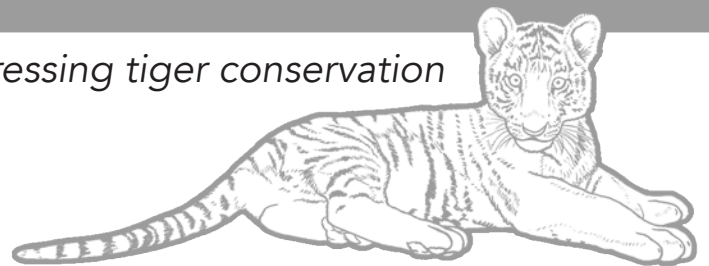




# TIGERLAND ACTIVITY GUIDE:

SUPPLEMENTARY MATERIALS TO THE FILM FOR HIGH SCHOOL STUDENTS AND TEACHERS AND INFORMAL EDUCATORS

*Preparing students to solve the world's pressing tiger conservation and sustainable development issues*



*Created by: Wild Tiger (Sarika Khanwilkar and Felicita Wight)  
Designed & illustrated by: Elizabeth Bonert*

## ABOUT THIS ACTIVITY GUIDE:

The *Tigerland* activity guide provides supplementary information and activities that can be offered in a classroom or informal setting. The goals of the guide are to 1) encourage critical thinking on tiger conservation issues and 2) provide in-depth context on local and global issues.

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## KEYWORDS

### **TIGER** (*Panthera tigris*)

Tigers are one of 38 species of wild cats on Earth. Tigers are an apex predator and around the age of two years old cubs will leave their mom to establish their own territories where they largely live and hunt alone. The size of a tiger's territory depends on how much prey is available in the habitat. There are nine subspecies of tigers, three of which are extinct. The stripes on a tiger's coat is unique to the individual, much like a human fingerprint. Images of tigers taken with camera traps are important to identify individuals and are used in combination with statistical models to estimate their population size.

### **AMUR TIGER** (*Panthera tigris altaica*)

Amur tigers are a subspecies of tiger that can be found in temperate deciduous forests in Russia's Far East. There are approximately 500 Amur tigers left in the wild. Russia was the first tiger range country to issue a ban on tiger hunting in 1947.

### **BENGAL TIGER** (*Panthera tigris tigris*)

The Bengal tiger subspecies inhabits tropical forests and grasslands in India, Nepal, Bangladesh, and Bhutan. It is the most numerous of tiger subspecies left on Earth. The majority of the Bengal tiger population is found in India, where an estimated 2,967 tigers exist (2019). The Bengal tiger is also the national animal of India.

### **FLAGSHIP SPECIES**

A focal species that has symbolic and often charismatic/aesthetic appeal. A species selected to act as an ambassador, icon or symbol for a defined habitat, issue, campaign or environmental cause.

### **APEX PREDATOR**

Apex predators have no natural predators within their ecosystems and are at the top of the food chain. Often this top predator is a "keystone species" which keeps a natural balance in the ecosystem due to the trophic regulation they provide (see "trophic cascade"). Tigers, sharks, wolves, and killer whales can be considered apex predators.

### **TROPHIC CASCADE**

The restructuring of the composition of an ecological community due to bottom up or top down processes. Predators interact with their food web from the top down both directly and indirectly. When predators, like the tiger, kill prey species, they are doing more than finding a meal; the feline acts as a control on the population of herbivores. By keeping the populations of herbivores stable, tigers also indirectly regulate the abundance of primary producers.

### **HABITAT FRAGMENTATION**

Disruption of preferred or suitable habitat into two or more areas. The results of habitat fragmentation can be an overall reduction of available habitat, although this is not always the case, creation of habitat edges, and genetic and/or geographic isolation of species.

## **HABITAT CORRIDOR**

A passage between larger areas of suitable wildlife habitat, which are commonly Protected Areas, where animals move and get food and shelter. Habitat corridors are important for dispersal and seasonal migrations. They maintain movement between smaller populations of a species (metapopulations) and ensure genetic diversity within populations. Corridors have largely been identified for specific species and may not be under any special protection or land use management.

## **HUMAN-WILDLIFE CONFLICT**

Broadly defined as one or more negative interactions between wild animals and people. Human-wildlife conflict often occurs because human activity expands into established animal habitats or habitat loss has caused animals to come closer to human habitation. Human-wildlife conflict often refers to animals posing a significant threat to the livelihood and safety of people. For example, tigers can kill people or livestock, and tiger prey raid crops which leads to financial losses.

## **WILDLIFE TRADE**

Wildlife trade is a blanket term for the trade of living or dead wild animals and their parts. The term 'wildlife trade' refers to a mostly legal practice which covers a wide spectrum of everyday activities and products. For example, wildlife trade includes timber used for furniture or building materials, exotic flowers and pets, or ingredients sourced for medicines, cosmetics, and clothes.

Wildlife trafficking may be used to indicate a tainted version of "trade;" referring to the act of trade (buying and selling) of flora and fauna illegally or against the law. Tigers are traded or trafficked alive or in the form of their skin, bones, and other parts. The international legal wildlife trade is monitored by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), while illegal trade is, by nature, unregulated. Killing of a tiger is illegal in India and Russia but poaching persists. Tiger poaching is driven by the demand in wealthy countries such as the US, UK, and China. Tiger skin and bones are valued at \$20,000 and \$7,000, respectively.

## **WILDLIFE FARMING**

Wildlife farming refers to the rearing of non-domesticated animals for the purpose of captive breeding. These species, such as tiger, alligators, and koi goldfish are raised industrially by commercial farming operations as animals for the pet trade or for their parts. In some instances, by generating supplies from captive-bred animals, wildlife commodity prices have fallen, thereby lowering the incentive to poach species in the wild. Other times, the availability of products from captive-bred species can increase demand and inflate the value of wild-sourced products, which stimulates the poaching of a wild animal.

## **WILDLIFE FORENSICS**

Scientific procedures to investigate wildlife-related crimes involving the wildlife trade, poaching, and other illegal hunting activities. The goals of wildlife forensics are to examine and identify evidence from crime scenes, and to link this evidence with a suspect and a victim, which is specifically an animal species. Wildlife forensics can be used to oversee legal and illegal trade by identifying the species involved and the geographic origin and age of a specimen.

## **POACHING**

Poaching is the unlawful harvest of live animals driven by subsistence needs for protein, the wildlife trade, or land use disputes. This can include the illegal hunting, killing or capturing of wild animals, as well as the killing or trapping of endangered, rare, or protected species. This activity often results in the death of an animal but also includes illegal trapping of live animals that are later sold or traded for profit.

## **STAKEHOLDER**

Stakeholders are institutions, groups, or individuals who have an interest in a particular wildlife and/or natural resource. Stakeholders might be defined as people living or working within a certain area, and can change with time. It is important to consider what each stakeholder has to lose or gain personally, financially, and culturally before making changes regarding wildlife management, land use, and policy. Understanding the needs and perspectives of each stakeholder and the relationships between different stakeholders, and engaging with parties to be included in natural resource planning is essential to any successful, long-term conservation initiative.

## **ECO-TOURISM**

Eco-tourism is not a well-defined concept but can encompass a type of low-impact tourism focused on ecological conservation and cultural appreciation. Tourists are educated about natural areas and the people and animals that inhabit them, and some commercial profits may go toward conservation activities or back to local communities.

## **PROTECTED AREA**

A Protected Area (PA) is a clearly defined geographical space that is dedicated to achieve the long-term conservation of species, habitats, or culturally important natural monuments. The International Union for Conservation of Nature recognizes 7 categories of PAs which have a variety of management strategies and governance types. PAs cover 15% of the land surface and have largely been effective at conserving biodiversity but remain inadequate. For example, 91% of the world's migratory bird species had no access to habitat within a PA for a part of their annual migration. Social impacts of PAs are mixed, with positive and negative outcomes for indicators such as poverty, human health, and human-wildlife conflict.

## **NON-GOVERNMENTAL ORGANIZATION**

A Non-Governmental Organization (NGO), or non-profit, is an organization that operates independently of any government, typically one whose purpose is to address a social or political issue.

# KEY CONCEPTS

## TIGER CONSERVATION

Tiger conservation requires international and regional collaboration between non-profits or NGO's, governments, and individuals who have a variety of different skills. The examples of individuals who contribute to tiger conservation that we provide below is not exhaustive. An ecologist might study tigers and/or their habitats and a sociologist might study the people who live alongside tigers to understand how they might coexist in the future. Veterinarians can collect vital signs of tigers and anesthetize the animal when they catch or collar a tiger. People who conduct wildlife forensics and criminologists can aid in poaching cases and tracking the illegal trade of tigers and tiger parts. Making media and communicating science can lead to public support of tiger conservation while writing grants to get funding is a crucial component in the ability to continue conserving tigers. Activists and politicians can be important in passing legislation that protects tigers. Tourism operators who employ local people and provide a holistic educational experience to their guests can also be considered tiger conservationists. Addressing threats to the tiger's survival involves reducing the demand for tiger parts to ease poaching pressure, securing habitat, mitigating human-wildlife conflict, and engaging with and empowering communities who live side by side with wild tigers.

## CONSERVATION TOOLS

Conservation might focus on a particular species, a habitat, a landscape, or an entire ecosystem and decisions should be based on scientific data. The fortress model of conservation advocates for a separation between people and natural areas that require protection. The world's networks of Protected Areas (PAs), some of which are completely inviolate to any type of human use, follow the fortress model of conservation to achieve conservation goals. Important conservation tools to consider beyond PA creation include restoring habitat, leveraging local ecological knowledge, using adaptive management, creating public-private partnerships, supporting tourism, involving stakeholders, sharing knowledge, and conducting public outreach and education.

