

## MID TERM REVIEW

### Of

### Future Projection of Tiger population in Panna Tiger Reserve

*(by Uttam K Sharma, Field Director and Jarande Ishwar R, Deputy Director, Panna TR)*

#### 1. Introduction

In the 'Brief Note on tiger Population dynamics and its future projection in PTR', (Brief Note) published in November 2020, the authors have analyzed tiger population dynamics, starting from 2010 and predicted future growth of tiger population and numbers of tigers in next five years in PTR. In this note, a mid-term review is being done to assess the actual growth of tiger population and comparing it with predicted growth and tiger population.

#### 2. Taking Stock of the Current Situation

- a) **Breeding Tigresses:** As per the 'Brief Note', based upon the Phase IV data and continuous camera trap monitoring data, as on October 2020, all the breeding/ expected to breed tigresses are listed according to their age group as following.

**Table 1**  
**Breeding Status of Tigresses**

| Sr No.  | Tigress | Aproximate Age | Age at the start of breeding |
|---|---------|----------------|------------------------------|
| <b>1. Tigress breeding currently</b>                              |         |                |                              |
| 1   | T1      | 14             | -                            |
| 2   | T2      | 14             | -                            |
| 3   | T6      | 10             | -                            |
| 4   | P222    | 8              | 3                            |
| 5   | P234    | 7              | 3                            |
| 6   | P433    | 7              | 4                            |
| 7   | P141    | 6              | 3                            |
| 8   | P142    | 6              | 4                            |
| 9   | P151    | 4              | 3                            |
| 10*   | P213-32 | 4              | 3                            |
| <b>2. Tigress expected to breed within a year (in year 2021)</b>  |         |                |                              |
| 11  | P152    | 4              |                              |
| 12  | P641    | 3              |                              |
| 13  | P642    | 3              |                              |
| 14  | P643    | 3              |                              |
| 15  | P234-22 | 3              |                              |
| 16  | P234-23 | 3              |                              |
| <b>3. Tigress expected to breed within next two year (in year</b> |         |                |                              |

| 2021 or 2022)  |         |     |
|--|---------|-----|
| 17   | P213-62 | 2   |
| 18   | P213-63 | 2   |
| 19   | P213-64 | 2   |
| 20   | P222-32 | 2   |
| 21   | P433-22 | 2   |
| 22   | P433-23 | 2   |
| 23   | P141-12 | 2   |
| 4. Tigress expected to breed within next three year (in year 2021 or 2022 or 2023) |         |     |
| 24   | P652    | 1.5 |
| 25   | P653    | 1.5 |
| 26   | P272    | 1   |
| 27   | P273    | 1   |
| 28   | P234-33 | 1   |
| 29   | P151-11 | 1   |

\*Of the total 29 tigresses listed here, one tigress P213-32 died due to natural causes in May 2021.

It was expected that there will be 15 breeding females by the mid of year 2021 and at least 7 tigresses will give birth to cubs in year 2021. As of 30/06/2021, in addition to 9 breeding tigresses (sr no. 1 to 9 in Table 1) following 3 tigresses (as predicted in 'Brief Note') have produced their first litter this year:

1. P 643 - 2 cubs
2. P 234-22 - 2 cubs
3. P 234-23 - 3 cubs

So, there are 12 breeding tigresses at present and following 4 tigresses are also likely to be added in this list by the end of year 2021:

- (1) P 641                      (2) P 642                      (3) P 234                      (4) P 213-63

2. **Population Growth Prediction:** It was calculated in 'Brief Note' that on average 1.4 successful cubs will be produced per year per breeding tigress in PTR and with this average rate, assuming 12 breeding tigresses, they will successfully add 16 cubs per year. Let us compare this with the actual number of cubs born in year 2021 till 30/06/2021.

Following is the list of tigresses who have given birth to cubs in year 2021:

**Table 2**

| Sr No.       | Tigress | Approximate Age | Number of cubs |
|--------------|---------|-----------------|----------------|
| 1            | T6      | 10              | 4              |
| 2            | P222    | 8.5             | 3              |
| 3            | P142    | 6.5             | 2              |
| 4            | P151    | 4.5             | 2              |
| 5            | P643    | 3.5             | 2              |
| 6            | P234-22 | 3.5             | 2              |
| 7            | P234-23 | 3.5             | 3              |
| <b>TOTAL</b> |         |                 | <b>18</b>      |

Above data show that average number of cubs born is 2.5 cubs per breeding tigress for the year 2021. Further following four tigresses are expected to give birth by the end of year 2021:

(1) P 641      (2) P 642      (3) P 234      (4) P 213-63

Taking the rate of 2.5 cubs per breeding tigress as seen in year 2021, 10 more cubs may be added by the year end taking the tally to 28 for the year 2021. In addition to adding of new tiger cubs, following is the detail of tiger attrition in 2021:

1. Tigress P213-32 died on 15/05/2021.
2. 3 cubs of tigress P222 born in fourth litter in July 2020 are not seen by patrolling parties for quite a long period now. As P222 has given birth to 3 cubs in April 2021, earlier 3 cubs can be presumed to be dead. This can also be correlated to the death of Male tiger P123 in August 2020 who died in infighting with another male tiger P431. As tiger P123 was considered father of those earlier 3 cubs, with the demise of P123, their survival chances were very low.
3. 2 male cubs survived of tigress P213-32 first litter and were more than 18 months old when she gave her second litter of 4 cubs in October 2020. These earlier 2 male cubs of first litter have not been sighted for more than 6 months now. It is presumed that they might have dispersed in Panna Landscape.
4. Tigress P151-11, now more than 2 years old was seen in South Panna division in June 2021. She can also be presumed to disperse in Panna Landscape.

If we consider above four instances as attrition for the year 2021, then there are 4 deaths and 3 tigers have escaped in to Panna Landscape. Total loss to tiger population inside PTR is 7 in initial six months of year 2021. If we take same attrition rate for rest

of the half year, total loss to tiger population inside PTR will be 14. Hence net addition in the tiger population will be  $28-14= 14$  tigers.

Taking this attrition rate and population of tiger including cubs as 64 by the end of year 2020 in PTR as earlier reported, population including cubs will be around 78 at the end of year 2021, which is little higher than number 75 which was predicted in 'Brief Note'.

### **3. Conclusion**

Increase in tiger population in PTR is happening and happening fast. Now it is not a matter of 'Increasing tiger number on Paper', it is also seen on the ground. Increased sighting of tiger by tourists in tourism zone in Core area, almost on the daily basis, is ample proof of it. Nearly sure sighting of tiger in Akola Buffer zone in last six months is again a strong indicator of increasing population of tigers in PTR. Whether in future this trend will continue or population will stabilize, one can only make a guess at this point of time. It seems the tiger number in PTR will touch 100 much sooner than predicted. Future holds lots of twist and turns, but one thing is sure: keeping an eye over tiger population dynamics has become a management tool and it is helping the PTR Authorities in future management.