

## **Appendix C**

**APPENDIX C (data from Kasworm et al. in litt. 2006a)**

**Table 1. (DRAFT 10/4/06) Known grizzly bear mortality in or near the Cabinet-Yaak recovery zone and the Yahk grizzly bear population unit in British Columbia, 1949-05 (from Kasworm et al. in litt. 2006a).**

YEAR	LOCATION	TOTAL	SEX / AGE	MORTALITY CAUSE
1949	COPPER CR. MT	1	ADULT FEMALE	HUMAN, HUNTER KILL
1950	SQUAW CR. MT	1	SUBADULT	UNKNOWN
1951	PETE CR. MT	1	ADULT MALE	HUMAN, MANAGEMENT REMOVAL
1951	PAPOOSE CR. MT	2	SUBADULTS	UNKNOWN
1951	GOAT CR. MT	1	SUBADULT MALE	UNKNOWN
1952	FELIX CR. MT	6	2 ADULT FEMALES, 4 YEARLINGS	HUMAN, MANAGEMENT REMOVAL
1953	OBRIEN CR. MT	1	SUBADULT MALE	HUMAN, HUNTER KILL
1953	KENELTY MT. MT	1	UNKNOWN	HUMAN, HUNTER KILL
1953	20-ODD MT. MT	1	UNKNOWN	HUMAN, HUNTER KILL
1953	BURNT CR. MT	1	UNKNOWN	HUMAN, HUNTER KILL
1953	17-MILE CR. MT	1	UNKNOWN	HUMAN, HUNTER KILL
1954	N F BULL R. MT	1	UNKNOWN	HUMAN, HUNTER KILL
1954	S F BULL R. MT	1	UNKNOWN	HUMAN, HUNTER KILL
1954	CEDAR LK. MT	1	UNKNOWN	HUMAN, HUNTER KILL
1954	CEDAR LK. MT	1	UNKNOWN	HUMAN, HUNTER KILL
1954	TAYLOR PK. MT	1	UNKNOWN	HUMAN, HUNTER KILL
1954	SILVERBUTTE CR. MT	1	UNKNOWN	HUMAN, HUNTER KILL
1954	SILVERBOW CR. MT	1	ADULT FEMALE	HUMAN, HUNTER KILL
1955	WOLF CR. MT	1	ADULT MALE	HUMAN, MANAGEMENT REMOVAL
1955	MT HEADLEY. MT	1	SUBADULT	HUMAN, MANAGEMENT REMOVAL
1955	BAREE LK. MT	1	ADULT MALE	UNKNOWN
1955	BAREE LK. MT	1	ADULT FEMALE	UNKNOWN
1955	BEAR CR. MT	1	SUBADULT MALE	HUMAN, HUNTER KILL
1958	SQUAW CR. MT	1	ADULT FEMALE	HUMAN, MANAGEMENT REMOVAL
1959	E F ROCK CR. MT	2	ADULT FEMALE, 1 CUB	HUMAN, HUNTER KILL
1959	W F THOMPSON R. MT	4	ADULT FEMALE, 3 CUBS	UNKNOWN
1959	CLIFF CR. MT	1	UNKNOWN	UNKNOWN
1960	PROSPECT CR. MT	2	ADULT FEMALE, 1 CUB	UNKNOWN
1964	GRAVES CR. MT	2	SUBADULTS	UNKNOWN
1964	WANLESS LK. MT	3	SUBADULTS (ADULT WOUNDED)	UNKNOWN
1965	SNOWSHOE CR. MT	2	SUBADULTS	UNKNOWN
1965	PINKHAM CR. MT	1	UNKNOWN	UNKNOWN
1967	SOPHIE LK. MT	1	UNKNOWN	UNKNOWN
1968	BEAR CR. MT	1	ADULT FEMALE	HUMAN, ILLEGAL KILL
1968	GRANITE CR. MT	1	SUBADULT MALE	HUMAN, MANAGEMENT REMOVAL
1969	PRISCILLA PK. MT	1	ADULT FEMALE	UNKNOWN
1970	THOMPSON R. MT	1	UNKNOWN	UNKNOWN
1970	CAMERON CR. MT	1	SUBADULT MALE	UNKNOWN
1970	SQUAW CR. MT	2	ADULT FEMALE, SUBADULT FEMALE	HUMAN, MANAGEMENT REMOVAL
1971	MURR CR. MT	1	ADULT FEMALE	UNKNOWN
1972	ROCK CR. MT	1	SUBADULT	HUMAN, MISTAKEN IDENTITY (Black Bear)
1974	SWAMP CR. MT	1	ADULT MALE	HUMAN, HUNTER KILL
1977	RABBIT CR. MT	1	ADULT MALE	HUMAN, DEFENSE OF LIFE BY HUNTER
1978	MOYIE LAKE. BC	1	SUBADULT MALE	HUMAN, MANAGEMENT
1982	GROUSE. ID	1	ADULT MALE	HUMAN, ILLEGAL KILL
1984	HARVEY CR. ID	1	UNKNOWN	HUMAN, MISTAKEN IDENTITY (Black Bear)
1985	LYONS CR. MT	1	ADULT MALE	HUMAN, DEFENSE OF LIFE BY HUNTER
1986	BURNT CR. MT	1	CUB	UNKNOWN (NATURAL)
1987	FLATTAIL CR. MT	1	FEMALE CUB	HUMAN, MISTAKEN IDENTITY (EIK)
1988	LEWISBY CR. BC	1	ADULT MALE	HUMAN, HUNTER KILL (BC)
1988	N F 17-MILE CR. MT	1	ADULT FEMALE	HUMAN, DEFENSE OF LIFE BY HUNTER
1989	BURNT CR. MT	1	SUBADULT FEMALE	HUMAN, RESEARCH TRAP (Predation)
1990	POVERTY CR. MT	1	SUBADULT MALE	HUMAN, ILLEGAL
1992	TRAIL CR. MT	1	ADULT FEMALE	UNKNOWN
1993	LIBBY CR. MT	2	ADULT FEMALE AND CUB	UNKNOWN (NATURAL)
1994	JIM CR. BC	1	SUBADULT MALE	HUMAN, MANAGEMENT
1994	SOUTHWEST CRANBROOK. BC	3	2 FEMALES AND 1 MALE	HUMAN, MANAGEMENT
1995	RYAN CR. BC	1	ADULT MALE	HUMAN, MANAGEMENT REMOVAL
1996	DODGE CR. MT	1	SUBADULT MALE	HUMAN, UNDER INVESTIGATION

