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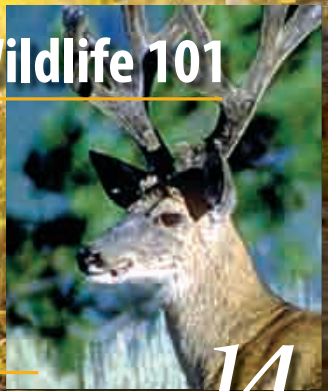
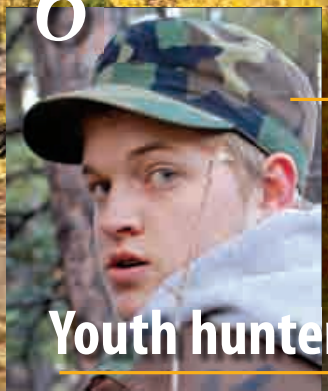
UTAH DIVISION OF WILDLIFE RESOURCES • AUTUMN 2006

Wildlife REVIEW

Bears
Rehabilitation gives orphaned cubs a chance

Urban geese
Flocks of city slickers are moving in





By Kevin Bunnell
Mammals Program Coordinator

Bringing up bears

A private rehabilitation center is giving orphaned bears a chance for life.

DURING the summer and fall, the Division of Wildlife Resources occasionally picks up bear cubs that have been abandoned or orphaned. Thanks to the efforts of a private rehabilitator, these cubs now have a bright future.

Going it alone

Several things can cause a black bear cub to become separated from its mother.

In Utah and other dry states, there is a strong correlation between drought and the number of bear cubs that are found abandoned or orphaned. Because of drought, adult females are sometimes forced to abandon their cubs simply because they can't find enough food to feed themselves and also provide for their offspring.

In 2004, Utah experienced below-normal snowfall, a dry spring and a hot, dry summer. The lack of moisture resulted in very little food for the bears, especially in the mountains of eastern Utah. During late summer and early fall, UDWR personnel found 14 bear cubs that had been abandoned by their mothers.

In contrast, above-normal winter and spring moisture in 2005 provided Utah's bears with plenty of food, and no bear cubs were found orphaned or abandoned that year.

Rehab and release

In 2003, the UDWR instituted a policy for rehabilitating orphaned and abandoned bear cubs.

If a black bear cub is found alone, and UDWR biologists determine that its mother is not going to return, the cub is taken to the Idaho Black Bear Rehabilitation Center (IBBR) in Garden City, Idaho. Operated by wildlife rehabilitator Sally Maughan, the IBBR accepts and rehabilitates cubs from several Western states, including Idaho, Oregon, Utah, Washington and Wyoming. Since the IBBR opened in 1989, the facility has cared for more than 150 bear cubs, most of which have been successfully released back into the wild.

In fall 2004, the 14 bear cubs that were found orphaned or abandoned in Utah (nine males and five females) were taken to the IBBR. After months of successful rehabilitation, the cubs were scheduled for release in the Book Cliffs in June 2005, when the cubs would be more than one year old.

Before their release, all of the cubs were fitted with breakaway radio collars and numbered ear tags. Breakaway col-

DWR employees prepare to release a rehabilitated bear into the wild.

The author holds a small bear that will be turned over to a rehabilitator.

lars were used because fixed-size collars could become too tight and could constrict the breathing of the young bears as they continued to grow.

The bears also were weighed. All of the males (averaging 183 pounds) and the females (averaging 94 pounds) were significantly larger than yearling bears would be in the wild, which was probably due to the unlimited food available to them at the IBBR. This extra fat provided the bears with important energy reserves that would ease their transition when they were released into their new and unfamiliar surroundings.

The UDWR and Brigham Young University have worked together to determine the success of the IBBR's rehabilitation program by studying how the cubs became acclimated after being released into natural, but unfamiliar, habitat.

On June 2, 2005, the bears were released at two locations in East Canyon in the southeast portion of the Book Cliffs. The bears were let out of their traps two at a time. Most of the bears quickly disappeared into the brush surrounding the release site, but a few climbed nearby trees.

After the release, Josh Heward of BYU monitored the bears on a weekly basis, using radio-telemetry on the ground and from an airplane. He found that the bears quickly adjusted to their natural setting and began to disperse from the release site by the middle of June. Shortly after they were released, the bears also began finding and eating natural foods. Heward found evidence of the bears feeding on insects, grass, berries and meat as he monitored them through the summer.

Twelve of the 14 bears survived through the summer and fall in the Book Cliffs. One of the bears that did not survive was found on August 1 near a highway just south of the Douglas Pass in Colorado. An autopsy found no broken bones, so it's unlikely that the bear died from a collision with a vehicle. Its cause of death is unknown.

