

Puppy mills are large-scale canine commercial breeding establishments (CBEs) where puppies are produced in large numbers and dogs are kept in inhumane conditions for commercial sale. That is, the dog breeding facility keeps so many dogs that the needs of the breeding dogs and puppies are not met sufficiently to provide a reasonably decent quality of life for all of the animals. Although the conditions in CBEs vary widely in quality, puppy mills are typically operated with an emphasis on profits over animal welfare and the dogs often live in substandard conditions, housed for their entire reproductive lives in cages or runs, provided little to no positive human interaction or other forms of environmental enrichment, and minimal to no veterinary care.

This report reviews the following:

- What Makes a Breeding Facility a “Puppy Mill”?
- How are Puppies from Puppy Mills Sold?
- How Many Puppies Come from Puppy Mills?
- Mill Environment Impact on Dog Health
- Common Ailments of Puppies from Puppy Mills
- Impact of Resale Process on Puppy Health
- How Puppy Buyers are Affected
- Impact on Animal Shelters and Other Organizations
- Conclusion
- References

What Makes a Breeding Facility a “Puppy Mill”?

Emphasis on Quantity not Quality

Puppy mills focus on quantity rather than quality. That is, they concentrate on producing as many puppies as possible to maximize profits, impacting the quality of the puppies that are produced. This leads to extreme overcrowding, with some CBEs housing 1,000+ dogs (often referred to as “mega mills”). When dogs live in overcrowded conditions, diseases spread easily.

Indiscriminate Breeding

In puppy mills, dogs are bred early and often. Females are typically bred every cycle, regardless of their health. This continuous breeding can lead to gradually decreasing litter sizes. Then, once a dog’s production wanes, they are usually discarded. In addition, there is often no screening for heritable disorders, resulting in generations of dogs with unchecked hereditary defects. While the puppies produced may come with pedigrees, the pedigree itself is neither an indication of quality nor authenticity (i.e., guarantee of breed).

Continuous Confinement

Most dogs in puppy mills are subject to constant confinement, with little to no exercise. Breeding dogs at puppy mills might spend their entire lives in indoor cages. Alternatively, some may spend their entire lives outdoors, exposed to the elements. Continuous confinement frequently causes animals to suffer from chronic anxiety, social isolation, inadequate stimulation, and lack of physical exercise.^{1,2,3,4,5,6} Long-term

confinement of any animal who cannot be provided with basic care, daily enrichment and exercise without inducing stress, is unacceptable.⁷

Lack of Human Contact and Environmental Enrichment

Continuous confinement results in a lack of human contact and other forms of environmental enrichment. Dogs in puppy mills do not receive treats, toys, basic grooming, and rarely receive exercise. This lack of stimulation can lead to serious behavioral problems and emotional stress.

Poor Husbandry

Many puppy mills have poor sanitation, food, and water. There is usually inadequate waste control, forcing the dogs to be in constant contact with their own feces and urine, as well as the waste of other dogs. Often the water is dirty and/or frozen, and the food is stale and soiled. All of these conditions can harbor microorganisms, spread disease and attract insects and rodents—increasing the risk of disease and cross-contamination. If kept outside, dogs from puppy mills are often not provided adequate protection from the elements.

Minimal to No Veterinary Care

Breeding dogs in puppy mills often suffer from injuries and diseases that go untreated. Injuries and disorders that don't affect a dog's reproductive capabilities are rarely treated. Arguably the worst problem is untreated advanced dental disease, causing infection, pain, and in severe cases the loss of part or all of the mandible and maxilla. In addition, eye and skin diseases are common disorders that are often overlooked and untreated.

Sometimes puppy mills staff practice veterinary medicine without a license. Examples include:

- Performing surgical procedures (e.g., tail docking, ear cropping, dew claw removal, surgical births)
- Giving prophylactic antibiotics
- Attempting to diagnose and treat diseases with prescription medications
- Administering antitussives to mask sounds/signs of illness

A lack of professional veterinary medical care can lead to deadly mistakes when puppies are misdiagnosed, overmedicated, or given an inappropriate medication.

How are Puppies from Puppy Mills Sold?

Puppies from puppy mills are sold through a number of different venues, including:

- Pet stores
- Internet
- Classified ads
 - Newspapers
 - Dog magazines
 - Web site ads
- Flea markets, roadside stands
- Breeder directories

Web sites, advertising, and other promotions can be deceptive. The quality of a web site or advertising material is not indicative of the quality of a facility. Web sites can often be even more misleading, promising “family-raised” puppies which are actually from large commercial breeders.⁸

Breed registries work on an “honor system” (that is, most puppies are registered by mail or on-line). Therefore, there is no guarantee that a registered puppy is the progeny of registered parents. In addition, breed registries provide no guarantee of facility quality or of the puppy’s or the parent dog’s health.