YEAR	LOCATION	TOTAL	SEX / AGE	MORTALITY CAUSE
1996	GOLD CR. BC	1	ADULT MALE	HUMAN, UNDER INVESTIGATION
1997?	LIBBY CR. MT	1	ADULT MALE	HUMAN, ILLEGAL
1997	PLUMBOB CR. BC	1	MALE	HUMAN, MANAGEMENT
1997	WARDNER. BC	1	ADULT FEMALE	HUMAN, MANAGEMENT
1997	MAYOOK. CR. BC	1	SUBADULT MALE	HUMAN, ILLEGAL KILL
1999	17 MILE CR. MT	3	ADULT FEMALE, 2 CUBS	NATURAL MORTALITY (Predation)
1999	W FK YAHK R. BC	1	SUBADULT FEMALE	HUMAN, DEFENSE OF LIFE BY HUNTER
1999	E FK YAAK R. MT	1	ADULT MALE	HUMAN, MANAGEMENT REMOVAL
2000	HAWKINS CR. BC	2	2 CUBS	UNKNOWN (NATURAL)
2000	FOWLER CR. MT	1	1 CUB	UNKNOWN (NATURAL)
2000	PETE CR. MT	1	SUBADULT FEMALE	HUMAN, UNDER INVESTIGATION
2001	COLD CR. BC	2	2 CUBS	UNKNOWN (NATURAL)
2001	SPREAD CR. MT	1	SUBADULT FEMALE	HUMAN, MISTAKEN IDENTITY (Black Bear)
2001	ELK CR. MT	1	ADULT FEMALE	HUMAN, TRAIN COLLISION
2002	MARTEN CR. MT	1	SUBADULT FEMALE	NATURAL
2002	PORCUPINE CR. MT	1	SUBADULT FEMALE	HUMAN, UNDER INVESTIGATION (Illegal)
2002	YAAK R. MT	4	ADULT FEMALE, 3 CUBS	HUMAN, ILLEGAL
2002	BLOOM CR. BC	1	UNKNOWN	HUMAN, BLACK BEAR HOUND HUNTERS
2002	KOOTENAY R. BC	1	FEMALE	HUMAN, DEFENSE OF LIFE
2004	WEST FORT STEELE. BC	1	MALE	HUMAN, DEFENSE OF LIFE AT DUMP
2004	JIM CR. BC	1	ADULT MALE	HUMAN, MISTAKEN IDENTITY
2004	NEWGATE. BC	1	ADULT FEMALE	HUMAN, MANAGEMENT REMOVAL
2005	RUSSELL CR. BC	1	ADULT MALE	HUMAN, HUNTER KILL (BC)
2005	GOVERNMENT CR. MT	1	SUBADULT FEMALE	HUMAN, TRAIN COLLISION
2005	PIPE CR. MT	1	SUBADULT FEMALE	HUMAN, ILLEGAL
2005	YAAK R. MT	1	SUBADULT MALE	HUMAN, ILLEGAL

