

The Peregrines *Falco peregrinus* of Morro Rock

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Dr. Hickey's symposium in Madison in 1965 (Hickey 1969) both documented population declines of several raptor species and stimulated a generation of research activities devoted to finding out the causes of these unprecedented events. In California and Baja California studies of Peregrine Falcons, *Falco peregrinus*, lead to the detection of PCBs in the North American environment (Risebrough *et al.* 1968) and documented a population decline that exceeded 90% (Herman *et al.* 1970). The peregrines of California appeared to be following the populations in eastern North America into extinction.

One site that was consistently active in those years was Morro Rock on the south central coast. This high offshore rock adjacent to an estuary is a magnet for peregrines. As at a number of other sites in southern California, the peregrines of Morro Rock continue to show a high level of shell thinning and of DDE contamination. This year, 1992, will be the last year in which eggs will be removed for artificial incubation to be replaced by captive-reared young (Walton & Thelander 1988; Linthicum *et al.* this volume). These and other peregrines in Southern California will be the principal indicator of continuing environmental contamination. I have therefore assembled available data on productivity, both before and after manipulation, shell thinning, DDE residues, and turnover of the breeding birds to document the historical record and to provide the baseline for continuing monitoring activities.

The data (Table 1) indicate: 1) continuing severe shell thinning; 2) a surprisingly high variation in thinning between first and second clutch in two years (11.0 vs 22.8, 25.2 vs 11.4); 3) continuing high DDE contamination through the 1980s; 4) beginning in 1970, occupancies for females of 6, 11, and 5 years; 5) beginning in 1969 occupancies for males of 4 (minimum), 5, 9, 2, and 4 (minimum) years.

Lloyd Kiff, Sam Sumida, Robert Risebrough, Walter Jarman, Stephanie Burns and Janet Linthicum provided unpublished data. I thank them and all of my other colleagues who have worked to ensure that peregrines will continue to be a part of the California environment.

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Table 1. The Peregrine Falcons of Morro Rock, California, 1967-1992.

Year	(m,d) ^a	Eggs Laid	Young Fostered	Young Fledged	Eggs at PBRG ^b Incub.	Hatch	Thinning ^c		DDE ppm dry	Notes
1967		Unkn	--	1+	--	--				
1968		Unkn	--	3	--	--				
1969		0	--	0	--	--			130 ^d	Female died at egg laying
1970		0	--	0	--	--				New female
1971		Unkn	--	3	--	--				
1972		Unkn	--	0	--	--				
1973		0	--	0	--	--				New male
1974		Unkn	--	4	--	--				
1975		3	--	2	--	--				
1976		3	--	2	--	--	11.7	63		Female hit wire after breeding
1977	(m)	Unkn	2	1	0	--	17.1	130		New female
1978	(m)	3	1	1	0	--	16.5	140		Male shot after breeding season
1979	(m,d)	6	2	2	6	3	22.8	11.0	160	
1980	(m,d)	7	2	2	4	2	28.2	30.9	160	
1981	(m,d)	8	2	2	7	4	29.3	30.6	91	
1982	(m,d)	7	2	2	6	5	26.3	27.1		
1983	(m)	4	3	2	3	0	25.2	160		
1984	(m,d)	6	2	2	3	2	22.0	27.4		
1985	(m)	3	2	2	2	0	19.5			
1986	(m)	3	2	2	3	1	25.5			
1987	(m)	4	2	2	1	0	23.0			
1988	(m)	5	2	2	4	2	11.4	25.2	61,150	New male, new female
1989	(m)	3	2	2	2	0	26.3			
1990	(m)	4	1	1	3	1	24.7			
1991	(m)	1	2	2	1	0				
1992	(m)	4	2	2	4	0				New female

^a m, manipulated; d, double-clutched
^b Eggs brought to Santa Cruz for incubation included some that were later found to be dead
^c Means of first and second clutches
^d Estimated from concentration of yolk lipid of egg recovered from oviduct

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