Contingency Planning for the
Exotic Animal Industry
Workbook

Disclaimer

Emergency and Disaster Response, particularly involving wildlife, is inherently dangerous, potentially life threatening. This instructional session is intended only as a basic introduction to the complexity of such situations. Working with wounded, sick, or disoriented animals is inherently hazardous and unpredictable. Disaster environments magnify the risks and the unpredictability of both the animal and the situation. The authors, instructors, and sponsors of this program are not liable for any failures, complications, or injuries to persons or animals, or damage to property arising from procedures described in this presentation. Guidelines provided herein are based on experience of the instructors and current information, but all principles herein should be re-evaluated prior to consideration.

Templates including equipment, drugs, and dosages are for example only. They are neither intended to be formulaic nor recommended.

No pharmaceutical examples should be used as drug or dosage reference.

Workbook for Module 1
Set objectives and start contingency planning

Or, why do I need contingency planning? How do I start?

We are encouraged that you have gotten as far as opening this workbook! Contingency planning prepares an organization to think through what to do when things go very wrong, such as in natural disasters (e.g., storm or fire) or operational disasters (e.g., facility bankruptcy). It is essential that your facility starts and continues planning. Knowing what to expect and understanding the emergency management world gives staff the tools to advocate for your facility and decide what to do in an emergency. **While a plan is an output, the *planning process* and a good *planning team* are the truly sustainable and critical outputs.**
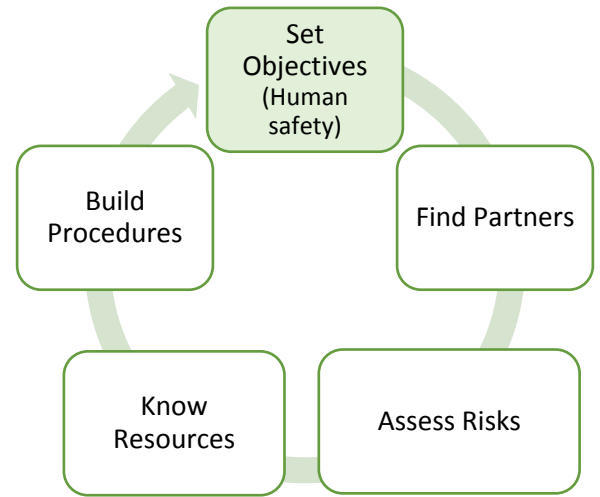
The content in these workbooks are only examples. You and your planning team are encouraged to develop plans unique to your facility. You may not need all of the elements described in this series, or you may need more. Start conversations with your planning team to decide what the planning process needs to include.

The natural place to begin is at setting objectives. Incredibly, not knowing what we want can be our biggest failure, so it is so important to know how to set objectives. We use the mnemonic "SMART" to help us keep objectives well thought and concrete.

Simple	Easy to understand
Measureable	Quantitative so that you can gauge success
Achievable	It can be done successfully
Realistic or Reasonable	It is sensible and not extraordinary
Time sensitive	It has a time factor

Understand SMART objectives before you begin writing your plan. You must have a clear idea of what you want in order to plan for it. For example, the table below is what you might develop for the aviary example from the Module 1 presentation.

	Aviary Example
Simple	Protect the bird collection.
Measureable	All 24 collection birds will be relocated to indoor holding. 0 will be left in the outdoor aviary.
Achievable	We have space and equipment on hand for the task.
Realistic or Reasonable	We know this is possible because we do this routinely.
Time sensitive	They will be moved at least 48 hours before the storm.

Practice this skill

List at least 3 SMART objectives for your facility. Practice how you would write a SMART objective for your facility.

	Objective 1 for Your Facility: Ensure human safety
Simple	
Measureable	Hint: avoid open-ended activities such as "stay safe" but quantify it as in "zero fatalities."
Achievable	
Realistic or Reasonable	
Time sensitive	

Module Summary

In module 1, you were challenged to form SMART objectives for your facility. SMART is an acronym for Simple, Measurable, Achievable, Realistic, and Time-sensitive. Set an appropriate objective so that you can gauge success.

Module 1 Notes:

Workbook for Module 2
Find partners including emergency management professionals to help your planning

Or, am I in this alone?

You may find Contingency Planning daunting, but rest assured, others have done it before. Encourage your planning team to look at existing models. Knowing what other organizations have done will probably save your team some work.

Adapt what others have done, for example at Ready.gov. Ready.gov has sections focused on individuals and families, and sections focused on businesses. Many of the concepts and procedures are adaptable to the exotic animal industry (EAI). Ready.gov content was developed by professional emergency managers and was specifically created to help citizens think through planning. Reaching out to emergency management professionals, especially your local ones, guides your facility's planning AND also builds real-world partnerships.
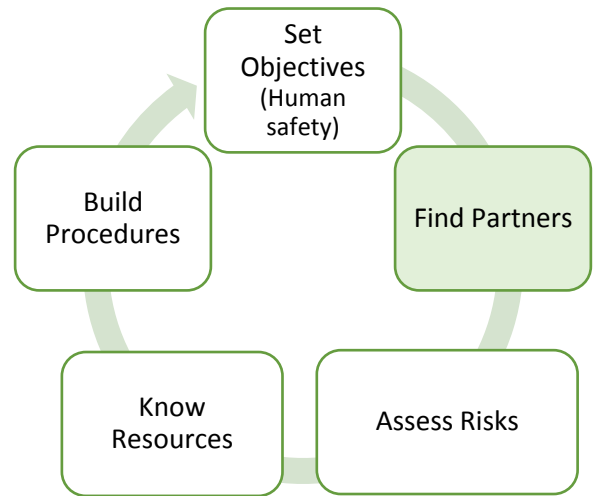
EM Literacy

Always remember that it is your responsibility to introduce your planning team to potential partners, and to decide which partners to invite to your planning team. Including these partners early in your planning builds mutual understanding and helps facility and external decision-makers consider as many issues as needed.

Your partners in preparedness use the Incident Command System (ICS) to organize a response. It is highly suggested that your facility supports the adoption of ICS when planning, so that you understand the language your partners speak. Work with your local partners to adopt ICS into your planning. For more about the ICS, consider taking free, on-line courses offered by the Federal Emergency Management Agency (FEMA) Emergency Management Institute (EMI) at https://training.fema.gov/emi.aspx

Minimum recommended courses for the exotic animal industry (EAI) are:

- NIMS 700 a: The National Incident Management System: an Introduction
- ICS 100: An Introduction to the Incident Command System

Finding Local (City or County) Partners

Your local area probably has ongoing efforts in emergency management planning, risk assessment, training and response. List the disaster response partners for YOUR location. Below is an example of how to organize that information. Your partners and their capabilities will differ from the examples below. Expand your list as needed. In identifying potential local partners, consider questions such as:

- Do you have a local or county Animal Control agency?
- What is their authority in an emergency (e.g., animal capture)?
- How can they potentially assist your institution (e.g., potential mutual animal capture training)?

Table 1. Local Partners

Name	Contact number	Primary emergency response functions
County Sheriff's Office	1-234-234-3958	Law enforcement
City Emergency Management	1-124-234-3456	incident management
Fire Department	1-345-567-9876	Fire response
Jane Doe, Animal Control	1-234-567-8910	Can assist with small animal capture
Don Jones, County Extension	1-234-567-9876	Contact for access to farmers with livestock trailers
Pat Simmons, County Animal Response Team (CART)	1-234-567-8910	Works with Animal Control

Finding State and Federal Governmental Partners

Your state and federal partners have ongoing efforts in emergency management. In identifying potential state partners, consider questions such as:

- What are your state's capabilities, including any emergency management resources in the state agriculture department?
- How might they be involved in response to an animal agriculture disease outbreak?
- How are they involved in response to a natural disaster?
- What species may fall under the jurisdiction of your State Veterinarian? Managed wildlife? Pets? Livestock? Research animals? Working animals? Free-ranging wildlife? Other?
- In an emergency event, what functions/activities may the State Veterinarian conduct?
- What resources may the State Veterinary Office provide for your institution?

In identifying potential federal partners, consider questions such as:

- Is your facility regulated (and by what regulatory organization)?
- Has your facility ever utilized the expertise of USDA Wildlife Services or other Federal animal nuisance control? What expertise may they be able to provide in contingency planning for your facility?
- What USDA-APHIS-VS region are you in, and how do you contact your Veterinary Services offices?
- What functions does VS perform in Foreign Animal Disease outbreaks?
- What functions do USDA ESF 11 Coordinators perform?
- Is your facility eligible for FEMA assistance in a Federally Declared Disaster?

Table 2. State and Federal Partners

Name	Contact number	Primary emergency response functions
Dr. Mary Smith, State Veterinarian	1-123-345-6789	Disease control, disaster assistance
John Wayne, USDA Animal Care Inspector	1-891-011-1213	Animal Care is a point of contact with other stakeholders
Dr. Pete Smith, USDA Veterinary Services	1-987-654-3210	District Veterinary Services Office

Finding private sector and nongovernmental organizations (NGO) partners

The private sector has ongoing efforts in emergency management. In identifying potential private sector partners, consider who may have experience in planning or provide assistance in response. Consider questions such as:

- What are the private sector groups that could play a technical role in your facility's planning? Research facilities? Game ranches? Cattlemen's Associations?
- What are the private sector groups that could play a generalized role in your facility's planning? Acme Fencing? Fundraising-R-Us?
- Is the organization a proven partner? Do they self-deploy, uninvited?

Table 3. Private Sector Partners

Name	Contact number	Primary emergency response functions
Anti-cruelty Society		Possible alternative animal housing
Lincoln County Fairgrounds		Possible hoof stock relocation area
Cattlemen's Association		Source of livestock trailers
Red Cross		Human sheltering support (evacuation, feeding and sheltering) for animal caretaker staff

Remember that this is only one way to identify and document partners. Some users prefer to have all jurisdictions on one large table, such as below. Do what is right for your facility and planning team.

Table 4. All Partners and Jurisdictions

Local	State	Federal	Private	Name	Organization	Contact info	Primary functions
X				(Example) Wallace Grommit	County Sheriff's Office	1-234-234-3958	Law enforcement, public safety
	X			(Example) Dr. Mary Smith	State Veterinarian	1-123-345-6789	Disease control, disaster assistance
		X		(Example) Elmer Fudd	ESF11 Coordinator	fudd@esf11.gov	Coordinates Fed support for Ag and Natural Resources

Module Summary

In module 2 you identified potential partner organizations. These groups or individuals could assist with the planning process, and may be key in a response. Understand the difference between EM professionals who can help you with the process required for emergency management, and technical exotic animal or wildlife operations experts. Some of these can enter into formal agreements with you. These are usually called memorandum of understanding (MOU) or mutual aid agreements (MAA).

Module 2 Notes:

Workbook for Module 3
Planning with a thorough risk assessment

Or, what am I protecting, and from what?

Making a facility-specific plan means starting with a facility-specific risk assessment. You can't protect anything if you don't know what you are protecting it from. Like planning, risk assessment is a continuous process. Risk assessment estimates the chances of a particular hazard and the impact of the losses if that hazard strikes.

The information in this workbook are only examples and considerations. Don't forget that you have already identified some partners and some may have experience and ideas that will improve your planning. Use those relationships to guide your risk assessment.

Risk assessment is commonly broken down into five steps.

1. What is the hazard?
2. What will it harm and how?
3. What measures can you take to prevent or lessen the impact of the hazard?
4. Document your assessment and also the results of your measures.
5. Review and keep your assessment up to date. In contingency planning, it is the planning process that is key. **The plan is only a product of the process.**

Risk assessment is necessary because your resources are limited. Do not waste them on hazards that will not happen at your facility. Do not waste resources planning for a tsunami in a landlocked state. Don't make contingency plans for blizzards if it has never snowed at your facility. Remember that you have partnerships, and that they may be helpful in developing your priorities.

The table below is commonly used to categorize high probability, high consequence events as number 4. Focus on the types of hazards most likely for your facility, but also direct them to those with the highest consequences (potential losses). There is also little point in investing efforts to protect things that can be easily replaced, such as a standard water bucket in an exhibit.

Table 5. High Probability, High Consequence Events

	Low consequence	High consequence
Low Probability	1 (never happens, does not matter much)	**3 (rarely happens, matters a great deal)**
High Probability	2 (often happens and does not matter much)	**4 (often happens and matters a great deal)**

Vulnerabilities (Potential losses)

Many things your facility wants to protect are completely or partly under your own control, so identifying those is an important part of your risk assessment. These include the facility's animals, and visitors, and even
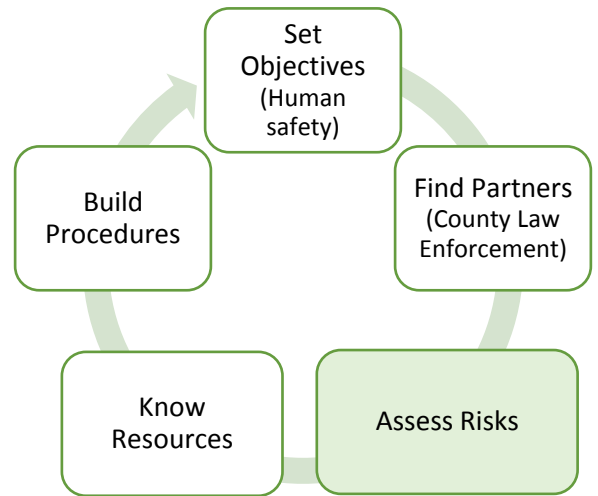
the quality of medical care for your animals. Think through your facility's assets such as those listed below and prioritize.

Some animals are vulnerable because they require special conditions

- What is the relative vulnerability to a species in your collection in adverse conditions or diseases?
- What species in your collection are sensitive to smoke? Water contamination?
- Agricultural disease vulnerable species?
- Aquatic species viability without filtration?
- Critical climate controlled exhibits such as penguin habitat and tropical displays. These exhibits may require special considerations.

Some animals are vulnerable because they can harm people. They can be a safety liability to the public, first responders and staff. While animal care professionals understand risks associated with species in their collections, often public and first responders do not. Keeping those animals safe depends heavily on decreasing their danger to humans. This increases the chances that your collection is discussed in enough detail and appropriately with internal and external teams. For example, consider the following animals.

- Venomous species; snakes, arthropods
- Dangerous Predatory Species that May Require Remote Capture/Lethal Force Capability (e.g., bobcat, or V. komodoensis)
- Lethal Force Predatory Species (e.g., bears, chimpanzee, crocodilians)
- Potentially Invasive/Hazardous Species posing potential Risk to Local Environment (e.g., ferrets, disease reservoir species)
- Local wildlife that could invade with facility perimeter compromise (e.g., raccoon)

Practice identifying potential losses at your facility

Think through some common assets at your facility that would be damaged in an emergency. This may closely resemble a list your facility supplies to it insurance company. Your list can be grouped by animal species as in the below table, or it can be grouped by facility location, or by staff responsibilities. The table below is only one example of a list. It is your responsibility to make a list that is unique to your facility.

Table 6. Potential Losses

Qty	Item	Specialized Equipment	Approved Personnel
2	fish eagle (example)	Welders' gloves, 4' hoop net	S. Jones
2	Panthera tigris (example)	Cable noose, Chemical Capture, Welders gloves, 30-30 rifle	Dr. Jones, Curators
1	Aviary 2000 SF	Specialized feeders and waterers, 500 SF of sheltered outdoor space	T. Pott, Bird curator
2	Red fox (example)	Cable noose, Chemical capture, Welders gloves, Live trap	J. Smith, S. Jones

Hazards

This section suggests some common types of hazards and disasters. It is your responsibility to prioritize and learn more about the ones that may strike your facility. Use free on-line resources or the expertise of your partners to help your planning team assess risk.

The following hyperlinked list of disaster types is from Ready.gov, but note this is a general list. More information on these hazards will be discussed later in this chapter.

- Biological Threats
- Chemical Threats
- Cyber Attack
- Drought
- Earthquakes
- Extreme Heat
- Explosions
- Floods
- Hazardous Materials Incidents
- Home Fires

- Household Chemical Emergencies
- Hurricanes
- Landslides and Debris Flow
- Nuclear Blast
- Nuclear Power Plants
- Power Outages
- Pandemic
- Radiological Dispersion Device

- Severe Weather
- Snowstorms and Extreme Cold
- Space Weather
- Thunderstorms and Lightning
- Tornadoes
- Tsunamis
- Volcanoes
- Wildfires

Dangers from animals

NOTE: Ready.gov targets general conditions. It does not include industry-specific incidents such as exotic animal escapes, venomous animal exposure, or any other hazard specific to your facility. Animal related events should be thoroughly discussed during the risk assessment process. It is important to communicate about them to your partners. Also make it clear what personnel are approved to handle each of these animals. Don't forget to consider both collection animals and wild animals that might breach your facility perimeter.