Table 2. (DRAFT 10/4/06) Credible grizzly bear sightings, credible female with young sightings, and known human caused mortality by bear management unit (BMU) or area, 2005 (from Kasworm et al. in litt. 2006a).

BMU or Area	2005 Credible Grizzly Bear Sightings	2005 Female with Cub sightings (Unduplicated)	2005 Sightings of Females with Yearlings or 2-year-olds <sup>2</sup>	2005 Human Caused Mortality
3	1	0	0	0
4	1	0	0	1
5	6	1	2	0
6	5	0	4	0
10	4	0	0	0
11	4	0	0	1
12	3	0	0	0
13	1	0	0	0
14	1	0	0	0
15	5	0	0	0
16	1	0	0	1
17	2	0	2	0
20	1	0	0	0
British Columbia <sup>1</sup>	2	0	1	0
Cabinet Face <sup>1</sup>	2	0	0	0
Tobacco <sup>1</sup>	8	0	2	0
West Kootenai <sup>1</sup>	3	0	0	0
2005 TOTAL	50	1	11	3

<sup>1</sup> Areas are outside of Cabinet-Yaak recovery zone.

<sup>2</sup> Sightings may duplicate the same animal in different locations

Table 3. (DRAFT 10/4/06) Annual Cabinet-Yaak recovery zone (excluding Canada) grizzly bear minimum unduplicated counts of females with cubs and known human-caused mortality, 1988-2005 (from Kasworm et al. in litt. 2006a).

YEAR	ANNUAL FWC'S	ANNUAL HUMAN CAUSED ADULT FEMALE MORTALITY	ANNUAL HUMAN CAUSED ALL FEMALE MORTALITY	ANNUAL HUMAN CAUSED TOTAL MORTALITY	4% TOTAL HUMAN CAUSED MORTALITY LIMIT <sup>1</sup>	30% ALL FEMALE HUMAN CAUSED MORTALITY LIMIT <sup>1</sup>	TOTAL HUMAN CAUSED MORTALITY 6 YEAR AVERAGE	FEMALE HUMAN CAUSED MORTALITY 6 YEAR AVERAGE
1988	1	1	1	1	0	0		
1989	0	0	1	1	0	0		
1990	1	0	0	1	0	0		
1991	1	0	0	0	0	0		
1992	1	0	0	0	0	0		
1993	2	0	0	0	0.9	0.3	0.5	0.3
1994	1	0	0	0	0.9	0.3	0.3	0.2
1995	1	0	0	0	0.9	0.3	0.2	0
1996	1	0	0	1	0.7	0.2	0.2	0
1997	3	0	0	1	1.2	0.4	0.3	0
1998	0	0	0	0	0.9	0.3	0.3	0
1999	0	0	0	1	0.7	0.2	0.5	0
2000	2	0	1	1	0.5	0.1	0.7	0.2
2001	1	1	2	2	0.5	0.1	1.0	0.5
2002	4	1	4	5	1.2	0.4	1.7	1.2
2003	2	0	0	0	1.2	0.4	1.5	1.2
2004	1	0	0	0	1.4	0.4	1.5	1.2
2005	1	0	2	3	0.9	0.3	1.8	1.5

<sup>1</sup> Presently grizzly bear numbers are so small in this ecosystem that the mortality goal shall be zero known human-caused mortalities.

Table 4. (DRAFT 10/4/06) Status of the Cabinet-Yaak recovery zone during 2000-2005 in relation to the demographic recovery targets from the grizzly bear recovery plan (USFWS 1993) (from Kasworm et al. in litt. 2006a).

