

# Memorandum

*To:* Jennifer Vashon  
*From:* Randy Cross  
*cc:*  
*Date:* April 3, 2007  
*Subject:* 2007 Bear Den Summary

The 2007 den crew included myself, Kendall Marden, David Pert, and Eric Rudolph. Snow depths were generally low in all 3 study areas, although temps were generally colder than normal from mid-January through mid-March with no major thaws or rainfall until late March. We worked many days in subzero wind chill. Noisy, crusty conditions plagued us late in the winter in the 2 southern study areas.

## Bradford Study Area

In the BSA, we visited and attempted to capture bears in 27 dens (9 solo, 5 yearling, and 13 cub dens). We recorded 12 yearlings (handled 9 of these; 6F, 3M) (avg wt. = 50.4 lbs). We recorded 29 cubs in 13 litters (14F, 13M + 2 unk). One litter was not handled or sexed (1980) for fear of causing abandonment.

Many impressive weights were recorded in all age classes, eg. 78 lb. female yearling (new SA record); cub weights averaged 40% higher than last year; another 3 year old birth (only third time in history of study). Cub survival was excellent as well at 86% (12/14).

Many bears ran from their dens and 6 adults (1928, 1943, 1980, 2233, 2245, 2265) and 3 yearlings escaped capture. Two bears were injured during the summer period (1881, 2244). We were able to locate 1717 and her yearlings despite the pilot's failure to do so. We may attempt capture of 2233 and her yearling with hounds later in the spring. The leather insert in 1164's collar failed but the collar was found in the bedding of her nest.

## Downeast Study Area

In the DESA, we visited 24 dens (10 solo, 2 yearling, and 12 cub dens). All 3 cubs from our only known 06 litter survived (2129's). We were able to capture only one yearling out of five in the two yearling dens (2115's 2 yearlings were not handled as cubs in 06). ID 2129's female yearling weighed an impressive 60 lbs and all 4 of the escaped yearlings appeared to be of similar size. We recorded 28 cubs in 12 litters (14F, 14M). We didn't handle 2 litters (2106, 2114) (sexed only) to facilitate the mother's quick return to the nest. We also handled one male orphan cub from Patten who had been placed in the den with 2137 on January 24<sup>th</sup>. Reproductive synchrony continues to remain strong in this study area (most cubs are born on odd years).

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We handled five 2-year old bears that all showed impressive weight gains as well. A prime example is 2184 who weighed 24 lbs when last handled on June 16; she weighed 90 lbs on January 24 after a couple months in the den. She also sported the first successful ear tag transmitter deployment.

We failed to capture 6 adults (2106, 2114, 2115, 2159, 2319, 2349) and 4 yearlings in this study area. One collar was recovered that had been slipped (2268). Also, we lost contact with 2339 and failed to find her in a search. We redeployed a GPS collar on 2144 who had 4 cubs this spring.

#### Spectacle Pond Study Area

In the SPSA, we visited 18 dens (5 solo, 6 yearling, and 7 cub dens). We handled 9 yearlings (5F, 4M) and 14 cubs (4F, 10M). In addition to these cubs, we did not handle ID 2022 and her cubs as she was denned 35 feet up in a hollowed out portion of a sugar maple. We certainly could have successfully handled this litter but felt it wasn't worth the risk and expense. We'll trust our fate to the leather insert and our trapping team this spring.

We placed orphan yearling (2270) in a den box in T10R8 on February 8<sup>th</sup> and opened the door on March 23<sup>rd</sup>. She has a radio collar and we will monitor the success of this rehabilitation.

During 33 years of research in this study area, we have not seen weights in the dens as high as we recorded this year. Eight of the 9 yearlings handled make the top 10 yearling weights in the history of this study area (the other 2 were from '05). These include a new study area record 78 lb male. The average weight of the yearlings (64 lbs) breaks the record established last year (52 lbs) and is more than double the avg from 96-04 (26.7 lbs). Cub survival was also high at 82% (9/11) with only 1 whole litter loss (2007's).

#### Summary

We handled 146 bears from 57 dens. We attempted to capture bears from 69 dens, failing to capture 13 adults, 7 yearlings and one litter of cubs. We fired tranquilizer darts a total of 48 times during these capture attempts. We successfully handled 20 yearlings (13F, 7M) and 72 cubs in 31 litters (32F, 38M + 2unk ; 2.29 cubs/litter). Overall, cub survival continues to be excellent at 85.7% (24/28). We finish the season with 82 active collars (33 Brad, 23 Spec, 26 DE) with 12 of these being yearlings (includes orphan).

Yearling weights in the den are likely the most sensitive measure available of the relative abundance and quality of natural foods during the previous year. New record yearling weights were recorded in each of the 3 SA's as well as hefty weights from all age classes including cubs. These data suggest that the bears in Maine enjoyed a remarkable "summer of plenty" during 2006, especially in northern Maine where it may be the best food conditions the bears have experienced in a third of a century.

We continue to cooperate with Dr Rita Seger in her study of bone metabolism. Rita supported us generously by paying for 2 contracts and more. We collected many samples including 149 x-rays of 73 bears, 986 ml of blood from 60 bears, 76 hair samples, foot pad samples from 58 bears, ear plugs from 58 cubs, 29 oral swabs and 16 fecal swabs.

As in the past, we hosted many guests (214 guests on 24 days) including groups from colleges (COA, Unity, Bowdoin, UM), University professors, volunteers, generous camp owners and members of Fish and Wildlife legislative committee. Dr Krausse from URI continued to film and photograph and Carl Walsh from Yankee Magazine accompanied us during cub work at Spec Pd.