

THE EVOLUTION OF NEWFOUNDLAND'S BIG GAME LICENSING SYSTEM

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Abstract: The island of Newfoundland is presently divided into 38 moose management areas and 9 caribou management areas with license quotas calculated annually for each. Hunter demands exceed the available resource so an equitable process must be used to allocate big game licenses. The evolution of the current system is described outlining changes in moose management strategy since 1944. In 1980, hunters, after passing a capability test, file an application (either individually or as a party of 2) outlining preferences for species (moose and/or caribou) and hunting areas. Applications are placed in priority pools based on the applicants' hunting history. Licenses are awarded by a computer draw with preference given to party applications and to hunters who were unsuccessful in past years.

Changes in big game management strategy in Newfoundland since 1964 have attempted to control the harvest, redistribute hunting pressure and keep populations in balance with available habitat. The island is presently divided into 38 moose (*Alces alces*) management areas and 9 caribou (*Rangifer tarandus*) management areas with license quotas calculated annually for each.

With the establishment of quotas and a concurrent increased interest in

hunting, demands for moose and caribou exceeded the available licenses. While game management systems should be in the best interest of animal populations they should also consider hunter needs, making it necessary to develop an equitable process for allocating game licenses. In Newfoundland considerable time, effort and finances have been expended to develop a suitable system. It is the intention of this paper to trace the evolution of the current system outlining many of the difficulties and criticisms encountered.

The system described was designed for residents of the island of Newfoundland. In the Labrador portion of the province hunter demands are more compatible with the wildlife resource, with a liberal caribou harvest in the northern portion. Moose and caribou herds in southern Labrador are subjected to quotas and licenses are allocated using a manual draw. In Newfoundland applications for big game licenses from non-resident hunters are processed separately and must be channelled through registered outfitters.

In this paper emphasis is on moose since Newfoundland's current big game licensing system evolved mainly in response to excess hunter demands on that species. Similar pressures, however, were being exerted on caribou herds and the system was designed to accommodate both species. During the past 20 years attempts have been made to introduce or reestablish caribou into vacant range (eg. Burin Peninsula, Port aux Port Peninsula, Cape Shore) including several offshore islands (eg. Fogo Island, Merasheen Island, Grey Islands). When open seasons are held on these introduced herds preference is given to residents of communities in close proximity to the herds. While license allocation for these areas is separate from the system explained



in this paper, hunters may still hold only one big game license each hunting season.

In Newfoundland black bears (*Ursus americanus*) are also considered big game but hunting these animals is not popular. During open seasons a limited number of black bear licenses are made available in selected moose management areas and interested hunters make application indicating choice of areas.

For the remainder of this paper big game refers to moose and/or caribou.

HISTORY

Moose management in Newfoundland has been discussed by Pim'ott (1953), Bergerud (1962), Mercer and Manuel (1974) and Mercer and Strapp (1978). Until 1960 there was a steady increase in the Newfoundland moose population. From 1960 to 1972 there was a general decline; accessible areas were being hunted heavily and often overharvested, while inaccessible areas were usually underharvested and overbrowsed (Mercer and Manuel 1974). Since 1972 moose populations have responded in the direction intended by management (Mercer and Strapp 1978).

Since the first open season in 1944 a number of management techniques and license distribution systems have been employed.

Prior to 1973

From 1944 to 1963 moose were managed by controlling sex of the kill, closed seasons in selected areas and varying opening dates and lengths of hunting seasons in defined zones (1953 - 1963). In 1960 and 1961 very liberal moose seasons were permitted in one zone in south-central Newfoundland in an attempt to lower moose densities and relieve browsing pressure. Aerial surveys at that time showed a minimum of 19.2 moose/km²

(11.9/mi²) in that zone (Bergerud et al 1968). During this period there were no license quotas. Licenses were purchased from the Wildlife Division or from vendors distributed over the island.

In 1964 a first attempt to control the moose harvest using a license quota established one area in central Newfoundland as a Moose Management Area. In 1965 license quotas were applied to five areas in central Newfoundland. Two of these areas were combined into one in 1966 and these four areas were maintained until 1969 when the Anguille Mountains area of southwestern Newfoundland was added. License quotas continued to be applied to these five areas until 1972 when ten areas were established throughout the province bringing approximately thirty percent of the island of Newfoundland under the license quota system.