The second bear was taken by a hunter in late August.

Of the 12 surviving bears, two males dispersed more than 50 miles into Colorado, and the collars on four of the bears broke away before the bears entered their dens for the winter. These six bears are no longer being tracked.

Thriving in the wild

Five of the remaining bears were visited in their dens in March 2006 to assess their condition and to place fixed-size collars on the females. All of the bears were in great condition, and one of the females even tipped the scales at an amazing 187 pounds! Adult females visited in dens in March usually weigh about 150 pounds.

The good condition and weight of the bears indicated that the forage available in the Book Cliffs in summer 2005 was outstanding, which is what biologists expected with the above-average moisture.

The great condition of the bears also showed that they were able to successfully acclimate and find food in a natural environment. In addition, despite spending several months close to people at the IBBR, there was very little evidence that the released bears were habituated to people, and none of the bears that were tracked over the summer were involved in nuisance situations.

The overall success of this rehabilitation and release provides strong reasons for continuing the bear cub rehabilitation program. In the future, rehabilitated young bears may be used to augment low-density bear populations or even to reestablish bears in areas that have suitable habitat but are currently unoccupied.

As for the surviving bears that were released in June 2005, researchers from BYU will continue to track the female bears for two to three years and will visit them in their winter dens to monitor their health and reproductive capacity.

You can help

The IBBR provides an invaluable service by rehabilitating bear cubs in a way that allows them to successfully acclimate to their natural habitat. The facility operates solely on private donations.

You can contribute to the IBBR by visiting their Web site at *www.bearrehab.org.*

Final Report: 2005 Yearling Black Bear Release in the Book Cliffs

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Prepared for:
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Reporting Period:
June 2005 through August 2005

This report details research activities conducted from June 2005 through August 2005. The primary objective of the study was to monitor the survival of 14 yearling black bears (*Ursus americanus*) that had been orphaned as cubs in 2004. The bears had been fed over the winter at the Idaho Black Bear Rehabilitation Center in Garden City, Idaho. The release was scheduled the first week of June, after the spring bear pursuit season. Monitoring was to include weekly telemetry flights followed by tracking on the ground.

Relocation

Bears (5 females and 9 males) were picked up from the rehab center on June 1. Bears were immobilized with an intramuscular injection of 3cc ketamine HCl and 1.5cc xylazine HCl. Once a bear was sedated it was removed from the enclosure and taken to a makeshift table set up for data collection. The bears were fitted with a radio collar and numbered ear tags (Table 1). Samples including hair, claw clipping, skin biopsy, blood, and expired air were collected to establish a baseline data set for future stable isotope analysis. Standard morphological measurements were not taken as bears began to wake up earlier than anticipated probably due to a drug underdose. They were loaded into individual traps, which were loaded into a horse trailer. The release took place the

following morning in two locations in East Canyon of the Book Cliffs. There were a couple dozen people present at the release including a few news crews. We weighed the bears in the traps before the release and subtracted the weight of the trap to determine the weight of the bear. The mean weight of females was 94 lbs. (range 70-110 lbs.). Males were significantly larger with a mean weight of 183 lbs. (range 145-205 lbs.). Both males and females were larger than yearling bears in the wild. Bears were let out of the traps two at a time without incident. The bears ran from the traps, and most quickly disappeared into the brush but a few individuals climbed nearby trees or stopped briefly and looked back at the crowd.

Table 1. This table lists the number, sex, weight, ear tags (white), and collar frequency and type for each bear. Bears were assigned a number corresponding with the frequency of their radio collar. Bears 8250 and 8663 both have an ear tag numbered 0316. It is likely that one of them was misrecorded.

Number	Sex	Weight (lbs)	Left Ear Tag	Right Ear Tag	Collar freq.	Collar Type
8016	Male	190	0329w	0371w	148.016	ATS
8040	Male	195	0392w	0349w	148.040	Telonics (lg.)
8186	Male	150	0377w	0374w	148.186	ATS
8250	Female	90	0316w	0325w	148.250	Telonics (sm.)
8270	Female	110	0373w	0350w	148.270	Telonics (sm.)
8300	Female	70	0319w	0359w	148.300	Telonics (sm.)
8310	Female	90	0375w	0380w	148.310	Telonics (sm.)
8320	Female	110	0367w	0315w	148.320	Telonics (sm.)
8376	Male	195	0357w	0353w	148.376	ATS
8475	Male	200	0311w	0312w	148.475	ATS
8567	Male	145	0358w	0317w	148.567	ATS
8663	Male	175	0314w	0316w	148.663	ATS
8820	Male	195	0354w	0370w	148.820	Telonics (lg.)
8860	Male	205	0351w	0385w	148.860	Telonics (lg.)

