REQUEST FOR BOARD ACTION

HENDERSON COUNTY
BOARD OF COMMISSIONERS

MEETING DATE: July 20, 2005

SUBJECT: Animal Services

ATTACHMENTS: Animal Services Presentation,
Euthanasia Study

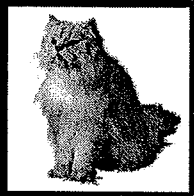
SUMMARY OF REQUEST:

Staff has prepared the attached presentation to update the Board regarding Animal Services. The presentation includes a study on methods of euthanasia and a recommendation for change of method.

COUNTY MANAGER'S RECOMMENDATION/ACTION REQUIRED:

Animal Services Director, Morgan Woodward will deliver the presentation to the Board. I recommend the Board endorse the change in euthanasia method.

Henderson County Animal Services



Road To Progress

- Change and Progress are in the future for Animal Services and Henderson County

Henderson County Animal Services

- New Animal Services Center
- Ordinance Updates
- SOP Updates
- Short Term Plans
- Long Term Plans
- Euthanasia Study

The New Animal Services Shelter

- Construction has already begun!!!
- Groundbreaking Ceremony on July 20th
- Kick off Fundraising Program

Updates to Ordinance

- Kennels and Catteries
- Exotic Animal Ordinance
- Security Dogs
- Restraint and Confinement Ordinance

Updated Operating Procedures

- Officers are now required to patrol all areas of the county when not handling a call.
- Animal Services is now required to prepare and ship rabies specimen to the lab in Raleigh for testing.
- Officers are now required to handle every call that is received and contact will be made with the complainant to follow up and close the report.

Short Term Future Plans

- Fundraiser Program
- Volunteer Programs and Opportunities
- Humane Education
- Foster Programs
- Expand upon local CART (County Animal Response Team)
- License Program

Long Term Future Plans

- Low Cost Spay Neuter Clinic
- Animal Cruelty Investigator
- Offsite Adoption Programs
- Crematory Services
- Boy Scout Eagle Scout Projects

Euthanasia

"Euthanasia is the final act of kindness that we, as sheltering professionals, can offer to the animals in our care." Leslie Sinclair, DVM

Acceptable Methods

as defined by the Humane Society of the United States and the American Veterinary Medical Association

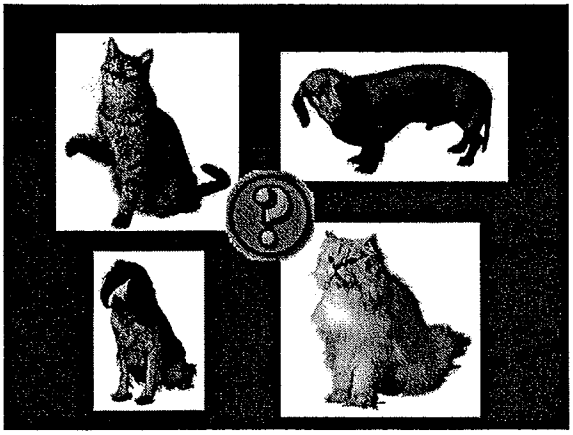
- EBI (euthanasia by injection)
  - HSUS and AVMA both recognize this method as being the best method for euthanizing animals
  - Intravenous (IV) injection (within the vein) is considered to be the most rapid and reliable method of performing euthanasia by injection when it can be administered without causing fear
- Carbon Monoxide
  - when delivered in a properly manufactured and equipped chamber, is a conditionally acceptable method of euthanasia for some animals

Cost Analysis

- Carbon Monoxide
  - Cost per animal = $1.32 based on 10,000 animals
  - Cost could rise if maintenance is needed
- EBI
  - Cost per animal = $1.27 based on 10,000 animals
  - Cost could rise due to high turn over rate and cost of training

Recommendation

- Currently, Animal Services utilizes the CO chamber as the primary way to euthanize animals.
- After careful consideration, it is my recommendation that Animal Services change the policy of euthanasia to strictly perform EBI. I would plan to have all officers and shelter staff trained and ready to adopt this new policy prior to the completion of the new animal services shelter. I strongly feel that this change will directly affect those in the animal welfare industry as well as public opinion, in a positive manner. By moving forward and setting a higher standard for ourselves now, I believe that Henderson County will remain ahead of the curve for other animal services to emulate in the future.



Euthanasia

Cost study and analysis of the two humane methods of euthanizing animals

One of the most difficult challenges that pet owners and shelters face, is the decision to euthanize an animal. As a pet owner myself, I understand the need to euthanize an animal for the sake of quality of life. Even after every resource has been exhausted and the quality of life could not be improved, the decision to euthanize is not an easy decision to make. Even in a shelter environment, the decision to euthanize an animal does not come easily. Still, the decision needs to be made and euthanasia is a reality of life within the animal welfare industry.