Licenses for the area established in 1964 were sold at the St. John's headquarters of the Wildlife Division. In the following years licenses were sold on a 'first come, first served' basis at the Wildlife Division headquarters in St. John's until the hunting season opened. Once the hunting season opened, most of the licenses remaining for these areas were sold from checking stations established at the points of entry to the respective hunting areas. This license distribution system remained in effect until 1970 when the demand for licenses for these areas exceeded the supply; then public manual draws chose from applications that were received on or before a specified date.

In 1965, another management technique was attempted. It was proposed to have an unlimited license sale in at least one area and close the season when a predetermined harvest quota was attained. This proposal was abandoned due to adverse public reaction and was replaced by a license quota.

During this period there was a steady increase in big game hunting with approximately 24,000 moose licenses sold in 1972 (Mercer and Manuel 1974).

1973 TO 1979

From 1973 to 1979 all Newfoundland was under a quota system with 36 areas identified in 1973 - 1974 and 38 areas identified in 1975 - 1979. All hunters were now required to apply to St. John's for licenses to hunt in specific Moose Management Areas and could no longer purchase general licenses to hunt moose.

The increased interest in big game hunting continued from 1973 to 1976 with the number of applications (Table 1) increasing from approximately 18,000 in 1973 to 50,883 in 1976.

Table 2 shows the number of big game licenses issued from 1970 to 1979. Implementation of the quota system in 1970 immediately reduced the big game license sale by approximately half.

A comparison of Tables 1 and 2 indicates the differences in the number of applications and number of available licenses over this period. Recent changes in the big game licensing system were aimed at identifying the legitimate big game hunter, reducing the number of applications and closing the gap between the hunting demand and the available licenses.

1973

In 1973 hunters could file an application for moose and an application for caribou with a single choice of areas on each application. A fee of \$15 was required with each application with unsuccessful applicants being reimbursed after the licensing process. This procedure was conducted manually and proved quite time consuming but it attempted to

Table 1. Big game applications from residents of Newfoundland 1973 - 1979.

Year	Total Applications Submitted	Ineligible/ ¹ Applications	Number of Applications in Draw			Total People Named on Applications In Draw
			Individual	Party	Total	
1973 ²			18,000*	-----	18,000*	18,000*
1974	22,752	1,568	21,184	-----	21,184	21,184
1975	29,097	1,598	27,499	-----	27,499	27,499
1976 ³	52,883	2,000*	50,883*	----- ⁴	50,883*	50,883*
1977	36,178	1,848	19,625	14,705	34,330	49,035
1978	23,723	2,276	13,311	8,136	21,447	29,583
1979	22,408	1,437	7,384	13,587	20,971	34,558

¹ Applications were deemed ineligible if they were late, had mistakes or if applicant(s) had previously submitted an application for the same draw.

² Applications could contain one choice of hunting area only. Manual draw.

³ Manual draw. No fee required with application.

⁴ Party hunting was introduced in 1976 but partners were named after the draw.

NOTE: Figures with an asterisk are estimates only.

Table 2. Big game licence sales in Newfoundland 1970 - 1979.

Year	RESIDENT LICENCES				Total Big Game Licences Issued to Residents	Number of Residents Named on Licences	NON-RESIDENT LICENCES (all individual licences)			Total Licence Sale
	MOOSE		CARIBOU				Moose	Caribou	Total	
	Individual	Party	Individual	Party						
1970 ¹	-----	18,605	-----	-----	891	19,496	3,350	583	3,933	23,429
1971 ¹	-----	21,140	-----	-----	809	21,949	3,634	473	4,107	26,056
1972 ¹	-----	19,119	-----	-----	1,071	20,190	3,744	567	4,311	24,501
1973 ²	-----	9,692	-----	-----	851	10,543	1,698	405	2,103 ³	12,646
1974	-----	9,762	-----	-----	895	10,657	787	102	889 ⁴	11,546
1975	-----	10,535	-----	-----	1,375	11,910	372	45	417	12,327
1976 ⁵	3,443	6,420	9,863	615	661	11,139	456	53	509	11,648
1977 ⁶	4,435	6,775	11,210	658	820	12,688	577	90	667	13,355
1978	5,215	7,600	12,815	1,412	315	14,542	712	130	842	15,384
1979	2,465	9,519	11,974	1,086	937	13,997	688	135	823	14,820

¹ 1970 - 1972, quotas in selected areas only; general licences unlimited.

