



numero uno

peregrine chick going solo in 2006

anglesea environment report

OCTOBER 2006

Inside the 'Best Practice' Environment Report:

Air Emissions

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Peregrine Falcons

Animals of the Anglesea Heath: Common Ringtail Possum

Updates on Rainfall, Town Water Use and Greenhouse Gas Emissions

Environmental improvement - progress towards 2006 targets

Plus we talk to an employee about their contribution to improving the environment



australia's aluminium

air

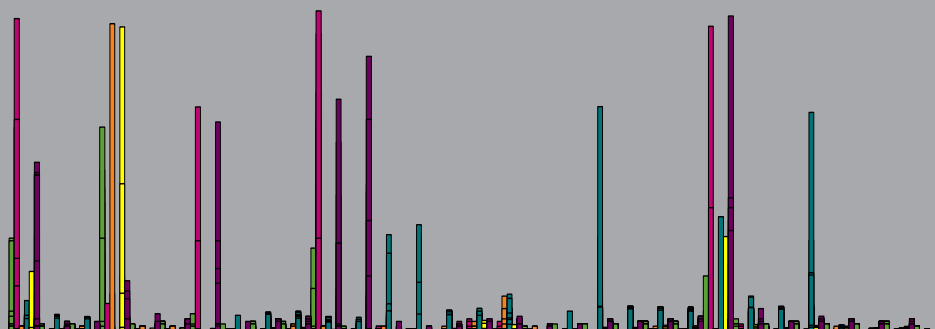
Air Monitoring	Average	Maximum
Stack Monitors		
Opacity g/m ³ 10-minute average	0.061	0.338
Stack SO ₂ kg/min 1-hour average Licence limit 111.34kg/min	58.50	78.20

Ambient Monitors	Average	Maximum
SO ₂ 1 hour ppb		
Community Centre	3	81
Primary School	3	127
Mt Ingoldsby	1	122
Scout Camp	6	89
Camp Wilkin	1	121
Camp Road	5	125

Ambient Monitors																															
SO ₂ Maximum 1 hour averages (ppb)																															
Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Community Centre	37	3	3	81	3	4	7	3	4	4	33	2	-	-	-	-	1	2	3	3	3	4	4	22	5	3	4	3	3	4	2
Primary School	124	0	1	11	1	1	89	1	0	1	127	0	2	1	0	5	4	1	0	0	0	1	1	121	3	0	0	0	0	0	
Mt Ingoldsby	2	1	2	122	2	2	0	1	1	3	2	1	2	1	2	4	14	2	1	0	0	2	1	1	0	1	1	2	0	1	1
Scout Camp	12	7	6	-	-	-	6	8	8	6	6	38	42	8	9	15	-	8	89	10	10	10	45	14	10	87	3	1	1	1	
Camp Wilkin	24	1	1	121	1	1	1	1	1	2	1	0	1	0	1	4	3	1	1	2	2	2	2	38	3	1	2	2	2	2	1
Camp Road	67	4	4	20	7	5	83	4	5	6	92	109	4	2	4	5	6	3	3	5	4	5	6	125	9	4	6	5	4	5	3

EPA Intervention Level
210

Alcoa Local Standard
170



water



Water Storage

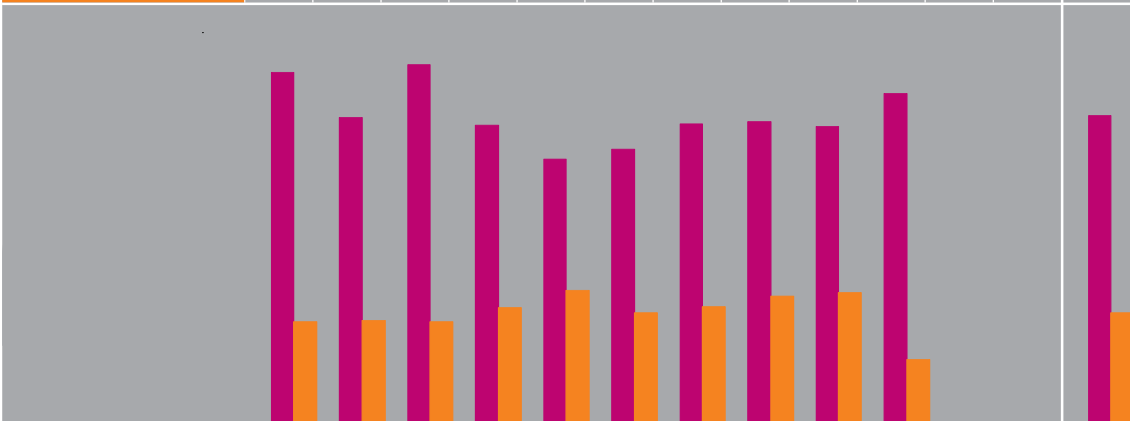
Barwon Water storage levels within the Geelong system at 27.5% capacity. Stage 3 restrictions now apply.

