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HUMAN DEMOGRAPHICS, ANIMAL DEMOGRAPHICS,
HUMAN-ANIMAL INTERACTION AND THE ANIMAL
CONTROL PROGRAM OF BALTIMORE CITY

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HUMAN DEMOGRAPHICS

Baltimore is the largest city in Maryland and is also the state's center for industry, commerce and education. According to the 1980 Census, the Baltimore City population was 786,775, representing a loss of 13.1% since 1970. The surface area of the city consists of 80.34 square miles of land, and 11.59 square miles of water. Two main arteries, Charles Street and Baltimore Street divide the city into four quadrants. In the upper east and north-west sections are many single unattached houses; whereas the southern area consists of many blocks of attached or row type brick houses. Large apartment type dwelling are also found in all areas of the city. As of 1980, there were 281,414 occupied housing units and 21,045 vacant units. Of this combined number of units, 132,735 (or 43.9%) are owner occupied.

Although the 1980 census indicates that there are 2.74 people per household unit, several census tracts have more than 3.50 people per household. In one census tract located in a small area of the inner city, 5.52 people per household were reported.

Of the 187,748 families, 114,066 (60.8%) were married couples, 61,559 (32.8%) were families with female householders and 12,123 (6.4%) were other families. In 1979, the poverty threshold for a family of three persons was cited as \$5,787; for four persons as \$7,412 and for five persons as \$8,776. During the same period the city-wide median family income was \$15,721. However, 35,751 families (18.9%) reported income below the poverty level.

TABLE I

Human Demographics According to 1980 Census

Total Population	786,775
% Black	54%
# Occupied Housing Units	281,414
Owner Occupied	132,735
Average Persons/Household	2.74
Median Family Income	\$15,721

ANIMAL DEMOGRAPHICS

Researchers use various factors to obtain the estimated animal population for dogs; however, most studies use the dog to human ratio method. This ratio has varied anywhere from 1:4 (Nassar and Mosier 1982), 1:5 (Wilbur, 1975) to 1:7 (Marx and Furcolow 1969). For Baltimore City the 1:7 dog to human ratio, a method used by Beck in 1972 and again by DeHoff and Ross in 1981, is also used to obtain the dog population for this particular study. Based on the 1980 census, this ratio indicates that the dog population in Baltimore City is 112,396, or 0.4 dogs per household. This is lower than the Frost and Sullivan (1985) and Nassar and Mosier (1983) estimates that 40-48% of household own an average of 1.4 dogs each. Applying this formula would give a total of 158,000 - 189,000 dogs in Baltimore.

The estimated cat population was determined by a telephone survey in which 400 city pet owners were interviewed. It was found that 94 (23%) of those interviewed owned cats. Other studies indicate that 20-28% of households own approximately 1.75 cats each. This survey indicates that 64,725 households own cats. If each cat-owning household has 1.75 cats (as shown in other surveys), then there would be approximately 113,000 cats in Baltimore. However, it is felt that this is too high and that the population is closer to 70,000.

A study of the ecology and public health impact of urban cats in two neighborhoods in Baltimore (Childs, 1982) indicated that the frequency of cat ownership varied from 20.1% of households to 7.4% of households in the two contrasting areas. It is interesting to note that the low percentage of cats occurred in the low income and predominately Black neighborhood. Information obtained for this study on the age structure of animals in the community varies slightly, depending upon the data source. The polling of 18 veterinary hospitals in Baltimore indicates that animals examined were generally between the ages of 6 weeks and 7 years of age. The veterinary survey further indicated that the average age of dogs and cats was 5 and 4 years respectively. A telephone survey of 200 pet owners was conducted from a random sample taken from the 1983/84 rabies certificates issued by the Baltimore City Bureau of Animal Control (City Ordinance requires that cats and dogs be at least four months of age to be vaccinated against rabies). Data obtained from this study was consistent with estimates obtained from veterinary hospitals polled. The survey identified 161 dogs ranging from three months to 15 years, with an average of age of 5, and 39 cats from three months to 18 years with an average age of 3.9. Over 50% of all the dogs and cats were between 0-4 years of age (see Table II). By contrast, the ages of dogs and cats acquired by the Municipal Animal Shelter during 1983 averaged 1.6 years for dogs and 1.3 years for cats, indicating that the shelter population is considerably younger than that in the community.

