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Tiger Loss Cases in Human Dominated Landscapes, a State wise Analysis of Panthera tigris Mortality Cases in India.

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Abstract

Current situation of tiger census is good but increasing population of tigers in India itself a key concern for its conservation and management in human-dominated landscapes imparting a high frequency of conflict across the country. The best known highland of central India is a benevolent illustration of incidents at regular basis in terms of human loss and injured big cats or farmers etc. Population dynamics of tigers thus depends on the quality of good and poor habitats. The local reproductive success in the good habitats (Source area/core-critical tiger habitat) exceeds local mortality. The outer poor habitats with less productivity than local mortality are sink" areas (buffer/connecting corridors in a tiger landscape). For this study secondary data of tiger mortality from 2012-2019 cases were taken from official site of NTCA. The data depicts 52.4% of mortality cases were inside the park while 33.87% cases were recorded outside the boundary of tiger reserves. For present study questionnaire survey also conducted in some human dominated area around the reserve forest to know the movement pattern of tigers and threats too.

Keywords: Tiger mortality, seizures, population dynamics, habitat suitability etc.

Introduction:

Creation of NTCA (National Tiger Conservation Authority) making provision for raising, arming and deploying the special Tiger Protection Force, refinement of tiger assessment, active management involving local people, supporting buffer areas to address man-tiger interface issues, creating inviolate space for tigers, and the like (Rajesh Gopal 2015). Due to such concerted efforts, at present India alone has the maximum number of wild tiger (2967 as per Tiger Census 2020). Increasing numbers of tigers and carrying capacity of habitat suitability is a big challenge and an ecology-based method for defining priorities for large mammals' conservation is tough task (Wikramanayake, Alan, Robison, 1998). On the other hand genetic viability of source population must be maintained along with carrying capacity of the wild habitat for wild tiger in India (Yumnam B, Jhala YB, Qureshi Q et.al 2014). Impact of habitat fragmentation on the demography of population is also a key factor in conservation strategies (Umapathy, G., Hussain, Shaik et.al 2011). S.Kumar (2015), had worked on habitat fragmentation leading to loss of gene flow from source of population of tiger, a study of Corbett reference to corridor, Ramnagar Uttarakhand, India. Present study imparts the tiger mortality cases recorded by the NTCA, Data analysis showed the location of tiger mortality i.e. inside the tiger reserve or outside the reserve and some cases of seizure were also included.

Materials & Methods:

Secondary Data of tiger mortality from 2012 to 2019 were taken from government official web site of NTCA (National Tiger Conservation Authority) and analyzed it to get the conclusion and questionnaire survey regarding movement pattern of tiger in communities have been conducted nearby the tiger reserves and reserve forest division which are having high frequencies of human-tiger conflicts like Maharashtra i.e. Tehsil Bramphuri, Gondipri, Kurkheda, Amori, Deori, Sindhi Wahi, Mul, Pandherkawada, Pusad, Akot etc.



Result & Discussion:

The data depicted that from 2012 to 2019 tiger mortality cases were officially recorded by the government and displayed on its official web link. Data showed that in out of total 750 cases, 393 cases were recorded from inside the reserve and 254 cases were belongs to outside of the reserve area. While 103 cases were seizure by other ways.

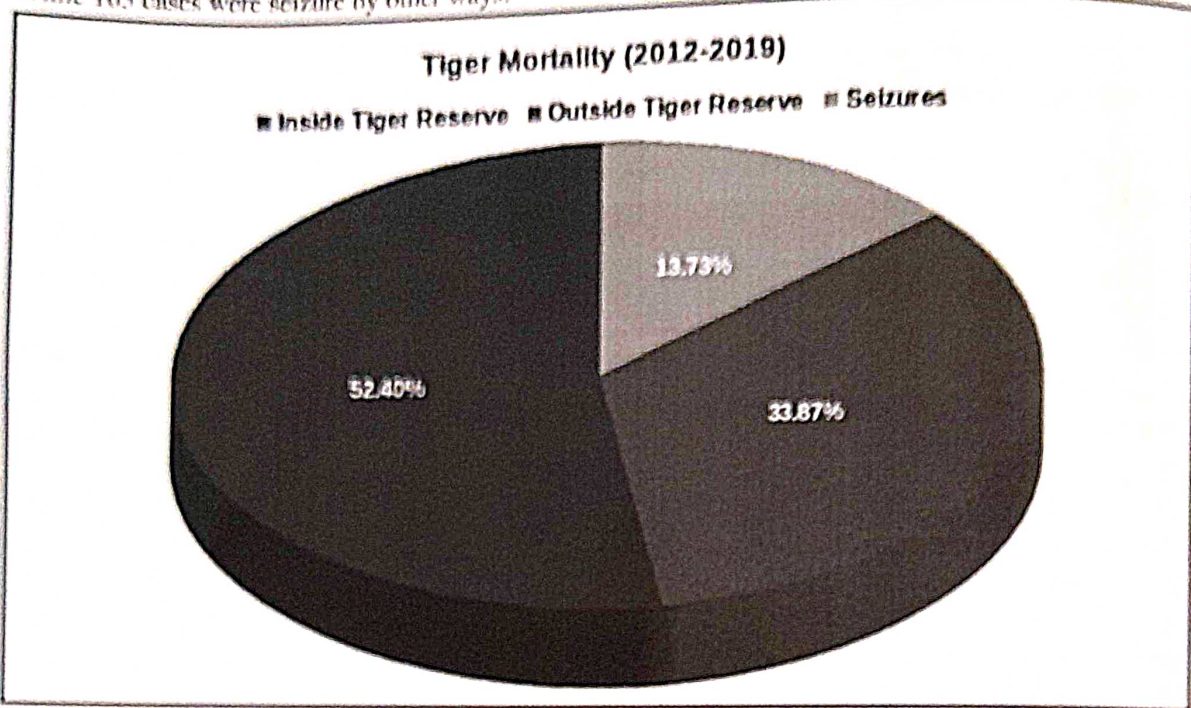


Fig 1: Tiger Mortality Cases recorded location wise in India

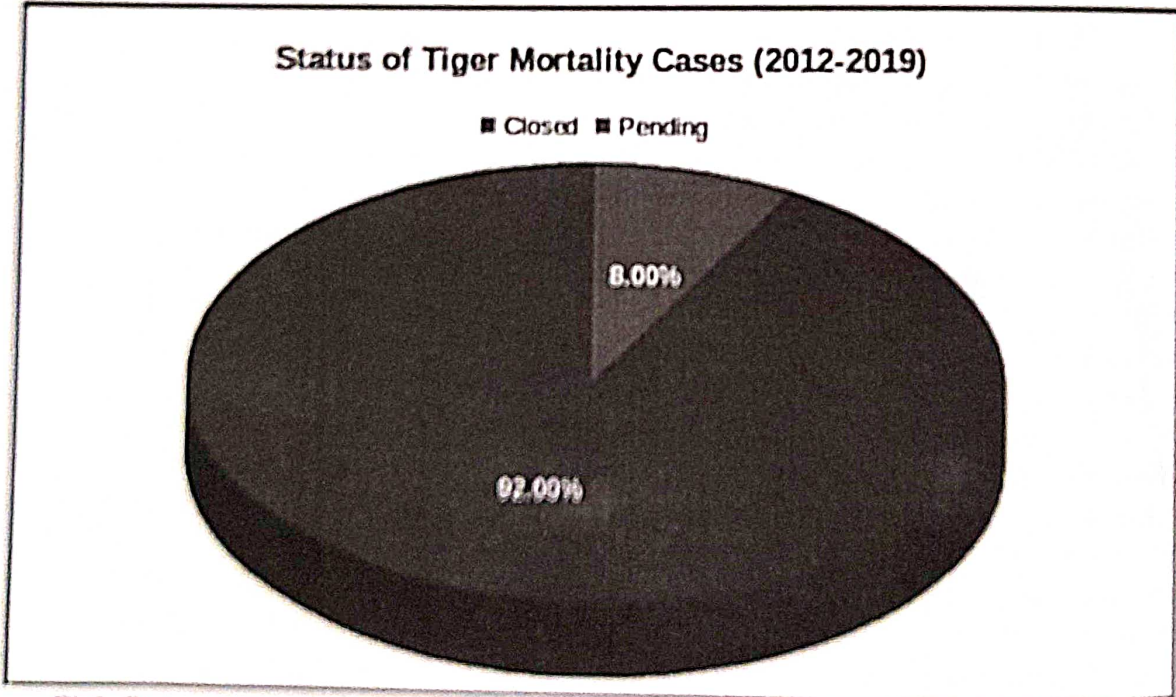


Fig2: Status of Tiger Mortality Cases in India as per official data. Source- NTCA