Since coming onboard as the new director of animal services, I was challenged to make a difficult decision concerning the use of the carbon monoxide chamber. Coming from a non-profit background, that only performed euthanasia by injection, I felt it necessary to do a thorough study of both methods, CO Chamber and EBI (euthanasia by injection of sodium pentobarbital), in order to make my final decision and recommendation to the Animal Services Committee pertaining to the method by which to euthanize animals at the new shelter.

In an internet article written by Doug Fakkema titled "Comparison of Sodium Pentobarbital and Carbon Monoxide as euthanasia agents" he does a wonderful job of comparing both methods of acceptable euthanizing agents. His statements are in line with those released by the Humane Society of the United States in their Euthanasia Training Manuel written by Rebecca H. Rhoades, D.V.M.

EBI is a medical procedure and proper training is recommended for all staff who participates. In order to properly euthanize an animal, two properly trained staff members are required. The first will restrain the animal and assist in "holding off the vein". The second will administer the proper dosage of the euthanizing agent into the vein which should result in a quick and virtually painless death. The only pain that an animal might feel is the initial prick of the needle, unless this procedure is abused and therefore is considered inhumane. Sodium pentobarbital's mechanism of action is complicated, but brings about a rapid and painless shutdown of the neurotransmitters in the brain resulting in very rapid (+/- 5 seconds) unconsciousness followed, in a few minutes by medical death. Euthanasia by injection with sodium pentobarbital is considered the preferred method of euthanasia.

The major problems associated with this form of euthanasia are the close proximity one needs to be in with the animal. This may cause many problems with employees more on a mental level rather than a physical one. Second is the proper training and skill set needed in order to properly inject sodium pentobarbital into the vein. The question concerning

aggressive animals is always an issue. It has been my experience that the use of a sedative that can be administered orally or intramuscularly by injection, such as Acepromazine or Xylazine is required before euthanizing the animal.

The use of Carbon Monoxide has been a popular method of euthanizing animals since the end of WWII. Crude methods were used in order to obtain the required levels of Carbon Monoxide, but today, a more humane way has been found and proper guidelines have been established.

The AVMA (American Veterinary Medical Association) recognizes carbon monoxide (CO), when delivered in a properly manufactured and equipped chamber, is a conditionally acceptable method of euthanasia for some animals. It is absolutely unacceptable to use CO for the euthanasia of dogs and cats that are old, under four months of age, sick, pregnant or injured. It has been proven that dogs and cats under four months of age show a tendency to resist hypoxia. Hypemic Hypoxia is defined as a reduction in the oxygen carrying capacity of the blood. It is caused by a reduction in the amount of hemoglobin in the blood or a reduced number of red blood cells. A reduction in the oxygen transport capacity of the blood occurs through blood donation, hemorrhage, or anemia. A reduction in the oxygen carrying capacity of the blood occurs through drugs, chemicals, or carbon monoxide. Because of these limitations, there must always be an acceptable backup method readily available.

CO is a hazardous substance considered especially dangerous because it is odorless, tasteless, colorless, and explosive. Repeated exposure to CO, even at low levels, can result in many serious long-term effects including (but not limited to) cancer, infertility, and heart disease. CO Chambers must therefore be used with extreme caution, and proper guidelines must be in place to ensure both a humane death for the animals and safety to personnel. CO must be provided by compressed cylinder gas, be used only in a chamber that has been commercially manufactured for CO euthanasia, and be properly maintained. The chamber must be designed to minimize stress and to allow for the appropriate separation of animals. Chambers must never be overcrowded. Any variation from this and this method of euthanasia is considered inhumane.

Included in this report is a copy of the cost analysis that was completed by the Humane Society of the United States and can be found in their euthanasia training manual. I believe that this is a fair and comprehensive study and legitimately covers all aspects associated with euthanasia. According to this report, based on 10,000 to be euthanized, EBI would save approximately $500 a year.

Public opinion concerning euthanasia is the reality we need to accept. The general public does not understand the methods or functions of euthanasia and therefore feed off of such organization such as HSUS, ASPCA and PETA. If the shelter were to move to strictly performing EBI, we would adopt the policy set forth by those organizations and would place animal services in a positive light and set a new standard for other county organizations to look up to.

