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DISTRIBUTION AND DIVERSITY OF WATERHOLE WILDLIFE CENSUS IN DISTRICT DUNGARPUR FROM 2012 TO 2020: A SURVEY REPORT

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Abstract

Based on wildlife waterhole use count data collected in the Dungarpur between 2012 and 2020. We also explored whether species diversity Our results showed overlap in place and time between wild especially in the use of waterholes located at the boundary of the protected areas and at one waterhole located in the agricultural areas. During the wildlife census, along with the Panther, chinkara, peacock and other creatures were also seen in the district. Results also indicated that overall, variety of wild herbivores preferred using waterholes located inside the area. Results of this study further demonstrated that animal species diversity grow significantly and reaffirmed the importance of waterholes.

Keywords: Waterhole, Wild herbivores, Dungarpur.

1. Introduction

Waterhole involves the provision of drinking water for animals all across the habitat. Animals require food, water and cover to occupy a habitat. waterholes provide important aquatic refugia and allow organisms to persist within the landscape during dry periods or droughts and then recolonize the broader landscape when favourable conditions return (Davis et al 2002, Sheldon et al 2010)

Aquatic refugia such as waterholes are a priority for conservation under climate change due to their ability to provide habitat during periods of drought and a water source for terrestrial species (Davis, J. 2013) (Davis, J, 2014). Waterholes are also important from an agricultural perspective, providing resources for irrigation and stock watering (Arthington 2005). Utilization of waterholes by wildlife is also likely to be higher during the dry season (Wakefield et al., 2008; Wright et al., 2012).

During the dry season water availability is mainly limited to perennial rivers and waterholes, which are an essential part of the forest and are used by several of these threatened large species (Keo, 2008; Wright et al., 2012, Gray et al., 2015)

Waterholes can also harbour invasive flora and fauna due to increased resources and can be used as targets for effective management of these species.

2. Study area

In Dungarpur Geo. Area in Sq. Km. is 3,770, Forest Area in sq. km 2017 is 693.20, % Forest Area w.r.t. Geog. Area is 18.39. The study was conducted in the forest area of Dungarpur district (figure-1). In Dungarpur total 44 waterholes identified in year 2020. The wildlife wing of the forest department and other volunteers carried out a waterhole census at Dungarpur. The census is widely used to count large animals when they visit waterholes. Highest waterhole was in Simalwara then Bichhiwara. Dungarpur, Aspur, Antari and Sagwara forest region had equal waterholes.

3. Material and method

In absence of trained and experienced staff, generally “Water Hole Census” is conducted to estimate the densities of animals. before the start of the survey, the forest department will begin the activities of collecting animal droppings as well as Pugmarks to determine what species are to be found in a particular area. the forest staff and volunteers from wildlife conservation NGOs as well as nature lovers will then be divided into groups with each group being assigned a waterfall in the area.



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DOI: <http://ijmer.in.doi./2023/12.05.49>
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Table 1: wild animals during year 2012-2020

| Wild animals | 2020 | 2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 |
|---------------|------|------|------|------|------|------|------|------|------|
| Panther | 36 | 29 | 26 | 22 | 19 | 06 | 0 | 0 | 02 |
| Jackal | 195 | 251 | 269 | 327 | 323 | 284 | 557 | 529 | 865 |
| Striped hyena | 72 | 76 | 56 | 39 | 33 | 27 | 52 | 41 | 56 |
| Jungle cat | 60 | 113 | 50 | 64 | 68 | 74 | 56 | 50 | 210 |
| Fox | 119 | 165 | 171 | 126 | 144 | 122 | 246 | 264 | 437 |
| Wolf | - | 0 | 0 | 0 | 0 | 0 | 0 | 02 | 06 |
| Civets | 31 | 72 | 60 | 17 | 17 | 22 | 47 | 36 | 51 |
| Mongoose | - | - | - | - | - | - | - | 423 | 715 |
| Nilgai | 1902 | 2547 | 1908 | 1537 | 1344 | 896 | 1027 | 880 | 969 |
| Chinkara | 6 | 0 | 0 | 07 | 06 | 02 | 14 | 14 | 37 |
| Wild boar | 1465 | 2407 | 994 | 1083 | 817 | 646 | 566 | 298 | 350 |
| Langur | - | - | - | - | - | - | - | 2189 | 3247 |
| Porcupine | 162 | 132 | 153 | 76 | 78 | 72 | 98 | 124 | 160 |
| Rabbit | - | - | - | - | - | - | - | 637 | 946 |
| Peacock | 5460 | 5615 | 3268 | 2800 | 2178 | 2287 | 3266 | 3511 | 4154 |
| Owl | - | - | - | - | - | - | - | 91 | 132 |
| Crocodile | | 18 | 18 | 22 | 04 | 05 | 14 | 09 | 10 |
| Sarus crane | 31 | 40 | 0 | 17 | 23 | 26 | 40 | - | - |
| Vulture | - | - | - | 0 | 0 | 0 | 03 | - | - |

In this method, observations on sighting are collected at water holes (during summer) for 24 hours preferably from 6 PM to 6 PM on full moon days. during this period, they will observe the wild life species that visit the waterhole and keep a count of each type. all the reports will then be compiled into the census survey.