Pet stores need a constant supply of puppies, so they will often deal with large commercial breeding facilities. Although pet stores usually claim their dogs are from “breeders,” a majority of their “breeders” are actually puppy mills.^{9,10,11} An HSUS review of records for more than 6,700 puppies shipped to pet stores between 2009 and 2012 found more than *two thirds* of the puppies were shipped by brokers, not breeders.¹²

Commercial Breeders: Selling for Resale

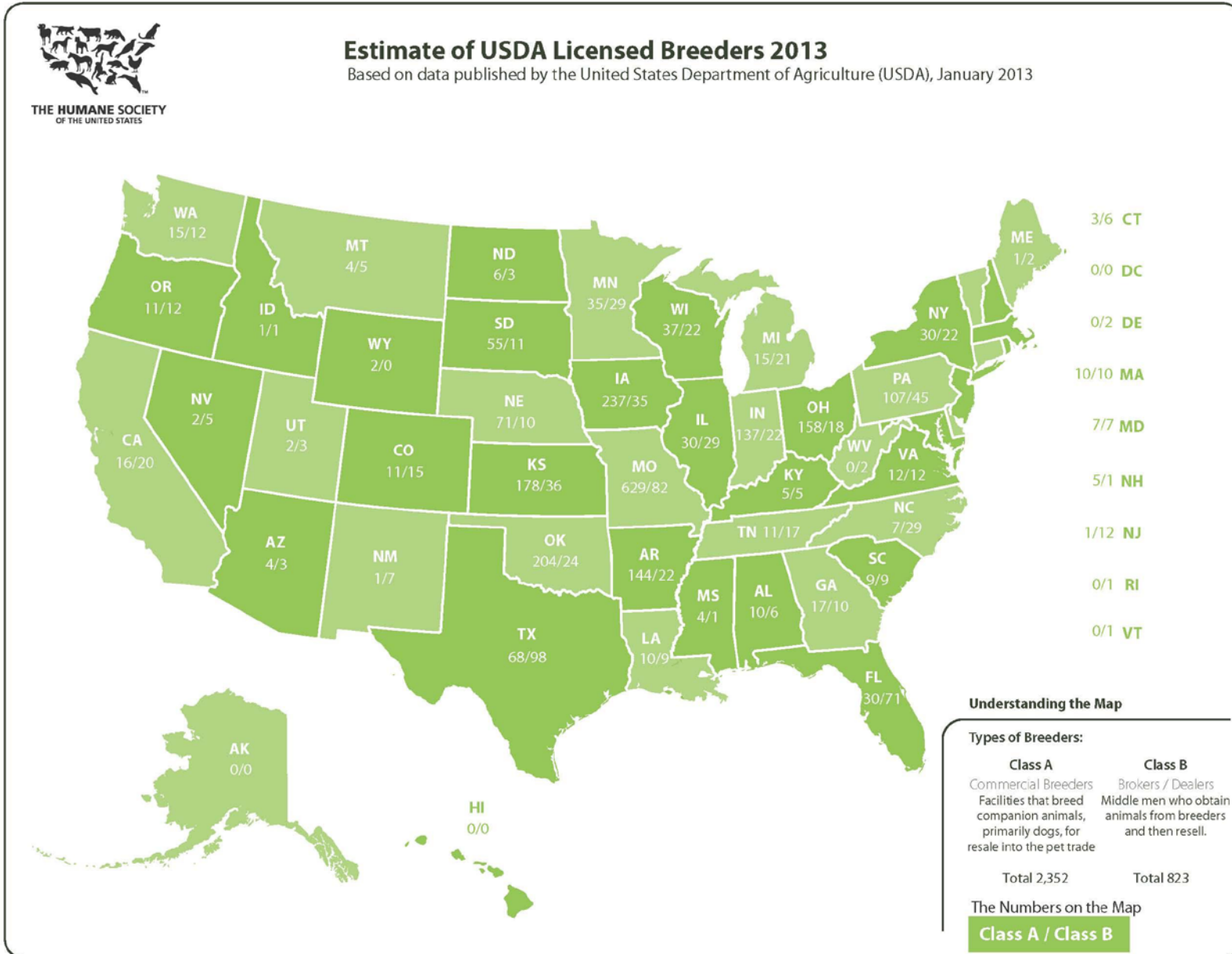
Commercial breeders sell puppies to the pet store trade and others for resale. They are required to be licensed and inspected by the United States Department of Agriculture (USDA) under the Animal Welfare Act (AWA). But licensure does not equal AWA compliance. In response to media coverage and pressure from the public, Congress, animal protection organizations, and others, the USDA Office of Inspector General conducted an [audit](#)¹³ of the Animal and Plant Health Inspection Service’s (APHIS) Animal Care (AC) unit, which is responsible for enforcing the AWA, focusing on AC’s inspections of problematic dealers.

