REHABILITATING HARBOUR SEAL PUPS: mimicking natural development

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In the wild, from birth.....

Newborn bonding

Following....on shore

Playing

into the water....

Sleeping close together

Nursing

in the sea

Weaned pups assemble at 3–4 weeks

.....to weaning at 3 -4 weeks

Harbour (common) seal pups (*Phoca vitulina)* gain at least 0.5 kg/day on mother's fat-rich milk. They start to forage for small live prey immediately after weaning , close to the haul-out site for 2–3 weeks and then further offshore. Pups learn to feed on live prey within 2 weeks of weaning and should achieve a +ve energy balance 4 weeks after weaning (i.e. by c. 8 weeks of age.

NOTE: wild pups never feed on dead fish

At TSR **from rescue of newborn Abandoned pups .....**

Key features of rehabilitation at TSR

Bonding with another pup.....

Surrogate provided if pup is alone

Conditions facilitate play

as substitute for mother-pup bond

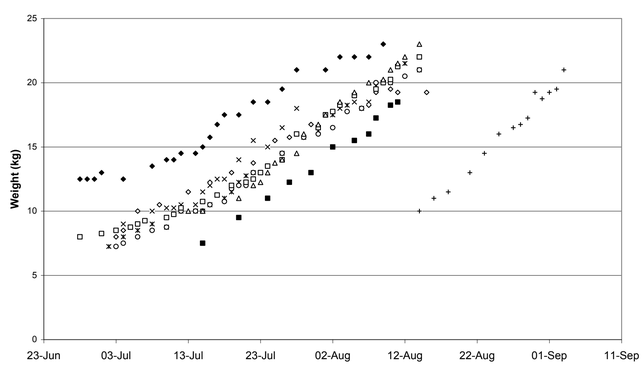
Human surrogate also offered

Pups sleep close together

Opportunities to suckle provided with bottle or surrogate

access to water for healthy pups from newborn

Pups interact and follow one another at release near haul-out site



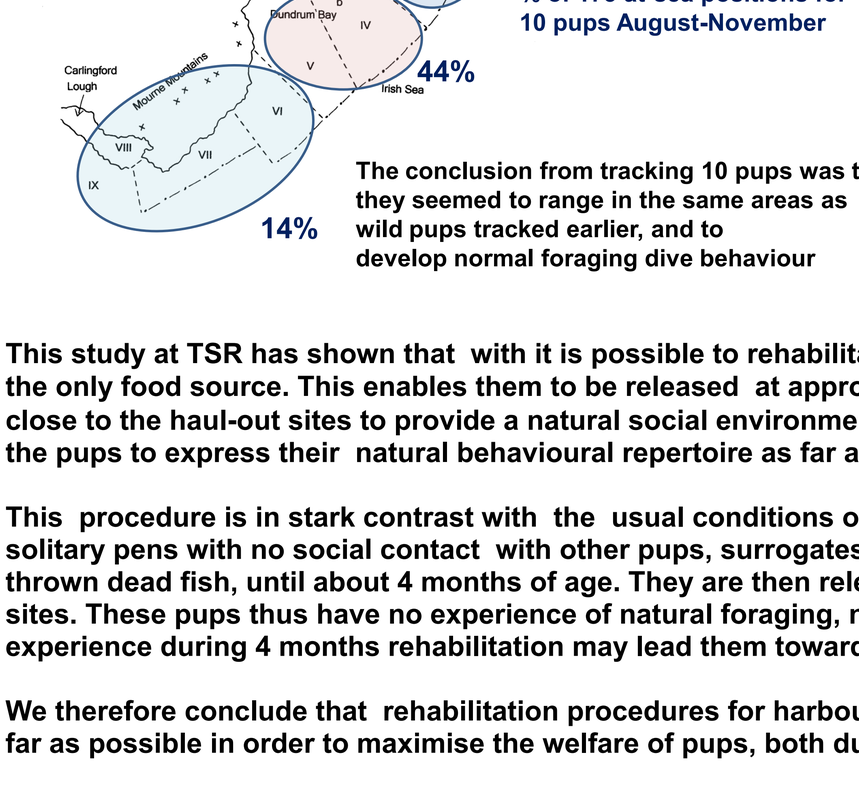
Feeding solely on high fat milk formula allows an average weight gain of >0.3 kg/day, enabling release shortly after natural weaning age.

NOTE: harbour seal pups at TSR are not fed on dead fish. They are given only milk formula until release.

