

## **Alpine ibex in Switzerland in 1977-2007: a comment on population development and on the national research project**

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In Switzerland, Alpine ibex population declined between 1999 and 2002. Reduction ranged between 10% and 25% depending on the site. Official research institutes could not explain the reasons for the population decline, and alarm was cried out by competent federal and cantonal authorities. Consulted experts formulated several hypotheses ranging from mysterious diseases to the implication of genetic causes. Subsequently, a national research programme was started to find out the reasons for the population drop. However, more than 6 years later, the international research team is still not able to provide valid explanations. Meanwhile, Alpine ibex population in Switzerland recovered and even increased to the maximum number ever recorded since its reintroduction in 1906 (15'722 recorded animals in 2007).

In this presentation, ibex data open to the public (population numbers, perished and hunted animals) as well as snow data from the Swiss Institute for Snow and Avalanche Research in Davos are analysed. This preliminary study strongly suggests the following points:

- Population decline occurs when perished ibex recorded after the Swiss system is  $> 4 - 4.5\%$  of the total ibex population in spring
- Decline of ibex numbers in saturated populations occurs when total winter snowfall is elevated
- After a year with elevated total snowfall, recruitment is low
- Alpine ibex population in Switzerland recovered since 2003 because in ALL winters since 2002 total snowfall was below average
- A hunting quota of 12% of the total population in spring does NOT reduce the Alpine ibex population below the ecological carrying capacity of the habitat in winters characterized by high total snowfall.

This preliminary examination could be the basis for a detailed study which could provide the real explanations for ibex population decline in Switzerland in 1999-2002 and to evaluate the effect of different hunting quotas on the development of Alpine ibex population.