

Shenandoah National Park

Bear Management Annual Review for 1976

Introduction

A fairly low level of bear activities was common until 1971 when injuries and property damage incidents increased some 300%. For four years this higher level of bear activities continued. Then in 1975 the property damage incidents increased another 200%. In 1975 Shenandoah ranked second in the National Park Service for the number and value of property damage incidents. Obviously, it was time to evaluate our bear management program.

Nuisance bears were being trapped and removed from the Park campgrounds and other problem areas but, because of the geographic nature of the Park, the transplanting success wasn't very good. The Park just didn't have sufficient habitat to relocate these bears but what they didn't return to the trapping point time after time.

In 1972 the Virginia Commission of Game and Inland Fisheries undertook a study of the bear population. They have trapped hundreds of bears since then and now have a pretty educated idea on the size of the bear population in the Park and the sex and age ratio. (See table No. 1). They feel our bear population has leveled at about 300 animals or one per square mile; a level higher than normal. They have determined that legal hunting outside the Park removes roughly a quarter of the population each year. The average age is 2.88 years for males and 3.68 years for females. The oldest bear trapped was 16 3/4 years old. The size of the bears has ranged up to 700 lbs.

In 1975 the Park initiated its bear management program by beginning to close the landfill sites. Next funds were obtained from the Secretary of the Interior's office to bear proof all the garbage cans. In 1976 some funds from Regional reserves were obtained for bear management supplies, research and overtime. This additional funding made it possible to improve our management capabilities in coping with the increased number of bear incidents.

Management Actions

To achieve an improvement in the bear situation, a bear management plan was drafted and approved in February 1976. The objectives of the plan were to (1) restore and maintain the natural integrity, distribution and behavior of the black bear population; (2) provide for a minimum of adverse bear/human conflicts; and (3) to provide opportunities for visitors to observe and appreciate the black bear in a natural state. To obtain these objectives a bear management program consisting of seven elements was developed - (1) removal of unnatural food sources; (2) education and enforcement; (3) removal of problem bears; (4) reporting of bear incidents; (5) record keeping; (6) public relations; and (7) research.

1. Removal of Unnatural Food Sources.

Considerable progress was achieved in 1976 in the removal of these food sources from the Park. By early spring all Park landfills had been closed and all garbage was being hauled off the mountain to landfills in the adjoining counties. The garbage cans in the campgrounds and picnic areas were bearproofed at this time. By early summer the remaining garbage cans located in the concession facilities and residential areas had been bearproofed, thereby eliminating them as a source of food for the bear. A new regulation was drafted and went into effect in April requiring all visitors to properly store their food so it wasn't available to bears. Being a new regulation it required considerable time by the campground patrol rangers to inform the visitor about it and its purpose. Despite compliance by many visitors the leaving of food unprotected is still a problem and a continuing source of food for bears. A related problem which hasn't been solved is how to store food items for those people without proper storage means especially when it is not possible to suspend food from trees. In one campground a spare fire tool box was used to store food on an experimental basis.

2. Reporting.

The Case Incident form (10-343) was used to report all bear incidents and every management action taken against any bear. This documentation allowed us to identify nuisance bears, problem areas, and so action could be taken.

3. Removal of Problem Bears.

Permission was obtained from the Virginia Commission of Game and Inland Fisheries to relocate problem bears out of the Park during 1976. Once a problem bear or problem location was identified through our reporting system, steps were taken to capture the animal. Once it was trapped, the Game Biologist or Trapper would be notified of a trapped bear's location and they would take it to a suitable location elsewhere in the State.

To capture the problem bear, additional traps were built and training sessions were held on their use. Drug capture equipment was used if the traps were not successful. Selected individuals were trained in the use of the drug capture equipment.

In some cases it was found that a bear was trap-shy. It sometimes took several days before this was determined. This delay allowed the bear to continue his forays in the campground. Once it was determined that the trap was not going to work, efforts to capture the animal by the use of drugs were attempted. Capturing a bear with drugs proved to be time-consuming. It sometimes took 30-50 man hours before a bear could be captured with drugs. As a result of these delays, it sometimes took several days before a problem bear was removed.