4. Results

Wildlife enumeration work has been started in the district under wildlife assessment. during this count, 36 panthers were seen in Dungarpur. This is the first time that such a large number of panthers have seen. In the last 5 years there has been a significant increase in the number of panthers. Talking about Panther in the district there was not a single Panther till 2011 the forest was devoid of dangerous animals, but for the first time in 2012, two panthers were seen, but in the very next year 2013 and 2014, the Panther disappeared from the forest again. During this, not a single Panther was seen at the time of census for two years. Maximum 15 panthers have been seen in the dance and hilly forest area of Aspur. the biggest reason behind this is that sufficient amount of water is available in Aspur area this is that sufficient amount of water available in Aspur area. Along with this, the favourable environment here is convenient for Panther to live.



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During the wildlife census, along with the Panther, chinkara, peacock and other creatures were also seen in the district. Apart from this six chinkaras have also be seen in the forest area of Aspur. Apart from this, many types of creatures have been seen including jackal, wild boar, sambar, national bird peacock, giraffe, fox, nilgai, porcupine, langur, stork, bird of prey. Out of this there has been an increase in the number of wild animals, which is quite encouraging. Not only this, the number of national bird peacock is also increasing every year in the district. last year there were 2800 peacocks in the district in wildlife census. this year their figure has increased to 3407.

5. Discussion

Results in this study indicate that most wild herbivores prefer to use waterholes inside the protected area. This could be explained by the fact that such waterholes are characterised by less human disturbance. Previous studies have demonstrated that wild herbivores tend to decrease along a human disturbance gradient up to a scale when they completely disappear (Bergstrom and Skarpe 1999; de Leeuw et al. 2001). It is worth mentioning that in the past years, due to the increase in the movement of panthers in the populated areas, there was a threat to them. In the last one year only about a dozen panthers became victims of premature death. they were either killed by the mob or they died due to other reasons.

6. Conclusion

Wildlife lovers are very happy to see the increase in the number of panthers. apart from this six chinkaras have also be seen in the forest area of Aspur. The main objective of this study was to enumerate the growth of the wild animals in forest area of Dungarpur. Two main conclusions can be made based on the results of this study. Firstly, we conclude that largest percentage of wild herbivores preferred to use water resources inside the forest area. Second Increase in the number of panthers. These findings could provide an important avenue of investigating wildlife efforts to improve production and biodiversity conservation in Dungarpur.

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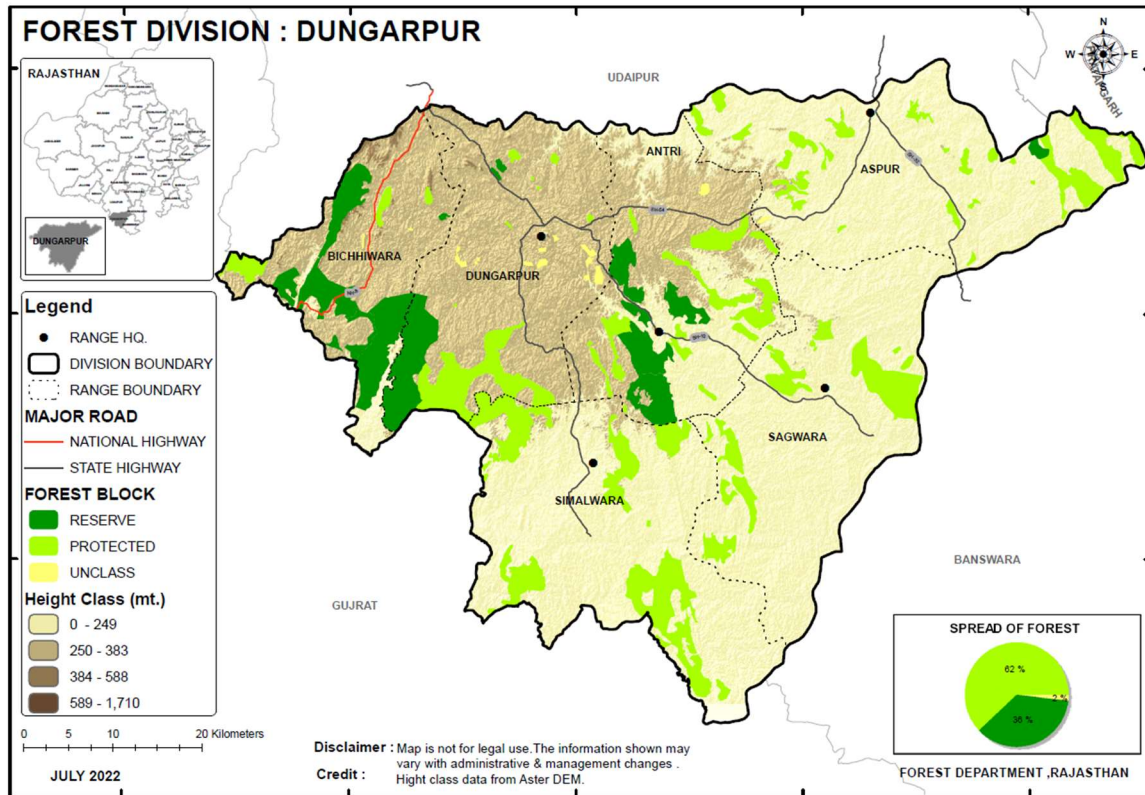


Figure: 1