The audit identified the following major deficiencies with the APHIS’ administration of the AWA:

1. AC’s enforcement process was ineffective against problematic dealers.
2. AC inspectors did not cite or document violations properly to support enforcement actions.
3. APHIS’ new penalty worksheet calculated minimal penalties.
4. APHIS misused guidelines to lower penalties for AWA violators.
5. Some large breeders circumvented the AWA by selling animals over the Internet.

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Map of USDA-Licensed Breeders by State:



Non-Resale Breeders: Selling Directly to the Public

Non-Resale breeders sell to individual consumers. Few states require licensing or inspection of these breeders and the state inspection programs are often understaffed and ineffective. Although all 50 states have laws that prohibit animal cruelty, they are difficult to enforce because mills operate behind closed doors on private property. There are literally thousands of puppy mills in existence all over the country and most of them are not required to register with any one agency.

How Many Puppies Come from Puppy Mills?

Although precise statistics are difficult to compile since most dog breeders are unregulated, according to estimates by The Humane Society of the United States (HSUS), there are over 10,000 puppy mills in the U.S.,¹⁴ selling approximately 2 million puppies annually.¹⁴

Mill Environment Impact on Dog Health

Behavioral/Mental Health Issues

Numerous anecdotal reports have suggested that after removal from CBEs many of the former breeding dogs display persistent behavioral and psychological abnormalities when compared with the general pet dog population. In a landmark [study](#) appearing in *Applied Animal Behaviour Science* in 2011,¹⁵ researchers were able to confirm this anecdotal evidence empirically.

The research encompassed more than 1,100 dogs rescued from puppy mills who had been in their new homes an average of 2 years. The dogs were found to have significantly elevated levels of fears and phobias, compulsive and repetitive behaviors, and heightened sensitivity to being touched. Compared to ‘normal’ pet dogs, the chance of scoring in the highest ranges for fear was six to eight times higher in the dogs recovered from puppy mills. It is the first clear quantitative evidence that dogs confined in CBEs for breeding purposes demonstrate impaired mental health and, as a result, diminished welfare.

One of the researchers, Dr. Franklin McMillan, told *USA Today* “This study gives us strong evidence that the dogs kept in these large-scale breeding facilities don't just suffer while they're confined there, but carry the emotional scars out with them for years, even when they're placed in loving homes.”

Another study published in 2013¹⁶ concluded that obtaining dogs from pet stores versus noncommercial breeders represented a significant risk factor for the development of a wide range of undesirable behavioral characteristics, especially aggressive behavior. Due to the results of the study, the authors stated that they cannot recommend that puppies be obtained from pet stores (which commonly obtain puppies from puppy mills).

Spread of Disease

There is little debate that life in a puppy mill is stressful. This stress decreases the immune response which in turn increases a dog's susceptibility to disease. Overcrowded conditions can cause one sick dog to infect many other dogs relatively quickly and easily. Continuous confinement means dogs are continuously exposed to animal waste. Dirty food and contaminated water can harbor microorganisms. In addition, pest infestations and rodent droppings in the environment contribute to spread of disease. Group housing amplifies all of these effects.

Often, staff of puppy mills respond to the constant threat of disease by using mass-scale drug therapy, sometimes used in lieu of good preventive health care and/or sanitation, and prophylactic antibiotics. As with

breeding livestock, prophylactic antibiotic use on this scale can foster the development of multi-drug-resistant strains of bacteria.

Illnesses and Injuries

According to complaints received by The HSUS, viruses such as Parvovirus, Canine Brucellosis, and Canine Distemper Virus, are all too common diseases incurred by dogs in mills. These puppies are often inflicted with *Bordetella bronchiseptica* (i.e., kennel cough), pneumonia and other respiratory infections. Parasitism from *Giardia canis*, coccidiosis, intestinal parasites (e.g., roundworms, whipworms, hookworms, tapeworms), fleas and mange (skin mites) rank high on the list of common illnesses endured by these dogs.

Injuries also plague puppies from puppy mills. These injuries can range from damaged paw pads to broken jaws. And the lack of grooming and proper hygiene that these dogs endure leads to severe coat matting and foot and nail problems.

Negative Impact of Wire Mesh Flooring

To presumably minimize waste cleanup, dogs are often kept in cages with wire flooring, interfering with normal dog behavior and potentially causing paw and leg injuries. Also, it is not unusual for cages to be stacked up in columns.

