Effects of supplementary feeding on moose
body weight & reproduction

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Aim:
To determine how supplementary feeding in winter affects habitat selection & subsequently body condition, reproductive rates & autumn slaughter weights in moose

Rational:
1) Slaughter weights & reproductive rates are declining (Fig. 1) – could supplementary feeding help?  
2) Supplementary feeding is increasingly used as a management tool but the ecological consequences are unknown.

Table 1. Winter use of feeding stations (FS) in each study area

<table>
<thead>
<tr>
<th></th>
<th>Non-user</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telemark</td>
<td>n (2007 + 2008)</td>
<td>18</td>
</tr>
<tr>
<td>Mean % winter within 250m of FS</td>
<td>1.6%</td>
<td>15.1%</td>
</tr>
<tr>
<td>Range</td>
<td>0-14.4%</td>
<td>0.6-41.6%</td>
</tr>
<tr>
<td>Hedmark</td>
<td>n (2009)</td>
<td>5</td>
</tr>
<tr>
<td>Mean % winter within 250m of FS</td>
<td>0 %</td>
<td>35.3 %</td>
</tr>
<tr>
<td>Range</td>
<td>0-0%</td>
<td>8.8-72.0%</td>
</tr>
</tbody>
</table>

Preliminary Results & Discussion:
1) Moose in Hedmark used feeding sites more than moose in Telemark (Table 1), probably because of a longer feeding history & colder winters.
2) Moose feeding site users lost less weight over winter than non-users, especially in Hedmark (Fig. 2a). Winter weight loss decreased as use of feeding stations increased (Fig. 2b). Autumn slaughter weights in Telemark did not differ with feeding status.
3) Pregnancy rates in January did not differ between feeding station users and non-users (89%) or between study areas. June calving rates were lower in Telemark than Hedmark & tended to be higher among FS users (74% v. 58%), especially in Hedmark. Cows with twins (n=3) were all FS users from Hedmark. Abortion & neonatal mortality were a problem among Telemark females.
4) Supplementary feeding does not appear to be effective in improving reproductive rates or slaughter weights in Telemark.
5) A full analysis of ecological fitness in relation to habitat use & use of supplementary forage, & an economic cost / benefit analysis of feeding will be will be carried out in 2011 ..... Look out for our results!

Further details: http://english.hihm.no/forestwildlife/Research/mooseforage.htm

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Project publications: