIEN POPULATIONS

	Infested.	Near free
Seeding rates	high. (spreading to near free area.)	-
Soil seed loads		low.
Seedling mortality factors		? occ. fire.
Adult mortality factors		high
Regeneration	(rel. slow.)	slowing v. slow.
Pathology		
General comment		

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

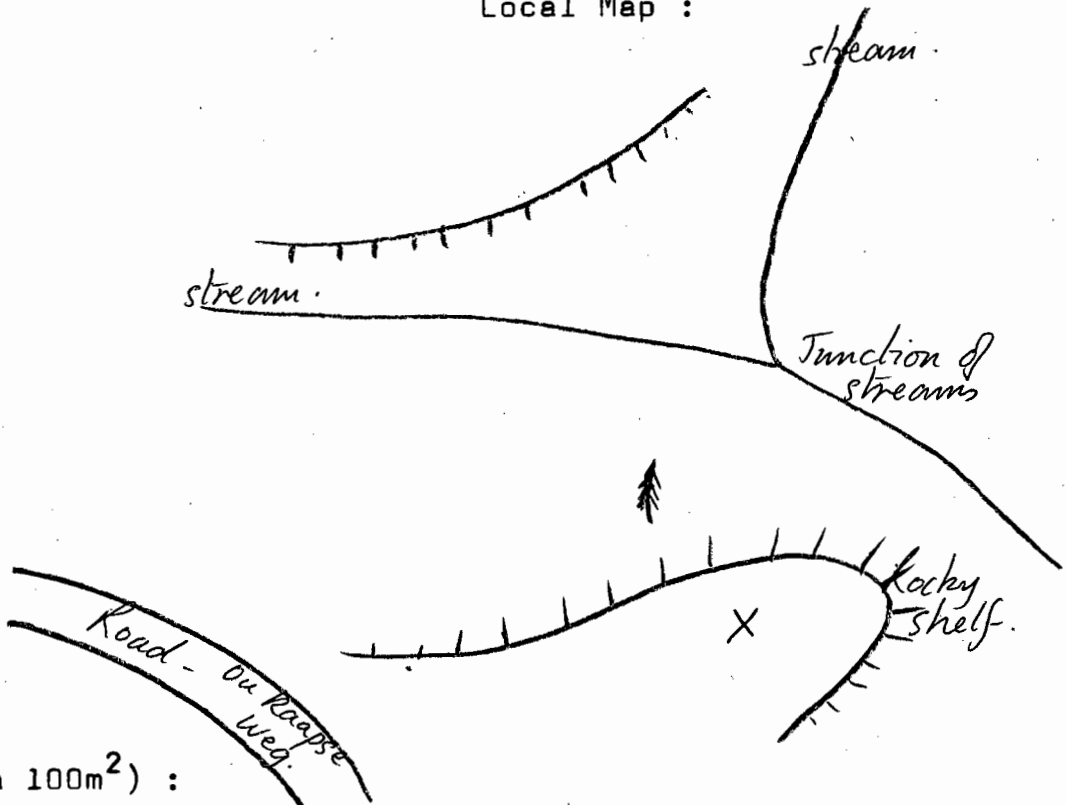
SITE : SILVERMINE RIVER JUNCTION.

V-92172-H

Altitude :

Local Map :

Bearings :



PLOT (In a 100m<sup>2</sup>) :

Aliens.	<i>P. piniaster</i>					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	nil.	-				
0,15m - 2m	"	-				
Over 2m	"	1 (max 3")				

In 200m Radius :

1959

*Acacia*, Clumps of 20-30' trees, 200+ @ x in 200 y/r.  
*P. piniaster* 50+, 10-20' trees in 200 y/r  
 1 *P. radiata* 200 y.

1976

*P. piniaster*, 100 trees in 200 m/r.  
 Evidence of much pine cutting

*P. radiata* ?

*Acacia saligna* and *A. cyclops* present in dense colonies (and *A. longifolia*) near road and in the river bed. 300+ trees

*Hakea <sup>repica</sup> gibbosa* - about 200+ plants, all about 1m, in a 30m/r @ 150m. Old plants cut down - Very clumped infestation.

V-92172-H

Infested

FACTORS	1959-	1976- At Site	Infested		<del>Near free</del>	
	Dominants	Protea, Cassinia Erica, Stoebe Leuco- Watsonia etc.	Protea, Erica, Watsonia. Pines.	Hakea infestation on slopes.	Acacia on slopes	Acacia in stream bed.
Cover age	20+	4+ <del>6</del> yrs.	4+ <del>6</del> yrs.	~10	~20+	Varying ages.
Cover height	(1)-5-8-(20)'	1/2m / 6-8m	1/2-1m.	2-3m	3m+	1/2-8m.
Density 1-5	dense ground layer	3-4	3-4	5	5	3-4
Detritus 1-5		2	2	1	1	1
Soil type & Moisture 1-5	sl. damp.	TMS.	TMS	TMS	TMS	TMS
Rock co. 1-5		1-2	+→1	+	+→1	1
Sheet rock	sub-surface occ. exposed.	1	+	+	+	+
Rainfall		-	-	-	-	-
Aspect	E	E	E	E	N&E	N&E&S
Slope	5-30°	5°-30°	20°	15°	5-25°	0-30°
Soil distur- bance			-	Road.		-
Biotic factors	-		Old Hakea plant cut & I think	nr road.	-	Cutting of pines.
Other			Burnt.		-	

ALIEN POPULATIONS

	HAKEA Infested	ACACIA .	Near free
Seeding rates	nil of young pl.	high (occ)	
Soil seed loads	high.	high	
Seedling mortality	low.	med.	
factors	-	comp.	
Adult mortality	Cutting &	low.	
factors	burning.	-	
Regeneration	FAST.	fast.	
Pathology	-	-	
General comment	-	-	

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

SITE :

V-92171-H

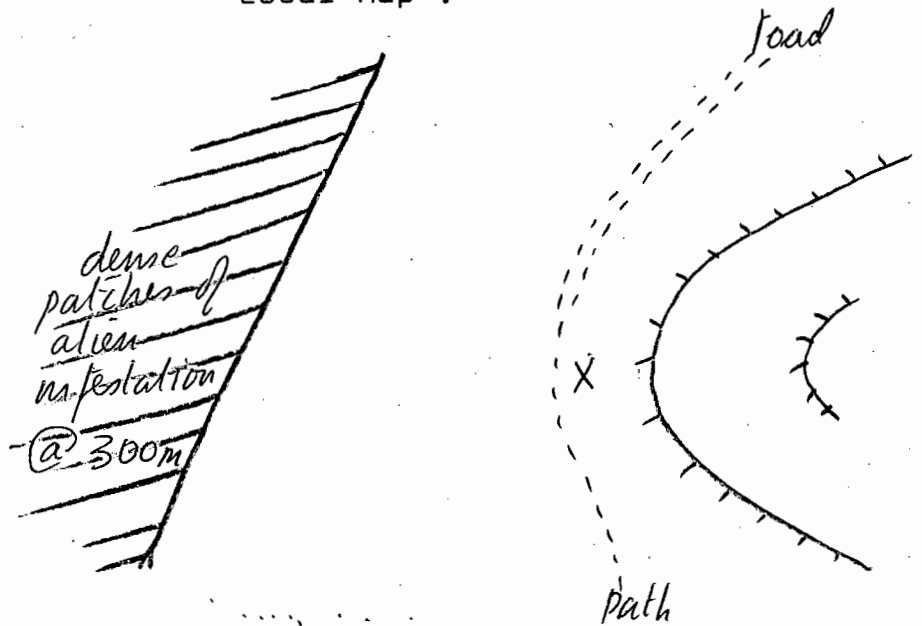
Altitude : 900'

Local Map :

Bearings :

River junction 30°

Blokhuis kop 298°



PLOT (In a 100m<sup>2</sup>) :

Aliens	<i>A. Longifolia</i>					
	1959	1976	1959	1976	1959	1976
0 - 0.15m	nil	-				
0.15m - 2m	"	/				
Over 2m	"	-				

In 200m Radius :

1959

*Hakea gibbosa*, occ → dense lower alt.