Animal Behavior Science Shows Terrestrial Species Prefer Solid Flooring

Although wire flooring may be preferred by arboreal (tree-living) species such as marmosets, solid flooring is the most appropriate for terrestrial species¹⁷ such as canids. One study demonstrated that foxes were willing to work to gain access from a wire mesh floor to a solid one. On the solid floor, they performed a greater variety and a higher frequency of normal species-specific behaviors such as play, rooting (exploring with their muzzles) and jumping.¹⁸

Potential Injuries and Illness Caused by Wire Flooring

By discouraging normal animal behaviors, such as reclining, wire flooring may compromise the health and welfare of animals housed in such systems.¹⁹ Dogs kenneled on wire flooring may remain standing longer because of the discomfort associated with lying down on this material. These dogs may suffer damage to their paw pads from long-term contact with wire under the pressure of their body weight. It can cause painful cuts and cracks to their pads and put the dogs at risk of infection. Dogs splay their paws in order to maintain their balance on wire flooring. Consequently, they can develop painful inter-digital cysts and sores, which can disrupt their normal gait. Nails of the dog kept in these conditions overgrow—often in a curved manner—due to limited contact with solid surfaces. With continued overgrowth, curved nails can become painfully embedded in the paw pads. Long nails also contribute to abnormal gait and can become caught in or around the wire. They may then be partially or completely torn off, causing bleeding and great discomfort.

Kennels must be able to accommodate a wide range of dog sizes—depending on breed, conformation and age—including young puppies. For this reason the size of the wire mesh can be a serious liability; entire paws and even limbs may slip through it. If a dog struggles to pull a limb back through the mesh, it can cause severe lacerations or even unintentional amputation of that limb, as has been evidenced in USDA inspection reports.²⁰ In a kennel with stacked cages, dogs may injure or mutilate limbs of other dogs housed above or below them.

Other Health and Welfare Issues Associated with Wire Flooring

Although some states require wire mesh flooring to be vinyl-coated, the vinyl material is not durable and wears off quickly. Without coating the wire is even sharper, more uncomfortable and potentially dangerous.

The wire can also become extremely hot in warm temperatures or in sunlight. In cooler weather, wire mesh flooring allows for increased drafts in kennel cages. It is more difficult for dogs housed in drafty cages to thermo-regulate appropriately. This is particularly true for puppies and other dogs with minimal body mass or fat.

Dogs in kennels with wire flooring may restrict their own activity in an attempt to avoid discomfort. This can lead to obesity and other health problems. The stresses of uncomfortable confinement can foster anxiety, frustration or depression, causing dogs to withdraw, bark frequently, self-mutilate or develop inappropriate repetitive behaviors.

Sanitation Concerns

If kennels are cleaned regularly and appropriately, solid flooring can be easier to clean more thoroughly than wire flooring. Wire mesh is often used as commercial dog kennel flooring because it is presumed to facilitate cage cleaning. However, dog feces often stick to the mesh material, becoming caked onto the wire. Once this fecal material dries, it is very difficult to remove completely. Feces that do drop through the mesh accumulate on the floor below, attracting flies and other insects. These insects are not only a nuisance to the dogs, but can also pose a health risk to them. Fly strike can result in open wounds and insect bites increase the likelihood of disease transmission. In stacked-cage scenarios, wire mesh flooring amplifies the health risks for the dogs housed below.

Puppy Mill Rescue Examples:

[Hertford, NC on July 21, 2011](#)²¹

When 80 dogs were rescued from a puppy mill in Hertford, NC, a veterinarian involved with intake reported that almost 50% of the dogs were afflicted with parasites, 23% suffered from ear infections, 15% suffered from various eye disorders, including keratoconjunctivitis sicca (KCS), a very painful dry eye condition, and all the animals older than 18 months showed evidence of moderate to severe periodontal disease. One of the dogs had such severe dental disease that she required 32 dental extractions, while others had periodontal disease so severe that it led to bone resorption of the mandible (eroded jaw bone). Six dogs suffered from pyoderma (skin disease) secondary to urine-soaked matted fur.

[Stuarts Draft, VA in August 2009](#)²²

When more than 100 dogs were removed from a puppy mill in Stuarts Draft, VA, findings from a 200-page state veterinarian report indicated that out of 80 dogs examined, more than 60% of them suffered from a disorder serious enough to require emergency veterinary care, more than 80% suffered from parasites, almost 40% were underweight, more than 35% were suffering from dehydration, and more than 40% were suffering from eye disorders such as conjunctivitis, ocular infections or KCS. Many of the severely underweight or ill dogs were also pregnant, affecting the survivability of their offspring.