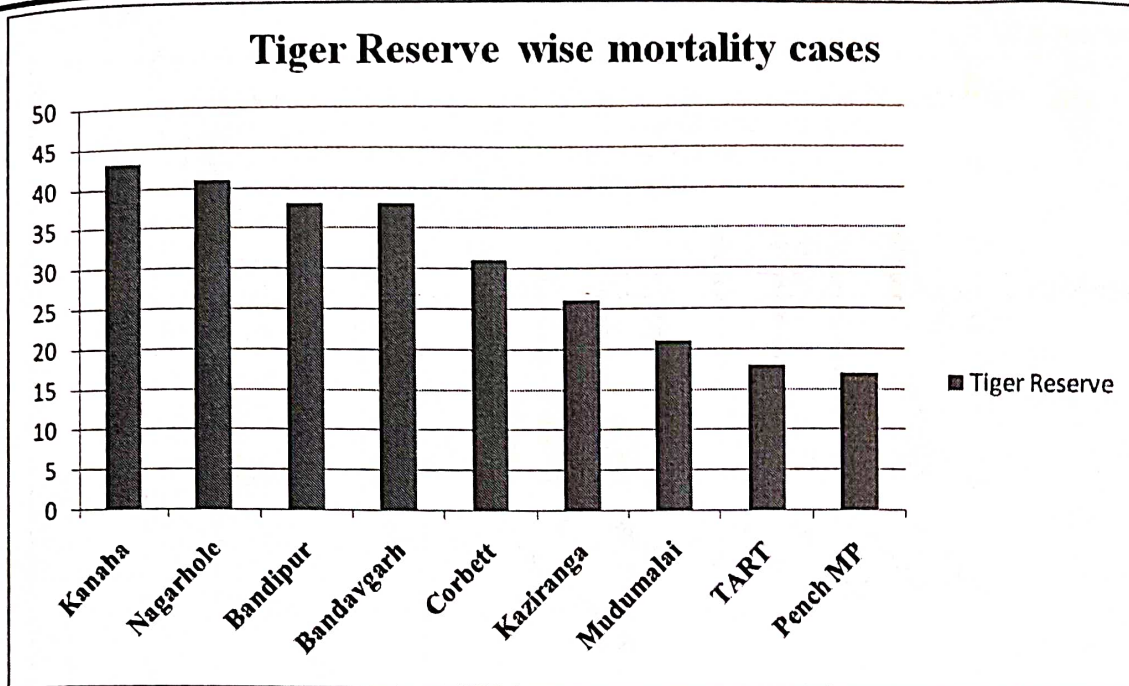


Fig 3: Some Tiger Reserve wise mortality cases from 2012-19

Figure 3 imparts the result and recorded mortality cases of some tiger reserve wise in India like Kanha (43), Nagahole (41) , Bandipur(38), Bandavgarh (38), Corbett (31), Kaziranga (26), Mudumalai(21),TART(18),Pench-MP(17) in 2012-19.

