

Practices for Zoonotic Disease Prevention:

GUIDELINES FOR PETTING ZOOS, FARMS AND OTHER PUBLIC PLACES WITH ANIMALS

Adapted from work by Public Health – Seattle & King County

How to Use This Guide

This resource is intended to be used by owners, managers, and staff to guide facility design and operations to reduce the risk of disease spread from animals to people.

In this guide you will find tips and tools for:

- Animal Care and Management
- Zoonotic Diseases
- Disease Prevention Information for Visitors
- Staff Training
- Facility Design and Use

The following recommendations are adapted from:

[AnimalsInPublicSettings2023.pdf \(nasphv.org\)](#)

If you have questions about these materials, contact:

OneHealth@tn.gov

Animal Care and Management

Animals that appear clean and healthy can pass on harmful germs to people. Take steps to minimize disease spread from animals to visitors and staff.



- ✓ Make sure all animals get preventive care from a veterinarian.
- ✓ Keep rabies vaccinations up to date as recommended by your veterinarian.
- ✓ Deworm animals routinely as recommended by your veterinarian.
- ✓ Minimize stress and overcrowding in animal housing as these conditions can increase the shedding of harmful germs such as *Salmonella* and *E. coli*.
 - Animals, especially young animals, can easily become stressed by loud noises and overcrowding that can be created by young human visitors. Consider taking extra precautions on high traffic days to avoid potential shedding and spreading of germs.
- ✓ Observe animals daily for signs of illness.
- ✓ Isolate sick and injured animals from the public and other animals immediately, especially if they have diarrhea/scours.
 - Have only limited, designated staff/volunteers enter isolation areas.
 - Use separate coveralls or other full clothing coverage, gloves, boots, or shoe covers in isolation area.
 - Use separate cleaning, feeding, and treatment supplies.

- Attend to the isolation area last for cleaning and animal care, after taking care of healthy animals.
- ✓ Prevent public contact with sick animals.
- ✓ Prevent public access to birthing animals or birthing products.
- ✓ Quarantine new individual animals or groups of animals from established animals for at least 30 days.

Zoonotic Diseases

Animals that are healthy and well cared for can still carry germs that can make people sick.

The following tables outline the types of germs that each animal can carry, as well as signs and symptoms in both animals and humans.

Table 1. Types of germs commonly found in farm animals.

Species of Animal	Bacteria	Parasite	Fungus	Virus
Cattle	<i>Campylobacter</i> <i>Salmonella</i> <i>Escherichia coli</i> O157:H7 <i>Leptospira</i> <i>Coxiella burnetii</i> (Q fever)	<i>Cryptosporidium</i>	Dermatophytosis (Ringworm)	
Sheep	<i>Campylobacter</i> <i>Salmonella</i> <i>Escherichia coli</i> O157:H7 <i>Coxiella burnetii</i> (Q Fever)			Soremouth
Goats	<i>Campylobacter</i> <i>Salmonella</i> <i>Escherichia coli</i> O157:H7 <i>Coxiella burnetii</i> (Q Fever)			Soremouth
Llamas	<i>Campylobacter</i> <i>Salmonella</i> <i>Escherichia coli</i> O157:H7			
Pigs	<i>Campylobacter</i> <i>Salmonella</i> <i>Leptospira</i> <i>Yersinia enterocolitica</i>		Dermatophytosis (Ringworm)	Influenza
Chickens, ducks, turkeys	<i>Campylobacter</i> <i>Salmonella</i>		Dermatophytosis (Ringworm)	Influenza
Rabbits			Dermatophytosis (Ringworm)	

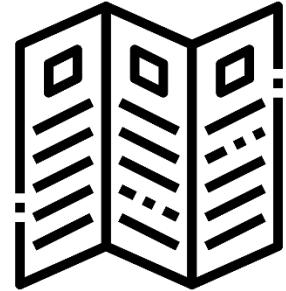
Table 2. Common symptoms in animals and humans.

Germ	Symptoms in Animals	Symptoms in Humans
<i>Campylobacter</i>	Diarrhea (cattle, sheep, and goats may have abortions)	Diarrhea, cramping, fever
<i>Salmonella</i>	Cattle may have fever, diarrhea, and abortion	Diarrhea, vomiting, fever
<i>E. coli</i>	None	Bloody diarrhea, cramps
<i>Cryptosporidium</i>	Calves may have diarrhea and scours	Watery diarrhea, fever, nausea, vomiting

Of note: Although rare, an *E. coli* infection can cause Hemolytic Uremic Syndrome (HUS), which is a condition that mainly affects children under the age of 10 years old. HUS often causes damage to the lining of blood vessel walls, destruction of red blood cells, and kidney failure.

For more information about safe interactions with animals at your agritourism business, visit [Microsoft Word - Agritourism Owner Fact Sheet \(nasphv.org\)](https://www.nasphv.org/microsoft-word-agritourism-owner-fact-sheet)

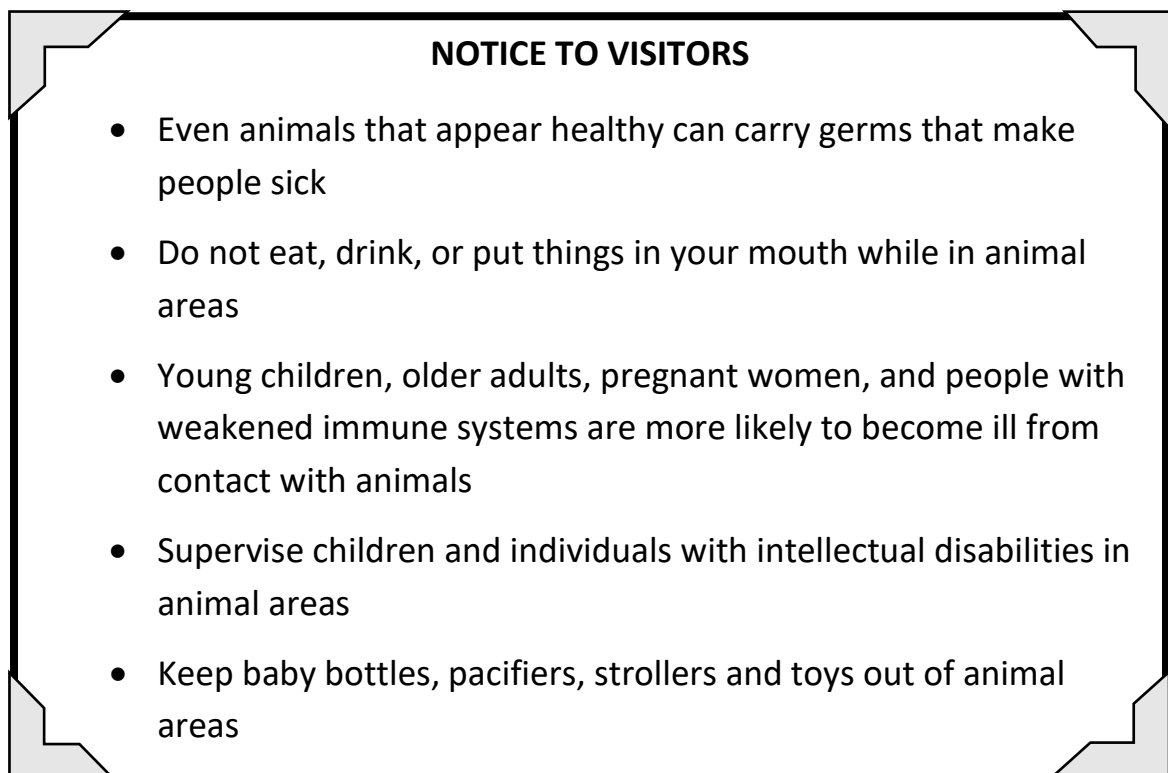
Disease Prevention Information for Visitors



Provide visitors with information about risks associated with animals and how to prevent disease spread.

Share important health messages through posters, signs, stickers, handouts, and verbal reminders.

- ✓ Post a sign for visitors to see before they enter the animal exhibit area. An example is provided below:



- ✓ Post a sign at each animal exhibit exit **reminding visitors to wash their hands.**
 - Encourage visitors to wash hands immediately after leaving animal areas and before eating or drinking.

- Remind visitors that hand sanitizer is NOT an appropriate substitute for hand washing, as hand sanitizer does not kill all germs that can be found on a farm.
- Make signs about locations of handwashing facilities easy to see.
- ✓ Inform caregivers of young children that:
 - **Young children should not have direct contact with certain animals or their manure or bedding.** This includes young calves, live poultry, reptiles, amphibians, lambs and baby goats.
 - **Young children should be supervised at all times** to discourage hand-to-mouth activities (e.g. nail biting, thumb sucking).

Hand washing is the most important step toward preventing disease. Remind caregivers to supervise young children while washing hands.



How to wash hands properly:

- Wet hands with clean, running water
- Apply soap
- Rub hands together to make a lather and scrub well – make sure to include backs of hands, between fingers, and under fingernails
- Rub hands at least 20 seconds, about the time it takes to sing the “Happy Birthday” song twice through
- Rinse hands thoroughly
- Dry hands using a clean paper towel or air dry them; do not dry hands on your clothing



Print out this handwashing sheet and post it at your handwashing stations. To download and print a copy, click [here](#).



Staff training & education

Train anyone who works near animals so that they are aware of risks associated with animals and how to prevent disease spread.

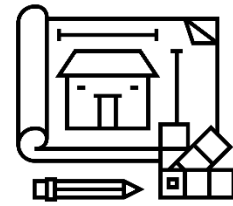
- ✓ Provide specific training for new staff and annual training for all staff that includes the following topics:
 - Their role in keeping people safe and healthy while interacting with animals
 - How to respond to reports of animal scratches, bites, and kicks
 - How to report signs and symptoms of illness in animals
 - How to properly handle and remove waste and contaminated bedding
 - How to clean and disinfect animal enclosures and all contact surfaces, such as gates, handles, railings and fencing
 - The most important steps to take to keep people safe and healthy around animals



Pass this fact sheet out to all staff and volunteers.
To download and print, click [here](#).

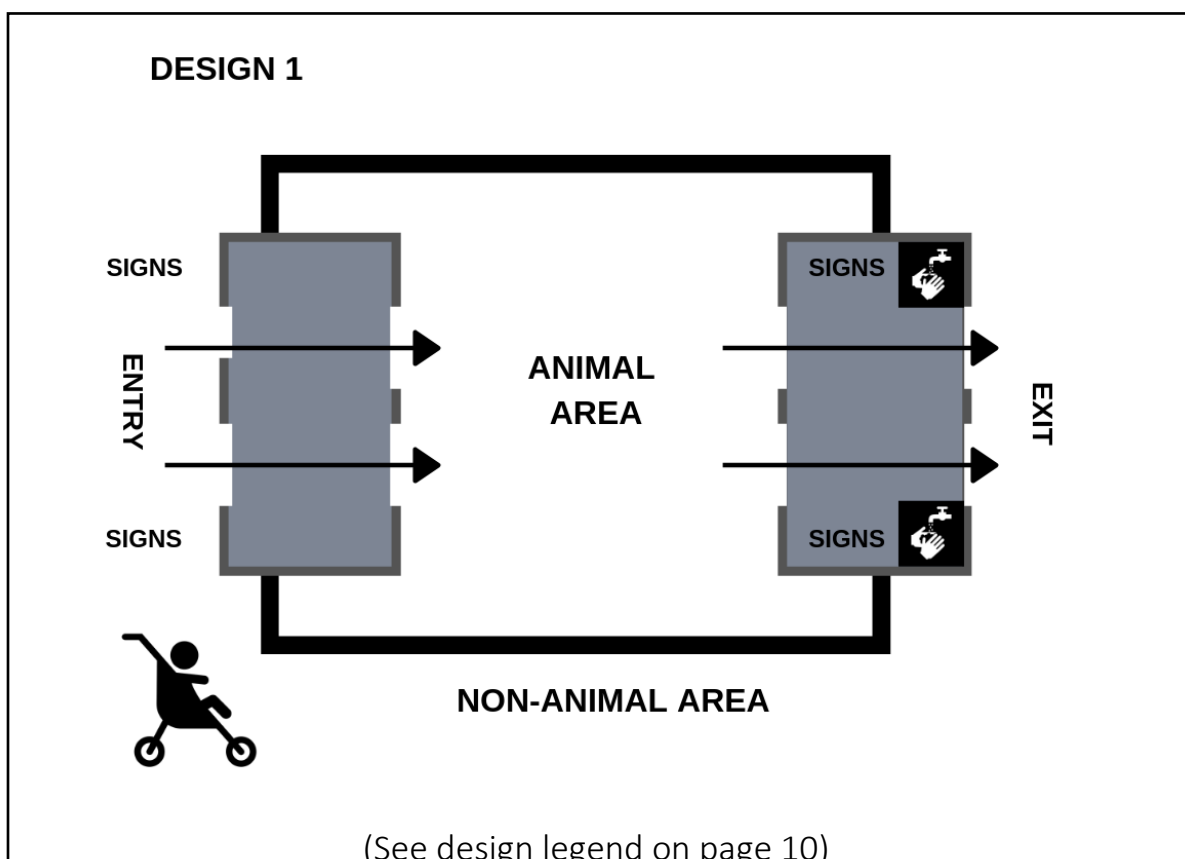
Facility Design and Use

A well-designed facility will help minimize disease spread from animals.

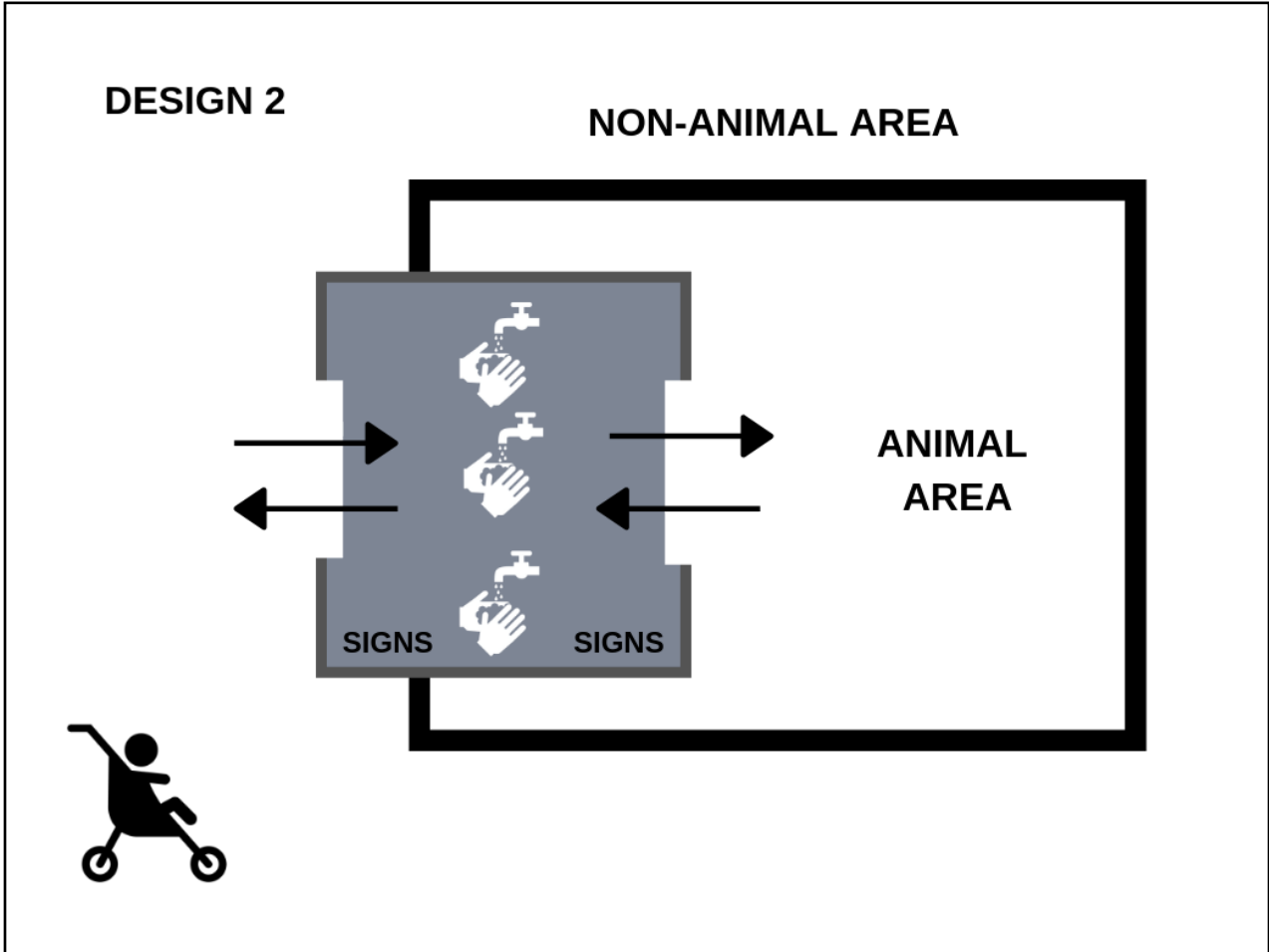


- ✓ A facility should have 3 types of areas:
 - **Non-animal areas** - where animals are not permitted
 - **Transition areas** - located at entrances and exits to animal areas
 - **Animal areas** - where animal contact is possible

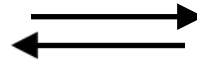
Here are two options for design. Note the three area types in both arrangements.



(See design legend on page 10)



TRANSITION INTO OR OUT OF ANIMAL AREA (single entry and exit shown in design 2)



FLOW OF VISITORS



DESIGNATED STORAGE FOR STROLLERS AND OTHER PERSONAL ITEMS



HAND-WASHING STATION LOCATION

SIGNS

ENSURE SIGNS ARE VISIBLE TO VISITORS AND OUTLINE GUIDANCE FOR INTERACTING WITH ANIMALS AND WASHING HANDS

Child Development and Design and Safety Strategies

Agritourism attractions can be an exciting and educational opportunity for children of all ages. Oftentimes, children are unaware of the risks associated with the attraction and perceive the farm as a playground. It is important to talk to children and adults about safety when they are visiting. Remember that adults may also not be familiar with risks associated with agricultural operations. Encourage parents and guardians to take responsibility for watching their child(ren) and follow safety guidelines to avoid accidents and injury. **Table 2** contains information on the developmental abilities of children and adolescents and includes general safety strategies for agritourism businesses, based on age and developmental characteristics.

For more information about healthy and safe agritourism interactions for children, please visit: [MCRF-Centers-NFMC-NCCRAHS-AgritourismHealthandSafetyGuidelinesforChildren2011.2.pdf \(safeagritourism.org\)](https://www.safeagritourism.org/AgritourismHealthandSafetyGuidelinesforChildren2011.2.pdf)

Table 2. Child development and appropriate safety strategies

Developmental Characteristics	Safety Strategies
6 – 23 months	<ul style="list-style-type: none"> • Has difficulty with balance • Experiments by touching, smelling and tasting • Enjoys simple pretend play • Explores and gets into everything • Cannot sit still for more than a few minutes • No sense of danger
2 to 5 years old	<ul style="list-style-type: none"> • Energetic • Can jump over objects 5 to 6 inches high • Can solve problems if simple and concrete • Will play alone or with others • Enjoys mimicking adults • Has illogical and imaginative thinking • Is attracted to adult farm activities • Can not fully understand dangers
6 to 8 years old	<ul style="list-style-type: none"> • Poor hand-eye coordination • Seeks parental approval • Operates with concrete facts • Unable to have abstract thought • Enjoys quiet activities • Curious about how things work • Short attention span, likely to remain active • Will attempt adult activities to impress parents