Common Ailments of Puppies from Puppy Mills

An extensive [report](#)²³ from The HSUS, summarizing the 2,479 puppy buyer complaints that they received over a five-year period (from 2007-2011), indicated the following as typical complaints of puppies from puppy mills:

Illness	40%
<i>(intestinal parasites, pneumonia, parvovirus, ear infections, skin disorders, urinary infections, etc.)</i>	
Congenital defect	34%
Death of puppy	15%
Temperament issues	3%
Returned due to illness	2%
Other	6%

It should be noted that the complaints received by The HSUS represent only a small fraction of sick puppy complaints nationwide. Some buyers of sick puppies report their complaints directly to the seller, to local animal control, or to a consumer agency such as their local Better Business Bureau, instead of contacting a national group. Many others do not contact anyone at all.

In 2005, the Animal Protection Institute conducted an investigation of California pet shops. From this investigation, a graphic report entitled “Little Shop of Sorrows” was produced: 44% of the locations visited had sick and neglected animals, 32% of the animals were confined in unhealthy, cramped, or crowded conditions and 25% of the animals didn’t even have adequate food or water.^{24,25} Because the cost of veterinary consultation and treatment can easily exceed the commercial value of an animal, there is a great incentive for the CBE and/or pet shop owner to deny animals necessary treatment. This means that animals are simply left to suffer or even die from untreated illnesses or injuries.

Because there is often no meaningful screening for heritable disorders, nor are dogs typically removed from the breeding stock if a disorder is identified, some puppies who come from puppy mills are subject to the affliction of heritable and congenital disorders, including:

- Orthopedic problems (e.g., early hip dysplasia, especially in larger breeds and luxating patella, especially in smaller breeds)
- Neurological disorders (often of unknown origin (idiopathic))
- Hepatic disease (e.g., liver shunts)
- Cardiac disease
- Ocular disorders (e.g., entropion)
- Umbilical hernias
- Blood disorders (e.g., von Willebrand’s disease)
- Endocrine disorders (e.g., thyroid abnormalities)
- Allergies

Impact of Resale Process on Puppy Health

Consumer demand for tiny puppies often results in premature separation from mother (sometimes at 5-6 weeks of age, much younger than the recommended weaning age of 8-12 weeks). Often they are then sold to brokers who pack them in crates for resale to pet stores all over the country. Some of the puppies do not survive during this exhausting travel and others may be exposed to diseases during transport. Even if vaccinated for specific diseases, one sick puppy may infect others during the journey because they have yet to receive the full series of vaccinations.

Early separation, exposure to potentially hazardous shipping conditions and the stress of transport all are likely to weaken the immune systems of puppies from puppy mills—making the puppy more susceptible to disease. In addition, there may be a delay in the manifestation of health problems, often not fully evident until a puppy has been sold and is living in a new home.

The Internet is an increasingly common way for consumers to purchase puppies, especially for puppies who come from puppy mills. Until recently, very little information was available about the types of puppies sold via the Internet. In addition, these sales are not subject to United States Department of Agriculture (USDA) regulation. A study published in *Preventive Veterinary Medicine* in 2011,²⁶ found that breeders who advertise at one of the large-scale puppy sales websites are less knowledgeable about breed-specific health issues compared to a national parent club breeder. These breeders who advertise on the Internet are often less likely to perform these screening tests on their breeding dogs and may breed dogs with undesirable heritable health risks.

In addition, airline shipment in the cargo hold (a primary way in which Internet-purchased puppies are shipped) is especially dangerous for small puppies due to the risk of encountering temperature extremes, diverted flights, layovers, etc. Also puppies can easily become hypoglycemic when not fed regularly during long flights. An example of this kind of tragic event was [reported by ABC News in August 2010](#).²⁷

How Puppy Buyers are Affected

Not only are the individual puppies and dogs from puppy mills affected but the puppy buyer is, as well. If the puppy becomes sick, the puppy buyer will have to incur the potentially high veterinary costs to treat the illness. Despite these costly interventions, puppies often die. Puppy buyers are rarely compensated by consumer protection laws, even in states with “puppy lemon” laws. Surviving pups may have lifelong disabilities, resulting in recurrent medical or behavioral issues. In addition, other pets, or people, in the household may also become sick if the disease is contagious to humans. This all has a heavy emotional toll on these guardians.