Practice identifying hazards at your facility

There are many more details in the next section, but before diving into depth, practice thinking through some common hazards.

Example Hazard 1: Flooding
Suggestion: try to address the list below

- Does your facility have streams that might flood?
- If it has ever flooded, what were the conditions, and what are your facility's vulnerabilities due to flooding?
- Did this likely risk to your facility drive what you think your plan will need to meet your objective 1 of human safety?
- What about managing the avian collection for 72 hours?

Example Hazard 2: Snowstorms

- Has your facility ever experienced a snowstorm that was well beyond normal conditions?

- Was the facility closed for a prolonged period, requiring staff to safely stay on grounds?
- Was the collection 'safe' during the closure? Could physiological needs be met during a severe incident?
- Etc…

Example Hazard 3: Tornadoes

- Are tornadoes a possibility in your region?
- If a siren sounds, or a tornado is sighted, how would you address immediate sheltering needs of guests and staff?

Types of disasters that might impact your facility

These include geological, meteorological, and hydrological as well as resource shortages, manmade and health events. Below are tables for some disaster types that may strike your facility. The tables list example issues to consider for EAI, and sources for more information so that you can make a good risk assessment. This is not a comprehensive list. It is your responsibility to research the types of hazards that strike in your area.

Hurricane

Table 7. Historical Hurricane Event for Future Risk Projection

Name or Designation	Category	Date	Proximity /Distance	Description/Additional info
Ex: Katrina	4	8/29/10	57 miles	secondary flooding disaster

Tornado

Table 8. Fujita-Pearson Tornado Scale

	Wind speed (mph)	Expected damage
F0	40 – 72	Light
F1	73 – 112	Moderate
F2	113 – 157	Considerable
F3	158 – 206	Severe
F4	207 – 260	Devastating
F5	261 – 318	Catastrophic damage

Using the data from the website and the Fujita-Pearson tornado scale above, record the information in the following table for the last 25 years for locations within 100 miles of your facility to assess tornado risk.

Table 9. Historical Tornadic Activity within 100 Miles

Location	Date	Severity	Proximity/distance	Damage
Ex: Joplin, MO	4/27/14	F2	82 miles	Severe structural

Flood

Flooding can occur with no local rain events. Using the resources below, record the historical and forecasted geographic flooding data for your facility's location in the table provided.

- [Interactive Flood Information Map from the National Oceanographic and Atmospheric Administration (NOAA)](#)
- [Flood maps by zip code](#)
- [Flood risk assessments, historical maps, and flood inundation maps from the United States Geological Survey (USGS)](#)

Table 10. Historical Geographic Flooding Data

Waterway	Distance from facility	Last flood event	Other
Ex: Mississippi River	62 miles	2004	Catastrophic

Fire

Structural fires are very common incidents that occur across all types of businesses. **Local fire codes are designed to protect facilities and patrons from fires, and all codes and regulations should be followed.** Of additional importance, the historical and current wildfire data can be acquired from several sources to evaluate the potential for institutional risk. Smoke can cause severe medical concerns for both people and animals. Sensitive species such as many birds may be more severely affected.

- [Active fire incidents from the Incident Information System](#)
- [North American Fire Incident Display System](#)

Complete the table below to record the significant fires within 100 miles of your facility, over the past 10 years. Many scientists agree; fires may become more prevalent with potential climate change.

Table 11. Significant Fire Incidents within 100 Miles

Location	Date	Distance	Damage	Other
Ex: Sand Hill, KY	11/16/15	84 miles	400 acres	2 houses lost

Plume

A plume is an active dispersal of transported material across geographic locations. The smoke plume from fires in southern California inundated the San Diego metropolitan area from fires over 50 miles away; the volcanic particulate plume of Mt. St. Helens produced widespread devastation to the west. Discuss where rail yards, nuclear plants or other infrastructure that could produce a plume that affects your facility as a high consequence event. Make sure your planning team assesses both local and distant events in your risk assessment.

- What is the water or airflow in relation to hazard sources?
- What surrounds your facility? What is upstream? Upwind?
- From what direction are the prevailing winds for your institution? Second most common direction? Uncommon direction(s)?

Table 12. Nuclear Power Plants within 100 Miles

Plant Name	Distance	Direction	Up or Downwind
Ex: Vogel Plant, GA	130 miles	East - S.E.	Down

The National Weather Service provides a plethora of resources sortable by state/region for long range river forecasts, wind speed and direction, air quality.

US Nuclear Regulatory Commission notes that "Four nuclear power plants on the Great Lakes rank among the nation's worst for high level safety violations." October 17, 2013

- Radioactive Materials Transportation
- Operating Nuclear Power Reactors by location

Seismic Event and Tsunami

Volcanic eruptions are seismic events and are located along fault lines. Seismic events may yield tsunami formation that can effect locations thousands of miles away. Tidal waves can travel great distances up coastal rivers. Tsunami data is provided by multiple organizations and other non-governmental agencies.

- Where are volcanoes and fault lines in relation to your facility? Upwind, downwind, downstream?
- Using these resources, what fault lines are closest to you and how might it harm your facility?
- What Richter scale of earthquake is common near your facility or could cause a plume to move to your facility?
- Is your facility within a tsunami risk zone?

Seismic events can be researched by date and location to evaluate the potential for one in your region.

- USGS Earthquake Hazards Program
- NOAA Tsunami information
- International Tsunami Information Center
- Tsunami Risk Level

Toxin or Hazardous Materials Spill: both on grounds or nearby

There are many types of spills occurring every day. For example, many facilities have rail lines crossing their properties. Your EAI facility probably keeps hazardous material on site. Don't forget to consider:

- Ammunition stored for use in animal lethal force situations
- The location of nearby coal ash ponds, waste effluent from coal powered plants, etc. A map of facilities that may pose a risk can be found [here](#).
- Chlorine Gas (Cl): Your facility may be subject to immediate staff evacuation if a spill occurs nearby. Find out how many Cl spill events have occurred within 100 miles of your facility in the past 10 years and if your facility is downhill or downwind.
- Additional information about chlorine can be found [here](#).

Additional Resources:

- [The Pipeline and Hazardous Materials Safety Administration (PHMSA)](#)
- [Data, both historical and predictive for many chemicals of concern for human, animal and environmental health](#)
- [Data for your region](#) .
- [A map of pipelines](#)
- [An interactive HazMat map](#)
- [A map of coal ash contaminated sites](#)
- [North American crude oil rail map](#)
- [Federal Railroad Administration Safety Map](#)

Table 13. Hazardous Materials Events within 100 Miles within 10 yrs

Date	Contaminant	Distance	Volume	Other
Ex: Jan 2012	Ethylene glycol	43 miles	5,200 gal	Large fish kill

Emergency Response Guides (ERG) which provide information about all types of Haz Mats, described by toxicity, flammability, oxidative, and adverse effects is available FREE and an ERG 2016 for iPhone and Android. Check your app stores for availability.

There are many possible hazardous water or airborne compounds and it is your responsibility to know where they are. Keep in mind that some response activities may be restricted to those with the proper training, and it is very possible that no facility staff has this training. Look to the experts for more information on these hazards if you think they could happen at your facility.

- If there are railroad tracks near your facility, do you know what is being carried in those railcars?
- What are the quantities and locations of hazardous materials on your property? Are storage conditions able to withstand an incident? Will they be accessible in an incident?
- Where does your facility store biological specimens in formalin? This material is considered hazardous.
- How can the risk assessment include fertilizer and other material used by your groundskeeper or maintenance professional? Is that person or team included in your planning or response team?

- If you store petroleum products underground, flooding may "float" it out of containment. Make sure these and other underground tanks are identified and known to first responders.

It may be helpful to summarize hazardous material storage, as in the table below. Also consider creating a simple map.

Table 14. Most recent HazMat Spills within 100 Miles

Location	Distance	Spill Volume	Impact	Other
Aliceville, AL	88 miles	748,800 gal of crude oil	Severe over 90 acres	River Contamination
Anytown, AL	15 miles	Chlorine gas	Minimal here	Route to Anytown goes by OUR FACILTY

Infectious diseases

Foreign animal diseases (FADs), also known as transboundary diseases, can impact international agriculture and trade. The origin of an FAD would most likely be an agricultural species, so it is important to know where farms and other domestic livestock are in your region in your risk assessment.

Your facility veterinarian should know the State Veterinarian, and include them in planning. Your facility veterinarian, ideally, should be nationally accredited by USDA and be familiar with the USDA District Director. The veterinarian should know the list of reportable animal diseases for your state (currently they are not the same from state to state), the federally reportable diseases and federal program diseases. Work with your veterinary staff and understand which collection animals create concern for each of these USDA designated reportable diseases. Look to the experts for more information on this hazard if you think it could happen at your facility. Consider any recent reportable disease outbreaks and current international trading status of the U.S by visiting the USDA website.

Table 15. Exotic Animals in your Collection that are
Vulnerable to USDA Reportable Diseases (S=Sensitive, R=Resistant, V=Vector)

Disease	Anseriform Birds	Swine	Bovids	Zoonotic (human)
Exotic Newcastle Disease				
Avian Influenza	S, R			
Bovine Tuberculosis		R	S, V, R	
Brucellosis				
Bovine Spongiform Encephalopathy				

Other operational emergencies

Many commonplace types of events can impact your facility. To be complete, your risk assessment should include issues like these below. Look to the experts for more information on these hazards if you think they could happen at your facility.

- If there is a power outage, how will staff enter facility grounds if the main security gate is electronic?
- What will you do if your tap water source is interrupted?
- How reliant is your facility on particular vendors and their delivery schedule, particularly animal feed or veterinary care?
- Are there alternate ways around blockage of transportation routes?
- Look to the experts for more information on this hazard if you think it could happen at your facility.

Resources for your Facility's Toolbox

Understanding risk is crucial to planning for emergencies by helping you to prioritize. A good risk assessment is key to efficient spending your resources, including the energy of your planning team. Focus on the **high likelihood, high consequence** events that can harm assets your facility needs to protect. There are many sources of information to help you start and refine a risk assessment and many are available on-line at little or no cost.

- [Zoo Best Practices Working Group for Disaster Preparedness and Contingency Planning documents](#)
- [Risk Assessment for Businesses](#)
- [Threat and Risk Identification Risk Assessment Strategic National Risk Assessment tools](#)
- [Strategic National Risk Assessment in Support of PPD 8](#)
- [Comprehensive Preparedness Guide 201: Threat and Hazard Identification and Risk Assessment Guide](#)

