This report follows informal shelter animal health consultations and visits with the Kern County Animal Shelter by the University of California-Davis Koret Shelter Medicine Program. Dr. Sandra Newbury visited the shelter in January and again in November of 2007. A short list of verbal, high priority recommendations were made after the initial visit in January. In November, a decision was made to develop a limited written report with recommendations focusing on population management at the shelter. Data used for this report was supplied by the shelter or collected from the shelter’s Chameleon database with assistance from Chameleon.

**OVERVIEW**

Overall, it was apparent during both visits that a significant disparity exists between the apparent goals and expectations of the Kern County community, California legislative goals, and the facilities, programs and staff currently in place at Kern County Animal Shelter (KCAS). Although many staff members were clearly dedicated and caring, and in some cases were exerting heroic efforts to provide for the animals in the shelter, it was evident that the capacity of programs, staff and facility was exceeded in almost every area of animal housing and care. The result was a breakdown in care leading to illness, animal suffering, and likely un-necessarily high levels of euthanasia and death.

Meeting the expectations of the Kern County community will require not only improvements in the care and management of animals currently passing through the shelter, it will also require a reduction of intake and/or increased live release (through increased adoptions, rescue/transfer, or reclaim by owner). This cannot be realistically achieved without substantial additional financial and programmatic investment in both the shelter and in community-directed programs (e.g. spay/neuter outreach or feral diversion programs). Additional comments on community level programs are beyond the scope of this report but such programs will be critical to implementing legislative goals as well as creating a healthy and safe shelter environment.

**PROGRAMMATIC ISSUES**

Three significant programmatic issues were identified which underlie many other problems: 1.) A lack of clear goals for the division; 2.) A lack of systems for animal care and management coupled with an organizational/staffing structure insufficient to support development, implementation, and enforcement of such systems; and 3.) Absence of a comprehensive and effective population management plan: no defined maximum level of capacity in any area, absence of a functional plan for what to do should intake exceed the shelter’s capacity to provide minimally acceptable levels of care, lack of supervision or accountability for animal flow-through, and insufficient capacity of current staffing levels, physical housing units, and programs to care for even the most basic, minimally required legal holding periods for stray animals. These programmatic issues must be resolved in order to implement additional improvements. Many of the improvements...
suggested may work synergistically to benefit many shelter systems. Attempting to address specific concerns without a holistic approach to solving problems inherent to the current system will not be fruitful.

SECTION I: Goals
On several occasions administrators for the Kern County Animal Shelter have expressed uncertainty about the goals for the division. The primary strategic goal that was consistently articulated was to meet requirements and avoid further violations to rules defined by state law, county ordinance, and a settlement agreement from a previous lawsuit. The shelter struggles to be in compliance with the resolution and settlement of a previous lawsuit and legislation which limits euthanasia but does not provide assistance with programs to decrease intake or increase live release. Some level of community expectation is also reportedly communicated regularly to the shelter through individuals, rescue groups and the Kern County Veterinary Medical Association (KCVMA).

Problems identified:
- The shelter struggles to remain in compliance with current legislation as well as other legal obligations.
- No “Big Picture” set of goals has been identified to help drive the department or set performance measures.

Recommendations:
- Develop and articulate comprehensive strategic goals.
- Use those goals to develop strategic plans, communicate and work with the community, and set performance measures.

SECTION II: Support Structure for Animal Care and Management Systems
The current organizational structure does not appear sufficient to support development, implementation or enforcement of well-thought-out animal health care systems/procedures. Staff members were unclear how their positions fit into the organizational chart. Many staff members reported they had never seen an organizational chart.

Recommendations from outside consultants will have little benefit if there is no structure in place to implement those recommendations. Designated personnel must have sufficient time, authority and accountability in order to establish and maintain functional systems. Staff must also have accountability and supervision for their daily responsibilities. Policies and practices should reflect current standards in the sheltering profession and incorporate information available through continuing education resources, professional organizations, relevant journals and online resources. Where appropriate, input should be sought from outside sources including experts, colleagues and other community stakeholders.

Problems identified:
- It is unclear which staff members, or combination of staff members, are responsible for defining animal care protocols and systems.
- It is unclear which staff members, or combination of staff members, are responsible for ensuring those defined practices are implemented.
- It is unclear how the veterinarian and veterinary team fit into the organizational structure of the shelter.
- It is unclear which staff members currently have the authority and supervisory responsibility for population management in the shelter.
- There appears to be no functional system for supervision of animal care staff when making flow-through decisions or accountability if staff fail to act on decisions that have been made.
- There appear to be no functional systems in place to help staff make sound decisions when there is conflict between community or legislative expectations and adequacy of care, animal health or animal welfare.

**Recommendations:**

- Establish a clear organizational structure for all staff defining roles, responsibilities, lines of supervision, authority, and accountability.

- Identify current personnel with sufficient background and ability to write/review critical animal population management protocols including those described in this report. This may include management staff, veterinary staff, and senior/experienced animal care staff. Hire additional relief staff to assist in day-to-day activities such that designated staff have sufficient time to complete critical protocol development.

- Develop and document a process by which new and existing procedures will be communicated and implemented, including timing and responsibility for staff training and accountability. Hire additional relief staff if necessary to allow training of current staff.

- Designate a population manager with authority and accountability to evaluate and minimize shelter crowding, respond to animal welfare issues, and ensure that animals move promptly and efficiently through the shelter system without delays each day.

- **Immediately define a strategic plan and set of guidelines for what to do when there is conflict between community or legislative expectations and adequacy of animal care, animal health or animal welfare.**
SECTION III: Population Management

(Population management includes an evaluation of current and historical population dynamics and the systematic processes or policies in place to help animals move through the system with good health and welfare. Population management includes an evaluation of both the health and welfare of the group as a whole and the individuals who make up the group.)

Part One: Shelter Population Dynamics
Part Two: Capacity
Part Three: Separation and isolation
Part Four: Length of shelter stay, animal care days, and daily in-shelter animal

Population management at KCAS was identified as the focus of this consultation because these systematic processes and management policies are the foundation for making improvements in health and welfare for the animals in need of care and sheltering in Kern County.

The statistics reported here use data collected from the KCAS Chameleon database as well as monthly reports generated for the Kern County Board of Supervisors. In some cases, this close evaluation of statistics has identified possible problems with data collection. A consultation with Chameleon has been recommended in order to problem solve and streamline the data collection and reporting system for the shelter. If errors in calculation or data collection are identified, these statistics can be updated to reflect those corrections. While data collection streamlining may help to make data more accurate it is unlikely to substantially change the overall picture represented by the data described here.

Sec.III PART ONE: Shelter Population Dynamics

Shelter Intake
Live release compared to intake
Live Release
Euthanasia practices and definitions

(This section evaluates the current and historical shelter population dynamics in an effort to identify challenges that must be overcome to improve welfare and live release for lost or homeless animals in the Kern County community.)

Shelter intake
For Kern County, intake statistics evaluation will focus primarily on stray intake. Although there are 3 separate shelter facilities statistical information will be presented as one because there was no system in place for effectively separating information by facility.)
In 2007 (year to date through October), stray dogs make up 88.2% of the total canine intake into the shelter. Surrendered dogs are the next most significant fraction. Numbers for surrenders represent only 8.3% of the total canine intake.

Stray cats make up 94.1% of the total feline intake into the shelter. Surrendered cats are the next most significant fraction. Surrendered cats represent 4.6% of the total feline intake.

**DOGS**

Stray dog intake was higher each month in 2007 compared to 2006 through the end of October. Surrendered dog numbers have been slightly lower in most months of 2007 compared to 2006. **Since strays make up the majority of canine intake into the shelter, this increased intake has placed a significant additional burden on shelter resources, staffing and physical space.** By the end of October 2007, 2,525 more stray dogs had presented to the shelter than in 2006 representing a 23% year to date increase in stray intake. (Figure 1 and 2)

This increased intake was also evident for stray puppies under the age of 5 months in 2007 compared with 2006. The increase is especially notable after May. An increase of 414 more stray puppies presented to the shelter year-to-date through October of 2007 compared with the same time period in 2006 representing a 20% increase in that category. (Figure 3)
It is possible that the apparent increase in puppy intake is a result of recording errors by staff entering dog information into the system. The division chief and the shelter veterinarian have both noted difficulties with compliance of staff entering complete information into the system. In 2006, 45% of stray dogs entered into Chameleon had no age recorded. In 2007, only 34% of stray dogs had no age entered into Chameleon by staff. It is not possible to know what proportion of those dogs whose ages were not entered were puppies.