Impact on Animal Shelters and Other Organizations

The closure of a puppy mill, and the subsequent removal of all of the dogs, can drain the financial resources of a local community, local animal welfare entities, as well as large humane organizations. A [report](#) by The HSUS in 2011²⁸ highlights this economic impact. Examples include:

Vermont Puppy Mill, July 2011

The HSUS facilitated the removal, emergency sheltering, and initial veterinary care for 58 Labrador retrievers from a puppy mill in Vermont after the operator was charged with animal cruelty. The cost to The HSUS of deploying the Animal Rescue Team, transporting animals, and purchasing animal care supplies and equipment to assist in the removal and initial treatment of the animals was \$52,675—or almost \$1,000 per animal. This cost did not include the salaries of law enforcement and security staff deployed to the scene, the cost of the legal proceedings, or the first 30 days of running the supervised, climate-controlled shelter, which was donated by a local horse farm and partially staffed by unpaid volunteers. The value of sheltering the animals at \$10 per animal per day would have added an additional \$17,400 to the costs, for a total of \$70,075, or more than \$1,200 per animal. Extensive follow-up medical expenses for some of the animals, including some who required amputations and tumor removals, are not included in this estimate.

Washington State Puppy Mill, June 2009

After a puppy mill owner in Washington state was charged with animal cruelty for harboring sick animals in dilapidated housing, The HSUS facilitated the removal, emergency sheltering, and initial veterinary care for 371 dogs from. Although private citizens reportedly donated approximately \$12,000 to the local sheriff’s department to help care for the dogs, law enforcement authorities reported that the estimated cost of the rescue operation was approximately \$330,000, including the value of services from local veterinarians and clinics for the first 30 days of animal care. Most of the services, however, were provided to the county at no charge by The HSUS.

Tennessee Puppy Mill, June 2008

The HSUS led the effort to close a Tennessee puppy mill containing 700 dogs. This was done over a period of six days at a cost of approximately \$120,000 to The HSUS. This did not include the financial costs incurred by the local government and the many other groups working with The HSUS, or the costs associated with investigating the facility, filing charges, and the long judicial process. Local animal shelters who received the dogs also expended significant resources processing, spaying/neutering, providing medical treatment, and finding good homes for the animals.

Approximately 50 people (experts and volunteers) a day participated, including numerous local, state, and national humane organizations, while local law enforcement officials handled criminal aspects of the case, as well as the increased traffic and security problems.

In addition to the direct costs of caring for the animals, costs incurred by The HSUS included renting a large building for the temporary shelter, setting up and running the shelter, treating medical issues, and providing housing and meals for shelter workers.

Carroll County, Virginia Puppy Mill, October 2008

In another case in October 2007, a small community in southwestern Virginia was suddenly confronted with the need to care for more than 1,000 dogs after a local puppy breeding facility's conditions were exposed. In a February 2008 letter sent to Delegate Robert Orrock of the state legislature, the County Administrator said:

“We declared a local emergency and took action in establishing Standard Operating Procedures (SOPs) in getting each animal documented, seen by a veterinarian, setting up phone lines, e-mail addresses, establishing a command post, developing media kits, conducting scores of interviews and dealing with satellite trucks from across the east coast. Not only were we experiencing pressure from the rest of the world, we had 1,100 animals to make sure they were cared for in the best possible way.

During the event, we had many births even in transit from the alleged Puppy Mill to the command center. The volunteer veterinarians from various regions came to our rescue through the call for help by the Commonwealth Emergency Operations Center in Richmond. Along with the professionals, we had assistance from animal rights volunteer groups such as VA PAWS and HSUS plus many humane society(s) and SPCAs from Florida to New York.

The real work to get this project completed took more than two weeks of dedicated efforts by paid staff and volunteers. I bring the elements of the above real-life case to you because if Carroll County had to actually pay for the entire operation to deal with the alleged ‘Puppy Mill,’ I would estimate the cost at more than \$100,000.”

The County Administrator's letter was in support of a bill (that later became law) aimed at preventing puppy mills in Virginia by limiting the size of Virginia breeding facilities and providing other safeguards.

Buxton, Maine Puppy Mill seizure, August 2007 through March 2008

During the closure of a puppy mill in Buxton, Maine that had been found selling sick animals over the Internet, 249 animals were seized and 102 more were born during the subsequent case duration.

Costs included 6 to 7 weeks of sheltering the animals on the kennel property with round-the-clock security. In mid-October, animals were transported to a temporary emergency shelter for an additional 4 to 5 months. The total cost to the state of Maine was approximately \$440,000. Two lead animal shelters, Animal Welfare Society and Animal Refuge League, also fundraised for the effort and brought in approximately another \$30,000, which covered costs that would have likely otherwise been charged to the state.

The \$40,000 spent by The HSUS covered deployment of 5 to 6 volunteers per day for the first six weeks of the case. The HSUS's Maine state director spent approximately 8 to 10 weeks on site daily, and two other HSUS staff assisted as well. The HSUS's Emergency Services sent in a management team for a week-long period, after which it provided at least one responder for a few weeks. Emergency Services also provided a team to set up the temporary shelter and the transport of the animals to the new site. An HSUS large sheltering vehicle was used during the move. Total costs: \$510,000.