Telemetry

Using the telemetry equipment bears were approached on foot and an attempt was made to visually estimate their physical condition and opportunistically observe behavior.

Bears were seen on 13 occasions. Tracks, that could be positively attributed to the bear being pursued, without a sighting were located on 11 occasions. Additionally, bears were heard without any other sign on three occasions. Typically, they would walk or run away when approached. Three times bears were found bedded down at the base of a tree and I was able to watch for several minutes before they would invariably raise their heads as if smelling the air and walk off. On one of these occasions 8016 moved about 25 meters to a large Douglas fir tree and climbed about 4 meters up the tree. This was the only time that a bear climbed a tree in response to an approach.

All of the bears, except 8820, stayed close to the release site the first week after the release. On June 8 two of the males (8663 and 8376) were bedded down under the same tree. This was the only time that I saw evidence of direct interaction between bears, although, two females were feeding on the same slope in early August. The adjustment period seemed to be relatively short and by the middle of June bears had begun to disperse from the release site. The first evidence of feeding was found on June 14; 8186 had torn open a log and a stump presumably looking for insects.

Dispersal from the release site was primarily to the east and mostly involved males. One female (8250) moved to the Indian land west of the release site. The other females remained within a few air miles of the release site. There is continuous bear habitat to the east. There is also suitable habitat to the west and it is unclear why only one bear moved more than a few miles to the west. Perhaps the higher levels of gas well activity in the west discouraged bears from moving that direction. In the north and south a bear would encounter unsuitable habitat as the elevation decreased.

Food Habits

While tracking on foot, 29 scats were encountered. Eight of those were fresh enough to assume that the bear being followed produced them. The cool wet spring resulted in a lot of grass growth and most (6) of the fresh scats were grass scats. One of these grass scats was found on July 11 (while chasing female 8320). Up until this summer I have never found a fresh grass scat in the Book Cliffs later than June. Because of the spring weather grass may have been an important resource for longer than usual.

One of the remaining two fresh scats was a fruit scat (squawapple and serviceberry), which was found on August 2. That morning two females (8270 and 8300) were on the same slope apparently feeding on squawapple. There is no way to determine which bear produced the scat but 8270 was closest to it when it was found. There seemed to be a good crop of serviceberry this summer and 38% of the older scats encountered were serviceberry. Female 8310 was observed feeding on serviceberries on August 11 but no scats were found.

The last fresh scat was a meat scat, which was found on August 18 while pursuing female 8310. She had apparently been feeding on a fawn carcass (estimated to be two days old) that morning and possibly the previous day as her radio signal was picked up in the same area on the 17th. Most of the hindquarters had been consumed and the internal organs were gone (the stomach was located nearby).

Evidence of myrmecophagy (logs rolled and torn apart, rocks turned, thatch mounds disturbed) was observed on four occasions. Despite the signs that they were eating ants I never found a fresh ant scat.

Habituation

Despite having spent several months in close proximity to people there was surprisingly little evidence of habituation to human activity. As mentioned previously most of the bears ran away when approached. There were only three instances when behaviors indicated that some problematic habituation might have occurred at the rehab center.

Bear 8567 was approached on July 20 and when visual contact was established he ran away. While I was filling out a data sheet he came back and spent 15 minutes walking back and forth in an arc behind me getting within 6 meters at one point. The receiver was on and beeping throughout this time and may have contributed to his curiosity.

Bill Bates received a report that bear 8186 had been hanging around a cabin on the High-Lonesome Ranch in Colorado around the time that it shed its collar. In July, Hal Black received a report that a young bear with white ear tags and a radio collar was at a fish hatchery near Rifle Colorado, but not causing any problems. Bear 8820 had not been located in the study area since the release and a flight on August 22 found the bear north of Rifle indicating that it was probably the bear seen at the hatchery in July.

Mortality

Two males died since the release. The first (8040) was found on August 1 near the highway just south of Douglas Pass in Colorado. Unfortunately the bear was not located on either of the two July flights so it had been dead for more than a week when I found it. The cause of death is unknown but the abdomen had been opened up possibly indicating that something had fed on internal organs shortly after death. There were no

broken bones making it unlikely that the bear died of injuries associated with an automobile collision. The second mortality was 8016 who was shot by a hunter in East Canyon on August 27. This was the same bear that I had treed on foot four days earlier in the head of Railroad Canyon.

