



Environmental Incident Reporting

PF Olsen Group Scheme FSC SW-FM/COC-000190

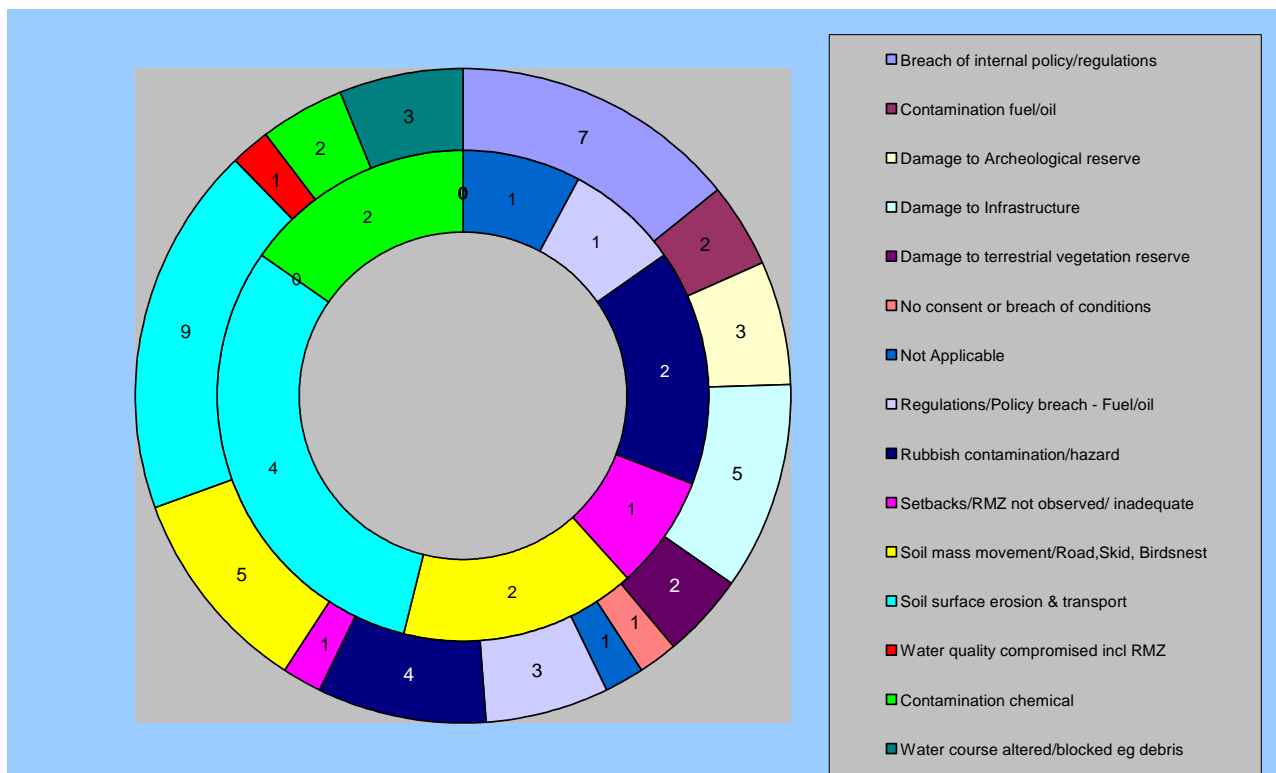
PF Olsen West Coast Forests FSC SGS-FM/COC-000763

There were a total of 62 environmental incidents identified during 2010/2011, compared with 80 during 2009/10, 56 during 2008/09, 49 during the 2007/08 year, 29 during 2006/07, and 26 during 2005/06.

These incidents have been analysed on the basis of the primary operation and the category of incident by land type over which the incident occurred. The **RESULTS COVER ALL** PF Olsen Ltd's operations, not just the FSC certified forests (FSC SW-FM/COC-000190 and SGS-FM/COC-000763).

The chart below shows (outer circle) those 13 publicly generated complaints (cf 19 2010, 23 2009) compared to the 49 61 internally reported incidents (inner circle; cf 61 2010 & 33 2009). Last year there was a marked increase in the ratio of internal to externally notified incidents, with almost a doubling of internal to external. This trend has continued despite a drop in total incidents reported. Soil and water issues comprised 31% of the internally generated incidents while breaches internal policy or conditions (mainly picked up by internal monitoring and not necessarily reflecting environmental impact) was second at 16% and damage to infrastructure third at 10%.

Of the 13 publicly notified incidents, 46% were related to soil and water issues. The high numbers of soil & water issues reflected the extreme climatic conditions experienced from the La nina conditions over the year with significant and often repeated large storm events in Marlborough, Bay of Plenty, Hawkes Bay and Gisborne.



Incident databases have now been in operation for seven years and datasets are beginning to enable time series comparisons. These are made in the tables and graphs below, focussing specifically on:

- ⇒ **The category of incident**
- ⇒ **The type of operation associated with an incident**
- ⇒ **The land management category associated with the incident**
- ⇒ **The category of incident**

The biggest area of operations, clearfelling in hill country sites, remained the operation contributing the most incident records. Diligent and accurate incident reporting is encouraged. The 2011 year displayed a decrease in total incidents reported despite difficult operating conditions and an elevated incidence of serious landsliding issues, none of which reflected substandard practices but all of which highlighted the highly vulnerable nature of some of this forested land and the very reason they were converted from farm land in the first place. 78% of all recorded incidents occurred within the designated production lands or were not applicable to a land unit. The cross tabulation below details the types of incident recorded against each operational category and the land class that was impacted.

Severe Storm Events Plagued the Bay of Plenty through 2010-2011



Flooding and landslides were common occurrences not just restricted to steep land forests



Environmental Incident Analysis Year 2011									
Count of Incident Type		Land type							
Operation Type	Incident Type	Commercial Production	Not Applicable	Outside Forest	Riparian management zone	Archeological or historic site	High value conservation forest	Grand Total	
Clear fell ground	Contamination fuel/oil	1						1	
	Damage to Archeological reserve					1		1	
	Damage to Infrastructure	1		1				2	
	Not Applicable	1						1	
	Regulations/Policy breach - Fuel/oil	1		1				2	
	Rubbish contamination/hazard	3						3	
	Soil surface erosion & transport	1			1			2	
	Water course altered/blocked eg debris					1		1	
	Water quality compromised incl RMZ (blank)					1		1	
Clear fell ground Total		8	2	1	2	1		14	
Clear fell hill	Breach of internal policy/regulations	2						2	
	Contamination fuel/oil	1						1	
	Damage to Infrastructure			1				1	
	Regulations/Policy breach - Fuel/oil			1				1	
	Rubbish contamination/hazard	1						1	
	Setbacks/RMZ not observed/ inadequate	1						1	
	Soil mass movement/Road,Skid, Birdsnest	2						2	
	Soil surface erosion & transport	2			1			3	
Clear fell hill Total		9	1	2				12	
Clearfell Roadline	Damage to terrestrial vegetation reserve				1			1	
Clearfell Roadline Total					1			1	
Herbicide - aerial	Contamination chemical	1			2			3	
	Not Applicable				1			1	
Herbicide - aerial Total		1	1	2				4	
Not Applicable	Damage to terrestrial vegetation reserve						1	1	
	Rubbish contamination/hazard	1						1	
	Soil mass movement/Road,Skid, Birdsnest	1		1				2	
	Soil surface erosion & transport	3						3	
Not Applicable Total		5		1			1	7	
Road / infrastructure maintenance	Breach of internal policy/regulations	3						3	
	No consent or breach of conditions	1						1	
	Soil mass movement/Road,Skid, Birdsnest	1						1	
	Soil surface erosion & transport				1			1	
Road / infrastructure maintenance Total		5		1				6	
Road / infrastructure construction	Breach of internal policy/regulations	1				1		2	
	Damage to Archeological reserve						1	1	
	Damage to Infrastructure	1						1	
	Soil mass movement/Road,Skid, Birdsnest	1						1	
	Soil surface erosion & transport	3				1		4	
Road / infrastructure construction Total		6			2	1		9	
Illegal or Trespass activity	Rubbish contamination/hazard			1				1	
Illegal or Trespass activity Total				1				1	
Herbicide - hand	Contamination chemical				1			1	
Herbicide - hand Total					1			1	
Road stream crossings or culverts	Damage to Infrastructure	1						1	
	Water course altered/blocked eg debris	2						2	
Road stream crossings or culverts Total		3						3	
Planting	Setbacks/RMZ not observed/ inadequate	1						1	
Planting Total		1						1	
(blank)	Damage to Archeological reserve					1		1	
	Soil mass movement/Road,Skid, Birdsnest	1						1	
(blank) Total		1				1		2	
Storage - Chemical / Hydrocarbon	Regulations/Policy breach - Fuel/oil	1						1	
Storage - Chemical / Hydrocarbon Total		1						1	
Grand Total		40	6	8	4	3	1	62	

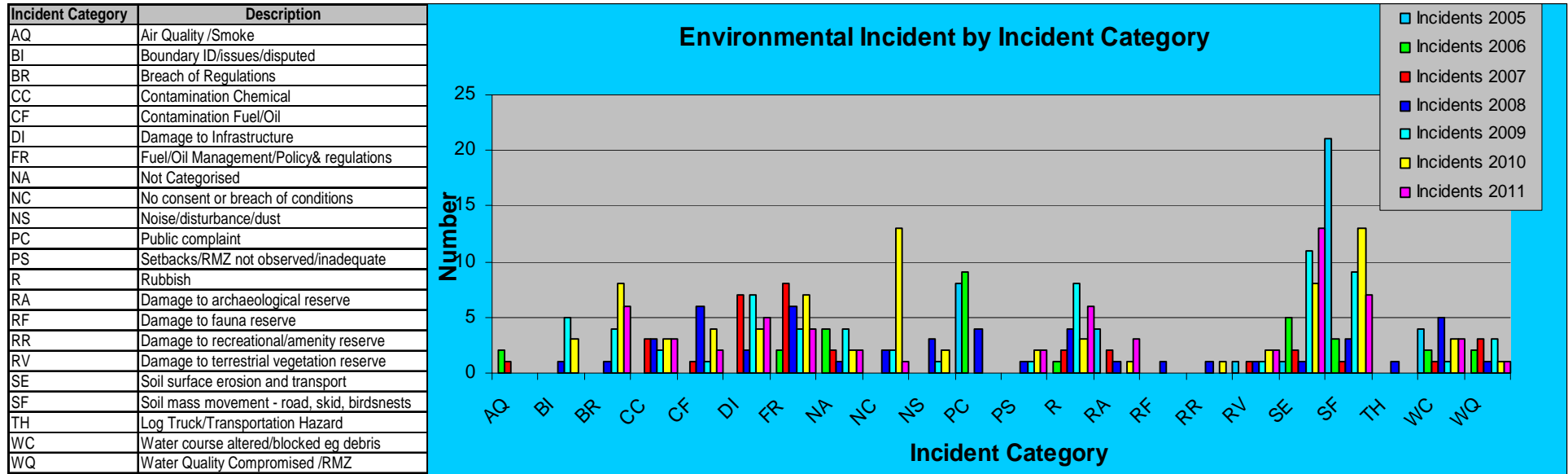


The most noticeable change in the incident types for the 2011 period has been the reduction in breach of consent conditions as well as a lesser reduction in breaches of internal policy and regulations which suggests a past focus is delivering results.

Soil and water issues remain a priority given the results arising from the adverse climatic conditions. is the increase in no consent or breach of consent conditions. Most of these were related mid slope and gully head failures that resulted in debris flows to the forest boundary and often involving woody debris picked up from the slopes as they advanced. In some cases slips initiated from within fully grown stands and native forest patches as well as from recently cutover plantations. Engineering and infrastructure failures did not feature as causative factors in most cases. Damage to Archaeological sites involved accidental discovery situations in two of the three incidents while the third involved unauthorised damage by a third party mining within the forested land.