Water Discharge	October	Total
ML		
Ashponds (SP1)	128	1431
Mine (SP4)	0	0.8

Water Monitoring 17/10/2006	SP1 Ashpond		SP4 Mine		SP3 Final	
	EPA limit	Lab Result	EPA limit	Lab Result	EPA limit	Lab Result
pH	4-10	8.4	3-9	-	5-9	7.4
Susp. Solids	100	5	100	-	30	2
Colour	50	4	50	-	50	7
Aluminium	10	0.2	10	-	5.5	< 0.1
Iron	10	0.4	0	-	4.0	< 0.1
Zinc	0.4	< 0.1	2.0	-	0.3	< 0.1

WATER WATER USAGE PER MONTH (ML)

Date	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	TOTAL
Town Water	1.0	1.0	1.0	1.5	1.6	0.8	1.0	1.1	0.9	1.6			11.5
Bore Water	279	243	285	237	210	218	238	240	236	262			2448
Mine Water	81	82	81	92	106	88	93	101	104	51			879



peregrine falcons



For the third year in a row, Peregrine Falcons have returned to Alcoa Anglesea to the nest box on top of the water tower.

Despite laying four eggs this year, only one egg successfully hatched. Whilst there is no explanation for why this happened at Anglesea in particular, there are several reasons why an egg may not hatch - parents may be incompatible or a parent may have left the nest during a storm resulting in a drop in incubation temperature of the eggs. Both of these scenarios appear unlikely for Anglesea (parents bred successfully in 2005, no rainstorms lately!!) and the presence of unhatched eggs at other nests across the state this year suggests the cause is wider spread and may be the consequence of drought conditions.

In late October, volunteers from the Victorian Peregrine Project took the travel tower to the elevated home to check the chicks' health, measurements and banding. Weighing in at 870g, it was confirmed Uno is one healthy chick.

One of the positives for having one chick instead of four is the amount of food the chick receives without any sibling competition. The more food Uno receives, the stronger she will be giving her a better chance of survival.

Grade 1 students from Anglesea Primary School and members of ANGAIR witnessed the banding and naming of the bird, with the name 'Uno' chosen, referring to the number one.

The other exciting Peregrine Falcon news for 2006 is the Alcoa Anglesea webcam.

In a Victorian first, Alcoa Anglesea has provided a window in to the world of Peregrine Falcons by installing a webcam on the water tower near the nestbox and is broadcasting the images over the internet.

The webcam at www.alcoa.com/falcons will provide a new view of day-to-day life in the Peregrine Falcon nest, with images refreshing at one minute intervals.

PLANTS OF THE ANGLESEA HEATH

COMMON RINGTAIL POSSUM (*Pseudocheirus peregrinus*)

Pseudocheirus...from the Greek, *pseudo*, 'fake' and *cheirus*, 'hand' referring to the front feet that has fused fingers (syndactyl) like two thumbs per hand to help it climb
peregrinus... from the latin, meaning 'wandering' or 'foreign', usually refers to a migratory habit, like the Peregrine Falcons of the northern hemisphere

Size: body 30-35cm tail 30-35cm weight 550 - 1100g
 Description: short grey-brown fur with white underneath has a long white tipped prehensile tail, underside of the tail is hairless for grip
 Distribution: eastern states of mainland Australia, Tasmania and south west Western Australia
 Habitat: a variety of rainforest, forest, woodland and scrub habitats
 Food: vegetarian consuming mainly leaves but also some flowers, fruits and buds

photo: juvenile ringtail possum found at mine workshop →

COMMON RINGTAIL POSSUM



LAND

RAINFALL (mm)

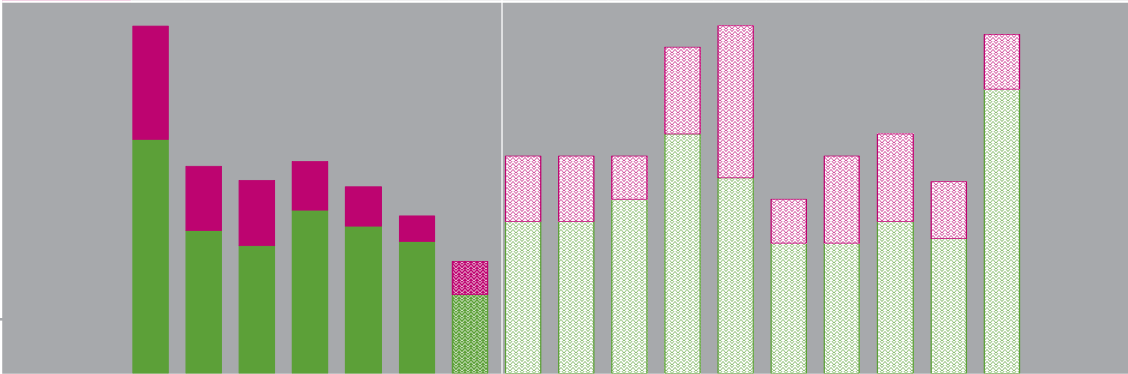
Month	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	TOTAL
2006 Rainfall	46.2	19.6	7.3	37.1	129.4	17.0	40.8	26.0	32.8	15.8			372.0
1968-2005 Average	44.6	43.9	42.5	53.5	59.3	60.8	61.1	67.0	69.3	73.6			575.5