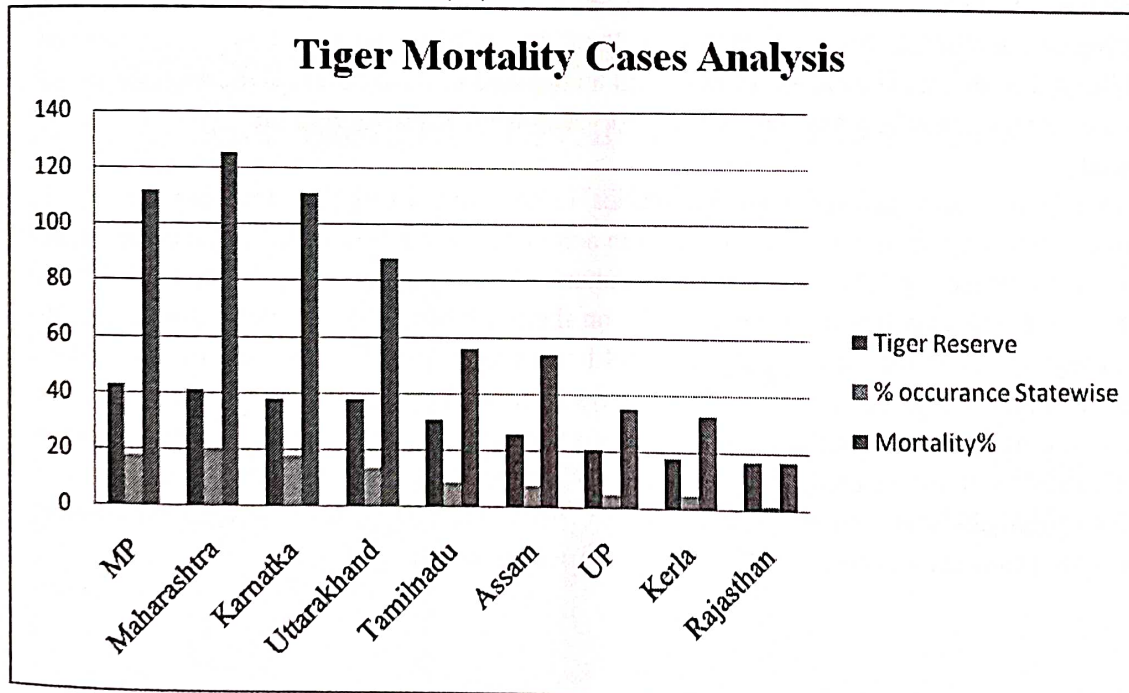


Fig.4: Data Analysis of Mortality, Tiger Reserve wise, % occurrence & State wise (2012-19)

Fig 4 depicted the Maharashtra is having the highest number of mortality (20%), MP (18%), Karnataka(18%), Uttarakhand(14%),Tamilnadu(9%),Assam(8%),UP(5%),Kerla(5%)followed by the Rajasthan(2%). While on the other hand wildlife protection society of India (wpsi) showed a current data on wpsi-india.org/new of tiger and leopard mortality cases in 2021 depicted high potentiality along with poaching and seizure too. Official data shows the seizures, natural death and poaching too. On the other hand the movement pattern in communities by any means leads a situation of conflict



or thenegative interactions which is always trouble some and challenging issues for mitigation and conservations too.