Fluctuations in entry of juvenile animals into the shelter can be an important gauge of overpopulation in the community. If spay/neuter efforts in the community are successful, a decline in the numbers of juvenile animals would be expected. Increasing juvenile animal intake suggests population control (overpopulation) issues in the community. Monitoring the intake numbers for juvenile animals also helps planning so that appropriate housing accommodations can be made.

**CATS**

Stray cat intake was similar but slightly lower in 2007 compared to 2006 through the end of October. (Figure 4) Surrendered cat numbers have also been slightly lower in 2007 compared to 2006. By the end of October 2007, 390 fewer stray cats had presented to the shelter than in 2006 representing a 4% year to date decrease in stray intake. 24 fewer cats were surrendered representing a 5% year to date decrease from 2006. While these decreases are encouraging, intake of stray cats has remained high and creates a significant burden on shelter resources, staff time and available housing.
Kitten intake
Kitten intake has increased even while the overall number of cats coming in has decreased. (Figure 5) While again, some of this apparent intake change may be due to reporting errors, it is important to monitor both the ratio and the absolute numbers of juvenile animals in order to get an indication of the population dynamics for the community. Monitoring the intake numbers for juvenile animals also helps planning so that appropriate housing accommodations can be made.
Juvenile animals are more difficult to keep healthy, especially in a shelter setting. Increasing intake of juvenile animals creates additional stresses for a shelter system. Puppies and kittens increase the risk of disease transmission for the other individuals in the shelter and the group as a whole. At the same time, puppies and kittens may be more in demand by adopters, and so may be more easily placed if they can get through the shelter system in good health. Monitoring basic intake statistics for puppies and kittens also helps us make plans for those animals before they come to us as well as monitoring effects of interventions to reduce community overpopulation. (Please see intake daily averages section below.)

**Feral cat intake**
Records were not available to differentiate feral cat intake from socialized cat intake. However, an increase in euthanasia within the feral category of 484 cats was seen in 2007, representing a 24% increase compared to 2006. Since, at this time, euthanasia is the expected outcome for cats identified as feral at the KCAS, these euthanasia numbers suggest an associated increase in feral intake.

**Recommendations:**

**Outreach and Diversion**
- Consider forming a task force in the community to develop programs that may help to reduce shelter intake and numbers of stray animals in the community.

**Spay / Neuter**
- Consider implementing county or grant supported low cost spay / neuter community outreach.
- Consider implementing a self-sustainable low cost spay / neuter program in Kern County.
- Consider partnering with other community organizations and the KCVMA to apply for spay / neuter grant funding from Maddie’s Fund. Because the live release rate for Kern County falls near 40%, Maddie’s Fund has said Kern County would be eligible to apply for their new targeted spay / neuter grant. ([http://www.maddiesfund.org/grant/targeted_spay_neuter.html](http://www.maddiesfund.org/grant/targeted_spay_neuter.html)) This grant application may be quite involved but would offer funding of $200,000 over a two-year period.

**Monitoring**
- Monitor and report intake statistics both to the Board of Supervisors and to the community as a whole.
  - Monitoring and reporting intake numbers allows for better accounting of animal statistics.
  - Communicating intake figures helps demonstrate:
    - Overall burden on shelter resources
    - Effectiveness of spay/neuter, intervention, diversion or outreach programs
- Arrange for a consultation with Chameleon to develop consistent data entry systems and training to more effectively use the database.
- Change age to a required field for intake in Chameleon.
  - Consider adding a category of “below 5 months” (below 5 months, Adult, Senior) so that staff may feel more comfortable with estimating age.
  - Adult canine teeth erupt near 5 months of age.
- Add an intake category for “FERAL” so that feral cat intake can be tracked separately.
  - Daily intake averages for feral cats would allow planning of appropriate capacity for feral housing.
  - Interventions to reduce feral intake or improve live release vary from those designed to reduce intake of socialized cats.
  - Outcome expectations vary between feral cats and socialized cats.
    - Live release for ferals, most commonly, would be based on a trap / neuter / return (TNR) program or outdoor placement.
    - Euthanasia may be currently dictated by animal control ordinance.

Budget Evaluation
- Recognize that increased intake creates a significant burden and drain on all shelter resources.
- Re-evaluate allocation of resources to appropriately accommodate increases in animal intake and associated increases in required care and staffing hours.
- Consider costs of increasing intake when weighing costs of intake diversion programs. In many cases, the costs of preventive diversionary programs may save resources in the long run.
Live Release Compared to Intake
Live Release is the sum of animals leaving the shelter through adoption, rescue placement, shelter transfer or reclaim by owners. Average daily intake can be compared with average daily live release as a means of evaluating and planning for shelter population dynamics and animal flow-through. While every effort should be made to improve the percentage of animals who will leave the shelter alive, it is essential to monitor the difference between intake and live release in order to effectively manage the shelter population without creating additionally crowded conditions. Crowding, ultimately leads to increases in disease and stress for staff and animals, which may negatively impact the live release rate.

Current community or department goals for intake or live release
Both legislation and the resolution and settlement of a previous lawsuit define limits on euthanasia of “adoptable” or “treatable” animals in Kern County. As mentioned above, the shelter has defined goals to remain in compliance with those obligations. Shelter administrators articulate a goal to improve all numbers across the board. More specific goals were not articulated and specific strategies or plans were not apparent for how to improve the statistics within each category.

Canine live release compared to intake
For Kern County, intake for dogs is consistently higher than live release. (Figure 6) Overall canine live release for January through October 2007 was 35% of the intake with a range of 28% in May to 48% in February. (Figure 7)

Disparity is consistently reflected, each month, when comparing average daily intake to live release. For dogs, intake exceeds live release by on average 52% to 75% every day. (Table 1 and Figure 8)
Table 1

<table>
<thead>
<tr>
<th>2007 DOGS</th>
<th>JAN</th>
<th>FEB</th>
<th>MAR</th>
<th>APR</th>
<th>MAY</th>
<th>JUN</th>
<th>JUL</th>
<th>AUG</th>
<th>SEP</th>
<th>OCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Daily Intake</td>
<td>44</td>
<td>43</td>
<td>45</td>
<td>47</td>
<td>58</td>
<td>60</td>
<td>53</td>
<td>52</td>
<td>49</td>
<td>52</td>
</tr>
<tr>
<td>Average Daily LR</td>
<td>19</td>
<td>20</td>
<td>20</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>16</td>
<td>17</td>
<td>17</td>
<td>13</td>
</tr>
</tbody>
</table>

(Figure 8)

Feline live release compared to intake

The annual, monthly and daily average intake for cats is also consistently and more markedly, higher than the live release numbers. Overall feline live release for January through October 2007 was 12% of intake with a range of 5% in June to 17% in February.

(Figure 9)

This disparity is consistently reflected, each month, when evaluating average daily intake. For cats, intake exceeds live release by on average 83% to 95% each day.

(Figure 10)
Intake to live release disparity
In each community and in each animal shelter, there are a host of intertwined reasons the live release may not be equal to the rate of intake. Even in many shelters or communities that describe themselves as “No Kill” the live release rate is published as just above 80% of intake. Some recommendations for addressing the disparity between intake and live release from the intake side of the equation have been addressed above in the section on basic intake. (Please see recommendations above in the section on Intake.) Some of the potential impediments and solutions on the outcome side of the equation will be addressed in the sections below on adoption, rescue placement and reclaim (RTO).

Increasing live release as well as decreasing intake will both positively affect the live release rate. Holding animals in the shelter does not positively affect the live release rate although it may temporarily decrease the euthanasia rate. Holding animals beyond the capacity of the facility may decrease the live release rate by increasing the incidence of infectious disease and use resources inefficiently.

Intake Reduction Initiatives
Some communities have experienced marked reductions in shelter intake following implementation of broad based community outreach low income spay / neuter programs. It is still unclear if the decline in shelter intake was directly caused by the spay / neuter initiatives. Data reported (unpublished) from New Hampshire and Northern California as well as other communities suggests low-cost surgeries must reach an annual level of 5 surgeries/1,000 people in the community’s human population (who would not otherwise have their animal surgically sterilized) every year in order to see and maintain reductions in shelter intake. (Figure 11 and 12 Courtesy of Peter Marsh)

Live Release
Live release can be further divided into: adoptions, rescue placement, transfer and owner reclaims. Daily averages of these components of the live release numbers can help estimate animal flow through numbers. Live release flow through numbers allow planning for numbers of animals in need of daily evaluation, numbers to move to
Adoptable sections, capacity for holding animals awaiting rescue placement, staffing needs for medical and behavioral evaluations, adoption area daily housing capacity, numbers of animals likely to be adopted, and spay/neuter needs.

Adoption and Rescue Placement

DOGS
Adoption daily averages for dogs were relatively consistent between 5 - 7 dogs per day in 2007 through the month of October. In 2006, daily averages ranged between 5 -10 dogs adopted per day. Year to date adoptions for 2007 are decreased from 2,134 to 1,879 representing a 12% decrease (255 fewer dogs adopted) compared to the same time period in 2006.

During the same time period however, canine placement into rescue groups has increased 51% (726 dogs more placed with rescue groups) in 2007 compared to 2006. 6-9 dogs per day on average were placed through rescue in 2007.

Overall placements for dogs increased by 437 dogs in 2007 representing a 12% increase in overall placements compared to 2006. Since the shelter intake of dogs increased by over 20%, however, the rate of placement, as a percentage of intake, declined even though more dogs were actually placed. Because the shelter has regularly reported each outcome as a percent of total outcomes this improvement in absolute numbers may have been missed.

These figures highlight the importance of reporting intake statistics and absolute numbers. Without including an analysis of the increasing burden intake placed on the shelter system, the live release statistics may be misinterpreted as declining progress when in fact, a 12% increase in absolute numbers of dogs leaving the shelter alive is commendable.

CATS
Adoption daily averages for cats were relatively consistent between 1- 3 cats per day in 2007 through the month of October. In 2006, daily averages ranged between 2-3 cats adopted per day. Year to date adoptions for 2007 were decreased to 656 from 710 representing an 8% decrease (54 fewer cats adopted) compared to the same time period in 2006.

During the same time period, feline placement into rescue groups decreased 22% (from 371 cats to 289 cats) in 2007 compared to 2006.

Overall placements for cats decreased by 93 cats, representing an 8.5% decline in placements. Intake for cats was relatively consistent from year to year.

Recommendations:
- Report live release and other outcome data both as both absolute numbers and as comparisons to intake.
  - When intake numbers match outcomes the numbers will be similar to current reports comparing each outcome as a percent of total outcomes. Reporting comparisons with intake helps to monitor for increases in shelter holding that may adversely affect animal flow-through and health.
Reporting outcome rates as a percentage of intake is more common among sheltering agencies and would better allow comparisons to other agencies and communities.

- Report statistics by species since the challenges and progress may vary by species.
- Monitor and report feral cat intake and outcome separately. (Please see sections on Intake and Feral Cats.)
- Define increased overall absolute numbers of live release as a specific goal and measure of success.
- Recognize the importance of partnerships with rescue groups to the shelter live release numbers.
- Identify potential problem areas or impediments in the adoption process.
  - Keeping adoptable animals healthy
  - Spay/neuter process and timing
  - Adoption hold and lottery process
  - Crowding in adoptable kennels
- Identify potential problem areas or impediments in the rescue process.
  - Encourage rescue groups to focus on prompt pick-up of animals
  - Consider eliminating fees for 501/3-c organizations
- See section on care days and animal flow through for more information about adoption and rescue placement.
- Continue to monitor and evaluate the adoption numbers, rescue numbers and the overall live release numbers.

Returning Animals to their Owners “RTO”

Reuniting lost animals with their owners may be the most efficient means of saving animal lives and serving the community.

DOGS

Absolute numbers for reclaims or “RTOs” also increased in 2007 compared to 2006. Reclaims by owners increased by 133 dogs in 2007 (1273 dogs RTO) representing a 12% increase compared to 2006 (1140 dogs RTO).

As a percentage of the strays coming in, however, since the stray intake increased in 2007, only 9% of the 13,582 total stray dogs coming in were returned to their owners compared to 10% the previous year.

While it is important to include a consideration of absolute numbers to help understand staffing and flow through needs, reclaims are probably best understood as a percent of stray intake.

CATS

In 2007, only 93 cats, just less than 1% of feline stray intake, were reclaimed by their owners out of 9,940 cats who arrived at the shelter as strays. In 2006, feline reclaims by owners were also less than 1% of stray cat intake. The 2007 year-to-date absolute numbers for owner reclaim (93) were very slightly higher than the 2006 numbers (79).
Problems identified:

- Reclaim rates for both cats and dogs are very low.
- While reclaim rates for cats tend to be low nationally, substantially higher rates of reclaim have been achieved for stray dogs in many other communities. Even for stray cats, some communities have been able to achieve higher reclaim rates though it is common to see reclaim rates at 10% or lower for cats.
- The reclaim rate for dogs has declined though only by 1%. This trend may be normal fluctuation or an indication of a worsening system for reclaims.
- Numbers to separate feral cats from cats who show signs of previous or current ownership were not available.

**Recommendations:**

- Evaluate the current lost and found system.
- Evaluate processes and accountability for checking for animal identification in the field and on intake.
- Evaluate processes and accountability for owner calling or other type of follow up once an owner is identified.
- Investigate reasons that animals are not reclaimed.
  - Public awareness of the facility
  - Cannot Pay Fees and Fines
  - Lack of Identification
  - Staff did not notice identification
  - Each of these issues may require a different response or strategy to meet a goal of increased return of animals to their original owners.
- Strive for prompt reclaim.
- Investigate and consider implementing incentive programs for owner reclaim, licensing and spay / neuter.
- Expand current immediate return home policy if animal identification is found in the field.

**Euthanasia practices and definitions**

Tracking animal euthanasia by category may help shelters and communities to identify which animals or categories of animals are most at risk. Identifying at risk groups may help to identify problems, find solutions or target areas where specific programs or practices could be implemented to make improvements. Caution must be used when evaluating these categories. A thorough understanding of how, and when, euthanasia categories are assigned is essential to problem solving and targeting appropriate intervention. As an example, animals who arrive at the shelter healthy may be categorized as sick at the time of euthanasia if they have become ill while in shelter care. KCAS defines euthanasia categories based on the animal’s status at the time of euthanasia without considering the condition at the time of presentation.

Euthanasia “reasons” for KCAS were relatively consistent from 2006 to 2007. Euthanasia of feral cats (12% of 2006 total euthanasia and 13% of total euthanasia in 2007) and animals defined as “too young” by code (11% of total euthanasia in 2006 and
16.5% of total euthanasia in 2007) showed the largest single category absolute increases from 2006 to 2007. 
Designation of animals into categories of Sick, Medical AD and Humane showed a 14% increase overall in 2007 compared to 2006. Euthanasia in those three health related categories made up almost half (48%) of the total euthanasia in both 2006 and 2007. The next largest categories in 2007 were feral cats (13%) and animals who had failed their behavior evaluations (19%). 

Problems identified: 
- Increases in feral cat euthanasia suggest increases in feral cat intake because euthanasia is the predominant outcome for feral cats. There has been no accompanying increase in programs (for care or diversion from the shelter), staffing or capacity for feral cats at KCAS to help meet the increased need. 
- Data suggests substantial increases in shelter intake of puppies and kittens. This increased intake has not been met with additional resources or functional programs to care for those animals or create diversion programs, reduce community overpopulation or get them out of the shelter in positive ways. 
- While KCAS clearly does receive many animals who show clinical signs of disease at shelter presentation, such a substantial proportion of euthanasia for medical reasons suggests that shelter acquired disease is also likely playing a significant role. 
- Using shelter acquired disease as a selection tool for euthanasia decisions when there is no functional population management plan in place to prevent disease from occurring creates poor welfare and likely results in euthanasia of animals that could otherwise have been adopted. 

Recommendations: 
- Immediately develop and implement a plan for population management that addresses the mismatch between current legislation, community expectations, and the ongoing disparity between intake and live release. Limiting euthanasia of “adoptable” or “treatable” animals without controlling intake and/or having an immediate outlet for increased live release is not a functional plan. 
- Monitor shelter intake and work within the community to implement strategies to reduce the number of animals presenting to the shelter. If intake continues to rise, increases must be matched with appropriate increases in resources to care for additional animals in each increasing category. 
- Plan and evaluate population dynamics for shelter animals by species. The challenges and solutions may vary. Only dogs and cats have been included in this evaluation but other species should also be similarly evaluated in order to identify challenges and potential opportunities for improvement. 
- Closely monitor the holding rate in conjunction with the rate of live release and shelter illness. Do not attempt to reduce the rate of euthanasia by increasing shelter holding without significant additional investment in facilities and other
shelter resources. Even with additional resource investment, increased holding could not resolve the magnitude of the current difference between intake and live release but may allow some additional time for treatment or re-habilitation.