*A. longifolia*, v. dense in valley.

*P. pinaster* occ. *P. radiata* 1 pl.

1976

- Evidence of alien chopping (of acacia's) etc.

*P. pinaster* occ.

*P. radiata* ?

*A. longifolia* - frequent along the road and below (50)

*A. saligna* - 4 plants found nr. road

acacia - dense in Klein tuyn kloof, to the north. @ 200m+  
*longifolia*

*Hakea gibbosa* - occ. small (1 1/2 m) pl at low alt nr dense stands of alien forestation.

V-92171-H

FACTORS	1959-	1976- At Site	@ 200m+ Infested	Near free
Dominants	Erica, Leuca, Protea grand. Tham. Tetr etc	Protea sp, Erica, Cliff, Reslio.	ACACIA: infestation of Kleinium klosj.	Slopes above the road (large # Protea plants.)
Cover age	1-2'	12+ (maybe 21.)	10-20+	20+ yrs.
Cover height	6 yr.	1m	2m+	1m x 2-3m
Density 1-5	dense	4	5	4-5
Detritus 1-5		2 (old stumps)	1-2	2+
Soil type & Moisture 1-5	dry.	TMS.	TMS	TMS.
Rock co. 1-5		2	+	2
Sheet rock		-	+	+
Rainfall		-	-	-
Aspect	W	W	W	NW, W & SW
Slope	30°+	30°	10-20°	20-80°
Soil distur- bance		-	-	-
Biotic factors		Some cutting down of aliens	-	(maybe some cutting of Acacias, waxes & pme.)
Other				

ALIEN POPULATIONS

	Infested	Near free
Seeding rates	high	
Soil seed loads	high	
Seedling mortality factors	rel. high competition	
Adult mortality factors	med. competition	
Regeneration	fast	
Pathology	-	
General comment	-	

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

SITE : W of STEENBERG KOPPIE

V-91174-H




Altitude :

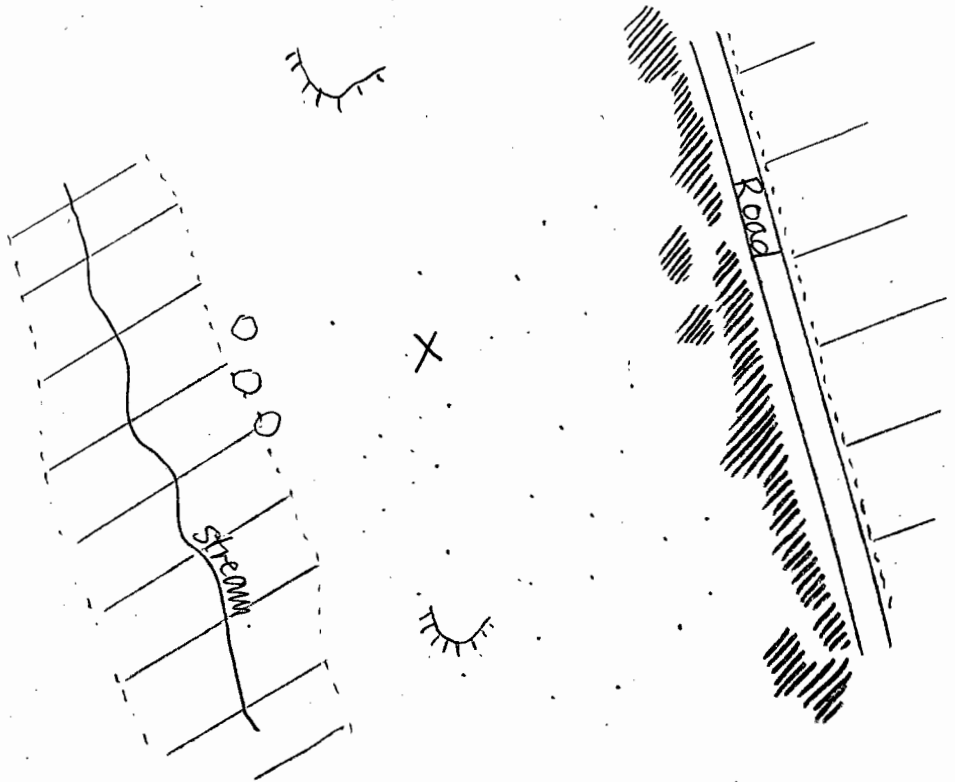
Local Map :

Bearings :



Steenberg koppie 120°  
(End of forest 237°)?

Promontory nearest river is 75 yds from pt.

Eucalyptus   
 Pine   
 Seedlings of *P. pinaster* 



PLOT (In a 100m<sup>2</sup>) :

Aliens	<i>P. pinaster</i>					
	1959	1976	1959	1976	1959	1976
0 - 0.15m	-					
0.15m - 2m	2	 4				
Over 2m	2	-				

In 200m Radius :

1959

Blue gum seedlings (planted)

Dense growth of *Pinus pinaster* towards river

1976

*Eucalyptus* sp. 3-4m+ along the road.

*P. pinaster* - Dense grove at the river, and North of the road. (about 5 trees per 10m<sup>2</sup>)

- High % of seedlings in Near free area between the road & river and at site.
- Seedlings all about the same age.

V-91174-H

FACTORS	1959-	1976-		Near free		
		At Site	Infested			
Dominants	Restio, Ericas	Restios, Ericas Leucodendron.	Euca- lyptus sp.	P. pinaster At Stream @ slope		In Area between river & rd. High % of Pine seedlings.
Cover age	4-5 ym.	20+ ym.	+20 ym	30+	20+	20+ ym.
Cover height	1-2'	1-1 1/2 m	3-5m	8m+	8m+	1-1 1/2 m
Density 1-5	dense	5	3	4	4	4-5
Detritus 1-5		2	1	2	1	2
Soil type &	TMS	TMS	TMS	TMS		Sandy, TMS
Moisture 1-5	moist	3	7	3	1	2
Rock co. 1-5	boulders occ.	1	+	1	1	1
Sheet rock		-	-	-	1	+
Rainfall		-	-	-	-	-
Aspect	S	S	S	E	Flat	S
Slope	0-10°	2-7°	4°	8°		2-15°
Soil distur- bance		-	Road	-	-	-
Biotic factors		maybe cutting of pines some years back.	planted		prob. planted.	Plantations nr. & perhaps cutting.
Other	seasonal spring in middle.					

ALIEN POPULATIONS

(N of Road) High % of Seedlings.

