United States Department of Agriculture
Forest Service
Kootenai National Forest
1101 U.S. Highway 2 W.
Libby, MT 59923

File Code: 1920
Date: November 15, 2004

Dear Forest Planning Participant:

This is the Kootenai's Forest Plan Monitoring Report for Fiscal Year (FY) 2003. This report includes information for Forest Plan Monitoring Item C-7 (wildlife and fisheries/threatened and endangered species habitat) for Fiscal Year 2003. This year's report evaluates data that was collected by September 30, 2002 that pertains to the Threatened and Endangered (T&E) Species on the Kootenai National Forest, including gray wolf, bald eagle, grizzly bear, bull trout and white sturgeon. The information in this report is also collected and reported annually to the U.S. Fish & Wildlife Service (USFWS).

This information is posted on our forest internet site (www.fs.fed.us/r1/kootenai) and will also be included in the Forest Plan Monitoring Report for Fiscal Years 2003-2004, which will be published and released in early 2005.

If you have any questions regarding this report, please contact Kirsten Kaiser at the Forest Supervisor's Office in Libby at 406-293-6211.

Sincerely,

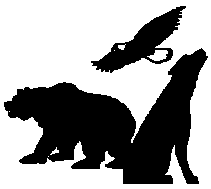
Bob Castaneda

BOB CASTANEDA
Forest Supervisor
Kootenai National Forest

WILDLIFE & FISHERIES: Threatened & Endangered Species Habitat Monitoring Item C-7

ACTION OR EFFECT TO BE MEASURED: Provide habitat adequate to ensure Kootenai National Forest's (KNF) contribution to recovery of Threatened and Endangered (T&E) Species including: Gray Wolf, Bald Eagle, Grizzly Bear, Bull Trout and White Sturgeon.

VARIABILITY WHICH WOULD INITIATE FURTHER EVALUATION: Any downward population trend. Any forest-wide decrease in habitat quantity or quality. Failure to meet recovery plan goals for the KNF.



Purpose: This monitoring item was established to help ensure that the KNF contributes to the recovery of listed threatened and endangered species. The Forest Plan requires that this item be reported. The expected precision and reliability of the information is high and moderate, respectively.

Evaluation:

Gray Wolf: The Wolf Recovery Plan (USFWS, 1987) provides guidance for the recovery of the gray wolf. The Kootenai National Forest is part of the Northwest Montana Wolf Recovery Area. The recovery goal for this recovery area is ten wolf packs.

The last remaining member of the eight radio-collared wolves, that were released near the Caribou Campground in the Yaak River valley in 2001, was killed in 2003 by a vehicle on Highway 56.

The following are the identified wolf packs on the Kootenai in 2003: Murphy Lake, Grave Creek, Fishtrap, Candy Mountain, Green Mountain, and Wigwam. Wolves from each of the known packs spend a portion of their time on the Forest and the remainder on other National Forests, State, or private lands. The Candy Mountain pair was identified as a new pack in 2003.

In 2003 there was no evidence of the possible pack on the east side of Lake Koocanusa (Ural pack) that was observed in 2002.

The following is a brief summary of each of the known wolf packs during 2003 (USFWS 2004):

Murphy Lake Pack – This pack spends part of their time in British Columbia, Canada but is counted as part of the Northwest Montana population. There were four adults in the pack in 2003. These wolves did not den in 2003. They moved widely outside their historic territory, spending considerable time in the Pleasant Valley area. The pack killed two calves, but because they left the area and moved into British Columbia (Elk River area), no control action was taken.

Grave Creek Pack – This pack seemed to disappear in 2003, with the few reports of wolves in their territory (most likely) the result of forays from the Murphy Lake pack. Grave creek female (#257) was legally killed in British Columbia.

Wigwam Pack – This pack is a Canadian pack that may stray into Montana, but den and spend most of their time in Canada. It is not counted as part of the Northwest Montana population. It does not count toward the 10-pack recovery goal.

Fishtrap Pack – This pack of four adults was confirmed to have reproduced in 2003, producing 5 pups and thus increasing the pack size to nine. This pack occupies an area in the southeast corner (McGinnis

Meadows and East Fisher Creek) of the Libby District but also uses the Fishtrap and main Thompson River drainages on the Plains/Thompson Falls District of the Lolo National Forest.

Green Mountain Pack – Sightings from the Green Mountain area suggest that only a single wolf remains in this area.

Candy Mountain Pack - Both the male and female were radio collared and tracking results show they use the Yaak River valley for their territory.