- Closely monitor the rate of medical euthanasia (or euthanasia for health reasons), specifically, animals who presented to the shelter healthy and became ill while in shelter care, in conjunction with the rate of live release and shelter death.

- Implement systems to better evaluate which animals are euthanised for non-shelter induced humane reasons or for public safety and which are euthanised because of shelter population dynamics or lack of resources. (See section on euthanasia practices and definitions below.)

- Implement systems at intake to examine and record behavioral and health status of animals as they arrive in order to monitor for systematic health or behavioral deterioration. If animals are arriving healthy and in good condition and are later being euthanised for medical and behavioral reasons that develop in shelter care, then changes must be implemented to increase preventative practices including stress reduction, interference with infectious disease transmission and decreased length of stay.

- Meaningful evaluation of shelter population dynamics relies on accurate data entry and regular data auditing. Compare kennel inventory reports generated by Chameleon daily to actual inventory of animals in both facilities as well as all animals in foster. Ensure that animals are properly recorded at intake and disposition. Provide all staff using Chameleon with additional training from Chameleon and establish a comprehensive plan for data collection, monitoring, and auditing in consultation with Chameleon software.

- Provide shelter supervisory staff and management with training on the use of data reports and in-shelter access to reporting software (Crystal Reports) to be able to better monitor population dynamics and resolve data entry problems.
**Intake Daily Averages**

Looking at intake daily averages by month or by week can help when planning for: staffing of field officers and intake areas, staffing of animal care areas, veterinary staffing, and perhaps most importantly making estimates of the required housing capacity for legal holding periods.

**DOGS**

In 2007, daily average intake also increased as stray intake increased. In 2006, daily average stray intake (by month) fluctuated between 31 and 40 dogs per day. In 2007, daily average stray intake (by month) fluctuated between 35 and 54 dogs per day with the highest intake per day in May and June. (Figure 13)

![Canine Stray Intake Daily Averages](image)

**CATS**

Daily average intake for cats in 2007 was generally similar to that for 2006 (Figure 14). The range of cats taken in as strays each day ranged from 18 in the winter months to 50 in the summer months. This is a broader fluctuation than seen in dogs because cats are seasonally polyestrous creating a kitten season when intake is likely to be higher each year.

![Daily average feline intake](image)
Recommendations:
- Plan appropriately for daily average intake fluctuations for cats that peak in the summer months with lowered intake in the winter.
- Plan appropriately for relatively consistent daily average intake for dogs.

Intake Staffing
Intake staffing requirements can be estimated by observing the amount of time it takes to perform admission procedures on one dog or one cat and then multiplying the time by the number of animals likely to present each day.

See Appendix A for examples of calculations to determine staffing needs.

If staff hours cannot be allocated to meet the needs of the current intake procedures, then intake procedures must be prioritized and reduced in order to allow staff to complete required procedures for each animal coming in. Care must be taken, however, not to reduce intake procedures below a level that safeguards animals from infectious disease and facilitates prompt reclaim by their owners.

When intake areas are understaffed, short cuts must be taken to get the animals into the shelter. Shortcuts may include missed vaccinations, data entry or other important procedures that would adversely affect animal health, possibilities for reclaim, and length of stay as well as others.

Recommendations:
- Review intake staffing calculations in Appendix A
- Staff intake areas appropriately to manage daily average intake fluctuations for cats that peak in the summer months with lowered intake in the winter.
- Staff intake areas appropriately to manage relatively consistent daily average intake for dogs.

Impact of intake and live release on non-holding areas
Fluctuations in daily average intake affect all aspects of shelter care in all areas, not just those intended or utilized for holding. Intake is the first determinant of animal flow-through patterns. Increased intake leads to increased numbers of animals released from holding each day who need to be evaluated for adoption, both medically and behaviorally.

Staffing and capacity needs in other areas of the shelter can be estimated by looking at daily averages for animal care, animal evaluation and animal movement or processing for each particular point of movement in the shelter, i.e. behavioral evaluations, move to adoption exams, reclams, rescue or transfers contacts or euthanasia.
SEC. III Part 2: Capacity

Actual capacity
Observed capacity
Required stray holding capacity

Capacity is a means of evaluating the fit of each area in the shelter facility that has been designated for animals compared to the needs or requirements of the area, as well as the facility and population of animals as a whole. Capacity is dramatically affected by intake numbers, physical space, housing units, staffing, and length of stay. The term “inventory” is used in this report to describe daily population, as this is the term used to obtain the Chameleon report calculating this number.

For staffing recommendations as they relate to capacity please see examples and discussion in Appendix A.

Shelter animal health, in general, is more easily maintained when facilities are slightly below capacity and most difficult to maintain when animals are crowded in beyond the shelter’s housing capacity. Clinical experience has shown that shelters filled to 80% or less of their capacity are better able to maintain good animal husbandry and health practices such as separation and/or isolation for illness, segregation by age group, separation by species, efficient animal movement through the system, and monitoring and identifying disease.

Required holding capacity is determined by multiplying the daily average intake by the number of days required for holding. Required holding capacity represents an estimate of how many animals would be in the shelter within their holding period on an average day during that time period (month). Required holding capacity is a “bare bones” minimum. Required holding capacity does not include any extra days that an animal might be held for evaluation, treatment, adoption or rescue pick-up. Required stray holding capacity is an estimate of the minimum number of animals present in the holding areas. Surrendered animals and animals past their release date would contribute to increased demands for housing capacity.

Actual Holding Capacity*

Every two “puppy cages” were counted as one since it will be recommended to use two cages together as a housing unit for puppies. All other kennels were counted assuming single occupancy, which would be ideal from an infectious disease control, animal stress and safety standpoint except when animals present together and get along well.

*“Actual Holding Capacity” for Kern County was determined using only kennels and cages at the Bakersfield shelter although intake numbers include animals entering both the Mojave and Lake Isabella facilities. Because intake is not tracked separately for the three facilities it was not possible to exclude animals who entered the other facilities in the daily average intake numbers. It was reported that the daily average stray intake into those two facilities is very low compared to the Bakersfield facility so while the crowding...
due to required holding time may be slightly overestimated it is most likely a reasonably accurate picture.

**Recommendations:**
- Establish a means of reporting statistical data separately for the three separate facilities since each may have different challenges.

**Observed Capacity**

**DOGS**

At the time of the visit, although crowding in the holding areas appeared to be much improved compared to the previous visit at the beginning of the year, all holding areas were well beyond capacity. Adoption areas for dogs also appeared crowded and were well beyond capacity that would optimize animal health. (Figures 15-17)

![Observed Capacity for Dogs](image)

**Figure 15**

Figures 16 and 17 show crowding observed in holding areas in January (left) and November (right) 2007. Many of these dogs were past their release dates. One dog was removed from the kennel on the left during the day. A new 7th dog was added to the
kennel on the right later the same day. Overnight, the 7th dog was attacked by a kennel mate and required euthanasia. The euthanised dog had a microchip and the owner had been called and notified at the time of admission. This example shows the importance of moving animals promptly through the system to lessen the impact of crowding.

CATS
At the time of the visit, crowding in cat areas also appeared to be much reduced compared to the last visit early in 2007. Although the cat room was at 128% of capacity, in general, cats housed in multiples (more than one per cage) had come into the shelter together. The B ward of cats (BC ward) was under capacity on the day of the visit. Only 64% of the cages were filled. The adoption area was filled to 106% of capacity with 17 cats housed in the adoption area. (Figure 18) An exception to the general observation of reduced, though still apparent, crowding was the feral cat room. This area was at 136% of capacity. As a result, cats in this room were commingled with other unfamiliar cats. (Please also see section on feral cat housing.)

Since November was historically a month with lower intake in 2006 for Kern County, and is often a month with lowering intake in many other communities, it is very likely that the observed degree of crowding in the cat areas was low compared to what may have occurred during the late spring and summer months. Staff reported that additional cages, added into the same physical space, had been used in the summer months and that crowding in the feral cat room had been at a much higher level. (Please also see section on Feral Cats below.)
**Stray Holding Capacity Requirements**

**DOGS**
The increased stray dog intake in 2007 stretched the already crowded Kern County shelter to further past capacity than in 2006. In 2006, animals in the shelter for stray holding ranged from 111% to 144% of shelter holding housing capacity. In 2007, the shelter holding area requirement from incoming strays was between 126% to 195% of the available housing units in the holding areas. (Figure 19)

![Canine Stray Holding Requirement](image)

(Figure 19)

The greatest burden was during the months of May and June when average daily intake was highest. There was not one month in the last two years (2006 and 2007) when the shelter holding capacity requirement was at or below the actual housing units in the holding areas.