Long-range dispersal could potentially make locating and retrieving collars impossible. Concerns about fixed collars on growing bears led to the equipping of radio-collars with a breakaway patch patterned after one used by LeCount (1986). In Arizona these patches were found to have a lifespan of 9-18 months. It was hoped that the collars would stay attached until the bears entered dens for the winter when they could be fitted with new patches or the collars could be replaced. Four of the collars broke away before the minimum anticipated lifespan of 9 months. The first of these was located from the air on July 18 and retrieved on July 19. The other three were found on mortality mode during a flight on October 5 and later retrieved. With 29% of the collars failing to stay attached until the bears entered winter lethargy, this breakaway mechanism is probably not a viable option for monitoring survival of young bears. Two of the males in this study dispersed far enough into Colorado that they probably would have never been located if 8820 had not been seen at the Rifle fish hatchery. The ideal resolution to the problem of dispersal would be to fit the bears with data-transmitting GPS collars which may prove cost-prohibitive. Telonics manufactures a programmable release mechanism, which can be set for any date within a five-year time interval. This device would nearly double the price of a collar but it is reusable if it is retrieved before deployment of the release mechanism. Without a breakaway mechanism on the collars, flights should be scheduled at least weekly to keep track of dispersal and ensure that bears are not lost. It

may even be necessary to schedule flights more than weekly to compensate for unpredictable cancellations. Twelve flights were scheduled this summer but only eight actually occurred because of bad weather and airplane maintenance.

Management Implications

The release of yearlings in the Book Cliffs was an overall success. The extra weight that the bears had gained at the rehab center undoubtedly contributed to the high survival rate. There seemed to be no problem with releasing multiple bears at a single site and dispersal began within two weeks. Bears seemed to adjust relatively quickly to life in occupied bear habitat. It seems this may be a viable technique for augmenting existing populations. It may also be a way to establish new populations in unoccupied habitat, although it is unknown what these bears learned from resident bears (e.g. they may have learned about food from encountering other bears' scats).

Literature Cited

LeCount, A. L. 1986. Black bear field guide. Arizona Game and Fish Commission. 95pp.

APPENDIX

UTM Location Tables

The following tables show the GPS locations arranged by date for each bear. The majority of the locations were acquired with radio telemetry from fixed-wing aircraft. Several locations were also recorded from the ground while tracking bears on foot.

Bear 8016: UTM locations acquired from the air and on the ground.

Date	Easting	Northing	Vantage Point
06/06/05	653954	4366861	ground
06/07/05	652371	4367414	ground
06/13/05	650532	4364841	air
06/24/05	649641	4363819	air
07/05/05	650576	4362481	air
08/01/05	651166	4363713	air
08/15/05	652451	4365475	air
08/22/05	651528	4369104	air
08/23/05	652349	4367603	ground

Bear 8040: UTM locations acquired from the air and on the ground. The collar was on mortality mode for the two locations acquired on August 1. The bear was found dead.

Date	Easting	Northing	Vantage Point
06/06/05	655707	4368085	ground
06/24/05	671101	4382012	air
08/01/05	690086	4378690	air
08/01/05	690488	4380135	ground

Bear 8186: UTM locations acquired from the air and on the ground. The collar was on mortality mode on October 5. The collar broke away prematurely.

Date	Easting	Northing	Vantage Point
06/06/05	657722	4367084	ground
06/06/05	656998	4367148	ground
06/13/05	657073	4366652	air
06/14/05	657563	4367071	ground
08/15/05	703705	4380634	air
08/22/05	703705	4380634	air
08/29/05	704034	4380408	air
10/05/05	702282	4380148	air

Bear 8250: UTM locations acquired from the air and on the ground.

Date	Easting	Northing	Vantage Point
06/13/05	631847	4367105	air
06/27/05	610452	4352866	air
07/05/05	614042	4357887	air
07/18/05	611469	4357940	air
08/01/05	611768	4357689	air
08/15/05	612509	4358541	air
08/22/05	612315	4356680	air
08/29/05	610858	4356558	air
10/05/05	610946	4356872	air

Bear 8270: UTM locations acquired from the air and on the ground.

Date	Easting	Northing	Vantage Point
06/06/05	656992	4367149	ground
06/13/05	655008	4364388	air
06/24/05	649234	4366256	air
07/05/05	653402	4359056	air
07/06/05	652498	4359954	ground
07/18/05	650197	4363906	air
08/01/05	655610	4362938	air
08/02/05	655194	4362720	ground
08/15/05	653038	4361636	air
08/22/05	653487	4365123	air
08/29/05	647931	4359323	air

Bear 8300: UTM locations acquired from the air and on the ground.