The costs of closing down a puppy mill are diverse and include more than just the removal and treatment of the animals. Extensive staff time, including law enforcement staff time, is needed to investigate a facility and document the problems. Dealing with hundreds of dogs is a massive and expensive undertaking. Additional costs to closing a puppy mill facility include:

- Specially equipped trucks for transportation (rental, fuel)
- Hundreds of cages
- Food, water and bowls
- Cleaning supplies
- Waste disposal essentials
- Professional dog handlers
- Veterinary personnel
- Volunteers
- Holding facility (rent, utilities, insurance)
- Legal documentation (including photographs)
- Medical supplies (vaccinations, flea/tick medication, etc.)
- Adoption expenses
- Spay/Neuter surgeries
- Legal expenses (which can be extensive if the animals need to be housed pending court action)

Conclusion

Although the definition of puppy mills may vary, there are some specific characteristics that puppy mills share:

- Emphasis on quantity not quality
- Indiscriminate breeding
- Continuous confinement
- Overcrowding
- Lack of human contact and environmental enrichment
- Poor husbandry (including unsanitary conditions and lack of protection from the elements)
- Minimal to no veterinary care

Millions of dogs and puppies in the U.S. are subjected to these inhumane practices every year. The result is:

- Dogs confined in puppy mills for breeding purposes demonstrate impaired mental health and, as a result, diminished welfare.
- Conditions of the mill environment facilitate the spread of disease and physical harm, resulting in illness and injuries.
- Puppies from puppy mills are frequently sold with an illness (sometimes resulting in death), confined in unhealthy, cramped, and/or crowded conditions, suffer from congenital defects, and have behavioral issues.

- The resale process has an impact on puppy health due to premature separation from mother, potentially hazardous and crowded shipping conditions, and the stress of transport.
- Puppy buyers suffer from a heavy emotional, and financial, toll when dealing with the illnesses, injuries, and behavioral problems as a result of the puppy mill environment and resale process.
- Animal shelters and other organizations who treat and place newly-rescued puppy mill dogs incur negative resource and financial impacts.

Stronger, clearer humane standards, and better oversight of large-scale commercial breeders, especially those that ship puppies sight-unseen to buyers, are necessary to help prevent the suffering that both the dogs used for breeding and their offspring incur in this environment.

¹ Griffin B, Hume KR. [Recognition and management of stress in housed cats](#). In: August JR, ed. *Consultations in Feline Internal Medicine*. 5th ed. St. Louis, MO: Elsevier Saunders; 2006:717-734.

² Hennessy MB, Davis HN, Williams MT, Mellott C, Douglas CW. [Plasma cortisol levels of dogs at a county animal shelter](#). *Physiology & Behavior*. 1997;62(3):485-490.

³ Patronek GJ, Sperry E. Quality of life in long term confinement. In: August JR, ed. *Consultations in Feline Internal Medicine, Current Therapy 4*. Philadelphia, PA: WB Saunders; 2001:621-634.

⁴ Stephen JM, Ledger RA. An audit of behavioral indicators of poor welfare in kennelled dogs in the UK. *Journal of Applied Animal Welfare Science*. 2005;8:79-95.

⁵ Tuber DS, Miller DD, Caris KA, et al. Dogs in animal shelters: problems, suggestions and needed expertise. *Psychological Science*. 1999;10:379-386.

⁶ Wemelsfelder F. Animal boredom: Understanding the tedium of confined lives. In: McMillan FD, ed. *Mental Health and Wellbeing in Animals*. Ames, IA: Blackwell Publishing; 2005: 79-91.

⁷ Association of Shelter Veterinarians. Guidelines for standards of care in animal shelters. <http://xa.yimg.com/kq/groups/20241575/778874386/name/Shelter%20Standards%20Oct2011%20wForward.pdf>. Published 2010:35. Accessed August 12, 2012.

⁸ Today Show airs HSUS investigation into huge internet puppy broker [news release]. Washington, DC: The Humane Society of the United States; December 7, 2011. http://www.humanesociety.org/news/press_releases/2011/12/purebred_breeders_120711.html. Accessed January 8, 2013.

⁹ The Humane Society of the United States. The HSUS investigates: Chicagoland Pet Stores. http://www.humanesociety.org/assets/pdfs/pets/puppy_mills/report-hsus-chicago-pet-stores-2012investigates.pdf. Published December 2012. Access January 8, 2013.

¹⁰ The Humane Society of the United States. Petland investigative report. http://www.humanesociety.org/assets/pdfs/pets/puppy_mills/petland_investigation_report_2008.pdf. Published November 2008. Accessed January 8, 2013.

