REPORT ON WILD ANIMAL ROADKILL INCIDENTS IN TAMILNADU: APRIL 2024-MARCH 2025

TAMIL NADU FOREST DEPARTMENT

ADVANCED INSTITUTE FOR WILDLIFE CONSERVATION

(RESEARCH, TRAINING & EDUCATION)

Tamil Nadu Forest Department
Advanced Institute for Wildlife Conservation
(Research, Training & Education)

REPORT ON WILD ANIMAL ROADKILL INCIDENTS IN TAMILNADU: APRIL 2024-MARCH 2025

Annual Plan of Operations

(2024 – 2025)

Team Members

Dr. S. Rajesh Kumar, Project Scientist II
Ms. R. Mahesh Priya, Project Associate II

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For correspondence: aiwcrte@tn.gov.in

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Team members

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1. EXECUTIVE SUMMARY

Roads are essential for transportation and development, but they also pose significant threats to wildlife. Roadkills can cause more fatalities than natural predators and impact a wide range of species. When roads pass through forests and protected areas, they disrupt animal movement, fragment habitats, and lead to wildlife deaths. While this issue has been studied globally, India still lacks comprehensive ecological research on the impacts of roads on wildlife.

India has the second-largest road network in the world, and Tamil Nadu alone accounts for approximately 1,99,040 km of roads. A significant portion of these roads pass through biodiversity-rich areas, increasing the chances of roadkill. Studies have shown that expanding roads can result in habitat loss, population isolation, and changes in animal behaviour, ultimately threatening the survival of many species.

This study focuses on understanding wildlife roadkill patterns in Tamil Nadu between April 2024 and March 2025. Using data from the Tamil Nadu Forest Department, the study identifies when, where, and which species are most frequently affected. A total of 630 roadkill incidences were recorded, with mammals being the most affected group.

The report highlights key patterns, including seasonal and regional differences in roadkill, and identifies high-risk zones for wildlife mortality. While the study provides important insights, it has some limitations, such as limited time for fieldwork, uneven data reporting, and a general bias towards large and prominent species. Despite these challenges, the findings provide valuable insights that can inform future conservation actions and policy decisions aimed at reducing roadkill and safeguarding wildlife in Tamil Nadu.

In summary, the study reveals that the spotted deer is the most road-killed species, whereas the Indian peafowl is one of the most frequently killed species by trains. The Srivilliputhur division has the highest frequency of roadkill incidences, whereas the Dindigul division has the highest number of wild animal deaths caused by train accidents. Among various types of roads, NH38 and NH44 have been identified as roadkill hotspots. The most roadkill incidences occurred during the day. Through implementing appropriate mitigation measures in association with the Highways and Minor Ports Department, wildlife mortality due to road kills and train accidents will be minimised. Moreover, creating awareness among drivers and the public provides opportunities to resolve this critical conservation challenge.

2. INTRODUCTION

Tamil Nadu is home to rich biodiversity, including several endemic and threatened species, many of which are increasingly impacted by man-made infrastructure development and other anthropogenic activities. Roadkill has emerged as a critical issue in wildlife conservation, particularly in regions like Tamil Nadu, which are intersected by an extensive network of roads and highways. Tamil Nadu, situated in the southernmost part of India, is home to several protected areas, including national parks, wildlife sanctuaries, tiger reserves, elephant reserves and the Western Ghats, one of the world's recognised biodiversity hotspots.

Several studies have highlighted that road bisecting in natural habitats not only causes direct mortality of animals but also results in habitat fragmentation, disruption of animal movement patterns, genetic isolation, and alteration in species behaviour (Trombulak & Frissell, 2000; Forman *et al.*, 2003). Studies by Baskaran and Boominathan (2010) and Deepan *et al.* (2021) in Tamil Nadu have shown that highways passing through Reserved Forests and Protected Areas pose serious threats to medium and large sized mammals, such as Spotted Deer (*Axis axis*), Wild Pig (*Sus scrofa*), and Bonnet Macaque (*Macaca radiata*), as well as for avifauna like the Indian Peafowl (*Pavo cristatus*).

Limited studies specific to Tamil Nadu, such as those by Gokula *et al.* (1997) and Selvan (2011), have attempted to document roadkill incidents, but the data has often been fragmented or localized. These studies emphasize the need for long-term and systematic monitoring of roadkill incidents across forest divisions in the State.

Roadkill data provides critical insights into wildlife mortality patterns particularly those caused by roads and rail networks across forest divisions. This report presents an analysis of the recorded roadkill and train-related wildlife fatalities, highlighting spatial and temporal trends, identifying high-risk areas, and offering recommendations for mitigation. These findings aim to support conservation efforts and sustainable infrastructure planning.

3. OBJECTIVES

- To analyse the spatial and temporal trends of roadkill incidents.
- To create a database of species frequently involved in roadkill incidents.
- To analyse the most vulnerable areas for roadkill and propose mitigation measures.

4. METHODOLOGY

This study adopted a structured methodology to investigate wildlife roadkill patterns across Tamil Nadu, using data provided by the Tamil Nadu Forest Department for the period from April 2024 to March 2025. The methodology comprised five key stages: data collection, data compilation, data analysis, hotspot survey, and formulation of mitigation recommendations. For analytical purposes, Microsoft Excel was used for data tabulation and organisation, and QGIS (Quantum Geographic Information System) was employed for spatial mapping and hotspot identification.

5. STUDY AREA

This study covered the entire state of Tamil Nadu, located in southern India and is well-known for its diverse landscapes and abundant biological diversity. Forests cover approximately 26,451 square kilometres, about 17.41% of the state's total area and support a wide variety of wildlife. Tamil Nadu is home to a wide range of species primarily located in Protected Areas and Reserved Forests. The Protected Areas include 5 National Parks, 10 Wildlife Sanctuaries, 5 Tiger Reserves, 5 Elephant Reserves, and 3 Biosphere Reserves. In addition, the State hosts 20 wetlands designated as Ramsar sites. A significant portion of this ecological wealth is located in the Western Ghats, a UNESCO World Heritage Site and one of the world's major biodiversity hotspots.

The State of Tamil Nadu primarily hosts nine major forest types, ranging from wet evergreen forest to moist deciduous, dry deciduous, sholas, grasslands, and scrub forests. The Western Ghats, the longest hill range in the state, is one of the 36 global hotspots of biodiversity and one of the three megacentres of endemism in India.

Alongside its rich natural heritage, the State also has a rapidly expanding road network connecting urban, rural, and agricultural areas. However, the development of roads through forested and other wildlife-rich regions has led to an increase in wildlife-vehicle collisions, posing a significant and growing threat to wildlife. To address this concern, wildlife roadkill data were collected from all 47 Forest Divisions across Tamil Nadu, spanning diverse ecological zones to offer a comprehensive understanding of roadkill patterns across the State.

