

## WEBINAR SERIES 4: LESSONS FROM THE FIELD - SUCCESS STORIES OF MITIGATION MEASURES IN MAINTAINING AND ENHANCING CONNECTIVITY



# Implementation Challenges: Learnings and Experiences

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8.30-1000hrs**

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# CHALLENGES in the Implementation of Green Linear Infrastructure Projects



"**Greening**" of Linear Infrastructural projects brings in "**Additional Costs**".



"**Costs**" directly affect the "**Viability**" of the project.



There are other forms of "**pressures**" when it comes to mitigation measures for linear infrastructure projects. Some of these important challenges include - "**controversies**", "**push and pull**", "**interventions**" etc.



"**Timeline**" is another challenge as the country is on a **fast-track to economic growth**.



# India emerging as a major economic power in the world



We are building **20-50 Km** of **highways** on a **daily** basis.



There are new railway lines, up-gradation of railway lines, powerlines, and everything is fast-tracked primarily in the past 5-7 years.



Everybody involved in these developments wants them to be built quickly.



The mitigation part is often handled by the Wildlife Institute of India and there is a lot of pressure to deliver reports very quickly often with as little mitigation as possible owing to costs.





# Learnings and Experiences

WII came up with a manual on mitigation in 2016 but at that time we largely banked on the experiences of other countries. Very good beginning.

However, in western countries, there aren't as many large wildlife species. The kind of density and diversity that exists in India is very different .

"**Lack**" of very objective methodologies.

Manual has thumb rules. Brings in scope for push and pulls.

But most often we require "**Site-specific**" solutions.



No RW-NH-11013/02/2019-SER(P&B)  
Government of India  
Ministry of Road Transport & Highways  
(S&R (P&B) Section)  
Transport Bhawan, 1, Parliament Street, New Delhi-110001

Dated: 2<sup>nd</sup> August, 2019

To,

1. The Chief Secretaries of all the State Governments/ UTs.
2. The Principal Secretaries/ Secretaries of all States/ UTs Public Works Department dealing with National Highways, other centrally sponsored schemes.
3. All Engineers-in-Chief and Chief Engineers of Public Works Department of States/ UTs dealing with National Highways, other centrally sponsored schemes.
4. The Director General (Border Roads), SeemaSadakBhawan, Ring Road, New Delhi-110 010.
5. The Chairman, National Highways Authority of India, G-5 & 6, Sector-10, Dwarka, New Delhi-110 075.
6. The Managing Director, NHIDCL, PTI Building, New Delhi-110001.
7. All CE-ROs, ROs and ELOs of the Ministry.

Subject:-Principles to be adopted while considering the highway near or within wildlife sanctuaries/National Parks/Animal Corridor -Corrigendum-reg.

Please refer to this Ministry's circular of even no. dated 29.05.2019 regarding above stated subject.

2. Para 4 of above circular has been amended and shall be read as under:-

In this context it is mentioned that the manual entitled "Eco-Friendly Measures To Mitigate Impacts Of Linear Infrastructure On Wildlife" has been approved by Ministry of Environment, Forest and Climate Change. Accordingly, all implementing agencies are requested to follow the provisions of the manual at the planning stage itself. The link for downloading this manual is given below:

[http://www.wii.gov.in/images/images/documents/efia/eco\\_friendly\\_measures\\_mitigate\\_impacts\\_linear\\_infra\\_wildlife.pdf](http://www.wii.gov.in/images/images/documents/efia/eco_friendly_measures_mitigate_impacts_linear_infra_wildlife.pdf)

Yours faithfully,  
*Raj Kumar*  
Raj Kumar  
Assistant Executive Engineer (S&R) (P&B)  
For Director General (Road Development) & SS



# TWO YEARS OF MONITORING INDIA'S FIRST ANIMAL UNDERPASSES

21

Wild mammal species are now using the underpasses.