9 to 10 years old	<ul style="list-style-type: none"> • Has good coordination skills, but will have awkward moments • Desires peer and social acceptance • Desires to be independent from adults, will attempt to do activities without them • Successes are important • Improvements in reaction time • Specialized motor skills have developed • Body strength and dexterity increase • Does not fully understand consequences • Risk taker 	<ul style="list-style-type: none"> • Provide periodic supervision • Set simple rules with consistent consequences • Reward child for good behavior • Do not allow child to be an extra rider or to operate machinery • Require handwashing
11 to 13 years old	<ul style="list-style-type: none"> • Growing at a steady rate • Small muscles are developing rapidly • Has same coordination as adults but lapses of awkwardness are common • Has increasing physical and mental skills • Desires peer and social acceptance • Wishes to try new skills without constant adult supervision • Signs of independence emerging • Success important for self-concept 	<ul style="list-style-type: none"> • Provide periodic supervision • Set clear and consistent rules, discuss consequences and rewards • Provide specific education on farm hazard prevention • Require handwashing
14 to 16 years old	<ul style="list-style-type: none"> • Growing rapidly and physically changing leads to awkward movement • Has moved from concrete thinking to abstract; enjoys mental activity • Can find solutions to own problems but still needs adult guidance • Feels need to be accepted by peers • Resists adult authority • Rebellious, risk-taking, mood swings and aggressiveness are typical behaviors • Feels immortal • Needs independence and identity 	<ul style="list-style-type: none"> • Provide periodic supervision • Be consistent with rules • Provide safety education using specific examples of hazards and potential injuries • Require handwashing
17 to 18 years old	<ul style="list-style-type: none"> • Awkwardness overcome, mastery of small and large muscles basically complete • Knows abilities, becoming independent person • Feels immortal • May act like child one day, adult the next • Rebelliousness, risk-taking, and aggressiveness are typical behaviors • Consistent treatment from adults important • Need independence and identity • Has increased sense of adult responsibilities, thinking of future 	<ul style="list-style-type: none"> • Provide rules and allow open communication • Encourage/ask to serve as a role model for teaching younger children about farm safety • Provide safety education and remind of serious and real consequences of risk-taking

Concepts referenced from:
 Fisher, RM and Lee, BC (2006). *Interactive Demonstrations of Safe Play Areas*. Marshfield, WI: Marshfield Clinic
 Murphy, D and Hackett, K (1997). *Children and Safety on the Farm*. University Park, PA: Pennsylvania State University

Additional design recommendations/requirements include:

- ✓ Provide an accessible handwashing station.

Handwashing stations should:

- Have running water and soap.
 - Hand sanitizer is not a sufficient method for removing germs in an agritourism setting.
 - Be accessible for children and persons with disabilities.
 - Have an adequate cleaning and restocking schedule.
 - Be near animal area exits.
 - Provide an area where strollers, wagons and other items can be stored outside animal areas.
- ✓ Design animal areas so that public contact with animal waste is minimized.
 - ✓ Avoid transporting animal waste through public areas and store waste removal tools in areas that are restricted from public access.
 - ✓ Monitor animal contact areas to ensure that visitors:
 - Remain safe when interacting with animals.
 - Do not bring in food or drink, pacifiers, strollers, or bottles.
 - Do not play on the ground.
 - Wash their hands when leaving the animal area.

- ✓ Keep eating areas separate from animal areas and provide handwashing facilities where food and beverages are prepared and consumed.
- ✓ Regularly clean and disinfect surfaces, including gates, handles, railings, and fencing.
- ✓ Only allow certain personal animals (e.g. service dogs and service miniature horses) in non-animal areas, and do not allow any personal animals in any animal areas.
- ✓ Keep buildings well ventilated, but avoid creating dust (e.g. through use of fans, vacuuming, leaf-blowing) which might distribute germs.

Resources:

Compendium of Measures to Prevent Disease Associated with Animals in Public Settings, 2023- [AnimalsInPublicSettings2023.pdf \(nasphv.org\)](#)

Center for Food Security of Public Health disinfection site — includes information on available disinfectants and how to use them:

<http://www.cfsph.iastate.edu/Disinfection/index.php>

National Children’s Center for Rural and Agricultural Health and Safety-
[Agritourism Safety - Integrating Safety into Agritourism](#)
(safeagritourism.org)