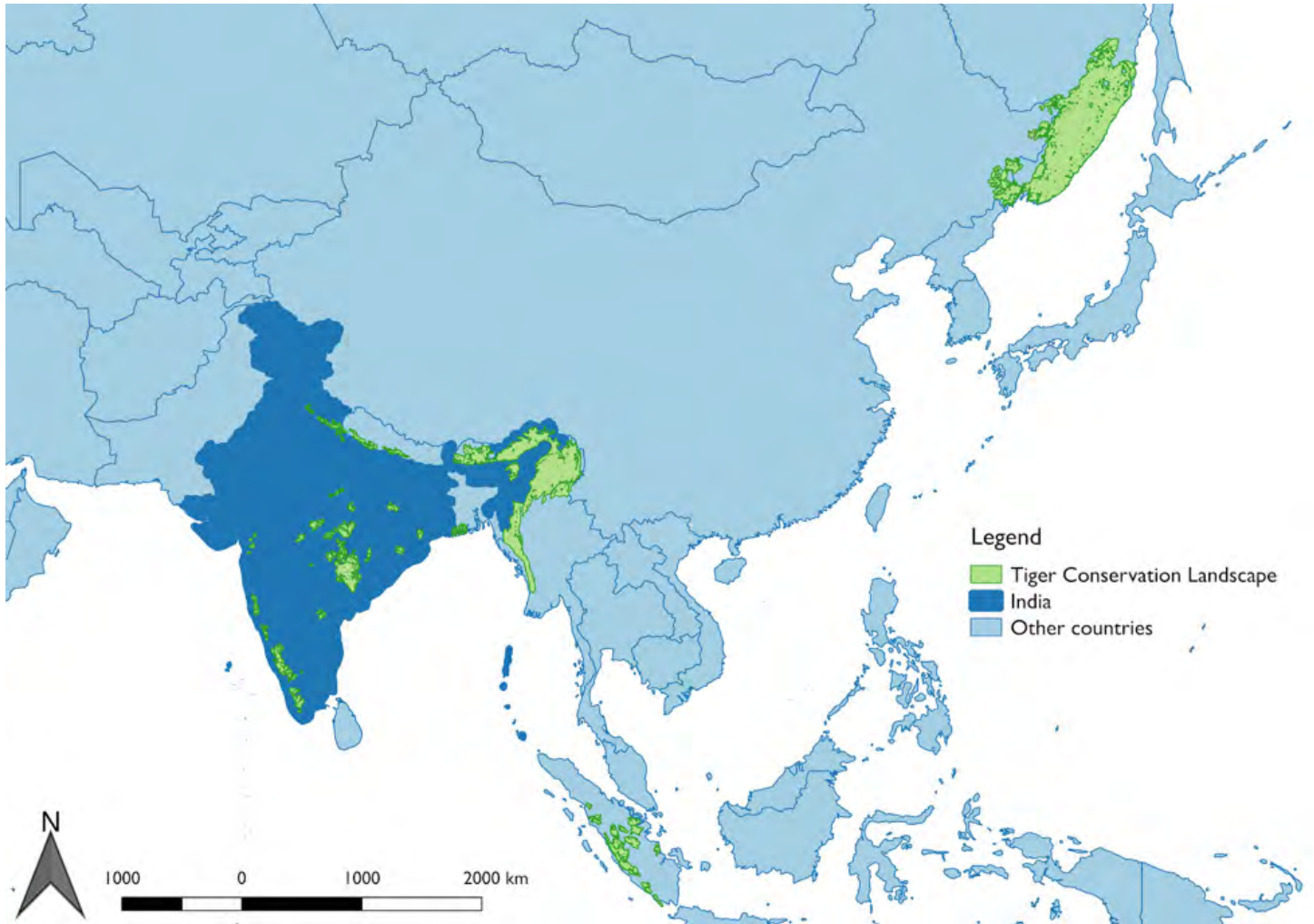
## LANDSCAPE-LEVEL CONSERVATION

For long-term, resilient conservation efforts and for species who have large territories or migrate, protecting habitat within a single PA is ineffective. Landscapes cover large areas where there are PAs and wildlife corridors amidst a variety of human land uses such as cropland and rural or urban development. Landscape-level conservation is a holistic approach that involves protecting habitat, engaging with governments and communities outside PAs, and mitigating human-wildlife conflict. It is an approach that shifts site-specific conservation to work beyond geographic and land use boundaries, perceives integrated development of private and public land, and requires a collaborative process.

## SUSTAINABLE DEVELOPMENT

A principle that aims to provide a stable income and healthy life to people while not compromising the health of ecosystems. Global pandemics, climate change, and deforestation are some of the issues that sustainable development attempts to address. It is a principle that incorporates future scenarios and consequences into contemporary plans. In 2015, the United Nations set 17 Sustainable Development Goals (SDGs). Sustainable Development Goals #15 aims to protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss. Other SDGs include taking urgent action to combat climate change, to end poverty everywhere, and achieve food security.

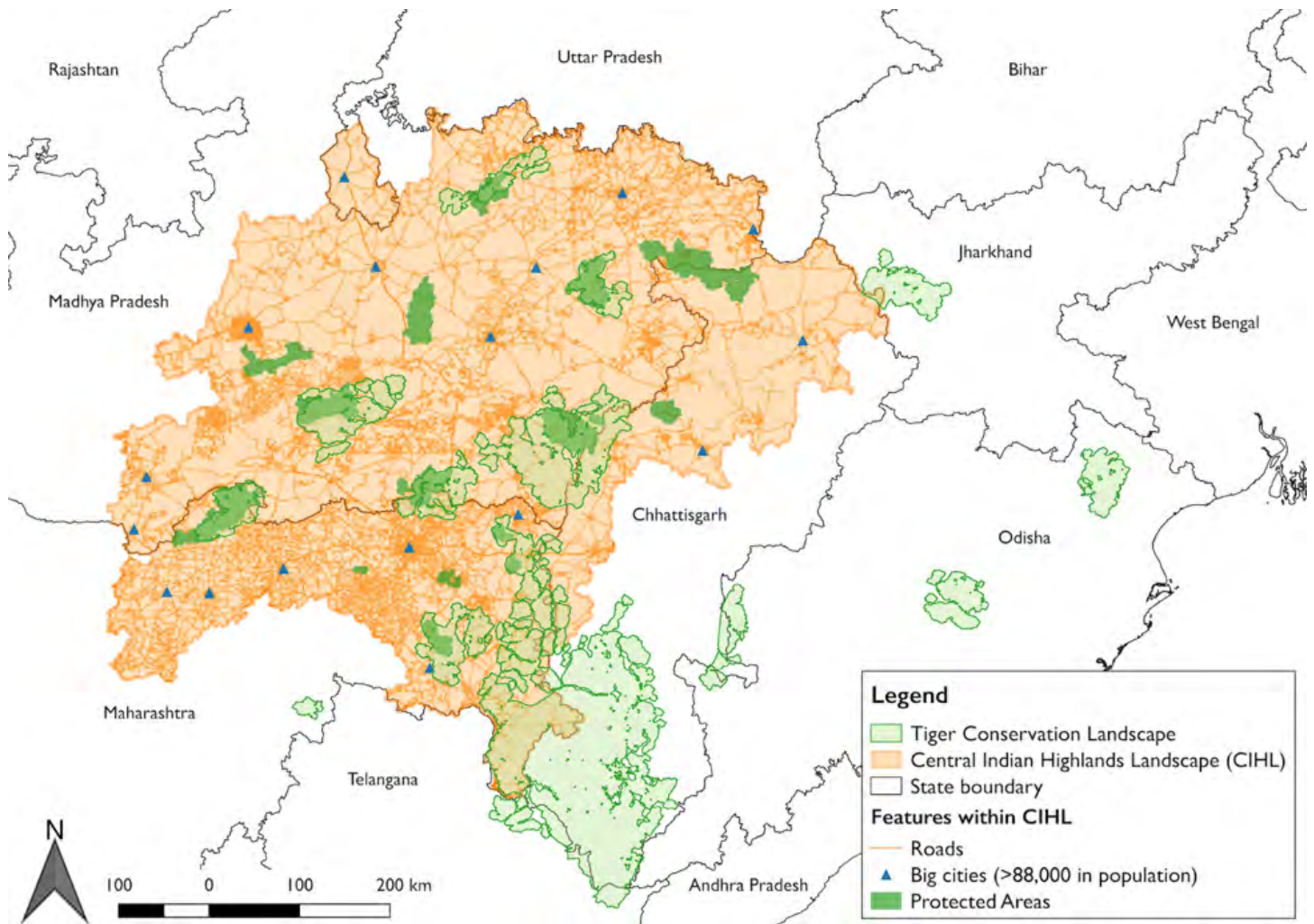
# TIGER CONSERVATION IN CENTRAL INDIA



**FIGURE 1.** Tiger Conservation Landscapes around the world.

In 2008, the International Union for Conservation of Nature declared tigers endangered throughout its range. At the 2010 tiger summit held in Russia, all tiger range countries agreed to set a goal of doubling their nation's tiger populations by 2022. Tiger Conservation Landscapes (TCLs) (Figure 1) were identified to prioritize conservation efforts and ensure representative, redundant, and resilient tiger populations. Habitat with breeding tigers was prioritized because these are the source populations which will lead to the recovery and increase of tiger populations. India is an important country for tiger conservation because it harbors the majority of the global tiger population and has 11 of the 20 global priority TCLs identified.