¹¹ The Humane Society of the United States. HSUS investigates: New York puppy stores. http://www.humanesociety.org/assets/pdfs/pets/puppy_mills/ny_puppy_stores_investigation_2011.pdf. Published November 2011. Accessed January 8, 2013.

¹² The Humane Society of the United States. Fact sheet on puppy mill brokers. http://www.humanesociety.org/assets/pdfs/pets/puppy_mills/fact_sheet_puppy_brokers_dealers.pdf. Accessed January 8, 2013.

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- ¹³ United States Department of Agriculture Office of Inspector General. Animal and Plant Health Inspection Service Animal Care Program inspections of problematic dealers. <http://www.usda.gov/oig/webdocs/33002-4-SF.pdf>. Published May 14, 2010. Accessed December 20, 2012.
- ¹⁴ The Humane Society of the United States. 2012 USDA breeder and brokers figures and puppy estimates. http://www.humanesociety.org/assets/pdfs/pets/puppy_mills/puppy_mill_estimates_june2012.pdf. Accessed December 20, 2012.
- ¹⁵ McMillan FD, Duffy DL, Serpell JA. [Mental health of dogs formerly used as ‘breeding stock’ in commercial breeding establishments](#). *Applied Animal Behaviour Science*. 2011;135(1-2):86-94.
- ¹⁶ McMillan FD, Serpell JA, Duffy DL, Elmabrok M, Dohoo IR. Differences in behavioral characteristics between dogs obtained as puppies from pet stores and those obtained from noncommercial breeders. *Journal of the American Veterinary Medical Association*. 2013;242(10):1359-1363.
- ¹⁷ Hardy A, Windle CP, Baker HF, et al. [Assessment of preference for grid-flooring and sawdust-flooring by captive-bred marmosets in free-standing cages](#). *Applied Animal Behaviour Science*. 2004;85(1-2):167-172.
- ¹⁸ Koistinen T, Mononen J. [Blue foxes’ motivation to gain access to solid floors and the effect of the floor material on their behaviour](#). *Applied Animal Behaviour Science*. 2008;113(1-3):236-246.
- ¹⁹ McGreevy P, George S, Thomson P. [A note on the effect of changes in flooring on the behaviour of housed rams](#). *Applied Animal Behaviour Science*. 2007;107(3-4):355-360.
- ²⁰ United States Department of Agriculture Animal and Plant Health Inspection Service. Inspection report for Customer ID 32869, Certificate 31-A-0265. October 2, 2007.
- ²¹ The HSUS assists with rescue of approximately 90 animals from North Carolina puppy mill [news release]. Washington, DC: The Humane Society of the United States; July 21, 2011. http://www.humanesociety.org/news/press_releases/2011/07/north_carolina_puppy_mill_rescue_072111.html. Accessed August 14, 2012.
- ²² More than 100 dogs rescued from Va. puppy mill [news release]. Washington, DC: The Humane Society of the United States.; August 27, 2009. http://www.humanesociety.org/news/news/2009/08/va_puppy_mill_082409.html. Accessed August 14, 2012.
- ²³ The Humane Society of the United States. Puppy buyer complaints—A five year summary, 2007-2011. http://www.humanesociety.org/assets/pdfs/pets/puppy_mills/puppy_mill_buyer_complaints.pdf. Published 2012. Accessed January 3, 2013.
- ²⁴ Animal Protection Institute. Little shops of sorrows—An undercover investigation into California pet shops. http://www.bornfreeusa.org/downloads/pdf/PetShops_Report.pdf. Published Spring 2005. Accessed July 6, 2012.
- ²⁵ Smith KK. [A Pluralist–expressivist critique of the pet trade](#). *Journal of Agricultural and Environmental Ethics*. 2009;22(3):241-256.
- ²⁶ Voris HC, Wittum TE, Rajala-Schultz PJ, Lord LK. [Characterization of advertisements for puppies sold online: Determinants of cost and a comparison with parent club breeders](#). *Preventive Veterinary Medicine*. 2011;100(3-4):200-209.
- ²⁷ Mayerowitz S. Seven puppies die after American Airlines flight during broiling heat wave. *ABC News*. August 4, 2010. <http://abcnews.go.com/Travel/puppies-die-american-airlines-flight-oklahoma-heat-wave/story?id=11322249>. Accessed July 12, 2012.
- ²⁸ The Humane Society of the United States. Puppy mill closure: The economic impact on a local community. http://www.humanesociety.org/assets/pdfs/pets/puppy_mills/economic_impact_puppy_mill.pdf. Published 2011. Accessed January 3, 2013.