² First year quota system implemented for entire island.

³ Non-resident licence fee increased. (Non-resident Canadians - Moose: from \$75 to \$100; Caribou: from \$100 to \$150) (Other non-residents - Moose: from \$75 to \$125; Caribou: from \$100 to \$175)

⁴ Non-resident licence fee increased. (Non-resident Canadians - Moose: from \$100 to \$150; Caribou: from \$150 to \$300) Other non-residents - Moose: from \$125 to \$250; Caribou: from \$175 to \$500)

⁵ Party hunting introduced.

⁶ Resident licence fee increased (from \$15 to \$20).

limit the applications to sincere hunters only. A license could be held for one species only and if a hunter was successful in the caribou licensing process, which was conducted first, then a moose application from that person was considered void. Approximately 18,000 big game applications were submitted in 1973. Manual draws were held in areas that were oversubscribed by applications received by or on a predetermined date.

After all applications were processed, it was made known to the public which areas had licenses remaining and that these licenses could be purchased on a 'first come, first served' basis.

Prior to 1973 license sales (Table 2) showed approximately 20,000 big game hunters in Newfoundland. Anticipating being able to issue approximately 11,000 licenses annually under the quota system it appeared that most hunters would obtain one moose license or one caribou license in alternate years. During 1973 hunters were informed that in the 1974 season they would be able to make an application only for the species other than the one for which they held a license in 1973.

At this point the hunters appeared happy with the quota system for managing moose and no major complaints were obvious. The manual draw, however, was a slow, inefficient process and the system did not provide unsuccessful applicants with alternate choices.

1974

This year a computer was used to process applications and conduct a random draw. Hunters, identified by Medical Care Plan (MCP) number, could make multiple choices indicating preferences for specific management areas. The MCP number, being unique, provided a check on the validity of the application: applicants surname, date of birth and sex. Using this number the computer could insure that only one application was entered



by each hunter.

In 1974, 21,184 applications were in the draw for 10,657 big game licenses, satisfying about half of the people. Using the 'alternate species in successive years' approach it was expected to accommodate the remaining big game hunters in 1975.

The major criticism this year was the late timing for the submission of applications, the subsequent draw and the notification of outcome of the draw.

1975

Prior to making application for a big game license this year, hunters analyzed the allocation process and quickly devised a method to 'beat the system'. Some hunters encouraged non-hunting relatives and friends to submit applications. Hunters without licenses reasoned that they could accompany a license holder on a hunting trip giving them a chance to hunt two consecutive years.

It soon became evident that a number of methods were being utilized to acquire a big game license. Substantiated reports and interviews with a number of people who were in the draw confirmed that indeed many people who were securing licenses were not necessarily legitimate big game hunters. Black bear licenses were often bought by hunting companions so they could legally carry a firearm. Chances of obtaining a moose or caribou were then increased as very often two or more people hunted (illegally) on one license.

This year 27,499 applications were considered in the computer random draw, following which 15,589 applicants were without licenses. A number of genuine big game hunters were now without licenses for the second consecutive year.

Following the draw in 1975 disgruntled hunters lobbied for a change

in the allocation process and voiced opposition to the secrecy associated with a computer draw.

1976

For the 1976 season a three priority draw process was implemented attaching highest priority to applications from persons who were in the draw for 1974 and 1975 and who were unsuccessful in both years. Second priority was assigned to those applicants in the draw in 1975 but who had not received a license that year. All other applicants were assigned priority three.

This year no fee was required with the application and the computer draw was abandoned, resulting in a time-consuming screening and lengthy manual draw. Each application had to be checked manually against the master file produced by the computer for the past two years.

Successful applicants were required to submit the license fee (\$15) after the draw.