4. Public Information and Education.

Getting the word to the public about the bear situation and what was required of them was an important element of the Park's bear management program. Personal contacts, as was mentioned above by campground patrols, were effective. Undoubtedly, considerably more incidents would have occurred had not these contacts been made. The interpretive division went to great lengths to educate the Park visitor. Displays, evening programs devoted entirely to bears and notices given in all other programs were well received. A folder entitled, "Bears-Friend or Foe" was developed through cooperation of the Regional Public Affairs Office and the Park staff. It was completed by late summer and replaced mimeographed handouts being used in the campgrounds.

5. Law Enforcement.

Thousands of verbal warnings were issued on violations of the food storage regulations. Written warnings totalled 67 for violations of food storage and feeding of bears. Only three violation notices were issued for the same offenses. (See Table No. 2).

6. Research.

The State of Virginia continued their study of the bear population. In their five year study, they have trapped and marked a total of 288 bears. One volunteer research project was accomplished by a graduate student. She studied the visitor's knowledge, attitude and judgment of the black bears at SNP for her Masters Degree. Her field work was completed in 1976 and the written report is still in preparation.

Part of the reserve funds received for bear management was obligated for a small research project to be conducted by the Virginia Polytechnic Institute. Since very little is known locally about the black bear, this study is to assess what information is available on the bears, how the information could be used, what information is lacking and what priority should be given for new studies.

Program Results.

Prior to 1976 the results of the Park bear management program were relatively ineffective. Based on other parks' experience, the closure of park landfills and bear proofing of garbage cans were followed by a several hundred per cent increase in bear incidents the first year until the problem bears were removed. A similar increase in incidents was expected as the Park began its active and aggressive program. The number of incidents was up in 1976, but nowhere near the anticipated level. Only one minor injury was reported in both 1975 and 1976. Property damage incidents increased to 257 from 231. The amount of damage, however, was less, only \$9,127 compared to \$14,672 the previous year. (See Table No. 3). It was obvious when problem bears were removed the situation in the problem areas would immediately ease until the next bear moved in. A total of 20 bears was removed from the Park to other locations within the State. (See Table No. 4).

Of these, three returned twice and one a third time. The three that returned traveled 60-70 miles and the one that returned a third time did so from 150 miles.

Evaluation and Conclusions

While it is too early to tell if our redirected program is a success, some conclusion in that direction can be made. It is felt that the incidents this fall were not as significant as in 1975 because the problem bears were removed and not around to cause any significant problems. (See Table No. 5). Another possible change is that the absence of unnatural food forced the bears out of the campgrounds and into the backcountry. A slight increase of incidents in the backcountry was noticed (See Table No. 6). This will be carefully monitored in 1977 by asking our field personnel to report all sighting and reports of bears in the backcountry. These reports will provide us with information of possible bear concentrations.

By the end of the year, our personnel had become quite competent in capturing nuisance bears. This will be helpful when the bears come out next spring. Problem bears can be quickly removed.

Enforcement of applicable regulations was accomplished mostly by verbal or written warnings when violations were observed. Only when a flagrant violation occurred was a violation notice issued.

Unless we can stop attracting bears into the campgrounds with improperly stored food, a high rate of incidents will continue. Therefore, in 1977 to reduce this supply of food, a firmer stand in our law enforcement of these regulations should be taken. Enforcement in 1977, however, may not be as effective as desired because funds are not available for hiring the same number of personnel as was available in 1976 in the campgrounds. With less manpower available, we will not be able to continue making the many verbal contacts undertaken in 1976. Food storage violations will not be detected, and this food will continue to draw bears into the campground.

Another problem is the identification of problem bears. Our personnel were hesitant to remove a bear unless positive identification was available. The ear tags were too small to read unless the animal was drugged. Even in a trap they could not be readily seen. Marking of problem bears by paint was attempted but was not done enough to see if the marking was helpful to identify the problem bears. This will be continued.

While the research project undertaken by Virginia Polytechnic Institute will establish direction for future research, funding is not available. This research should receive special consideration because of the possible controversy which could result if anyone questioned the environmental soundness of our actions. We feel it is sound but have no facts to document it. A person is needed on our staff to coordinate bear management program research and other wildlife management programs.

