KERALA FORESTS & WILDLIFE DEPARTMENT

STANDARD OPERATING PROCEDURE TO DEAL WITH STRAYING OF WILD ELEPHANTS IN TO HUMAN DOMINATED LANDSCAPES

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Issued
by

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STANDARD OPERATING PROCEDURE TO DEAL WITH STRAYING OF WILD ELEPHANTS IN TO HUMAN DOMINATED LANDSCAPES

1. Introduction

Human-elephant conflict is a growing concern everywhere in the state of Kerala and the problem is getting worse day by day due to several reasons in spite of various mitigation measures being implemented by the Department. Elephants normally travel long distances for food, water and move from one part of their habitat to another. By nature, they use extensive areas as their habitat. Since most of our forest areas are highly fragmented, and as these animals travel between the forest areas, there is every chance of them straying in to the human dominated landscape. In such instances, they may cause damage to crops, property and injury to human beings and cattle and sometimes resulting in their death too. Sometimes the elephants may get injured themselves and may die instantly or in due course of time because of such injuries. Hence it is imperative to handle the instances of straying of elephants in to human dominated landscape in a diligent and professional manner to ensure safety to human life and to the animal.

2. Scope

The Standard Operating procedures (SOP) applies to all forest field formations and other areas in Kerala where such incidents occur. The SOP provides basic and minimum steps that are to be undertaken at the field level for dealing with incidents of elephants straying into human dominated landscape.

3. Responsibilities

The Chief Conservator of Forest (CCF)/ Conservator of Forest (CF) of the circle and the Divisional Forest Officer (DFO)/ Wildlife Warden

(WW) under whose jurisdiction the incident is reported would be responsible for conduct of operation to deal with the conflict. The overall responsibility at the state level rest with the Chief Wildlife Warden, Kerala.

4. Type of straying incidence

Identification of type of straying incidence is crucial for planning and formulating appropriate mitigation strategies. It is imperative to differentiate between incidents of the elephants straying into the human habitation occasionally from those where the elephants enter into human habitations or cultivated areas frequently owing to habituation to feed on agriculture crops. Instances of occasional straying usually happen in situation when the elephant/s loses its way because of aimless and indiscriminate driving of the elephants from habitations and also due to blockage of the regular migratory routes of the animals.

5. Type of animal involved

The straying incidences may involve either a solitary bull elephant or group of bulls usually called as all male group, or a normal elephant herd led by a dominant female elephant and consisting of adults, sub adults and calves, or sometimes a calf getting separated from the herd either deliberately or accidentally. It is necessary to properly identify the type of the animal/s involved and their age structure like adults, sub adults and calves for effective management of the incidence.

6. Suggested field actions to deal with wild elephants straying into human habitations

6.1. Incidence Response structure

Every Range, where the Human-Elephant conflict is severe, should have a Range level team which will come into action in the incidents of

elephants straying into human habitation. The team will be lead by the Range Forest Officer and comprise of 7 to 8 Forest Officers and a group of experienced Watchers under his jurisdiction. Assistant Forests Veterinary Officer will invariably be a member of the team. The members should be able bodied and skilled in the driving operation. The team should be well oriented towards managing the conflict situation.

The Range level team will seek guidance from the Divisional Forest Officer/Wildlife Warden, in case the incident is beyond the manageable level of the team. The Range Forest Officer will be in regular touch with the DFO/WLW for securing the assistance of other department officers as mentioned in the paragraph below. In case of severe conflict situation CCFs/CFs should be immediately informed and requested to mobilize additional resources as needed.

7. Ensuring assistance from line departments

In any conflict situations, seeking assistance from line departments is very essential to maintain the law and order situation and also to ensure safety to the public, staff and the strayed animal.

i.   The DFO/WLW, depending upon the magnitude of the situation, shall immediately communicate to the District Collector and District Police Chief about the presence of Wild Elephants in the human habitation and involve them in dealing with the emergent situation, to maintain the law and order, to avoid gathering of local people and to control/regulate road/rail traffic.

ii.   In all instances of elephants straying into human dominated landscapes, the District authorities would need to ensure law

and order, if necessary, by imposing Section 144 of the Cr.Pc. This is essential to avoid crowding of people at the site of the incidence, as this may lead to animal causing death/serious injury during the drive. It is also necessary that Police and local administration are involved at an early stage of managing conflict situation.

iii. The DFO/WLW should also inform the Fire and Rescue services Department in advance so that they may keep themselves ready in case of exigencies.

iv. Assistance of the Doctors of Health Department, at District or local may be sought. A well-equipped medical team with ambulance facility may be requested to accompany the driving team so that there is no delay in providing medical care in case of emergency arising due to accidents.

v. The DFO/WLW, should also inform the people's representatives and the Local Body members in that area, take them into confidence and seek their cooperation in managing the situation.

8. Conduct of driving operation

Management of Regular Crop raiding elephants

a. Immediate action

i. The incidence of regular crop raiding by the elephants in a particular location shall be addressed by the Range level team under the guidance from DFO/WLW.

ii. Regular crop raiding of elephants are usually a single bull or an all male group. It is necessary to identify number of animals involved with age structure. It is also necessary to know the behavior (eg, in musth) of the crop raiding elephants. This information will be useful while planning the driving operation.

iii. It is mandatory to identify the route of the crop raiders that they usually follow. This is very crucial since in most of the cases, the animals will take the same route when it is driven back to the forest.

iv. A team has to identify this route prior to the drive operation and make sure that all the blocks in this route are cleared and the people in the nearby area are alerted.

v. The core idea of the driving operation should be to provide sufficient pressure on the crop raiders to force them take the same route to go back to the forest area.

b. Long term action

i. Crop raiding of elephants in some locations is a regular phenomenon. The collection and maintenance of data base is very crucial for managing the regular crop raiders.

ii. The regular crop raiding elephants should be identified by deploying camera traps and images collected by field staff periodically. Based on the information collected, profile of each crop raiding elephant should be developed and maintained in database in all the Divisions. The instructions for identifying the elephants are attached as Annexure.

iii. The severity of incidences of regular crop raiders can be reduced by deploying efficient early warning system and sending messages in mobile phones or by using electronic warning message system.

iv. Awareness messages should be displayed in all highly conflict areas.

v. Collaring of regular crop raiders, receiving GPS locations of individual animal, mapping and early warning system may established in such high conflict areas.

vi. Regular efforts should be made to empower Jana Jagratha Samathis by creating awareness about the elephant straying. This will be very useful during crisis time.

vii. The Department staff along with the members of Jana Jagratha Samithis should periodically check whether the barriers already installed are functional or not. If there are problems, these may be appropriately rectified.

viii. Regular training programs may be conducted for the field staff and Watchers to identify the regular crop raiders and to acquire skills to handle driving operations.