Recovery Criteria	Target	2000-2005
Females w/cubs (6-yr avg)	6.0	1.8 (11/6)
Human Caused Mortality limit (4% of minimum estimate)	0.9	1.8 (6 yr avg)
Female Human Caused mortality limit (30% of total mortality)	0.3	1.5 (6 yr avg)
Distribution of females w/young	18 of 22	12 of 22

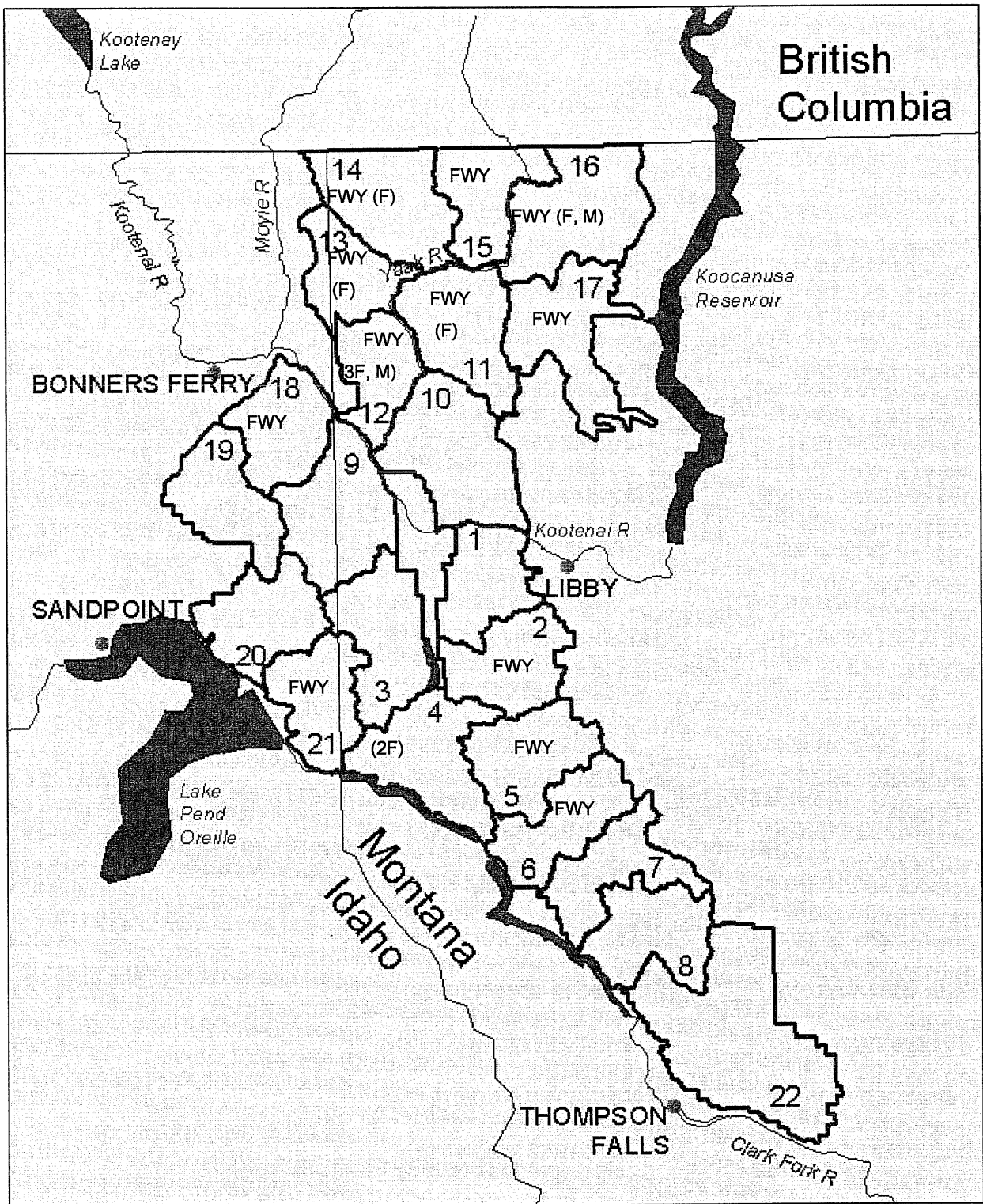


Figure 1. (DRAFT 10/4/06) Female with young occupancy and mortality by Bear Management Units (BMUs) within the Cabinet-Yaak recovery zone 2000-2005. (FWY indicates occupancy of a female with young and the sex of any mortality is indicated within parentheses).

Table 5. (DRAFT 10/4/06) Credible observations of females with young in or within 10 miles of the Cabinet-Yaak recovery zone, 1988-2005. Observations from Canada shown in parentheses (from Kasworm et al. in litt. 2006a).