Note—none of the pups from TSR have approached humans after release; it appears that short-term human interaction with pups of nursing age does not have any long-term adverse effect in harbour seals

.....to release at 5–6 weeks

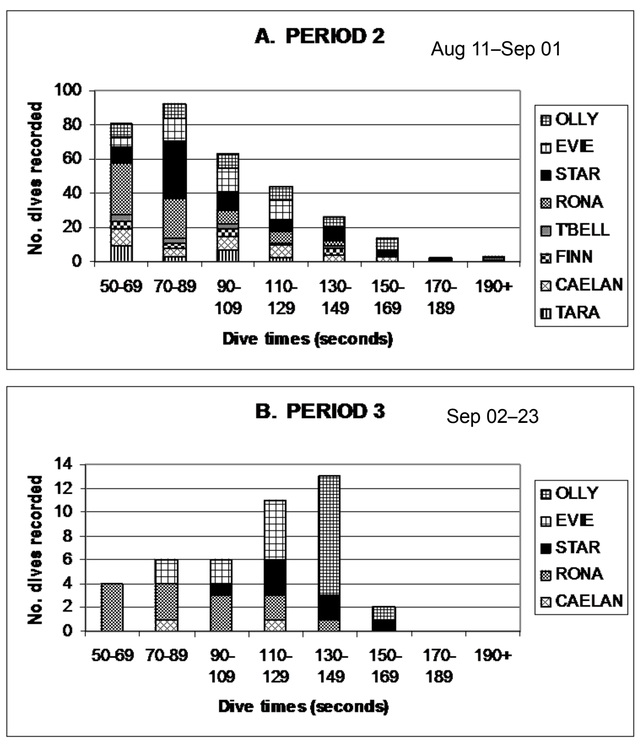
10 released pups were radio-tracked

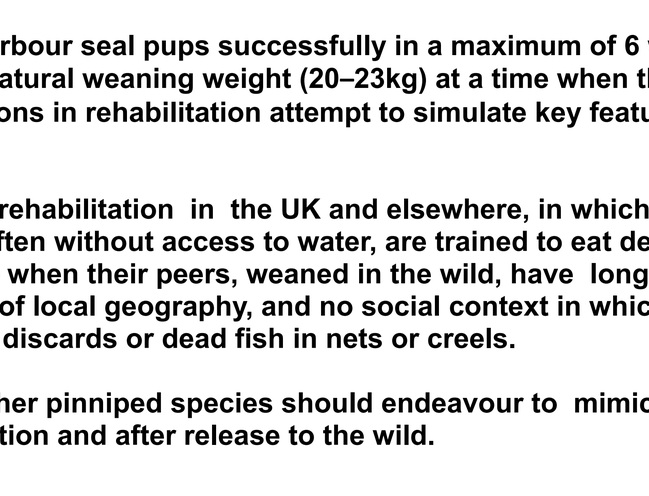


Number of pups (out of 10) using haul-out sites in each section

% of 173 at-sea positions for 10 pups August-November

The conclusion from tracking 10 pups was that they seemed to range in the same areas as wild pups tracked earlier, and to develop normal foraging dive behaviour





Dive times were similar to wild post-weaning pups

This study at TSR has shown that with it is possible to rehabilitate 'orphan' harbour seal pups successfully in a maximum of 6 weeks, using a high fat milk formula as the only food source. This enables them to be released at approximately the natural weaning weight (20–23kg) at a time when their peers, weaned in the wild, are still close to the haul-out sites to provide a natural social environment. The conditions in rehabilitation attempt to simulate key features of the natural environment, allowing the pups to express their natural behavioural repertoire as far as possible.

This procedure is in stark contrast with the usual conditions of harbour seal rehabilitation in the UK and elsewhere, in which pups of nursing age are often kept in solitary pens with no social contact with other pups, surrogates or humans, often without access to water, are trained to eat dead fish, and are then retained, being thrown dead fish, until about 4 months of age. They are then released at a time when their peers, weaned in the wild, have long since dispersed to offshore foraging sites. These pups thus have no experience of natural foraging, no experience of local geography, and no social context in which to develop these skills. Their feeding experience during 4 months rehabilitation may lead them towards fishing boat discards or dead fish in nets or creels.

We therefore conclude that rehabilitation procedures for harbour seals and other pinniped species should endeavour to mimic the natural developmental timetable as far as possible in order to maximise the welfare of pups, both during rehabilitation and after release to the wild.