From the same telephone survey, information was also gathered on altered animals. It was learned that 27% of the 161 dogs and 36% of the 39 cats had been altered during 1983/84. In both species, females were altered

three times as often as males. The survey of 18 veterinary hospitals reported earlier also indicated that an estimated total of 21,000 pets were altered during the year of 1983. Veterinarians in this study also indicated that dogs were altered twice as often. However, a higher percentage of cat owners neutered their pets than dog owners. All data indicated that females in both species are altered twice as often as males.

Currently, Baltimore City only licenses dogs four months and over. In 1982, the license fee was increased from \$7.50 to \$10.00 for pet owners up to 65 years of age, and \$5.00 for pet owners beyond 65 years of age.

The license revenue has steadily decreased since 1977. In 1974, Sanitary Enforcement Officers from the Bureau of Rodent Control of the Baltimore City Health Department patrolled the community for public health nuisances and issued notices to pet owners for unlicensed dogs. Approximately 35,000 dogs were licensed by the 15 officers. In 1977, the entire rodent program was transferred to the Department of Housing. Under this agency, dog license enforcement was removed from the duties of the Sanitary Enforcement Officers. However, the CETA program of 1977 attached 10 Manpower employees known as the Pooch Patrol to the Bureau of Animal Control. With these additional employees, the estimated total of issued license rose to 25,000. By 1979, the CETA program was phased out which left the Bureau of Animal Control with a severe shortage of manpower necessary to enforce dog licensure. In 1983, approximately 14,000 dog licenses were issued. With the use of 12 appointed Dog Wardens in 1983/84, it is projected that approximately 30,000 licenses will be sold to dog owners for an increase of 16,000 licenses (the actual figure was, however, 21,000).

The study of rabies certificates concluded that an estimated 48,000 animals were vaccinated against rabies, 42% of the City-wide animal population. Cats only represented 20% of all animals vaccinated. Data from the 1983 spring Anti-rabies clinics sponsored by the Baltimore City Health Department also indicated a lower percentage of cats vaccinated. Of the total of 5,458 dogs and cats vaccinated against rabies, 18% were cats and 82% dogs. The study further indicated that there was probably a 1.3% increase in the number of animals inoculated in 1984 over 1983. This increase was a result of the numerous rabid raccoons found in several neighboring counties in 1982-83.

TABLE II

Animal Demographics

	<u>DOG</u>		<u>CAT</u>	
Total Population	112,396		ca. 70,000	
Average % of households owning animals	40		23	
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Age - from survey of 200 pet owners	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
0-4 years	89	53%	24	62%
5-9 years	49	31%	10	26%
10-14 years	24	14%	2	5%
Average age of animals acquired by shelter	1.6 years		1.3 years	
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Percentage altered during 1983/84	27%		36%	
Total number of animals altered in 1983	21,000 pets			
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Number of licenses issued in 1983	14,000			
Projected no. licenses to be issued in 1984	30,000			
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Percentage of animal population vaccinated	42%			

HUMAN-ANIMAL INTERACTION

According to a report prepared by Maryland State Motor Vehicle Department in 1982, animals were responsible for 0.8% of accidents in Maryland. In Baltimore City, 0.1% of all accidents were caused by animals. No human deaths were reported in any of the accidents. Three hundred and eighteen (318) injuries were reported throughout the State with only 6 occurring in Baltimore City. Surveys from several insurance companies failed to produce adequate figures on accident costs caused by animal. From the 1983 Baltimore City Municipal Animal Shelter report, 2,726 animals were hit by automobiles of which 2,159 were dogs.

