

# Population Monitoring of Elephants

## Seals at Año Nuevo, 2021

R. Condit

Population : Estimates of breeding elephant seal female and pup populations, Año Nuevo rookery, 2021. Number of pups born estimated as  $0.975 \times$  female number.

Area	Breeding females	Pups born	Pups weaned
Main point	1421	1386	1279
North point	225	220	181
Island	528	515	415
Total	2175	2121	1875

Weighing : Mean body mass in kg for elephant seals, Año Nuevo rookery, 2021. Sample size in parentheses. No correction for time since weaning date.

Age	F	M
ad	351.6 (5)	NA (0)
juv	158.5 (2)	NA (0)
P	64.0 (4)	57.4 (7)
W	118.4 (133)	120.6 (147)
Y	158.0 (1)	NA (0)

Female age distribution : Age and origin of breeding females whose tags were read, Año Nuevo rookery, 2021. The row *known* for Año Nuevo is the sum of the previous rows of known age. The following row is the number of observed females that had been tagged at Año Nuevo as adults, so age is not known. Age of most foreign-tagged females is not available to us.

Origin	Age	Main Point	North Point	Island	Total
Año Nuevo	3	2	0	0	2
	4	15	5	0	20
	5	40	5	0	45
	6	23	3	0	26
	7	20	7	0	27
	8	16	5	0	21
	9	28	1	0	29
	10	7	3	0	10
	11	6	3	0	9
	12	7	1	0	8
	14	2	0	0	2
	15	2	1	0	3
	16	3	1	0	4
	17	1	0	0	1
	19	1	0	0	1
	21	1	0	0	1
Año Nuevo	known	174	35	0	209
	unknown	52	9	0	61
San Miguel		5	0	0	5
Point Reyes		8	16	0	24
Gorda		0	4	0	4
Piedras Blancas		17	9	0	26
San Nicolas		0	0	0	0
MM Center		0	0	0	0

Newly tagged animals : Animals tagged for the first time in 2021 at the Año Nuevo colony. Number of animals tagged by age category and sex; YOY=pup/weaner (young-of-the-year) and Y=yearling. A total of 854 green tags plus 0 PIT tags were deployed on these animals. An additional 4 tags were voided, and 1 were observed on YOY but do not appear in the database.

age cat	female	male	sex unknown
YOY	221	231	27
Y	1	0	0
juv	8	3	0
SA	0	12	0
ad	6	2	1
Total	236	248	28

Newly tagged animals : Animals tagged for the first time in 2021 at the Año Nuevo colony. Number of animals singly- and doubly-tagged, adults/juveniles. The category 2+ includes a small number with 3 tags (1 were given 3 or more green tags; 0 were given 3 or more PIT tags).

PIT tags	Green tags	
	1	2+
0	15	18

Newly tagged animals : Animals tagged for the first time in 2021 at the Año Nuevo colony. Number of animals singly- and doubly-tagged, pups/weaners (YOY). The category 2+ includes a small number with 3 tags (1 were given 3 or more green tags; 0 were given 3 or more PIT tags).

PIT tags	Green tags	
	1	2+
0	156	323

Re-tagged animals : Animals tagged in prior years (at any colony) then given a new tag in 2021 at the Año Nuevo colony. Number of animals tagged by age category and sex; YOY=pup/weaner (young-of-the-year) and Y=yearling. A total of 10 green tags plus 0 PIT tags were deployed on these animals.

age cat	female	male	sex unknown
YOY	0	0	
Y	0	0	
juv	0	0	
SA	7	0	
ad	1	1	
Total	8	1	

Re-tagged animals : Animals tagged in prior years (at any colony) then given a new tag in 2021 at the Año Nuevo colony. Number of animals singly- and doubly-tagged, adults/juveniles. The category 2+ includes a small number with 3 tags (0 were given 3 or more green tags; 0 were given 3 or more PIT tags).

PIT tags	Green tags	
	1	2+
0	8	1

Sighting Effort : Number of individual sightings and individual animals identified each year since 2000

Year	Breeding		Non-breeding	
	Sightings	Animals	Sightings	Animals
2000	1693	177	29	0
2001	2942	276	53	16
2002	2486	219	78	17
2003	3042	224	18	1
2004	3514	256	144	40
2005	4554	328	1731	295
2006	4073	341	1009	317
2007	2641	225	542	151
2008	1836	237	1298	359
2009	3040	260	824	253
2010	4839	302	2014	414
2011	7010	313	2114	419
2012	6782	352	2347	436
2013	8727	388	3340	446
2014	7961	415	3144	513
2015	6085	376	3662	624
2016	7974	450	5109	638
2017	10756	480	3040	559
2018	11305	483	3888	572
2019	8321	466	3330	642
2020	11271	456	6846	660
2021	15146	589	9155	615