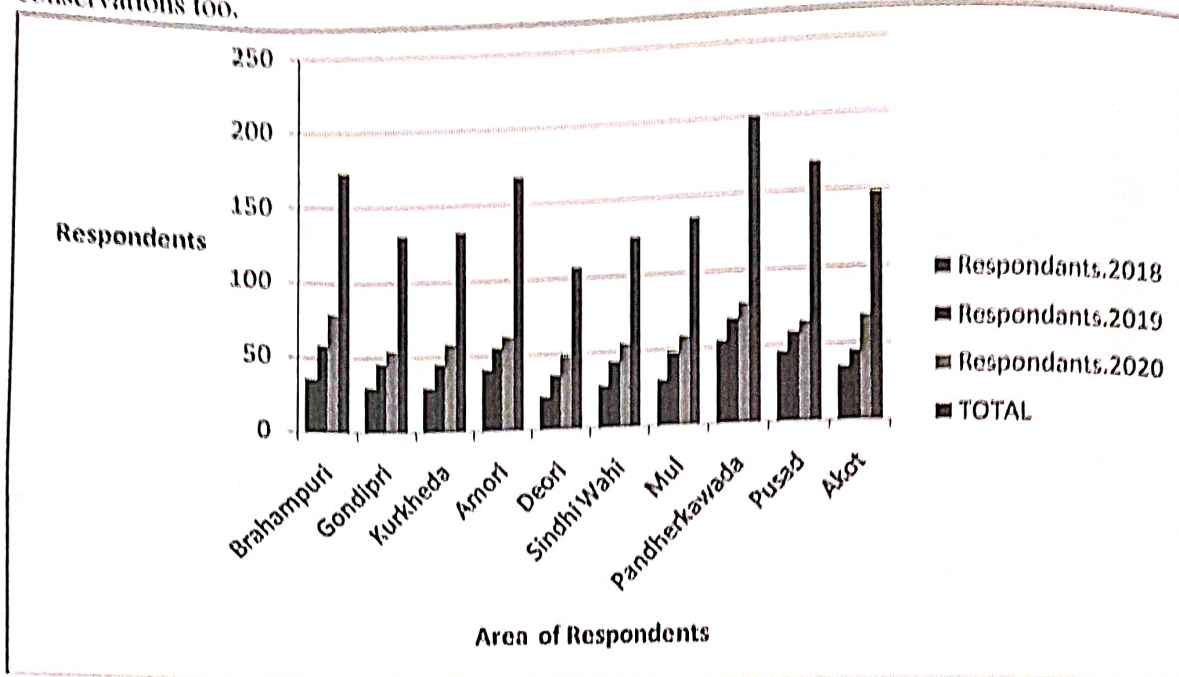


Fig.5 Data shows the Respondants regarding movement pattern in communities

Overall the questionire survey depicts a severe movement of big cats in the communities and livestock predation too. So the movement in the human dominated landscapes are not sound for both the big cats and human beings by all means. Retaliatory killing , poisoning ,electrocution in one hand while on the other hand incidents of death and human loss leads or develops the negative attitude towards big cats and provoke many type of retaliatory action against a the wild life

Conclusion:

Finally the study showed high frequencies of mortality cases and poaching too but the government efforts imparts the reduction of cases in across the country but in recent years the number of cases are in vogues, perhaps the current situation of pandemic catastrophic in India gives a opportunity to illegal activities or poaching while on the other hand sporadic news from across the country always alarming the carrying capacity and human-tiger conflict or negative interaction too regularly. Area like highland of central India is always in prime for conflict issues due to some socio-political cum geographical conditions and more important factors the movement pattern of tigers in the communities for livestock predation or accidental cases poachings etc. We have to rethink the all boundaries of mitigation and conservations skills to resolve the current scenario. Fragmentation of habitat, carrying capacity and corridores connectivity are some of importnt issues.