Forward progress has been made this year in the implementing of the aggressive bear management program. It is too early to claim success, but it is felt the bear situation is under control and moving in the right direction.

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Table No. 6

Bear Incidents By Location

<u>Year</u>	<u>Back- country</u>	<u>Conces.</u>	<u>MACG</u>	<u>BMCG</u>	<u>Loft Mtn. Cg.</u>	<u>Other</u>
1966	0	6	0	18	5	6
1967	0	1	0	0	1	1
1968	1	0	5	3	4	1
1969	4	1	6	10	11	6
1970	2	0	5	8	2	0
1971	5	1	20	27	14	5
1972	3	1	43	32	22	6
1973	7	0	27	33	22	8
1974	10	0	18	44	24	5
1975	15	4	48	85	83	12
1976	<u>18</u>	<u>1</u>	<u>57</u>	<u>74</u>	<u>97</u>	<u>11</u>
Total.	65	15	229	334	285	61

Table No. 5

Bears Incidents By Month												
<u>Year</u>	J	F	M	A	M	J	J	A	S	O	N	D
1966				10	6	6	7	4	2			
1967								1	1		1	
1968					4	3		4	2		1	
1969			1	6	3	2	5	8	5	7	1	
1970			1	4	6	2	1			2	1	
1971				5	19	13	2	7	12	5	9	
1972	1		5	13	6	24	25	13	14	3	3	
1973			14	19	21	4	1	8	20	9	1	
1974			1	12	25	10	6	16	13	5	10	1
1975			10	49	33	25	6	35	17	47	12	
1976	—	—	<u>19</u>	<u>45</u>	<u>52</u>	<u>33</u>	<u>47</u>	<u>39</u>	<u>5</u>	<u>10</u>	<u>7</u>	—
Total	1	0	51	163	175	122	100	135	91	88	46	1

Table No. 4

Summary of Bear Management Actions

<u>Year</u>	Bears Trapped		Bears Killed				
	Released Inside <u>Park</u> ¹	Released Outside <u>Park</u>	Poaching	Motor Veh	<u>Intentional</u>	<u>Accidental</u>	<u>Unkn</u>
1965	0	0	0	1	0	0	3
1966	16	10	0	1	0	0	2
1967	8	0	0	0	0	0	0
1968	18	0	2	1	0	0	6
1969	33	N/A	2	2	0	0	5
1970	9	N/A	3	0	0	0	0
1971	10	0	0	0	1	1	0
1972	5	0	0	0	1	0	0
1973	1	2	1	1	0	1	0
1974	4	7	3	1	0	0	0
1975	7	6	0	2	0	1	0
1976	<u>2</u>	<u>23</u> ²	<u>2</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>
Total	113	38	13	9	2	4	16

1 Does not include research trapping

2 Includes 1 trapped 3 times, 2 trapped twice and removed each time from Park

Table No. 3

Activity
Bear Summary

<u>Year</u>	<u>No. Inj.</u>	<u>No. \$ Damage Inc.</u>	<u>\$ Damage</u>
1962	0	10	\$155
1963	0	10	308
1964	0	56	915
1965	0	34	1,245
1966	0	35	2,036
1967	0	3	335
1968	1	14	690
1969	0	38	1,156
1970	2	15	782
1971	6	72	3,201
1972	4	107	5,433
1973	1	96	7,673
1974	0	95	5,232
1975	1	231	14,672
1976	<u>1</u>	<u>257</u>	<u>9,127</u>
Total	16	1,073	\$52,960

Table No. 2

Bear Management - Law Enforcement

<u>Year</u>	<u>Written Warning</u> ¹	<u>Court</u>
1962	0	0
1963	0	0
1964	0	0
1965	0	0
1966	0	0
1967	0	0
1968	0	0
1969	0	0
1970	0	2
1971	0	0
1972	0	0
1973	0	0
1974	0	0
1975	0	0
1976	67	3

1 No. of written warnings are not available from 1962-1975.

Table No. 1

**Sex and Age Structure
Research Results
of Trapped Bears
1972 - 1975**

	<u>Female</u>	<u>Male</u>
Adult	53	103
Yearling	5	43
Cub	9	12
Age Unknown	2	5
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Total (%)	69 (29.7%)	163 (70.3%)