SODIUM PENTOBARBITAL COST ANALYSIS MODEL

EQUIPMENT COST

LINE	DESCRIPTION/COST	FORMULA
1	Equipment cost $500	Floor safe ($250) + table ($50) + electric clippers ($100) + squeeze gate ($100)
2	Usable life: 10 years	
3	Depreciation, annual: $50	Cost ($500) (line 1) ÷ usable life (10 years) (line 2)
4	Depreciation daily: $0.19	Annual depreciation ($50) (line 3) ÷ working days per year (260)
5	Average number of animals euthanized per day: 38.5	Total number of animals euthanized: 10,000 ÷ working days per year (260)
6	Depreciation cost per animal: $0.005	Daily depreciation ($0.19) (line 4) ÷ animals euthanized per day (line 5)
7	Maintenance costs per animal: $0.00	No projected maintenance cost
8	Total equipment cost per animal: $0.005	Depreciation cost per animal (line 6) + maintenance cost (line 7)

LABOR COST

9	A. Number of employees required to process IV: 2 B. Number of employees to process IP: 1	Note: One employee can process an adult dog if pre-euthanasia drugs are used
10	A. Number of IV injections: 5,100 B. Number of IP injections: 4,900	A. 5,100 = 600 dogs less estimated number of puppies (900) (15%) B. 4,900 = 4,000 cats + estimated number of puppies (900)
11	Average single processing period: 2 minutes	Transport to euthanasia room + preparation and injection + verification of death + removal of carcass + record keeping. Note: Average time to process cats, kittens, and puppies (IP injections) will be much less than 2 minutes each
12	Number of animals per single processing period: 1	
13	Total processing time: 77 minutes	Number of animals per day (line 5) x single processing period (2 minutes) (line 11)
14	Labor cost per dog (IV): $0.77	Hourly wage (include fringe): $11.58 ÷ 60 minutes x number of employees required to process (2) (line 9A) x 2 (number of minutes to process) (line 11)
15	Labor cost per cat, kitten, puppy, etc. (IP): $0.386	Hourly wage (include fringe): $11.58 ÷ 60 minutes x number of employees required to process (1) (line 9B) x 2 (number of minutes to process) (line 11)
16	Total annual labor for processing (IV): $3,927.00	Labor cost per dog (line 14) x number of dog (IV) injections (line 10A)
17	Total annual labor cost for processing (IP): $1,891.40	Labor cost per cat, kitten, puppy, etc. (IP)(line 15) x number of IP injections (line 10B)

SODIUM PENTOBARBITAL COST ANALYSIS MODEL

SUPPLY COST

		FORMULA
19	Sodium pentobarbital cost per 250 ml bottle: $27.00	
20	Cost per ml (cc): $0.08	Cost of bottle ($27.00) ÷ 250 ml
21	Average dose per animal: 5 ml	50 pound dog
22	Sodium pentobarbital cost per animal: $0.54	Cost per bottle ($27.00) ÷ doses per bottle (50) (based on 50 pound dog)
23	Syringe cost per animal: $0.0015	Syringe (6ml) cost: $17 per 100 ($0.17 each) estimates 100 uses per syringe
24	Needle cost per animal: $0.092	Needle (22 ga.) cost: $9.20 per 100 (one use only)
25	Cost per animal for pre-euthanasia drug: $2.65	5:1 ratio of ketamine hcl/xylazine (100 mg) per 50 pound dog as needed (estimate 1 adult dog in 25 - not needed for cats)
26	Number of dogs needing pre-euthanasia anesthesia: 204	Total number of adult dogs euthanized: 5,100 x .04
27	Total cost of pre-euthanasia drug: $541	Cost per animal ($2.65) (line 25) x number of dogs needing pre-euthanasia drug (line 26)
28	Average cost per total animals euthanized for pre-euthanasia drug: $0.054	Total cost of pre-euthanasia drug (line 27) ÷ total number of animals euthanized
29	Per use cost of needle/syringe for pre-euthanasia drug: $0.094	Cost of syringe ($0.0015) (line 23) + needle ($0.092) (line 24)
30	Total cost of needle/syringe for pre-euthanasia drug: $19.18	Cost of needle/syringe ($0.094) (line 29) x number of dogs needing pre-euthanasia anesthesia (204) (line 26)
31	Average cost per total animals for needle/syringe for pre-euthanasia drug: $0.0019	Total cost of needle/syringe (line 30) ÷ total number of animals euthanized
32	Total supply cost per animal: $0.689	Sodium pentobarbital per animal (line 22) + syringe (line 23) + needle (line 24) + pre-euthanasia drug (line 28) + pre-euthanasia needle/syringe (line 31)
33	Total cost per animal: $1.27	Equipment cost per animal (line 8) + labor cost per animal (line 18)+ supply cost per animal (line 32)