India's tigers are distributed in geographically isolated populations within Tiger Reserves, a special designation given to a Protected Area. Most of the Tiger Reserves are not large enough to sustain a steadily growing tiger population. This leads to an intensification of conflict between the growing tiger and human population because dispersing tigers from Reserves are prone to confrontations with humans. Isolation and inadequate Reserve size highlights the importance of habitat corridors that connect these larger forest patches to maintain animal movement, restoring forests, mitigating human-wildlife conflict, and exploring ways for people and large carnivores to coexist outside Reserves.



**FIGURE 2.** Several Tiger Conservation Landscapes are located within the Central Indian Highlands Landscape (CIHL), where 16 Protected Areas (PAs) exist amidst a matrix of urban and rural development that include roads and railways, cities, cropland, and small settlements.

The Central Indian Highlands Landscape (CIHL) (Figure 2) has several global priority TCLs. The forest in the CIHL is classified as tropical dry forest, which is considered the most threatened tropical biome. These forests can be sal-dominated (*Shorea robusta*), teak-dominated (*Tectona grandis*) or mixed forests. In the CIHL, tigers travel between Reserves through habitat corridors. Some of these habitat corridors are continuously forested, while others are smaller patches of forest that can be thought of as ‘stepping stones’ within human development.

Tigers are a flagship species in the CIHL, used as a symbol to conserve a larger landscape and remnants of forest that persists in protected and unprotected areas. However, these forests are also critical to support people who get fuel, food, and fiber from the forest, and other wildlife species. The CIHL in particular contains a large proportion of people who are dependent on forests for subsistence and their livelihoods. For example, people get income from selling products they collect from the forest. There is also a high population of indigenous people, such as the Gonds and Baigas, who are and have historically been marginalized. People with low nutrition status and poor access to education and health infrastructure as well as tigers depend on the forests in the CIHL, where sustainable development is critical to meet the needs of all living beings.



## QUESTIONS FOR REFLECTION

Tigerland presented two different landscapes where tigers exist and where conservation efforts have been focused. Viewers were introduced to habitat loss, human-wildlife conflict, and poaching. Below are questions to stimulate critical discussion on these issues:

1. What distinguishes a tiger found in Russia versus India?
2. What are the defining characteristics of tiger conservation? What make someone a tiger conservationist?
3. What are the benefits that tourism provides tiger conservation? Can you think of any harm that tourism might cause tigers or tiger conservation efforts?
4. How can people who live alongside tigers and experience human-wildlife conflict be incentivized to protect tigers?
5. What drives the poaching of tigers from the wild?
6. What role do tiger farms and captive tigers play in conserving tigers in the wild? Where are captive tigers found around the world and in what kind of facilities?

## EXTENSION QUESTIONS

1. How do scientists estimate tiger populations? What role does this type of data collection play in tiger conservation? Where are important places to conserve tigers and how do we save them?
2. What role do governments in countries outside the tiger's range have in conserving the tiger?
3. What is a habitat corridor and why are they critical? Do you think maintaining habitat corridors is needed for successful conservation?
4. Have you ever experience any forms of human-wildlife conflict? How does you and your government manage this conflict?
5. Is it possible to increase tiger populations without increasing human-wildlife conflict? How so?
6. Is it important to relocate tigers that are in conflict with people? Why or why not?

# STICKY STAKEHOLDER ACTIVITY

This activity is designed to acquaint students with the increasing problems associated with tiger conservation and sustainable development. This guide is intended to be used in both formal and informal education settings. Students will work in groups to construct a land management plan for tigers and people in central India. From the perspectives of individual stakeholders, each group will decide the best sites for tiger and human development with respect to the environment. Given the extensive impacts humans have already had and continue to have on the land, a major challenge now facing us is how to enhance the productivity of land for biodiversity and people.

## **GOAL:**

The purpose of this activity is to encourage students to critically engage with the challenges of competing stakeholders for the same resources.

## **OBJECTIVE:**

Design a landscape for tigers and humans from various stakeholder perspectives.

## **METHOD:**

Students will be assigned one of five stakeholders and construct the best land use plan for tigers and humans. Groups will design the landscape with the provided information and required land use pieces.

## **BACKGROUND:**

As populations of tigers and humans increase in the Central Indian Highlands Landscape (CIHL), tiger habitat outside Protected Areas (PAs) continue to undergo competition from multiple stakeholders as a resource. Forests are critical to support biodiversity and people who get fuel, food, and fiber from the forest. The government has designated some PAs as Tiger Reserves, which protect critical tiger habitat where tigers breed and have areas that are free from human activity. Some Tiger Reserves in the CIHL can have large reserves of coal and occasionally mining is allowed at the boundary. Mining and other industrial development can provide important employment opportunities for local people.

Tourism has flourished around Tiger Reserves because people want to see a tiger in the wild and get a chance to experience their natural heritage. Tourism can provide income and employment opportunities for local people and provides a benefit to living alongside tigers which is important when human-wildlife conflict negatively impacts their livelihood and poses a risk to human life. Tigers are a flagship species used as a symbol to conserve the CIHL and remnants of forest that persist outside protection.

## **PROCEDURE:**

### BEFORE THE ACTIVITY

1. Print copies of pages 13 - 18.

## **INTRODUCTION SCENARIO:**

The Central Indian Highlands Landscape (CIHL) exists across the entire state of Madhya Pradesh as well as parts of Chhattisgarh and Maharashtra. The CIHL contains important coal deposits and the tropical dry forest is considered the most threatened tropical biome. There are 16 PAs in the CIHL, and 12 of them are Tiger Reserves. An existing PA or unprotected land can become a Tiger Reserve with a proposal from non-governmental organizations (NGOs) and/or the Forest Department to government officials. The national government can be torn between protecting nature or developing the land with roads or a coal mine.