**CATS**
Cat housing was also stretched far beyond capacity in 2007 but was not significantly increased from the previous year. For cats, the shelter was beyond the holding capacity from March through October of 2007 with May and June being the most severely crowded both years. Capacity requirements due to stray holding ranged from 89% in January 2007 to 243% in June 2007. (Figure 20) There were only two months, year to date 2007, (January and February) that the shelter holding areas have been at or below capacity. In 2006, the shelter was at or below holding capacity for only four months (January – March and December).
Problems identified:
- Current holding area capacity at KCAS is grossly inadequate for housing stray dogs and cats at the current rate of intake.
- Current KCAS housing capacity in holding areas is inadequate to accommodate additional animals, who present with no required holding period or whose holding time has passed.
- Crowded housing conditions at KCAS have a negative impact on animal health and welfare through an increased risk of infectious disease, animal stress, and animal injury for the animals in the shelter.
- **Crowded conditions at KCAS negatively impact the live release rate because animals become sick, die or are euthanised, who might otherwise have been placed through adoption or rescue.**

**Recommendations:**
- Expand actual holding capacity to allow for double-sided single housing for most dogs and adequate housing for cats, either single cages or colony-style areas.
- Determine an upper limit on capacity for each area and develop a strategic plan to avoid housing animals beyond the shelter’s capacity.
- Until housing areas can be expanded, plan co-mingled housing to reduce risk of infectious disease, animal aggression and animal injury.
  - Use daily average intake to estimate the numbers of co-housings necessary.
  - Co-house animals who come in together or come in on the same day.
  - Use all kennels in an all-in / all-out fashion
  - House intact animals with same gender
  - House animals with clinical signs of disease singly
- Prioritize efficient daily processing and movement of animals through the shelter since doing so will reduce the numbers of animals present, and at risk, in the overcrowded shelter each day.
- Do not house animals past their release date in holding areas that are already stretched beyond capacity just meeting the requirements of their intended purpose.
- Promptly evaluate and move animals to appropriate areas daily as their release date comes due.

**Animal care staffing for holding areas**

Animal care staffing must be based on the numbers of animals present and in need of care. The National Animal Control Association has developed guidelines for calculating staffing needs based on daily animal population. According to NACA 10 minutes should be allowed for just cleaning and feeding per animal. (Please see NACA chart and example animal care staffing calculations in Appendix A.)

While it may be tempting to assume or calculate care staffing based on numbers of housing units, using actual numbers of animals present is more likely to accurately reflect the staffing needs. Each individual animal requires attention, handling and feeding. Having multiple animals in one housing unit may actually make the time required per animal longer because of the wide range of difficulties managing numerous animals in crowded kennels and cages.

**Canine holding areas**

There was some fluctuation in daily dog holding population numbers in 2007 with the largest number of animals in holding in May and June. In general, dog holding requirements are more consistent throughout the year than requirements for cats.

**Feline holding areas**

Given the large seasonal fluctuations of daily population for cats, seasonal help may be required to effectively care for the cats during the heavy summer intake season.

**Recommendations:**

- Observe time needed by care workers for actual effective cleaning, disinfection, and feeding to care for animals in your facility.
- Review calculations in Appendix A For animal care staffing.
- Calculate expected staffing needs for animal care based on expected daily shelter population.
- Average daily holding capacity requirement numbers can be used by month to establish a baseline or bare minimum expected number for the population in holding areas at different times of year.
- Maintain animal care staffing at a level to meet the needs for animal care of all animals housed in the shelter.
- Maintain veterinary and technician staffing at a level to meet the needs for veterinary care and daily health evaluation or treatment of all animals who will be housed in the shelter daily.
SEC.III Part 3: Separation and Isolation

Separation and Housing for Puppies and Kittens
No special housing areas were designated to protect the health and adoption potential of puppies and kittens. Housing areas with safe handling practices targeted for reduction of disease transmission should be established to safely house puppies and kittens without co-mingling these very susceptible, and potentially infectious, animals with adult animals. Double sided housing is most ideal for young animals, especially if they are to be housed as a litter if they come in together. Co-mingling kittens or puppies who are not of the same litter is not recommended because of the risk of infectious disease transmission. Housing more than 2-3 juvenile animals in one housing unit makes infectious disease detection more difficult because of difficulties monitoring normal behaviors, food intake, vomiting or diarrhea. Housing capacity for young animals can be calculated in a similar fashion as shown above. Housing needs for young animals in all categories must include a plan for quick identification and isolation of potentially infectious youngsters. Separation of young healthy animals from the general population may help protect these susceptible animals as well as protect the population as a whole.

Many pups were housed in small stainless steel cages. Cages that are not large enough for pups to move about freely or defecate away from their resting or eating place are problematic for many reasons including: disease detection, sanitation, nutrition, stress, house breaking and crate training. These small cages also create a daily, or many times daily, problem of where to put the pups while cleaning. It is very difficult to avoid transmitting pathogens from one to the other when all animals must be handled repeatedly during the cleaning process.

Figures 21 and 22 below show the average required stray holding numbers for kittens and puppies based on 2007 intake data and the 5 day legally required stray holding period. Since there were a large number of animals where no age data was recorded at intake and animals are generally held longer than 5 days, it is likely these numbers underestimate the average numbers of juvenile animals requiring housing in holding areas each day.

![Figure 21: 2007 Daily Average Required Stray Holding for Kittens Based on Intake Data](image)

![Figure 22: 2007 Average Required Stray Holding for Puppies Based on Intake](image)
Problems identified:

- Current housing and husbandry practices put juvenile animals at high risk.
- No safe areas or special handling and husbandry practices are in place to protect juvenile animals.

Recommendations:

- Plan housing for juvenile animals to facilitate protection from disease transmission and ease of disease detection.
- Double sided runs are ideal.
- Alternatively, for small pups, two associated cages where pups can be easily moved from a dirty cage to a clean cage may be used.

Feral Cats

Feral cats are currently housed in a small separate ward containing 28 cat cages. The floor space of the cages in this room is large enough to house only a single cat. The current cages have flooring that is inappropriate for cats. Cages have routinely been observed to be crowded in with several unrelated cats. As in other areas of the shelter, there is no defined upper limit on capacity for this area. If more feral cats come in and the cages are already filled, more cats are simply added to already full cages. There is no defined system in place for filling cages. Cats are currently held for the full stray holding period. According to legislation, if specific practices were put into place to identify feral cats, cats could be held for a shorter duration of time before disposition.

Common handling practice for cats perceived to be feral is also inappropriate. Cats are handled by hoisting the cat, unsupported, by the neck, on the end of a lock pole noose. In some instances, cats were removed from animal control vehicles and carried, by officers, in this fashion across the driveway and parking lot into the feral cat ward. Cats were observed to struggle violently during this process, attempting to free themselves by scratching their paws at the end of the pole where small jagged points of wire protruded.

The handling practices and housing for feral cats at KCAS have been directly associated with several episodes of fatal outbreaks in cats in the shelter. At least twice, there has been a need to de-populate the area to prevent further spread and prevent more animals from suffering through this horrible infection. KCAS has been informed that the outbreaks have a direct association with these husbandry practices.

The situation has recently deteriorated further due to an increased intake of feral cats primarily presented to the shelter by a business devoted to trapping feral cats. This increased intake has led to further crowding and poor conditions in the area designated which creates a dramatic increase in risk of disease and further aggravates already significant animal welfare issues.

Current feral cat intake has been estimated by staff at 2 -30 cats per day. Current cat population in the feral cat room in February of 2008 has been reported to be near or greater than 60 cats, or over 200% of capacity, on 4 of 5 days from hand counts in the morning before intake or euthanasia. Many cats in this section have been found near
death or with life threatening illnesses. Cats with clinical signs suggestive of a Streptococcus infection that previously caused fatal outbreaks have recently been identified in the ward again.

Problems identified:

- Housing for feral cats in their holding period is grossly inadequate, inhumane, and creates substantial danger to animal health.
- Equipment provided to staff for handling un-socialized or feral cats is inappropriate and inhumane.
- Staff are inappropriately trained to handle the animals arriving to or housed in this area resulting in substantial animal suffering and disease.
- This situation was first brought to the attention of shelter administrators by shelter staff in November of 2005. UC Davis as well as an outside veterinary consultant made recommendations to alleviate the problem in 2006. The problems have continued, with little or no intervention for improvement, despite numerous verbal and written reports by both the shelter veterinarian and UC Davis consultants that the conditions and handling practices for feral cats are inhumane and create serious risks of infectious disease.
- Recent increases in feral intake have multiplied the welfare and health dangers for animals in this area.
- Although a plan has been developed, in partnership and consultation with UC Davis, to remedy this situation, it has not been implemented.

