

# Memorandum

*To:* Jennifer Vashon  
*From:* Randy Cross  
*cc:*  
*Date:* March 30, 2011  
*Subject:* 2011 Bear Den Summary

The 2011 den crew included myself, contractor Lisa Bates, and volunteers, Matt O'Neal (12 weeks) and Mike Wheeler (first 9 weeks). We began working dens on Jan 6, finishing on March 25.

Snow conditions were good through most of the winter. There was no extended period of warm weather until March 7 and snow depths were substantial in both southern study areas until late March. The bears endured extensive flooding on December 12 (especially DE) with 4-8 inches of rain.

## Bradford Study Area

In the BSA, we visited 22 dens (5 solo, 8 yearling, and 9 cub dens). We handled 16 yearlings (8F, 8M; avg. wt. = 47.1 lbs) and 25 cubs (12F, 13M) in 9 litters. Last year's cub survival was 76% (16/21). ID 2361, a 4 yr-old, produced 2 cubs last winter at 3 years old and successfully raised both. This is the first successful birth to a 3 year old mother in the history of the study.

In our continuing effort to limit the number of collared bears for budgetary concerns, we withheld collars from 3 female yearlings. We collected all 9 of the GPS collars that were still sending a VHF signal (only 4 of these had successfully recorded locations for the entire period). We placed GPS collars on 2 adults including 1925 who we handled twice with her yearlings after we found that the GPS collar deployed on her last winter malfunctioned. She lost 10 lbs in 5 weeks (from 2-1 to 3-8). We were unsuccessful in our attempts to capture two adults (1980 and 2225) and one female yearling, 2778 (2361's).

We collected 4 collars that had been separated from the bears. One of the 3 was snagged on a stub of a fallen tree and the leather segment tore, releasing the bear. The cause of the loss of the others could not be determined due the lack of mortality flights and up to 4 feet of snow. These bears were likely lost to a combination of premature leather failure and collars being slipped over the head but some may have been separated from the carcass of a dead bear.

ID 2265 gave birth to one chocolate cub in her first litter of 3; her mother had produced the only 3 color phase bears seen in the dens previous to this year.

## Downeast Study Area

In the DESA, we visited 28 dens (6 solo, 4 yearling, and 18 cub dens). We handled 6 yearlings (2F, 4M) and 48 cubs (23F, 25M). The average yearling weight of 39.3 lbs is down significantly from 2009's average of 56.9

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lbs, indicating a relatively poor natural food year in this part of the state. Cub survival was 6/9 (67%). Cub production in this study area continues to be heavily synchronized with most cubs being born on odd years.

We recovered one GPS collar (2815) which was deployed last trapping season here. We also recovered one Northstar collar (GPS/SAT collar which was given to us) on a male orphan yearling (2841). We decided to recapture this orphan late in the den season and took it back to Dawn for some beefing up before releasing again this spring.

We chose not to collar 1 female yearling and removed a collar from one adult (2816) to reduce the number of collared bears outside the GPS focus area.

Four collars were picked up with no bear attached. It is impossible to tell what happened to these bears but we will assume they are still alive. ID 2825 gave birth to a chocolate female cub.

#### Spectacle Pond Study Area

In the SPSA, we visited 20 dens (7 solo, 6 yrling, and 5 cub dens). We handled 10 yearlings (7F, 3M; avg. wt. = 40.7 lbs.) and 8 cubs (4F, 4M). Cub survival was 77% (10/13). ID 912, a 26 year old successfully raised her female cub, very likely her last. We collared 7 female yearlings here this year.

We picked up one unattached collar (2095). We pulled one collar from an adult (2563). One chocolate cub was born to 2409, the first we have seen in this study area in the 36 years we have been here. Tragically, our pilot, Wdn Daryl Gordon fatally crashed his plane on March 25 at Clear Lake.

#### Summary

We visited 73 dens this winter handling a total of 182 bears. Two adults and 1 female yearling escaped capture. We handled 31 yearlings (17F, 15M) in 17 dens and 81 cubs in 32 litters (39F, 42M; 2.53 cubs/litter). There were 3 litters of 4 (2 DE and 1 in Brad) and only 3 single cub litters (all at Spec Pd).

Last year's cub survival was 74.4% (32/43). Interestingly, we had 100% female cub survival (17/17) and only 58% male survival (15/26). Yearling weights averaged 43.5 lbs. in all 3 study areas combined which is below what we have found recently on odd-year den checks (2009=52 and 2007=58).

We started work with 23 missing bears (8 in Brad, 7 at Spec and 8 DE). The pilots found some of these during the den season and we located 6 bears which we didn't have coordinates for from the pilots (3 in Brad, 2 at Spec and 1 DE). We finished the dens with 10 missing bears (6 in Spec, 2 Brad and 2 DE).

Due to budget limitations, we again deployed some collars with minimal battery life (less than 12 months left): 3 at Spec, 1 in Brad and 1 DE. These were deployed with magnets attached loosely in hopes of saving a month or more of battery life while the bears were still in their dens.

We removed one collar from 2 adults and chose not to collar 4 yearlings. During the last 4 winters, we have removed collars from 17 adults and chose not to collar 23 yearlings (total of 40) in an effort to downsize and focus our efforts on a smaller portion of each of the original study areas. We now have 82 active collars (26 Spec Pond, 27 Bradford, and 29 Downeast) including 12 yearlings.

We collected hair samples which include the follicles that serve as genetic samples from 92 adults and yearlings and ear plugs from 63 cubs. Hair samples may also be used for biochemical analysis to determine gross dietary characteristics, seasonally, during the feeding season. We collected 12 additional genetic samples for Catherine Sun from Cornell and about 20 genetic samples in the form of foot pads and buccal swabs for UMM student, Stephanie Wunderley, for an internship program. In addition, we collected 3 live skin biopsy samples for Drs Kolodny and Alroy from the New York University School of Medicine with help from Dr Sherburne.

We hosted 196 guests on 23 days including groups from colleges (UM-8, Unity-33, and COA-15), the Kicking Bear youth program – 18, legislators and guests of the Commissioner - 19, landowners, land managers and

guides (NMW) - 25. Media included The Bear Whisperer (Outdoor Ch), Grizzly Creek Films (Nat Geo), writers from weekly newspapers "The Star Herald" (PI), and "The Bulldog Times" (Madison) , a freelance photographer, Kirk Rogers (web), and 2 students from Salt Radio in Portland.