The State of Maryland reported a total of 12,071 animal bites in 1983 as compared to 19,434 in 1973. This figure represents a decrease of 7,363 or 37.9% over the ten year period. For the same period, Baltimore City reported 2,821 animal bites for 1983 as compared to 6,568 in 1973 for a 57.1% decrease. The number decreased further in 1984.

Data from the 1983 animal bite reports indicated that dogs were responsible for 89% of the bites (over 50% by owned dogs). According to DeHoff and Ross (1981), 50% of all bites occurred to victims under 15 years of age. Males were bitten twice as often as females in every age category except age 65 and over.

Of all the animal bites that occurred to victims in 1983, three persons received post exposure rabies treatment. In all cases, individuals were bitten by stray dogs that had escaped and never located. The treatment used in all cases was the human diploid cell-rabies vaccine (HDCV). HDCV active immunization was used in conjunction with rabies immune globulin (Human RIG) for passive immunization. During fiscal year 1983, 358 animals were sacrificed and tested for rabies. This total consisted of 75 dogs, 78 cats, 90 raccoons and native wild animals, 74 bats and 41 others. Two bats were found positive for rabies.

The most frequent animal-related nuisance complaints received from city residents concern barking, animal excreta on private and public property, and unrestrained dogs. Although there are laws to cover these problems, there is very little enforcement power. Of all complaints received at the Mayor's Office in 1983, animal nuisances ranked third on a list that included crime, traffic control, housing, pot holes and taxes.

From the Baltimore City Health Department's 1983 Year End Reports, it was reported that the Bureau of Animal Control received 4,031 complaints of unrestrained dogs, cat and dog excreta on public and private property, and barking. Many of the city's alleys in low income census tracts with high population density of both dogs and people, have improper trash receptacles and plastic trash bags that are prime targets for loose roaming dogs.

A 1981 study by the Water Quality Management Office of Baltimore indicated that pet waste was a major problem in polluting the city water streams and the Baltimore Harbor. It was estimated that over 80,000 pounds of feces and 40,000 gallons of urine are produced a day.

ANIMAL CONTROL

As a result of a 1973 study by the Mayor's Advisory Committee on Canines, an Animal Control Ordinance was enacted in August 1974. The law created the Bureau of Animal Control under the direction of the Baltimore City Health Department. The program is designed to minimize the chance of disease and injury to the public via a system of animal collections, animal investigations and enforcement, public education and the operation of a

Municipal Animal Shelter. The current program is budgeted at \$695,709 and has a staff of 29.

There has been a 2% decrease in the total number of animals collected in the city since 1976. In 1983, 24,269 animals were removed. This number included 5,362 strays 10,833 unwanted and 8,054 dead animals. Sixty-six percent of the live animals were dogs, 31% were cats and 3% were wild or exotic animals. Eighty-five percent of all dead animals were dogs. Unwanted dogs and cats refer to those animals that are either picked up from homes of owners by Animal Wardens or animals turned in at the Animal Shelter by owners. Dogs and cats turned in by owners at the Animal Shelter represented 29.7% of all unwanted animals collected. The average daily population of animals at the facility during fiscal year 1983 was 160 dogs and 20 cats.

Of the 5,362 strays, 361 (6.7%) were reclaimed by the rightful owners. Dogs represented 86% of the reclaimed animals. The term stray animals refers to unrestrained dogs and cats that roam free in the community.

The Bureau of Animal Control employs 12 Animal Wardens and 2 Field Supervisors who man animal rescue vehicles for animal pick up. Six vehicles are used for live animal pick up and two are used for dead carcasses. Service is rendered on a 24 hour basis, seven days a week. However, field coverage decreases on the weekend after normal working hours.

One of the major problems encountered in the apprehension of stray animals is the frequent interference by pet owners or other residents. On several occasions, this interference, in the form of assaults and verbal abuse, has endangered the health and safety of the Animal Wardens. Whenever this occurs, Animal Control requests the assistance of the Police Department.

TABLE III

Shelter Population in 1983

	<u>Total</u>	<u>Dogs</u>	<u>Cats</u>	<u>Other</u>	<u>Reclaimed</u>	
					<u>Dog</u>	<u>Cat</u>
Live animals	16,195	10,689	5,020	486	-0-	-0-
Strays	5,362	-0-	-0-	-0-	310 (6%)	51 (1%)
Dead animals	8,054	6,846				

To promote responsible pet ownership in the community and discourage indiscriminate breeding, animals adopted from the Municipal Animal Shelter are spayed or neutered. There is a contractual agreement between the City and 10 local veterinarians to alter dogs and cats from the Municipal Animal Shelter at a low cost. The fees are approximately 25% less than normal rate charged by the average veterinarian. The adoption fees, which include a distemper inoculation areas follows:

	<u>DOGS</u>	<u>CATS</u>
Adoption	12.00	12.00
Spay/female	40.00	28.00
Neuter/male	28.00	15.00
License (4 months or over)	10.00	N/A

Since the spay/neuter plan of 1979 became a part of the Adoption Program of the Municipal Animal Shelter, the animal adoption rate has steadily decreased. In 1978, 560 animals were adopted compared to 291 in 1982. The primary reasons for the decline are the increased cost of adoption, and the altering of an animal before the pet owner takes the animal home. Sodium pentobarbital is used as for euthanasia. In 1983, 14,997 animals were euthanized, a 1% increase over 1982.

Under the direction of a Field Supervisor, three Animal Control Investigators and two Wardens investigated complaints received by this Division during 1983. A total of 2,710 complaints that pertain to animals disturbing the peace, animal waste on: private and public property, unlicensed dogs, unvaccinated dogs and cats, unlicensed kennels, animal bites and cruelty to animals were received by the Division. In addition, inspections are conducted at horse stables, animal research laboratories, pet shops and other commercial establishments.

To provide the community with basic knowledge on responsible pet ownership, the Bureau of Animal Control also conducts educational programs to community groups, individual residents, and schools. During fiscal year 1983, the program was able to reach 2,530 students, 51 teachers at 7 elementary schools, and 21 community groups for a total of 2,114 citizens. Presentations and demonstrations were given on pet care, animal control laws, and available

information on services. Over 10,000 pieces of literature were distributed during this period.

The only other animal shelter in the city is operated by the Maryland Society for the Prevention of Cruelty to Animals (MSPCA), a private enterprise. It is located in the northwest section and only receives animals brought to the facility by pet owners or other residents. The animal shelter has 55 indoor kennel runs for dogs and 30 cat cages. Under the direction of a Humane Officer, seven full-time and 2 part-time employees operate the facility, The average daily census is 30 dogs and 20 cats.

As part of the adoption programs, all cats and dogs are altered before homes are found. The fees, which include all necessary inoculations, are \$35.00 for each dog and \$20.00 for each cat. In 1983, 233 dogs over four months of age, 314 puppies, 221 cats and 360 kittens were adopted, The drug somethal is used for euthanasia, During 1983, 1,421 adult dogs, 805 puppies, 1,334 cats and 1,735 kittens were killed.

TABLE IV

Maryland Society for the Prevention of Cruelty to Animals (MSPCA)
Shelter Operations in 1983

	<u>Dogs</u>	<u>Puppies</u>	<u>Cats</u>	<u>Kittens</u>
# Adopted	233	314	221	360
# Euthanized	1,421	805	1,334	1,735

Although the human population of Baltimore City has declined in the past 10 years, the animal shelter population has not decreased at the same rate. Pet owners continue to acquire dogs as companions, playmates and protectors.

Animal bites have significantly decreased over the past 10 years, however, other animal nuisances such as unwanted pets, uncontrolled pets, pet fecal littering, indiscriminate breeding and animals disturbing the peace continue to be a problem for the urban community. The Animal Control program has met with some success through Animal Collections, Public Education and operating practices. However, greater efforts are needed to reduce the number of casual owners who are unwilling or unable to be responsible pet owners.

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