SUMMARY

34	Cost per year: Carbon Monoxide: $13,230	Cost per animal (CO line 22) x number of animals euthanized: 10,000
35	Cost per year: Sodium Pentobarbital: $12,700	Cost per animal (line 33) x number of animals euthanized: 10,000

CARBON MONOXIDE COST ANALYSIS MODEL

EQUIPMENT COST

LINE	DESCRIPTION/COST	FORMULA
1	Original cost of unit: $6,000 Usable life: 10 years	
2	CO room sensor cost: $500 Usable life: 10 years	
3	Depreciation, annual: $650	Cost of unit (line 1) + CO
4	Depreciation, daily: $2.50	Annual depreciation (line 3) ÷ working days per year (260)
5	Average number of animals per day euthanized: 38.5	Total number of animal euthanized: 10,000 (6,000 dogs/4,000 cats) ÷ working days per year (260)
6	Depreciation cost per animal: $0.065	Daily depreciation (line 4) ÷ animals per day euthanized (line 5)
7	Maintenance cost per animal: $0.05	Maintenance cost per year: $500 ÷ animals per year euthanized
8	Equipment cost per animal: $0.115	Depreciation cost per animal (line 6) + maintenance cost (line 7)

CARBON MONOXIDE COST ANALYSIS MODEL

LABOR COST

LINE	DESCRIPTION/COST	FORMULA
9	Number of employees required to process: 1	
10	Average single processing period: 30 minutes	4 minutes load and start + 20 minutes operating cycle + 6 minutes unload and clean
11	Average number of animals per cycle: 6 animals (4–5 dogs and 10 cats)	Depends on size of unit—use strictly according to manufacturer's recommendations. Note: Overloading chamber will result in inhumane death
12	Average total processing period: 210 minutes	Average number of animals euthanized (line 5) ÷ number of animals per cycle (line 11). Note: round up to next higher number x processing period (30 minutes) (line 10)
13	Labor cost per minute: $0.193	Average hourly wage (including fringe cost): $11.58 ÷ 60 minutes
14	Total labor cost for entire processing period: $40.53	Labor cost per minute (line 13) x processing time (line 12)
15	Labor cost per animal: $1.05	Labor cost for processing (line 14) ÷ number of animals euthanized per day (line 5)

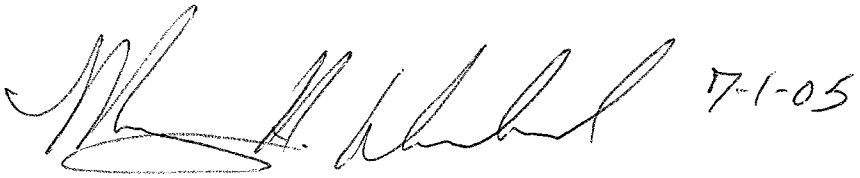
SUPPLY COST

16	Cost per CO cylinder: $100	Cost of gas + cylinder rental
17	Number of cylinders used per year: 17.3 cylinders	
18	Total cost of CO: $1,730	Cost per cylinder (line 16) x number cylinders (line 17)
19	Number of cylinders used per year: 1,820 cycles	Average number of animals euthanized per day (line 5) ÷ number of animals per cycle (line 11). Note: round up to next higher number x number of work days (260)
20	Gas cost per cycle: $0.95	Total cost of CO (line 18) ÷ number of cycles per year (line 19). Note: 6% concentration required
21	Gas cost per animal: $0.158	Gas cost per cycle (line 20) ÷ number of animals per cycle (line 11)

TOTAL COST

22	Total cost per animal: $1.323	Equipment cost (line 8) + labor cost (line 15) + supply cost (line 21) Recommend: .3mg/lb. of acepromazine maleate 10 minutes prior to placing in chamber to reduce vocalization/agitation in dogs. This cost is not factored into this model. See footnote at end of chart for cost information.

After careful consideration, it is my recommendation that Animal Services change the policy of euthanasia to strictly perform EBI. I would plan to have all officers and shelter staff trained and ready to adopt this new policy prior to the completion of the new animal services shelter. I strongly feel that this change will directly affect those in the animal welfare industry as well as public opinion, in a positive manner. Throughout the United States, a trend is beginning to develop and I strongly feel that the use of the CO chamber will be completely abolished. Following in the footsteps of States such as Texas, strict laws have already been put in place regarding Euthanasia. I feel that it will not take long for other states to adopt the same policies and require a standardized single method of euthanasia. By moving forward and setting a higher standard for us now, I believe that Henderson County will remain ahead of the curve for animal services in the future.



Morgan A. Woodward
Director of Animal Services
Henderson County, NC