Mother-pup interaction and the impact of anthropogenic disturbance in wild harbour seals (*Phoca vitulina*)

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Aim

Investigation of a) haul-out pattern and abundance of harbour seals on inter-tidal sandbanks in Dutch Wadden Sea estuarine environment (breeding season),

b) frequency, initiation and duration of mother-pup interactions and

c) frequency and impact of anthropogenic disturbance.

CONCLUSION

✓ Seals more abundant on sandbanks distant to dyke due to space availability, differences in sandbank structure and distance to human activity

✓ Seals at sandbank close to dyke disturbed by pedestrians; separations due to environmental and maternal factors

✓ Behavioural response commotion most frequent due to lower level of energy costs during lactation period

Future conservation

needs to consider

- approach distance and human behaviour,
- disturbance perception and sensitivity in harbour seals, and
- physiological effect of disturbance on individual and population level

Results

1. Abundance

- composite picture; different age and sex
- increased towards peaks in June
- sandbank close to dyke longest time emerged
- seals more abundant distant to dyke

2. Mother-pup interaction

- mostly inactive
- mothers initiated more frequently interactions
- suckling durations did not differ between pairs

3. Disturbance

- most frequent pedestrians; important: group size, distance to the seals, human behaviour
- Separations: none after anthropogenic disturbances, but due to environment. Reunions
- most frequent behavioural response commotion (=head up)

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