Habitat: The components of wolf habitat on the Kootenai did not change significantly in 2003 compared to previous years. Big game populations have rebounded from the severe winter of 1996-97, and they are providing adequate prey resources for continued growth in the wolf population.

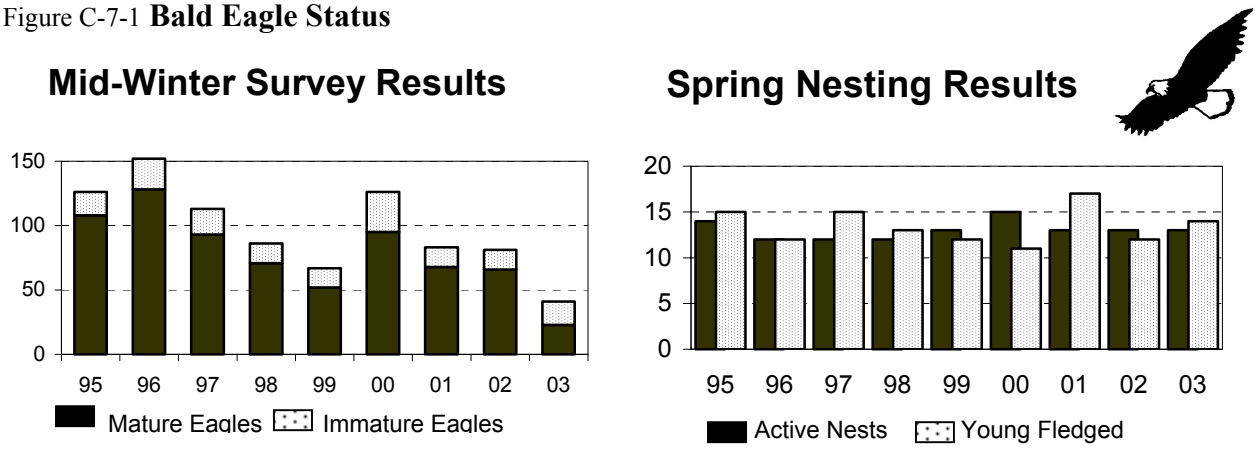
Bald Eagle: The Montana Bald Eagle Management Plan (MBEWG, 1994) and the Pacific States Bald Eagle Recovery Plan (USFWS, 1986) provide guidance for bald eagle recovery. These plans call for the establishment of 52 nesting pairs within Recovery Zone 7, the Montana section of the Upper Columbia River Basin. This recovery zone includes all public and private land west of the continental divide in Montana. The Kootenai National Forest area is about 15 percent of the zone. Based on this percentage, the Kootenai would be providing a minimum of eight nesting pairs (52 x 0.15) toward the recovery goal. Currently there are sixteen pairs on National Forest lands and an additional eight pairs on private or state land within the KNF area.

Bald eagle habitat is generally within one mile of major lakes and rivers. Habitat quality and quantity on the Kootenai is stable, and may be increasing in the long term as potential nest trees mature.

Figure C-7-1 shows the results of mid-winter bald eagle population surveys. Sightings occur mostly along major watercourses both on the Forest and on adjacent ownerships. Results are highly variable from year to year due to varying weather conditions. The survey results for 2003 show a total of 59 wintering (41 mature and 17 immature) bald eagles. This is below the average (1985-2003) of 97 wintering eagles.

Numbers of active eagle nests and young eagles fledged are also shown in Figure C-7-1. Nesting surveys show the 2003 nesting eagle population continuing at similar levels as the past few years. Fourteen young were fledged from thirteen active nests. USFWS believes the bald eagle has achieved recovery goals and they've proposed removing them from the threatened species list.

Figure C-7-1 **Bald Eagle Status**



Beginning in FY96, eagle nest results reflect only nests occurring on National Forest lands. Previous years' data reflect nests on other ownerships as well as National Forest.

Grizzly Bear: The KNF contains portions of two grizzly bear recovery zones: the Cabinet-Yaak Ecosystem (CYE) and the Northern Continental Divide Ecosystem (NCDE). About 72 percent of the CYE is located on the western portion of the Forest and about four percent of the NCDE is located in the extreme northeast corner (see Figure C-7-3). Each of these ecosystems is further subdivided into smaller areas for analysis and monitoring, known as bear management units (BMUs).

The Forest's primary efforts in grizzly bear recovery are in habitat management, cooperating in grizzly bear studies in the Yaak River and Cabinet Mountains areas, and working with local citizens and interest groups to achieve understanding and consensus on grizzly bear management issues.

Recovery goals for each recovery zone are based on the Grizzly Bear Recovery Plan (USFWS, 1993). Three main criteria are used to evaluate grizzly bear recovery: 1) the number of unduplicated sightings of females with cubs averaged over a six-year period; 2) the distribution of females with cubs, yearlings, or two-year-olds measured as the number of BMUs occupied over a six-year period; and 3) the level of known human-caused mortality measured as a percentage of the estimated population average for the past three years. Habitat is also an important factor in grizzly bear recovery. The Forest monitors habitat effectiveness in each BMU as an indicator of habitat trend.

Habitat Effectiveness: Figure C-7-2 and Table C-7-1 show habitat effectiveness values for each of the BMUs evaluated during fiscal years 1994-2003. Effectiveness is based on the percent of habitat available to bears, and the desired level is 70 percent or more. Habitat effectiveness was maintained in all BMUs, except one BMU improved and one declined in 2003 compared to 2002. Activities on private lands can affect habitat effectiveness within BMUs, and the Forest Service has no authority over these activities or their effects on grizzly bear habitat effectiveness. Fourteen of the eighteen BMUs were at or above the desired 70 percent level and the Forest-wide average for all BMUs remained 73 percent, slightly above the average for the past ten years. The 2003 report is the last year habitat effectiveness will be reported due to new standards established in the Forest Plan Amendment on Motorized Access (see Access Management section below).

Figure C-7-2 **Grizzly Bear Habitat Effectiveness (HE)**

Number of BMUs that meet 70 Percent HE

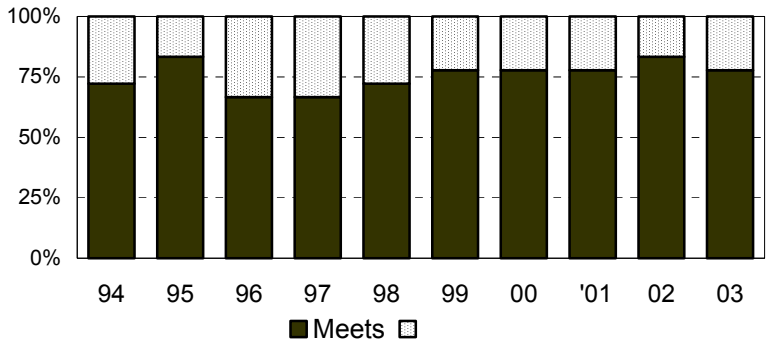
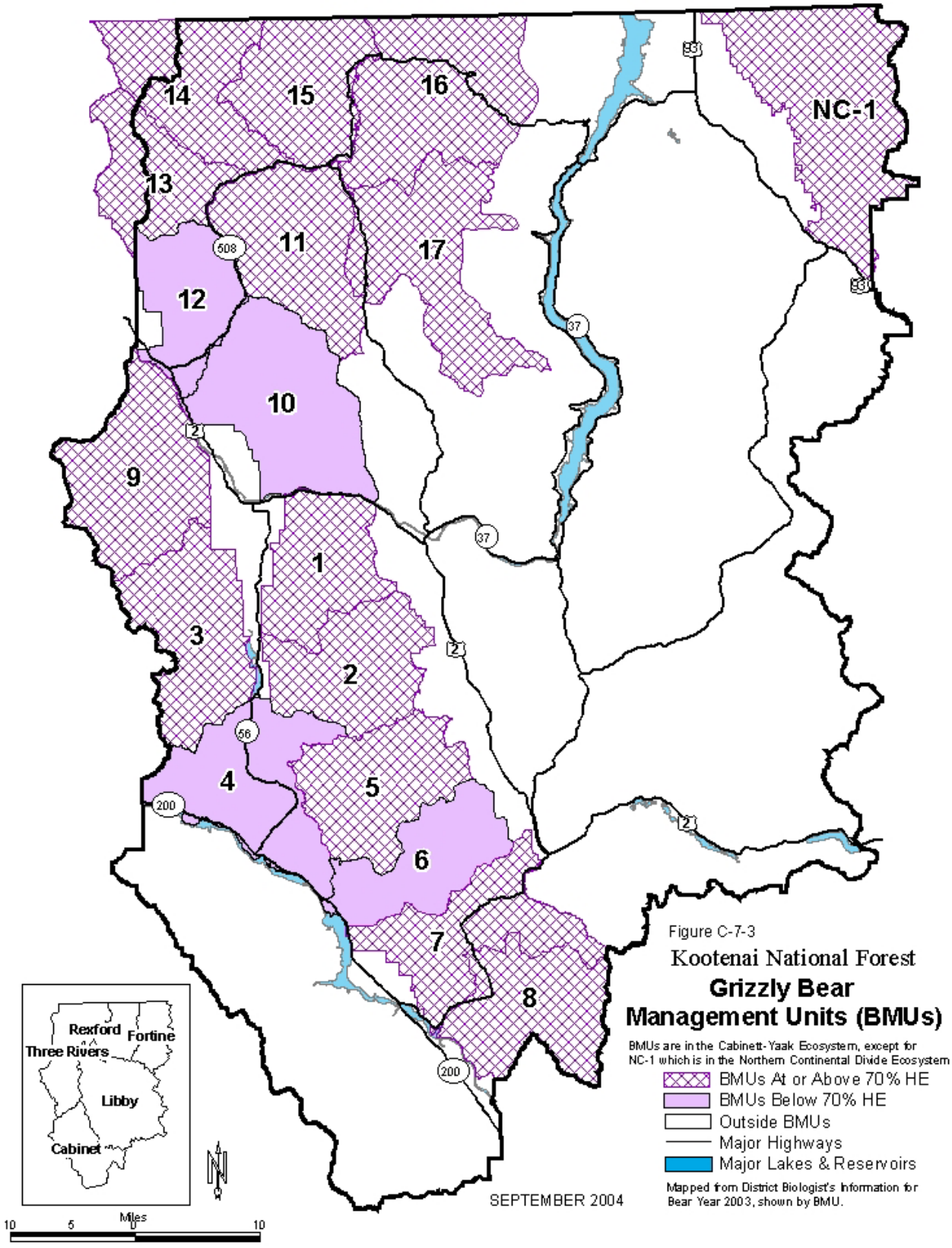


Table C-7-1 **Grizzly Bear Habitat Effectiveness by Fiscal Year (FY)**

Grizzly Bear Management Unit (BMU)	R.D	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03
#NC1 Murphy Lake	3	78%	78%	76%	76%	76%	76%	76%	77%	77%	77%
#1 Cedar	(4) 5	86%	81%	81%	86%	85%	88%	89%	88%	89%	88%
#2 Snowshoe	4 (5) 7	84%	85%	85%	85%	83%	85%	69%	83%	83%	83%
#3 Spar	4	77%	77%	78%	76%	78%	78%	76%	70%	70%	70%
#4 Bull	7	64%	63%	63%	62%	62%	62%	65%	65%	65%	65%
#5 Saint Paul	(5) 7	75%	74%	73%	74%	75%	74%	75%	75%	75%	75%
#6 Wanless	(5) 7	71%	72%	66%	66%	68%	67%	69%	69%	70%	69%
#7 Silver B/Fisher	(5) 7	82%	82%	82%	81%	81%	79%	80%	80%	80%	80%
#8 Vermilion	7	71%	74%	77%	77%	77%	73%	77%	77%	77%	77%
#9 Callahan	4	74%	76%	76%	76%	73%	71%	72%	72%	72%	78%
#10 Pulpit	(4) 5	65%	70%	68%	57%	57%	61%	65%	65%	65%	65%
#11 Roderick	(4) 5	70%	70%	74%	74%	70%	73%	73%	71%	71%	71%
#12 Newton	4	49%	49%	62%	57%	44%	62%	60%	60%	60%	60%
#13 Keno	4	72%	73%	72%	72%	72%	71%	72%	72%	72%	72%
#14 Northwest Pk	4	74%	72%	74%	74%	74%	71%	75%	75%	75%	75%
#15 Garver	4	65%	70%	68%	63%	66%	70%	70%	70%	70%	70%
#16 E Fork Yaak	1 (4)	64%	73%	72%	70%	70%	74%	70%	72%	72%	72%
#17 Big Creek	(1)4 5	70%	68%	68%	68%	71%	71%	73%	73%	74%	74%
Forest-wide Average		**72%**	**72%**	**73%**	**72%**	**71%**	**73%**	**73%**	**73%**	**73%**	**73%**

Shaded entries indicate BMUs that were below 70 percent Habitat Effectiveness standard for that Fiscal Year.
BMU NC1 Murphy Lake is in the Northern Continental Divide Ecosystem. All other BMUs are in the Cabinet Yaak Ecosystem.
( ) in the Ranger District (R.D.) column indicates the lead District for information reporting.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Fortine
Three Rivers
Libby
Cabinet
Miles
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Figure C-7-3
Kootenai National Forest
Grizzly Bear
Management Units (BMUs)
BMUs are in the Cabinett-Yaak Ecosystem, except for NC-1 which is in the Northern Continental Divide Ecosystem
BMUs At or Above 70% HE
BMUs Below 70% HE
Outside BMUs
Major Highways
Major Lakes & Reservoirs
Mapped from District Biologist's Information for Bear Year 2003, shown by BMU.
SEPTEMBER 2004

Unduplicated Sightings of Females with Cubs: In 2003, there were four credible sightings of two unduplicated female grizzly bears with cubs in the Kootenai portion of the CYE (Kasworm 2003). The Kootenai portion of the NCDE was below the 6 year average for number of females sighted with cubs, while the CYE was above.

Distribution of Females with Young: Seven of the seventeen BMUs on the Kootenai portion of the CYE were occupied by females with young in 2003. The total number of different BMUs occupied over the entire recovery zone during the past six years was thirteen, compared to the Recovery Plan goal of eighteen (Kasworm 2003). The one BMU in the Kootenai's portion of the NCDE was not occupied by a female with young during the year. These numbers are below the six year average for both the CYE and NCDE.

Mortality: There were no human caused grizzly mortalities reported in 2003. Considering the past 6 year mortality rate it is likely that the grizzly bear population trend in the CYE may be slightly declining. There were two reported grizzly bear mortalities in or near the Kootenai portion of the NCDE in 2003.

Sightings of females with cubs of the year, distribution of females with young, and human-caused moralities are summarized for the past six years in Table C-7-2. These levels do not yet meet recovery goals for the CYE.

Table C-7-2 **Grizzly Bear Females with Cubs, Distribution of Females with Young and Human-Caused Mortalities**

Fiscal Year	NCDE (KNF Portion)			CYE (All)		
	# Females with Cubs of the year	#BMUs Occupied by Females with Young	# Human Caused Mortalities	# Females with Cubs of the year	# BMUs Occupied by Females with Young	# Human Caused Mortalities
1998	2	1	0	0	2	0
1999	0	0	0	0	2	2
2000	2	1	0	2	3	1
2001	2	1	0	1	3	2
2002	2	1	0	4	7	5
2003	0	0	2	2	7	0
Six-year Average	1.3	1	0.3	1.5	4 13**	1.7

** the number is the total number of different BMUs occupied over the past six years.

Access Management: A Forest Plan amendment has been finalized as part of lawsuit settlement to establish additional access management direction in the CYE. The Final EIS was released in March of 2003 and the Decision was signed in March of 2004. Identified monitoring parameters include OMRD, TMRD and Core.

Tables C-7-3 A, B and C and Figure C-7-4, display Core, OMRD, and TMRD by BMU in comparison to previous years. The data for FY03 shows changes in core, OMRD and TMRD, which are the result of management activities, activities on private land, and field verified corrections in road status from FY02.

Table C-7-3A **Baseline and Annual Core Conditions for the CYE**

BMU	FY98 Core %	FY99 Core %	FY00 Core %	FY01 Core %	FY02 Core %	FY03 Core %
1 Cedar	69	84	83	83	83	83
2 Snowshoe	-	77	78	77	77	78
3 Spar	-	57	58	61	62	62
4 Bull	62	61	63	63	62	62
5 Saint Paul	60	61	62	62	63	60
6 Wanless	51	51	53	55	55	54
7 Silver Butte/Fisher	65	66	66	66	66	66
8 Vermilion	54	57	57	56	56	56
9 Callahan	-	53	56	57	57	59
10 Pulpit	42	45	48	49	49	52
11 Roderick	52	52	55	54	54	53
12 Newton	-	56	56	57	57	56
13 Keno	58	56	59	62	62	61
14 NW Peak	58	60	56	56	56	57
15 Garver	35	46	48	47	50	50
16 E Fk Yaak	38	40	45	45	45	49
17 Big Creek	32	42	49	50	50	50
Average	52	57	58	59	59	59

Baseline and Annual Core Conditions for the NCDE

BMU	FY98 Core %	FY99 Core %	FY00 Core %	FY01 Core %	FY02 Core %	FY03 Core %
Krinkelhorn NC-1A	69	69	72	72	72	72
Therriault NC-1B	69	69	69	69	72	72
Average	69	69	70	70	72	72

Table C-7-3B **Baseline and Annual OMRD Conditions for the CYE**

BMU	FY98 % BMU OMRD >1mi/ sq mi	FY99 % BMU OMRD >1mi/ sq mi.	FY00 % BMU OMRD >1mi/ sq mi.	FY01 % BMU OMRD >1mi/ sq mi.	FY02 % BMU OMRD >1mi/ sq mi	FY03 % BMU OMRD >1mi/ sq mi.
1 Cedar	23	13	12	12	12	12
2 Snowshoe	-	18	17	17	17	17
3 Spar	-	23	24	26	27	24
4 Bull	39	39	36	36	36	36
5 Saint Paul	29	28	27	27	26	27
6 Wanless	37	32	34	34	33	37
7 Silver Butte/Fisher	27	23	23	23	23	23
8 Vermilion	32	11	32	32	32	32
9 Callahan		36	32	32	32	26
10 Pulpit	50	50	45	41	41	41
11 Roderick	32	33	29	29	31	30
12 Newton	-	43	45	43	43	41
13 Keno	34	37	34	33	28	33
14 NW Peak	31	32	28	35	28	27
15 Garver	32	30	31	31	31	31
16 E Fk Yaak	38	36	31	28	29	28
17 Big Creek	43	37	32	32	31	31
Average	34	29	28	30	28	29

Baseline and Annual OMRD for the NCDE

BMU	FY98 % BMU OMRD >1mi/ sq.mi.	FY99 % BMU OMRD >1mi/ sq.mi.	FY00 % BMU OMRD >1mi/ sq.mi.	FY01 % BMU OMRD >1mi/ sq.mi.	FY02 % BMU OMRD >1mi/ sq.mi.	FY03 % BMU OMRD >1mi/ sq.mi.
Krinkelhorn NC-1A	22	22	17	17	17	17
Therriault NC-1B	24	24	24	24	24	24
Average	23	23	20	20	19	19

Table C-7-3C **Baseline and Annual TMRD Conditions for the CYE**

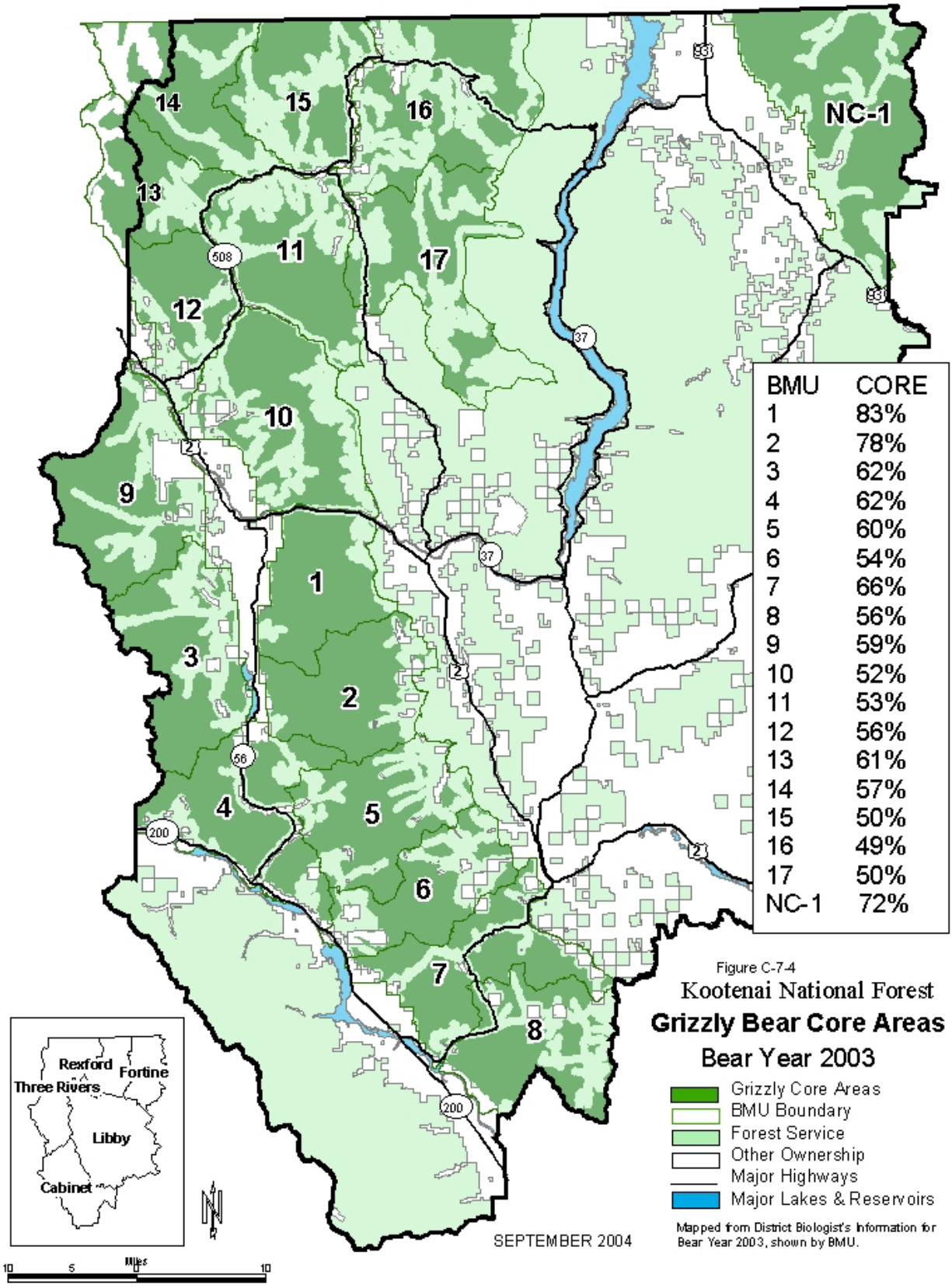
BMU	FY98 % BMU TMRD >2mi/ sq.mi.	FY99 % BMU TMRD >2mi/ sq.mi.	FY00 % BMU TMRD >2mi/ sq.mi.	FY01 % BMU TMRD >2mi/ sq.mi.	FY02 % BMU TMRD >2mi/ sq.mi.	FY03 % BMU TMRD >2mi/ sq.mi.
1 Cedar	16	9	11	11	10	11
2 Snowshoe	-	15	14	14	14	14
3 Spar	-	31	30	27	26	26
4 Bull	28	27	26	26	26	26
5 Saint Paul	23	21	21	21	21	21
6 Wanless	35	34	33	32	32	32
7 Silver Butte/Fisher	22	19	20	20	20	20
8 Vermilion	23	21	21	23	23	23
9 Callahan		31	28	27	27	26
10 Pulpit	41	37	34	32	32	30
11 Roderick	31	31	27	28	28	28
12 Newton	-	28	31	29	30	31
13 Keno	23	26	24	24	24	24
14 NW Peak	24	22	26	26	26	25
15 Garver	45	34	32	32	30	29
16 E Fk Yaak	45	42	38	38	38	30
17 Big Creek	44	33	27	26	26	25
Average	31	27	26	26	24	25