Recommendations:

- Discontinue the use of the slatted floor cages in the feral cat ward of the shelter.
- Immediately discontinue the use of rabies lock poles for feral cat handling.
- Train staff to use nets, humane traps and other equipment to handle cats in transport and in the feral cat areas.
- Implement the plan that has been developed by the KCAS veterinarian, in collaboration with the UC Davis Koret Shelter Medicine Program, to more humanely house feral cats in the KCAS facility.
- Develop a plan to evaluate feral cats in order to decrease the amount of time they must be housed in the shelter.
- Investigate possibilities for feral cat diversion programs in the community.
SEC. III Part 4: Length of shelter stay, animal care days, and daily in-shelter animal population

Animal care days
Animal care days describe length of stay, or turn around time, for animals in the shelter. One animal care day is equivalent to one animal, housed in the shelter for one day. Animal care days or length of stay can have a significant impact on daily population numbers and crowding in the shelter.

Animal care days are a means of evaluating the burden placed on both the animals and the shelter facility. One animal care day is equivalent to one animal in the shelter system for one day. Clearly, 1000 animals housed for 20 days each places a greater burden on a given staff and facility than 1000 animals housed for 10 days. The risk for each individual animal also increases with longer stays. When working with a shelter caring for thousands of animals per year, even minor delays at flow-through points such as movement to adoption or spay/neuter delivery can add up to very substantial numbers of additional days spent by animals in the shelter, not actively moving towards a positive outcome. In order to realistically track staffing, facility, and resource needs, animal care days are as important as monthly or annual intake.

Reducing the length of stay, or number of animal care days per animal, can dramatically reduce crowding and improve the level of care available for each animal without increasing euthanasia or reducing live release. In fact, reduced crowding and illness due to improved efficiency of flow-through can lead to increased live release.

Animal care days should be considered a precious resource, and expended carefully to best fulfill the shelter’s mission. Each animal’s length of stay in the shelter should be as short as possible to minimize stress and the risks of infectious disease. This requires constant monitoring of animal care day numbers as described below. In particular, every effort should be made to minimize “wasted animal care days” for each individual animal and the population as a whole; that is, days animals spend unnecessarily waiting or a day spent caring for an animal that did not bring the animal any closer to a positive outcome. There are two main reasons for “wasted” care days.

One type of “wasted” care day is a day spent with an animal not actively available (viewable by the public) for adoption, nor actively being prepared or rehabilitated for the purpose of being placed for adoption, transfer, or rescue. The most obvious example is adoptable animals housed in areas of the shelter where they cannot be, or are unlikely to be, viewed by the public. More subtle examples come from delays in decision making or in carrying out necessary procedures (basically any time an animal spends “in limbo”). For example, if an animal comes in with a medical problem requiring evaluation by a veterinarian and that evaluation is delayed by a few days, those days are wasted care days. The same applies to animals with behavior issues; any delay in carrying out necessary evaluations, seeking out expert advice, initiating rehabilitation programs, etc. counts towards care days spent with no return for shelter or animal.
Another type of "wasted" care days are those days (beyond any required holding period) spent on caring for an animal whose final outcome is euthanasia. In these cases, shelter resources are expended, crowding and the associated risks are incurred, and the animal suffers with no benefit in lives saved. A particularly sad example is that of animals admitted to a shelter in good health and later euthanized for shelter acquired disease, spread as a result of overcrowding. Certainly, it is humane and appropriate to take some risks on animals that have barriers to adoption that they may or may not be able to overcome, and therefore, invest in an animal that ends up being euthanized. Those care days may not be wasted, especially if they lead to a life saved. However, it does not serve any good purpose to systematically admit and hold animals, without having enough resources and programs to keep them healthy, release, or adopt them, then euthanize them after prolonged investment when the animal has succumbed to disease or a stress related behavioral disorder.

Table 2 and Examples 2 and 3 below are examples of how animal care days affect crowding, if one dog is in the shelter 10 days, that would be equal to 10 animal care days (1 * 10 = 10). If 10 dogs each stay 10 days, that would equal 100 animal care days (10 * 10 = 100). If we look at a 10 day period, using 10 kennels, there are 100 potential care days to spend. The 10 kennels would be filled by 10 dogs each staying 10 days. If we could reduce the average length of stay from 10 animal care days to 5 animal care days, the total animal care days would be reduced to 50 (5 * 10 = 50) and the kennels would be half empty during the 10 day period even though we still served 10 dogs.

<table>
<thead>
<tr>
<th>Example #</th>
<th>Number of Dogs Served</th>
<th>Average Care Days</th>
<th>Total Care Days</th>
</tr>
</thead>
<tbody>
<tr>
<td># 1</td>
<td>1</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td># 2</td>
<td>10</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td># 3</td>
<td>10</td>
<td>5</td>
<td>50</td>
</tr>
</tbody>
</table>

Table 2

Example #2

<table>
<thead>
<tr>
<th>Dog #1 (10 days)</th>
<th>Dog #2 (10 days)</th>
<th>Dog #3 (10 days)</th>
<th>Dog #4 (10 days)</th>
<th>Dog #5 (10 days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dog #6 (10 days)</td>
<td>Dog #7 (10 days)</td>
<td>Dog #8 (10 days)</td>
<td>Dog #9 (10 days)</td>
<td>Dog #10 (10 days)</td>
</tr>
</tbody>
</table>

Example #3

<table>
<thead>
<tr>
<th>Dog #1 and #6 (5 days/ 5 days)</th>
<th>Dog #3 and #8 (5 days/ 5 days)</th>
<th>Dog #5 and #10 (5 days/ 5 days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dog #2 and #7 (5 days/ 5 days)</td>
<td>Dog #4 and #9 (5 days/ 5 days)</td>
<td></td>
</tr>
</tbody>
</table>
Care Days to Outcomes
Overall animal care days for Kern County do not appear extravagant when simply evaluating daily average time to outcome. (Figures 23)

And yet, it is clear that prolonged stays in the shelter do contribute further to crowding and resource expenditure in a facility that is already stretched beyond capacity from minimum stray holding requirements. (Please see section on required holding capacity.) Prolonged stays affect the group as a whole by increasing crowding which has a negative impact on almost all parameters affecting animal health and welfare. Just as importantly, prolonged stays also contribute negatively to the health of each individual animal and so may reduce the likelihood of placement.

Length of stay has been shown to be a significant factor for development of respiratory disease. As length of stay increases, in a short stay / high turnover environment such as KCAS, potential for exposure and duration of exposure both increase making it more and more likely an animal will become sick with each additional day spent in shelter housing. Ongoing stress also plays a role. Although stress responses may decrease with time spent in the shelter, the effects of ongoing or chronic stress have serious implications for animal health and well-being.

Procedures and practices that emphasize prompt, efficient movement through the shelter will help to reduce crowding, while reducing the risk of infectious disease and animal stress, required staff hours, and unproductive drains on limited resources. Efficient movement through the shelter does not imply or require increases in euthanasia or decreases in live release. Instead, efficient movement demands daily evaluation of all animals, prompt movement out of holding, realistic evaluation of potential for adoption or rescue, immediate availability for adoption after release, robust adoption programs and
constant and timely communication and pick-up from rescue groups. (Please see Appendix C Instructions for daily rounds.)

Figure 24 above shows total 2007 year-to-date care days to outcome (January-October) for dogs who were adopted, sent to rescue organizations, or euthanised. Time to outcome includes every day the animal spent in the shelter’s care prior to outcome. These three outcomes represent the most significant numbers of care days for the KCAS. As a single category, the greatest number of care days are spent on animals who are ultimately euthanised. However, a closely equivalent number of care days are spent on the live release outcomes of adoption and rescue placement combined.

Average time to adoption in 2007 ranged from 11 days in February and April to 22 days in July and October. Average time to rescue placement ranged from 9 days in February and April to 13 days in June. Average time to euthanasia ranged narrowly from 8-9 days throughout the time period. (Figure 25)

(Figure 25)
Reducing the average length of stay for outcomes of adoption, rescue and euthanasia would have a significant impact on daily crowding in holding and adoption areas.

As an example, figure 26 shows potential reductions in daily canine shelter population if the average length of stay for outcomes of adoption, rescue and euthanasia were reduced to averages of 10 days for the live release outcomes (adoption and rescue placement) while a consistent average of 8 days for euthanasia was maintained. Averages suggest that some animals will leave in less time while some may stay longer. The reductions used in this example are only provided as an example of the positive impact efficiency may have on reducing shelter crowding.

As an example, if KCAS set a goal to focus solely on reductions in turn around time for animals being adopted from the shelter, so that on average dogs left for their new homes in ten days as a consistent average, then daily population, based on 2007 care days would be reduced by approximately 80 dogs each day in July and October and by more than 50 dogs each day in January. In other months, daily canine population could be reduced by approximately 20 dogs each day. In some cases these reductions could be the difference between singly housing dogs and being forced to co-mingle unrelated dogs in the same kennel.

For rescue groups transferring healthy animals, who can move swiftly through their systems, also helps to avoid prolonged care days, increased risk of disease, and increased drains on their resources which may allow them to take more animals from the shelter. Encouraging rescue groups to pick animals up promptly from the shelter will help reduce daily in-shelter population to help all the animals stay healthier while allowing prolonged delays will have a negative impact both on the individual animal waiting to leave and the population as a whole.

Figure 26

2007 Canine Daily Population Changes Based on Care Days

As an example, figure 26 shows potential reductions in daily canine shelter population if the average length of stay for outcomes of adoption, rescue and euthanasia were reduced to averages of 10 days for the live release outcomes (adoption and rescue placement) while a consistent average of 8 days for euthanasia was maintained. Averages suggest that some animals will leave in less time while some may stay longer. The reductions used in this example are only provided as an example of the positive impact efficiency may have on reducing shelter crowding.

As an example, if KCAS set a goal to focus solely on reductions in turn around time for animals being adopted from the shelter, so that on average dogs left for their new homes in ten days as a consistent average, then daily population, based on 2007 care days would be reduced by approximately 80 dogs each day in July and October and by more than 50 dogs each day in January. In other months, daily canine population could be reduced by approximately 20 dogs each day. In some cases these reductions could be the difference between singly housing dogs and being forced to co-mingle unrelated dogs in the same kennel.

For rescue groups transferring healthy animals, who can move swiftly through their systems, also helps to avoid prolonged care days, increased risk of disease, and increased drains on their resources which may allow them to take more animals from the shelter. Encouraging rescue groups to pick animals up promptly from the shelter will help reduce daily in-shelter population to help all the animals stay healthier while allowing prolonged delays will have a negative impact both on the individual animal waiting to leave and the population as a whole.
These examples assume that there is no change in the distribution of outcomes. It is likely that reducing the time to adoption would actually shift the outcomes more favorably toward live release. Avoiding prolonged stays for shelter animals may mean more animals will stay healthy enough to be placed through adoption or rescue, which would ultimately increase live release.

It is reportedly common that adoptable dogs, like the dog pictured in Figure 27, develop clinical signs of disease, especially respiratory disease, while in the adoptable area or waiting, past release, in the holding areas. Those animals are often euthanised. Because practices and programs are not in place to effectively prevent disease, this practice is often the only viable option currently available. Adequate isolation and separation facilities or capacity do not exist at KCAS. This practice helps prevent spread of respiratory disease pathogens to other adoptable dogs. Animals with clinical signs of disease may be euthanised due to lack of resources, rescue opportunities, treatment space or staffing. It is possible that by cutting down on waiting time for dogs awaiting adoption, more dogs may actually be adopted and fewer euthanised because fewer will become sick while waiting.

(Figure 27)

This dog was being removed from the adoption floor in November due to clinical signs of respiratory disease.

While the absolute numbers for live release have increased in the past year, a substantial number of care days in the shelter in 2007 were spent on animals who were ultimately euthanized. Average care days to outcome for euthanised animals could be reduced by ensuring adequate staffing and prioritizing prompt evaluation, decision making, with close supervision and accountability for flow through and action once decisions to euthanize have been made. Total care days to an outcome of euthanasia could be reduced both through increased efficiency and through increased live release.
Please note that these reductions, although in some cases substantial, would not be significant enough to solve the problems of crowding in the Kern County shelter since the reductions described here refer to animals past their release dates and do not affect required holding periods. These reductions would however help to relieve the additional degree of shelter crowding that was not represented in the required capacity calculations in the holding areas and in the adoption sections as well. That additional degree of shelter crowding was not represented in the minimum required capacity calculations or graphs.

The reductions used in this example are only provided as an example of the positive impact efficiency may have on reducing shelter crowding.

**Recommendations:**

- Implement systems to facilitate reduction in daily in-shelter animal population and maintenance of daily animal inventory in alignment with actual capacity, staffing and resources for animals in need of care. Do not increase inventory without a commensurate increase in capacity and animal care resources.

- Establish preventive proactive measures to move animals through the system more efficiently in order to prevent a vicious cycle of illness, prolonged shelter stay, and crowding caused by delays. **Institute daily rounds as described in Appendix C: Instructions for daily rounds.**

- Ensure prompt evaluation of each animal on arrival.
  - Evaluate surrendered animals on arrival
  - Evaluate stray animals within 24 hours of the release date
  - Make decisions and take action promptly after evaluation
  - Re-evaluate needs for animals who must wait for outcomes

- Clearly define expectations and time frame for re-evaluation when animals are waiting.

- Monitor length of time to all outcomes by species to watch for potential pitfalls.
  - Outcomes of particular importance to monitor include:
    - Return to Owner
    - Adoption
    - Foster
    - Transfer
    - Rescue
    - Euthanasia
    - Died in kennel
APPENDIX A: Staffing requirements based on average intake and daily population

Average daily population defines many needs and requirements for animal care. This number can be calculated by averaging the daily population in monthly increments. Monthly increments are used in order to evaluate seasonal variations. For this report, daily population was estimated by spot-checking the daily population of animals in the shelter at intervals (every second Tuesday of each month). The term “inventory” is used in this report to describe daily population, as this is the term used to obtain the Chameleon report calculating this number.

Average daily population is an important component of calculating the housing and staffing needs for animal care. Average daily inventory data was not available to the UC Davis team at the time of our visit. Calculations can be estimated by monthly spot checks. The National Animal Care Association has estimated staffing requirements for basic animal care (feeding and cleaning) at 10 min per animal. (Please see Table below.)

### Formula for Determining Kennel Staffing Needs

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
<th>Formula</th>
<th>Value</th>
<th>Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incoming Animals per Year</td>
<td>A</td>
<td>÷ by 365 days =</td>
<td>AA</td>
<td>Incoming Animals per Day</td>
</tr>
<tr>
<td>Incoming Animals per Day</td>
<td>AA</td>
<td>x B Day Average Hold Period =</td>
<td>BB</td>
<td>Animals in Shelter per Day</td>
</tr>
<tr>
<td>Animals in Shelter Per Day</td>
<td>BB</td>
<td>x 10 Minutes per Animal =</td>
<td>CC</td>
<td>Number of Minutes Needed</td>
</tr>
<tr>
<td>Minutes Needed</td>
<td>CC</td>
<td>÷ 60 minutes =</td>
<td>DD</td>
<td>Number of Hours Needed</td>
</tr>
<tr>
<td>Number of Hours Needed</td>
<td>DD</td>
<td>÷ 3 hours =</td>
<td>EE</td>
<td>Staff Needed per Day</td>
</tr>
</tbody>
</table>

Staffing requirements for basic animal care at KCAS can be calculated by multiplying the daily average inventory each month by 10 minutes per animal (Monthly Daily Average Inventory * 10 min./animal). This could be done by ward, by species, or by area. The staffing level for dogs is likely to be relatively consistent since daily average canine intake has been relatively steady throughout the year. Feline intake, however, has historically doubled in the warmer months. This is a trend that is expected because most cats tend to breed seasonally. Staffing should be planned accordingly unless some control is to be put on intake and the resulting daily inventory. If 10 minutes per animal does not seem to be an accurate time estimate for cleaning and feeding at KCAS, then an average staff member should be timed while following safe, adequate cleaning and feeding protocols and the time should be adjusted to fit. Additional time should be allocated for caring for sick animals.

As an example, using the NACA time estimates:
If 83 dogs were housed in the B ward*
83 dogs * 10 min/dog = 830 minutes
830 minutes / (60 minutes/hour) = 13.8 care hours for just cleaning and feeding dogs in the B ward of the shelter according to NACA guidelines
If staff are to finish the tasks in a three hour period 13.8 staff hours / 3 hours = 4.6 staff members need to be assigned to clean and feed dogs each day

If 161 cats were housed in the shelter *
161 * 10 minutes / cat = 1,610 minutes
1,610 minutes / (60 min. / hour) = 26.8 care hours for just cleaning and feeding of cats
If staff are to finish the tasks in a three hour period 26.8 staff hours / 3 hours = 8.9 staff members need to be assigned to clean and feed cats each day

*These population numbers are used here only as examples to show the calculations.

If the shelter does not need to be open to the public it may be that more than three hours can be allowed for cleaning and feeding, allowing fewer staff members to accomplish this over a longer time span. Recognize, however, that length of time that passes equates to animals who are waiting for food, water, care and attention until limited staff has time to get to them. The absolute number of hours required will remain the same.

**Staffing for Animal Flow-Through**
Animal flow-through describes the time and processes designed to ensure a safe and optimally efficient passage through the shelter system. Common flow-through points for most shelters include intake, release to owner, behavioral evaluation, initiation/completion of treatment with associated moves in and out of isolation, release to and return from foster care, move from holding to adoption, spay / neuter pre- or post-adoption, adoption, transfer to rescue, and euthanasia. Flow-through points are junctions where an animal needs something from us or decisions need to be made for what to do next. Each flow-through point requires an investment of staff time in addition to that required for basic care and feeding.

Insufficient time to carry out procedures for any of these essential flow through points will have a detrimental effect on animal health by increasing time animals spend waiting in the shelter which, in turn, contributes to further crowding, risk of exposure to infectious disease, stress for animals and animal caretakers, and reduced welfare. It seems likely these delays also contribute to a decreased live release rate; specific examples were observed during the time of the site visit where this appeared to be the case. For example, lack of time to accomplish spay/neuter led to a reduced number of cats available for transfer to off-site adoption facilities, in spite of presence of a volunteer willing to transport any available cats. This resulted in offsite adoption kennels sitting empty while severe crowding persisted at the Kent shelter.

Similar estimated staffing requirement calculations can be made for animal flow through procedures for each point described above (and any additional flow through points identified by shelter staff) by using the daily averages from the prior year.

For example:
If on average, in 2007 canine intake was relatively consistent throughout the year at about 35-54 dogs per day. If performing a quick intake exam, administering intake treatments and vaccines, finding appropriate housing and documenting animal information in the computer is a 10 minute* process then intake numbers must be multiplied by that time required. To ensure efficiency and safety for humans and animals, it is recommended that admitting / intake procedures be carried out by a team of two, so hours should be multiplied by two. It is likely a team of two people will be able to accomplish each intake more efficiently than a single person working alone.

10 minutes * 40 dogs / day = 400 minutes or 6.7 hours of staff time per day must be available to provide essential intake procedures for dogs.

In addition, depending on the time of year, between 18 and 50 cats per day are admitted to the shelter system.
In summer: 10 minutes * 50 cats = 500 minutes or 8.3 hours for feline intake
In winter: 10 minutes * 18 cats = 180 minutes or 3 hours of feline intake

Estimated total hours for cat and dog intake ranges from 9.7 hours per day to 15 hours per day for two staff members or 20-30 total staff hours per day depending on the season.

Daily average intake numbers can also be used to estimate time needed for other essential flow through procedures.

Move to adoption checks used as an example:
If 40 dogs per day consistently arrive at the shelter, then approximately 36 dogs per day will also need some sort of pre-outcome processing such as behavior evaluation or health check.
40 admitted as strays less the approximately 10% canine average for reclaim = 36 dogs remaining at the end of the holding period
5 surrendered dogs + 36 stray dogs out of holding = 41 dogs for flow through procedures each day.

Outcome processing needs can be calculated using daily averages for adoptions, returns to owner, transfers and euthanasia. Average daily adoptions impact not only adoption processing but also spay/neuter needs.

If specialized staff are required for certain flow-through points, ensure sufficient hours specific to these categories. For example, only selected trained or certified staff may be permitted to perform behavioral evaluations, assess whether animals under treatment are sufficiently recovered to move back into the general population, perform euthanasia or other specialized procedures. Spay/neuter services are one critical component of moving animals successfully through the shelter to adoption, and will be described separately.
APPENDIX B: Spay / neuter capacity requirements

Spay/ Neuter capacity describes the ability to accomplish a number of surgeries given the staffing, facility, and time allotted. Requirements for this capacity for KCAS are based on animal flow-through numbers with an estimate of how many animals would require surgery prior to release.

As an example, average daily adoptions can be used to roughly estimate the need for spay/neuter surgery. To get the most accurate picture, an estimate of what percentage of both dogs and cats arrive at the shelter intact versus previously altered is required. For this example, we will assume that all adopted pets need surgery prior to adoption, which is most likely an overestimate.

Spay / Neuter Surgery Number Requirements

The expected number of required procedures for a shelter that performs surgery post-adoption can be calculated by estimating the number of expected adoptions by the fraction of animals that are intact at the time they are selected for adoption. Any additional procedures – such as spay/neuter prior to rescue, reclaim by owners, or release to feral cat colonies – will also have to be included in the estimate. The following calculations provide an estimate of expected adoption numbers only.

For surgeries in partnership with private clinics, estimating average expected daily surgery needs will help to develop a smoothly running system that would prevent delays in adoption, minimize animal care days, and reduce overall crowding.

For in house surgeries, in order to calculate spay/neuter surgery staffing needs, it is necessary to multiply the veterinary and technician time required per surgery by the expected number of animals requiring this procedure on a per-surgery-day basis. Time calculations should include the veterinary and technician time required to accomplish every aspect of the procedure, including identification of surgical candidates, pre-surgical exams, preparation and recovery, the surgery itself, paperwork/documentation associated with surgery and logging of controlled substances, communication/release to new adopters, and any follow up care required after release.

Dog adoptions were relatively consistent throughout the seasons of the year. Cat adoptions rose somewhat steadily during 2007. Normally at least some seasonal variation is seen in both intake and adoptions for cats because of kitten season. Daily surgery numbers and types required can be estimated by the monthly adoption number expectations (based on the previous year) for cats, kittens puppies and dogs divided by the number of surgery days in the month.

As an example:
A 2007 year-to-date average of 65 cats per month were adopted from KCAS. If 65 cats and 188 dogs would require surgery each month a total of 253 surgeries would be required. If surgery is done five days a week and there are 4 weeks in the month (20 surgery days), then 13 surgeries must be performed each surgery day.
253 feline surgeries / (20 surgery days) = 13 total surgeries (75% canine) are required each surgery day

Timing for all aspects of the spay / neuter process should be timed or estimated and added to the surgery time in order to estimate overall staffing and facilities needs.
APPENDIX C: Instructions for daily rounds
Assess each animal daily and ensure that all needed steps have been taken for that animal that day, including:
- Transfer of strays to appropriate holding facility
- Behavioral and/or medical assessment to determine adoptability
- Spay/neuter surgery or other medical procedures required before adoption
- Movement from areas such as isolation or quarantine to adoptable areas as soon as the animal is recovered
- Rescue group contact and pick-up
- Behavioral and/or medical care to alleviate suffering and improve adoptability
- Euthanasia – decision and performance

The daily assessment should include the shelter manager, veterinarian and director working together at least once a week. The assessment should include a look at the overall condition of each ward (smell, cleanliness, noise, overall presentation to adopters) and attention to each animal’s paperwork, cage/kennel, and an assessment of the animal’s physical and mental condition:

**Paperwork:** is there any indication on the paperwork that the animal has a behavioral or physical condition that will present special challenges for adoption (e.g. a description that the animal was surrendered for a serious behavior problem)? If so, is there information for adopters describing what steps have been taken to mitigate the problem, or other information that might encourage the animal to be considered for adoption?

**Cage/kennel:** what is the condition of the animal’s environment? Is there evidence of illness, such as diarrhea or sneeze marks on the walls? Is it humane for the amount of time the animal has been held? If the animal has been in that kennel for more than one month, does it have enrichment equivalent to that expected in an adoptive home (e.g. room to stretch to full length, choice of hard and soft surfaces for resting, toys and access to human contact and exercise)?

**Animal:** Is there any evidence of illness or kennel stress? Is there anything about the animal’s behavior or appearance that might deter adopters, such as a very dirty or matted hair coat or aggressive barking at by-passers? If so, what measures are being taken to alleviate or further evaluate these problems? A more extensive evaluation of each animal’s physical and mental condition and adoptability should be made every two weeks. This should include taking the animal out of the kennel, running hands over the body to look for weight loss, sores or other physical problems, and reassessment of the animal’s overall well being. Ideally animals should also be weighed every two weeks while in the shelter, as weight loss or gain is a common problem in long-term housed animals.