

## **2006 ANNUAL SILVERSWORD CENSUS**

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To learn more about the Haleakala Silversword or hinahina (*Argyroxiphium sandwicense* subsp. *macrocephalum*), and to keep a pulse on this park icon, each year the flowering silverswords are counted, and 11 silversword plots are monitored. Below are the results from the 2006 silversword census and plot monitoring. In short, it was a light flowering year (138 blooms), and a down year in the plots (26% decline).

#### **FLOWERING CENSUS**

The Haleakala silversword flowers once and then dies. The silversword flowering census attempts to count all the flowering silverswords each year. The flowering silversword census was sporadically done from 1934 to 1962. Since 1969, the flowering silverswords census has been done almost every year.

- 2006 was a light flowering year, with 138 blooms. 2006 was the 9th smallest year out of 39 years on record.
- The largest year ever was 1991 with 6,632 blooms. The smallest year ever was 1970 with 0 blooms. There were 1,335 blooms in 2005.
- We still don't know what triggers the silverswords to bloom, with mass events in some years, and hardly any flowering at all in other years, like this year.

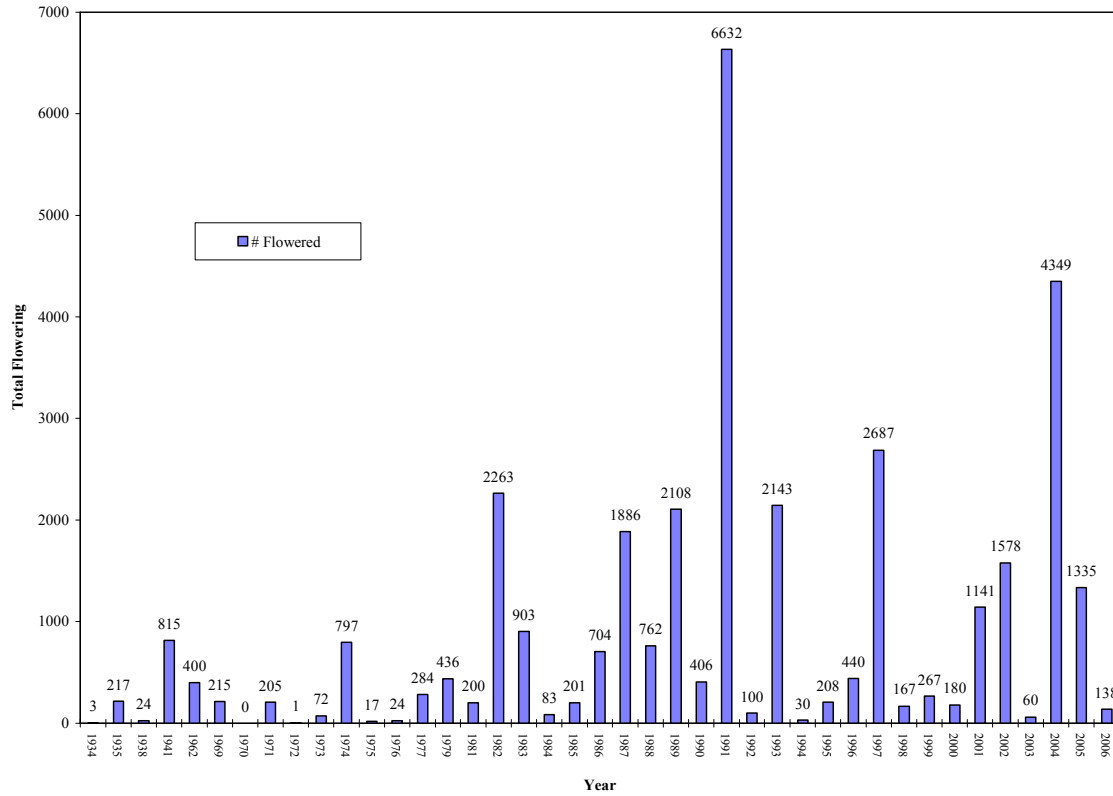
#### **PLOTS**

The 11 silversword plots attempt to monitor a representative sample of the silverswords by mapping individual silverswords, measuring live crown diameter of each silversword, and noting life history changes (seedlings, flowered, death). The silversword plots were established in 1982 and have been monitored almost every year since then.