In an attempt to satisfy more hunters a party system was adopted enabling a successful applicant to name a hunting partner after being notified that he/she had secured a license. While only one moose or one caribou could be taken on each license the party system allowed both individuals named on the license an opportunity to hunt. Although not legal, some hunters were named on more than one license since this could not always be checked manually.

The party system further complicated the process as a second manual screening was now necessary and as a result many licenses were not delivered to the hunters until a day or two before the season, creating considerable adverse reaction.

Approximately 51,000 applications were in the draw and 11,139 big game licenses were issued naming 18,220 hunters. As in 1975 many people

named on the applications were not genuine big game hunters and had applied only because of prompting received from hunters hoping to increase their chances to hunt.

People who had not applied for each of the previous two years, perhaps because they were not interested in hunting the species other than the last animal hunted found themselves in a low priority and many legitimate hunters were now without a license for three consecutive years.

The 1976 selection process led to a further deterioration of hunters' attitude toward the allocation process and generated severe criticism of the quota system for big game management. Following this, the entire system was subjected to a detailed reassessment.

1977

Early in 1977 the processes of the three previous years were examined and the computer operated screening and draw process was reinstated.

A five pool priority system was created based on the previous three years of participation in the license draw. The pools established for 1977 were:

Pool 1 - Applicants who were in the draw in 1974, 1975 and 1976 and without a license in all years.

Pool 2 - Applicants who were in the draw for any two of the years 1974 to 1976 and did not hold a license in either 1975 or 1976.

Pool 3 - Applicants who were in the draw for one of the past three years and who did not hold a license in 1976.

Pool 4 - All new applicants and persons holding party licenses in 1976.

Pool 5 - Persons who held an individual license in 1976.

Party hunting was continued in 1977 but the hunting partners

had to be named on the application. The priority pool for a party application was determined by the higher priority of the two applicants. A person's name could appear on only one application.

This year, applicants could apply for moose and/or caribou on the same application, intermingling preferences for species and areas. Chances of securing a license could be increased by naming a number of choices on the application especially if some of the preferred choices were for the unpopular, less accessible areas.

In an attempt to reduce the number of big game applications (especially from non-hunters) applicants were required to submit applications in person at designated provincial government offices, and to provide the license fee (increased to \$20) with the application.

This year 34,330 applications were in the draw naming 49,035 individuals.

During 1977 there was an attempt to promote party hunting. Within each priority pool, party applications were given preference over individual applications. The draw sequence first selected party applications with Pool 1 status, then Pool 1 individual applications; next Pool 2 party, then Pool 2 individual and so on until all applications were drawn or all licenses allocated, with Pool 5 individual being the last group screened.

This year 12,688 licenses were issued giving hunting opportunities to 20,283 people. Successful applicants only were notified about the results of the draw and refunds were later sent to unsuccessful applicants.

Timing of the draw was still close to opening of the hunting season, preventing hunters from properly planning hunting vacations. Complaints were substantially reduced and many hunters were in favour of the party system as presented this year.



At the end of the 1977 big game hunting season more than 65,000 people had applied for licenses in the three years previous. Applications from people who were not genuinely interested in hunting big game were being entered in the draw each year, frequently causing many legitimate big game hunters to go without a license.

Hunter Capability Test

During late 1976 and early 1977, when the quota management system was being reassessed, the need to identify the legitimate big game hunters was emphasized. It was decided that a person must pass a hunter capability test to be classified as a big game hunter and be eligible for big game license draws.

A testing program was implemented by the Wildlife Division and conducted over the entire island in 1977-1978. Test sites were located so that people need not travel more than 65 km (40 miles).

The test consists of a practical shooting test requiring the applicant to place 2 of 3 shots in a 41 cm X 41 cm (16 in. X 16 in.) target at a distance of 46 m (50 yds.) and two written tests requiring true or false responses, one dealing with big game hunting regulations and the other with common sense questions on the safe handling of firearms. When a person passed this test he/she was issued a numbered certificate. This number must appear on all future big game applications. A master list of big game hunters was compiled by the Wildlife Division.

Prior to the 1978 big game hunting season the hunter capability test was administered to 39,000 people, 35,000 of whom passed.

1978

In 1978 only hunters who had passed the hunter capability test were permitted to make application for a big game license. A total of 29,583 individuals were named on the 21,447 applications considered in the draw.

The five pool priority system based on participation in the big game draw over the past three years (1975 - 1977) was retained. The draw sequence was modified in an attempt to further promote party hunting. All applications (party and individual) in Pool 1 were drawn first since these hunters had been without a license for three or more years. Party applications in all other pools (2-5) were screened before any individual applications. This year 14,542 resident licenses were issued naming 22,457 hunters. Only 7,126 people who applied this year were not given a hunting opportunity.

Immediately following the draw in 1978 all applicants (successful, unsuccessful and ineligible) were notified by mail informing them of the outcome. Successful applicants were informed of hunting area selected, species to be hunted and whether an either sex or Bull only license would be issued. The notification also informed all hunters of their priority status for the 1979 draw should they apply.

There was little adverse reaction to the area-quota and draw system in 1978. Most complaints were primarily from people whose recollections of their participation in past draws did not correspond with Wildlife Division and computer records. Some people did not completely understand the priority system and requested additional explanation other than that given in hunting brochures.

1979

The 1979 big game licensing system was similar to the one used in 1978 with few changes. A five pool priority system, based on participation in the 1976, 1977 and 1978 draws, was retained. All party applications and individual applications in Pool 1 were drawn before individual applications in Pools 2 - 5.

The hunter capability test was offered to new hunters, and to

hunters who had missed the test in 1978 or who had failed previously and wished to be retested. The master list of big game hunters was then updated.

Hunters who had passed the capability test in 1978 did not require a retesting and were sent preprinted applications on which they had only to indicate choice of areas and details about a hunting partner, if any.

This year 34,558 persons named on 20,971 applications participated in the draw and 24,453 hunters were named on 13,997 licenses. Again this year all applicants were informed of the outcome of the draw.

Table 1 shows a tremendous increase in the proportion of party applications in 1979.

The least adverse reaction of any year was received in 1979 and it appears that most hunters were satisfied with the big game licensing system.

1980 BIG GAME LICENSING SYSTEM

The system being used to license big game hunters in 1980 is essentially a product of the evolutionary process reviewed above.

Management

Figures 1 and 2 show the 1980 management areas for moose and caribou respectively.

Since 1975 there have been several boundary changes but the number of management areas has remained unchanged. In three moose areas (1, 9 and 24) and one caribou area (61) sub-areas have been identified to more evenly distribute hunting pressure by varying

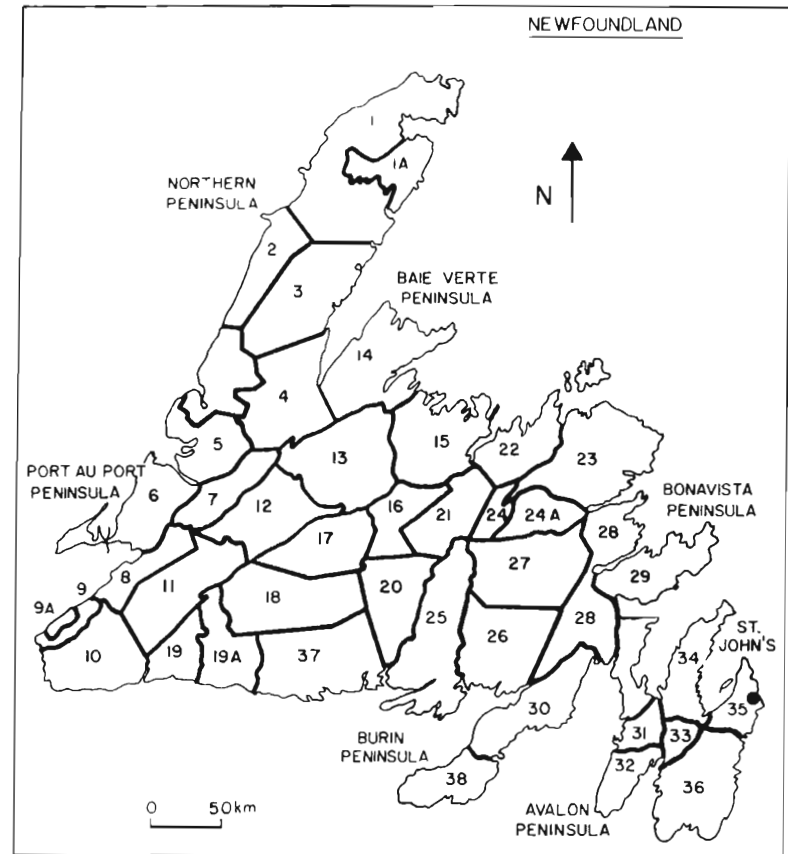


Figure 1: Newfoundland Moose Management Areas, 1980. Quotas and seasons are determined annually for each of the 38 areas.

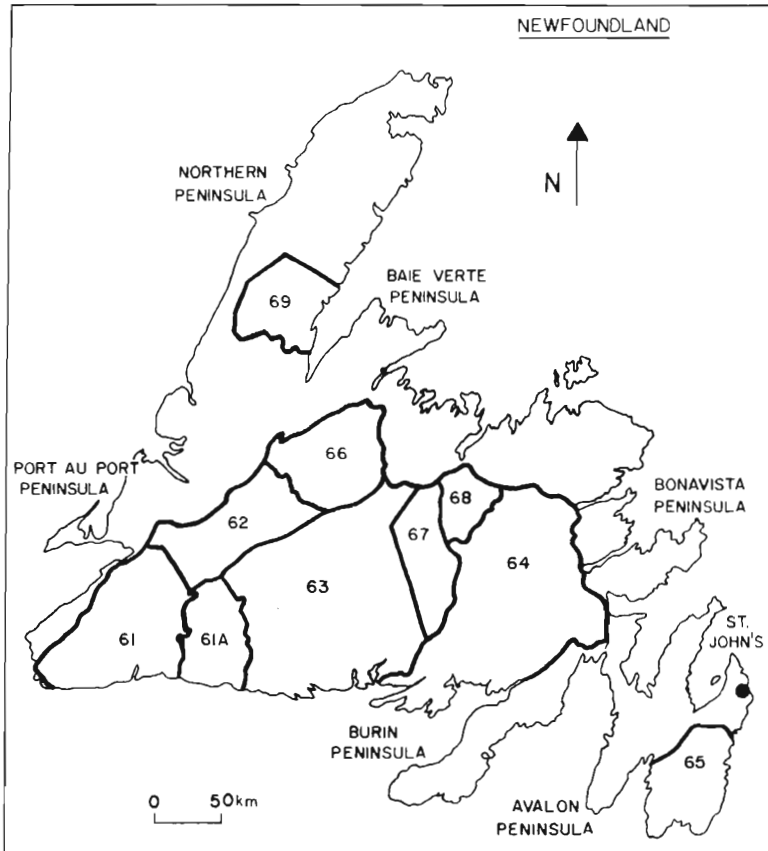


Figure 2: Newfoundland Caribou Management Areas, 1980. Quotas and seasons are determined annually for each of the 9 areas.

season lengths.

Based on aerial census and classification surveys and trend data collected from the past hunting seasons, 1980 quotas were calculated (January 1980) for each moose and caribou area. License sale is determined by a formula outlined by Mercer and Manuel (1974). In 1980 approximately 6,900 bull only and 7,000 either sex licenses (total 13,900) will be made available to resident big game hunters. The proportion of bull only and either sex licenses is dependant on sex ratios of individual populations and the intentions of management. Within each management area either sex licenses are awarded before bull only licenses. In the past many Newfoundland hunters have expressed dissatisfaction with bull only licenses claiming that hunters have only half as good a chance of obtaining an animal as someone with an either sex license.

Hunter Capability Test, Application

People wishing to apply for a big game license must be 18 years of age or older, have previously passed a hunter capability test and possess a capability test number issued by the Wildlife Division. Again this year, the hunter capability test is offered to people who have previously failed and to any other person who is 18 years of age or older and wishes to be identified as a big game hunter. The master list of big game hunters who are eligible to apply for a license will be updated prior to the draw.

Information concerning the 1980 big game hunting season is printed on brochures which, are distributed to hunters. The brochures and personal preprinted applications are mailed to hunters listed on the updated master list.

Hunters, identified by MCP numbers, either individually or as a party of two, must send applications to St. John's, along with a \$25.00 fee (increase of \$5.00 over 1979), specifying preference for species and areas and partner's name and personal information if a party license is required. After the draw, license fees will be returned to unsuccessful applicants.

This year, for the first time, hunters are given an opportunity to indicate on their application whether or not they will accept a bull only license should one be awarded in the draw. If a hunter indicates a desire to reject a bull only license and consequently he/she is unsuccessful in the draw then he/she would have a higher priority status in 1981 with a better chance of obtaining an either sex license.

Priority Pools, Draw, Licensing

Applications will be checked for validity, eligibility and errors, edited, placed in one of five priority pools, and subjected to a computer random draw. The priority pools identified for 1980 are based on an applicant's participation in the draw during 1977 - 1979. They are:

- Pool 1: Hunters who were in the draw but did not receive a license in 1977, 1978 or 1979.
- Pool 2: Hunters who were in the draw in any two (2) of the previous three (3) years but did not receive a license in 1978 or 1979.
- Pool 3: Hunters who were in the draw in any one (1) of the previous three (3) years and did not receive a license in 1979.
- Pool 4: Hunters who held a party license in 1979 including both members of the party and new applicants.
- Pool 5: Hunters who received an individual license in 1979.

This year the draw sequence will be the same as in 1979. Party, then individual licenses in Pool 1 will be screened first. Next all party applications in Pools 2 - 5 will be considered (in order of decreasing status) before any individual applications are considered.

Following the draw, all applicants will be notified by mail of outcome and successful applicants will be informed of hunting area selected, sex and species to be hunted and priority pool for the 1981 big game draw (provided the same system is used).

Licenses and returns will be printed by the computer and mailed, along with tags (to be placed on the meat) and hunting area maps, to successful applicants prior to the hunting season.

Other post-draw computer output include: 1) master list of hunters, 2) warden lists for individual management areas, 3) refunds to unsuccessful applicants, and 4) analyses of draw (by age, sex and geographic distribution of applicants and by priority pool and management area).

Ideally applications should be submitted by mid-April; draw completed and applicants notified by 1 June; and licenses sent to the hunters by mid-August; however, as shown in the past, deadlines are not always realized.

DISCUSSION

Since introduction of the area-quota system in 1973 the Newfoundland moose population has somewhat stabilized showing increases or decreases in individual areas, as required by management.

During the past seven years Newfoundland big game hunters were subjected to many unfamiliar restrictions and a frustrating big game

licensing system which, in the evolutionary process, appeared to inflict injustices on a number of genuine big game hunters. A major change in attitude was required of the Newfoundland hunters who had to realize the need to adopt a new philosophy: hunting big game is not an inherent right but is indeed a privilege.

The area-quota system was unfortunately implemented with minimal contact with the public. People were suspicious of this type of management and poorly informed about the aims and objectives of the Wildlife Division. A more intensive public information program would probably have eliminated much of the criticism. Today most hunters understand and respect the need to limit utilization of the big game resource to prevent overexploitation.

It is proposed in future to replace the hunter capability testing program with a Hunter Safety Training course which will provide an opportunity to expose hunters to basic game management principles and the proposed management strategy.

From our experience with the implementation of the big game licensing quota system in Newfoundland several conclusions emerge:

- 1) Such a system should only be introduced with ample explanation to the hunters outlining the objectives and rationale for the changes.
- 2) In the early stages the efficiency and acceptability of the system must be assessed regularly. Revisions in the licensing system due to hunters' complaints should not affect the underlying management strategy.
- 3) From the onset it is necessary to identify the legitimate hunters and exclude non-hunters from the licensing process.
- 4) The system should ensure that licenses are distributed fairly from one year to the next.

- 5) Hunters should be informed of their success in obtaining a license or otherwise well in advance (preferably 4-5 months) of the hunting season.
- 6) Quotas and seasons must be revised annually to ensure that desired management goals in specific areas are attained.

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