There remains an intensive programme working with staff and contractors across a range of activities and processes to ensure the elimination of poor implementation of fuel and oil management, some internal policies and aerial chemical application management.

Incident Category	Description	Incidents 2005	Incidents 2006	Incidents 2007	Incidents 2008	Incidents 2009	Incidents 2010	Incidents 2011
AQ	Air Quality /Smoke		2	1				
BI	Boundary ID/issues/disputed				1	5	3	
BR	Breach of Regulations				1	4	8	6
CC	Contamination Chemical			3	3	2	3	3
CF	Contamination Fuel/Oil			1	6	1	4	2
DI	Damage to Infrastructure			7	2	7	4	5
FR	Fuel/Oil Management/Policy& regulations		2	8	6	4	7	4
NA	Not Categorised		4	2	1	4	2	2
NC	No consent or breach of conditions				2	2	13	1
NS	Noise/disturbance/dust				3	1	2	
PC	Public complaint	8	9		4			
PS	Setbacks/RMZ not observed/inadequate				1	1	2	2
R	Rubbish		1	2	4	8	3	6
RA	Damage to archaeological reserve	4		2	1		1	3
RF	Damage to fauna reserve				1			
RR	Damage to recreational/amenity reserve				1		1	
RV	Damage to terrestrial vegetation reserve	1		1	1	1	2	2
SE	Soil surface erosion and transport	1	5	2	1	11	8	13
SF	Soil mass movement - road, skid, birdsnests	21	3	1	3	9	13	7
TH	Log Truck/Transportation Hazard				1			
WC	Water course altered/blocked eg debris	4	2	1	5	1	3	3
WQ	Water Quality Compromised /RMZ		2	3	1	3	1	1
TOTAL		12	26	29	49	64	80	60

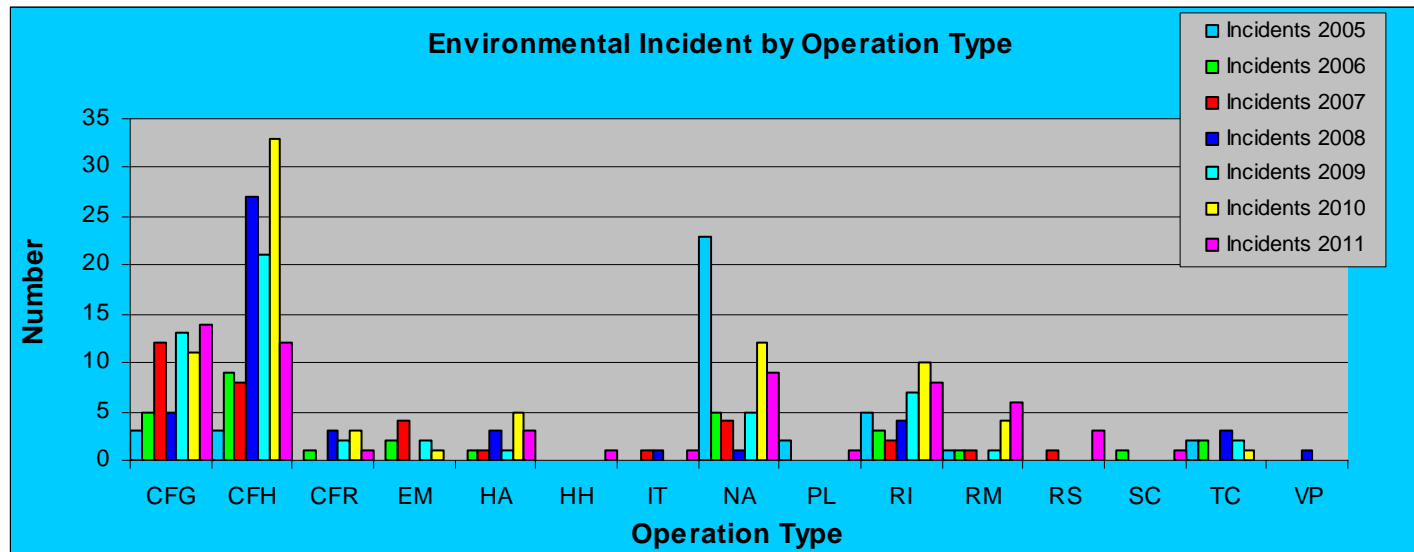


The Type of Operation Associated with an Incident

Harvesting in general and clearfell hill country harvesting in particular remains associated with most incidents and reflects a move of operations into steep, and very difficult terrain. Of significance however is that while the actual level of ground based harvesting is similar to previous years the hill country harvesting incidence has reduced significantly. Engineering related incidents have also declined relative to past years. These results are interesting in the light of adverse climatic conditions and increased harvesting and roading programmes.



Operation Type	Description	Incidents 2005	Incidents 2006	Incidents 2007	Incidents 2008	Incidents 2009	Incidents 2010	Incidents 2011
CFG	Clear fell ground based	3	5	12	5	13	11	14
CFH	Clear fell hill	3	9	8	27	21	33	12
CFR	Clear fell roadline		1		3	2	3	1
EM	Establishment - Mechnaical Land prep		2	4		2	1	
HA	Herbicide -Aerial		1	1	3	1	5	3
HH	Herbicide - hand							1
IT	Illegal/Tresspass activity			1	1			1
NA	Not applicable/classified	23	5	4	1	5	12	9
PL	Planting	2						1
RI	Road / infrastructure construction	5	3	2	4	7	10	8
RM	Road / infrastructure maintenance	1	1	1		1	4	6
RS	Road stream crossings or culverts			1				3
SC	Storage Chemical		1					1
TC	Transport - Chemical/Fuel and Oil/Logs/Other	2	2		3	2	1	
VP	Vertibrate Pest Control				1			
TOTAL		37	27	34	48	54	80	60