For local farmers who own land in the CIHL, they grow crops such as rice or vegetables. A large proportion of people who are dependent on forests for subsistence and their livelihoods live in the CIHL. Most families rely on firewood for cooking and must travel into the forest to collect it. Many grow their own vegetables if they have land, collect wild fruit to eat, and harvest bamboo to sell.

In the CIHL, tigers travel between Reserves through habitat corridors. Some of these habitat corridors are highly forested, while others are small patches of forest within a matrix of agriculture, urban and rural settlements, and roads. Tiger-centric tourism has developed exclusively near Tiger Reserves but nature tourism has the potential to establish near habitat corridors where tigers and other animals frequent.

As the tiger population continues to grow, young cubs must disperse to establish their own territory. When humans are in the forest, they are at risk of getting attacked by dispersing tiger. Likewise, when tigers are in forest outside of protection, they are at risk of getting poached. Tiger biologists use a combination of remotely triggered cameras called camera traps and scat surveys to identify habitat corridors where tigers travel. Researchers and government officials are responsible for protecting both tigers and humans and ensure sustainable development.

## **ACTIVITY:**

1. Divide participants into groups. There are 5 stakeholders. Smaller groups could have two stakeholders.
2. Explain the activity and present the background information for context.
3. Hand out one stakeholder card to each group, along with landscape and land use print outs. Present the following question:

“How would your stakeholder best manage this landscape in central India?”

Different stakeholders with specific interests will have different agendas when viewing an undeveloped landscape. Your group will be assigned a stakeholder card which will represent a person with specific interest in the land. You will figure out the best way to manage land considering specific concerns.”

4. Have students review their stakeholder card. Give students 10 minutes to subdivide the landscape as best suits the need of their stakeholder.

5. Have each student or group present their plan and explain why they have designed the landscape.
6. Next, discuss 1) what would work and what wouldn't work for multiple stakeholders and 2) what new information was learned.
7. Then, give students 5 minutes to alternate the landscape with the new information they learned from the other stakeholders.
8. Have each group present their plan and explain how they redesign the landscape and for what stakeholders.
9. Finally, work as one group to develop a land management plan for the landscape. Discuss the best sustainable development strategy for tigers in central India.

### **CONCLUSION STATEMENT:**

Even with the best intentions, it is hard to meet the needs of every stakeholder. Resources like fertile land and water are resources that multiple stakeholders and tigers need to live. Tigers can be viewed as both a precious commodity or nuisance, risking the livelihoods and well-being of people. If we are to save iconic species, such as tigers, a balance must be created between the needs of humans and wildlife.

### **QUESTIONS:**

1. What would your ideal scenario be? Is it realistic?
2. What choices lead to your decision for the land use on your landscape?
3. Did you change your mind after listening to different stakeholder perspectives?
4. How did lack of knowledge impact your decision. Would this be true in a real-world scenario?

### **EXTENSION QUESTIONS:**

1. In this scenario there were cubs that would need to establish their own home range. How does that affect the land use? Did you consider habitat corridors?
2. What are the consequences (positive and negative) of adding a coal mine and production plant to your landscape?
3. What are your reflections (positive and negative) on using tourism versus other economic development activities?

## TIGER RESERVE DIRECTOR



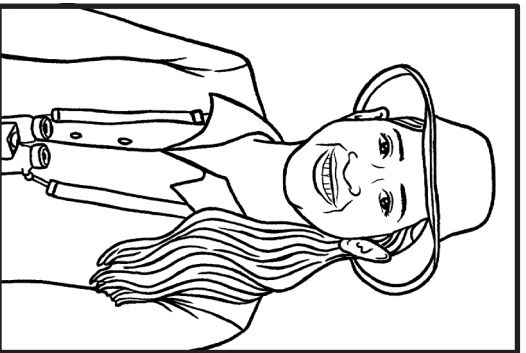
As Tiger Reserve Director, he works in the government's Forest Department. He needs to manage the land best for people and wildlife in the entire landscape and is currently drawing the boundaries of the new Tiger Reserve. A couple of tigers have been spotted consistently in the northern hills, and use the lake as a water source. Each tiger needs approximately 25 – 100 km<sup>2</sup> of space for their own territory.

There are 35 families in the village in the center of the landscape, several of which are farmers that are dependent on incomes from their vegetable market stands. Local farmers have been complaining about a tiger that keeps killing livestock and other wildlife destroying crops. Because of this conflict, the Director has diverted money meant to purchase trees for planting to a fund given to locals who experience a loss of livestock or lost income.

A hotelier has heard of the tiger's presence in the landscape and wants to open a hotel at the main entrance to the new Tiger Reserve. It could hire locals to support the operation. However, it would require a significant plot of land, roadways would be constructed, and increased human activity could deter the tigers and other wildlife. The hotelier requested to establish her lodge near the main entrance of the park, however the Director has not yet decided where the main gate will be.

Coal mine developers have been persistently asking the Director to develop a mine and processing plants in the western part of the landscape. This coal operation could provide hundreds of jobs and improve the income for several nearby villages. The developers have agreed to pay the Director annual fees that could be spent on conservation within the potential Tiger Reserve and pay for roads to three Reserve entrances.

## TOURISM OPERATOR



In the southeast corner there lies an empty parcel of land not far from where the government will form a new Tiger Reserve. There have been a couple of tigers spotted in the plateaus and crossing between valleys which are also rich with birds and other wildlife.

The tourism operator wants to build a hotel and buy nearby land to provide wildlife viewings to city people. She feels like her hotel would provide an economic benefit to locals without having to destroy forested land. Her hotel will need to hire safari guides and drivers, cooks, and maids and provide amenities for incoming tourists including lodging, supplies, and access via road.

There is a village not far from a small lake in the landscape. They have some cropland with vegetables and livestock. Although there is one small vegetable market, there is not much other opportunity to generate an income.

The Tiger Reserve Director approved her hotel operation with the agreement of an entrance fee for each visitor which would go to help support the reserve. The tourism operator also discussed sharing the cost of putting in a paved road to the Reserve. However, there is a local non-governmental organization that has been combating any road.

## STAKEHOLDER CARDS

## LOCAL FARMER



Farming is both profitable and beneficial, although it is getting harder because the yearly weather patterns have become unpredictable. A farmer is able to support his family and also provide crops to others in the vegetable market. The farmer's house and cropland is located in the middle of the landscape and the crops are irrigated by diverting some of the water from an adjacent lake.

In order to grow business, it would be ideal to sell more vegetables and have access to an urban center. To the north there is a tigress with a one-year old cub which occasionally comes to the village vicinity to drink water from the nearby lake. In the last year, the farmer's cattle has been killed by a tiger and he has lost income due to crop raiding by wild boars and spotted deer.

The new Tiger Reserve will bring in more people to the area but the farmer will have to give up some of his cropland if it falls inside the boundaries of the Reserve. The farmer would still like to have open access to the lake which he knows will fall inside the Reserve. If a proposed hotel is built nearby, the farmer will likely double his income from selling food to it.

## TIGER BIOLOGIST



The tiger biologist works for a non-governmental organization (NGO) that does research on forests and tigers. The Director of the NGO, her boss, wants to establish more protection for the tiger's habitat in the landscape. The biologist needs to identify critical habitat and start engaging with local villagers and farmers to understand what land they use.

The tiger biologist works closely with the Forest Department, and the Tiger Reserve Director gives her permits that allow her to set up camera traps. She has estimated the tiger population in the region and understands that this landscape serves as a critical breeding ground for tigers. She has also seen several dispersing tigers come through the landscape, indicating surrounding habitat corridors.

The data the tiger biologist gathered was used to support the creation of the Tiger Reserve. She has identified one older adult male tiger who is consistently spotted in the southern valleys. A mother with a cub has also been spotted in the north. She knows that in the long-term, the cub will be independent and need to establish a home range.

There is a village that lies in the range and has agreed to reduce their village footprint as long as they don't have to move the entire village. However, locals do not like the idea of giving up their access to a reliable water source and also fear how close tigers would come to their homes. Increased roadways and human activity increase the risk of human-wildlife conflict.

## STAKEHOLDER CARDS

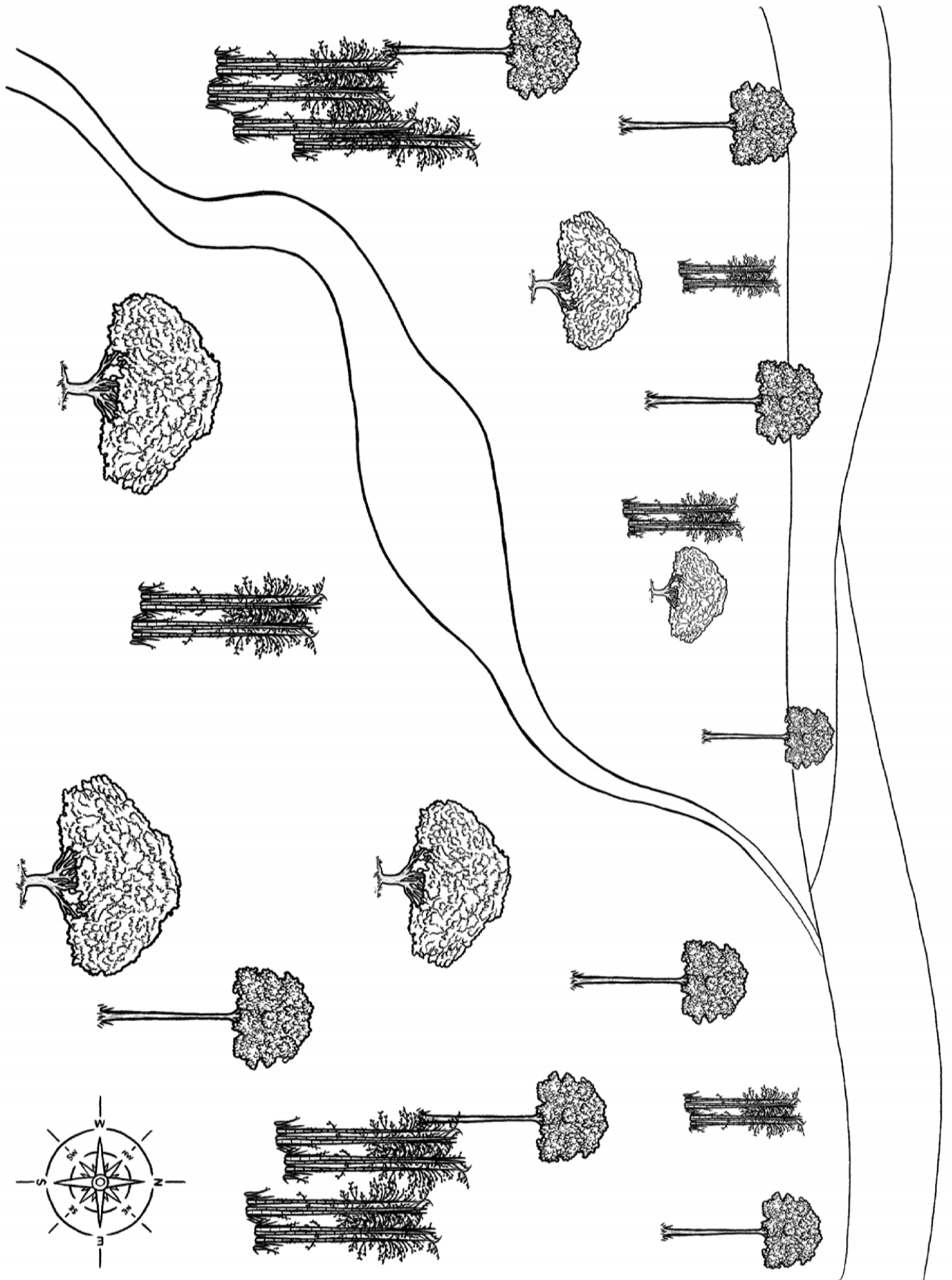


### COAL EXECUTIVE

India has an ever-growing demand for coal. A coal executive knows of a local coal rich area near his ancestral family lands, which is near a new Tiger Reserve that extends from the northern hills to parts of the southern valleys. A mine and processing plant would need to be constructed, diverting some of the lake water for the waste runoff. This operation require a large vast area of land and cannot be put near houses or farms.

There is a village that lies in the center of the landscape and has several residents and surrounding cropland. These people could be employed by the coal mine and processing plant.

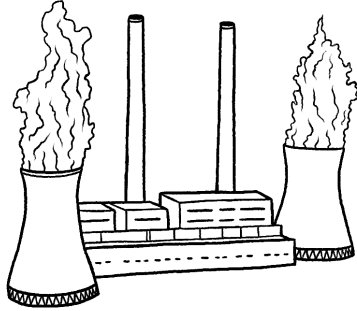
The coal executive has promised to pay annual fees to the Tiger Reserve Director. He intends to build a large barrier around the coal facilities for protection. In the northern hills there is a tigress with a one-year old cub which occasionally comes to drink water from the lake. A tiger biologist working in the landscape has sent him an email with information about the local tiger movement and he thinks she will try to stop his plans to develop a mine.





# STICKY STAKEHOLDER SITUATION: LAND USE CUT OUTS

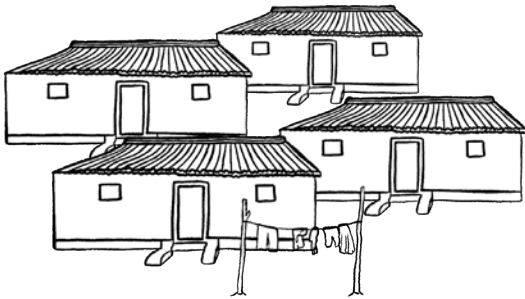
COAL MINE  
*use if needed*



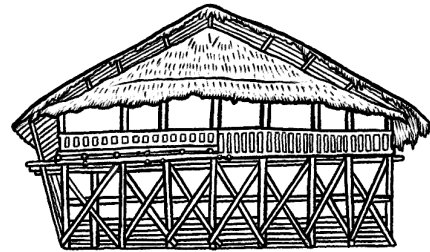
CITY *optional*



SMALL VILLAGE *must use*



TOURIST LODGE *use if needed*



SMALL FARM/CROPLAND *must use 1*



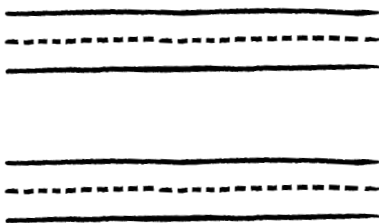
CAMERA TRAPS *use if needed /required*



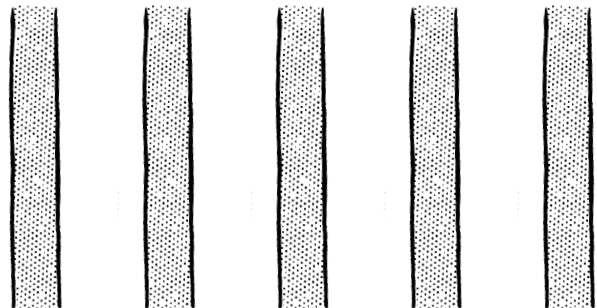
VEGETABLE MARKET *must use*



PAVED ROAD *must use 1*

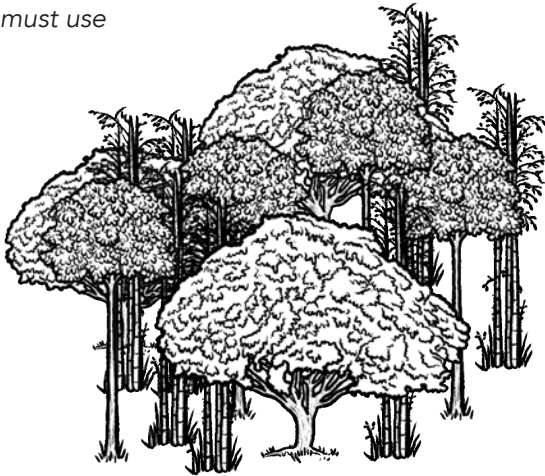


DIRT ROAD *must use 3*



# STICKY STAKEHOLDER SITUATION: LAND USE CUT OUTS

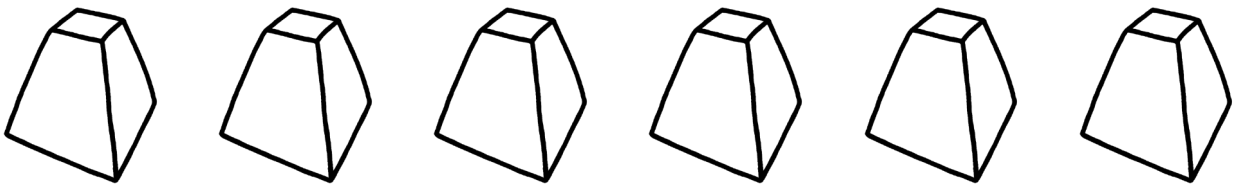
LARGER FOREST PATCH  
*must use*



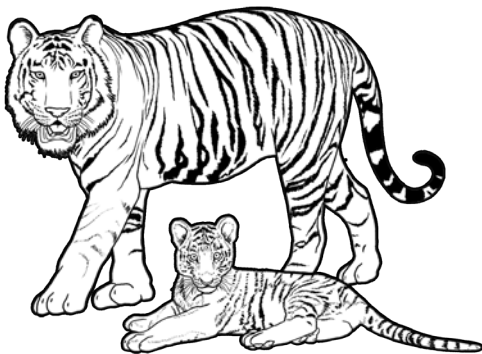
SMALL FOREST PATCH  
*use if needed*



TIGER RESERVE MARKERS TO DELINEATE BOUNDARIES *must use 4*



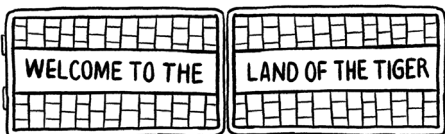
MOTHER TIGER WITH CUB *must use*



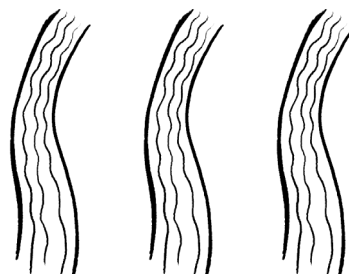
ADULT TIGER *must use*



PARK ENTRANCE *must use 1*



LAKE DIVERSIONS *use if needed*



## TIGERS IN THE UNITED STATES

Tigers are cheap and easy to purchase as a pet in the United States (US). Today, tigers can be found in backyards, urban apartments, sideshows, truck stops and private breeding facilities. Tigers are wild animals and can pose a risk to the public's safety. Even when raised from a cub in captivity, the species is not domesticated and could be unpredictable. Captive breeding refers to the method of breeding animals in a controlled environment and raising them under human care. These animals are no longer completely wild, nor are they considered domesticated species. Issues arise from captive breeding where genetic history and diversity is not considered. These problems include inbreeding (offspring from closely related generations), the maintenance of subspecies (genetically different from other such populations of the same species), and hybrids (offspring of two different animals). For example, white tigers in the US are all descendants from a single male tiger brought from India in the 1950's and unnatural species such as ligers are commonly bred.

People have enjoyed the companionship and assistance of animals since the beginning of time. Species such as dogs lived alongside humans, animals like pigs became livestock, and exotic animals in royal courts were living proof of a status and influence. Nowadays, the majority of animals involved in the exotic pet trade including tigers are bred in captivity. There is an appeal to owning a different type of "pet" and proponents of captive breeding say that this source alleviates the pressure from harvesting wild populations. Many owners tend to their pet tigers with great care and at no small expense. These animals are considered personal property.

A patchwork of federal laws governs the possession, sale, and exhibition of captive tigers. It is estimated that there 5,000 – 10,000 tigers in the US. Less than 300 of these resides in zoos and other facilities accredited by the Association of Zoos and Aquariums, which closely monitor the genetic diversity of their tiger population. There are some federal laws in place such as the Captive Wildlife Safety Act (2003) law which make it illegal to import, export, buy, sell, transport, receive or acquire certain live big cats across state lines or the United States border. However, these laws may not apply to sales within a state. The lack of federal oversight on big cat ownership and breeding has resulted in thousands of tigers being bred and owned by private households and roadside zoos in the US.

Unfortunately, taking on an exotic pet is a bigger burden than people commonly expect. Currently, there are no mandates to keep a current record of how many tigers are in the country, where they are, who possesses them, when they die or how the body is disposed of. Many private owners obtain tigers with good intentions but find out too late that they do not have the resources to care properly for their animal. It is not usually as easy to discard of an exotic pet as purchasing one. Keeping tigers as a pet covers many topics including conservation issues, public safety issues, and animal welfare issues.

### BEFORE THE ACTIVITY:

1. Set up two desks in the front of the room
2. Divide class in half assigning each a side (for or against) cat ownership
3. Print out 'Tigers in the United States' (page 19) – enough for each student

## **DEBATE QUESTION:**

A patchwork of rules on tiger ownership and breeding reflects the conflict between the desire to protect the public and the notion that people have a right to keep pets. Today, many big cats, such as tigers, are bred in captivity. State legislation on the issue of big cat ownership ranges from complete bans on private ownership to no regulations at all.

It is estimated there are more tigers kept as pets in Texas than there are wild in India. While there is no federal law to regulate or monitor ownership of live tigers, some states and local jurisdictions have regulations controlling the possession and intrastate sale of big cats. Now it is your chance to weigh in on the topic; should exotic pets be permitted and bred in the United States. You will get to make a case either **for** or **against** big cat ownership.

## **ACTIVITY:**

1. Introduce the debate question as: "Should Tigers be allowed in the United States."
2. Provide students with 'Tigers in the United States.'
3. Have students read provided material
4. Give students 10 minutes to prepare 2-3 points on their debate side; either **for** or **against** permitting big cats in the United States
5. After each side has presented, give students 3-5 minutes to come up with a rebuttal
6. Next each side will present their rebuttal
7. List the arguments on a white board
8. After, have a class discussion about the opinions shared

## **CONCLUSION:**

How would the tigers in captivity see the issue of exotic pet ownership? The issue is far from black or white. Some feel it is not only dangerous to bring captive-bred wildlife into the suburbs, but cruel to the animal. Others feel it is their right to keep whatever pet they want especially if it poses no harm on the wild populations of the species.

## **QUESTIONS:**

1. What were your final thoughts on the case for exotic pet ownership?
2. Has your opinion changed before the activity?
3. Could one solution be found? Is there a middle ground?
4. What points were persuasive? Why?

### 1. Large carnivore attacks on humans in central India: A case study from the Tadoba-Andhari Tiger Reserve

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### 2. Defensible Inference: Questioning Global Trends in Tiger Populations

Harihar, A., Chanchani, P., Pariwakam, M., Noon, B. R., & Goodrich, J. (2017). Defensible Inference: Questioning Global Trends in Tiger Populations. *Conservation Letters*, 10(5), 502–505.

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### 3. Wildlife tourists in India's emerging economy: potential for a conservation constituency?

Karanth, K. K., Defries, R. S., Srivathsa, A., & Sankararaman, V. (2012). Wildlife tourists in India's emerging economy: potential for a conservation constituency? *Oryx*, 46(3), 382–390.

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### 4. Why the Indian subcontinent holds the key to global tiger recovery

Mondol, S., Karanth, K. U., & Ramakrishnan, U. (2009). Why the Indian subcontinent holds the key to global tiger recovery. *PLoS Genetics*, 5(8).

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### 5. Implications of the shared socioeconomic pathways for tiger (*Panthera tigris*) conservation

Sanderson, E. W., Moy, J., Rose, C., Fisher, K., Jones, B., Balk, D., ... Walston, J. (2019). Implications of the shared socioeconomic pathways for tiger (*Panthera tigris*) conservation. *Biological Conservation*, 231(January), 13–23.

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<https://doi.org/10.1016/B978-0-8155-1570-8.00009-8>

### 7. Bringing the tiger back from the brink-the six percent solution

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<https://doi.org/10.1371/journal.pbio.1000485>



Wild Tiger is a 501c3 non-profit based in the United States. Wild Tiger's mission is to protect Bengal tiger's and their habitats, using the wild tiger to galvanize a greater engagement in conservation and conducting research to achieve coexistence.

WEBSITE: [www.wild-tiger.org](http://www.wild-tiger.org) CONTACT: [info@wild-tiger.org](mailto:info@wild-tiger.org)

**This guide was created in part by our Youth Council members:**

Maria Mills, Allie Erickson and Johanna Jenson