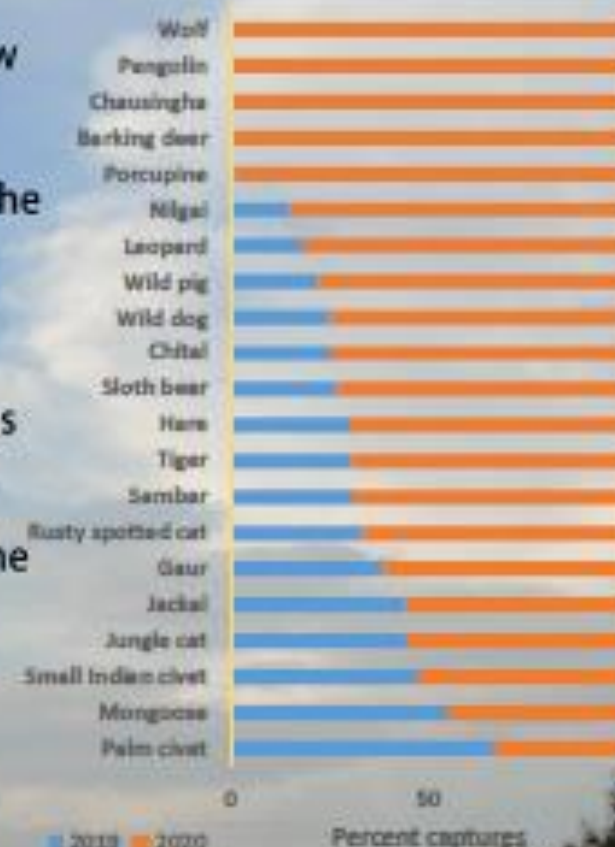
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New species recorded using the underpasses in 2020 are — Indian Wolf, Barking Deer, Chausingha and Pangolin.

127%

Increase in use of underpasses by tigers; most species were found to use the crossing structures >50% more than the previous year.

Hare, wild dog and chital were the most frequent users of the crossing structures like last year.



Species	2019	2020
Barking Deer	0	4
Chausingha	0	3
Chital	3450	10170
Gaur	58	92
Hare	353	813
Jackal	12	15
Jungle Cat	250	309
Leopard	37	167
Mongoose	28	23
Monitor Lizard	2	
Nilgai	123	708
Palm civet	40	20
Pangolin	0	1
Peafowl	0	14
Porcupine	3	229
Rusty Spotted Cat	1	2
Sambar	49	108
Sloth Bear	7	19
Small Indian Civet	19	21
Tiger	155	352
Unidentified	71	101
Wild Dog	261	777
Wild Pig	756	2646
Wolf	0	14
Grand Total	5675	16608

2019

• 5675  
• Crossings

2020

• 16608  
• Crossings

193 % Increase in Underpass Usage from 2019 - 2020

First Ever Underpass Crossing by Pangolin

351 % Increase in Underpass use by Leopard

475 % Increase in Underpass use by Nilgai

No Change in Crossing Frequency by Wildlife During Lockdown Phase

## Wildlife Underpass: A Dynamic Space

2019



2020



## Natural Revegetation

Natural revegetation under the structures has been seen, that has prompted many wild species like the wild dog and chital to 'use' these spaces, in addition to merely crossing.

## The Occasional Hunting Ground

On a few occasions wild dogs have been found to pursue prey under the crossing structures, which is expected given their hunting strategy of driving prey out into open spaces. However there is no evidence of the structures acting as prey-traps.



## Demographic Use

Individuals across the age-sex spectrum of multiple species have been using the underpasses – from juvenile wild dogs and wild pigs, and sub-adult tigers with mothers. Breeding spotted deer and nilgai males have also been found to spar under the structures on many occasions.





# Learnings and Experiences



The learnings from the past few years need to be inculcated in a "**revised manual**" and in a more "**objective**" manner.



Precise mitigation measures require the need to go to the site and design things accordingly. "Site-specific" mitigation cannot be substituted by any manual.



"**Elaborate processes**" are involved in "**getting clearances**" when L.I. projects are planned and executed. In fact, mitigation plans are a part of this process.

