Prepare to Map Your Data

For Use with Geographic Information Systems (GIS)

ASPCA®

Shelter Research & Development

ASPCA X Maps Spot project, funded by **PetSmart Charities** ©

www.aspcapro.org

Prepare to Map Your Data

GIS technology lets you look at many different sets of data in a way that provides a clearer picture of your community's animals and their needs. That helps you better address issues and be more efficient with your resources.

To get there you need to look at **85% of the animals** who are handled through shelters and rescues in your community. Mapping less than that will provide a skewed version and not accurately show hot spots in your area. You don't want to invest time and money in a project and then target the wrong area!

Once you reach the **85% benchmark**, you want to prepare summary data by compiling at least a year's worth of intake and outcome data. Look for trends in the animals most at risk, such as cats and bully breed dogs.

Data You'll Examine

Many shelters choose to look at their intake data because they want to know where animals are coming from and how to go about creating programs to curb that intake. Some shelters choose to look at their adoption data because they want to know where they have a presence in the community and where they could benefit from doing a little more outreach. Whatever set of data you choose to examine, the nuts and bolts are going to stay the same.

You are going to pull data out of your system for a period of time, ideally at least a year, to create your maps. Depending on what kind of software you use this step can range in difficulty from "I can do it in my sleep!" to "It's like trying to clip the nails of a feral cat!" It's important for you to understand this process so you can do it in many different ways, and discover what each column is really saying.

Nuts and Bolts

But what kind of data do you need to pull out? To be able to see **trends in your community** you want to pull individual animal data that can be mapped. If you choose to look at intake, that means you will pull all the animals that came to you as stray or owner surrender. If you choose to look at outcome you will pull animals that had the outcome type you are interested in. Either way, you can be dealing with thousands of records. For all those records you want to have the following **animal characteristics as column headers** accurately filled in:

- **Species**
- **Breed**
- **Intake type or outcome type** *(Examples: stray or owner surrender)*
- **Intake subtype or outcome subtype** *(Examples: over the counter or field)*
- **Intake date or outcome date**
- **Age group** *(or specific age to group later)*
- **Gender**
- **Altered status at iIntake**
- **Feral – yes or no** *(cats only; if known)*
- **Found address or crossing** *(this should be the address where the animal was found if stray)*
- **Street address** *(this is the address of the animal if it was owned)*
- **City**
- **State** *(Province)*
- **Zip code**
- **Animal ID**

These categories will allow you to manipulate your data in multiple ways while giving you a great overall picture of your community. But how do you know those categories are being accurately filled in?

Dive Into Your System

Preparing for a GIS project is a great excuse to take a closer look at your system of collecting data. For many organizations, that will include looking at intake process from the public as well as how animals are coming in from the field. Some organizations will need to look at many processes while others will only need to focus on one or two. You want to look at all systems in place that gather data relating to the animal characteristics we listed above as ***Nuts and Bolts***.

Questions to answer first:

- Does your intake staff collect all this data or does your vet staff collect some?
- Does your kennel staff record everything that needs to be recorded?
- How is this data being collected by field officers?
- If you are performing spay/neuter for the public, are you collecting this data (including addresses)?
- Where and how is the information for the above list of characteristics for each animal being recorded?
- Are there standard operating procedures for these types of data collection?

Take some time and get really acquainted with all these processes. When you fully understand how data is being collected at your organization you will be one step closer to saving more lives.

Make sure you are able to answer the following questions as well as know where this information is being recorded:

- How do you determine dog breeds?
- Is there a list of breeds you use for bully breed dogs?
- Who is aging the animals and when is it being done?
- Who is determining altered status at intake and is it accurate?
- How do you determine if a cat is feral?
- If a stray is brought in do you get the address where the animal was found or just the finder's address?
- If someone doesn't know the exact address for a stray they found do you enter a landmark?
- Is the staff making sure all addresses are accurate and entered in a consistent manner?
- Do you collect city information for strays as well as owner surrenders?
- If a cat is feral do you collect the address of the cat or the address of the trapper?

What Needs Buffing?

Every organization has room for improvement – especially when trying to tackle a GIS project. Most shelters find that buffing up a few things will make a huge difference in the long run.

You have now gone through all your systems and you know how data is being collected and where. But do you know if it is being done correctly? Encourage your staff to take some time to analyze how they record data and what they think could be improved.

Always go back to the ***Nuts and Bolts*** because all of those categories need to be collected accurately.

Ready to Proceed? Let's Check!

You need at least **80% of your data subset to be clean** before you can use GIS to create maps of your community. Not sure if you have that amount?

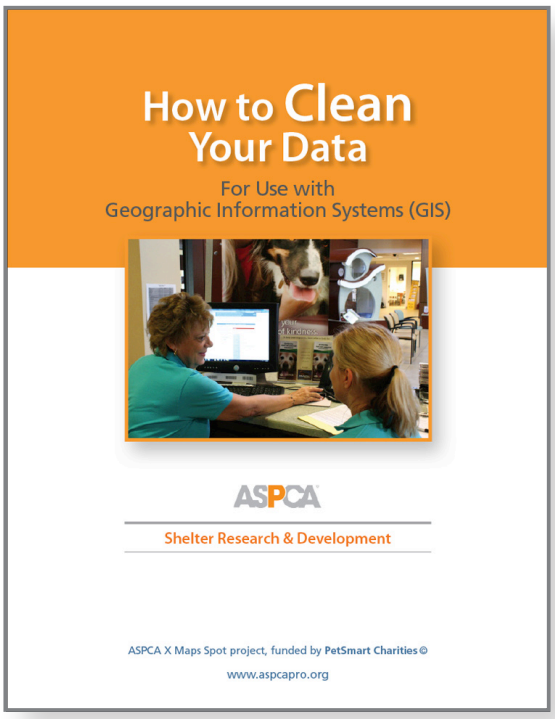
Here's a little test:

1. **Download two months of your subset data into Excel.** Make sure that all the categories we listed as nuts and bolts are included. Delete any other categories.
2. **Name the second tab of the Excel file scrubbed data.** This is where you are going to be moving all the data you cannot use.
3. **Each row should represent an individual animal.** Depending on what you are looking at this might mean that your Excel file has thousands of rows. Make a note of the total number of animal rows at this point. Don't worry – it's not as daunting as it looks!
4. **Sort the entire Excel sheet by found address** and move all the rows to the scrubbed tab that do not have an address that is either a crossing or an actual address. Repeat for the street address column. Move all these rows to the scrubbed tab.
5. **Continue to sort your data using each column heading** to weed out any rows that are incomplete. When something is blank or unknown or N/A it is begging to be moved to the scrubbed tab.
6. **Now it's time to determine how much data is clean** and how much you had to remove. Count the number of rows on your original tab and divide that by the number of rows you started with. Multiply that number by 100 and you have your percentage of clean data.
7. **If that percentage is equal or greater than 80%, you can move on to the next step.** If not, don't worry. It will take some work and a few tweaks but you will be ready for GIS soon. Continue to use the steps and tips laid out here until you can do this exercise and get **80% clean data.**

Next Step on the GIS Road

At this point you have a firm grasp on how your organization is handling data. The next step is learning **how to clean a much larger time frame of your data** so you can see trends in your community. This could be **one year of data or even more** if your data is clean enough. You want to be able to look at as much data as you can without compromising the 80% you have worked so hard to get.

Now, follow the steps in *How to Clean Your Data*:



For more information:

www.aspcapro.org/gis