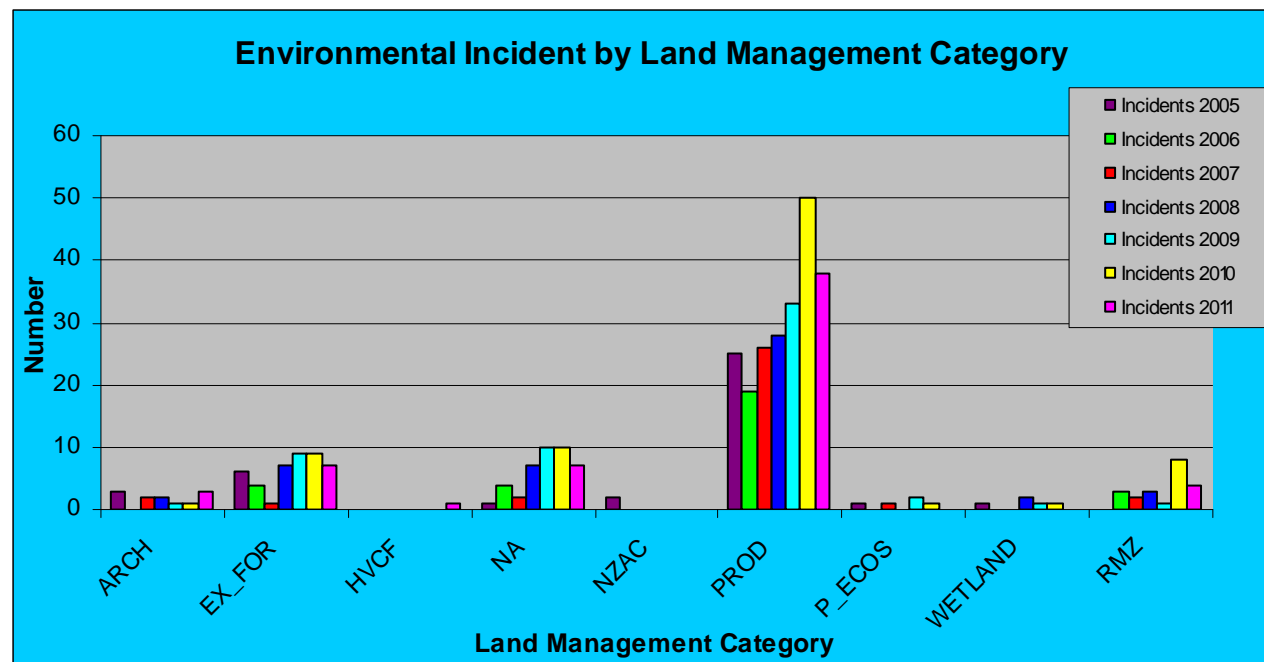




The Land Management Category Associated with the Incident

Statistics for the year show a continued trend for incidents, where they do occur, being confined overwhelmingly to the plantation production land areas rather than in reserves and other ecologically or culturally significant areas or neighbours lands.

Land Management Category	Description	Incidents 2005	Incidents 2006	Incidents 2007	Incidents 2008	Incidents 2009	Incidents 2010	Incidents 2011
ARCH	Archaeological or historic site	3		2	2	1	1	3
EX_FOR	Outside forest	6	4	1	7	9	9	7
HVCF	High Value Conservation Forest							1
NA	Not applicable	1	4	2	7	10	10	7
NZAC	NZ forest accord reserve	2						
PROD	Commercial production	25	19	26	28	33	50	38
P_ECOS	Protected Terrestrial Ecosystem	1		1		2	1	
WETLAND	Wetland ecosystem	1			2	1	1	
RMZ	Riparian Management Zone		3	2	3	1	8	4
TOTAL		39	30	34	49	57	80	60





All incidents have or are being followed up in terms of establishing cause, rectifying effects and identifying future actions. The breakdown analysis of the contributory factors related to incidents both operational and human factors are listed below.

The statistics continue to demonstrate the purpose of ongoing training programmes.

Operational Cause	Total
Inadequate control - skid waste	1
Inadequate control _infrastructure	1
Inadequate control -water / culverts	3
Inadequate sensitive boundary controls	3
Natural event - unspecified	2
Natural event - storm /rain	13
No Operational Failure	3
Not applicable	7
Poor fuel/oil management	5
Poor Site Hygiene	1
Inadequate control Sediment & Erosion	5
no record	7
Earthworks Technique poor	4
Grand Total	55

Human Cause	Total
No Human Failure	8
Not applicable	2
Procedural breach - rules or policies	7
Procedural failures	3
Risk not adequately identified	8
Supervision issues	7
Training / understanding inadequate	3
Pre-ops contractor briefings inadequate	1
BMP's or Policies inadequate or unclear	1
Grand Total	40



Environmental Incident Reporting

PF Olsen West Coast Forests FSC SGS-FM/COC-000763

Since PF Olsen took over the management of the West Coast forests in January 2009, environmental incident reporting has only been recorded through our systems since then.

From January 2009 to the end of June 2009, three environmental incidents were recorded in the West Coast estate. During the year from July 2009 to June 2010, a total of 7 incidents, and in the 2010- 2011 year , 5 as summarised below.

West Coast Forests - Incidents 2010-2011					
Count of Incident Type		Land type			
Operation Type	Incident Type	Commercial Production	Not Applicable	Archeological or historic site	Grand Total
Clear fell hill	Contamination fuel/oil	1			1
Clear fell hill Total		1			1
Not Applicable	Rubbish contamination/hazard	1			1
Not Applicable Total		1			1
Illegal or Trespass activity	Rubbish contamination/hazard			1	1
Illegal or Trespass activity Total				1	1
Clear fell ground	Rubbish contamination/hazard	1			1
Clear fell ground Total		1			1
Mining	Damage to Archeological reserve			1	1
Mining Total				1	1
Grand Total		3	1	1	5

Two of the five incidents occurred outside productive forestland. The archaeological incident was concerned a gold mining operation damaging archaeological sites within the forests that had, up to that point, been protected.

The rubbish incident involved a public dumping within forest boundaries.

As more incidents are reported through the PF Olsen system, the data will provide more opportunities to analyse and report on trends in the types and frequency of environmental incidents in the West Coast forests.