Baseline and Annual TMRD for the NCDE

BMU	FY98 % BMU TMRD >2mi/ sq.mi.	FY99 % BMU TMRD >2mi/ sq.mi.	FY00 % BMU TMRD >2mi/ sq.mi.	FY01 % BMU TMRD >2mi/ sq.mi.	FY02 % BMU TMRD >2mi/ sq.mi.	FY03 % BMU TMRD >2mi/ sq.mi.
Krinkelhorn NC-1A	14	14	8	8	8	8
Therriault NC-1B	17	17	17	17	5	5
Average	15	15	12	12	6	6

Summary: Overall, grizzly bear habitat effectiveness remained about the same as in FY02, and is above the desired level of 70 percent forest-wide. Seventy-seven percent of BMUs meet the desired 70 percent habitat effectiveness level.

Sightings of female grizzly bears with cubs were down from FY02, as was the six year average. Females with young occupied fewer BMUs than in the previous year. There were no human caused grizzly mortalities in 2003. Overall, open and total road densities declined slightly during the year. The amount of core area in grizzly habitat remained the same as last year, with some individual BMU core levels increasing and some declining slightly (see Figure C-7-4). The grizzly bear population trend in the CYE is being prepared by the USFWS and should be available by the end of 2004.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9 59%
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13 61%
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16 49%
17 50%
NC-1 72%
Rexford
Fortine
Three Rivers
Libby
Cabinet
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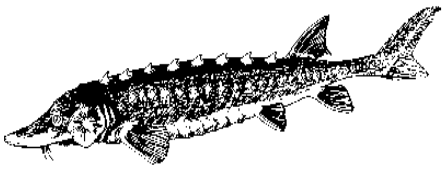
SEPTEMBER 2004
Figure C-7-4
Kootenai National Forest
Grizzly Bear Core Areas
Bear Year 2003
Grizzly Core Areas
BMU Boundary
Forest Service
Other Ownership
Major Highways
Major Lakes & Reservoirs
Mapped from District Biologist's Information for Bear Year 2003, shown by BMU.

Lynx – The Canada lynx was listed as threatened in March, 2000. The Kootenai NF currently manages for lynx habitat using the Canada Lynx Conservation Assessment and Strategy (LCAS) (Ruediger et. al. 2000). The Forest Service Northern Region is in the process of completing a Region wide amendment to Forest Plans for all forests in R-1 with lynx or lynx habitat. In compliance with the LCAS the Forest delineated 47 Lynx Analysis Units (LAUs) which approximate a lynx home range size. At the end of 2003 all LAUs except one met the LCAS habitat standards ($\geq$ 10% denning habitat, $\leq$ 30% unsuitable condition, and $\leq$ 15% changed to unsuitable condition in last 10 years).



White Sturgeon -- The US Fish and Wildlife Service (FWS) Recovery Plan for the Kootenai River white sturgeon was signed 30 September, 1999. The short-term goals of the Plan are to reestablish natural reproduction and prevent extinction of the species. Long-term goals include providing suitable habitat conditions and restoring a natural age-class structure and an effective population size. This stock of fish will be considered for down listing to threatened status after 10 years only if natural reproduction occurs in three different years; the estimated population is stable or increasing; enough captive-reared juveniles are added to the population for 10 consecutive years that 24 to 120 juveniles survive to maturity; and a long-term Kootenai River Flow strategy is implemented that ensures natural reproduction. Delisting of this population is estimated to take at least 25 years following the approval of the Plan.

The Recovery Plan for the white sturgeon outlines a comprehensive set of actions needed to begin the recovery process. The Plan does not identify actions or objectives that directly affect management of the Kootenai National Forest. However, under the Endangered Species Act (Section 7(a)(1)), the Forest is obligated to use its authorities to aid in the recovery process and to consult with the USFWS on all proposed or authorized activities. All proposed projects and activities evaluated by the Forest in FY03 were found to have No Effect on the species.

In December 2000, the FWS issued a biological opinion stating that Libby Dam is the primary factor affecting the Kootenai River white sturgeon. The FWS also designated 11.2 miles of river below Bonners Ferry, Idaho as critical habitat.

The most recent population estimate from the Idaho Department of Fish and Game indicates there are approximately 600 adult sturgeons in the population. Natural reproduction has been confirmed in the Kootenai River. Currently the majority of juvenile fish in the population are hatchery reared fish.

Bull trout -- The Kootenai National Forest continues to consult with the USFWS on activities under Section 7(a)(1) of the Endangered Species Act. During FY03 the Forest consulted on all proposed activities. The Forest continues to work closely with the five other western Montana National Forests, Bureau of Land Management and the USFWS to implement Programmatic Biological Assessments and maintain consistency for consultation standards.

There was one new project evaluated by the Forest that May Affect but is Not Likely to Adversely Affect bull trout. This one recovery action project was covered under a Regional FWS 10(a)(1)(A) permit. This project, the Pipe Creek Habitat Enhancement Project, included instream channel work and culvert replacement. Numerous proposals to suction dredge were submitted to FWS for formal consultation. The remainder of new projects evaluated was determined to have No Effect on the species. The USFWS continues to develop a recovery plan. The FWS has postponed their development of a final rule listing

critical bull trout habitat. The Forest continues to work closely with Montana Fish Wildlife and Parks and the USFWS to determine distribution and abundance of bull trout within the boundaries of the Kootenai National Forest. No new areas of bull trout habitat were identified in 2003 on the KNF.

Blueprints of completed structures and fish density surveys were completed for the Pipe Creek Enhancement Project to determine project effectiveness. Redd counts completed for fall 2003 identified 245 bull trout redds above the Glen Lake Irrigation District diversion which was improved as a recovery action in 2001. This number is nearly four times the annual redd count numbers for Grave Creek counted prior to the implementation of the project. It is our hope that the Pipe Creek Enhancement Project will show similar results.

Recommended Actions: Based upon the best available information, populations of all threatened or endangered terrestrial species on the Kootenai are stable or increasing. The bald eagle is proposed for removal from the threatened and endangered list. All of the threatened and endangered species' habitats being monitored appear to be maintaining or improving. Information shows that the Kootenai National Forest is progressing toward providing adequate habitat for threatened and endangered species recovery. Based on review of this item, specific changes to Forest Plan direction are not needed at this time.

As with the terrestrial species, the bull trout population on the Forest appears to be increasing in number. Ongoing population research on the white sturgeon determined that while there has been successful spawning (in 1997), estimates of the adult population have been reduced. Furthermore, a recovery plan is now in place with specific goals and recovery actions. Recovery of white sturgeon is managed by Idaho Fish and Game, Kootenai Tribe of Idaho, and Montana Fish, Wildlife and Parks. Bull trout redd count numbers were commensurate with previous years with a notable increase in Grave Creek. It is recommended that the Forest continue to implement recovery actions and actively seek to improve connectivity of bull trout populations.

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