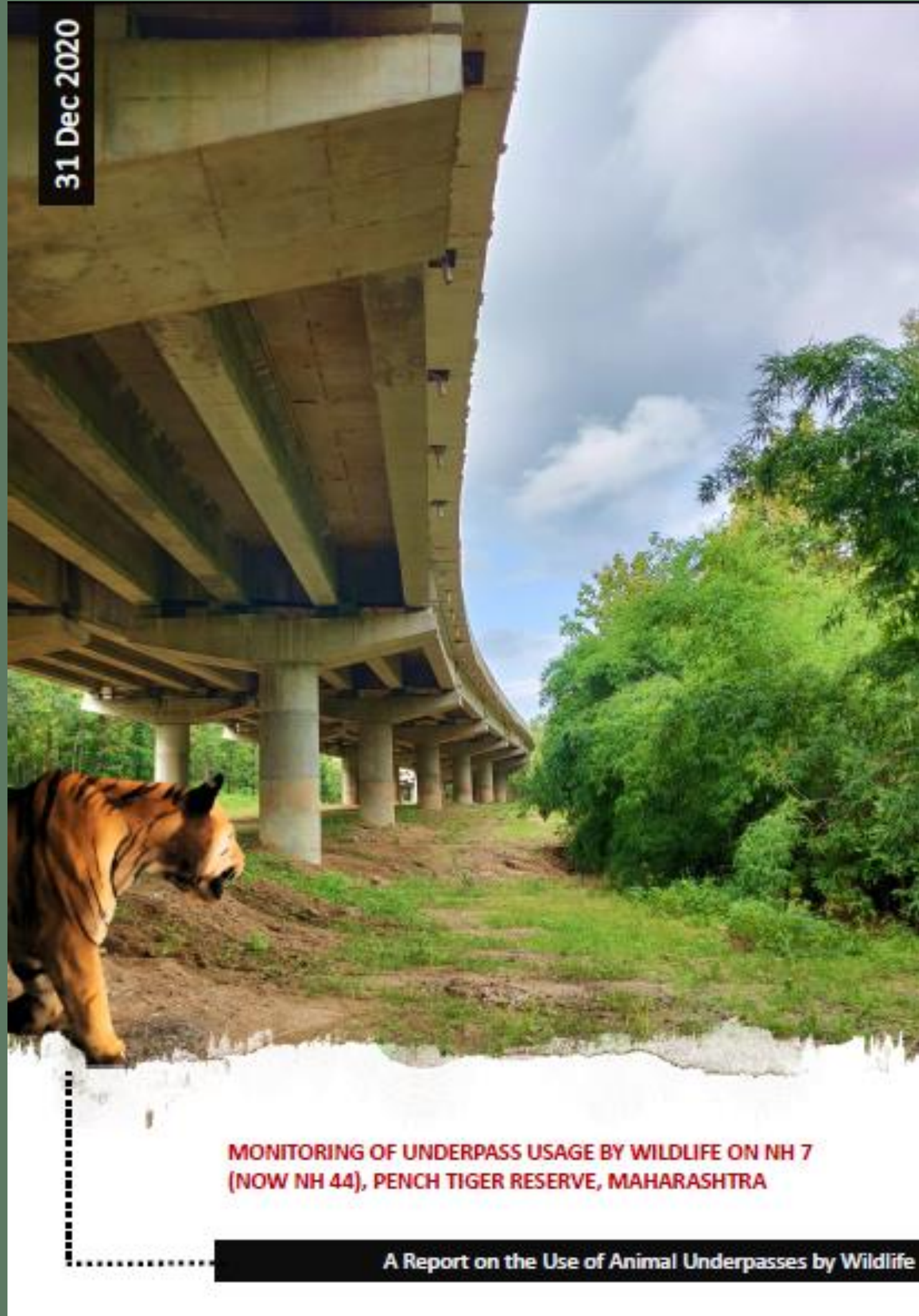


The Government is constantly making efforts to reduce the complexities of these challenges and these are gradually being simplified and being made more "**user-friendly**".



This will eventually **help greening infrastructural projects** because after we do these clearances in a more "**efficient manner**", it will give more hope to the developmental project.

31 Dec 2020



MONITORING OF UNDERPASS USAGE BY WILDLIFE ON NH 7  
(NOW NH 44), PENCH TIGER RESERVE, MAHARASHTRA

A Report on the Use of Animal Underpasses by Wildlife

Thank You