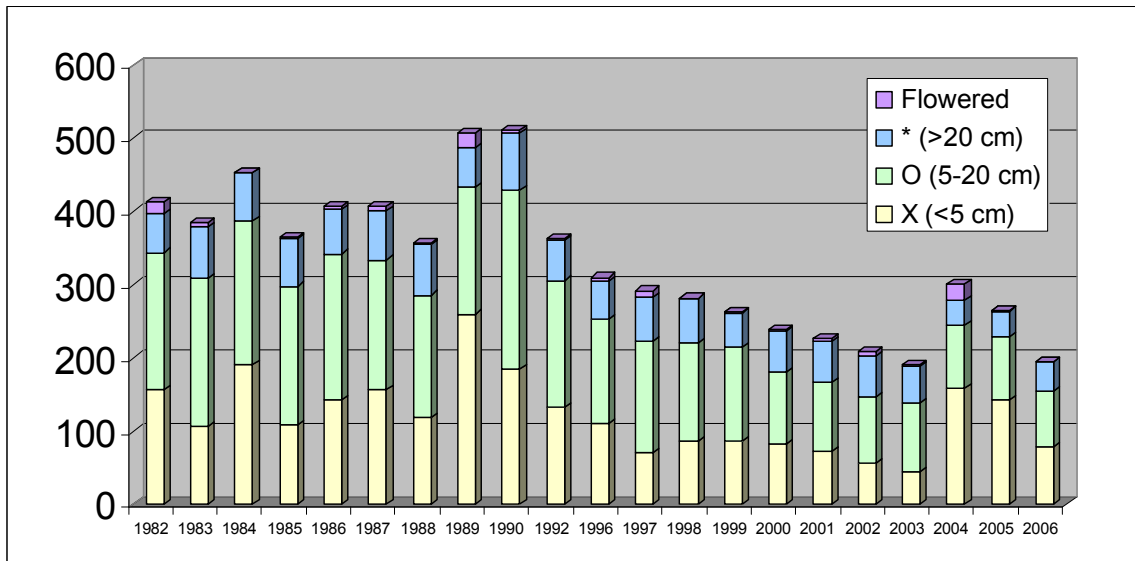
- 2006 was a year of decline. The total number of silverswords in the plots declined 26% (70) from last year, from 265 to 195. The total number of silverswords in the plots dropped by 53% (219) from 1982, from 414 to 195.
- 3 new seedlings were recorded in the plots this year. Survival for the 25 seedlings in 2005 has been about 50%, 30% of the 127 seedlings from 2004 are still alive.
- No silverswords flowered in the plots this year, the third time since 1982 this has happened (also occurred in 1984 and 1998). The most flowering silverswords ever recorded in the plots was 22 in 2004.
- 24% (47 of 195) of the silverswords have been in the plots since 1982. In other words, 24% of the silverswords in plots are at least 24 years old, the smallest of these old silverswords is 2 cm in diameter, the largest is 36 cm in diameter.
- We still don't know how long silverswords live, all of the silverswords that have flowered in the plots were alive before the plots were established in 1982.

# FLOWERING TOTALS 1934-2006

Haleakala National Park: Annual Silversword Flowering Census



# PLOT TOTALS 1982-2006



Size Class	1982	1983	1984	1985	1986	1987	1988	1989	1990	1992	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
X (<5 cm)	157	106	190	108	142	157	118	260	185	132	110	71	87	86	83	72	56	45	159	143	79
O (5-20 cm)	187	203	198	190	200	177	168	173	245	174	143	151	134	128	98	94	90	94	86	86	75
* (>20 cm)	54	71	66	65	62	68	70	55	78	56	52	61	61	48	56	57	57	50	34	35	41
Flowered	16	5	0	2	3	6	1	20	4	1	5	9	0	1	1	3	6	1	22	1	0
Total #	414	385	454	365	407	408	357	508	512	363	310	292	282	263	238	226	209	190	301	265	195

IMAGE FROM 2006



Flowering silversword (1 of 138 this year). Summit Parking Lot. Sep. 24, 2006.