	Infested			Near free
	Eucalyptus	Pine (stream)	Pine (slope)	Seedlings.
Seeding rates	Low.	high.	high.	ex. high. (from nr by stands)
Soil seed loads	low	high.	?	high.
Seedling mortality factors	rel. med.	low-high.	low	low.
Adult mortality factors	-	low	low	high.
Regeneration	Slow.	rel. fast.	rel. fast.	cutting. (presumably)
Pathology	-	-	-	fast.
General comment	-	-	-	-

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

SITE : N. of BOKKOP

V-91173-H

Altitude : 920'

Local Map :

Bearings :

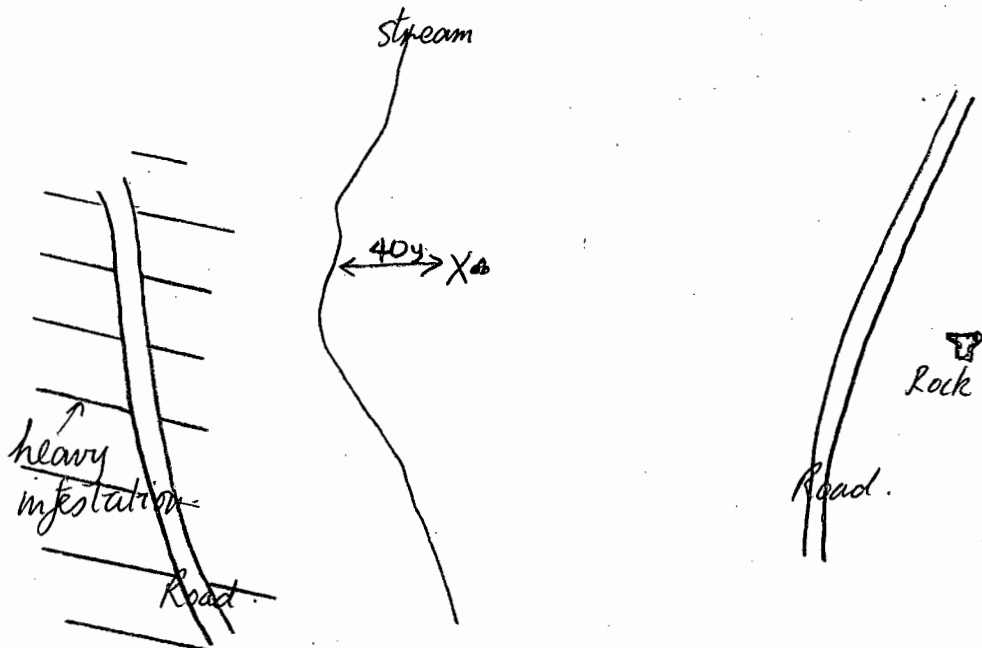
1615 Beacon of pk 297°

KTK 173 5°

KBBg 1694', 159-5°

(NB. rivers and positions of Bokkop are not all that accurate.)

40 yds from stream @ Beacon.



PLOT (In a 100m<sup>2</sup>) :

Aliens	<i>P. pinaster</i>					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	nil					
0,15m - 2m	"	1 (1 cut down)				
Over 2m	"	(2 cut down)				

In 200m Radius :

1959

*P. pinaster*, widely dispersed within 100/200 y/r.

1976

*P. pinaster* - ∞ infestation nr road, and to the south. a few trees occ. on near free slope. Evidence of pine chopping in near free area.

*A. saligna* - occ, among Pine.

*H. gibbosa*  
*H. serica* } occ. plants found in area infested by pine.

V-91173 -H

FACTORS	1959-	1976- At Site	Infested	Near free
Dominants	<i>Restio</i> <i>Stoebe</i> <i>Metalasia</i>	<i>Restio</i> <i>Stoebe</i> <i>Metalasia</i>	Pine and other aliens	<i>Restio</i> <i>Stoebe</i> , & large Protea plants.
Cover age	1-2	15-20 yrs.	20 yrs.	15-20 yrs.
Cover height	1'	1/2 - 1m & 3m.	up to 10m.	
Density 1-5		4	4	4
Detritus 1-5		1	1	1
Soil type & Moisture 1-5	deep TMS med. dry.	deep TMS. 2-3	TMS 1-2	deep TMS. 1-2
Rock co. 1-5		+	1	+ → 1
Sheet rock		-	-	-
Rainfall		-	-	-
Aspect	S.	S	S & E	S
Slope		5°	0-8°	5-15°
Soil distur- bance		-	Roads etc	-
Biotic factors		Cutting.	maybe planting	Road, cutting.
Other		-		

ALIEN POPULATIONS

	Infested	Near free
Seeding rates	high.	-
Soil seed loads	high.	low-high. LOW
Seedling mortality factors	-	low-med.
Adult mortality factors	low.	high. cutting etc. (NB)
Regeneration	rel. fast.	med.
Pathology	-	
General comment	-	

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

SITE : S. of BOKKOP, SILVERMINE VALLEY.

V-91 172 -H

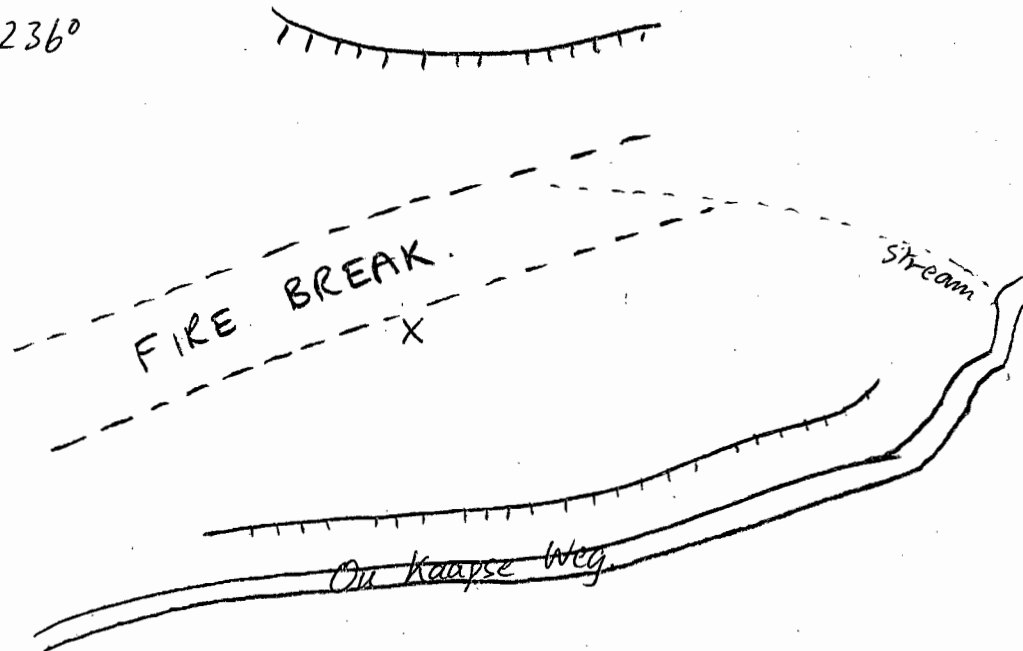
Altitude : 750'

Local Map : Bokkop

Bearings :

Main Smit farm Bldgs 236°

KTK 166°



PLOT (In a 100m<sup>2</sup>) :

Aliens	nil.					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	"	"				
0,15m - 2m	"	"				
Over 2m	"	"				

In 200m Radius :

1959

*P. pinaster* 30+ ~~4/11~~  
*P. radiata* 1pl.

1976

*P. pinaster* - evidence of many trees (230) cut down.  
 - a few young seedlings present @ 170m.  
*A. cyclops* - Along the road in soil disturbed areas.  
*H. gibbosa* - occ. seedlings present (10+) but widespread  
*Hakea* sp. not clumped within 200m/r.