Date	Easting	Northing	Vantage Point
06/06/05	658655	4365228	ground
06/13/05	654751	4365881	air
06/27/05	659142	4364553	air
07/05/05	654023	4360159	air
07/18/05	661468	4369807	air
07/28/05	655056	4362556	ground
08/01/05	654699	4363082	air
08/02/05	654883	4362396	ground
08/15/05	656352	4372783	air
08/22/05	655577	4372046	air
08/29/05	655107	4359994	air
10/05/05	649393	4360931	air

Bear 8310: UTM locations acquired from the air and on the ground.

Date	Easting	Northing	Vantage Point
06/06/05	653953	4366865	ground
06/07/05	654189	4366927	ground
06/13/05	654463	4367141	air
06/21/05	654952	4366660	ground
06/24/05	654076	4367275	air
06/30/05	654422	4367574	ground
07/05/05	655947	4367731	air
07/18/05	654617	4367564	air
08/01/05	655079	4366006	air
08/11/05	654552	4368211	ground
08/15/05	654506	4368675	air
08/18/05	654395	4366066	ground
08/22/05	654339	4364571	air

Bear 8320: UTM locations acquired from the air and on the ground.

Date	Easting	Northing	Vantage Point
06/06/05	653953	4366865	ground
06/13/05	657982	4364527	air
06/24/05	665183	4369543	air
07/05/05	665550	4374140	air
07/11/05	668280	4382385	ground
07/18/05	668175	4368489	air
07/27/05	664395	4373353	ground
08/01/05	665572	4375529	air
08/09/05	665313	4374061	ground
08/15/05	665828	4372375	air
08/17/05	665052	4375727	ground
08/22/05	664391	4379978	air
08/29/05	664723	4369537	air
10/05/05	666522	4370655	air

Bear 8376: UTM locations acquired from the air and on the ground. The collar was on mortality mode on October 5. The collar broke away prematurely.

Date	Easting	Northing	Vantage Point
06/06/05	655143	4364483	ground
06/08/05	654997	4364854	ground
06/13/05	655287	4366107	air
06/24/05	671527	4382121	air
07/05/05	675231	4377338	air
07/18/05	668699	4375430	air
08/01/05	658331	4376852	air
08/15/05	668891	4378551	air
08/22/05	659063	4372717	air
08/29/05	669355	4374345	air
10/05/05	666698	4371395	air

Bear 8475: UTM locations acquired from the air and on the ground.

Date	Easting	Northing	Vantage Point
06/06/05	655710	4368084	ground
06/13/05	647928	4385476	air
08/15/05	683516	4392958	air
08/22/05	681967	4392962	air
08/29/05	680207	4393490	air
10/05/05	689845	4384947	air

Bear 8567: UTM locations acquired from the air and on the ground. The collar was on mortality mode on October 5. The collar broke away prematurely.

Date	Easting	Northing	Vantage Point
06/06/05	653953	4366869	ground
06/13/05	654389	4367830	air
06/27/05	646160	4393917	air
07/05/05	649695	4366586	air
07/18/05	643282	4369295	air
07/20/05	645532	4368449	ground
08/01/05	648543	4368346	air
08/15/05	646631	4366897	air
08/16/05	649383	4368060	ground
08/22/05	647176	4367717	air
08/29/05	644073	4368885	air
10/05/05	642038	4369885	air

Bear 8663: UTM locations acquired from the air and on the ground.

Date	Easting	Northing	Vantage Point
06/06/05	655143	4364483	ground
06/08/05	654997	4364854	ground
06/13/05	654946	4365716	air
07/05/05	670977	4381122	air
07/12/05	666123	4375879	ground
07/18/05	666794	4374984	air
07/21/05	666831	4377296	ground
08/01/05	666106	4377797	air
08/15/05	673645	4382221	air
08/22/05	673088	4381103	air
08/29/05	672881	4377166	air
10/05/05	669778	4374431	air

Bear 8820: UTM locations acquired from the air and on the ground.

Date	Easting	Northing	Vantage Point
08/22/05	258194	4404416	air
08/29/05	249792	4410766	air

Bear 8860: UTM locations acquired from the air and on the ground. The collar was on mortality mode on July 18 and 19. The collar broke away prematurely.

Date	Easting	Northing	Vantage Point
06/06/05	658721	4367962	ground
06/13/05	663671	4366462	air
06/24/05	672817	4382088	air
07/05/05	671780	4368304	air
07/18/05	675411	4379346	air
07/19/05	675178	4379113	ground