

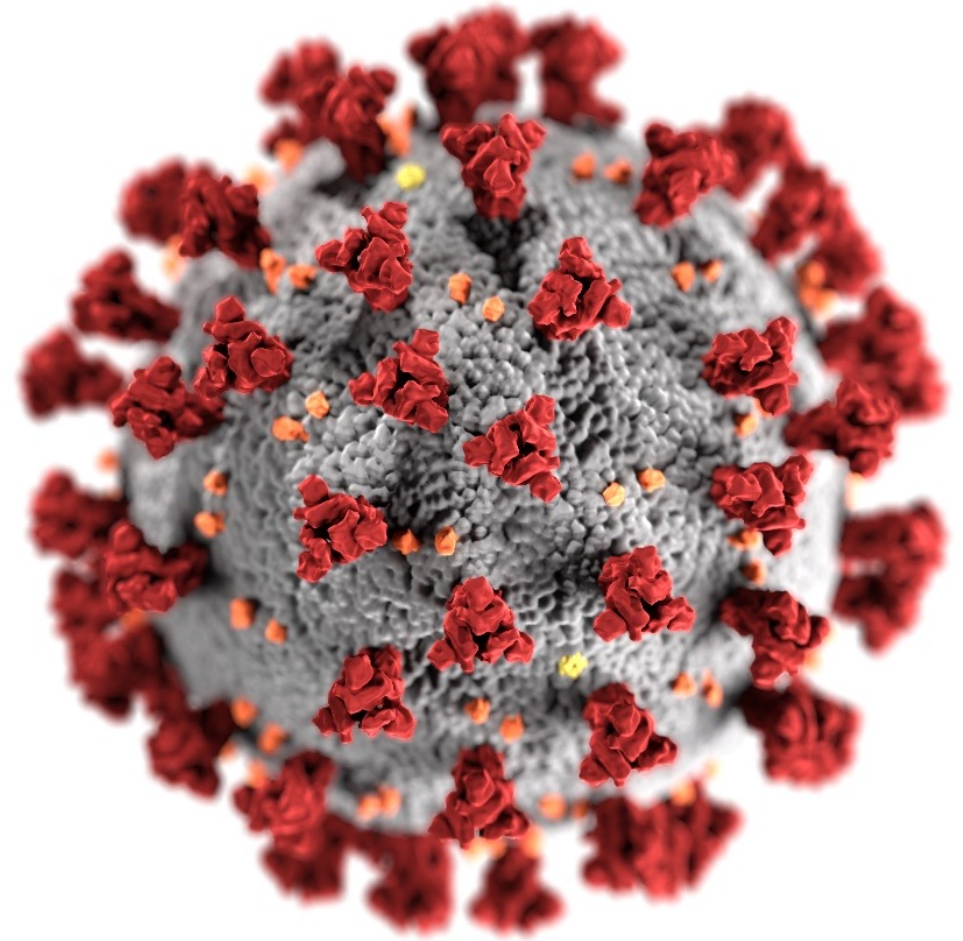
SARS-CoV-2 at the Zoo: Update on Investigations and Interventions to Prevent Infections in Captive Wildlife

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U.S. Centers for Disease Control and Prevention



cdc.gov/coronavirus

How do we...

**Protect employee, volunteer, visitor, and animal health?
Prevent virus spillback?
Protect endangered species?**



Example COVID-19 Mitigation Strategies at Zoos



**Masks are in this year.
Please wear yours indoors.**

Regardless of vaccination status, face masks required indoors for people age five and older.



Reservations required.

Members and general guests are required to book an advanced reservation on detroitzoo.org.



**Limited capacity and
timed ticket entry.**

All guests and members must schedule their time slot on our website prior to their visit so that we can maintain capacity limits and ensure touchless transactions.



Stay safe.

Keep an eye out for visual markers to help you maintain the proper 6-foot distance from other groups as you visit the Zoo.



**Indoor
viewing areas**

Most indoor spaces are open to visitors. Regardless of vaccination status, face masks required indoors for people age five and older.



**Mobile food orders
and online shopping.**

The Detroit Zoo location of Buddy's Pizza now offers mobile orders in advance! Visit <https://detroitzoo.mynrcsilver.com> to order today. Zoofari Market is open and online ordering is also available at shop.detroitzoo.org/.

COVID-19 Mitigation Strategies at Zoos



**MARYLAND ZOO
PREPARES TO
VACCINATE ANIMALS
AGAINST COVID-19**

Cincinnati Zoo vaccinates 80 animals against Covid-19

The zoo said it has been vaccinating big cats, great apes, red pandas, goats, giraffes, river otters, skunks, bearcats and some domestic dogs and cats.

Interventions



- Public health, animal health, captive wildlife facilities (zoos, sanctuaries, aquaria), and professional organizations are collaborating to:
 - Conduct **investigations**
 - **Identify and implement mitigation measures**
 - Assess **risk factors** for SARS-CoV-2 transmission between people and zoo animals, and identify effective interventions
 - Provide **outreach** to membership with updated recommendations
 - Develop the **COVID-19 Infection Prevention and Control Assessment Tool for Captive Wildlife Facilities**

COVID-19 Infection Prevention and Control Assessment Tool for Captive Wildlife Facilities

Zoos, Sanctuaries, Aquaria, and Wild Animal Rehabilitation Centers

- Developed using a collaborative, One Health approach
 - Association of Zoos and Aquariums
 - Zoo & Wildlife Subgroup of the One Health Federal Interagency COVID-19 Coordination group
 - Additional partners
- Modeled on other infection control assessment tools and adapted to captive wildlife settings
- Informed by zoo investigation findings, SARS-CoV-2 and wildlife guidance, and biosecurity principles

[COVID-19 Infection Prevention and Control Assessment Tool for Captive Wildlife Facilities - Zoo and Aquarium All Hazards Partnership \(zahp.org\)](https://zahp.org)

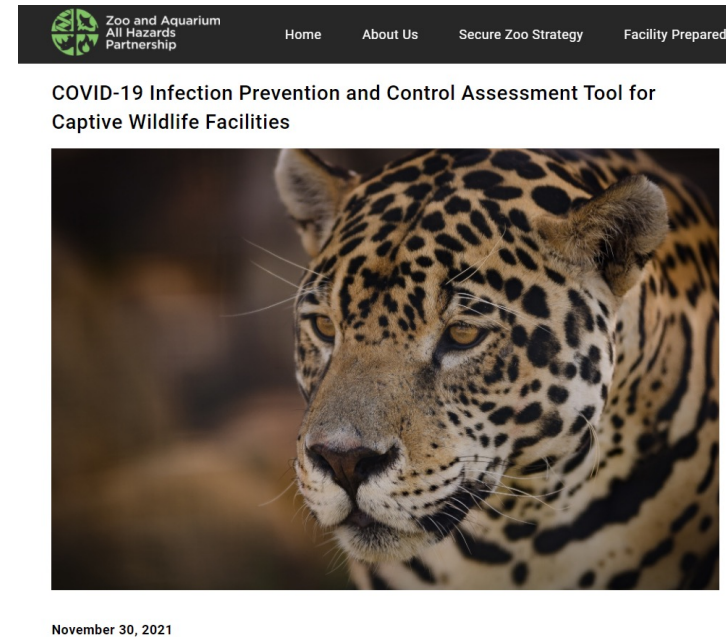
COVID-19 Infection Prevention and Control Assessment Tool for Captive Wildlife Facilities

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■ Tool Objectives

- User friendly
- Check minimum components of a biosecurity plan to ensure baseline level of protection is in place
- Identify gaps in control measures
- Guide improvement activities
- Address identified gaps in biosecurity

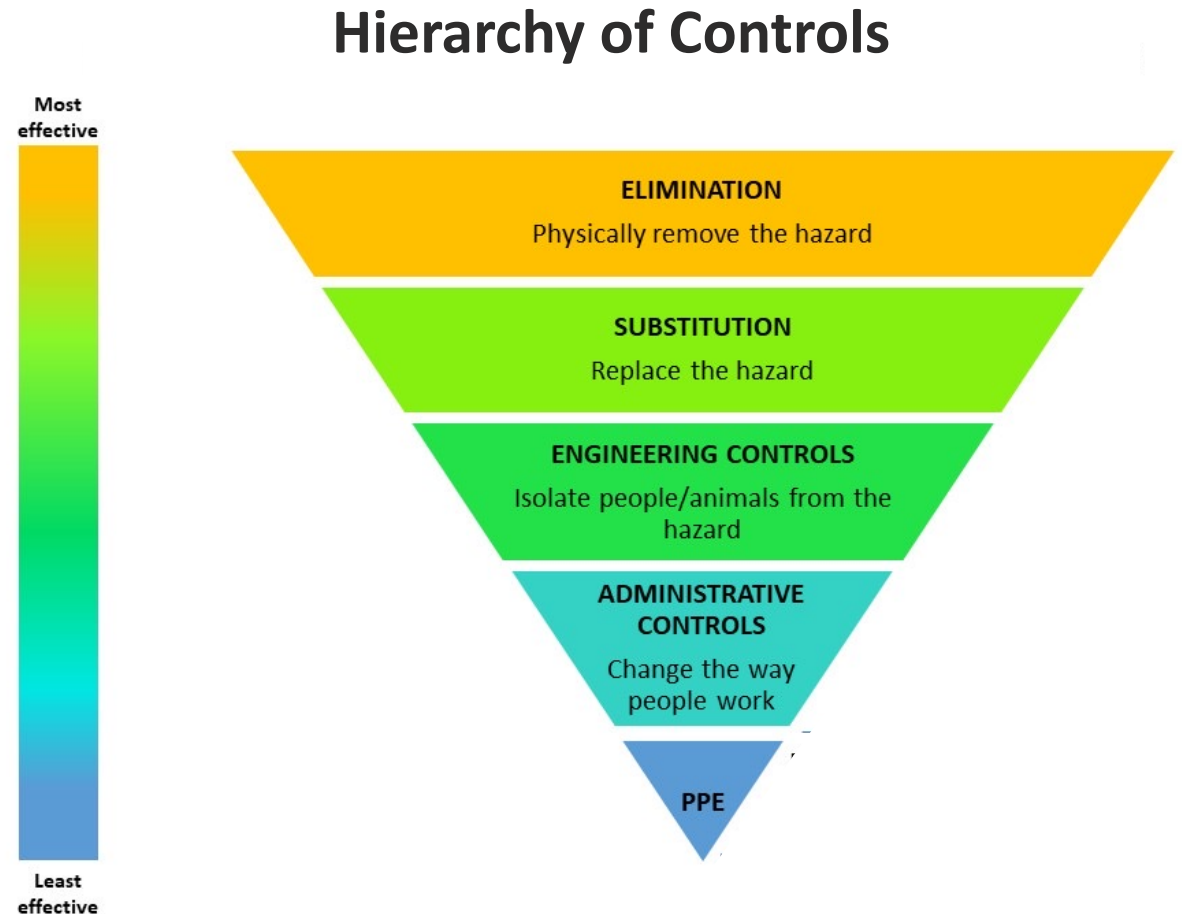
Goal: Help facilities develop a layered approach using multiple strategies to prevent SARS-CoV-2 transmission



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- Checklist developed using principles of the Hierarchy of Controls
 - Consider different intervention strategies
 - Control exposures to hazards



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Screen and restrict access to the areas where animals are kept



Stay home when sick



6ft



Social distance



Everyone, including visitors, should wear appropriate PPE



Clean and disinfect using an EPA-approved disinfectant

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■ Checklist:

Section 1. General Infection Prevention and Control

Section 2. Hand Hygiene

Section 3. Environmental Cleaning

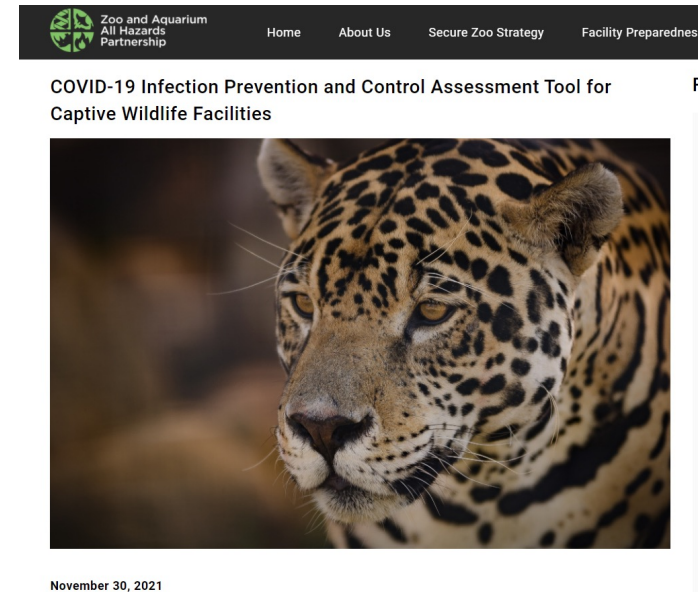
Section 4. SARS-CoV-2 Vaccination & Testing

Section 5. Staff and Visitor Education

Section 6. Personal Protective Equipment (PPE)

Section 7. Other Public Health Control Measures

■ Resources



Facility Self-Assessment Checklist for Biosecurity Measures

COVID-19 Infection Prevention and Control Assessment Tool for Captive Wildlife Facilities: Zoos, Sanctuaries, Aquaria, and Wild Animal Rehabilitation Centers

This checklist provides a guide for baseline biosecurity measures and controls that should be in place to prevent transmission of SARS-CoV-2 between animals housed in captive wildlife facilities and people (including employees such as caretakers, maintenance staff and other employees, volunteers, and the public) who may have direct or indirect contact with animals or their environment

This assessment tool is meant to be used by the administrator(s) in charge of infection prevention and control at the facility, occupational health, respiratory protection, human resources, veterinary staff, or facilities and maintenance. It is not meant to be an exhaustive list of considerations for preventing SARS-CoV-2 transmission, but a quick check of the minimum components of a biosecurity plan to ensure a baseline level of protection is in place. A layered approach using multiple strategies, including social distancing, personal protective equipment, hand hygiene, vaccination, and other items described in this list is recommended to reduce the spread of disease between people (whether working or visiting) and animals housed at these facilities.

Instructions:

- While completing this assessment, consider all areas of the facility where susceptible animal species are housed and complete a separate assessment for each if policies and practices differ depending on the housing location.
- The preferred answer to most questions is yes, unless specified otherwise.
- Suggestions are provided to improve the biosecurity area in the case that it is not currently being implemented at the facility.
- A list of resources is available at the end of the checklist.

Facility self-assessment checklist for biosecurity measures in place to prevent COVID-19 transmission between people and animals at zoos, sanctuaries, aquaria, and wild animal rehabilitation centers.

Section 1. General Infection Prevention and Control

| Question | Yes | No | Suggestions to improve this biosecurity area |
|---|-----|----|---|
| GENERAL FACILITY MANAGEMENT | | | |
| 1. Are COVID-19 symptom and temperature screening in place for: | | | <p>A COVID-19 symptom and temperature screening system is recommended for anyone entering the facility. Anyone experiencing COVID-19 symptoms, is confirmed or suspected of having COVID-19, or exposure to someone else with COVID-19 should not enter the facility or interact with or around known or susceptible animal species.</p> <p>An example of a screening program can be found here: https://www.doh.wa.gov/Portals/1/Documents/1600/coronavirus/Employervisitorscreeningguidance.pdf</p> |

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CHECKLIST

Section 1: General Infection Prevention and Control

— General Facility Management

- ☐ Is there a capacity limit?
- ☐ Are there policies to prohibit visitors from feeding animals?
- ☐ Is there signage to remind employees, volunteers and visitors to social distance?
- ☐ Is there signage to describe enhanced mitigation measures and potential for SARS-CoV-2 transmission from people to animals?
- ☐ Are face masks (e.g., multiple-ply surgical masks) available or provided to employees, volunteers, and visitors?

— Susceptible Species Management

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CHECKLIST

Section 1: General Infection Prevention and Control

- General Facility Management
- **Susceptible Species Management**
 - ☐ Have the species known or suspected to be susceptible to SARS-CoV-2 at the facility been identified?
 - ☐ Is there a log of employees and volunteers that have direct contact with those animals?
 - ☐ Are the number of employees working with or near susceptible animals limited to the minimum number to safely complete the tasks?
 - ☐ Is the sequence of caretaking animals in line with the following:
 - First: Care for susceptible animals that are healthy
 - Last: Care for animals with clinical signs compatible with SARS-CoV-2
 - ☐ Are there barriers to prevent visitors from coming into close contact with susceptible animals?
 - ☐ Are there solid barriers in place that separate susceptible animal enclosures by at least 6 feet?
 - ☐ Has a ventilation system assessment been conducted? [Ventilation in Buildings | CDC](#)
 - ☐ Is there an isolation area to keep animals with respiratory or gastrointestinal signs?
 - ☐ Are feces removed regularly from animal enclosures and properly disposed of?

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CHECKLIST

Section 2: Hand Hygiene

- ☐ Are hand washing stations available in or near the animal areas for employees, volunteers, and visitors?
- ☐ In the case that hand washing stations are not easily accessible, is hand sanitizer containing at least 60% alcohol available in or near the animal areas?
- ☐ Is there signage to encourage employees, volunteers, and visitors to perform hand hygiene at appropriate times (e.g., entering and leaving animal areas)

Section 3: Environmental Cleaning

- ☐ List the cleaning and disinfection products used in the facility for high touch surfaces, equipment, and floors and other surfaces in animal husbandry or veterinary areas.
 - ☐ Are these products on [EPA List N: Disinfectants for COVID-19?](#)
 - ☐ Are these products being used according to label directions?

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CHECKLIST

Section 4: SARS-CoV-2 Vaccination and Testing

- Human health
 - ☐ Does the facility have a SARS-CoV-2 testing policy for employees, volunteers, or visitors?
 - ☐ Does the facility have a SARS-CoV-2 vaccination policy for employees, volunteers, or visitors?
- Animal health
 - ☐ Does the facility have a SARS-CoV-2 animal testing protocol?
 - ☐ [Evaluation for SARS-CoV-2 Testing in Animals | CDC](#)
 - ☐ Have the susceptible species received the SARS-CoV-2 vaccine or is there a plan for vaccination?

Section 5: Staff and Visitor Education

- ☐ Are educational signs, informational placards, or other materials available for visitors?
- ☐ Have employees and volunteers received information and training on:
 - ☐ Which animals are confirmed or known to be susceptible to SARS-CoV-2 infection?
 - ☐ Risk mitigation training to prevent SARS-CoV-2 transmission between people and animals?

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CHECKLIST

Section 6: Personal Protective Equipment (PPE)

- ☐ Does the facility have a respiratory protection program administered by a qualified person knowledgeable in occupational health?
- ☐ Are all appropriate employees and volunteers included in the respiratory protection program?
- ☐ What forms of PPE are employees and volunteers required to wear? Respiratory protection (e.g., surgical mask, cloth face mask, N-95, other?), protective eyewear, gloves, dedicated clothing and footwear?
- ☐ Have employees and volunteers been trained to properly wear PPE?
- ☐ Are visitors required to wear a face mask in any areas of the facility?
- ☐ Are visitors required to wear a face mask when in direct or close contact with susceptible animals (e.g., animal encounters or behind the scenes tours)?

Section 7: Other Public Health Control Measures

- ☐ Are flexible, non-punitive sick leave policies in place that help encourage sick employees to stay home?
- ☐ Is there a reporting process to alert state and/or federal agencies of any SARS-CoV-2 susceptible animal with possible exposure to a person with SARS-CoV-2 or if the animals display clinical signs consistent with SARS-CoV-2?

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RESOURCES

■ Federal Resource Webpages

- CDC: [COVID-19 and Animals](#)
- CDC: [Evaluation for SARS-CoV-2 Testing in Animals](#)
- USDA: [Confirmed Cases of SARS-CoV-2 in Animals in the United States](#)
- USGS: [Assessing the Risks Posed by SARS-CoV-2 in and via North American Bats—Decision Framing and Rapid Risk Assessment](#)
- EPA: [List N Advanced Search Page: Disinfectants for Coronavirus \(COVID-19\) | US EPA](#)

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RESOURCES

■ Professional Organization Resource Webpages

- Zoo and Aquarium All Hazards Preparedness, Response, and Recovery (ZAHP) Fusion Center: [Considerations for the management of non-domestic species in human care during COVID-19](#)
- Association of Zoos and Aquariums: [COVID-19 Resources](#)
- Felid TAG: [Updated guidance for working around non-domestic felid species during the SARS-CoV-2 pandemic](#)
- American Association of Zoo Veterinarians: <https://www.aazv.org/>
- American Veterinary Medical Association: [Disaster Preparedness Resources](#)
- Association of Fish and Wildlife Agencies: [COVID-19 and North American Species of Mustelidae, Felidae, and Canidae](#)
- IUCN SSC Bat Specialist Group: Protecting Bats from COVID-19 <https://www.iucnbsg.org/bsg-publications.html>
- The National Association of State Public Health Veterinarians: [Compendium of Veterinary Standard Precautions for Zoonotic Disease Prevention in Veterinary Employees](#)
- Wildlife Disease Association: [COVID-19 Information](#)

What's next?

- **Distribute** Infection Prevention and Control Assessment Tool for Captive Wildlife Facilities
 - Questions or feedback, please contact Kate Varela onehealth@cdc.gov
- **Continue collaboration** between One Health partners
 - Captive wildlife facility animal SARS-CoV-2 outbreak investigation support
 - Studies to identify risk factors
 - Provide technical expertise

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November 30, 2021

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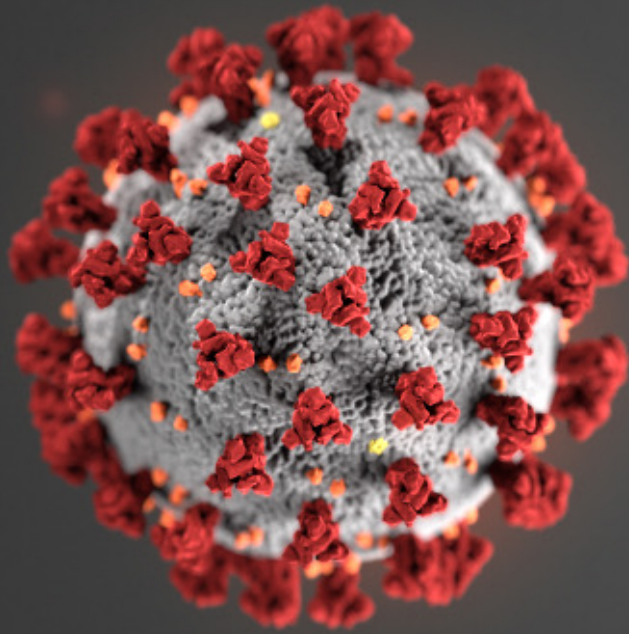
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Questions?





THANK YOU

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

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