WATER

TOWN WATER USE (ML)

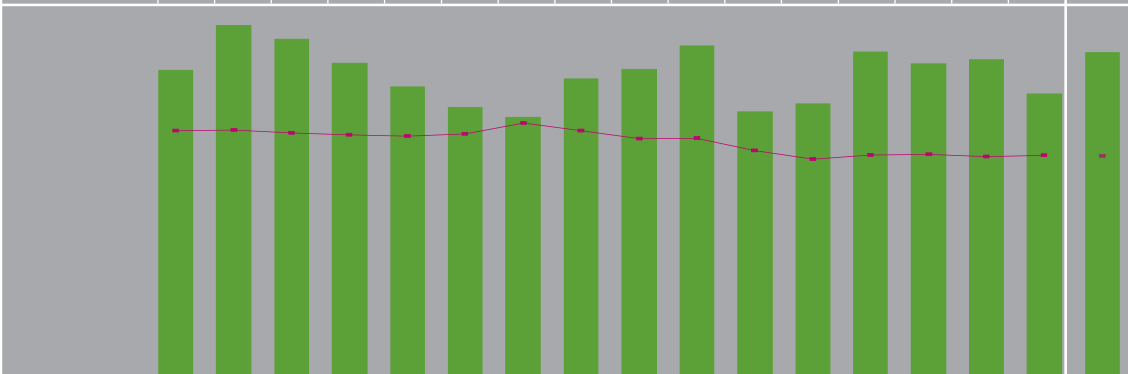
	2000	2001	2002	2003	2004	2005	2006	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Process	23.9	14.6	13.1	16.7	15.0	13.5	8.0	0.7	0.7	0.8	1.1	0.9	0.6	0.6	0.7	0.6	1.3		
Amenity	11.6	6.6	6.6	5.0	4.0	2.6	3.4	0.3	0.3	0.2	0.4	0.7	0.2	0.4	0.4	0.3	0.3		



AIR

GREENHOUSE GAS (GHG) TOTAL (Mt) & GHG EMISSION EFFICIENCY (t/MWh)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
GHG Mt	1.42	1.62	1.56	1.45	1.34	1.25	1.20	1.38	1.42	1.53	1.23	1.27	1.50	1.45	1.47	1.31	1.60
◆ GHG t/MWh	1.34	1.35	1.33	1.32	1.31	1.33	1.38	1.34	1.30	1.30	1.24	1.19	1.21	1.21	1.20	1.21	1.20



environmental improvement

Environmental Management Targets	October	2006 Total	Forecast	2006 Target
Reportable Environmental Incidents	0	0	0	0
Monthly EHS ASAT Audit Completion (%)	80	93	93	90
Air Emission Targets	October	2006 Total	Forecast	2006 Target
Ambient SO ₂ (no. readings > 210ppb)	0	4	5	0
Stack SO ₂ (no. hrs > 100kg/min)	0	0	0	0
SO ₂ Load Reductions	8	106	127	N/A
GHG Efficiency (t CO ₂ e/MWh)	1.23	1.20	1.20	1.20
Opacity (10 min av > 0.25g/m ³ normal operation)	0	0	0	0
Water Targets	October	2006 Total	Forecast	2006 Target
Town Water (ML)	1.6	11.5	13.8	17.2
Bore Water (ML)	262	2448	2938	2440
Waste Targets	October	2006 Total	Forecast	2006 Target
Waste to Landfill (t)	1.76	9.12	10.9	10.0
Solid Prescribed Waste to Landfill (t)	0.0	0.0	0.0	0
Mine Rehabilitation Targets		2006 Total		2006 Target
2006 Area Cleared (ha)		3.3		3.3
2006 Area Rehabilitated (ha)		7.5		> 3.3
2005 Mine Rehabilitation Species Richness (%)		N/A		100

OUR ENVIRONMENT AND OUR EMPLOYEES..

Victor, how important is the Victorian Peregrine Project for the conservation of the Peregrine Falcon in Victoria?

Very important. The project has just been acknowledged at a international conference in Mexico as the most extensive volunteer program in the world for the Peregrine Falcon, both in it's scope of yearly activities and how long it has been running (16 years).

That must be nice to hear after year's of personal dedication and effort?

It certainly is. It's great that the program has been recognised at an international level.

How important is the nest box at Alcoa Anglesea?

The use of artificial nest boxes such as the one at Alcoa Anglesea suggests that the natural nest sites for Peregrine Falcons are at saturation level or that there simply isn't enough natural nest sites to go around. As more natural nest sites along the coast are lost to development and human disturbance, the more critical these artificial sites become to the future of the Peregrine Falcons.

How does the future look for the Peregrine Falcon?

We were lucky in Australia that the Peregrine Falcon population didn't decline as far as populations in other parts of the world in the 60's and 70's. The agriculture in Australia was less intensive and the use of pesticides such as DDT was not as widespread. This has enabled the Peregrine Falcon populations in Australia to recover more quickly.

...VICTOR HURLEY

