## HASS Pet Supply-Demand Project



## Trends in Relative Dog Populations

> The rate of dog ownership in the USA has changed very little in 70 years.
$>$ The total dog population increases with the human population.
$>$ In 1976, there were 76.8 million dogs (AVMA) and $38 \%$ of households had dogs.
$>$ There is a 4 -fold variation in the rate of dog ownership across states ( 105 to 460 dogs $/ 1,000$ ).



## Relative Dog Populations in Different Countries

$>$ Rates of dog ownership in some other countries also remained relatively constant over the years.
$>$ But we do not know why there would be 239 dogs per 1,000 in the USA, 120130 dogs per 1,000 in the UK and 80-90 dogs per 1,000 in Sweden.
$>$ The relative stability of dog owning rates are a surprise.

|  | Dogs/1,000 People |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1981 | 2010 | 2012 | 2017 | 2018 | 2020 |
| Austria | 70 | 73 | 72 | 72 | 93 | 92 |
| Belgium | 115 | 122 | 119 | 115 | 115 | 114 |
| Denmark | 133 | 104 | 105 | 102 | 103 | 105 |
| Finland | 86 | 121 | 120 | 145 | 147 | 136 |
| France | 170 | 121 | 117 | 110 | 104 | 115 |
| W. Germany | 55 | 66 | 65 | 111 | 113 | 128 |
| Italy | 78 | 118 | 116 | 115 | 116 | 137 |
| Netherlands | 84 | 89 | 95 | 89 | 88 | 114 |
| Norway | 68 | 93 | 91 | 94 | 88 | 89 |
| Sweden | 96 | 80 | 76 | 86 | 86 | 88 |
| Switzerland | 62 | 57 | 55 | 59 | 59 | 58 |
| UK | 100 | 126 | 132 | 131 | 135 | 125 |
| Australia | 152 | 157 | 182 |  | 198 |  |
| Canada | 130 | 183 |  | 206 | 220 |  |
| Japan | 39 | 94 | 89 | 79 |  |  |
| USA | 216 | 225 |  | 239 |  |  |
|  |  |  |  |  |  |  |

## Trends in Relative Cat Populations

>Relative cat population numbers from AVMA surveys have changed considerably over time.
$>$ But in 2016, the AVMA determined that they had been overestimating total cat populations.
$>$ In 2016, the AVMA concluded that only 25.4\% of US households owned cats.
$>$ There is a 3-fold variation in relative cat numbers across the US states.


## Dog Ownership Rates Vary by State

AVMA 2016 survey
Significant variation in relative dog population from one state to another.

Yet, little indication that anybody pays any attention to these variations when calculating shelter intake \& euthanasia.

Cats also vary.

international

## Cat Ownership Rates Vary by State

AVMA 2016 survey
Also, significant variation in relative cat population from one state to another.
No clear trends are obvious in different relative cat populations in different states.

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## Pet Ownership Rates Vary by Human Density and Ethnicity

Human density is an important variable when looking at verall pet ownership rates.

Ethnicity also an important factor. African-American households are half as likely to have pets, specifically cats. Hispanic households have lower cat ownership rates.


## Trends in Owned Dog Ages: Implications re Puppy Supply

$>$ Percent of owned dogs under 1 year of age at year-end has declined by $50 \%$.
$>$ These dogs likely puppies when acquired - 20\% in 1986 but only $10 \%$ in 2016.
$>$ Indicates a decline in \# of puppies from 10.3 million in 1986 to 7.7 million in 2016.
52.4 mill dogs in 1986, 76.8 mill in 2016.


## Modeling Dog Population Supply/Demand - 2020 Estimates



## Dog \& Cat Trends: 1970-2019

Big changes have occurred in both dog and cat supply in the USA in last fifty years.

|  | 1950 | 1973 | 1982 | 2011 | 2016 | 2019 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| US Pet Dogs \& Cats (mill) | 52 | 65 | 92 | 146 | 135 | 140 |
| Total US Dog Population (mills) | 32.6 | 35 | 46 | 69.9 | 76.8 | 80.3 |
| Stray Dogs/Shelter Intake (mills) <br> (not transfers \& RTOs \& seizures) | 10 | 10 | 4 to 5 | 1.74 | 1.34 | 1.14 |
| \% Stray Dogs (of all dogs) | $30 \%$ | Ca. 24\% | Ca.9\% | $2.4 \%$ | $1.7 \%$ | $1.4 \%$ |
| Stray Cat Shelter Intake (mills) |  |  |  | 2.0 | 1.65 | 1.83 |
| Shelter Euthanasia (mill) |  | 13.5 | $7.6-10$ | 3.44 | 1.54 | 1.24 |
| \% D\&C Euthanized in shelters |  | $21 \%$ | ca.10\% | $2.4 \%$ | $1.1 \%$ | $0.9 \%$ |

## State Shelter Intakes \& State D\&C Populations

State populations of dogs and cats vary by several fold - intuitively would expect different dog/cat populations to have an impact on shelter intake. Shelter Intake and D\&C Turnover given in per 1,000 people numbers. (Dog turnover - 9\% and Cat turnover - 8\%)

|  | Shelter <br> Intake | D\&C <br> Turnover | Intake as <br> \% of <br> Turnover |
| :--- | :--- | :--- | :--- |
| New <br> Hampshire | 4.05 | 28.17 | $14.4 \%$ |
| Connecticut | 3.98 | 26.32 | $15.1 \%$ |
| Massachusetts | 6.52 | 39.19 | $16.6 \%$ |
| Pennsylvania | 4.17 | 24.42 | $17.1 \%$ |
| New York | 5.40 | 25.63 | $21.1 \%$ |
| Rhode Island | 11.04 | 49.73 | $22.2 \%$ |
| USA | 12.87 | 36.06 | $35.7 \%$ |


|  | Shelter <br> Intake | D\&C <br> Turnover | Intake as <br> \% of <br> Turnover |
| :--- | :---: | :---: | :---: |
| USA | 12.87 | 36.06 | $35.7 \%$ |
| Texas | 18.50 | 36.07 | $51.3 \%$ |
| Louisiana | 17.36 | 31.20 | $55.7 \%$ |
| South Dakota | 15.67 | 27.92 | $56.1 \%$ |
| Hawaii | 22.15 | 34.50 | $64.2 \%$ |
| Wyoming | 29.47 | 40.25 | $73.2 \%$ |
| New Mexico | 35.44 | 40.37 | $87.8 \%$ |