Module Summary

In module 3 you learned that risk assessments involve an asset and a hazard that will damage that asset. A thorough risk assessment should be conducted with your planning partners you identified in module 2. Only then will you have the information you need to understand the risks that are known to local planners, so your facility will be part of 'whole community planning'. Risk assessment will also help you prioritize the first hazards for which you must plan. This helps to focus your time on writing plans for the things that are most likely to happen, thereby making the task seem potentially less daunting. Plans for less likely, lower impact incidents can be added as your plan is evaluated and improved over time.
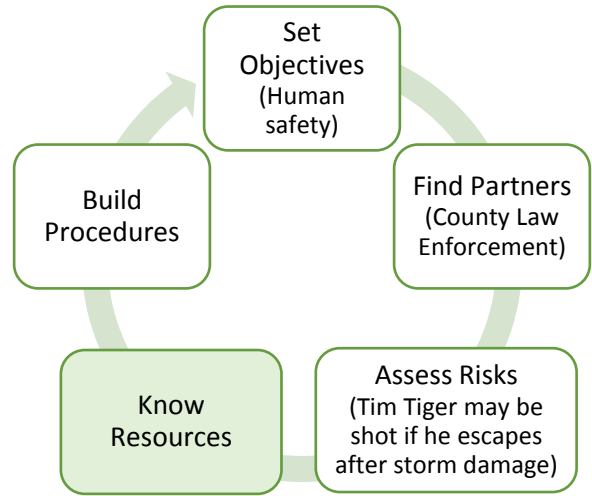
There is no one 'right way' to conduct your risk assessment. Your partners can help you determine the best way for YOUR particular facility. The Resources section has several references that may be useful in conducting your risk assessment.

Module 3 Notes:

Workbook for Module 4
Know what you need. Know what you have.

Or, how do I know that I have everything I need?

You should now have an understanding of what disasters are likely at your facility, and what assets you want to protect. The next step is to know what your facility needs to accomplish each objective, and what you already have on hand. A needs list can include tangible items such as personal protective equipment (PPE), and intangibles such as staff training to meet the expertise level required to carry out an action. Use the below examples to think through your facility's needs list to meet particular objectives.

Set Objectives (Human safety)

Find Partners (County Law Enforcement)

Assess Risks (Tim Tiger may be shot if he escapes after storm damage)

Know Resources

Build Procedures

Build your needs list based on your SMART objectives. As you think through what actions and resources are needed to achieve each objective, take inventory of what you already have on-hand, and whether there are any shortages. Avoid the pitfall of building your plan around your resources (e.g., 2 trucks and a trailer), instead, plan around your objectives (e.g., move 24 flamingoes to the state fairgrounds). Planning around resources tends to arbitrarily limit your understanding of the greater context. The practice of making resource lists provides information to use for real-world planning, and it also allows the planning team to revisit facility priorities and continuously refine the plan.

Start with a SMART objective that should be part of any contingency planning, protecting human safety. Even in the EAI, a passion to save animals ***does not*** supersede the need to protect the lives of your facility staff, visitors, or responders. Use the tables below to practice thinking through actions, and necessary resources. Remember that this is only one suggested way to work through planning. Your facility's planning and results will be uniquely yours.

Practice inventorying your needs and gaps

The following table is only one example of how to create your list(s) for each of your SMART objectives. This includes both what you have on hand and any shortages. We are using the examples of human safety below.

Table 16. Resource Needs for Human Safety Objective

Objective	Limitations	Needed	On hand	Shortage	Notes
Provide power for 5 staff members to shelter-in-place for 3 days	Fuel	50 gal gasoline	10 gal	40 gal	Verify fuel consumption rate
	Generators	2	1	1	New unit has been approved for purchase
	Fuel storage	100 SF of waterproof, explosion-proof storage	400 SF	n/a	
Shelter in Place for 25 visitors	250 SF in sound structure	5 rest rooms throughout facility	6	n/a	

After thinking through your first priority for human safety, your next is probably to stabilize the situation. Securing the scene and stabilizing the situation may prevent conditions from rapidly deteriorating and becoming more hazardous.

Table 15. Resource Needs to Stabilize the Situation

Objective	Limitations	Needed	On hand	Shortage	Notes
Make contact with every employee on site	Radios	10	6	4	Decide: 1 radio per person, or 1 radio per 2-person team
Inspect power lines	Trained staff	2	1	1	Train more
	Maintenance carts	4	5	n/a	
	Cart charging stations	2	2	n/a	Charge all at least 24 hours in advance of storm

Preservation of animal life and property is often the first thing that comes to mind when we think about what to do in a disaster. Consider these examples for Preserving Property and Animals.

Table 16. Resource Needs to Preserve Property

Objective	Limitations	Needed	On hand	Shortage	Notes
Inspect/repair aquarium filtration	Access	Keys to filtration room	2	unsure	
	Trained staff	4	2	2	
Emergency animal housing	Dividable space	100,000 SF	80,000	20,000	20,000 SF of facilities building to be renovated to provide
	Portable partitions	4 per relocated animal	40	unsure	Need calculation

There are unique needs to the exotic animal industry. The decision to evacuate all or part of a collection will depend on many factors. If your facility does not have the equipment on hand to safely evacuate these animals, identify potential transporters, and know their capabilities and limitations. As with other critical actions, consider building these issues into any mutual aid with your partners. These mutual aid agreements or pacts are also known as memoranda of understanding (MOU). These potential partners may have been identified in module 2 (partners) or module 3 (risk assessment). It is your responsibility to explore specific animal transport needs unique to your facility.

Table 19. Resource Needs to Evacuate Animals

Objective	Limitations	Needed	On hand	Shortage	Notes
Evacuate 2 bobcats	Immob. required for capture	4 trained staff	4	n/a	
	Transport cages	2	1	1	Mutual aid agreement with Bobby's Buffalo Ranch

Module summary

In module 4 you inventoried your facility's needs and limitations in order to predict any shortages. As your planning process matures, you may decide to include information about who is responsible for certain objectives or actions, how to get them disaster-ready, how to measure their success, and how to hold them accountable. Your planning will probably involve doing trial runs or drills, either on paper or with real world equipment or teams. These exercises are designed to find gaps in your plan, and will bring your planning team back to the planning table in a cycle of constant refining.

Module 4 Notes:

Or, what are we going to do with all this information? **Write The Plan!**

In module 1, you learned how to set SMART objectives. In module 2, you learned about tapping into partner networks. In module 3, you prioritized both what is at risk and which hazards to plan for. In module 4, you began to translate this information into specific actions needing specific resources. Now organize this information into procedures that make up sections of your contingency plan. Remember that a contingency plan is a result of methodical *planning process*, and this process is ongoing.
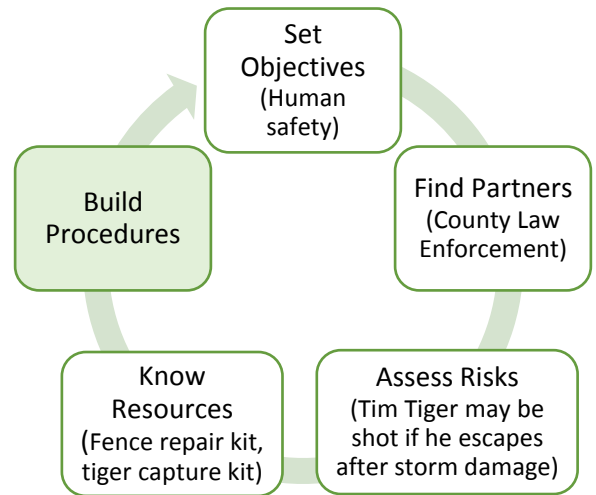
The cycle illustrates how to work through one of your objectives (human safety, for an example) to the point where process gaps emerge. In other words, what will you do with a fence repair kit to safeguard Tim Tiger? And how will County Law Enforcement be involved? Start building procedures to fill those gaps. It would probably look something like the following.

1. Five (5) days before a hurricane is expected to be within 100 miles of the facility, check tiger enclosure for structural soundness. Do needed repairs at least 48 hours prior to storm. Confirm with Maintenance Department when completed.
2. Tiger Team personnel prepares for animal capture at least three (3) days before the storm. This includes reviewing or practicing immobilization protocols, confirming necessary drugs and reversal drugs are available, and reviewing how to use personal protective equipment.
3. Prepare all personnel on Safe Tiger training so they can effectively protect themselves.
4. Contact partners at County Law Enforcement and Emergency Management to ensure communication readiness for response if necessary.

There are many ways others build and organize these sections. Your sections may be grouped by time (i.e., 72 hours before storm, 48 hours before storm, during storm, after storm), by task or department (i.e., all training needed to meet your objectives), by asset (i.e., aviary, reptile house). Do what works for your facility and planning team. *Remember that starting simple can help you prepare for more complex hazards as you keep building and refining your plan.*

Practice building procedures

Use the information gathered in prior steps to guide you, write procedures on what needs to happen in order to meet your facility's SMART objectives. Be methodical in order make use of all the important information already collected. These procedures are essentially sections of your contingency plan.

Additional Tools

Ready.gov has communication planning guides available todownload, print, and fill in with your facility's specific information.

- For parents (PDF)
- Steps to make a plan (PDF)

- Tips on emergency alerts and warnings (PDF)

General preparedness:

- USDA Animal Care Emergency Programs
- DisasterAssistance.gov
- ConsumerFinance.gov
- Ready.gov/get-tech-ready
- Center for Diseases Control
- American Red Cross
- FEMA
- National Hurricane Center
- Your local emergency management agency, use Ready.gov State and Local Information page to locate your community's direct information.
- National Weather Service
- American Red Cross Safe and Well
- Google Crisis Response
- Facebook Disaster Relief
- FEMA Blog
- FEMA on Twitter
- Ready on Twitter
- FEMA on Facebook
- FEMA on YouTube
- Ready Responder Toolkit (PDF - 2.8Mb).

Safety Skills

- Learn First Aid & CPR
- Learn to Use a Fire Extinguisher

Infectious Disease planning:

- FAD PReP Materials and References

Module Summary

You know what you want to do, how to find partners to help, what dangers to anticipate, what you have and what you will need. Remember that a contingency plan is a result of a methodical *planning process*, and this process is ongoing. Module 5 pulls everything together with procedures. Starting simple can help you prepare for more complex hazards as you keep building and refining your plan. There are many ways others build and organize these sections, so do what works for your facility and planning team.

Module 5 Notes:

Workbook for Module 6
Train and Maintain

Or, how do we keep this going?

Module 6 introduced you to several types of training, as well as ways to keep your staff and volunteers up-to-date and practiced. The best plan will not be of any use if nobody understands it, or if they see it for the first time during a real world emergency. Call on your local partners (module 2) to help you develop a training and exercise program to meet your facility objectives (modules 1 and 3) with what you have or need (module 4), testing procedures you've outlined (module 5) Use the questions and lists below as a starting point to develop appropriate training, exercising, and who should be involved.
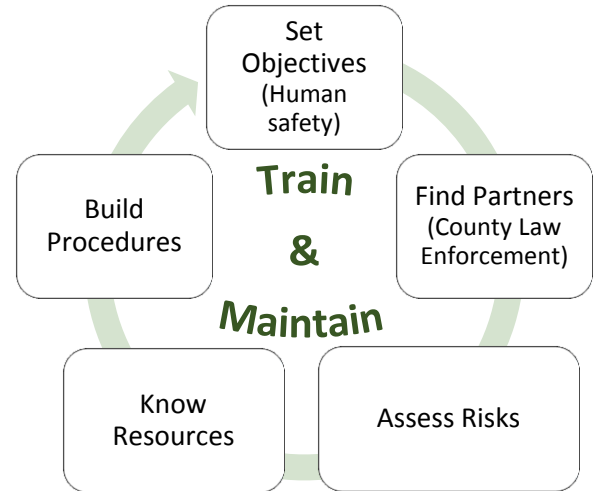
Self-assess your facility's readiness to start training and exercising

The purpose of this module was to get you thinking about training and exercising your plan. Good training and exercising strengthens your facility's preparedness and resiliency. But bad training can take it backwards. Ask yourself these True or False[1] questions to determine if your planning is at a point where training make sense, and mature enough to try exercising it.

1. True or False?
   Employees and volunteers training to know what they are expected to do in an emergency or incident.
2. True or False?
   Employees and volunteers must know all details of your facility's most current plan.
3. True or False?
   Employees and volunteers need one-time training on tasks they are expected to do.
4. True or False?
   Once written, your plan should be stored in a secure location that is inaccessible to employees and volunteers.
5. True or False?
   There is a cycle of training and exercising that continually improves your plan and builds your facility's capabilities.
6. True or False?
   The larger a facility is, the bigger and more complex their plan has to be.
7. True or False?
   As a facility's capability increases, then consider increasing the complexity of their training exercises

---

[1] The answers are , TRUE: 1,5 & 7   FALSE: 2,3,4 & 6

If you are confused about any of the answers, go back and review the presentation. These are key concepts that are important to the planning and training cycle for continuous improvement.

Types of Training

8. The Homeland Security Exercise and Evaluation Program (HSEEP) defines different types of training and exercises explained in module 6. There are discussions-based and action-oriented trainings and they differ in complexity and scope. . Answer the following questions[2] on each type of training as you think about your facility. You may already be using some of these. True or False?
   Seminars can be used to orient employees to plans.
   Are they discussion-based or action-oriented? List another characteristic of a seminar. What type of seminar might be conducted in your facility?
9. True or False?
   New ideas and procedures can be shared in workshops.
10. True or False?
    Information is collected and shared in workshop training.
    What type of workshop might be conducted in your facility?
11. True or False?
    Tabletop exercises identify strengths and areas for improvement.
12. True or False?
    A tabletop ideally requires an experienced facilitator.
    What type of tabletop exercises might be conducted in your facility?
13. True or False?
    A training game often involves teams.
14. True or False?
    A game often involves the use of actual resources.
    What type of training game might be conducted in your facility?
15. True or False?
    Drills may be conducted to train personnel on new equipment.
16. True or False?
    Drills are a great way to maintain response skills.
    What type of drills might be conducted in your facility?
17. True or False?
    Functional Exercises require real-time response to incidents.
18. True or False?
    Functional Exercises are designed to be stressful to simulate real conditions.
19. True or False?
    Functional Exercises include participation by first responders.
    What type of functional exercises might be conducted in your facility?
20. True or False?
    Full-scale exercises are stressful and realistic.
21. True or False?
    Full-scale exercises may involve your entire facility.
    What type of functional exercises might be conducted in your facility?
    Who might need to be included in such a large exercise?

---

[2] The answers are, TRUE: 8,9,10,11,12,13, 15,16,18,19,20,21 FALSE: 14, 17

Exercise evaluation

Evaluating what parts of your plan went well and what did not is a key benefit of exercising it. Finding weak links during an exercise gives you not only a way to document what happened, but also a low stress environment to plan for improvements.

- How can you use your facility's daily visitors to evaluate your exercise? If you choose not to involve your visitors, how can you build your evaluation?
- What is An After-Action Report? What is an Improvement Plan?
- What is one criterion your facility can use to choose an exercise evaluator?
- What is one way your facility can evaluate how successful its training is?
- Who should be on your evaluation team?

Plan Maintenance

The next step after evaluating your results is to refine your plan. Exercise results give you an opportunity to plan, justify, and assign accountable, corrective actions.

- What are some trigger-points that tell you it's time to evaluate your facility's plan?
- What are the advantages and disadvantages of maintaining the plan from the top (e.g., board of directors, CEO) down, and what are they if you maintain from the bottom up?
- How will you use results from prior trainings and exercises to target areas of improvement so that your exercises and plan keep getting better each time?
- How can you include corrective actions and accountability for doing them?

Resources for your facility's toolkit

If you or your facility wishes to know more about HSEEP, there is a course available free of charge from the [Federal Emergency Management Agency's (FEMA) Emergency Management Institute (EMI)](#). EMI is a great site to learn about the free catalog of on-line training that many first responders and Emergency Managers utilize. Exotic animal industry specific training can be found on the [ZAHP Fusion Center website](#)
Another resource is the [San Diego Zoo Global Academy](#), which has an extensive catalog of training materials catered to the exotic animal industry.

Module Summary

In module 6, you learned that a plan alone is not effective unless your employees or volunteers understand it. Training informs a participant about the plan, and exercising allows them to practice their roles. Training and exercise also provides the opportunity to understand the elements that **don't** work in a no-fault, low stress environment. That will allow you to go back, review plans and improve them as necessary.

Conclusion

Contingency planning is a *process* that is cyclical, based upon the planning cycle printed at the beginning of each module of this workbook. Training and exercising will allow you to continue on the cycle of refining your objectives, making sure you have the partners to help you identify new risks you discover during exercises, which in turn will allow you to improve your plan. Your capabilities should increase over time, and partners will change! This is why continuous planning is so important. It's never 'one and done' because nearly as soon as a plan is on paper, it may need to be improved. Don't be discouraged!   A goal of continuous plan improvement will benefit your employees, animals and facility.

Module 6 Notes: