Parco Naturale
Alpi Marittime

Commentary for the presentation at the Mittersill conference

1
Hello everybody I'm Enzo Piacenza, ranger at Alpi Marittime a regional park in Piedmont.

2
The Park is in northern Italy on the border with France, where we have 32 km of boundary in common with Mercantour National Park.
The park covers roughly 30.000 hectares with a distinctively alpine environment despite being so close to the sea.

3
There are several peaks over 3000 metres and the heavy winter snowfalls create typical scenery. The territory ranges from the modest height of 800m to the highest peak in the park Argentera at 3297m. Despite the vicinity of the sea the snow cover can often reach considerable depths. This year is exceptional in that we have had an average of 2m depth throughout the season above 1000m in height.

4
The study area has been divided into a series of trial transects that cut through the areas of the territory most suited to wolves. In this way we maximise the possibility of crossing wolf tracks. There are 12 transects in the park and 2 in the neighbouring area.

5
The purpose of all this is to study our local wolf population. So our main objectives are: to understand the distribution and numbers of species and to establish the genetic identity of the resident wolves and lastly to study their feeding habits.

6
The main activity has been field work, divided into summer and winter, with variations in the transects used, in such a way as to establish a transit index (from the scats, carcasses). All this is sampled and loaded into a data bank.

7
The summer and winter transects cover about 200 km, the difference being that winter transects are repeated much more frequently as the probability of finding tracks or evidence of passage is greater.

8
From the map here you can see the results of the winter 2006-2007 activity, it shows marked activity by the two transboundary groups in the Park areas designated as Molieres and Sabbione to identify the core area. Many of the tracks we followed crossed the border descending into Mercantour Park.

9
The following winter showed a change in use of the territory. With the Molieres pack making fewer incursions into the Gesso valley and no activity from the Sabbione pack which had moved decidedly into French territory.
The results of the genetic analysis showed that we had F45 and M40, formerly the alpha female and alpha male of neighbouring packs.
In the summer of 2008 we have evidence of reproduction.
And so the Gesso valley pack is born.

10
This winter the managers of the wolf in Piedmont project organised the work this way: the whole study area (from Val Corsaglia to Valle Varaita) was divided into Pack/sectors, in these we looked for signs of presence by means of simultaneous surveys. These were carried out by rangers, researchers and forestry guards, who looked for and collected signs and data.

11
The fundamental winter activity is snow-tracking, this means following a transect with snow-shoes or skis in the hope of coming across a track to follow.

12
GPS use in this activity is important as it reduces the error in plotting to map. It also speeds up the collection and elaboration of the data because any track that has been followed and any scats, rest places and carcasses can easily be registered and transferred onto a map.

13
The table shows a summary of 2008's activities. The first column shows the month the second the number of transects carried out, the third any signs of wolf activity found along the transect, then follow the number of scats found and the tracks followed through the year.

14
I would like to pause to draw attention to a particular activity carried out this winter. The main aim was to monitor the Gesso valley pack for a fortnight in order to evaluate the impact of wolf predation on the local wildlife population. Once a track was found the aim was to follow it as far as possible without losing it in order to find all the carcasses being used. The carcasses, scats and rest areas were marked daily with GPS then mapped with GIS.

15
This continual monitoring gave the following results: the number of carcasses found on the tracks we followed that had been used by the wolves was 9, mostly killed. For certain one chamois and four roe deer were attacked, and probably a fifth, as a large quantity of blood showed through the falling snow. A roe deer killed by dogs was also eaten by wolves.
Scavenging was limited to three dead animals, two chamois and an ibex, whose deaths were linked to the current keratoconjunctivitis problem.
No food caches were found.
So the analysis shows that roe deer is preferred, in areas where their density is reasonably high, but chamois which are widely available in the park and ibex present in lower densities, also come into the diet.

16
The carcasses found were used completely.
In the case of roe deer in particular it is difficult to establish the sex and age, often only a few hairs are left and the bones are completely ground up. Only the carcass CM16 still had a head and piece of leg in the vicinity, in this case a male 'in velvet'. With chamois on the other hand you almost always find the backbone and lower legs. In the case of the ibex everything was eaten except a small piece of leg, as this was a young animal.
There was one case of surplus killing, where a chamois was left uneaten. The animal's eyes had signs of keratoconjunctivitis and clear puncture wounds to the throat. A similar thing happened last year with a subadult wild boar, initially attacked and killed but finished up only 5 days later.

17
The study period runs from 14th January to 25 January.
The table shows that a total of 121.53 km were covered, 47.14 km for the M11 section and 74.39 km M13 section with a gap because of a snow fall. The number of scats found was 25, an average of one for every 5km of track followed.

18
In this map you can see the routes that wolves took and the distribution of the carcasses. There is a remarkable concentration around the cross-country ski tracks, this is an area with a high roe deer density and where movement was easier despite the depth of snow. We see this concentration despite the availability of several chamois that had died as a result of keratoconjunctivitis nearby.

19
Here you can see the mapping of a predation that I would like to explain, as the dynamics are not immediately apparent. This male roe deer in velvet CM16 was attacked by two wolves after a long chase over nearly 500m downhill. Most of this was on the cross-country ski tracks, where the animals were probably able to move better. They set off from the wood just below the track that runs through it coming down to the edge of the road by the power station. The deer, finding itself about three metres above the road, slowed down and here the wolves blocked it. The carcass was then carried bodily, there were no signs of dragging on the snow, for over 100m away from the road where feeding began. Traces of blood and hairs were spread over a wide area, to an extent that the head was 400m from the predation site and about 300m from the point where feeding began, it was the only piece of the carcass remaining intact.

20
It is worth mentioning the rest areas, they seem to be linked to the presence of roe deer as they are found in wooded areas with clearings or angles whereby there is excellent visibility, and in particular this year with such heavy snow falls at relatively low altitudes.

21
This maps distribution and you can see the clear link with the feeding areas.

22
Here are the positions of the scats found over this period. They are fairly evenly distributed.

23
From an analysis of the data and the tracks it would seem that this winter and in this study these wolves chose a relatively low altitude environment, where despite the considerable depth of snow (around 2metres), they could get about easily because of the cross-country ski tracks.

24
This area represents their ideal hunting and patrolling ground probably conditioned by the particular difficulties this winter.
The total of the tracks followed came to 123.76 km over 12 days all in this small area.

25
Despite the availability of dead chamois through severe weather and the keratoconjunctivitis epidemic in the area used, the wolves seem to favour areas with high densities of roe deer.

26
In conclusion we can say that the wolf pack in the park is composed of 3 or 4 animals.
In the period we monitored they used 9 carcasses of which 8 were eaten completely, so probably moments of heavy feeding alternate with periods of partial fasting maybe because of bad weather and the consequent difficulty in movement.
The area chosen seems to be linked principally to the abundant availability of roe deer and considered the copious snow falls this winter, low altitude areas where the snow-cat has beaten the tracks making movement simpler.
Roe deer would seem favoured despite the fact that the Park hosts a population of around 5000 chamois that is undergoing a considerable selection this year for the reasons mentioned before (the hard winter and keratoconjunctivitis).
The rest areas are found in wooded areas often near prey or carcasses used for food but generally with good all-round visibility.