Year	Total credible sightings females with young	Unduplicated females with cubs	Unduplicated females with yearlings or 2-year-olds	Minimum probable adult females
1988	3	1	1	2
1989	13	0	3	3
1990	9	1	2	3
1991	4	1	1	2
1992	8	1	5	6
1993	6	2	1	3
1994	5	1	2	3
1995	8	1	2	3
1996	5	1	1	2
1997	14 (1)	3	4	7
1998	6 (1)	0	2 (1)	2 (1)
1999	2	0	2	2
2000	6 (1)	2 (1)	1	3 (1)
2001	5 (2)	1 (1)	3	4 (1)
2002	10 (1)	4 (1)	1	5 (1)
2003	11	2	4	6
2004	11	1	4	5
2005	9 (1)	1	4 (1)	5 (1)

Table 6. (DRAFT 10/4/06) Occupancy of bear management units by grizzly bear females with young in the Cabinet-Yaak recovery zone 1988-2005 (from Kasworm et al. in litt. 2006a).

BMU	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
1 CEDAR	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
2 SNOWSHOE	No	No	Yes	No	No	No	No	No	No	Yes	No	No	No	No	Yes	Yes	Yes	No
3 SPAR	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
4 BULL	No	Yes	No	No	No	No	No	No	No	Yes	No	No	No	No	No	No	No	No
5 ST. PAUL	No	No	No	No	No	Yes	No	No	No	No	No	No	Yes	No	No	Yes	Yes	Yes
6 WANLESS	No	No	No	No	Yes	Yes	No	No	Yes	Yes	No	No	No	No	No	Yes	Yes	Yes
7 SILVER BUTTE	No	Yes	No	No	No	No	No	No	No	Yes	No	No	No	No	No	No	No	No
8 VERMILION	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
9 CALLAHAN	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
10 PULPIT	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
11 RODERICK	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	Yes	No
12 NEWTON	No	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No	Yes	No	No	No
13 KENO	No	Yes	No	No	Yes	No	No	No	Yes	No	No	No	No	Yes	Yes	Yes	No	No
14 NORTHWEST PEAK	No	Yes	Yes	No	Yes	No	Yes	Yes	No	Yes	No	No	No	No	Yes	No	No	No
15 GARVER	No	Yes	Yes	No	No	No	Yes	Yes	No	Yes	Yes	Yes	No	No	Yes	No	No	No
16 EAST FORK YAAK	No	No	No	No	No	No	No	No	No	Yes	Yes	No	No	No	No	Yes	No	No
17 BIG CREEK	No	No	No	Yes	Yes	Yes	No	No	No	No	No	No	Yes	Yes	Yes	No	Yes	Yes
18 BOULDER	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No
19 GROUSE	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
20 NORTH LIGHTNING	No	No	No	No	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
21 SCOTCHMAN	No	No	No	No	No	No	No	No	No	Yes	No	No	No	No	No	Yes	No	No
22 MT HEADLEY	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No

## Cabinet-Yaak Females with Cubs

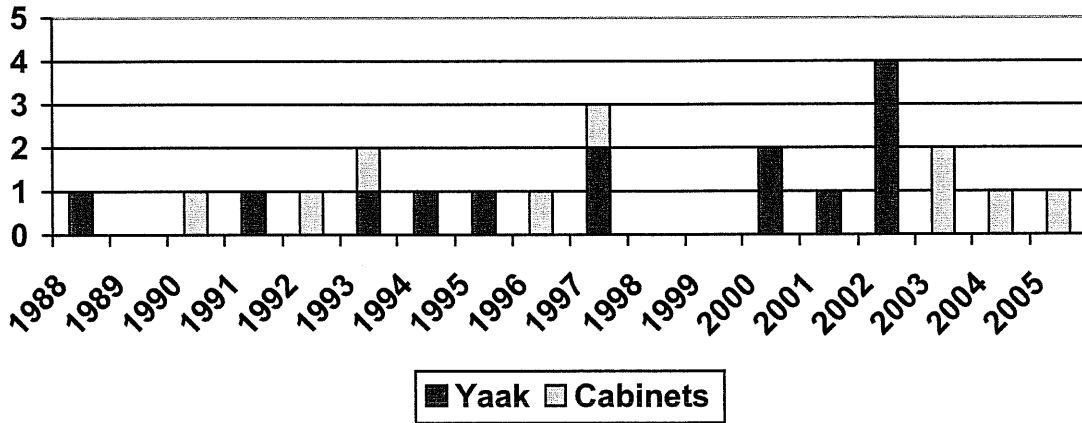


Figure 5. (DRAFT 10/4/06) Credible observations of females with cubs in or within 10 miles of the Cabinet-Yaak recovery zone (excluding Canada), 1988-05 (from Kasworm et al. in litt. 2006a.).

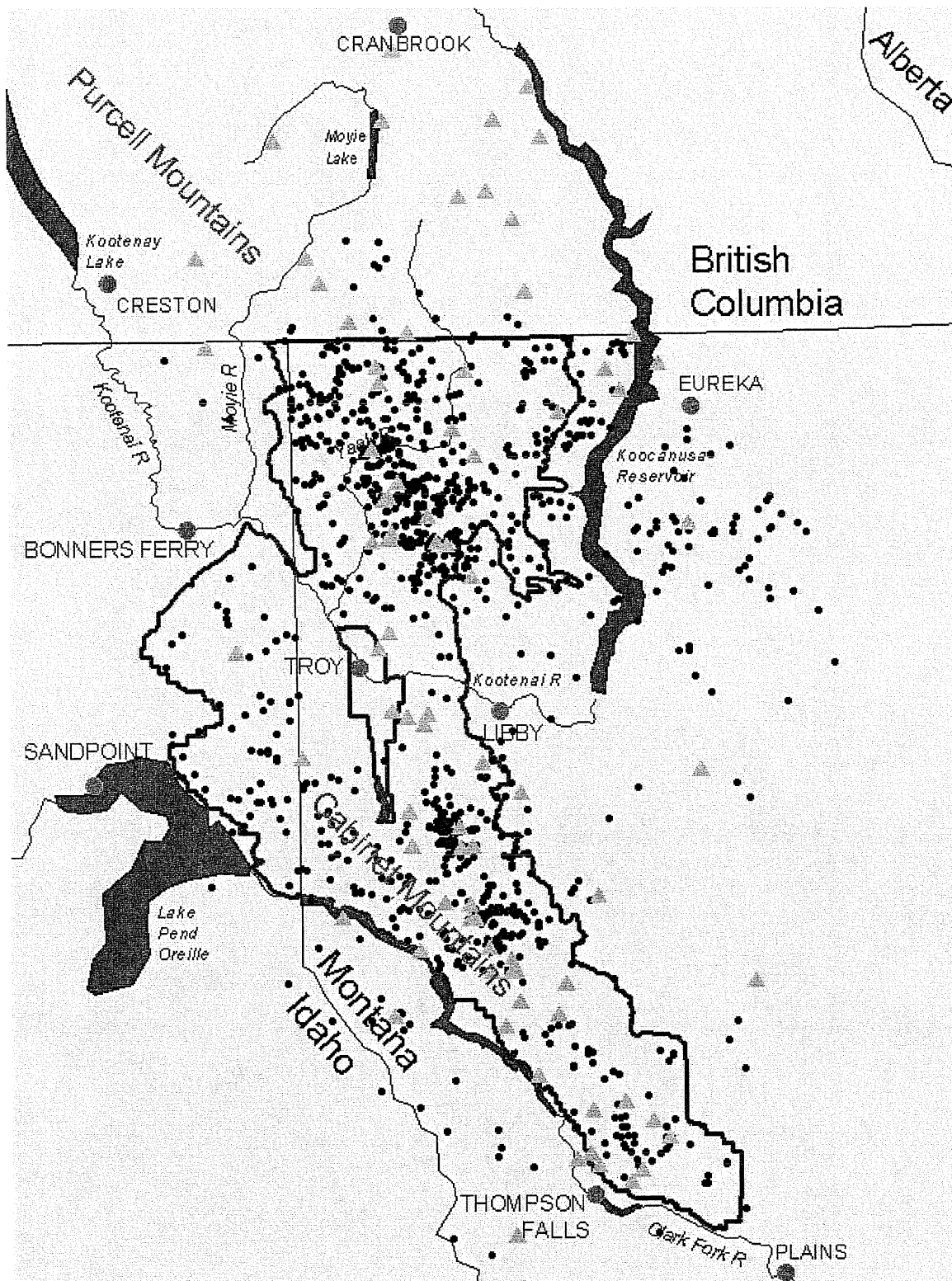


Figure 2. (DRAFT 10/4/06) Grizzly bear observations (1959-2005, circles) and mortality (1949-2005, triangles) in the Cabinet-Yaak recovery area. (from Kasworm et al. in litt. 2006).