Management of incidence of occasional straying

i. The Range level team shall coordinate the driving operation in all the incidents of occasional straying of elephants.

ii. It is essential to operationalize the Control Room with wireless/mobile facility, which shall function round the clock during the operation.

iii. The Range Forest Officer should conduct a meeting with the team members and decide on who should lead the operations in the field and the resources to be deployed. The logistics involved in handling operation of such magnitude may then be suitably divided amongst officers who would handle the responsibility.

iv. DFO shall convey the plan of the operation to the officers ofPolice, Revenue, Fire and Rescue Services and representatives of local Panchayat and may brief them regarding their respective roles in the operation. The mobile number of all officers involved in the operation may be collected and communicated. The DFO may also decide on officials to liaise with media, public etc.

v. The Range level team shall work in three groups, namely, lead team, tracking team and a team for driving the elephants.

vi. Thorough initial briefing is essential for lead, tracking and driving team. Since coordination is the key factor of success in driving operations.

vii. The lead team consists of five to eight members of staff, Watchers and local people who are familiar with the area. The team has to be familiar with the terrain, identify the human habitations, possible difficulties in the route and availability of alternate route and pass regular information to the control room, tracking team and driving team. The team has to identify the route prior to driving the elephants and make sure that all the blocks are cleared and people are alerted.

viii. The tracking team should consist of five to eight members of experienced and skilled staff and Watchers who are familiar with the tracking and driving operations. This team has to track the movement of animal and pass the information to the driving team and control team. This team shall follow the animal continuously so that the animals are not lost from the sight and pass the information regularly.

ix. The elephant driving team should consist of 10 to 15 staff and watchers who are experienced in driving operations. People from the locality who are familiar with the area should be identified and kept in readiness for emergency. Only skilled members should be included in the team to drive elephants. The number of team members can be decided depending upon the number of elephants involved in the straying incidence.

x. All the above teams shall have a team leader each chosen by the

Range Forest Officer in charge.

xi.   Proper planning should be done in placing different teams at strategic locations while driving the animals, and based on the information received from tracking team regarding animal movements, team shall take positions in advance so that the animals are not lost from the sight.

xii.   Teams engaged in the operation should be in uniform, with necessary equipment's and field gear.

xiii. The staff and trackers of the driving team may be provided with field kits. In the Forest Divisions having frequent human elephant conflict and incidences of elephants straying out to humanhabitations, sufficient number of field kits shall always be kept ready.

xiv.   The team should have wireless communication system. All vehicles involved in the operation should be fitted with wireless equipment.

xv.   Drive operations of the herd is risky when the herd has very young animals. The elephants may get agitated and create havoc by the frequent movement of the young animals.

xvi.   Thus, evening hours should be preferred for the driving operation provided that arrangements are made for sufficient light and communication.

xvii. In the case of bull groups, the lead bull should be identified and maximum effort should be focused on driving the lead bull.

xviii. In case of solitary animal, adequate care should be taken not to panic the animal by means of continuous scaring; instead effort should be made to contain the animal in a safe location and reduce the disturbance to the animal. Sufficient time should be given to

the animal to move by itself. However continuous monitoring of the animal should be ensured till it reaches safe location.

xix. A single team of staff and Watchers cannot track/drive the animals day and night. Additional driving team may be formed and kept ready so that they can work in relay.

xx. Apart from the teams for driving the animal, support teams to meet emergencies of fire outbreak, medical attendance etc shall accompany the drive.

xxi. During driving operation crackers, pump action gun, other devices producing noise shall be used. Selection of crackers has to be done very carefully. Some crackers make loud noises that can irritate and confuse the animals. Projectile crackers like rockets are very useful since they can be deployed from a safe distance and directed towards the animals aerially. Adequate care should be taken in adopting the driving methods that should not injureyto the animals.

xxii. The DFO/WW should ensure that the Forest Veterinary Officer accompanying the team should be supplied with adequate quantity immobilizing drugs and also the tranquilizing equipment.

9. Deployment of Kumkis

i. Use of Kumki elephants works on the principle of dominance and is highly useful in driving the straying elephants. Dominant bulls deployed as Kumki elephants can significantly contribute in driving elephants back to their natural habitat.

ii. The DFO should identify availability of nearest location of

Kumki elephants, and request to assist in the operations as and when required.

iii. Kumkis may be temporarily stationed in high conflict zones, especially during peak conflict seasons, for quick deployment.

iv. Adequate effort is required in identifying the r i g h t Kumki elephants to lead operations, depending on the target wild elephants group size, age and sex-classes, and their sizes. Using smaller K umkis can prove to be counterproductive, especially in areas frequented by large bull elephants.

v. While carrying out Kumki operations, the tracking team shall first spot the wild elephants and then communicate the locations to the Kumki team, who shall then proceed to those areas. When the Kumki team is on the move, no other person, other than mahouts and minimal number of accompanying staff familiar with Kumkis shall follow the team, to prevent any accident in case of unpredictable behaviour of the elephant.

vi. The respective camp in charge may depute o n e additional mahout with each Kumki elephant, while being sent for operations, for assistance at times of contingencies.

vii. In case of frequent c r o p raiding areas/Divisions, the D i v i s i o n may establish satellite elephant camp with 3-5 Kumkis temporarily for immediate deployment to address human animal conflict issues very effectively.

10. Role of Rapid Response Team (RRT) and Jana Jagratha Samithis

i. The service of RRT shall be ensured in all the driving operation by Range and Division team.

ii. The RRT team shall participate in all the conflict operations from

the beginning and till the issues are settled.

iii. Jana Jagratha Samithis shall be informed well in advance and their assistance for driving operation shall be sought.

iv. Adequate number of volunteers from Jana Jagratha Samithis shall be formed and trained in driving operation in all high conflict areas regularly for use in driving operation.

11. Ensuring availability of equipments

The following equipments are essential for conducting drive operation.

i. A tranquilization kit with drugs for chemical immobilization.

ii. Field kits with torch, lathie, GPS, water bottle etc.

iii. First aid kits

iv. Search lights and lighting systems

v. Camera - to be operated by a designated staff

vi. Wireless handsets– minimum 5 numbers

vii. Hand-held Public-Address System for urgent/warning announcements

viii. Sufficient number of vehicles

ix. Solar based mobile Elephant repellant barricade shall be used to control the movement of animals in selected location temporarily.

x. Crackers and rocket projectile etc.

xi. Pump action gun – 2 Numbers

xii. Portable hides which can be set up fast, to be used for persons with tranquilizers

xiii. Modern equipment's such as drones, night vision binoculars may be procured for tracking elephants, preferably with facilities to track the animals during night hours.

xiv. All the tools and equipments should be safely kept in a designated

tool room in the Range headquarter. As and when required they may be taken out and soon after use they should be returned to their respective slots in the Tool room.

## 12.	Control Room

i.	Each Division should establish a Control Room with skilled staff for handling the straying of animals. The Control Room shall receive and transmit all the important messages through wireless/mobile/WhattsApp with all team members.

ii.	At the Control Room, a technical group may be assigned the job of collating information on the elephant movement and lay them on a map (preferably Google Map) which would carry all ground information.

iii.	Control Room shall create a WhattsApp Group of core team for the task so that information including locations on Google maps can be shared at once.

## 13.	Capture and rescue of wild elephants under exceptional circumstances

Under exception circumstances, i f the strayed Elephant is found tobe dangerous to human life and property as justified by Divisional Forest Officer/Wildlife Warden duly endorsed by the CCF/CF the Chief Wildlife Warden, on being satisfied that Elephant has become dangerous to human life, by invoking the provisions under Wildlife (Protection) Act, 1972 may permit to capture/rescue the wild elephants. The Chief Wildlife Warden shall decide on whether the captured/ rescued animal has to be released back in to the wild or transferred to rescue center or elephant camp.

## 14.	Media briefing

The authorized spokesperson of the Forest Department should periodically update the media (if required) to ensure dissemination of correct information relating to the operation/incidents. The DFO shall

nominate authorized person as a single point of contact to the media to update about the incidents.

15. Others

i. Adequate life insurance cover shall be ensured for all the field staff and watchers engaged in the operation.

ii. Each day's activity should be properly documented and analyzed.

iii. Separate patrolling teams may be constituted to monitor the elephant movements after driving it back to forests.

iv. A comprehensive report of the entire operation will be prepared by the team leader and submitted to the DFO/WW immediately after the operation is concluded.

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ELEPHANT DRIVING OPERATION

Fig. 1. Elephant driving team

Fig. 2. Rapid Response Team (RRT) vehicle used for elephant driving operation

Fig. 3. Straying of bull groups in to human habitation

Fig. 4. Straying of bull groups in to rivers outside forest area

Fig. 5. Surveillance operation using Kumki elephants

Fig. 6. Elephant tracking team

Fig. 7. Driving wild elephant with help of Kumki elephant
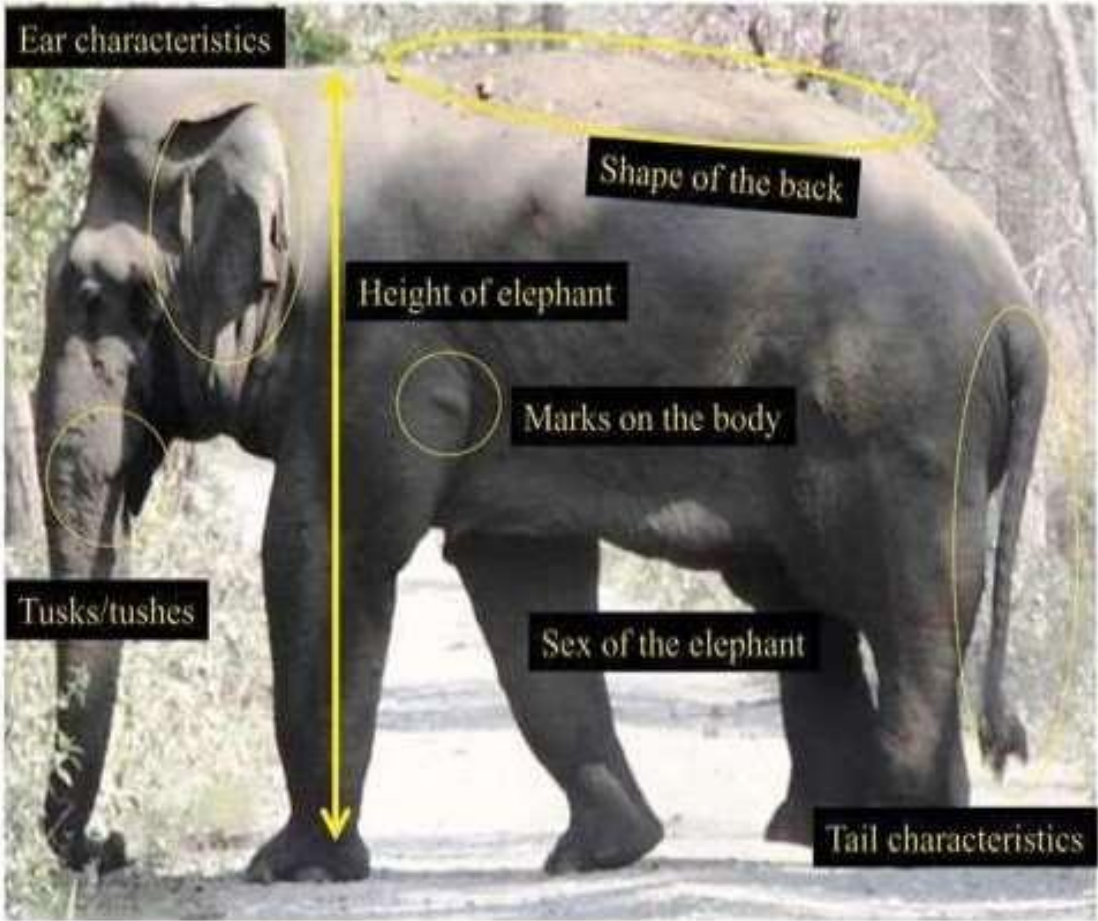

Fig. 8. Driving of elephants by using crackers

Fig. 9. Driving operation of elephants back to their natural habitat

Fig. 10. Driving operation of elephants back to their natural habitat

Annexure
Guide to identify individual elephants

Identifying male and female

- It is easy to identify tuskers from females, even at juvenile stage (as soon as tusks appear)

- At juvenile and young sub-adult stage it is difficult to identify makhna from females

- When makhna reaches adult stage (20+years) it will be larger than female and more easy to identify

- Larger sub-adult makhnas maybe identified based on characteristics given but it is difficult

- If they are alone it is much easier to identify the mas makhnas, as females generally do not move alone

Differences between female and makhna (tusker will be easily identified by presence of tusk

Slight bulge under the tail (Male)

No bulge under the tail (Female)

Slight rounded shape between legs (Male)

Hollow shape between legs (Female)
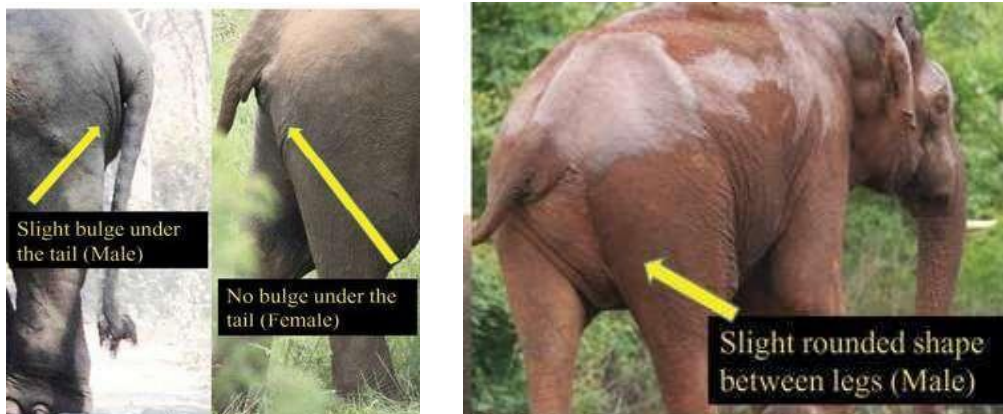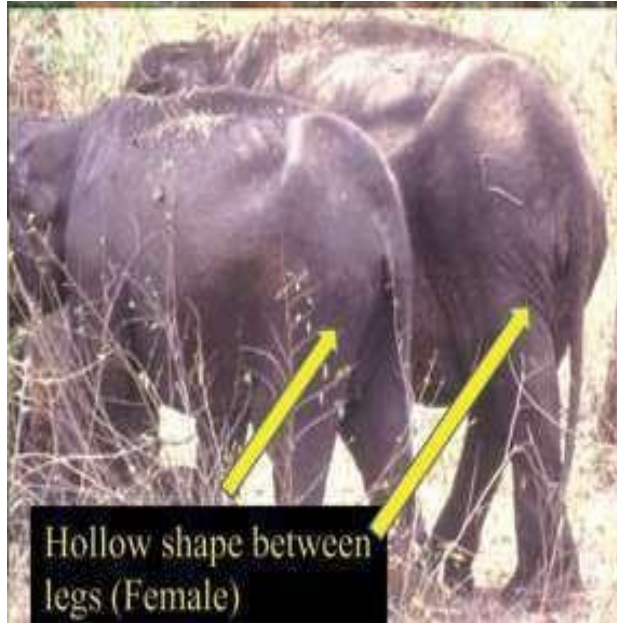
In adult female the presence of developed breast can help to identify them as females

Non-lactating female

Lactating female

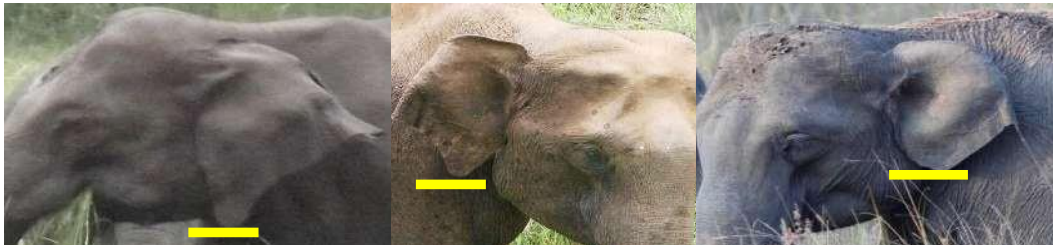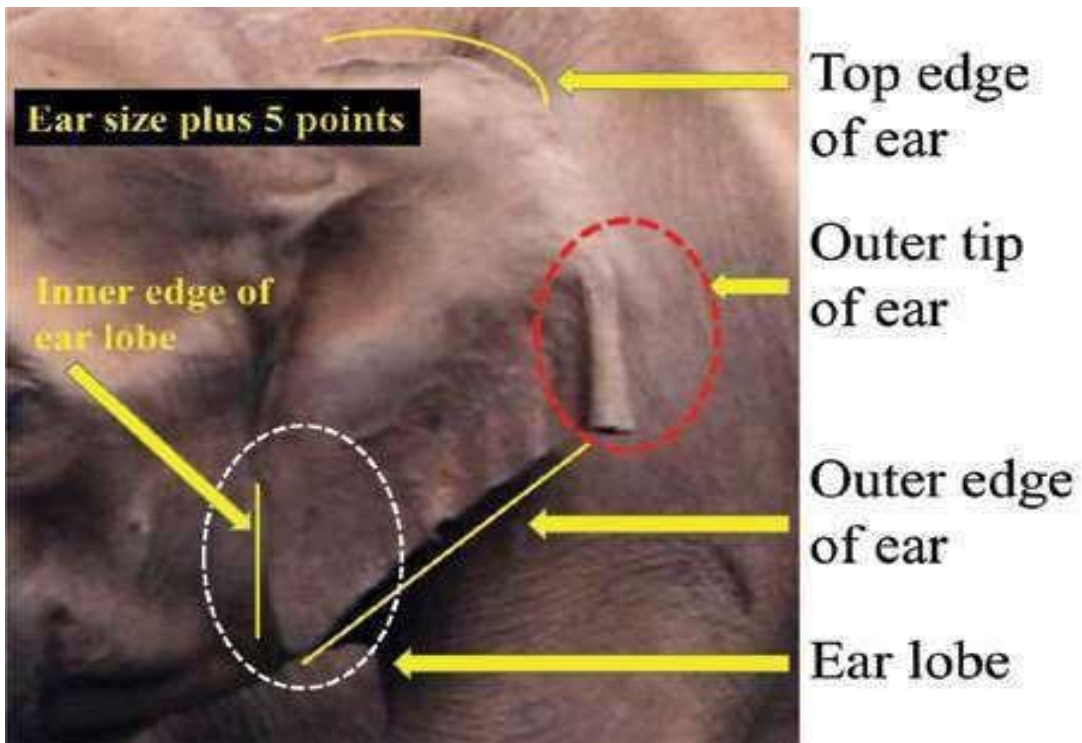Adult makhna and tusker
(teat it will look like a small
protrusion from skin)

Ear size plus 5 points

Top edge of ear

Outer tip of ear

Inner edge of ear lobe

Outer edge of ear

Ear lobe

Size of the ear can be based on the length of the lower lobe (lower tip) in relation to the lower jaw line.

1. Up to the level of the jaw or below the jaw level (Big Ears)

2. Little above the jaw level (Medium Ears)

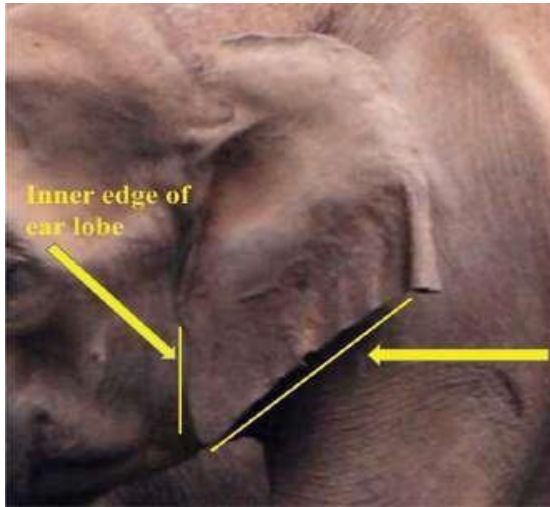3.   Well above the jaw level (Small Ears)

Top edge of ear

Record presence or absence of fold and how much fold is there
0%= no fold and
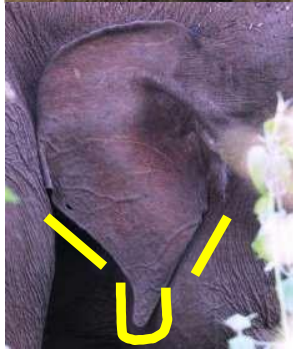100%= fullfold where upper edge of ear is facing completely down
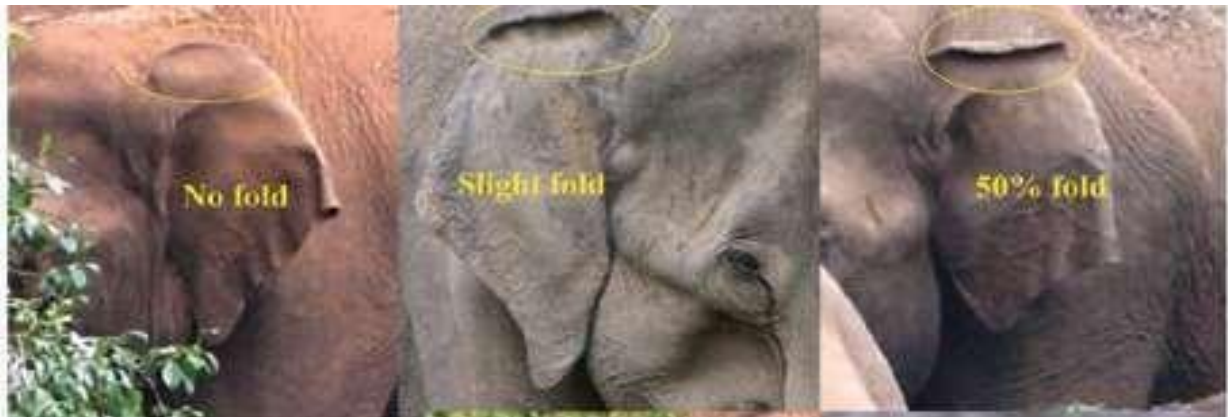
Ear fold is not a good indicator of age. Juveniles can have complete fold. Some adults will exhibit level of fold on each ear. Some ears do not fold even in old age.

Record shape of both the edges (straight or curved) and also make a drawing of the ear
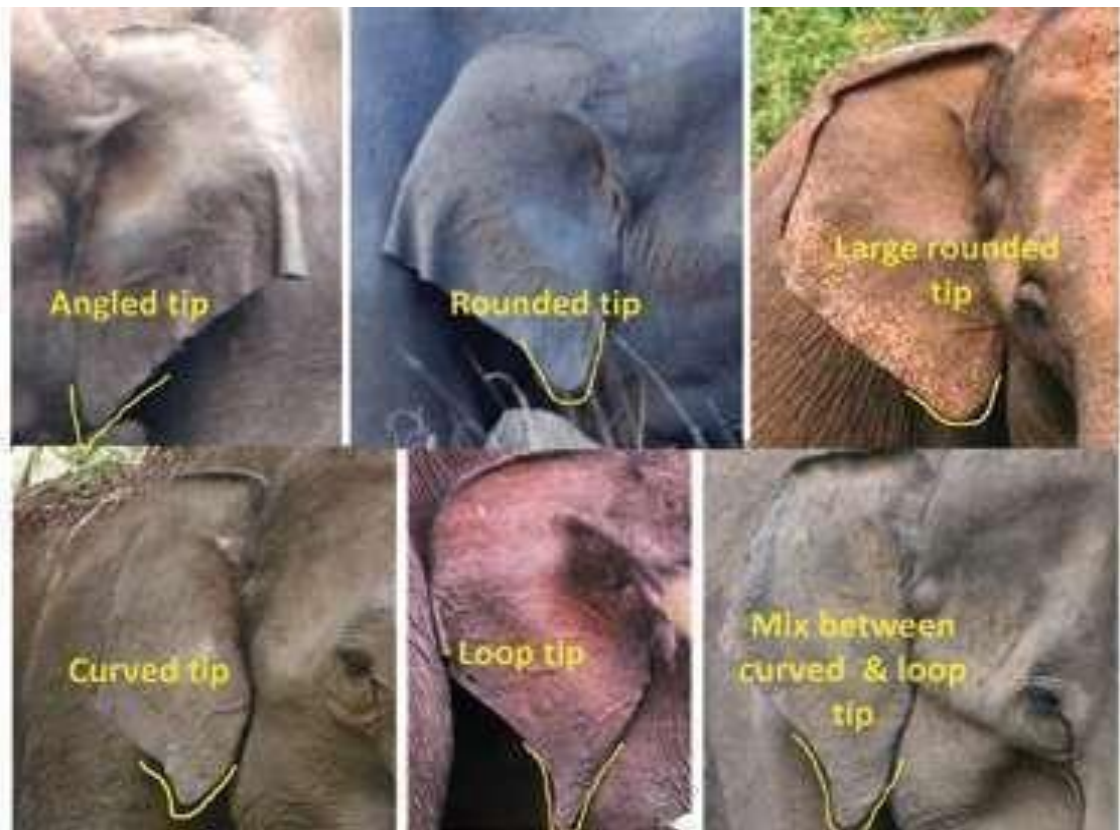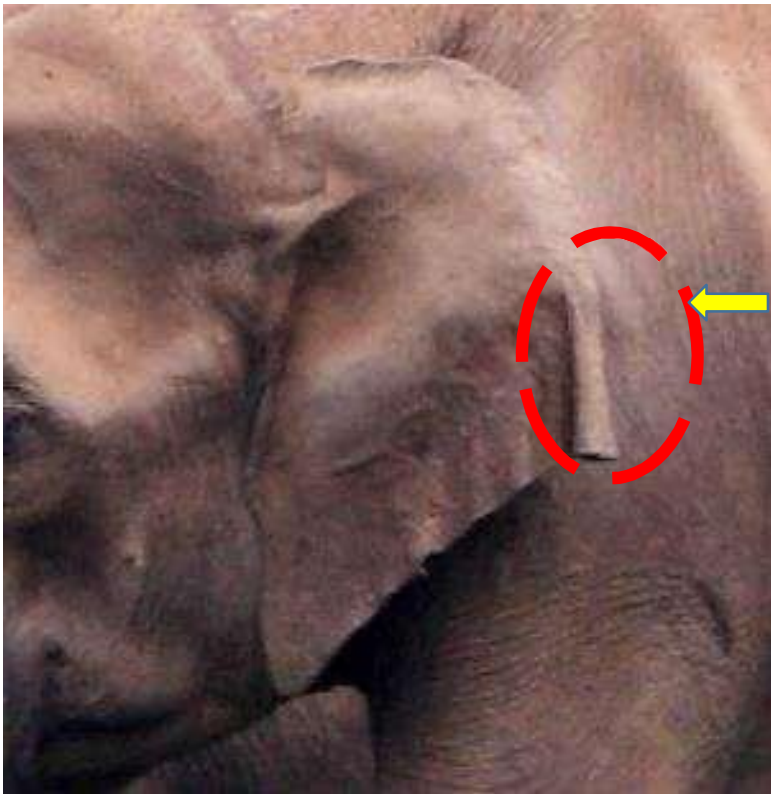
Inner edge of ear lobe

Outer edge of ear

Shape of outer and inner edge of ear lobe
1. Both edges straight
2. Inner straight and outer curved
3. Both inner and outer curved
4. Loop ear – irrespective of outer and inner shape – tip hangs like a loop 'U'shape

Ear lobe

Outer tip of ear

Ear folded when not fanning
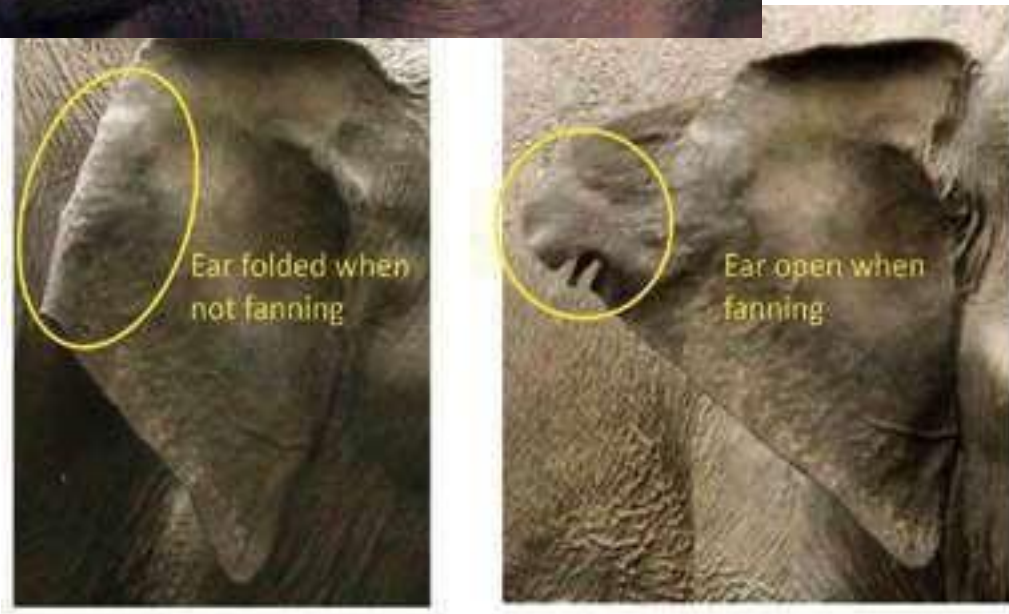
Ear open when fanning
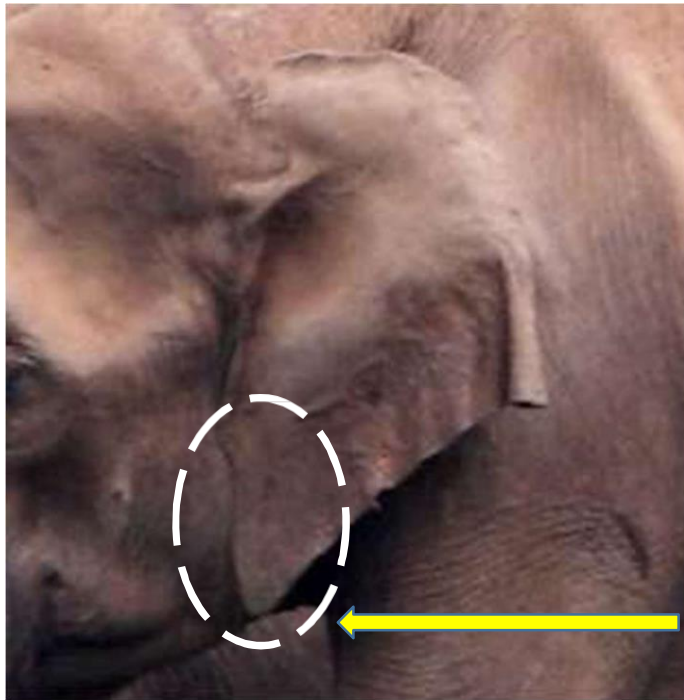
Outer tip of ear

There will be cuts and holes in the outer of the ear but these will be visible only when the elephant fans its ears otherwise they hang behind the ear and cannot be seen. But if seen it should be recorded.

Holes and cuts in the ear

- Small holes/cuts are difficult to see, record but remember that if seen from far you will not detect them

- Details to be recorded
  1. Shape of hole or cut to be drawn
  2. Size length x width to be recorded
  3. Location of hole/cut to be recorded based on
      a. One, which third of the ear the mark is (upper, middle or lower third)
      b. How far inside or deep from edge it is located
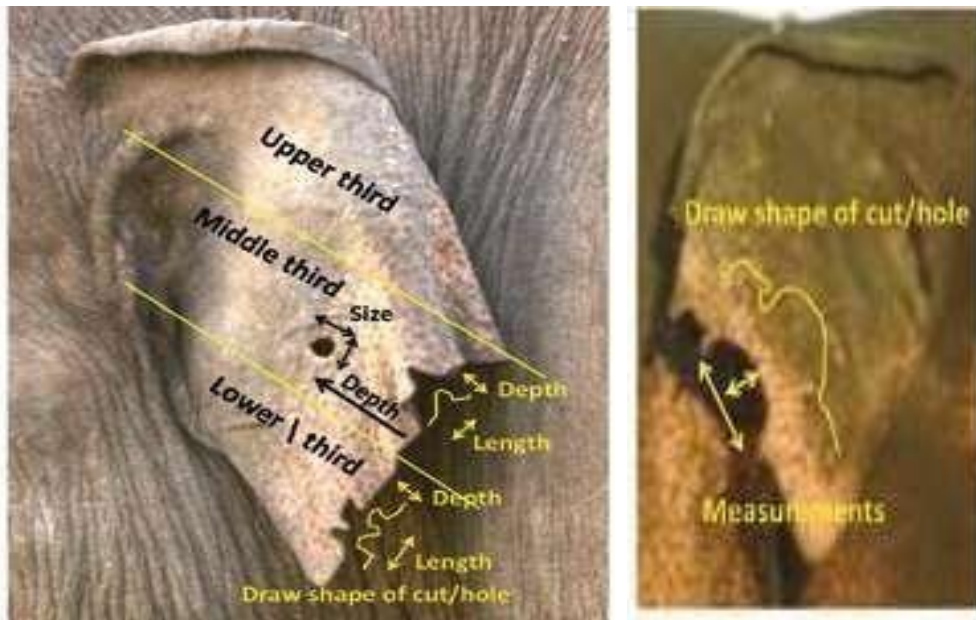
Recording marks on ear
- Location of cut/hole – upper, middle or lower third of ear
- Measurements – length x width of cut/hole +depth
- Drawing of shape
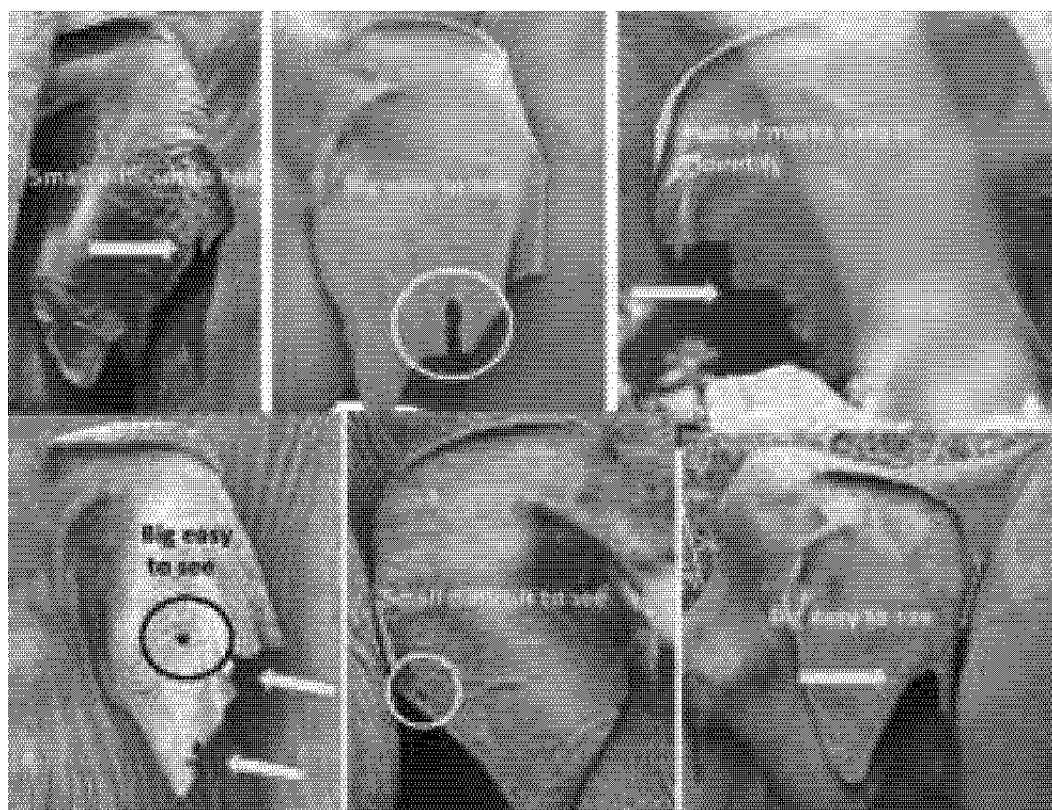
Two different elephants with same tear in ear Pictures taken more than 15 years apart so look little different but earlier same Hence look for multiple marks, don't confuse two different animals as same De-pigmentation due to one having been in river and ear is clean

Makhna in Mudumalai camp – Clean ear in rain shows de-pigmentation and when it is not clean dust/mud covers de-pigmented area and looks dark

Changing characters of ears (these are different elephants but show how changes can take place)

1. Holes can tear open and become strips of skin hanging from ear (pic 2) or create deep cuts with small skin hanging from edge (pic 3)
2. Hole and cuts can become larger with time due to further wear and tear
3. New holes and cuts can appear
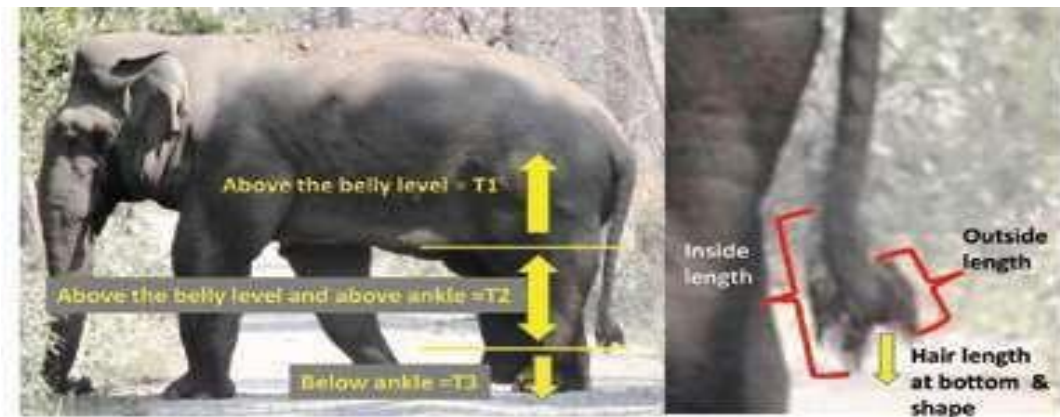
Tail Characteristics
1. Length (T1 = above belly level; T2 = below belly and above ankle; T3 =below ankle)
2. Hair length – short = less than 1 inches; medium hair = 4 inches; long above4 inches (palm size)
3. Hair growth – growth inside (leg side) and outside (away from leg) along the tail
4. Shape made by tail hair
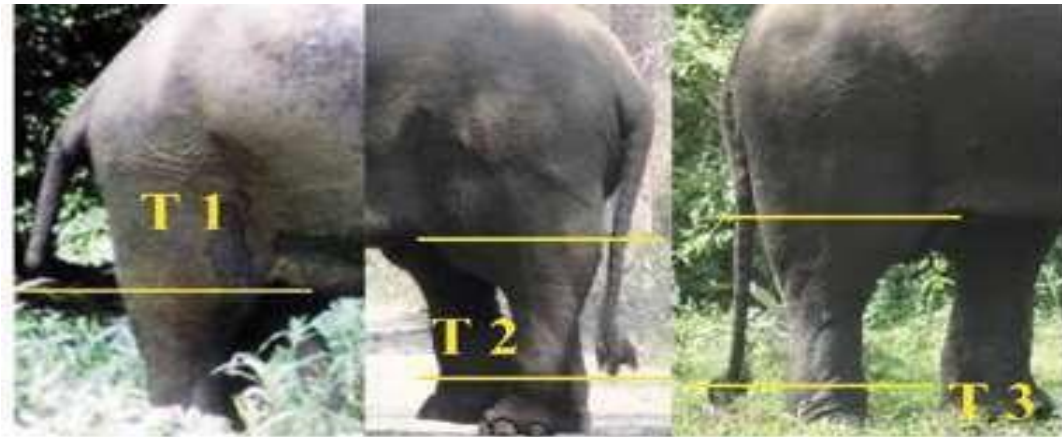
Length of tails (record length as T1, T2 or T3)

1. Should include hair length also to class as T1, T2 orT3
2. Most common is T2
3. Many males wil have T1 as their tails get cut when fighting, however very short tails in a few females will also be seen

Hair growth along tail

The amount of hair growth along each side of the tail is taken into consideration. Inside means side facing towards the leg and outside means the side facing away from leg

1. No hair
2. Hair inside and outside same
3. Hair inside more/outside less (common) or inside less/outside more(rare)
4. Hair only on inside
5. Hair only on outside

Recording
A) Note details of growth and
B) Make a drawing
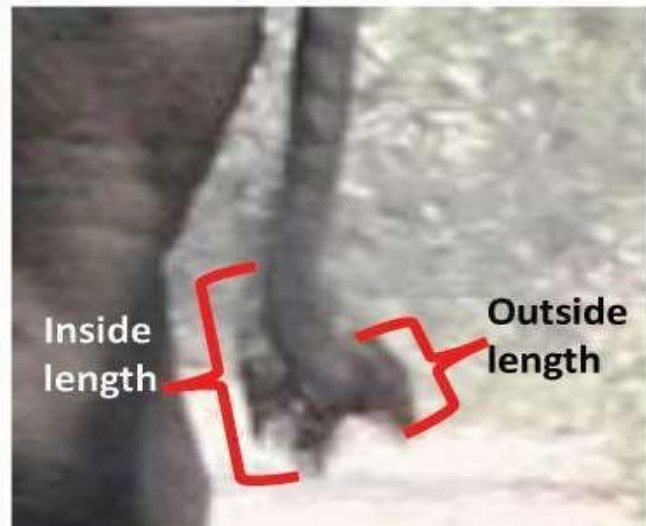
Shape of tail hair

- **Recording**

  A) Note details of shape and b) make a drawing

- **Types of shapes**
  - Round shape at bottom
  - Spear or diamond shape
  - Long hair like a woman's hair
  - Inner and outer hair making a closed or open circle
  - No or little space between inner and outer hair
  - Fishtail
  - Hook (usually only one side hair)
  - Bristles like on a toothbrush
  - There will variations and combinations of these basic types

There will be more variations in shape if tail hair. Make accurate drawings of what you see in the field

1. Record any odd shapes or characters in tail

2. Record if tail appears cut or is uncut without hair (usually uncut will be tapering a think end)

Note: With males, tails can get cut during fights, so tail length/shape can change with time

Tusks and tushes

Tusker   Makhna

Female with tush

Tusks and tushes

1. Only males have tusks however some males do not have tusks and are called Makhnas
2. All females and makhnas have tushes but most of them break when debarking trees and are hence not visible. In some they are very prominent and clearly visible

Makhna no tusk   Single tusker   Tusker

1. Makhna has no tusk but can have tush
2. Single tusker (record left or r i g h t) can be natural or due to break (other tusk details same as for tusker but some do not apply)
3. Tusker will have two tusk and all characters need to be recorded
    Abnormal growth on one tusk (rare) all details required for normal tusker apply but mention which tusk is abnormal

Tusker with defective left tusk, note size difference

Shape
1. Converging – curved inwards (extreme case will cross each other–
    record as cross tusker note: there are many cross tuskers)
2. More or less parallel to each other, neither spread nor meet
3. Diverging – spread away from each other

Record the shape as converging, parallel or diverging

Angle to ground (normal head position)
1. Parallel to ground
2. Angled towards ground (most common)
3. Pointing at the ground

Record the shape as parallel, angled or downward

Angle in relation to each other
1.   Even (both similar)
2.   Uneven (one up and one down OR one pointing in one direction and the other in another)
Record the shape as even or as uneven + difference (i.e. left up/right down or left pointing down and right pointing forward)

Tusk length

1.   Short = length less than twice trunk thickness (at lip line below tusk)
2.   Medium = length less than three times trunk thickness
3.   Long = length more than three times trunk thickness
This is an arbitrary measurement but it brings about some objectivity in classing tusk size

Tusks can break partly or fully

1. When partly broken it can re-grow back to normal so tusk length will change at time of breakage and later with growth (can confuse identification both times)
2. When fully broken and root damage it will not re-grow and hence it will become single tusker and can cause confusion if observer is not aware of breakage
3. Defective tusks tend to break or fall off and confuse observer (tusker in picture below lost its right tusk and no one could identify it ear shape and hole were matched).

Tush in females and Makhna
1. Record presence absence (both sides) and Size – large, small or absent (both sides)
2. Size and presence can be different for two sides
3. Sometimes visible only when d e b a r k i n g trees (do not record)

Same elephant right bigger than left tush

Record type of shape of back as
  1. Flat
  2. Single peak
  3. Double peak

Also in rare cases deformities may be seen and these need to be noted and where possible make a drawing of the deformity
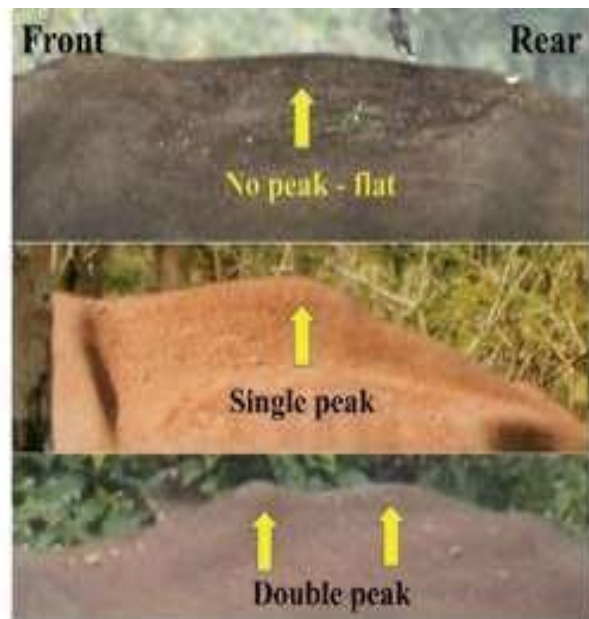
1. Record any swelling or s c a r s on body
2. Record size and shape

Cut trunk

- Only healed wounds and closed swellings tend to last long and are suitable for identification for longer monitoring of elephant

- Open wounds and oozing swelling may heal and disappear and can be used for identification for short time.

However, they need to be reported and aid in monitoring injured animal

De-pigmentation

1. Same bull photographed nearly 20 years apart shows only marginal increase in de-pigmentation
2. Photo below shows much older bull with `very little de-pigmentation
3. De-pigmentation is not related to age in most cases
4. It is not ideal for identification as it will not be visible when the elephants is covered in dust and mud. Becomes very visible when elephant spends lot of time in water and the dirt washes off

Recording ear details in the Field

6 Mention size of ear

1 → Draw type of fold

2 Draw any marks if you can see

Draw shape of inner edge

5   3 Draw shape of outer edge

4 Draw lower lobe shape
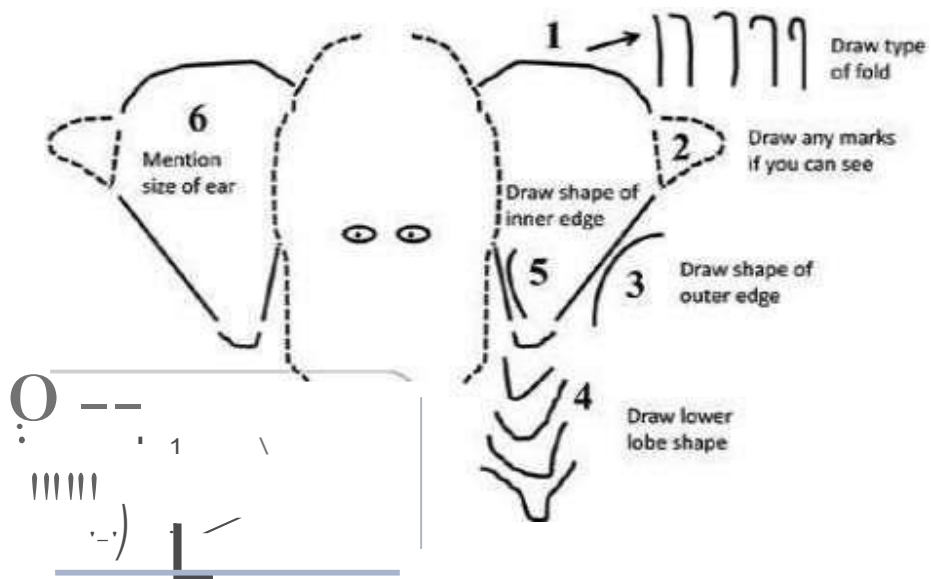
Recording tail details in the field

Length   Length and shape of tall hair

Stomach level

T 2

Ankle level

First draw tail and side of l eg

.... Leg
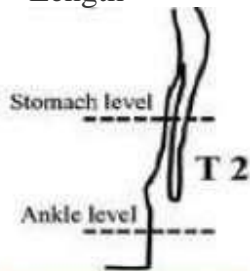
Add hair length on both sides and shape of hair; if no hair then only mil outline will be there
Note: Cat1 be com bined with tail length drawing or made separately

Recognizing the ankle — it is point just above small concavity in the lower foot area

Ankle

Concave Area

Recording tusk details in the field

Draw of side profile
(angle to ground)

Draw uneven tusks in
side profile

\' Left about I foot

ghtintact and longer

Draw of front profile

Draw uneven tusks in
front profile

Note – draw any other odd details like cracks, deformed tusks etc.

Recording marks on body and shape of back

Draw rough outline of

Back double peek

O

Scar on left\ hind leg

Front round
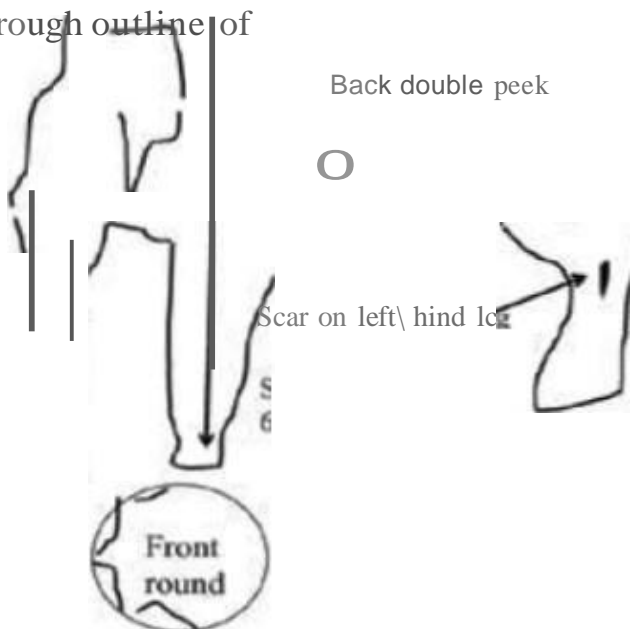
elephant
1. Need not be perfect - U marks in relation to chest/abdomen. legs, ears. face and trunk
2. Draw the mark and record approximate size
3. Estimate height of elephants (adult female approxi matel y 8 feet tall) OR circumference of fore foot x 2 – heigh t

Photo / drawing elephant identification page

Data to be recorded

- Each identified elephant has an independent photo and data file

- It will have the photos or drawings mentioned in previous slide

- It is very difficult to get all details in one sighting so details will b e completed after multiple sightings

- New and better photos or drawings will keep improving the identification file after many sightings

- It is important to remember all these points so that at each sighting the observer focuses on getting as many details as possible

- In addition, data on re-sighting is recorded and minimum is location seen 2) date and time seen 3) activity of elephant 4) observer name 5) details like musth/crop raiding will also help management

Incidence Response Tree

Report of Conflict

Regular Straying
↓
Range level Team
↓
Long Term Response
↓
Collection of all data regarding conflict
↓
Camera trap development and profiling of regular crop raiders
↓
Identification of routes used by regular raiders
↓
Establishing Early warning system
↓
Awareness campaigns for local communities
↓
Radio Collering select individuals
↓
Maintenance of deterrents/barriers

Immediate Response
↓
Identifying the type and age structure of individuals involved
↓
Charting out the behaviour of the animals involved
↓
Identifying the route which was taken by the animals
↓
Pressuring the animals to return back to the forest via the same route

Occasional straying incident
↓
Operationalizing the Control Room
↓
Initial briefing
↓   ↓   ↓
Lead Team   **Tracking Team**   **Driving Team**
↓   ↓   ↓
Identification of routes which shall be used for driving   Real time tracking of the animals   Shall perform the actual driving operation
↓   ↓
Clearing this route of all obstacles and people   Sharing information with control and other teams
↓
Altering people who live in and around the route
↓
Relaying information back to Control Room
↓
Identifying alternate routes in case of exigencies

KERALA FORESTS &
WILDLIFE DEPARTMENT

2020