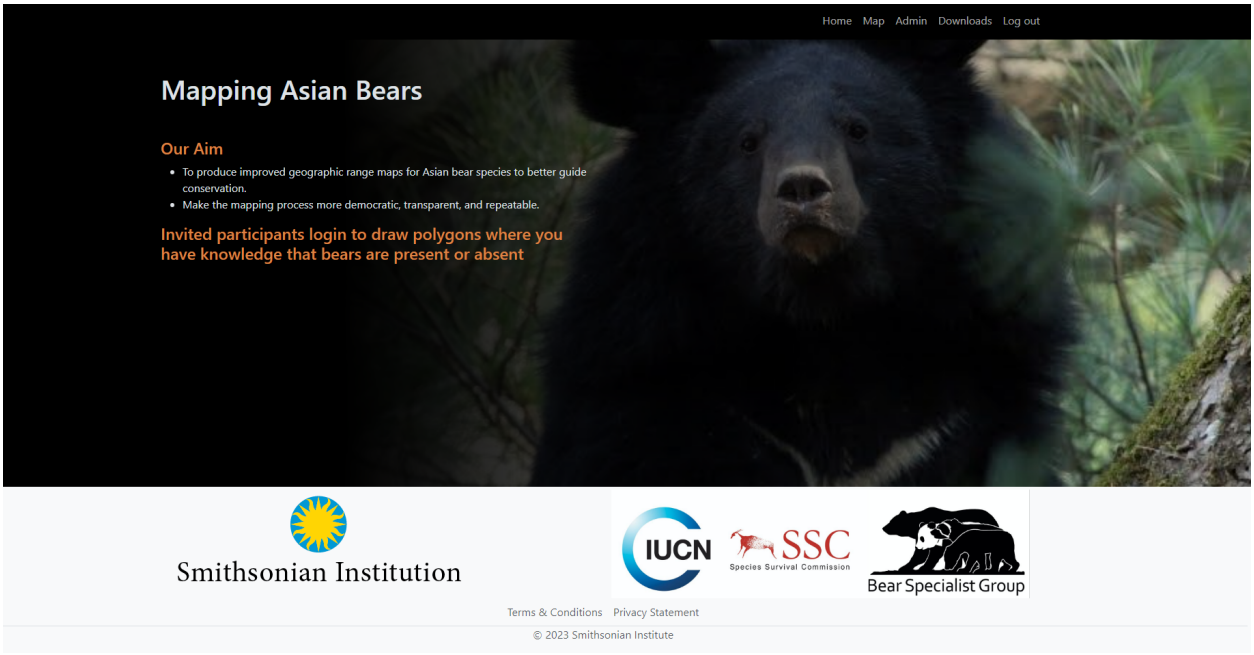
Mapping Asian Bears

User Manual



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Probable Presence: Bears are thought to occur in an area within the last 15 years based on potentially suitable habitat and/or meager presence records or records that may not be reliable. 26

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Probable Absence: Although bears once existed in this area, current conditions, in terms of habitat or other threats, make it very unlikely that a population of bears exists there now. There are either no reliable recent records of bear presence, or possibly a record that is deemed to be a wandering bear. 31

Case 12 – Habitat has become degraded in a forest that is distant from any known bear populations; a sighting was reported but no bear signs were found 31

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Absence: Although bears once existed in this area, there is now ample evidence, in terms of habitat conditions and/or lack of any presence records (with adequate surveys or considerable familiarity with the area), to conclude with certainty that bears no longer exist. 34

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Getting Started

Mapping Asian Bears is designed for participants to draw polygons where you have knowledge that bears are present or absent.

It will contribute to the IUCN SSC Bear Specialist Group's (BSG) production of improved geographic range maps for Asian bear species. This will help to better guide conservation, and make the mapping process more democratic, transparent, and repeatable.

Only invited participants will be able to use the site. You will receive an invitation from a BSG species coordinator. They will use your name, affiliation, and email address to create an invitation to participate.

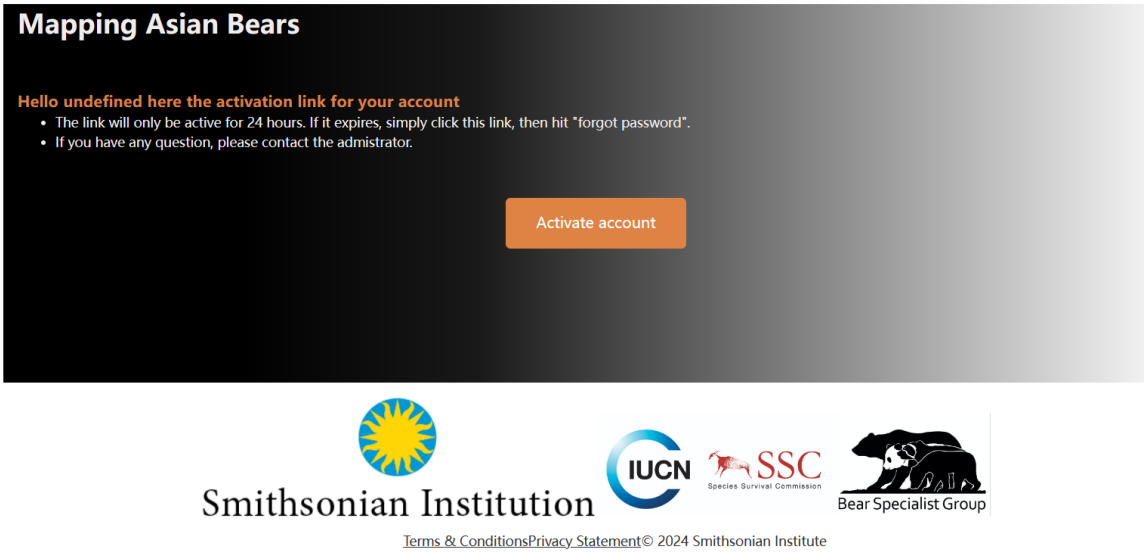
You cannot pass on an invitation to someone else, but if you know someone else who can contribute, please contact your species coordinator, or Chengcheng Zhang (ZhangC@si.edu).

If you have any questions or problems, please contact your species coordinator, or Chengcheng Zhang (ZhangC@si.edu).

Account Activation Email

An account activation email will be sent to you.

Check your spam folder in case the invitation lands there.



Terms & Conditions, Privacy Statement

To review our Terms & Conditions and Privacy Statement, please click here. They can also be found at the bottom of the Account Activation email, Set/Reset Password Page, Home Page, and Login Page.

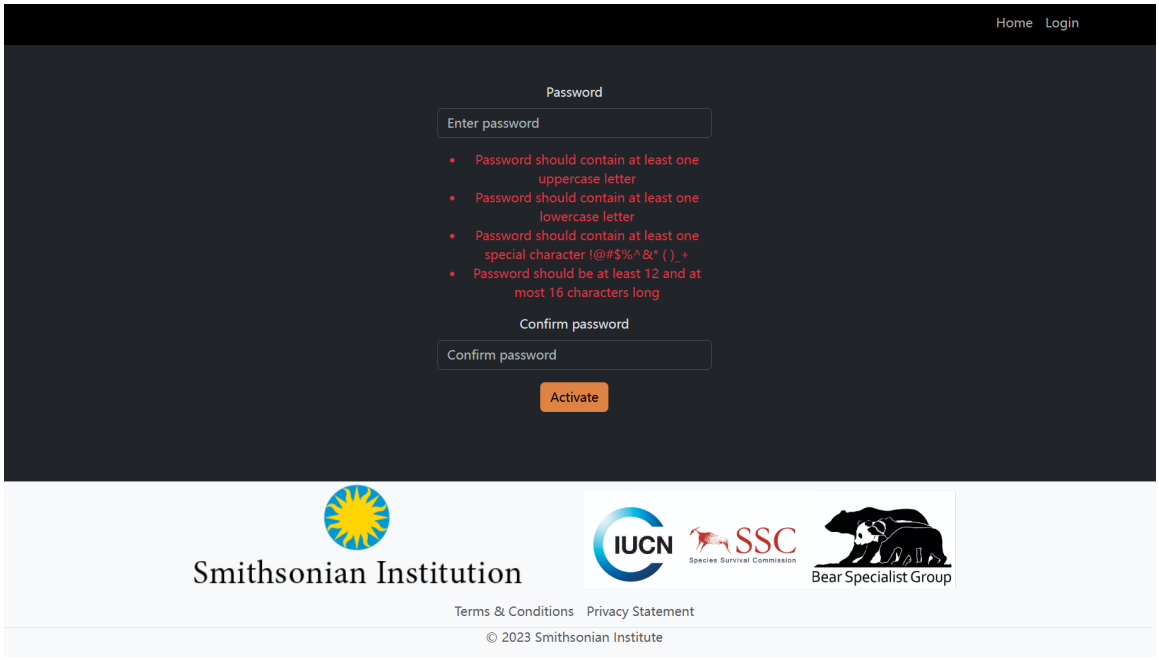
Important Conditions:

- The polgons drawn will become the property of the **IUCN SSC Bear Specialist Group** (BSG), and will be used to create range maps for the IUCN Red List and in publications. All contributors will be acknowledged for taking part in this conservation effort, although submission of polygons does not constitute authorship. The data will be openly available after it is published.

- Point data can be provided separately under a different agreement, and will be used together with the opinion-based polygons. This site is only for polygon data. To contribute point data, please contact Chengcheng Zhang (ZhangC@si.edu) or your species coordinator (the person who invited you to participate).

Set Password

A complex password is required (sorry for the hassle).

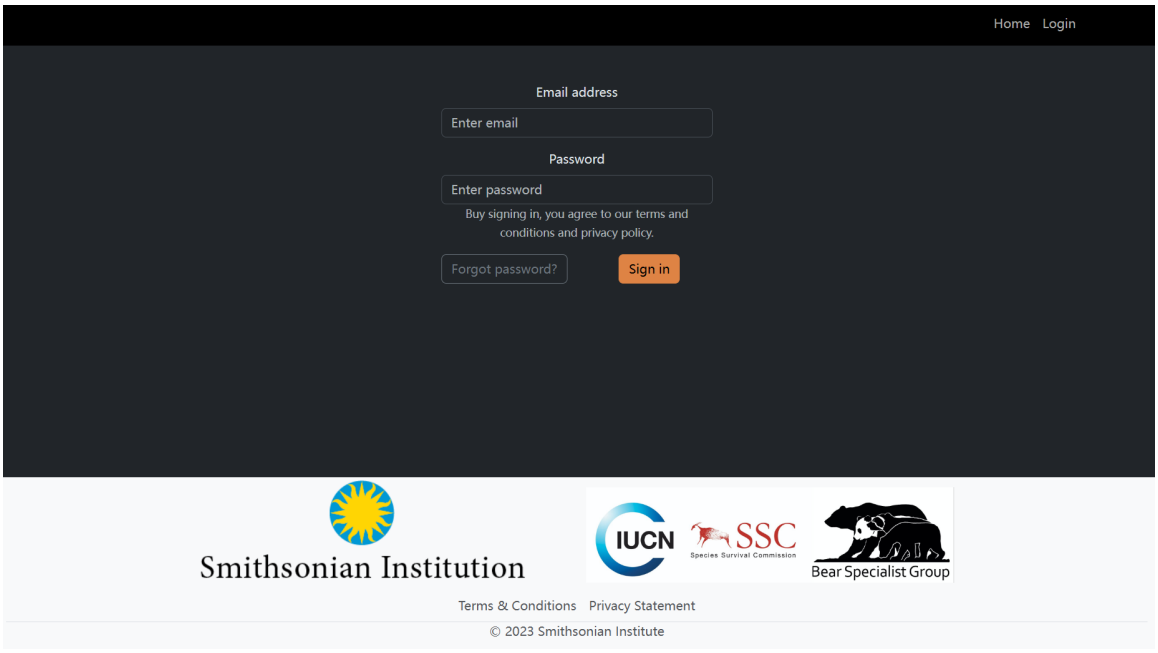


Forgot Password/Expired Link

The activation link will only be active for 24 hours. If the link expires, just click “Forgot password?” in the Login Page and enter your email in the Reset Password Page. A new activation link will be sent to your email.

Home & Login

Log in with your email and password.

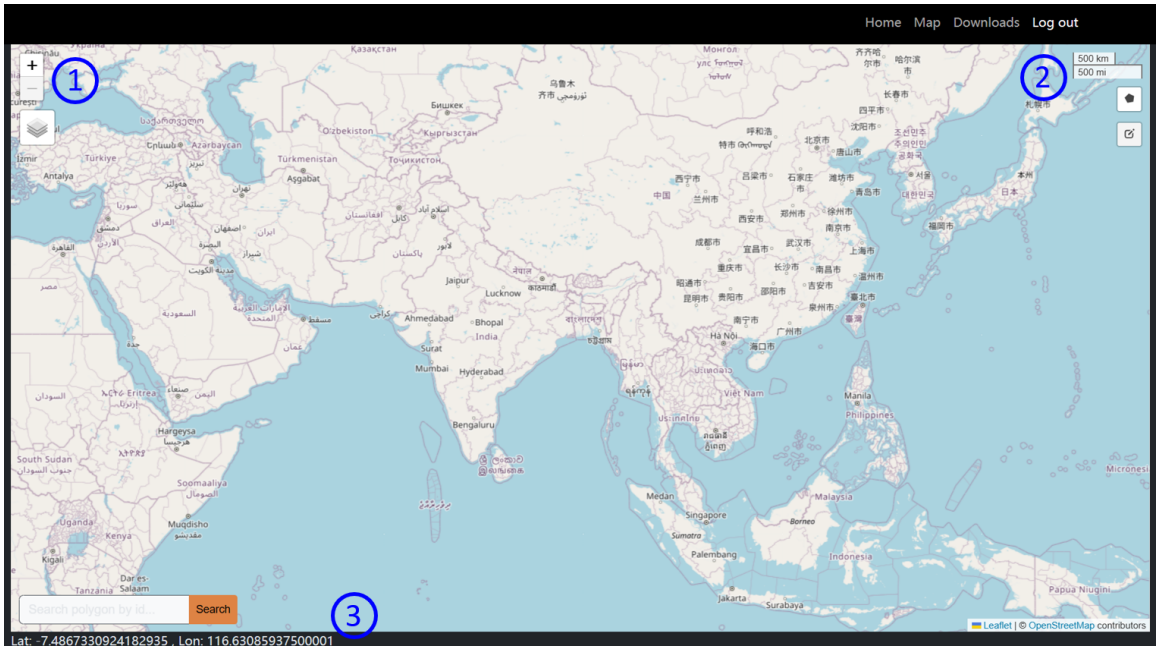


Overview

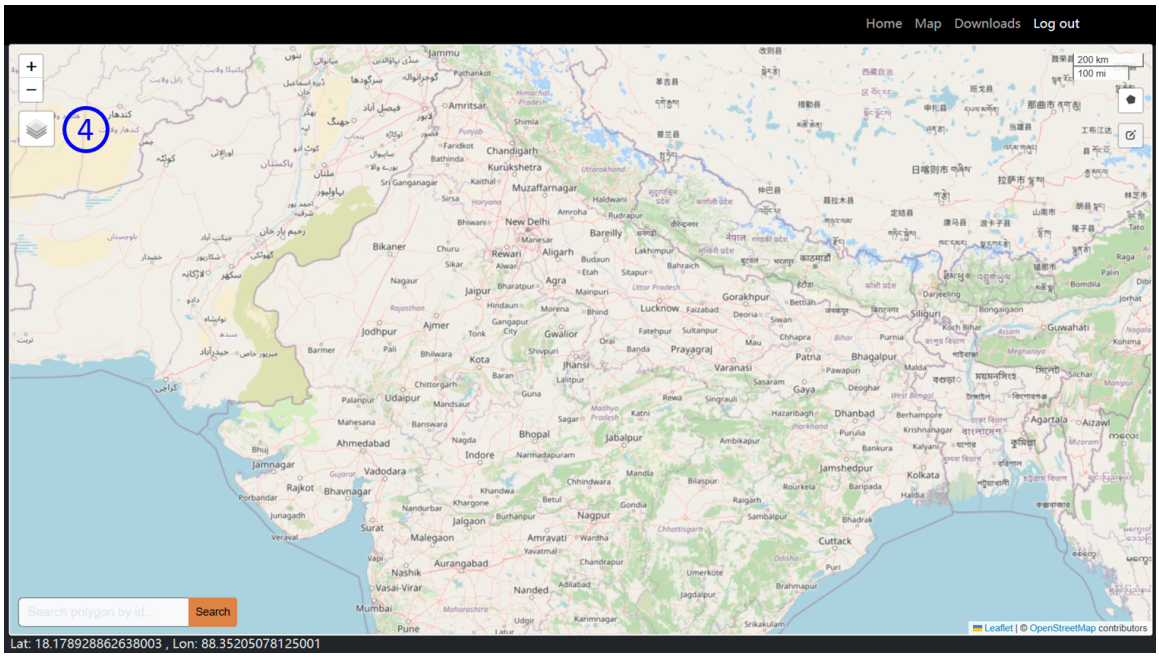
Map Page

Map Page is the first page you see once logged in.

1. Zoom in or out with scroller or with the + and – buttons in the top-left corner.
2. The scale bar in the top-right indicates distances on the map.
3. Latitude and longitude coordinates are shown in the bottom-left corner as your mouse moves around the screen.



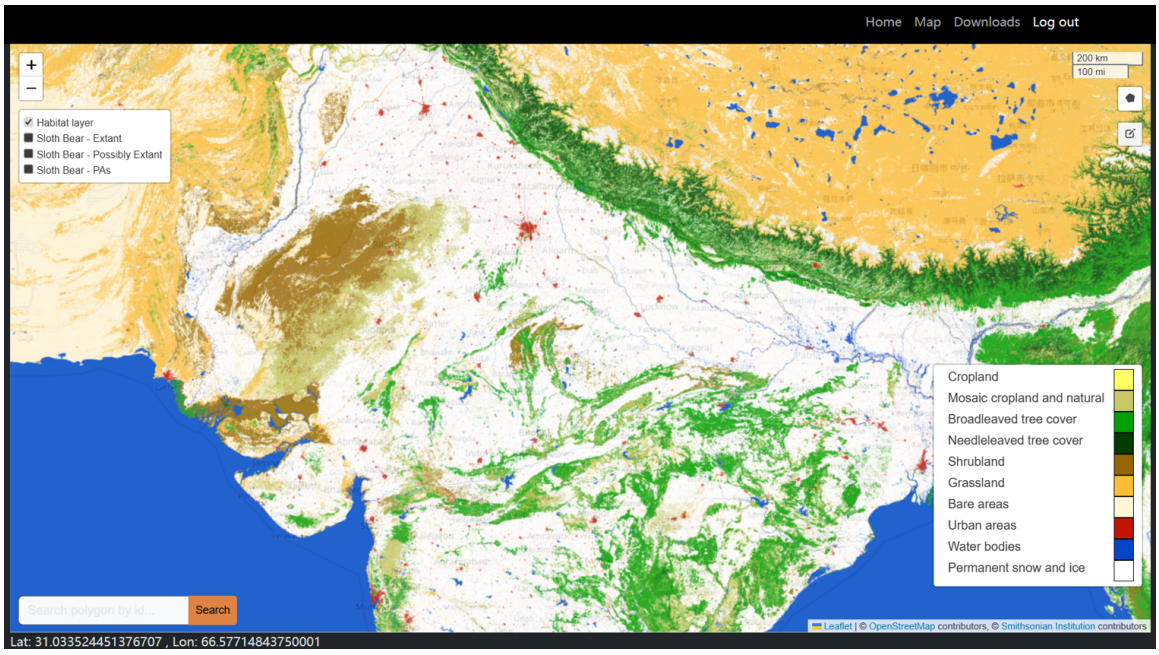
Once zoomed in, cities, roads, forest coverages, and protected areas are shown in the base map.



4. Slide mouse over the “layers” symbol in the top-left (below the + / - symbol) to show base layers available.

   There are 4 kinds of base layers that you can add to the map, which may serve as a GUIDE in drawing range polygons:

   (a) Habitat layer – click on box next to “Habitat layer” to overlay the map with broad categories of landcover. (Uncheck to remove this layer.)



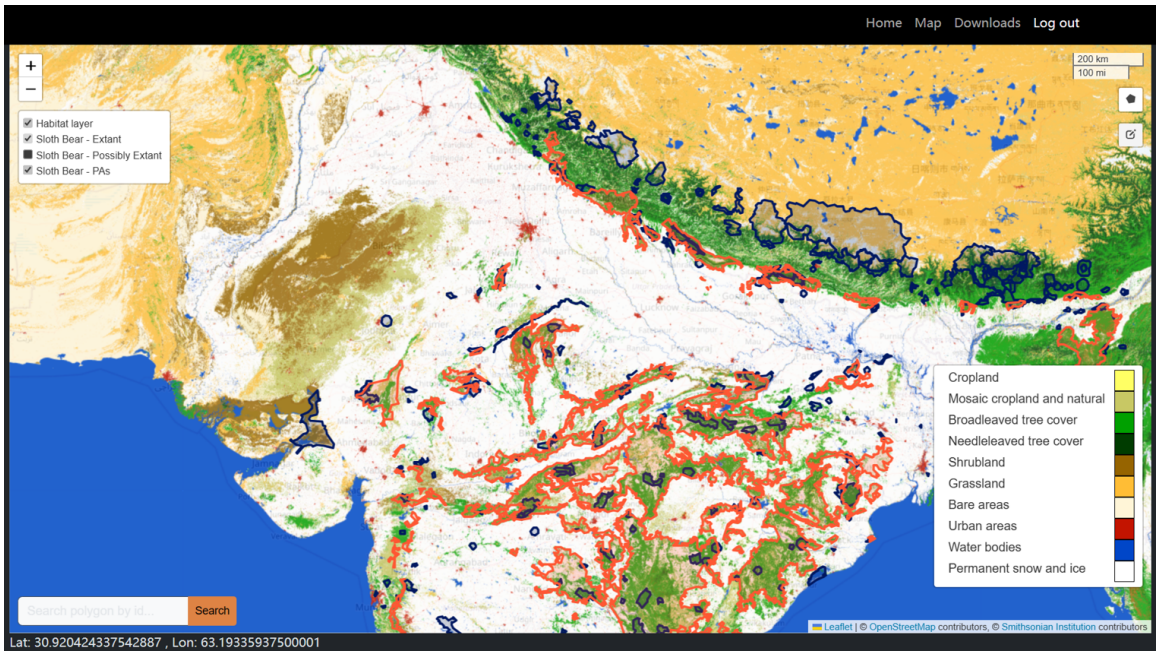
If you are knowledgeable on more than 1 species, you should see specific layers for each species:

(b) Species – Extant — clicking this box will show the polygons from the BSG's 2016 mapping effort indicating opinions at the time of where there was evidence of presence. This may be used as a guide in drawing new polygons, but you should not assume that any previous polygons were correct because they were created in different ways, using different criteria. Some polygons actually had no hard data, but were drawn by a computer model, or simply followed the borders of the forest.

(c) Species – Possibly extant — clicking this box will show the polygons from the 2016 mapping effort indicating opinions at the time of where the species could occur, but nearby hard evidence was lacking. As with the extant polygons, please treat this as a general reference, which should be superseded in this new mapping effort.

(d) Species – PAs — clicking this box will show Protected Areas larger than 25 km^2 in the range of the species (with a 100-km buffer).

Example shown below for Sloth bears:



Draw Polygons

The aim is to create polygons based on local knowledge, which may be derived from a variety of local information. Some of that information may be hard data, but it could also just be knowledge accumulated from experience in the area, and never formally recorded.

Please do NOT draw range maps created by computer models.

We are seeking your input creating 4 types of range polygons, with specific definitions below — also see various Examples of information used to create these 4 range types, starting on page 19. You can draw as many polygons of each type as you feel comfortable doing. You do not need to draw all 4 types.

Please stay within the area of your familiarity!

☐ Presence – Direct Evidence

There is **evidence of this species of bear occurring** in this area during the past 15 years (and no compelling evidence that they have been more recently extirpated). Evidence may include: camera trap records, genetic evidence, reliable identification of sign, sightings, and reliable second-hand reports of sign or sightings, including conflict situations. However, a single record of a bear in 15 years is insufficient evidence of a population. Presence polygons may **extend beyond the area with evidence to a larger contiguous area with the same habitat conditions**. Presence polygons also may include agricultural areas with conflicts (indicating frequent use by the bears), near an area with more suitable habitat (presumed source population).

☐ Probable Presence – No Direct Evidence

There is **no direct evidence of a population** of this species of bear in this area in the past 15 years, but the **habitat appears suitable** and there is no evidence that they have been extirpated. A single record of a bear some distance from a presence polygon is most likely to fit in this category. This category also may be used to draw a buffer of uncertainty around presence polygons (i.e., an area where habitat conditions or level of protection is less than within the presence polygon).

☐ Probable Absence – No Direct Evidence

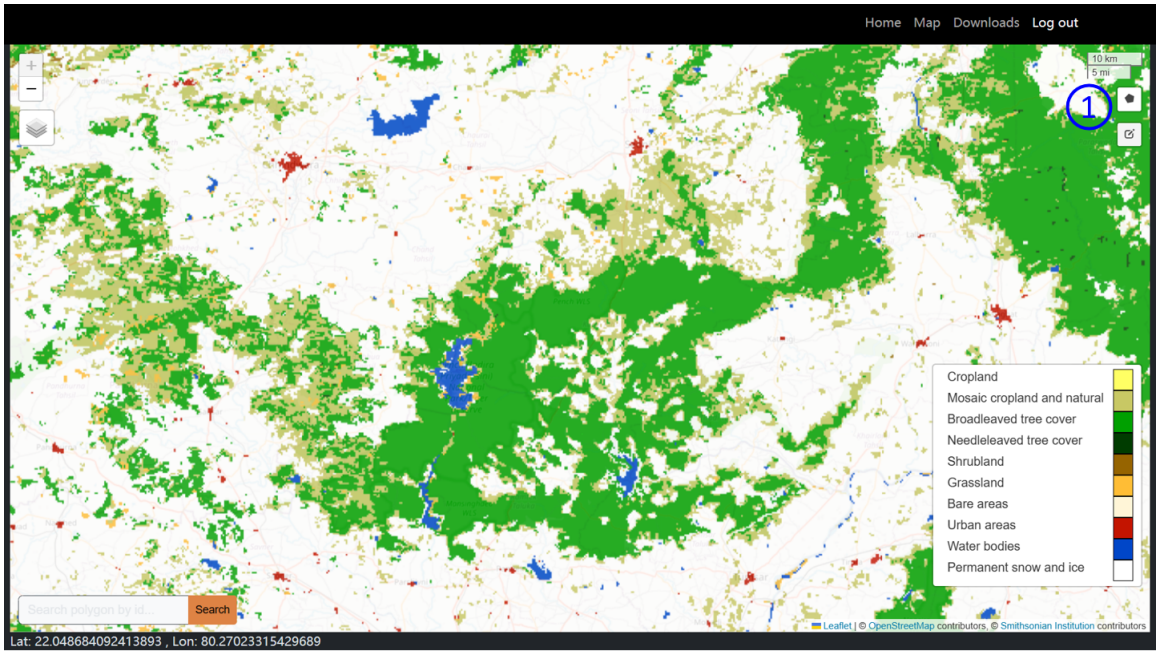
This species of bear once occupied this area, but either the **habitat seems unsuitable or other human threats make it highly unlikely that the species occurs** here. There are no records of presence, but the area has not been sufficiently searched to conclude for certain that it is absent.

☐ Absence – Direct Evidence

This species of bear once occupied this area, but is now definitely absent, based on an **undeniable absence of evidence**. The area has either been exhaustively surveyed with no

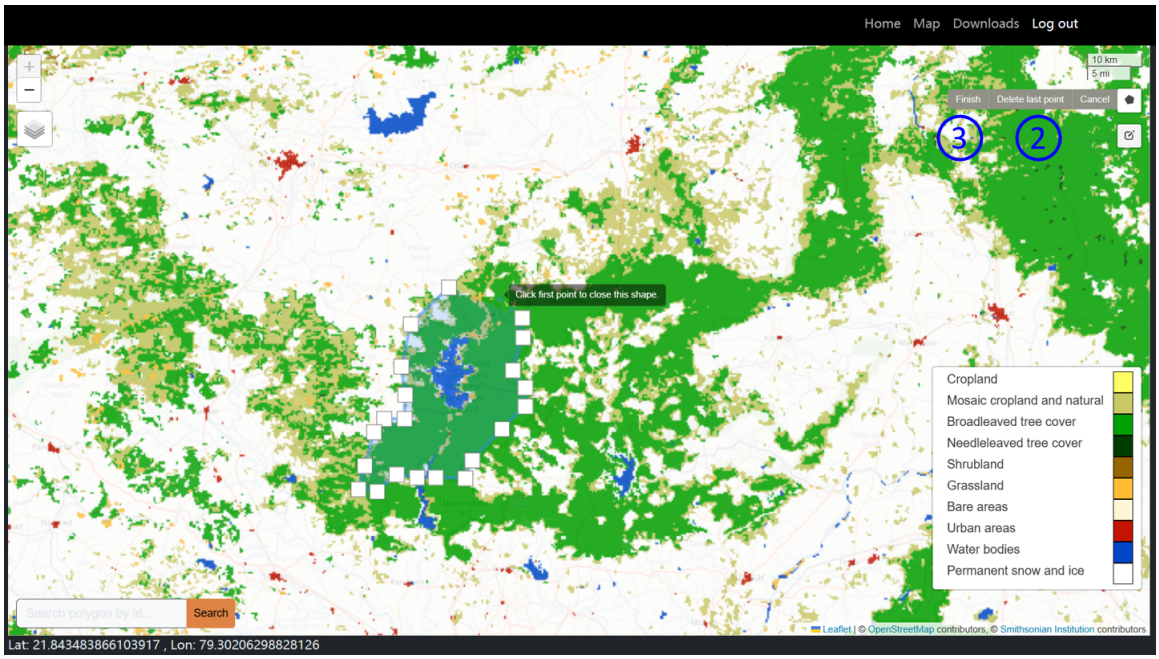
presence records of the species, or it has been repeatedly traversed (i.e., informally surveyed) and no bear sign found and no local person ever reporting a bear in the area.

1. Click the “pentagon” symbol in upper right to start drawing a polygon.



Click with mouse to create nodes (solid white square) of polygon on map.

2. As you click and draw the polygon in this “drawing mode”, you can click “Delete last point” in the grey pop-up bar to remove the latest points drawn. You cannot edit the polygon while drawing at this moment. We will get to Edit Polygons later.
3. Click “Finish” to close the polygon. You can also finish drawing by clicking the first point of this polygon.



Enter Metadata

Once the polygon is closed, the “Entry metadata” left sidebar pops up and greys out the map. You need to enter metadata for 1 polygon at a time.

If you quit before entering metadata, the polygon will not be saved.

4. Select the species you are drawing in the “Project” dropdown. Usually, you are already assigned a single species so just click on it.

   If you are knowledgeable on more than 1 species but only have access to one, contact Chengcheng Zhang (ZhangC@si.edu) or your project manager. They will add access of other species to you.

5. The “Type of Observation” dropdown list offers 4 options for polygon type. Please categorize the polygon based on the definitions above, and Examples starting on page 19.

Each “Type of Observation” option contains checkboxes to choose from. Check all those that pertain to the kind of local information that you based this polygon on.

Presence records can be based on any of the following methods:

- Camera trap
- Sign (including sighting)
- Reliable secondhand information (e.g., park staff report seeing some bear signs)
- Own expert opinion
- DNA
- Other (e.g., frequent human-bear conflicts nearby)

Probable presence can be determined by the following methods:

- Good or suitable habitat
- New reports/Social media (e.g., unconfirmed presence records)
- Reliable secondhand information (e.g., unconfirmed presence records)
- Evidence in nearby market
- Other (e.g., single presence record some distance from known population)

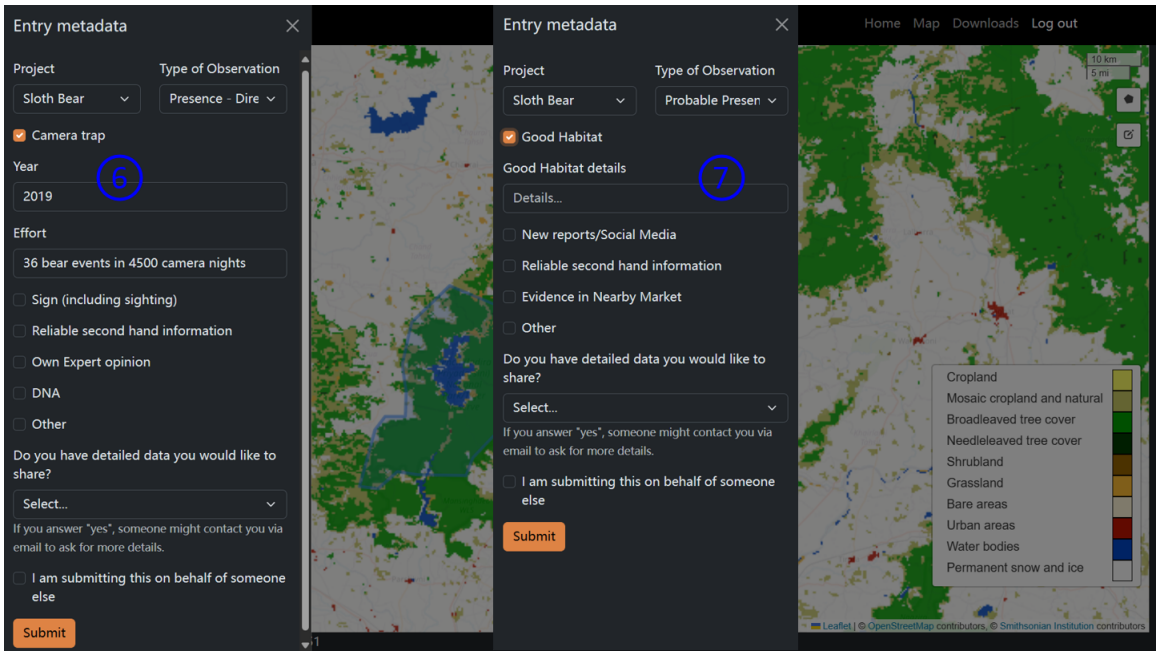
Probable absence (of a breeding population) can be determined by the following methods:

- Poor or unsuitable habitat
- Previous heavy poaching
- Reliable secondhand information
- Own expert opinion

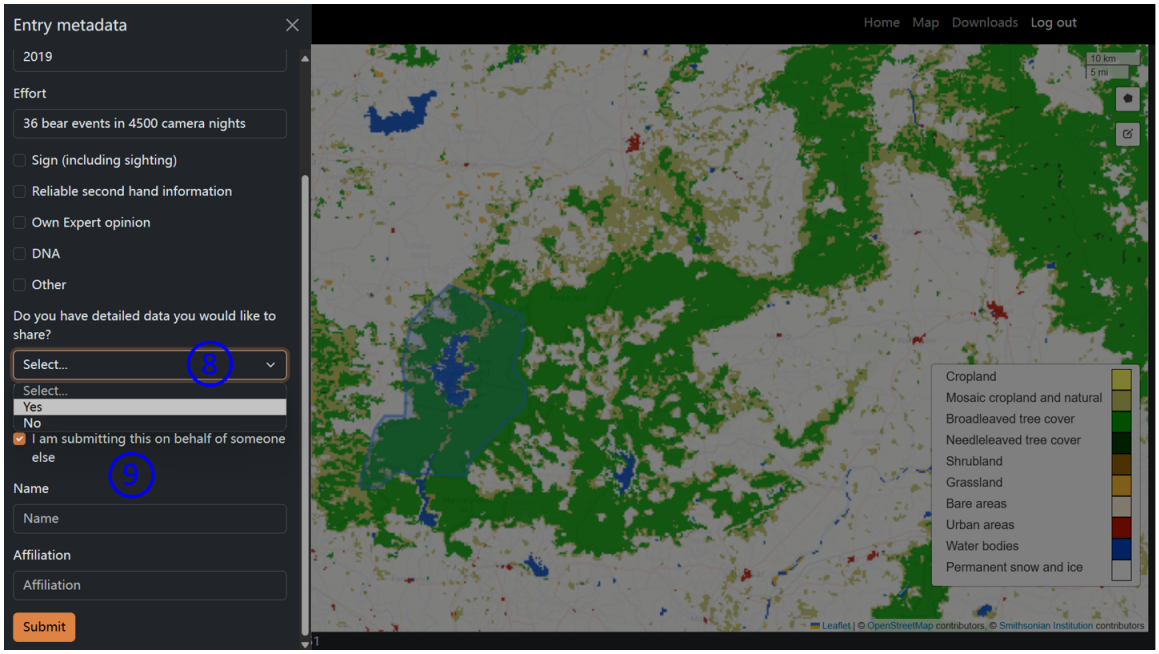
Absence can be determined by the following methods:

- Camera trap
- Sign
- Reliable secondhand information
- Own expert opinion
- DNA
- Other

6. “Presence” and “Absence” polygons ask for Direct Evidence. Please fill in “Year” and “Effort” if that information is available. “Year” refers to the most recent year (over the last 15 years) in which the information was obtained. “Effort” is intended to give a sense of the reliability of the information, should be used to describe number of years the survey spanned, area the survey covered, survey effort, etc.. It does not have to be an exact number. As an example, it could be fairly quantitative, such as number of camera-trap nights or number of transects, or something less formal, such as person-days per year that the area is patrolled, or the portion of area covered per month.



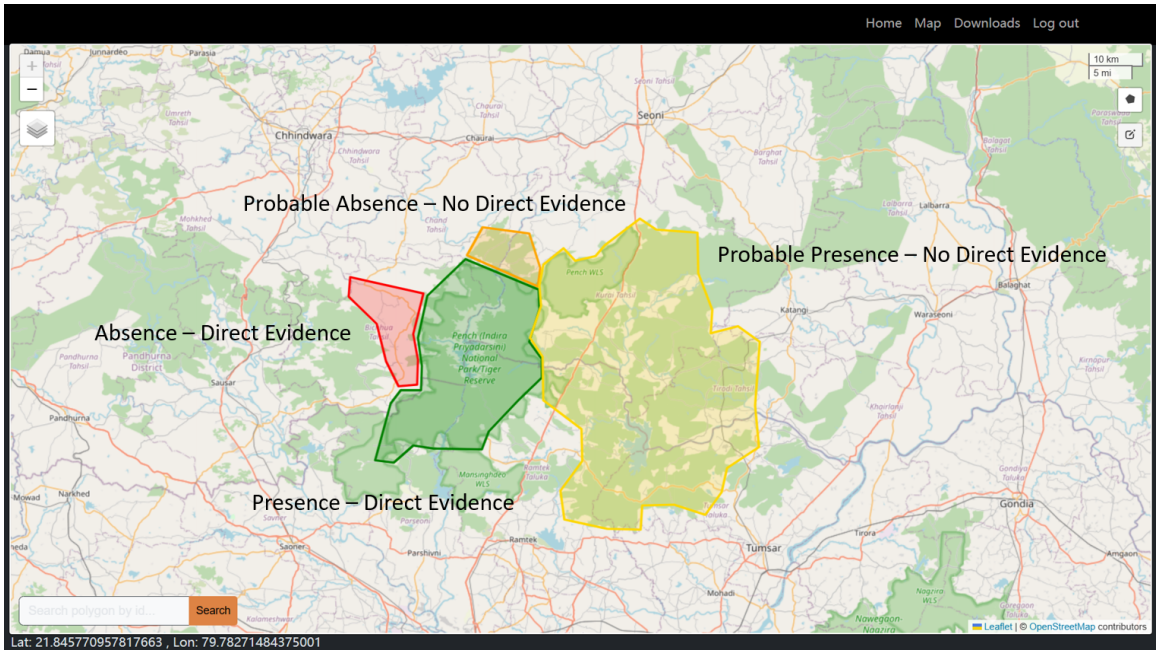
7. “Probable Presence” and “Probable Absence” polygons have No Direct Evidence. After checking either of these, a field called “Details” is displayed. Here you can comment on the basis for drawing this polygon, such as what the habitat is like.
8. For each polygon, you will be asked: “Do you have detailed data you would like to share?” If you have detailed data like camera trap points, sign survey points, etc., and willing to share, please select “Yes” and we will contact you via email later.
9. If you are drawing the polygons for others (who have local knowledge but cannot use this App due to language barriers, etc.), check the “I am submitting this on behalf of someone else” and fill in his/her name and affiliation in the fields following.



Once you have finished entering metadata, click “Submit” in the bottom, the screen will jump back to Map Page.

You can quit (close the app) after this step, and return anytime to enter new polygons. Your work to this point will be automatically saved.

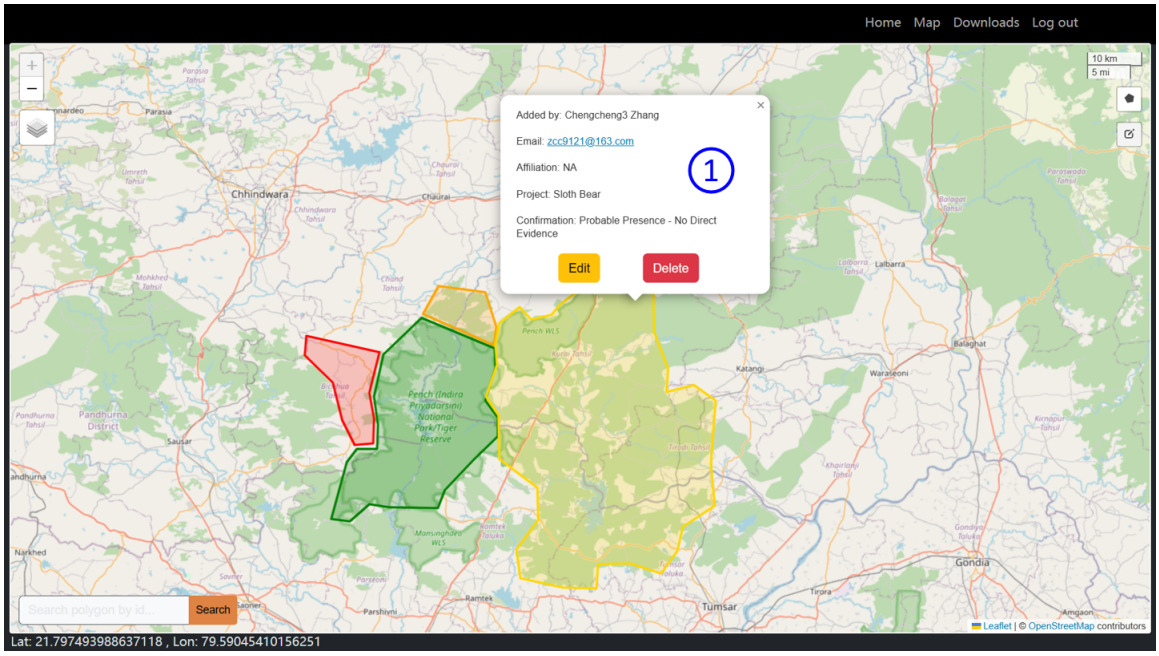
The color of the polygons will match the type of observation entered.



Edit Polygons

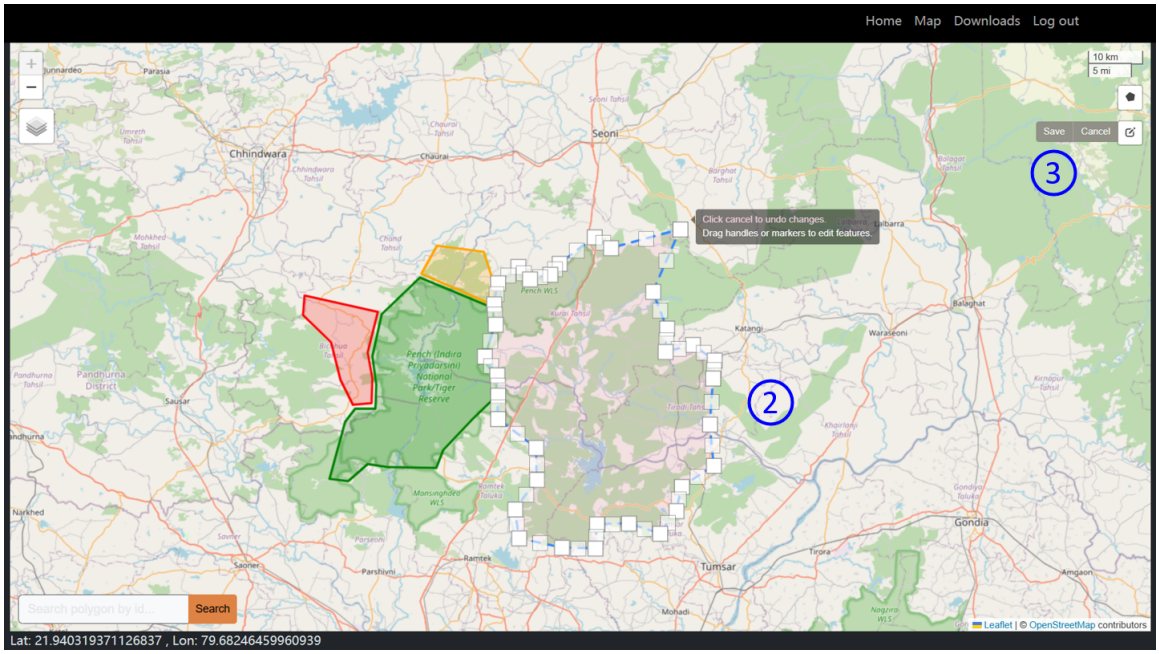
Once a polygon is created and metadata is entered, it is possible to edit the shape of the polygon (including deletion).

1. Click on any polygon drawn, and a pop-up with “Edit” and “Delete” buttons will appear.



By clicking the “Edit” mode, you will be brought back to the polygon nodes (solid white nodes representing points that you marked and transparent white nodes representing spots in between the marked points).

2. Click and drag on a solid node to move its position. Click a solid node to remove it from the polygon. Click and drag on a transparent node to move its position, once the mouse is released, the transparent node will turn solid, and a transparent node will appear between two solid nodes.
3. Click “Save” in the upper right grey bar to save the editing on polygon shape.

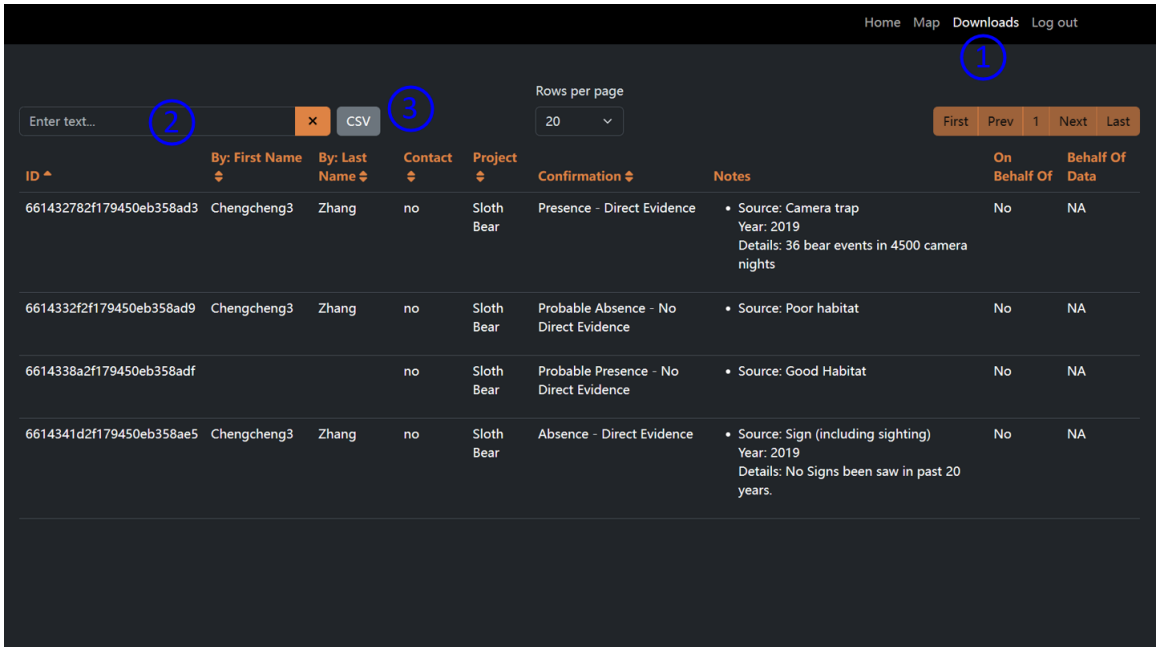


Then the “Entry metadata” left sidebar appears and allows for any updates on the metadata.

You can also just update the metadata without changing the shape of polygon by clicking “Save” once get into the editing mode.

Downloads Page

1. If you would like to keep a copy of the information that you entered, click “Downloads” in the top-right menu bar to enter the Downloads Page.
2. Enter text in the search bar to search for the polygons drawn by certain people (First Name or Last Name as key word) or for certain project (one of the 4 bear species), the type of polygons (Presence, Probable Presence, Probable Absence, or Absence), and if there were detailed data people would like to share (Yes or No as key word).
3. Click the grey “csv” button to download polygons coordinates and metadata information.



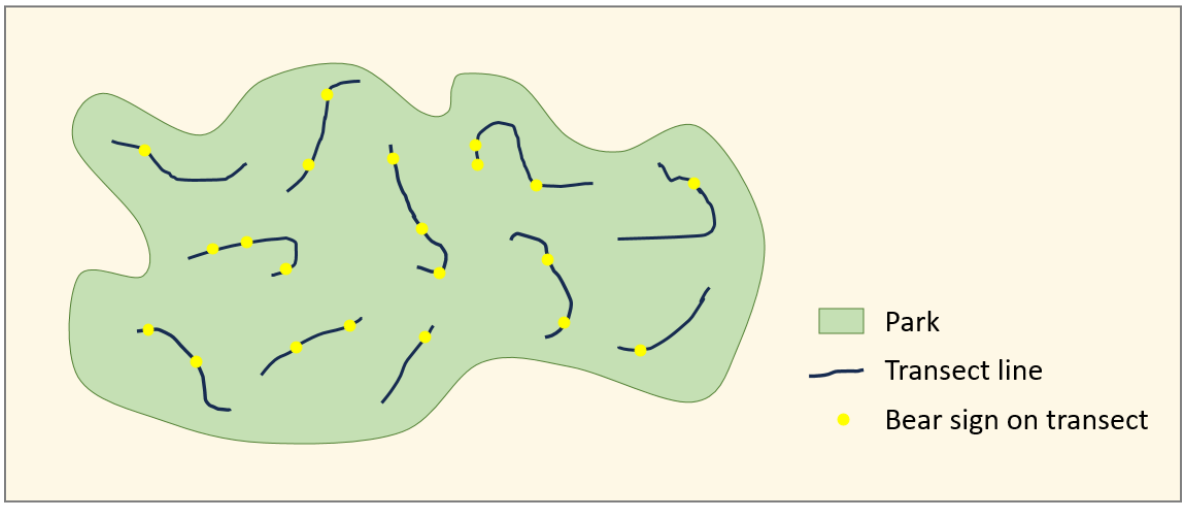
ID	By: First Name	By: Last Name	Contact	Project	Confirmation	Notes	On Behalf Of	Behalf Of Data
661432782f179450eb358ad3	Chengcheng3	Zhang	no	Sloth Bear	Presence - Direct Evidence	• Source: Camera trap Year: 2019 Details: 36 bear events in 4500 camera nights	No	NA
6614332f2f179450eb358ad9	Chengcheng3	Zhang	no	Sloth Bear	Probable Absence - No Direct Evidence	• Source: Poor habitat	No	NA
6614338a2f179450eb358adf			no	Sloth Bear	Probable Presence - No Direct Evidence	• Source: Good Habitat	No	NA
6614341d2f179450eb358ae5	Chengcheng3	Zhang	no	Sloth Bear	Absence - Direct Evidence	• Source: Sign (including sighting) Year: 2019 Details: No Signs been saw in past 20 years.	No	NA

Examples

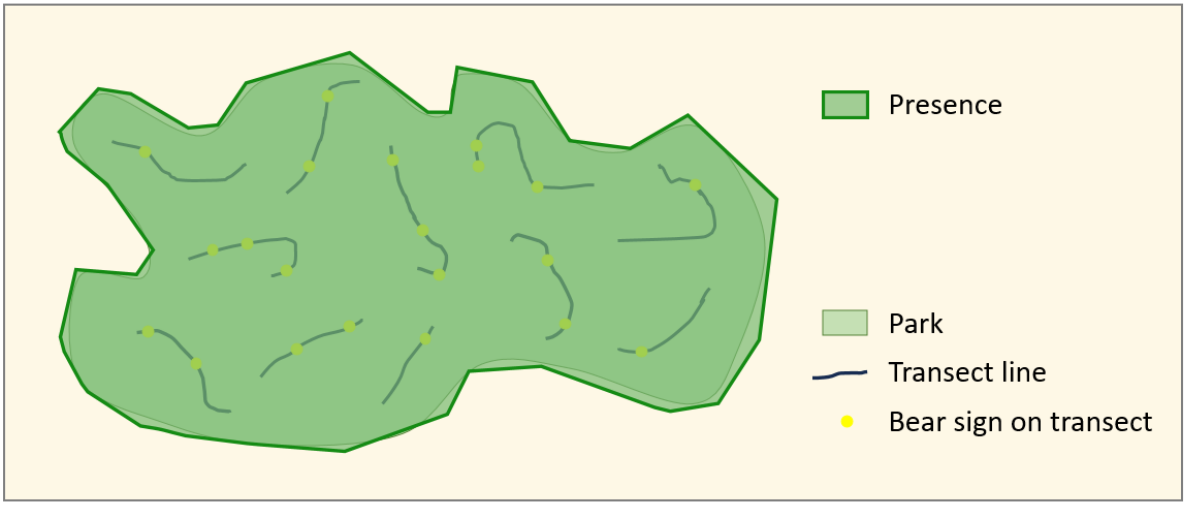
Presence: Bears are known to occur in an area with recent records (last 15 years).

Case 1 – A park has been thoroughly surveyed and bears were detected

Transect surveys detected many bear signs throughout the park in recent years.

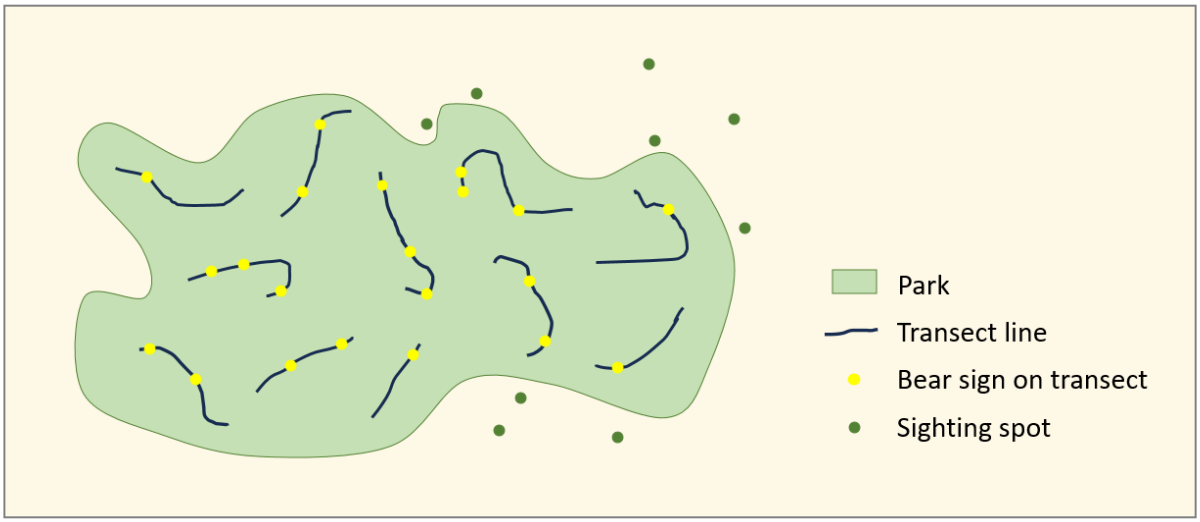


Draw polygon to show that bears are “present” in the whole park.

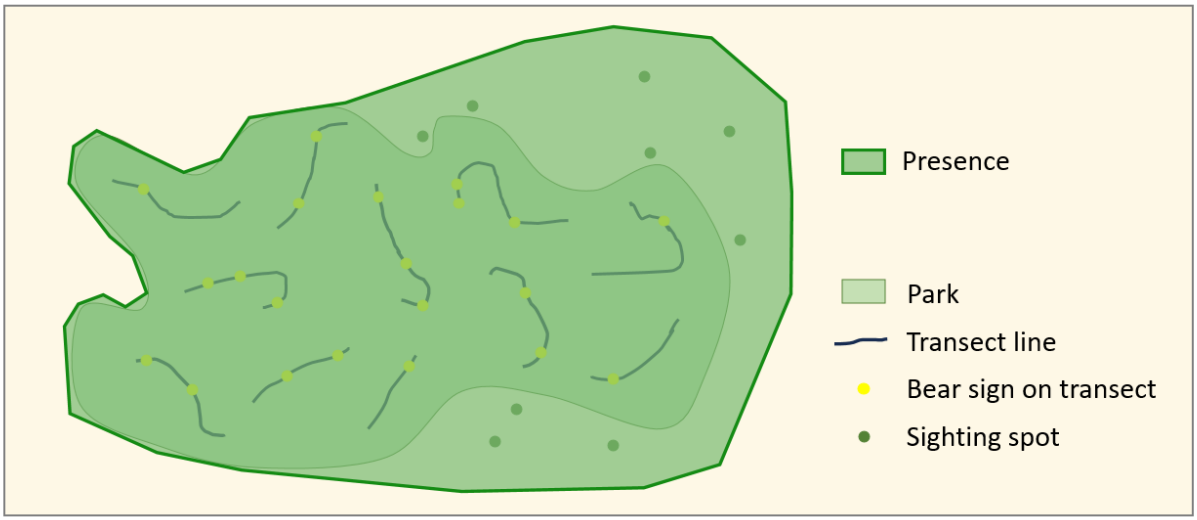


Case 2 – A park has been thoroughly surveyed and bears were detected; additionally, sightings were reported in surrounding area

Besides bear signs found within the park, local people report sightings of bears in the surrounding area, which is not considered good bear habitat.

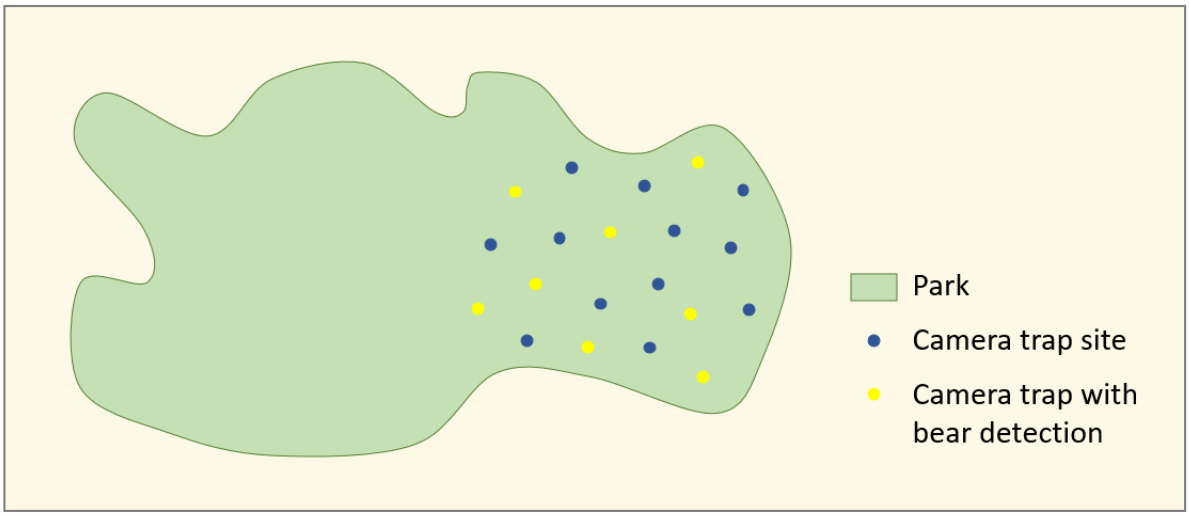


Draw polygon to show that bears are “present” in the whole park, and in the surrounding area where they were sighted.

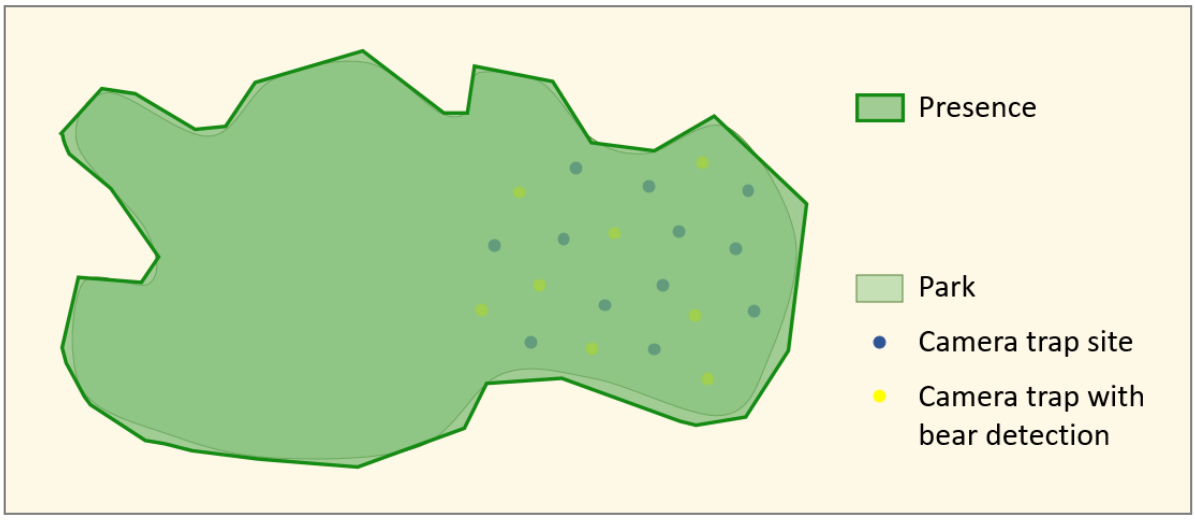


Case 3 – A park has been partially surveyed and bears were detected

Only part of the park has been surveyed and bear presence has been detected in the surveyed area. There is continuous, similar habitat in the rest of the park.

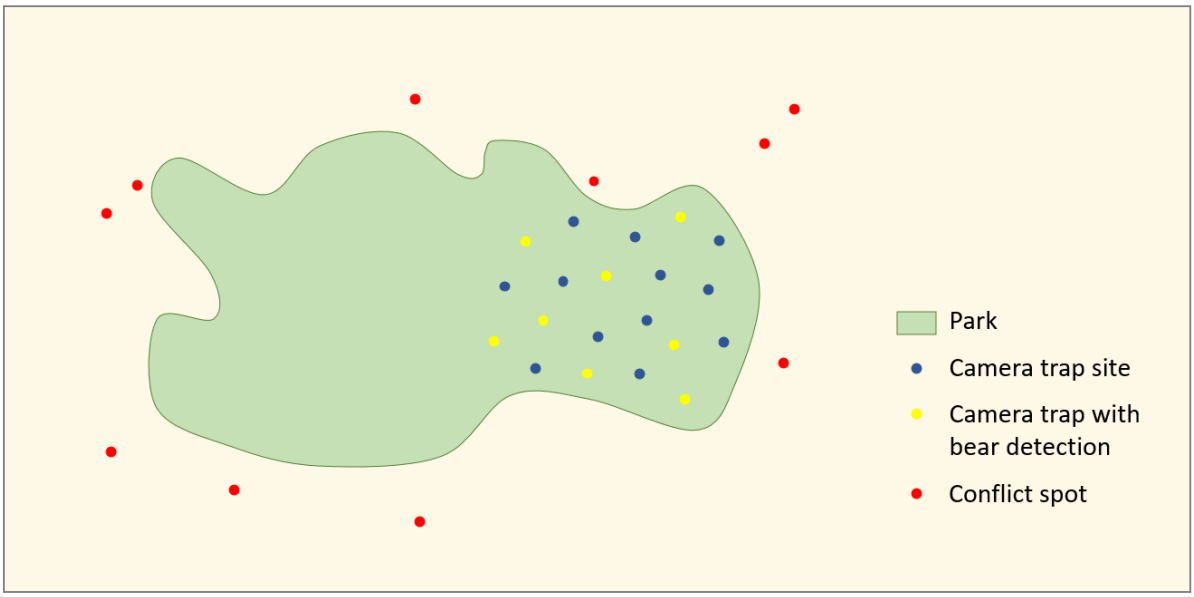


Given similar habitat across the park, infer that bears are “present” in the whole park.

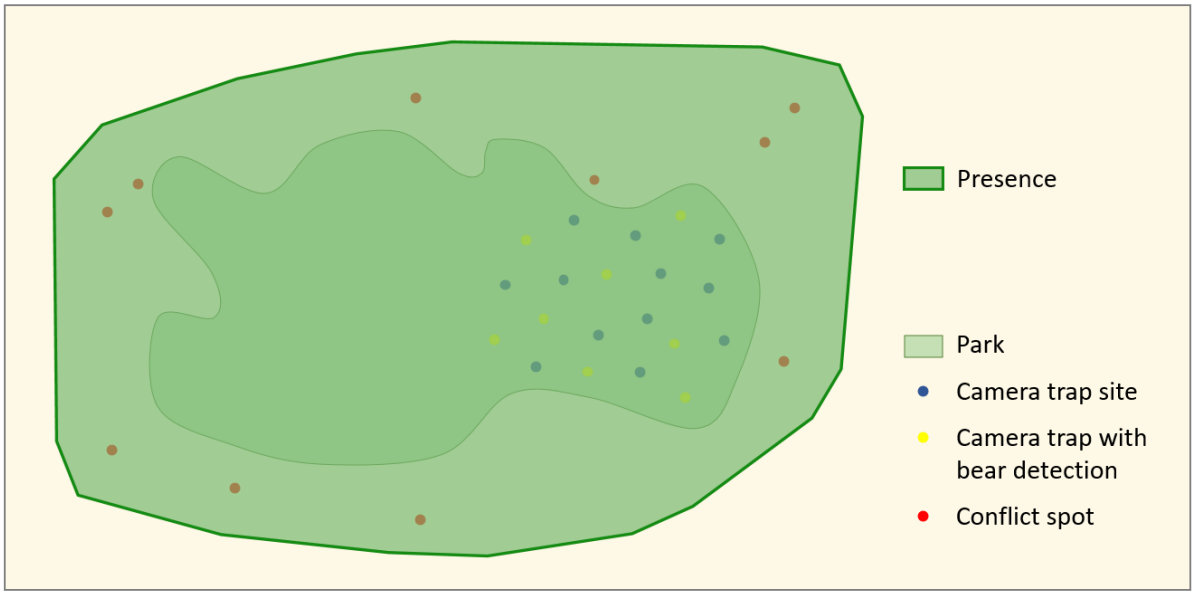


Case 4 – A park has been partially surveyed and bears were detected; additionally, human–bear conflicts were reported in surrounding area

Bears have been detected in the survey area, and there is continuous, similar habitat across the park. Human–bear conflicts were regularly reported in the surrounding area, which is not considered good bear habitat.



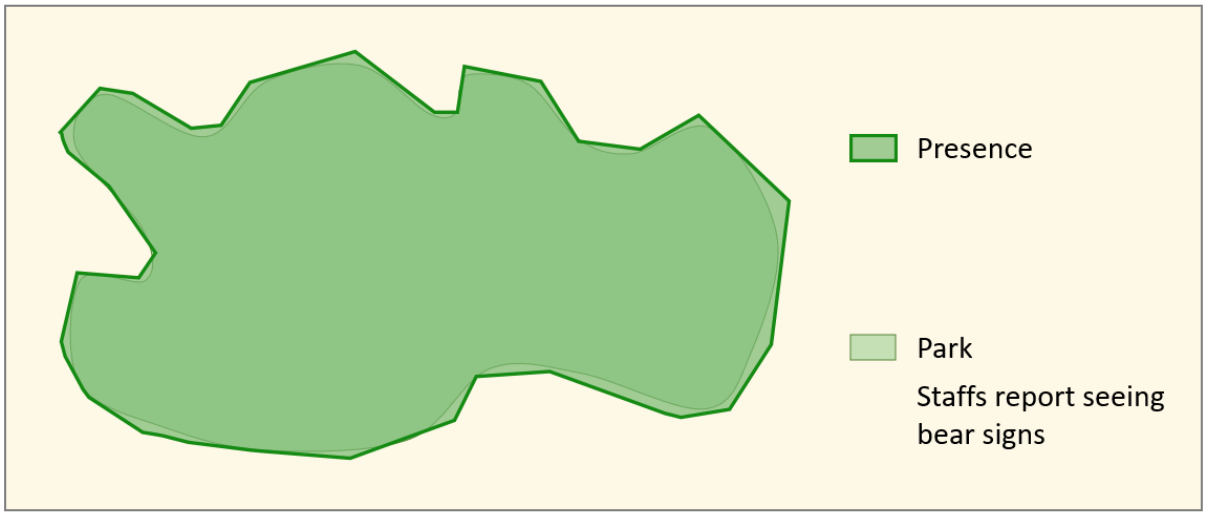
Infer that bears are “present” in the whole park, and in the surrounding area where there are frequent conflicts.



Case 5 – Park staff report seeing bear signs, although the area has never been formally surveyed

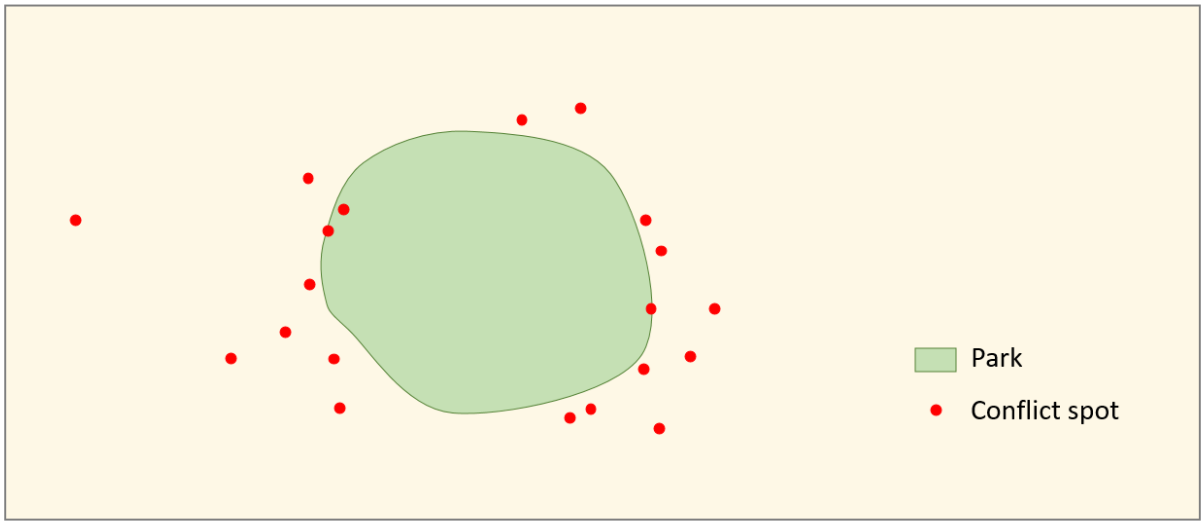
There is continuous habitat in the park and staff have occasionally reported seeing bear signs, although there are no formal records or locations of these observations.

Infer that bears are “present” in the whole park.

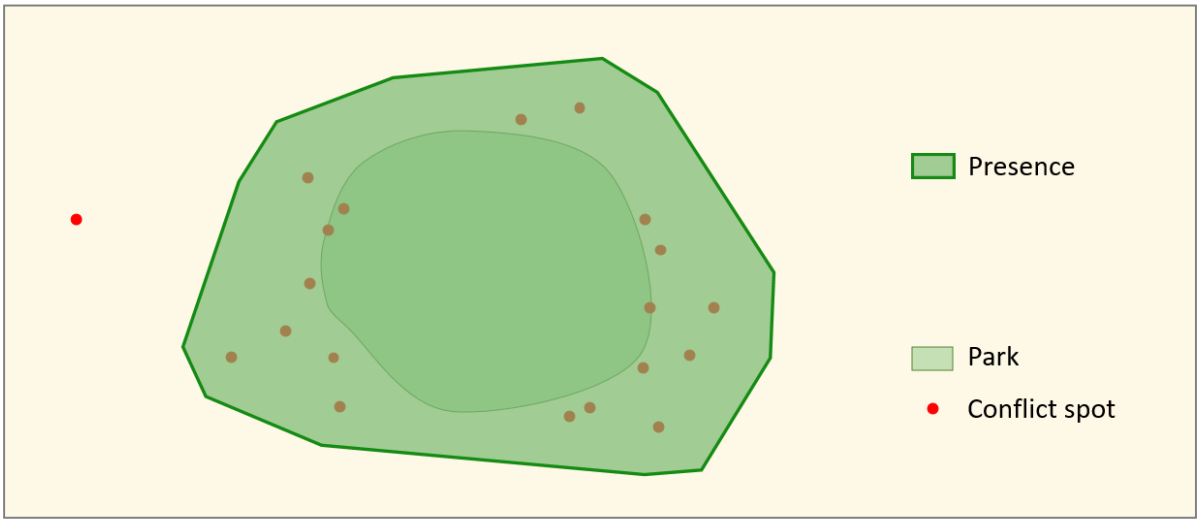


Case 6 – Frequent human–bear conflicts indicate bear presence

Frequent human–bear conflicts were reported surrounding a park (or patch of good habitat), but the park has never been surveyed. Local people may report seeing bear signs or direct sightings in this area.



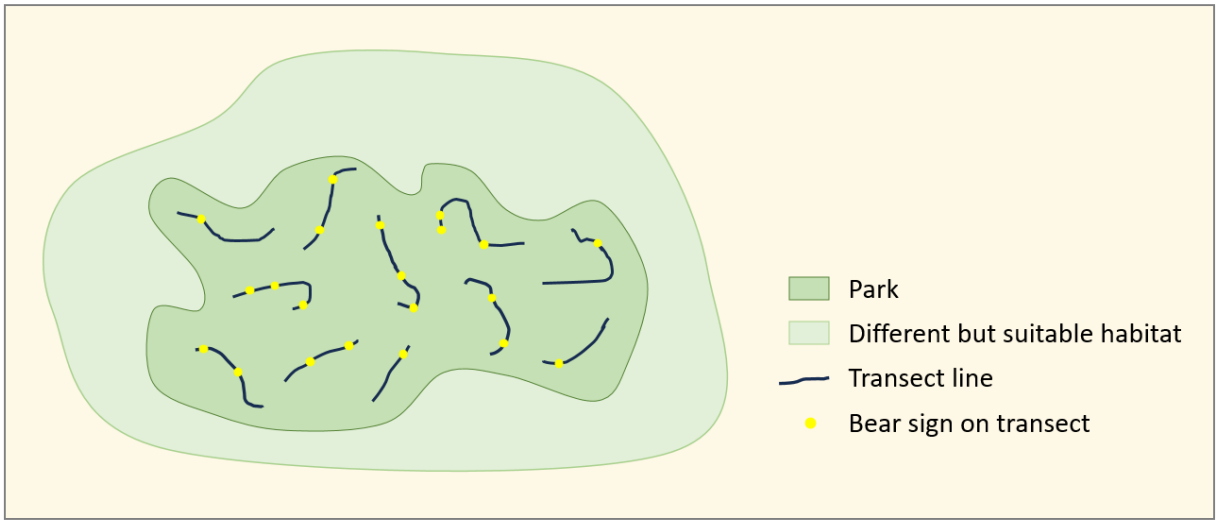
Infer that bears are “present” in the whole park (presumed source population), and in the surrounding area where there are frequent conflicts.



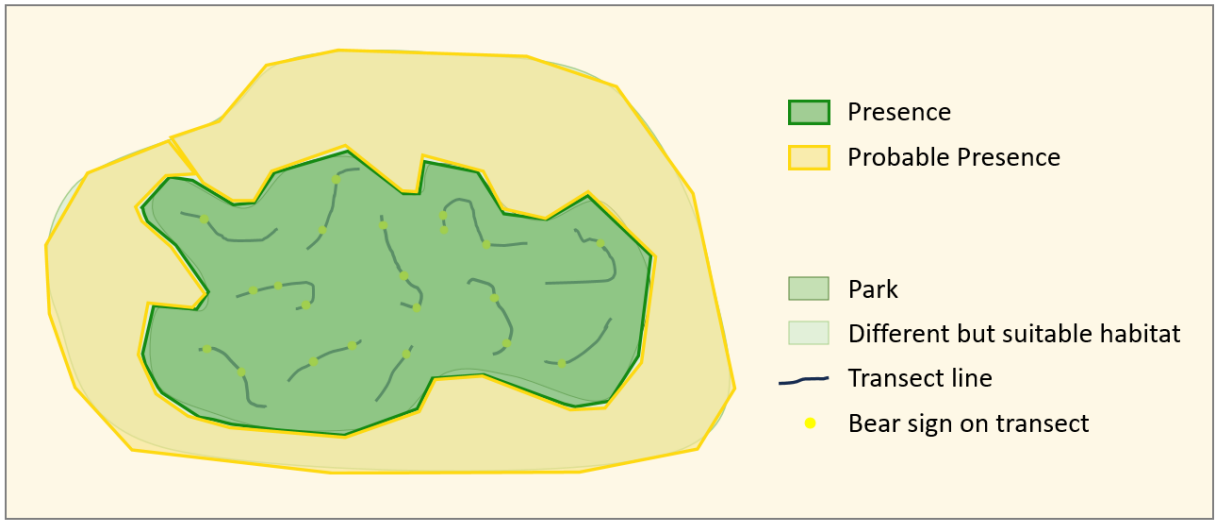
Probable Presence: Bears are thought to occur in an area within the last 15 years based on potentially suitable habitat and/or meager presence records or records that may not be reliable.

Case 7 – Confirmed records of bears occur inside a park; the area outside the park has few or no confirmed records and somewhat different habitat conditions, but still could be suitable

Bears are present inside a park. Conditions outside the park, including the presence of people, are less suitable than inside the park, but it has never been surveyed (no camera trapping, sign surveys, or local interviews), so the absence of records does not mean there are no bears.

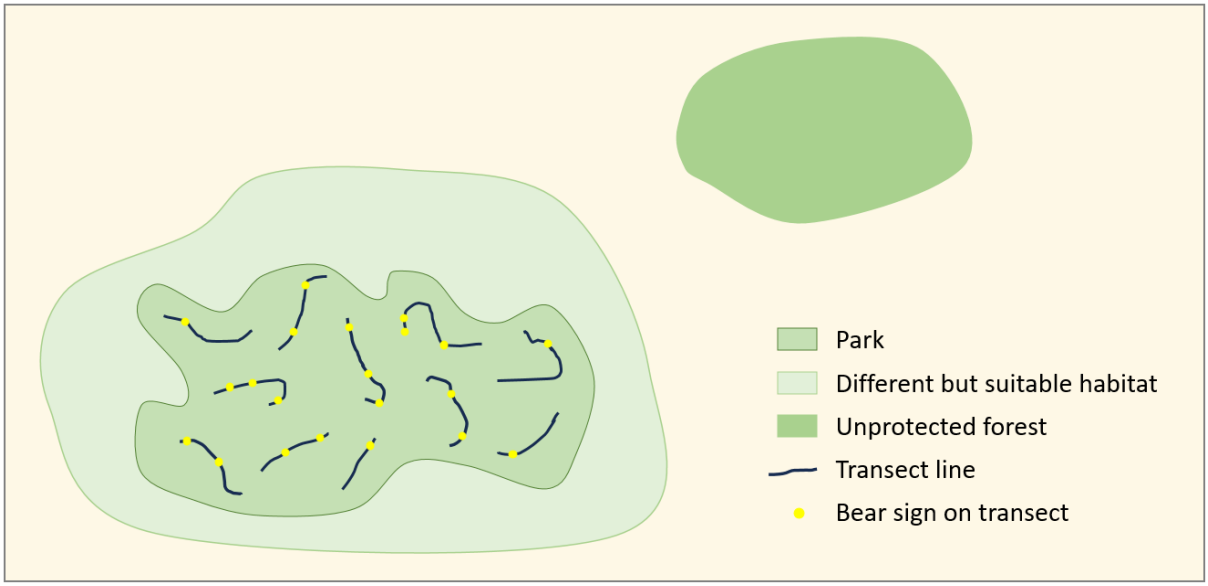


The park is categorized as “present”, and a buffer coded as “probable presence” is drawn around the outside of the park to include what is thought to be suitable habitat.

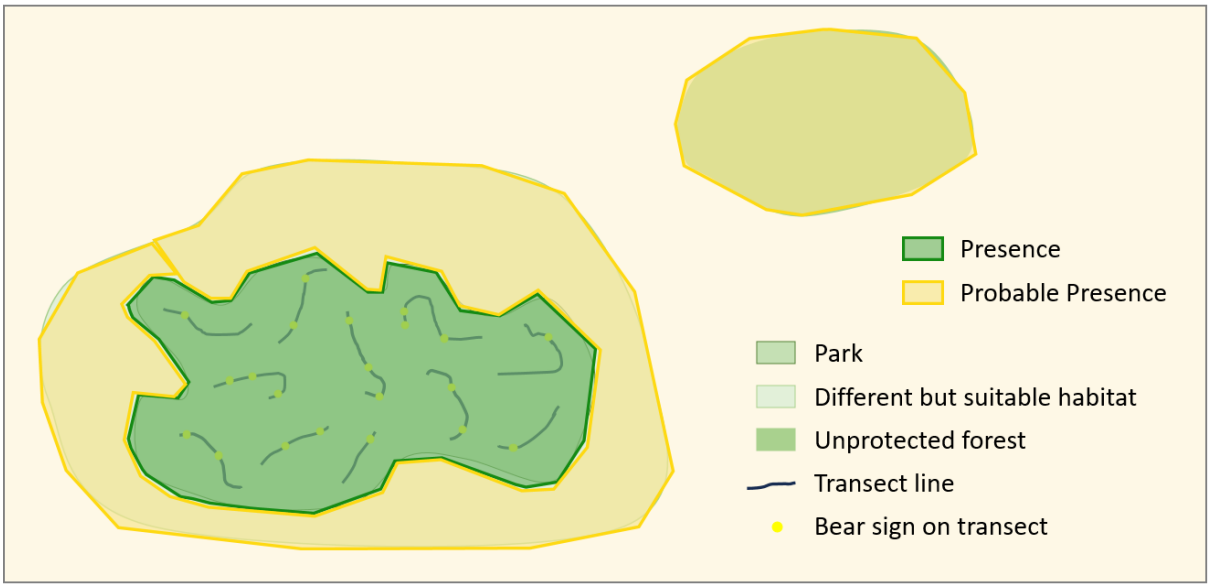


Case 8 – An isolated patch of unprotected forest has suitable habitat based on one's knowledge of the area

There is no information about bear presence, but the patch is known to have habitat conditions similar to an area where bears are known to be present.

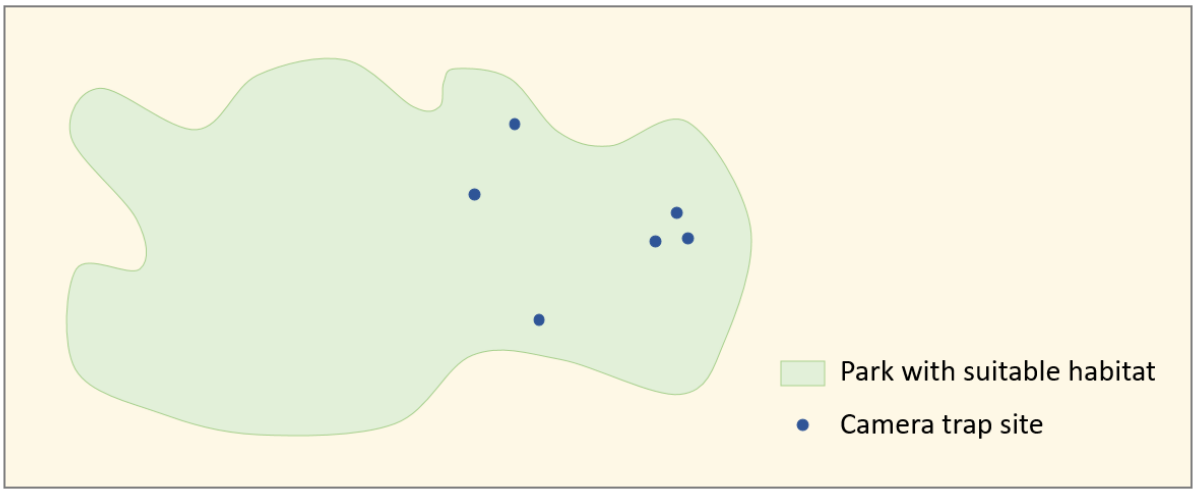


Bear presence in the isolated patch is categorized as "probable presence" because there is no direct evidence linking this patch to an area where presence records exist.

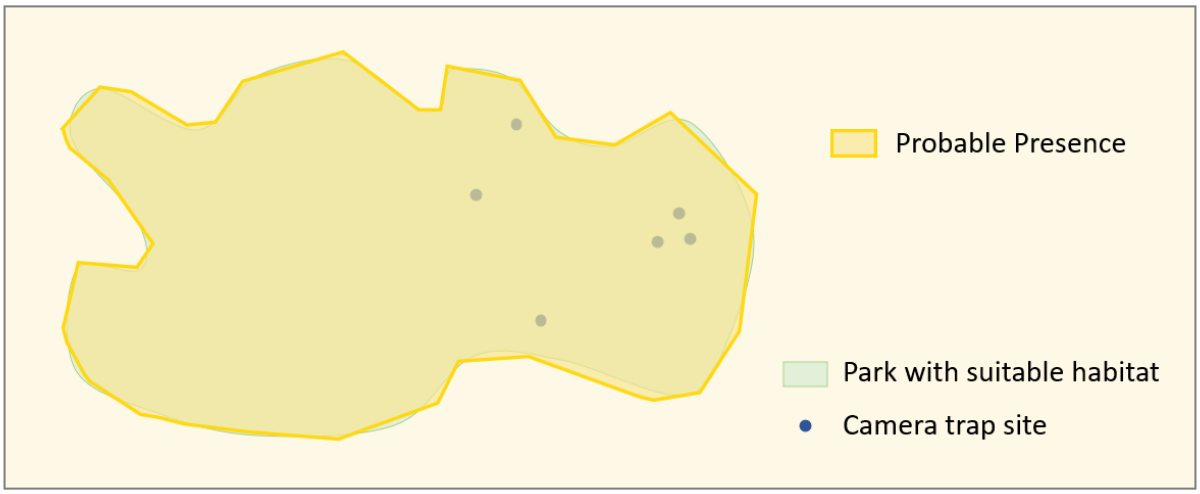


Case 9 – Camera trapping is conducted in an area with seemingly suitable habitat, and although no bears were detected, the effort may not have been sufficient

There is no other information about this site, but the habitat seems good, and other uncommon species that are thought to be in the area also were not detected in the camera trapping survey.

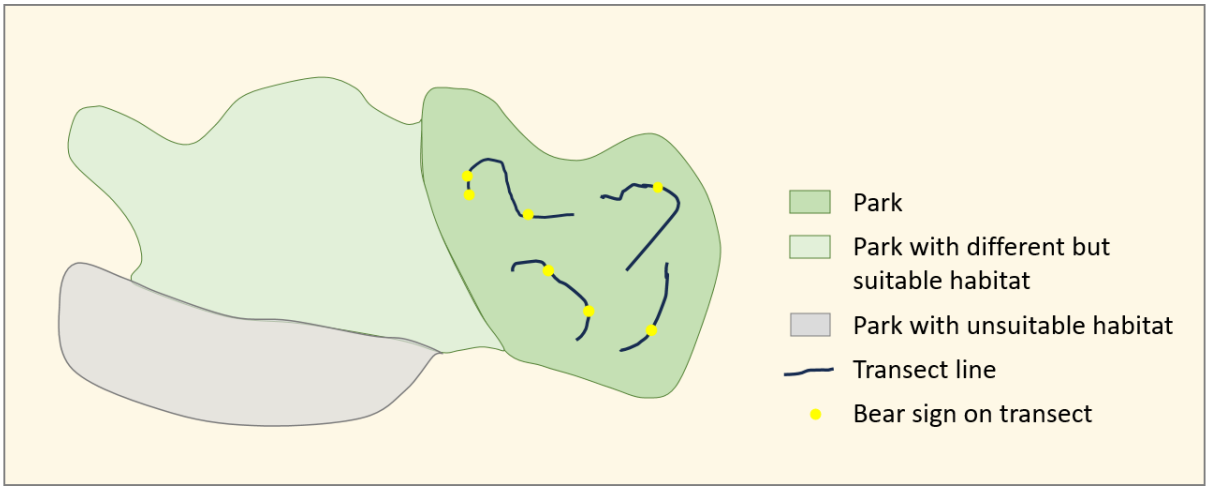


This area is judged as “probable presence” based on the habitat. The lack of detection on the camera trapping survey cannot rule out the presence of bears.

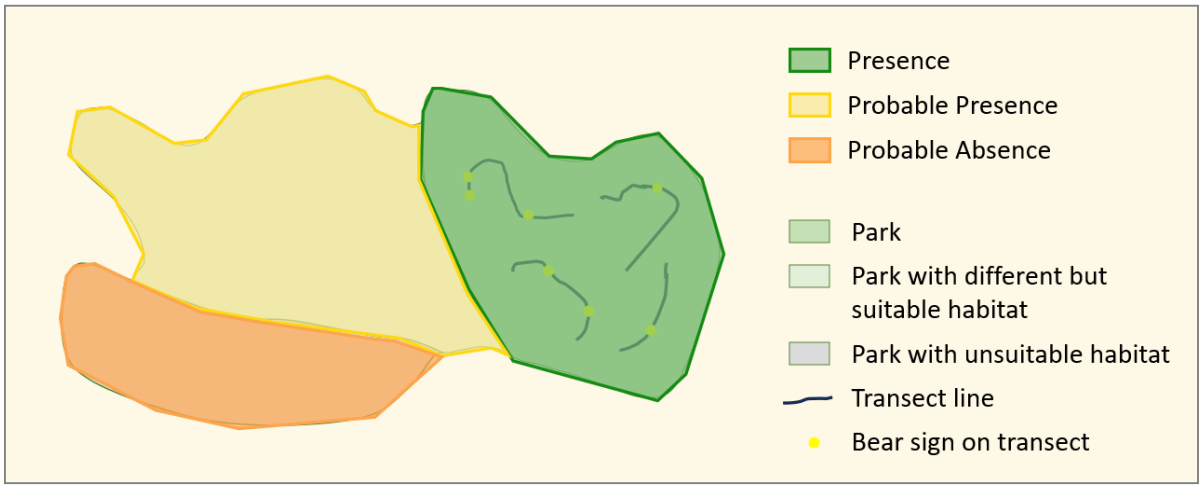


Case 10 – Bears have been recorded in part of a park, the other part is less well known and a distinctly different habitat

The less familiar area, with no bear records, contains a portion where the habitat conditions, although different, are thought to be suitable for this species (light green polygon), and another portion where the elevation is too high for this species (grey polygon).

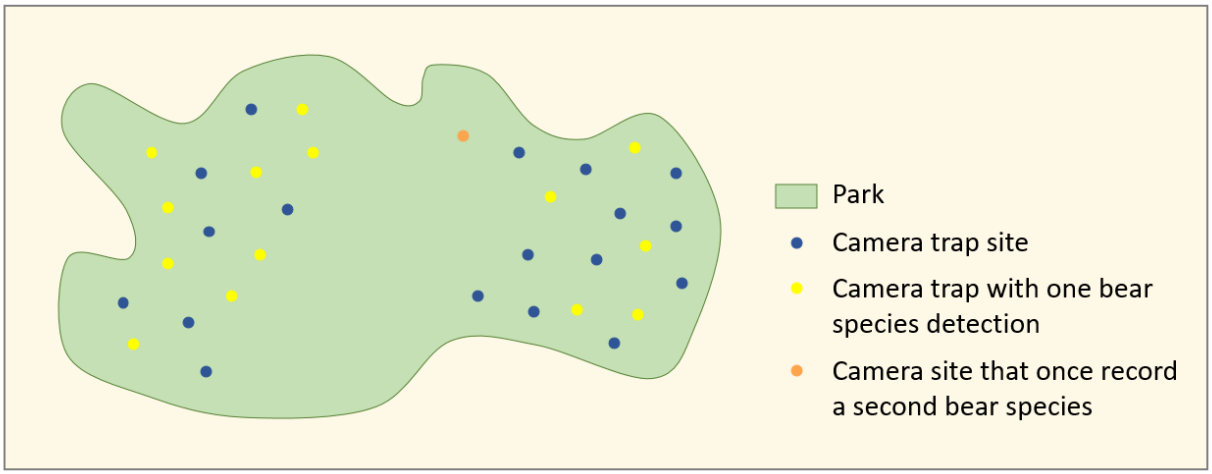


The portion of the park with the known records is categorized as “presence”, and the portion with the suitable but different habitat is categorized as “probable presence”. The portion with high altitude makes it unsuitable habitat for bears and is categorized as “probable absence” or “absence”, depending on whether the person knows for sure that the bears are not there.

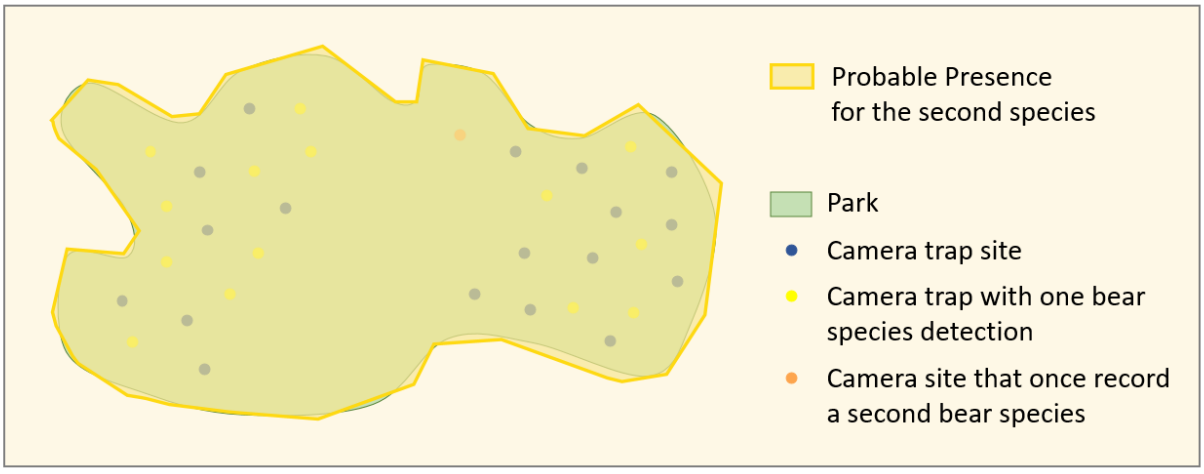


Case 11 – A park has camera trapping records of only one species of bear; a second species was camera trapped once several years ago, and some local people have claimed to have seen it more recently

The camera trapping effort was not sufficient to conclude that the second species is absent. The single confirmed record within the past 15 years and the reports by local people are insufficient to know for sure whether or not there is a small population still living there.



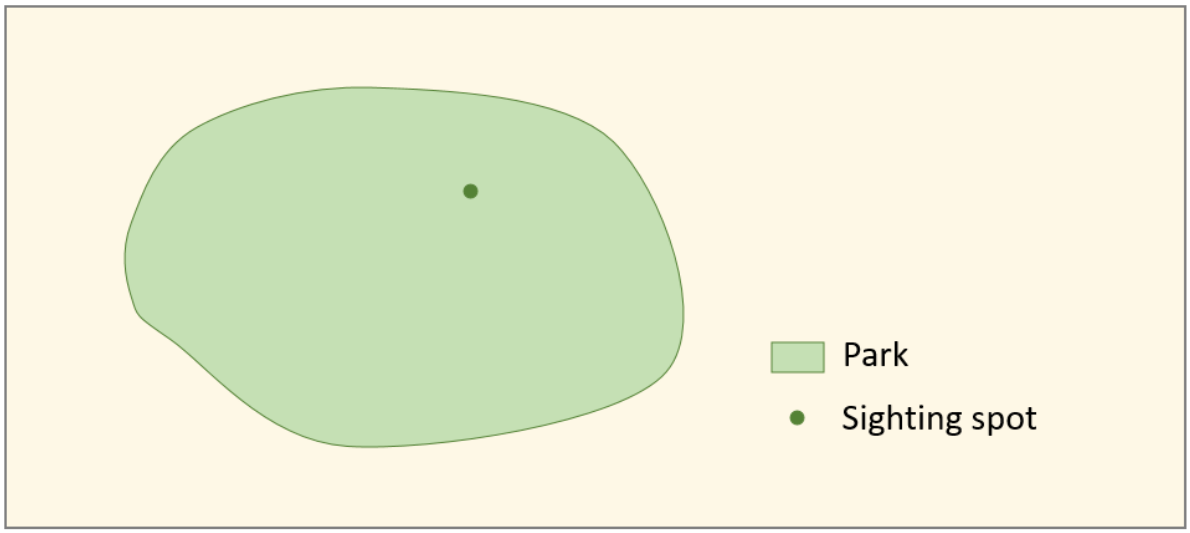
This area is judged as “probable presence” for the second species based on the habitat, knowledge that it occurred there within the past 15 years, combined with the local belief that it was not extirpated.



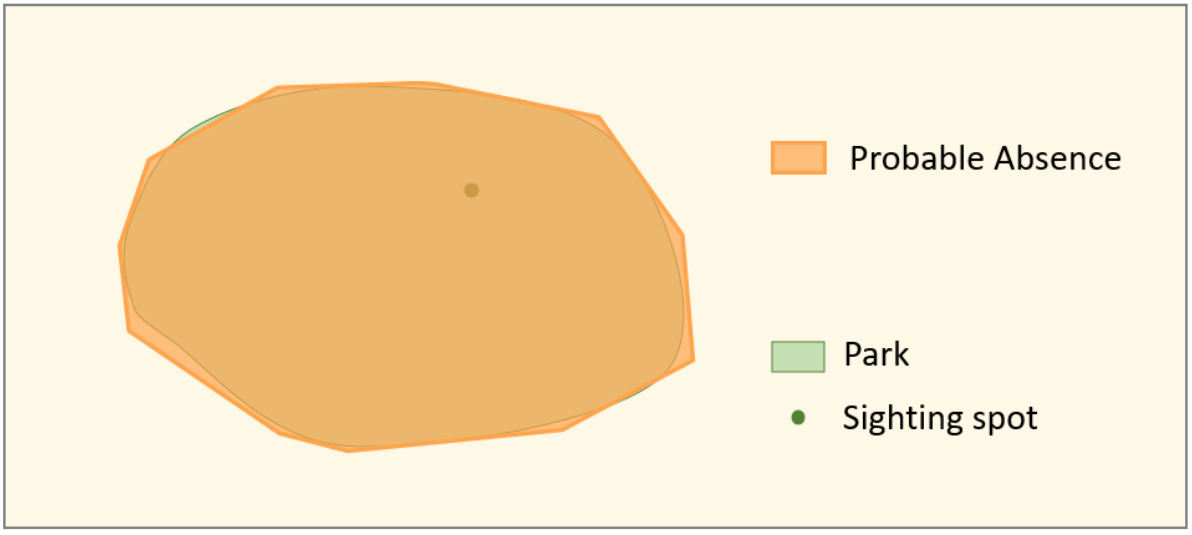
Probable Absence: Although bears once existed in this area, current conditions, in terms of habitat or other threats, make it very unlikely that a population of bears exists there now. There are either no reliable recent records of bear presence, or possibly a record that is deemed to be a wandering bear.

Case 12 – Habitat has become degraded in a forest that is distant from any known bear populations; a sighting was reported but no bear signs were found

It has been 20+ years since bears were known to occupy this area, and it is believed that the habitat is no longer suitable. The one-off sighting is believed to be a wandering bear from somewhere else. No bear sign has been seen in the area in a long time, although no surveys have been conducted.

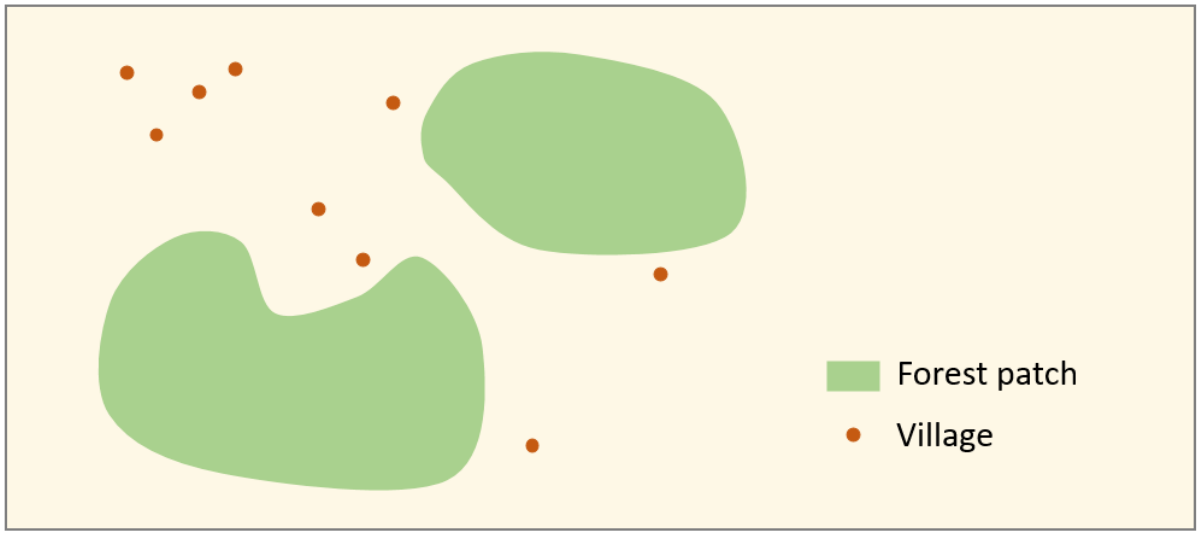


Although a good deal of uncertainty exists, it is more likely that bears are absent than present, based on the current conditions, so the area should be mapped as “probable absence.”

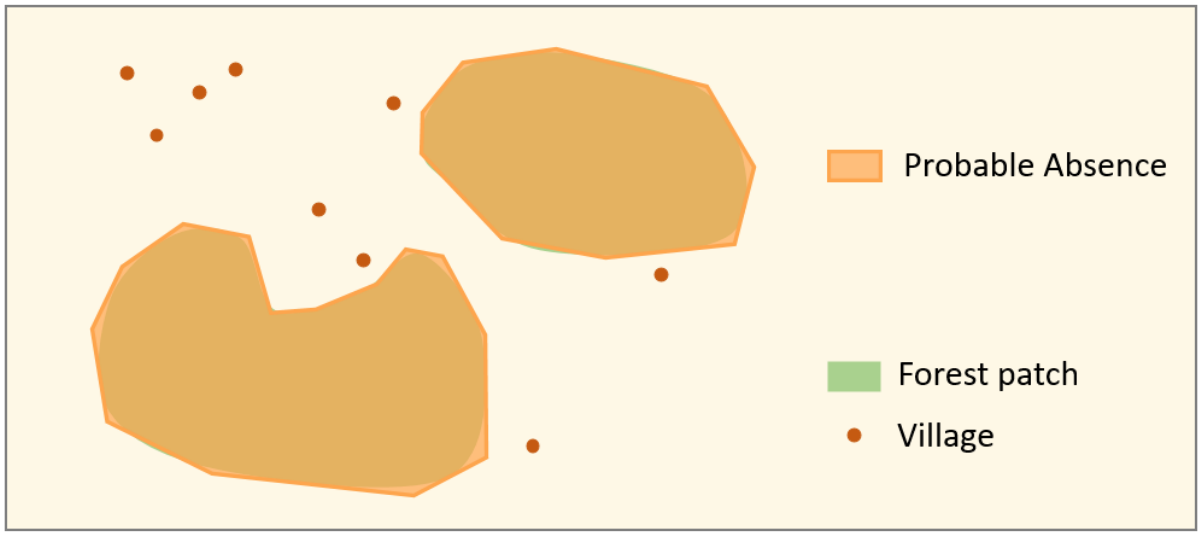


Case 13 – Small forested patches are near villages where there is known to be continued heavy hunting, and there are no known records of bear presence, including no bears killed in recent years

The area appears to be suitable habitat, but it is isolated and small, and there is evidence that hunting has affected density or presence of other wildlife species.

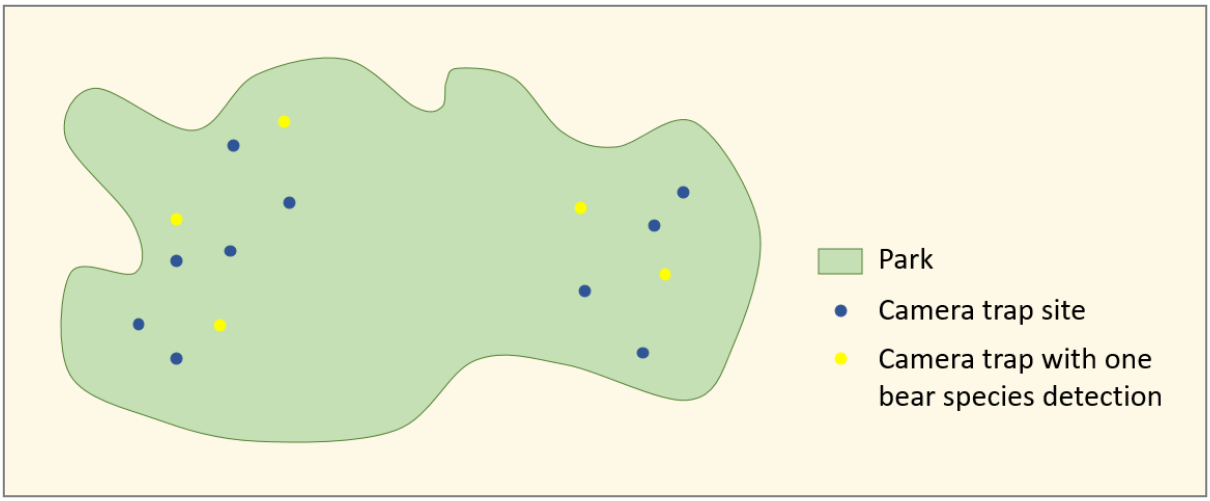


This area is mapped as “probable absence”. The evidence is insufficient to be sure that there are not a few bears still left there, but there is a strong likelihood that there aren’t any.

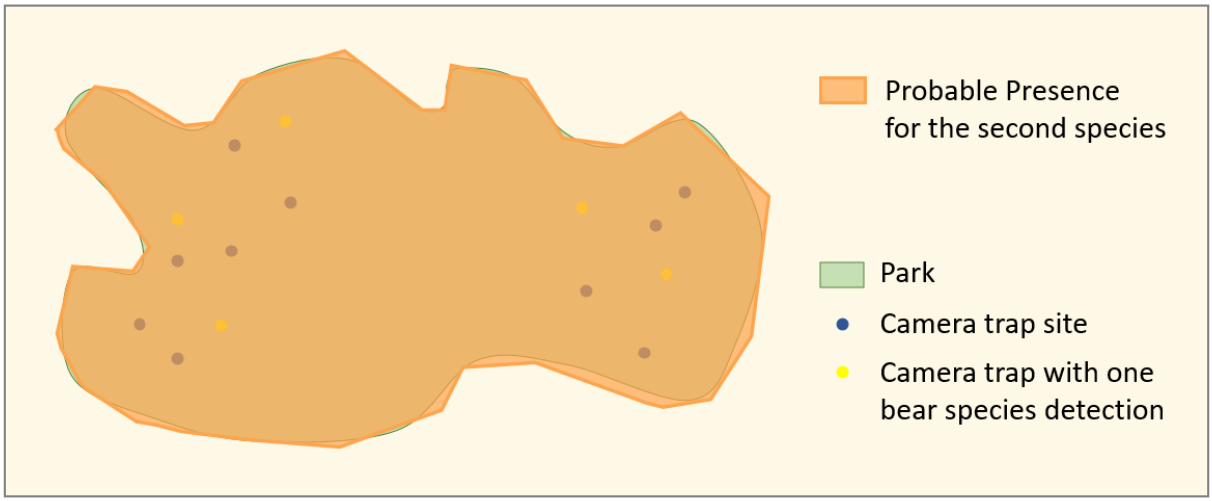


Case 14 – A park has records of one species of bear, but a second species, known to live there several decades ago, has not been recorded for at least 15 years

The habitat is still likely suitable for either species. A camera trapping effort was adequate to obtain quite a few photos of one bear species, but the other species was never detected. There are differing and confusing reports by local people as to whether the second species still lives in the area.



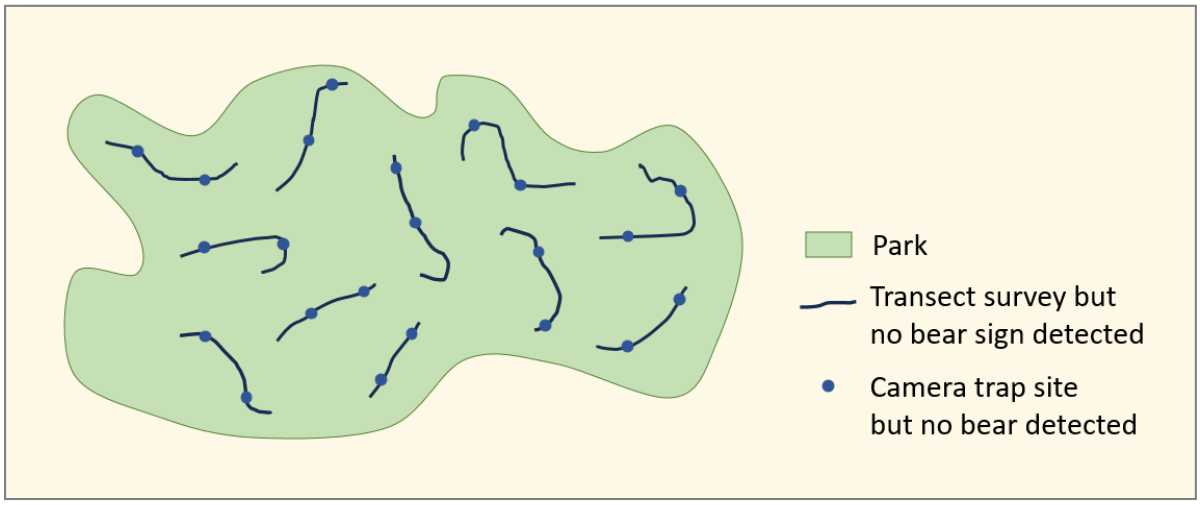
This area is mapped as “probable absence” if the number of detections of one species makes it seem very unlikely that a second species could live there and not have been detected.



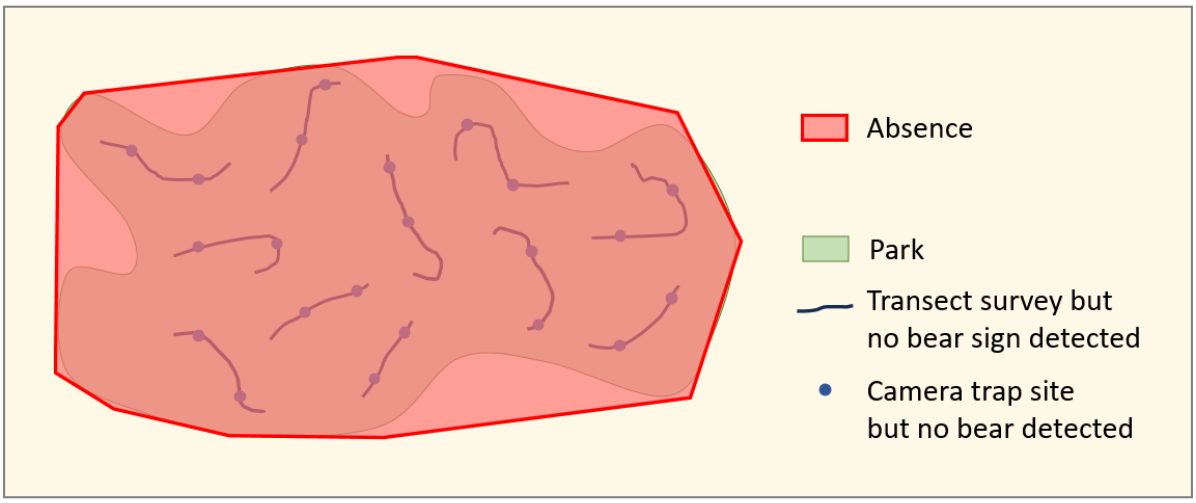
Absence: Although bears once existed in this area, there is now ample evidence, in terms of habitat conditions and/or lack of any presence records (with adequate surveys or considerable familiarity with the area), to conclude with certainty that bears no longer exist.

Case 15 – A park within historical range has been thoroughly surveyed, but no bear signs were detected

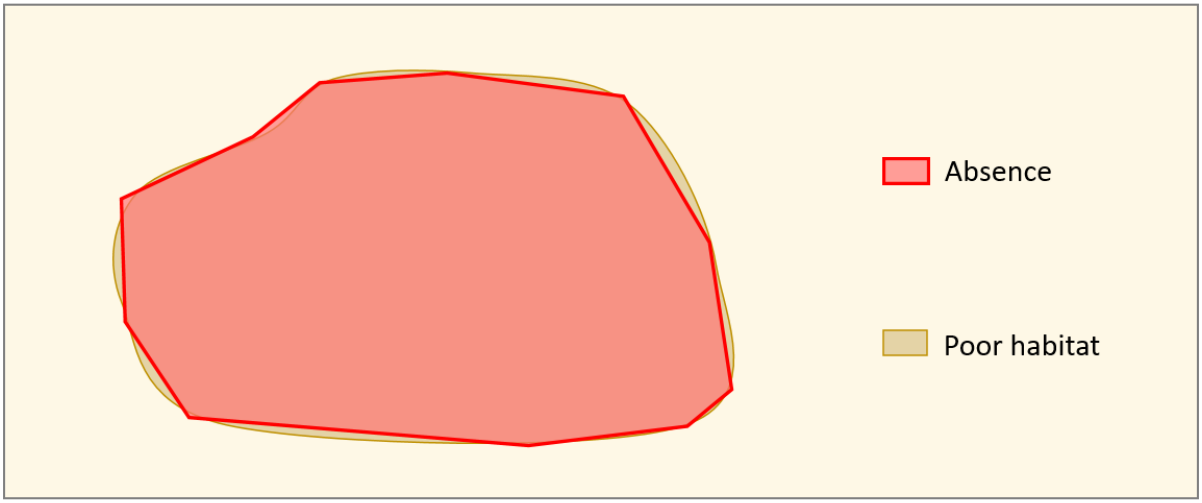
The park has suitable habitat, and is within historical range, but thorough biodiversity surveys by competent people revealed a complete absence of any bear sign.



The surveys are deemed to be compelling evidence of “absence”.



Case 16 – An isolated area with once suitable habitat is now severely degraded and occupied by people

People have walked through this area quite often, but no bears or bear signs have been seen in the last 15 years.

This area is categorized as “absence” because it is known with high certainty that bears do not live there.