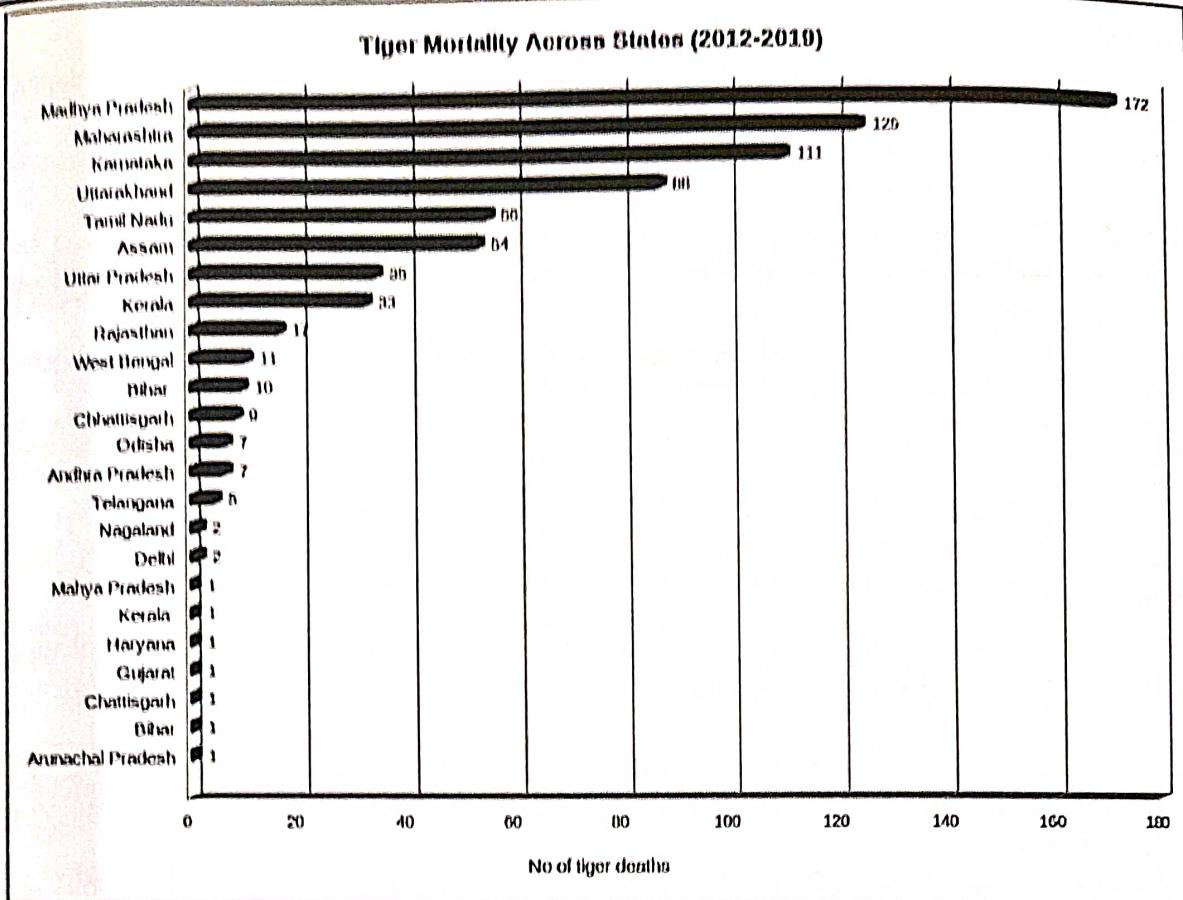


Fig.5: State wise figure of Tiger Mortality. Source: www.ntca.gov.in

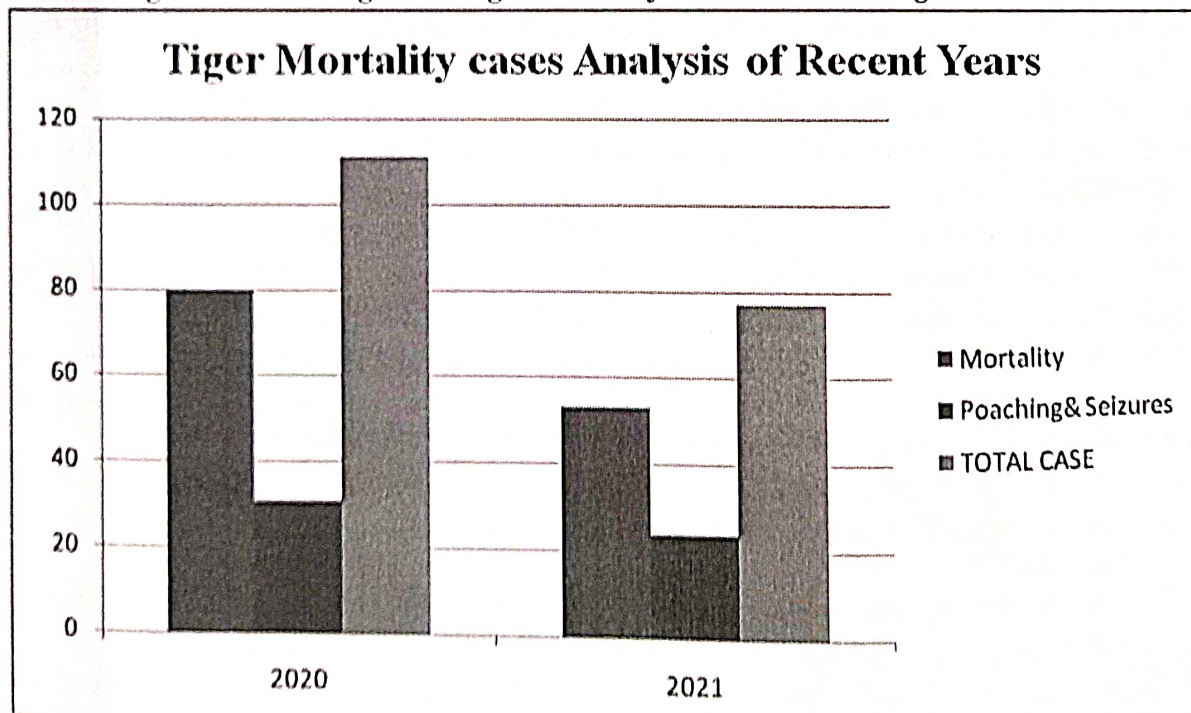


Fig.6: Tiger Mortality cases in 2020-2021. Source: wpsi-india.org

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