V-91172-H

FACTORS	1959-	1976- At Site	Infested	Near free	
Dominants	<i>Pteridium</i> <i>Leucodendron</i> Tetr. <i>Erica</i> sp. etc.	<i>Leucodendron</i> , Redio, grames. <i>Erica</i> sp.	<i>Acacia</i> infestation along Road.		Fire-break.
Cover age	15+	~ 7 yrs.	-	7 yrs.	(same day) Oyn.
Cover height	1-2'	1/2 m.	1-2 m.	1/2 m.	-
Density 1-5	dense	3-4	2	4	-
Detritus 1-5		1	1	1	-
Soil type & Moisture 1-5	Sandy dry.	TMS.	TMS.	TMS	Sandy
Rock co. 1-5	occ. very large outcrops	2-3	(3)	2	2
Sheet rock		-	2	-	-
Rainfall		-	-	-	-
Aspect	E	E x S.	E x S.	S x E	SE
Slope	0-10°	2-9°	0-20°		
Soil distur- bance		-	Road building	-	#
Biotic factors		Cutting of pines.		Cutting of aliens.	
Other				Fire Break.	

ALIEN POPULATIONS

	Infested	Near free
Seeding rates		high.
Soil seed loads		
Seedling mortality factors		
Adult mortality factors		
Regeneration		fast.
Pathology		
General comment		alongside the Road.

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

SITE : PLATEAU nr RESEVOIR, STEENBERG.

V-90174-H

Altitude : 1500'

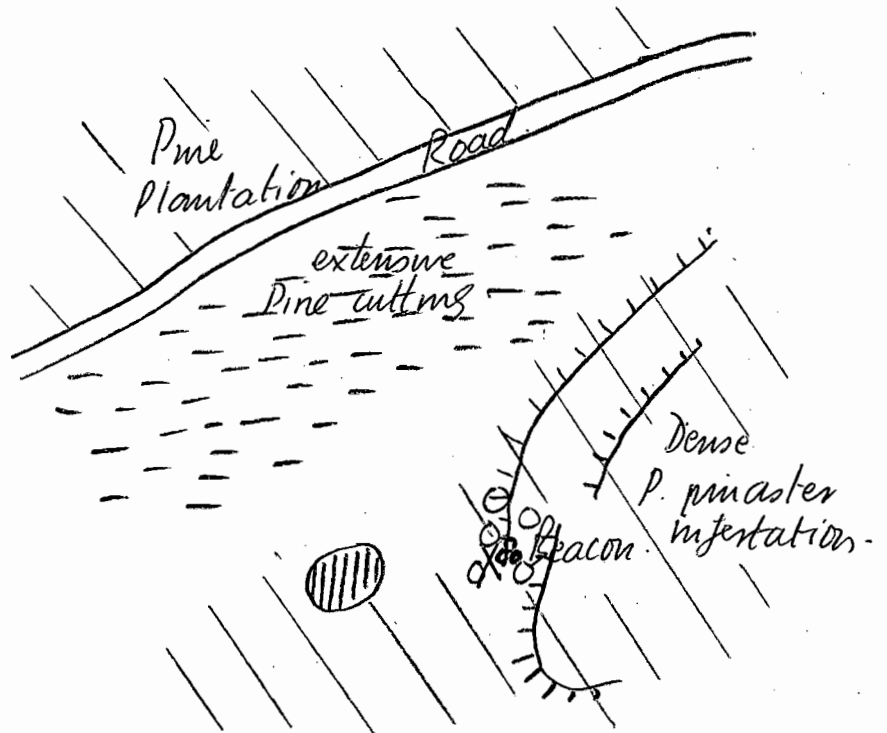
Local Map :

Bearings :

1615 Beacon pk - 248,5°  
(Bokkop 175°)

1369 Turret on Clovelly  
Ridge 175-5°

Beacon for site about  
100m from the road.



PLOT (In a 100m<sup>2</sup>) :

Aliens	<i>P. pinaster</i>					
	1959	1976	1959	1976	1959	1976
0 - 0,15m		-				
0,15m - 2m		2				
Over 2m	1 dead stamp	5				

In 200m Radius :

1959

*P. pinaster* occ. in surrounding 200y/r  
well dispersed.

1976

- P. pinaster* :
- (a) Plantation (planted) south of the road.
  - (b) Extensive chopping just north of the road.  
- young plants and seedlings are present  
@ 2-4 pl per 10m<sup>2</sup>.
  - (c) Extensive pine infestation at site and on the koppie

*A. saligna* - occ. plants (2m) found along road.

*Eucalyptus* sp - found along road, isolated plants.

(10-16 yrs old)  
@ 6 per 10m<sup>2</sup>.

V-90174-H

FACTORS	1959-	1976- At Site	Infested	(Near free)
Dominants	Grasses, Restios, Watsonia etc.	Restio, Grasses & Erica sp P. pinaster.	Areas on Koppie nr site (not plantation)	EXTENSIVE CUTTING DOWN OF P. PINASTER.
Cover age	? 4-5 yrs.	20+ yrs.	20+ yrs.	20 yrs.
Cover height	1-2'	1m x 11m	8-12m.	1m.
Density 1-5	dense	5	5	2
Detritus 1-5		2	2	3 (dead trees)
Soil type & Moisture 1-5	med. dry.	TMS. Sandy.	TMS.	TMS.
Rock co. 1-5		2-	2	+
Sheet rock	Sub-surface Rock	(3 nr by)	+ → 2	+
Rainfall		-	-	-
Aspect	S.	S	S & SE	S
Slope		8°	5°-25°	5°
Soil distur- bance		-	-	Road nr by.
Biotic factors		-	-	Much chopping.
Other		-	-	

ALIEN POPULATIONS

	Infested	(was infested.) Near free
Seeding rates	high. LOW.	rel. high.
Soil seed loads	high.	rel. high.
Seedling mortality factors	- mod. high. competition.	low.
Adult mortality factors	low	high
Regeneration	slow	CUTTING. rel. high.
Pathology		-
General comment	ALL plants seem the same age (~15 yrs) or are in age groups.	

GENERAL NOTE :

ALL plants seem the same age (~15 yrs) or are in age groups.

- (i) The seeding rates (i.e. the amount of seedlings coming up) are relatively low compared to the number of adult plants.
- (ii) Also the plants seem to be in ~~the~~ age groups.
- (iii) Competition may play an important part in seeding rates and seedling production in dense stands of pine.

ALIEN VEGETATION SURVEY 1959/1976.

SITE : TOP of VLAKKENBERG.

V-89 181 -H

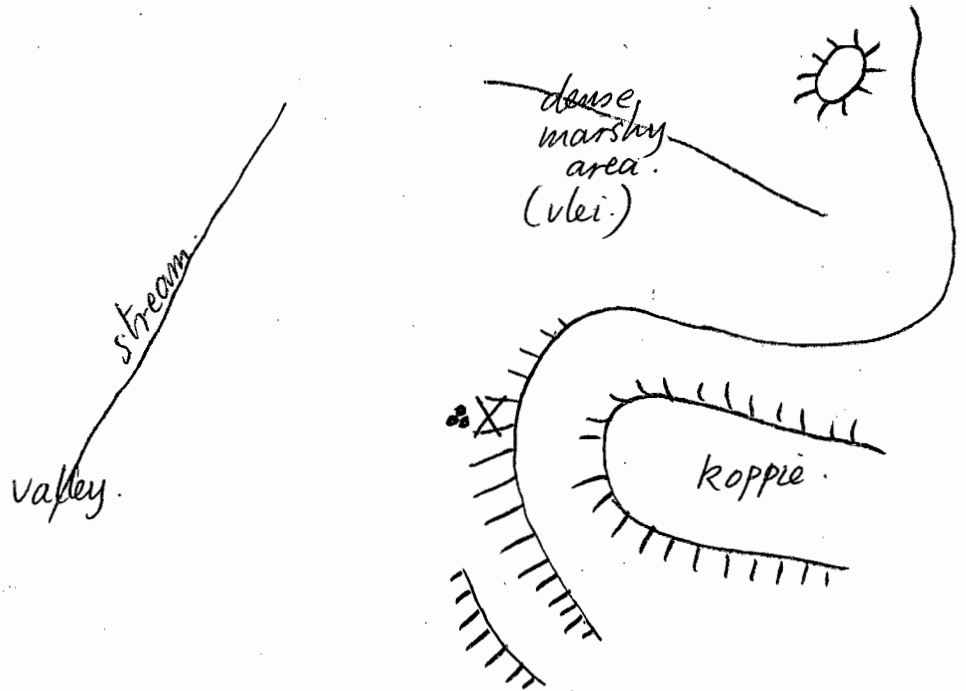
Altitude : 1710'

Local Map :

Bearings :

1875 Kup 59°

1907 u 312°



PLOT (In a 100m<sup>2</sup>) :

Aliens	nil.					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	-	-				
0,15m - 2m	-	-				
Over 2m	-	-				

In 200m Radius :

1959

*P. piniaster* occ. tree on slope @ 100/150 yds.

1976

*P. piniaster* (a) isolated occ. in vlei, mainly 2m, about 20 pl @ 100m ±  
Some > 3-4m.

*P. europea* ? . 1pl @ 150m.

Some pines on koppie and on slope below side in valley. Randomly distributed. about 2-3m (6-~~10~~ yr. old.)

V-89181-H

FACTORS	1959-	1976- At Site	Near free. (Infested)	Near free
Dominants	<i>Cyranes, Phyllica</i> etc. see sheet.	<i>Leucodendron</i> <i>Cliff. alvata</i> <i>Rhus. Restio.</i>	Area in vlei with isolated <i>Pines.</i>	
Cover age	15 yrs.	30+ yrs.	30+ yrs.	30+ yrs.
Cover height	± 1'	1-2 m.	1-3 m.	1-2 m
Density 1-5	variable; dense	5	5	5
Detritus 1-5		1	2-3	1
Soil type & Moisture 1-5	TMS. seepage	TMS. 1	TMS. 1-4	TMS. 1
Rock co. 1-5		2	+	2-3
Sheet rock	sub-surface rock	+	-	+
Rainfall		-	-	-
Aspect	NW	NW.	NW.	N, W & NW.
Slope	10-30°.	10-20°.	5-10°	5-30°
Soil distur- bance		-	-	-
Biotic factors		-	-	-
Other		-	-	-

ALIEN POPULATIONS

	Near (Infested)	Near free
Seeding rates	slow.	low.
Soil seed loads	low.	v. low.
Seedling mortality factors	high competition. ?	-
Adult mortality factors	-	-
Regeneration	v. slow.	almost nil.
Pathology	-	-
General comment	Baboons could be ripping off cones. 6	

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

SITE : NOORDHOEK PK, FIRE STATION.

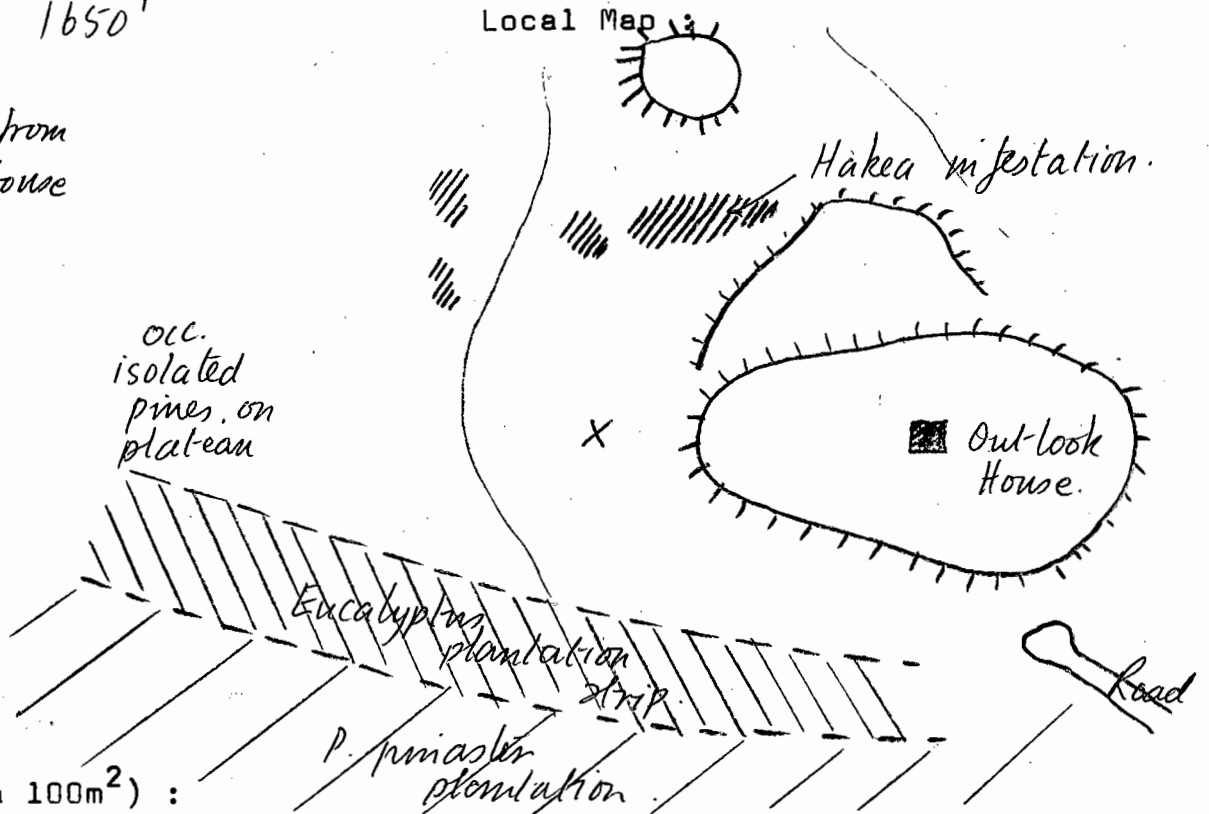
V-89174 -H

Altitude : 1650'

Bearings :

100 yds from  
Outlook House

Local Map :



PLOT (In a 100m<sup>2</sup>) :

Aliens	<i>P. pinaster</i>					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	-	-				
0,15m - 2m	-	-				
Over 2m	1	-				

In 200m Radius :

1959

*P. pinaster*, ca 250 m 200 y/r

1976

*P. pinaster* (a) isolated trees (5m) on plateau @ 200-300m.  
(b) plantation, north of site.

*Eucalyptus* sp. - plantation strip north of site @ 70m.

*Hakea gibbosa* - ~ 300+ seedlings (1,20m) in clumps south of the site @ 50-200m. All the same age.

V-89174-H

FACTORS	1959-	1976- At Site	Infested	Near free
Dominants	Restio, Cliffortia.	Restio, grasses.	Hakea gibbosa infestation.	
Cover age	15+	6-7 yrs.	12-15 yrs.	12-15 yrs.
Cover height	1-2'	1/2 m	1/2 - 1m	1/2 - 1m.
Density 1-5	dense <sup>occ.</sup> bushes	3	4	4
Detritus 1-5		+	4 → 1	4 → 1
Soil type & Moisture 1-5	Sandy. variable	TMS Sandy	TMS	TMS.
Rock co. 1-5	occ. rocks	2-3	1-2	1-2
Sheet rock		-	-	-
Rainfall		-	-	-
Aspect	E	E	E	E
Slope	0-10°	10-15°	5-20°	5-20°
Soil distur- bance		-	-	-
Biotic factors		Cutting of pries.		Cutting of Pries & Hakea?
Other				

ALIEN POPULATIONS

	Infested - Hakea	Near free
Seeding rates	High @ one time.	-
Soil seed loads	-	-
Seedling mortality factors	low.	-
Adult mortality factors	no adults (previously present) (burnt or cut)	cutting & fire.
Regeneration	FAST.	slow.
Pathology	-	
General comment	clumped, all the same age.	

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

SITE : SKOORSTEENKOP, EAST END.

V-88180-H

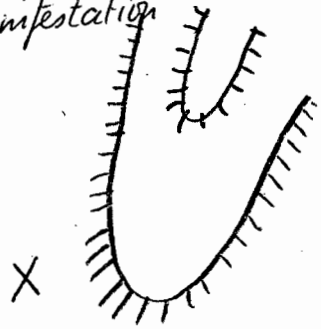
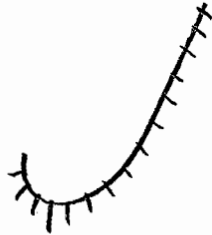
Altitude : 1900'

Bearings :

Vlakkenberg 1900 83.5°  
2nd C-bergkop. 183°

Local Map : ↑

Pine infestation



Hakea →

PLOT (In a 100m<sup>2</sup>) :

Road

Aliens	mil					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	-	-				
0,15m - 2m	-	-				
Over 2m	-	-				

In 200m Radius :

1959

*P. pinaster* 1 live tree 200y, 2 dead 100y, *H. gibbosa* occ. 200 200y.

1976

*P. pinaster*, 1m, ± 15 trees - evidence of chopping.  
>2m, about 20+ trees.

large *P. pinaster* grove to the West @ 220m, over fence.

*H. gibbosa* 2 trees, 2½m high @ 200m.

*H. serica* 9 trees, ½ - 3m high @ 150m.

? *P. cameriensis*, 1 tree (2m) @ 65m.

*P. Europea*, 2 trees @ 60m

V-88 / 80-H

FACTORS	1959-	1976- At Site	Infested	Near free	
	Dominants	<i>Grasses, Cyperaceae.</i>	<i>Cliff. atrata</i> <i>Restio curviformis</i> <i>Erica sp.</i>	Area @ 220m infested with <i>P. pinaster.</i>	
Cover age	0,5 - 1 yr	6 - 9 yrs.		6-9	15+ yrs.
Cover height	1 - 6" <sup>u</sup>	0,3 - 1,2 m.		0,3-1m	1/2 - 1 1/2 m
Density 1-5	sparse	4		4	4-5
Detritus 1-5		1		1	1-2
Soil type & Moisture 1-5	Stony TMS. med. moist.	Sandy TMS. 1-3		Sandy TMS. 1	Sandy TMS. 1
Rock co. 1-5		1		1	3
Sheet rock		-		-	(2)
Rainfall		-		-	-
Aspect	S	S.E		S & E	S, E & N.
Slope	10 - 30°	10°		5 - 30°	5 - 30°
Soil distur- bance		-			
Biotic factors		Cutting of pines		Cutting of pines.	
Other					

ALIEN POPULATIONS

	Infested	Near free
Seeding rates		slow.
Soil seed loads		rel. low.
Seedling mortality factors		?
Adult mortality factors		?
Regeneration		med. cutting.
Pathology		
General comment		<i>H. serica</i> - dying off branches.

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

SITE : BAVIAANSKLOOF, High alt.

V-88 / 79-H

Altitude : 1610'

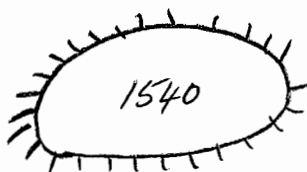
Local Map :

Bearings :

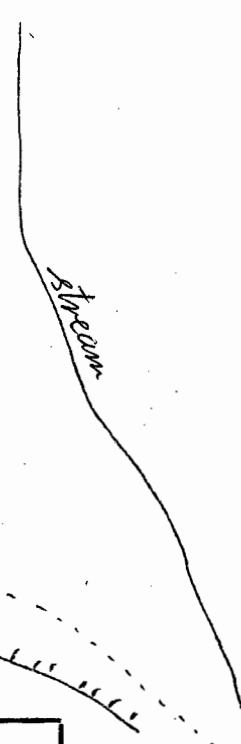
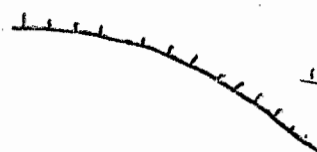
1817 Beacon Skoorsteenkop 333.

E Skoorsteenkop pt  $24^\circ$   
act.  $34^\circ$

200m from 1540 pt.



path: - - - - -



PLOT (In a 100m<sup>2</sup>) :

Aliens	nil.					
	1959	1976	1959	1976	1959	1976
0 - 0,15m						
0,15m - 2m						
Over 2m						

In 200m Radius :

1959

*P. pinaster*, 3 in 200y > 6'.  
*H. gibbosa* 1 > 6'.

1976

*H. serica* - evidence of plants having been cut down.  
- young seedlings, about 6 at 1/2m+ @ 80m.

*P. pinaster* - occ. @ 200m+, isolated plants.

*P. canarensis* pl @ 300-400m.

(Cutting of aliens probably occurred.)

V-88179-H

FACTORS	1959-	1976- At Site	Infested	Near free
Dominants	Protea Lepdoc. Leucy, Watsonia, grasses, Protea	Restio, grasses, Protea sp.		
Cover age	20+ yrs.	6-7 yrs.		6-7 yrs.
Cover height	2-6'	1/2 m.		1/2 m.
Density 1-5	dense	3		3
Detritus 1-5	.	0-1		+
Soil type &	TMS	TMS		TMS
Moisture 1-5	(stream) mod. moist.	2		1-3.
Rock co. 1-5	Boulders	2		2
Sheet rock		(not in site)		2 in places
Rainfall		-		-
Aspect	NW.	NW.		NW
Slope	10-30°	10-20°		5°-30°
Soil distur- bance		Path		Path.
Biotic factors		Path made.		Maybe cutting.
Other				

ALIEN POPULATIONS

	Infested	Near free
Seeding rates		low.
Soil seed loads		low.
Seedling mortality factors		-
Adult mortality factors		mod. high.
Regeneration		maybe cutting
Pathology		v. slow.
General comment		-

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

SITE : *CONSTANTIABERG HIGH ALT.*

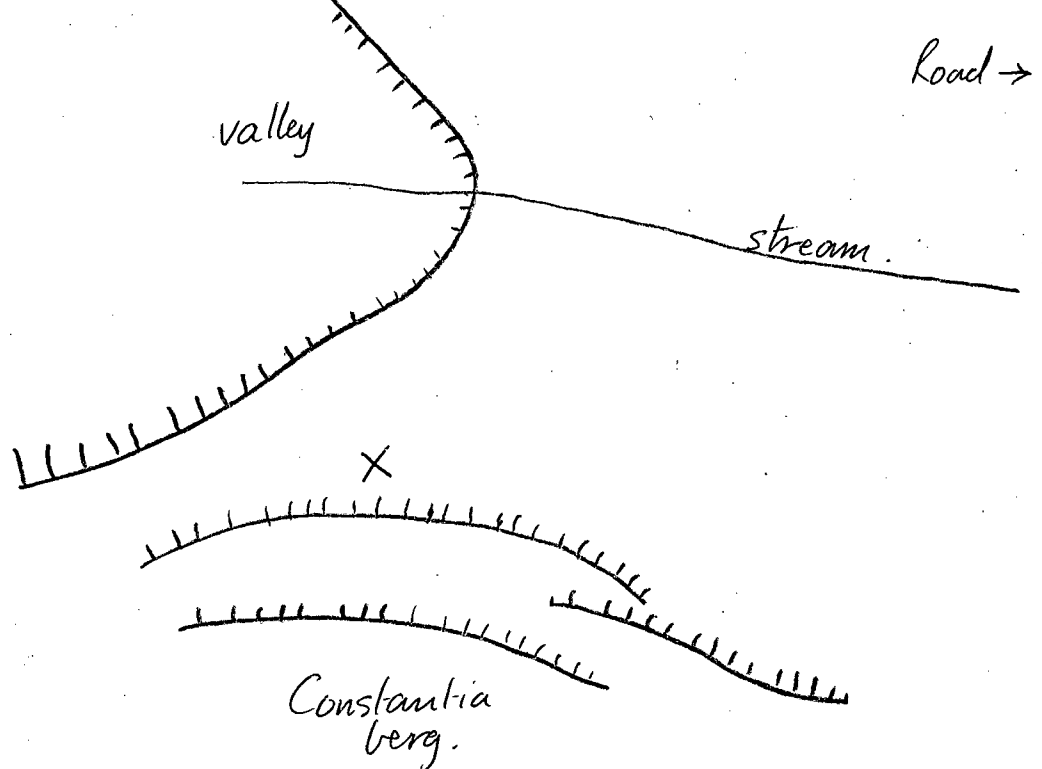
V-88 178 -H

Altitude : 2660'

Bearings :

C/berg 2996' 247°  
 u 3024' 196°

Local Map :



PLOT (In a 100m<sup>2</sup>) :

Aliens	Nil		<i>P. pinaster</i>			
	1959	1976	1959	1976	1959	1976
0 - 0,15m	-	-	-	-		
0,15m - 2m	-	-	-	-		
Over 2m	-	-	-	(1 cut down)		

In 200m Radius :

1959

*P. radiata*. 2 pl. (3 lvs / dwarf shoots 5-7cm long.)  
*P. pinaster* occ.

1976

*P. pinaster*, 1, 3m tree hidden among rocks.  
 (also isolated <sup>trees</sup> in valley @ 200m+)

? *P. canariensis*. - 1 pl.

- Evidence of much pine cutting.

V-88 / 78-H

FACTORS	1959-	1976- At Site	Infested	Near free
Dominants	<i>Restio,</i> <i>Penaeceae</i> <i>Cliff, rusc.</i>	<i>Restio,</i> <i>Cliff, Grames</i> <i>Erica, etc.</i>		<i>Restio, Grames,</i> <i>Cliffonia, Erica</i> <i>etc.</i>
Cover age	15+	6-8 yrs.		6-8 yrs.
Cover height	1-2'	0,3-0,5m		0,3-0,5m
Density 1-5	dense	3		3-4
Detritus 1-5		1		1
Soil type & Moisture 1-5		TMS		TMS
Rock co. 1-5		3- <del>4</del>		1-3
Sheet rock	lge boulders.	3		2-4
Rainfall		(2)		(2)
Aspect	NW	NW		N.W.
Slope	30+°	20-40°		10-40°
Soil distur- bance		-		-
Biotic factors		Cutting of pines.		Cutting of pines.
Other		-		-

ALIEN POPULATIONS

	Infested	Near free
Seeding rates		low.
Soil seed loads		low.
Seedling mortality factors		high.
Adult mortality factors		high ? (fire)?
Regeneration		cutting
Pathology		low - almost nil.
General comment		-

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

SITE : C/BERG SOUTH SLOPE.

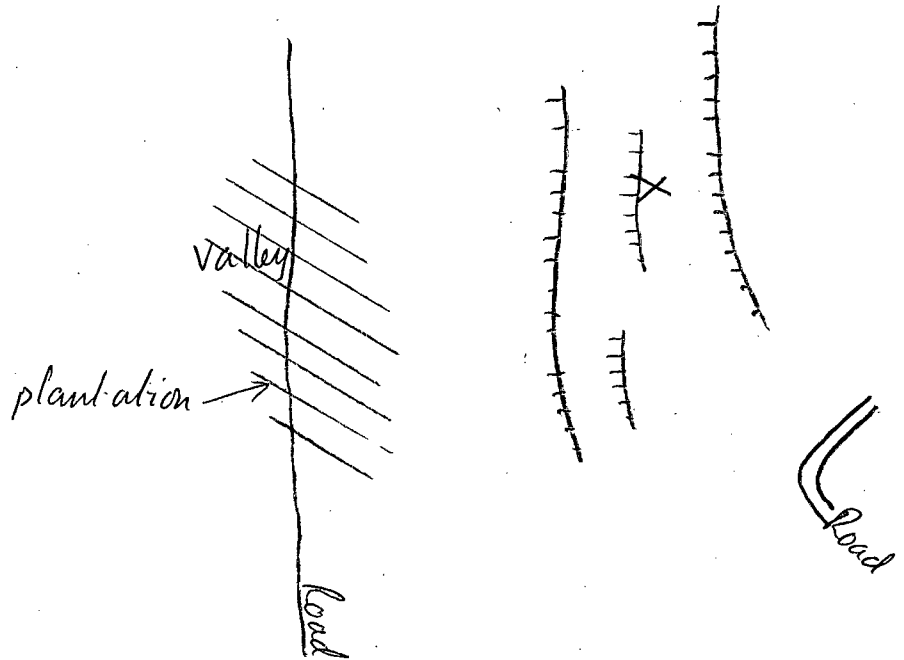
V-88 177 -H

Altitude : 2400'

Local Map :

Bearings :

2407 pk 227°



PLOT (In a 100m<sup>2</sup>) :

Aliens	<i>P. pinaster</i>					
	1959	1976	1959	1976	1959	1976
0 - 0.15m	-	-				
0.15m - 2m	-	-				
Over 2m	1	(1)				

In 200m Radius :

1959

In valley ± 300 yds, *A. cyclops*, *Acacia* sp. *Albizia* with fine lvs. *P. pinaster* occ. on slopes.

1976

*P. pinaster* → occ. isolated plants on slope.

In valley @ 300m: *A. cyclops*  
*A. satigna*  
*Albizia* sp.  
*P. pinaster* plantation.

also areas @ 400m+ cut and burnt.

ALIEN VEGETATION SURVEY 1959/1976.

SITE : Above SILVERMINE RES.

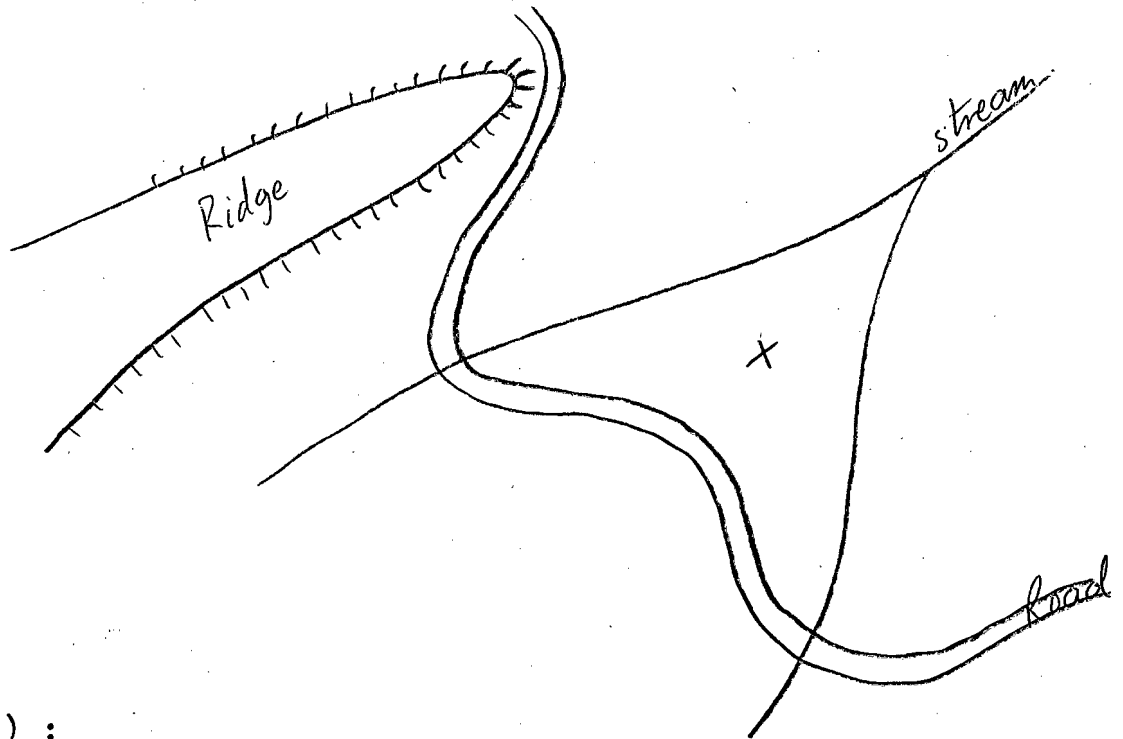
V-88 / 76-H

Altitude : 2140'

Local Map :

Bearings :

50 yds from Rd.



PLOT (In a 100m<sup>2</sup>) :

Aliens	<i>P. pinaster</i>					
	1959	1976	1959	1976	1959	1976
0 - 0,15m	-	-				
0,15m - 2m	-	(1 burnt pine)				
Over 2m	-	-				

In 200m Radius :

1959 *P. pinaster*, 50+ trees in 200 y/r.

1976

*P. pinaster* of all ages 1-4m ± 30 trees in 200+m/r.  
 Lots of pines <3m high, dead and burnt in fire.  
 - Also evidence of pine chopping -  
 (~60-80 pines burnt)

FACTORS	1976-		Infested	Near free	
	1959-	At Site			
Dominants	Tetr, Restio Pent-aschistin Corymbium etc.	Erica sp. Leucodendron Restio etc.	@ 400m. Area of pine Cut & Burnt.	Areas above Rd.	Areas mostly below Rd.
Cover age	± 2 yrs.	5-7 yrs.	3 months.	12+	5-7 yrs.
Cover height	1-2'	1/2 - 2/3 m.	0	0.7m	0.3 m.
Density 1-5	dense.	3-4	0	4	3+
Detritus 1-5		+	3	1	+
Soil type &	Sandy,	TMS.	TMS.	TMS	
Moisture 1-5	dry (seepage)	2	1	1-2	1
Rock co. 1-5	Small boulders	1-2	1	1	1-2
Sheet rock		+	+	-	-
Rainfall		-		-	-
Aspect	W ?	N.E.	Flat.	N.E.	N.E.
Slope	10-30°	10-20°	0-5°	10-25°	10-25°
Soil distur- bance		Road	Road		
Biotic factors		Cutting of pines.	Cutting & burning of pines	v. few pines.	BURNT PINES PRESENT
Other					

ALIEN POPULATIONS

WAS.  
Infested (Areas of burnt pines) Near free

Seeding rates	-	
Soil seed loads	Was high.	
Seedling mortality factors	high.	
Adult mortality factors	fire	
Regeneration	mod. high.	
Pathology	Cutting and fire.	
General comment	-	

GENERAL NOTE :

ALIEN VEGETATION SURVEY 1959/1976.

SITE : NOORDHOEK PK , High alt.

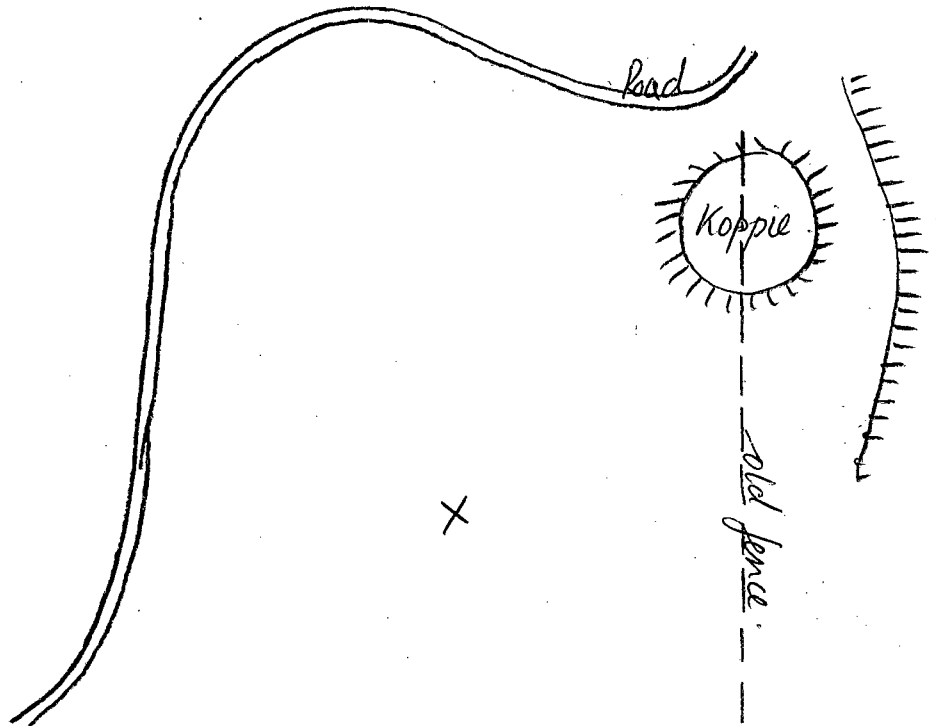
V-88 175-H

Altitude : 2310'

Local Map :

Bearings :

150 yds from Rd  
75 yds from fence.



PLOT (In a 100m<sup>2</sup>) :

Aliens	1959		1976		1959		1976	
0 - 0,15m								
0,15m - 2m								
Over 2m								

In 200m Radius :

1959

*P. pinaster*, 2 trees @ 200 m.

1976

*P. pinaster* - a lot of dead plants burnt in the fire about 60-100 dead, 1-3 1/2 m - most of these North of the fence @ 70-200m.

- +5 young plants, 1m high, protected among rocks @ 150m.

FACTORS	1959-	1976- At Site	Infested	Near free
Dominants	<i>Restio</i> , <i>Corymbium</i> <i>Stilbe</i> , <i>Watsonia</i> etc.	<i>Restio</i> . <i>grasses</i> - <i>Corymbium</i> <i>Burnt Leuco.</i>	Area that was dense before the fire	<i>Leucodendron</i> .
Cover age	2-3	3-4	3-4.	10+
Cover height	0,5-1'	0,2-0,5m.		1/2-1m.
Density 1-5	dense	2		4-5.
Detritus 1-5		+ (2)		+
Soil type & Moisture 1-5	Sandy. dry	Sandy. 1		TMS. 1
Rock co. 1-5	sub-	+	3.	1
Sheet rock	surface rock.	2		+
Rainfall		-		-
Aspect	SW.	SE	N.	E.
Slope	0-10°	2-90	20-30°	0-5°
Soil distur- bance				
Biotic factors		(maybe pine chopping)		
Other				

ALIEN POPULATIONS

	Infested	Near free
Seeding rates		
Soil seed loads		
Seedling mortality factors		
Adult mortality factors		
Regeneration		
Pathology		
General comment		

GENERAL NOTE :