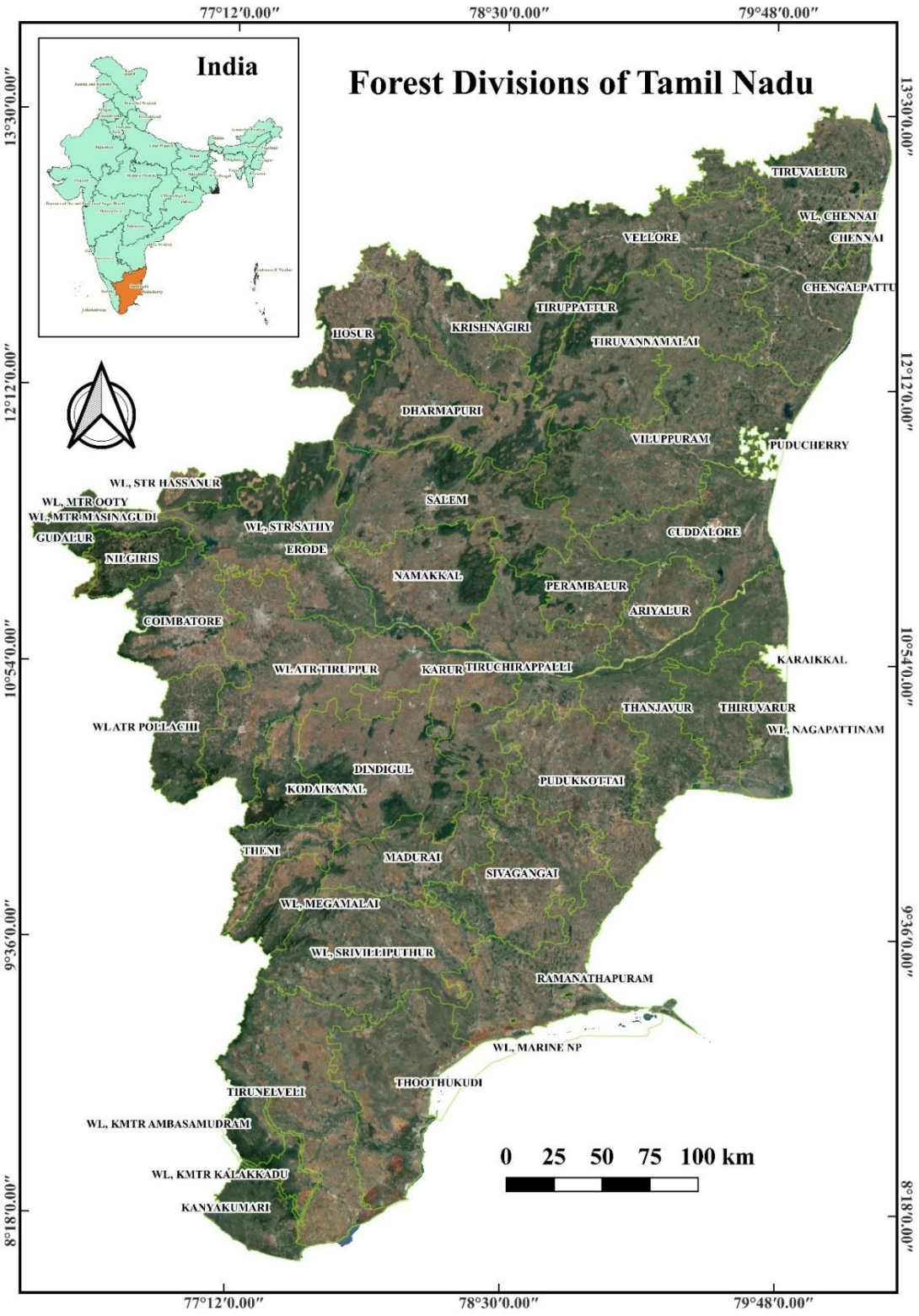

Figure 1. Forest Divisions of Tamil Nadu

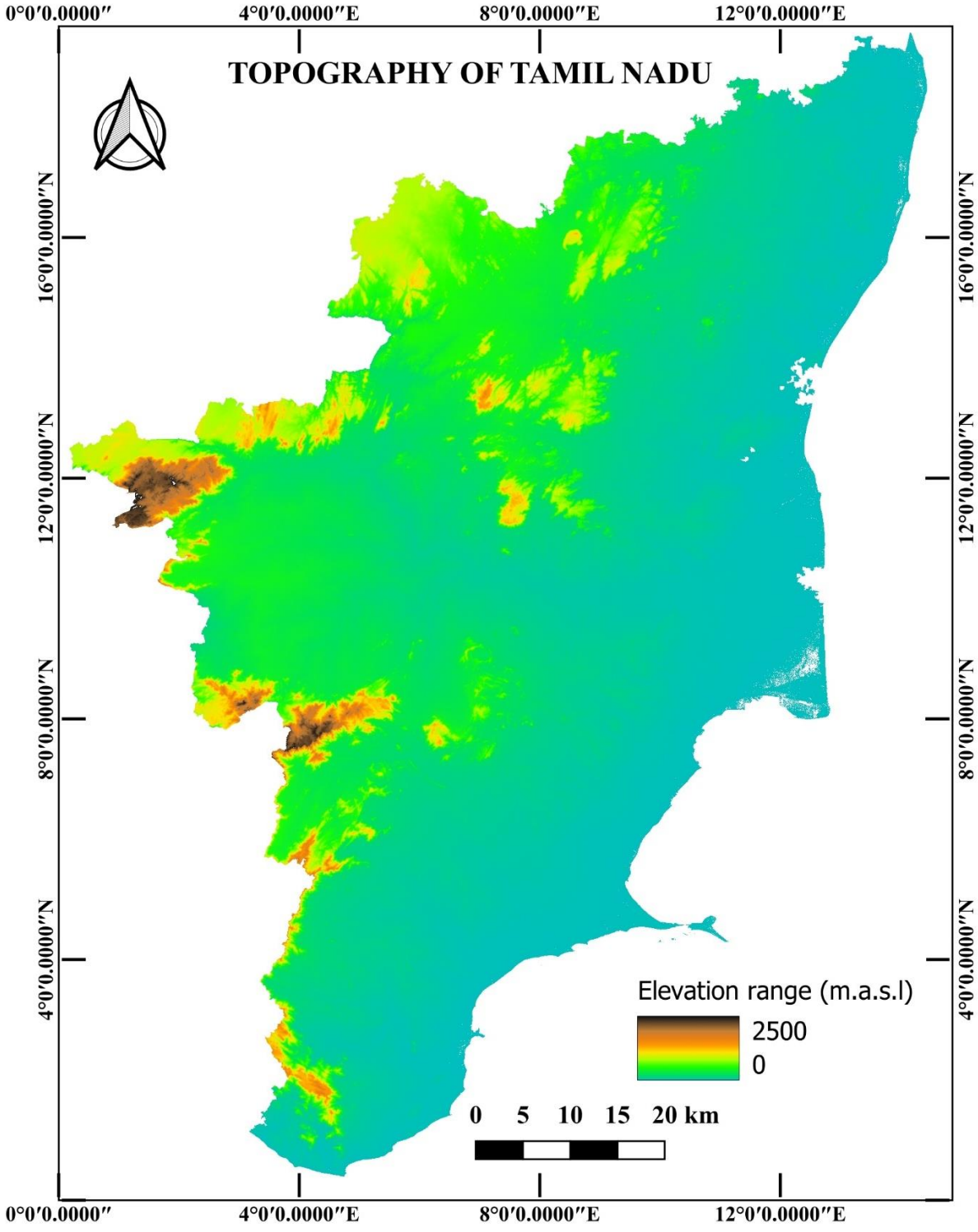

Figure 2. Topography of Tamil Nadu showing elevation ranges

6. RESULTS

The Tamil Nadu Forest Department is constituted into 47 administrative Forest Divisions managed under the control of 14 Forest Circles. The data on roadkills for the period from April 2024 to March 2025 was received from the various Forest Divisions. Of the 47 Divisions, 40 divisions reported wild animal mortality due to road and train accidents, totalling 630 wild animals. Ramanathapuram Wildlife (Ramnad WL), Masinagudi, Nagapattinam, Pollachi, Thanjavur, Virudhunagar, and Udagamandalam (Udhagai) reported nil cases, indicating zero wildlife roadkill during the study period. The reasons behind the zero reported mortality in these seven divisions warrant detailed investigation, so that effective strategies and good practices, if any, can be identified and replicated in other parts of the State.

Among all forest divisions, Srivilliputhur recorded the highest number of roadkill cases (75), followed by Dindigul (67) and Tiruchirappalli (59). Nineteen forest divisions reported fewer than ten cases. A total of 445 wildlife roadkill and train accidents were reported in 2024 (April to December), and 185 in 2025 (January to March).

6.1. Wild animal mortality caused by road and train accidents across Forest Divisions of Tamil Nadu

Roadkill incidents are an increasing concern in wildlife management and conservation, as they not only result in direct animal mortality but also reflect broader ecological challenges. It also poses a risk to the motorists. The data across forest divisions in Tamil Nadu for the period April 2024 to March 2025 shows varying levels of roadkill, with significant disparities among regions. A total of seven divisions, such as Masinagudi, Nagapattinam, Pollachi, Ramnad Wildlife Sanctuary, Thanjavur, Virudhunagar, and Udhagai, reported zero roadkill incidents during the study period. While this may indicate the kind of roads, terrain-type, low wild animal presence, low vehicular activity in wildlife-sensitive zones, effective preventive measures, or well-planned infrastructure, it could also suggest potential gaps in monitoring, reporting, or detection of incidents. Further investigation is recommended to determine whether these “nil” reports reflect genuine conservation success or limitations in surveillance and data collection efforts. Five divisions of the 47 divisions

accounted for over 42% of all recorded roadkill incidents, highlighting the critical areas where focused intervention is urgently required.

Table 1. Percentage of roadkills/ train accidents of wild animals across Forest Divisions of Tamil Nadu

Sl. No.	Forest Divisions	Total no. of wild animals killed in Roads/Railway Tracks	Percentage (%)
1	Ambasamudram	12	1.90
2	Ariyalur	19	3.02
3	Attur	4	0.63
4	Chengalpattu	23	3.65
5	Chennai	3	0.48
6	Chennai (WL)	5	0.79
7	Coimbatore	21	3.33
8	Cuddalore	20	3.17
9	Dharmapuri	17	2.70
10	Dindigul	67	10.63
11	Erode	4	0.63
12	Gudalur	3	0.48
13	Hassanur	1	0.16
14	Hosur	8	1.27
15	Kalakkad	1	0.16
16	Kanyakumari	10	1.59
17	Karur	7	1.11
18	Kodaikanal	2	0.32
19	Madurai	20	3.17
20	Masinagudi*	0	0.00
21	Megamalai	3	0.48
22	Nagapattinam*	0	0.00
23	Namakkal	2	0.32
24	Nilgiris	6	0.95
25	Perambalur	28	4.44
26	Pollachi	0	0.00
27	Pudukottai	7	1.11
28	Ramanathapuram	20	3.17
29	Ramnad(WL)*	0	0.00
30	Salem	14	2.22
31	Sathyamangalam	1	0.16
32	Sivagangai	35	5.56
33	Srivilliputhur	75	11.90
34	Thanjavur*	0	0.00
35	Theni	23	3.65
36	Thiruvarur	4	0.63
37	Thoothukudi	17	2.70
38	Tiruchirappalli	59	9.37
39	Tirunelveli	29	4.60

40	Tirupattur	8	1.27
41	Tiruppur	2	0.32
42	Tiruvallur	1	0.16
43	Tiruvannamalai	16	2.54
44	Udhagai*	0	0.00
45	Vellore	16	2.54
46	Villupuram	17	2.70
47	Virudhunagar*	0	0.00

* Reports received as "Nil"

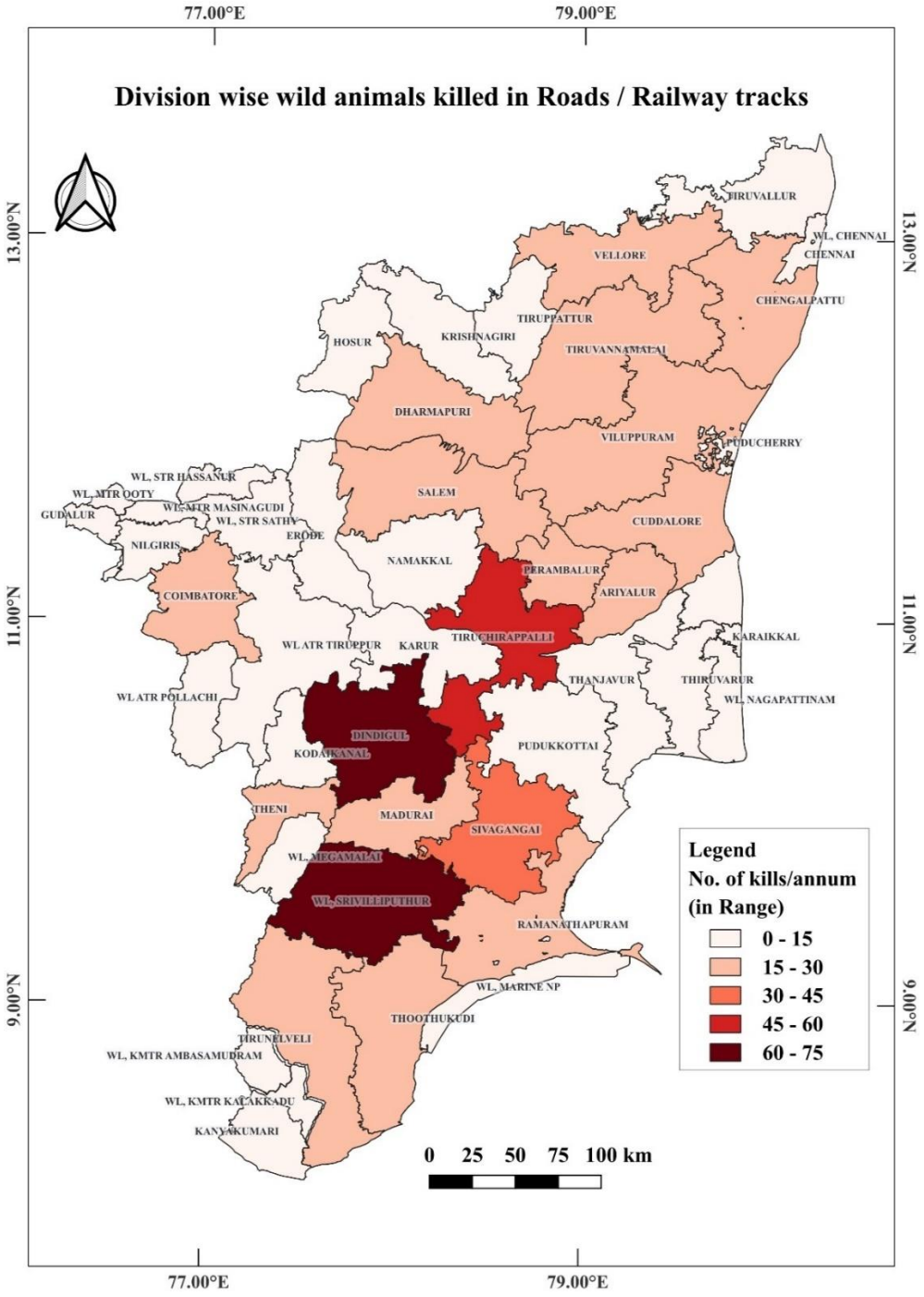

Figure 3. Roadkills/train accidents involving wild animals across Forest Divisions

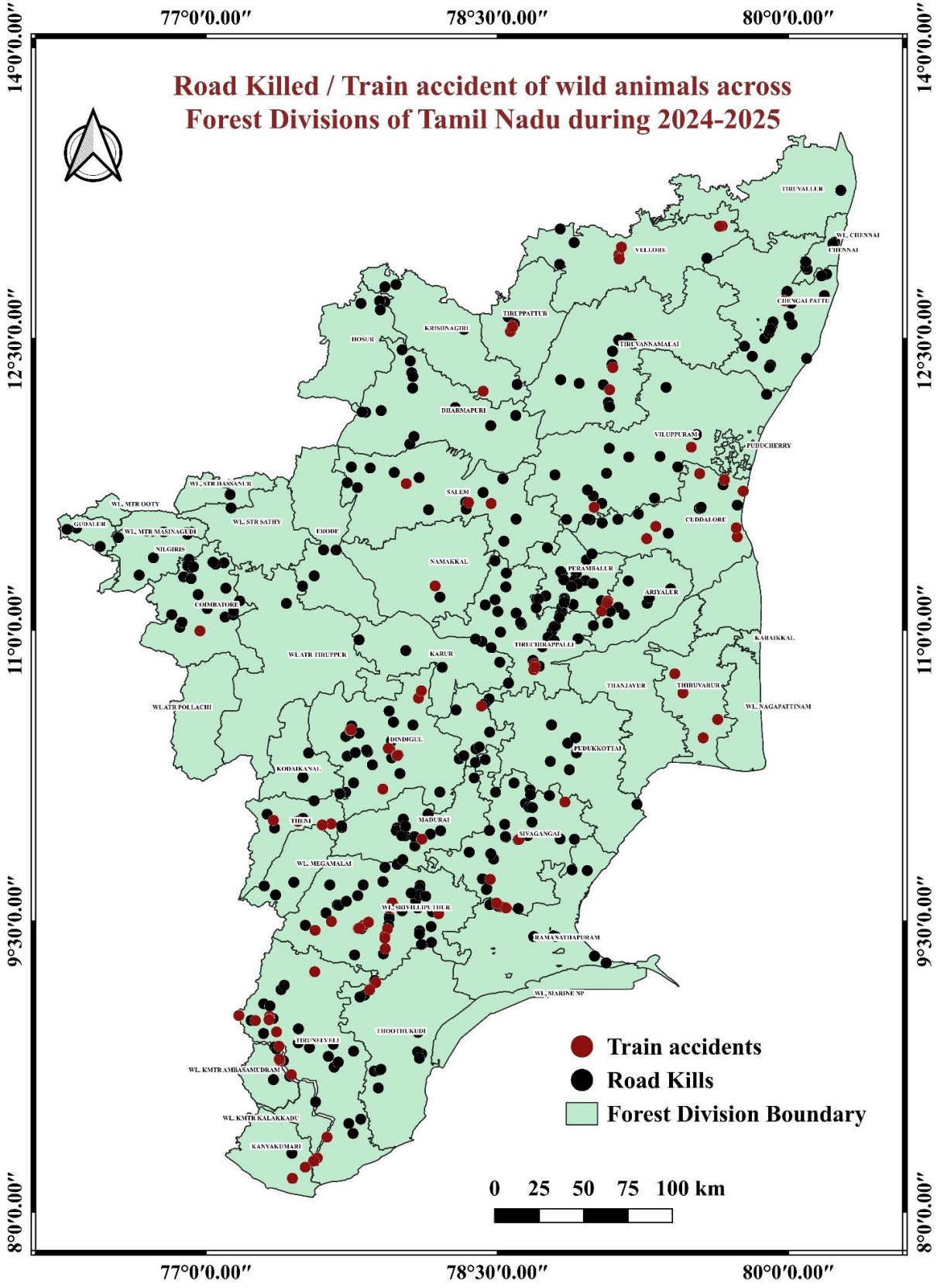

Figure 4. Map showing the locations of wild animals killed due to roadkill and train accidents across Forest Divisions in Tamil Nadu

6.2. Wild animal mortality caused by road and train accidents in top five Forest divisions

Five divisions, such as Srivilliputhur, Dindigul, Tiruchirappalli, Sivagangai, and Tirunelveli, collectively account for 265 roadkill cases—42.06 % of the total roadkill—making them critical zones for targeted intervention. Among them, Srivilliputhur reported the highest number of cases, indicating considerable vehicular activity across ecologically vulnerable areas and/or poor road safety standards, inadequate mitigating facilities such as animal crossings and road signage.

Table 2. Overall percentage of roadkills/train accidents of wild animals in top five Forest Divisions across Tamil Nadu

Sl. No.	Forest Divisions	No. of wild animals killed in roads/railway tracks	Percentage of roadkills/train accidents of wild animals
1	Srivilliputhur	75	11.9
2	Dindigul	67	10.6
3	Tiruchirappalli	59	9.4
4	Sivagangai	35	5.6
5	Tirunelveli	29	4.6

Table 3. Percentage of the wild animal mortality by roadkillsand by train accidents (separately) in top five Forest Divisions across Tamil Nadu

Sl. No.	Forest Divisions	Trainaccidents	Percentage (%)	Forest Divisions	Road kills	Percentage (%)
1	Dindigul	46	22.2	Srivilliputhur	43	10.1
2	Srivilliputhur	32	15.4	Tiruchirappalli	42	9.9
3	Tiruchirappalli	17	8.2	Sivagangai	31	7.3
4	Tirunelveli	10	4.8	Dindigul	21	4.9
5	Sivagangai	4	1.9	Tirunelveli	19	4.4

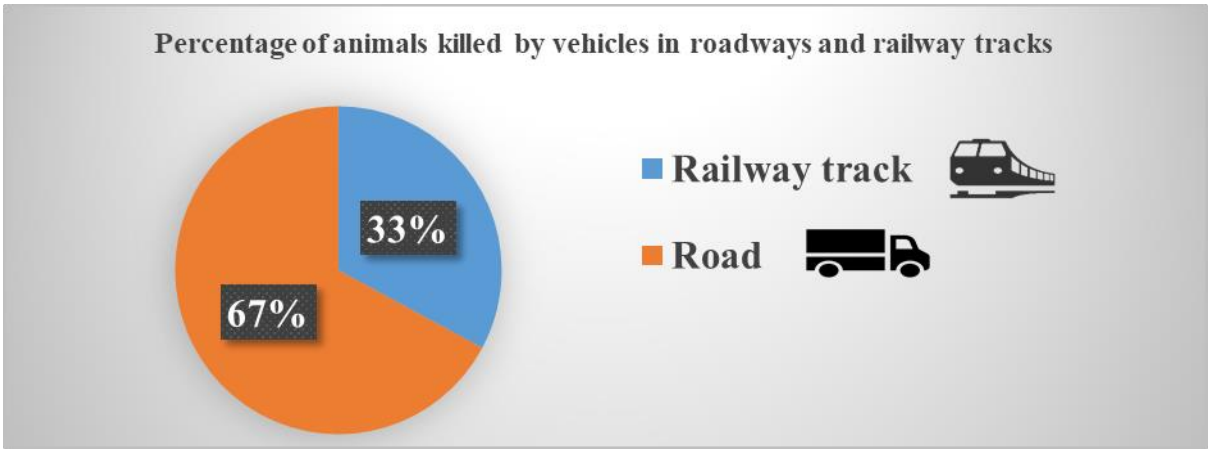

Figure 5. Percentage of animals killed by vehicles in roadways and railway tracks

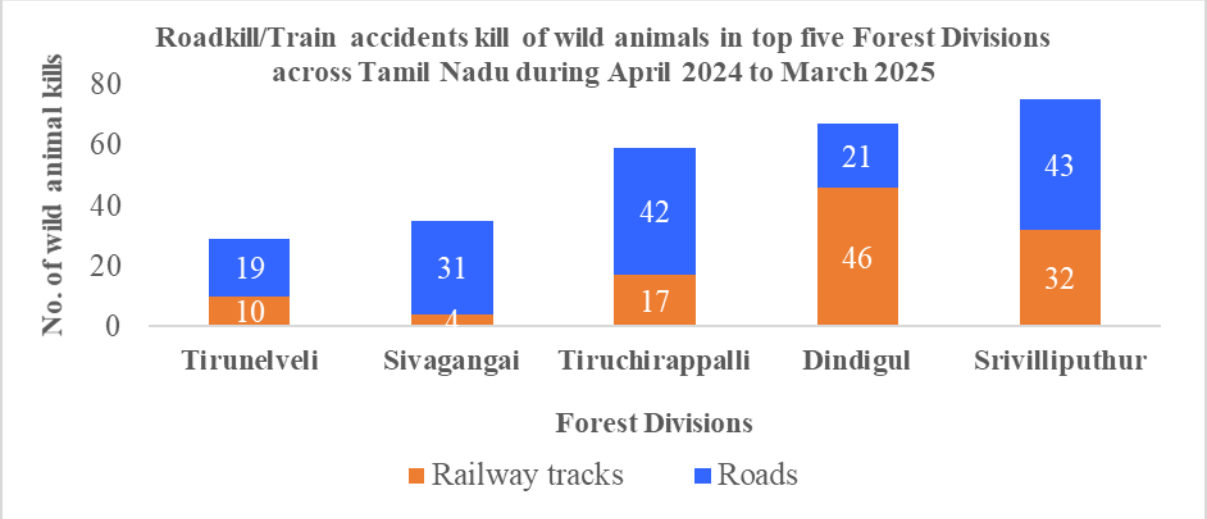

Figure 6. Roadkills/Train accidents of wild animals in top five Forest Divisions across Tamil Nadu during April 2024 to March 2025

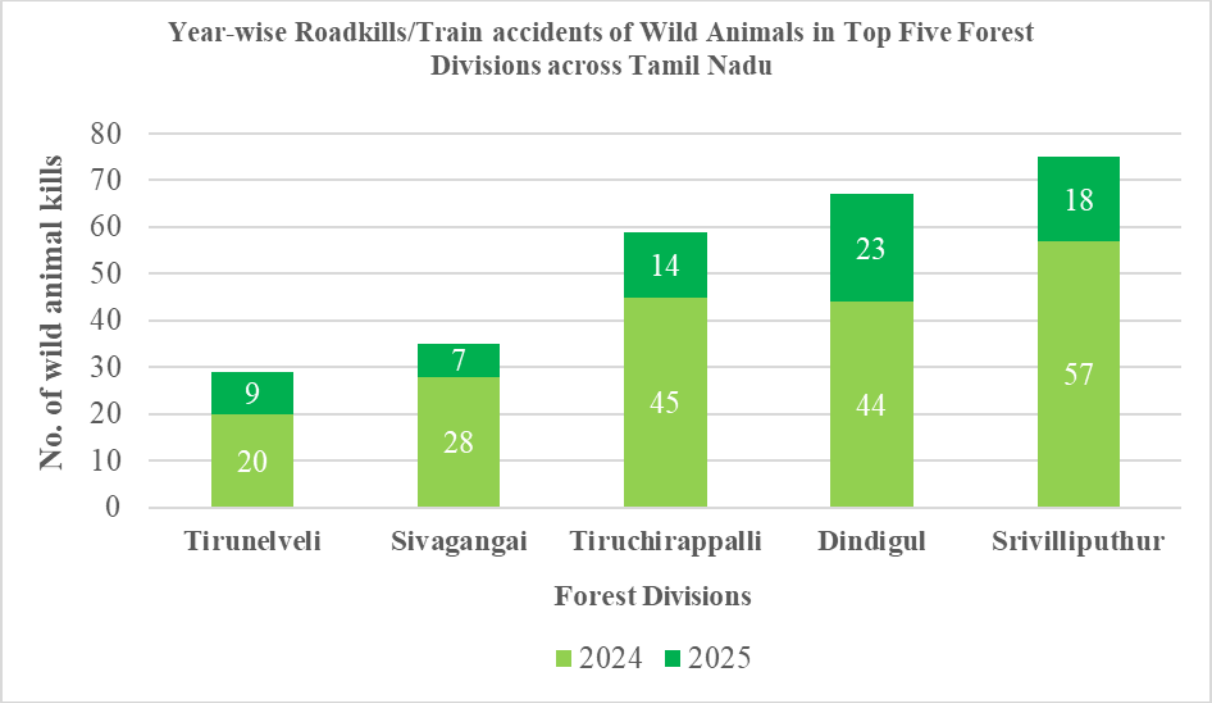

Figure 7. Year-wise roadkills/train accidents of wild animals in top five Forest Divisions across Tamil Nadu

Figure 8. Post-mortem of road-killed Spotted Deer & Porcupine at Coimbatore Range by the Forest Officials

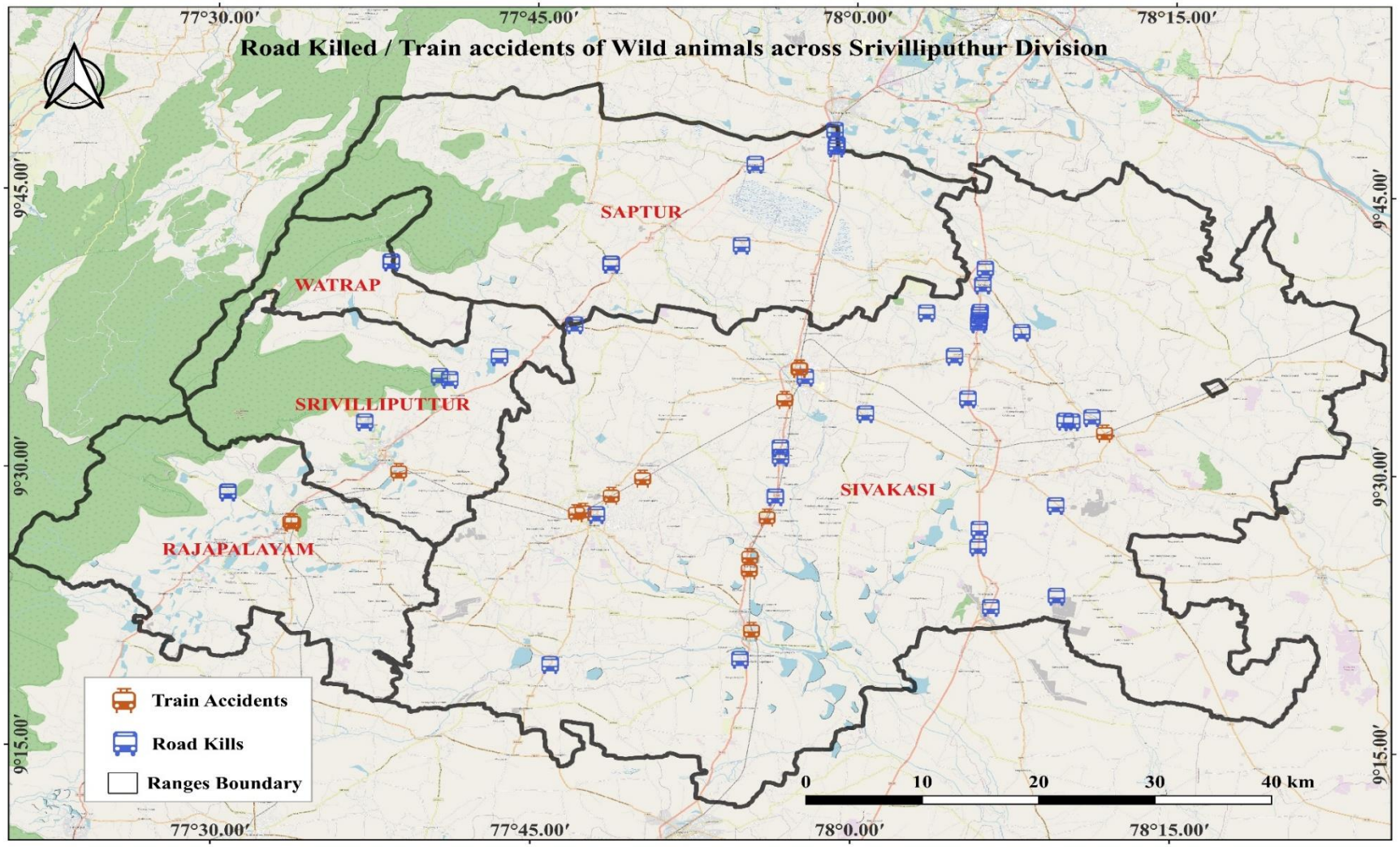

Figure 9. Map showing the roadkills/train accidents of wild animals across Forest Ranges of Srivilliputhur Division

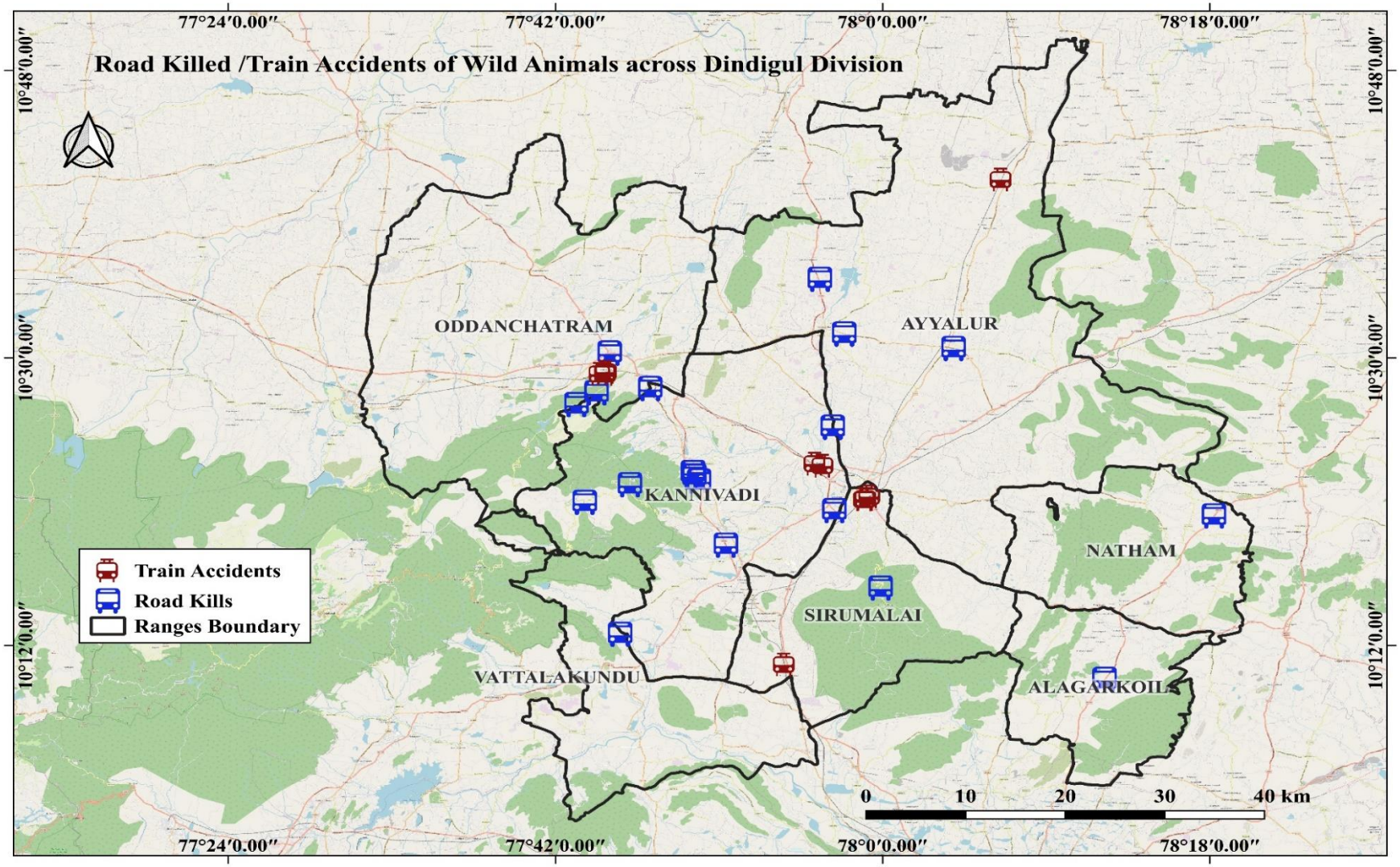

Figure 10. Map showing the roadkills/train accidents of wild animals across Forest Ranges of Dindigul Division

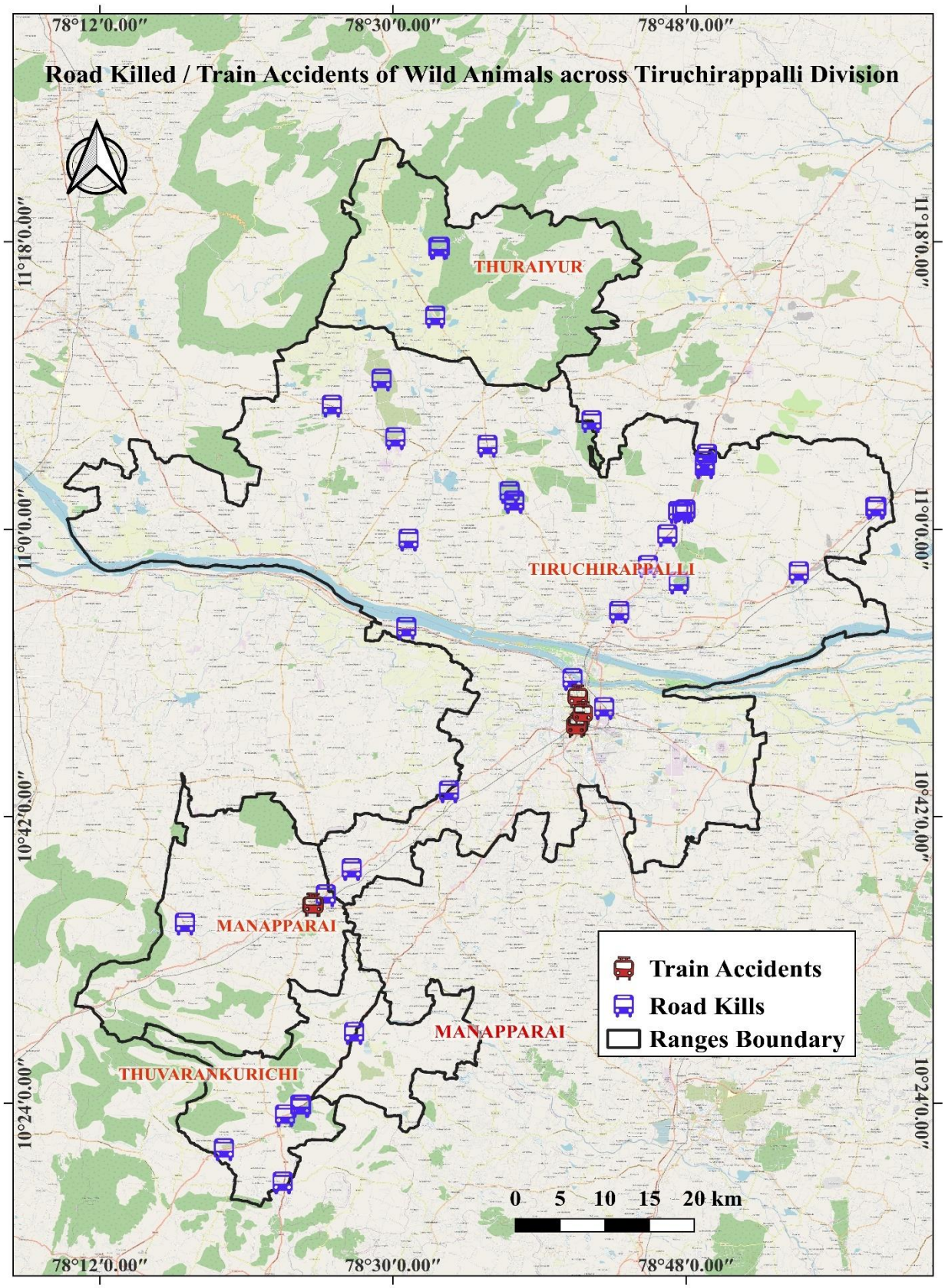

Figure 11. Map showing the roadkills/train accidents of wild animals across Forest Ranges of Tiruchirappalli Division

6.3. Monthly analysis of wild animal mortality caused by road and train accidents

The roadkill data recorded over the twelve-month period from April 2024 to March 2025 reveals a total of 630 incidents, showing significant month-to-month variations. The highest number of cases were reported in March 2025 (81), followed by May 2024 (78). An average of 52.5 roadkill events were reported per month during the study period.

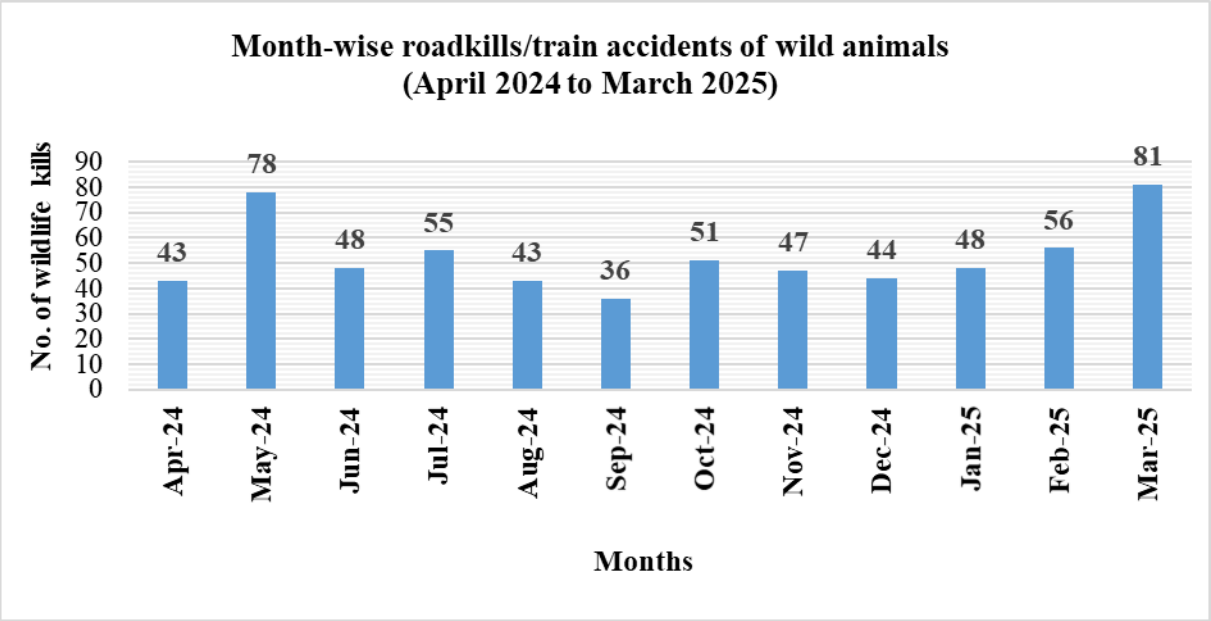

Figure 12. Month-wise roadkills/train accidents of wild animals (April 2024 to March 2025)

6.4. Species analysis of wild animals mortality due to road/train accidents

Based on data from the Forest Divisions, 28 species of wild animals belong to the Class: Mammalia (21 species) have been killed on roads or railway tracks, followed by Aves (4 species) and Reptiles (3 species). While most species were affected by road collisions, only four species – Indian Peafowl, sambar deer, spotted deer and wild pig were recorded in train related fatalities. Spotted deer (43.17%) were most frequently killed in road or train accidents, followed by Indian peafowl (35.56%), wild pig (6.67%), and bonnet macaque (3.65%). Spotted deer accounted for the highest number of roadkill cases, whereas the Indian peafowl was the most common species killed on railway tracks. The Sambar deer was unique in being reportedly equally involved in both road and train accidents. According to the IUCN Red List, some species killed by roads/train accidents are listed under the Threatened

category. The Tiger, *Panthera tigris*, falls under "***Endangered***" category and it was killed by a road accident in Nilgiris Division. Species such as the Bonnet Macaque (*Macaca radiata*), Indian Gaur (*Bos gaurus*), Leopard (*Panthera pardus*), Sambar Deer (*Rusa unicolor*), and Sloth Bear (*Melursus ursinus*) are listed under the "***Vulnerable***" category. As of yet, the IUCN Red List has not been assessed the status of barking deer (*Muntiacus malabaricus*). All 28 species (23 sp. falls under Schedule-I category and 5 sp. falls under Schedule-IIcategory) protected under the Wildlife (Protection) Act, 1972.

Table 4. List of wild animals killed on roads/railway tracks and their percentage

Sl. No.	Name of the Wild animal	Train Kills	Road Kills	Total	Percentage (%)
1	Asian Palm Civet	0	2	2	0.32
2	Bare-bellied Hedgehog	0	1	1	0.16
3	Barking Deer	0	1	1	0.16
4	Bengal Fox	0	2	2	0.32
5	Blackbuck	0	3	3	0.48
6	Black-headed Ibis	0	1	1	0.16
7	Bonnet Macaque	0	23	23	3.65
8	Common Barn Owl	0	1	1	0.16
9	Grizzled Giant Squirrel	0	2	2	0.32
10	Mouse Deer	0	2	2	0.32
11	Indian Crested Porcupine	0	5	5	0.79
12	Indian Eagle-Owl	0	1	1	0.16
13	Indian Gaur	0	8	8	1.27
14	Indian Grey Mongoose	0	2	2	0.32
15	Indian Hare	0	1	1	0.16
16	Indian Peafowl	159	65	224	35.56
17	Indian Rock Python	0	2	2	0.32
18	Jackal	0	1	1	0.16
19	Leopard	0	1	1	0.16
20	Leopard Cat	0	1	1	0.16
21	Monitor Lizard	0	2	2	0.32
22	Red Sand Boa	0	1	1	0.16
23	Sambar Deer	10	10	20	3.17
24	Sloth Bear	0	2	2	0.32
25	Small Indian Civet	0	6	6	0.95
26	Spotted Deer	36	236	272	43.17
27	Tiger	0	1	1	0.16
28	Wild Pig	2	40	42	6.67
	Total	**207**	**423**	**630**	**-**

Table 5. List of species killed on roads/railway tracks and their classification

Sl. No.	English Common Name	Tamil Common Name	Scientific Name	Class	Order	Family
1	Asian Palm Civet	ஆசியமரநாய்	*Paradoxurus hermaphroditus*	Mammalia	Carnivora	Viverridae
2	Bare-bellied Hedgehog	வெற்றுவயிற்றுமுள்ளெலி	*Paraechinus nudiventris*	Mammalia	Eulipotyphla	Erinaceidae
3	Barking Deer	கேளையாடு	*Muntiacus malabaricus*	Mammalia	Artiodactyla	Cervidae
4	Bengal Fox	வங்காநரி	*Vulpes bengalensis*	Mammalia	Carnivora	Canidae
5	Blackbuck	வெளிமான்	*Antilope cervicapra*	Mammalia	Artiodactyla	Bovidae
6	Bonnet Macaque	நாட்டுக்குரங்கு	*Macaca radiata*	Mammalia	Primates	Cercopithecidae
7	Grizzled Giant Squirrel	பழுப்புமலைஅணில்	*Ratufa macroura*	Mammalia	Rodentia	Sciuridae
8	Indian Chevrotain / Mouse Deer	எலிமான் / சருகுமான்	*Moschiola indica*	Mammalia	Artiodactyla	Tragulidae
9	Indian Crested Porcupine	முள்ளம்பன்றி	*Hystrix indica*	Mammalia	Rodentia	Hystricidae
10	Indian Gaur	காட்டுமாடு	*Bos gaurus*	Mammalia	Artiodactyla	Bovidae
11	Indian Grey Mongoose	சாம்பல்நிறகீரிப்பிள்ளை	*Urva edwardsii*	Mammalia	Carnivora	Herpestidae
12	Indian Hare	கருப்புகழுத்துகுழிமுயல்	*Lepus nigricollis*	Mammalia	Lagomorpha	Leporidae
13	Jackal	குள்ளநரி	*Canis aureus*	Mammalia	Carnivora	Canidae
14	Leopard	சிறுத்தை	*Panthera pardus*	Mammalia	Carnivora	Felidae
15	Leopard Cat	சிறுத்தைப்பூனை	*Prionailurus bengalensis*	Mammalia	Carnivora	Felidae
16	Sambar Deer	சாம்பார்மான் / கடமான்	*Rusa unicolor*	Mammalia	Artiodactyla	Cervidae
17	Sloth Bear	தேன்கரடி / சிறுகரடி	*Melursus ursinus*	Mammalia	Carnivora	Ursidae
18	Small Indian Civet	இந்தியசிறியபுனுகுப்பூனை	*Viverricula indica*	Mammalia	Carnivora	Viverridae
19	Spotted Deer / Cheetal	புள்ளிமான்	*Axis axis*	Mammalia	Artiodactyla	Cervidae
20	Tiger	புலி	*Panthera tigris*	Mammalia	Carnivora	Felidae
21	Wild Pig	காட்டுப்பன்றி	*Sus scrofa cristatus*	Mammalia	Artiodactyla	Suidae
22	Indian Rock Python	இந்தியமலைப்பாம்பு	*Python molurus*	Reptilia	Squamata	Pythonidae
23	Monitor Lizard / Bengal Monitor	வங்காளஉடும்பு	*Varanus bengalensis*	Reptilia	Squamata	Varanidae
24	Red Sand Boa	மண்ணுளிபாம்பு	*Eryx johnii*	Reptilia	Squamata	Erycidae
25	Black-headed Ibis	வெள்ளைஅரிவாள்மூக்கன்	*Threskiornis melanocephalus*	Aves	Pelecaniformes	Threskiornithidae

26	Common Barn Owl	கூகை ஆந்தை	*Tyto alba*	Aves	Strigiformes	Tytonidae
27	Indian Eagle-Owl	கொம்பன் ஆந்தை	*Bubo bengalensis*	Aves	Strigiformes	Strigidae
28	Indian Peafowl	மயில்	*Pavo cristatus*	Aves	Galliformes	Phasianidae

Table 6. Threatened status (as per IUCN) and protected status (as per Wildlife (Protection) Act, 1972) of species killed in roads and railway tracks

Sl. No.	English Common Name	Scientific Name	IUCN Status	WPA status
1	Tiger	*Panthera tigris*	Endangered ↓	SCHEDULE — I
2	Bonnet Macaque	*Macaca radiata*	Vulnerable ↓	SCHEDULE — I
3	Indian Gaur	*Bos gaurus*	Vulnerable ↓	SCHEDULE — I
4	Leopard	*Panthera pardus*	Vulnerable ↓	SCHEDULE — I
5	Sambar Deer	*Rusa unicolor*	Vulnerable ↓	SCHEDULE — I
6	Sloth Bear	*Melursus ursinus*	Vulnerable ↓	SCHEDULE — I
7	Indian Rock Python	*Python molurus*	Near Threatened ↓	SCHEDULE — I
8	Monitor Lizard / Bengal Monitor	*Varanus bengalensis*	Near Threatened ↓	SCHEDULE — I
9	Red Sand Boa	*Eryx johnii*	Near Threatened ↓	SCHEDULE — I
10	Grizzled Giant Squirrel	*Ratufa macroura*	Near Threatened ↓	SCHEDULE — I
11	Indian Crested Porcupine	*Hystrix indica*	Least Concern ↔	SCHEDULE — I
12	Indian Grey Mongoose	*Urva edwardsii*	Least Concern ↔	SCHEDULE — I
13	Leopard Cat	*Prionailurus bengalensis*	Least Concern ↔	SCHEDULE — I
14	Small Indian Civet	*Viverricula indica*	Least Concern ↔	SCHEDULE — I
15	Common Barn Owl	*Tyto alba*	Least Concern ↔	SCHEDULE — I
16	Indian Peafowl	*Pavo cristatus*	Least Concern ↔	SCHEDULE — I
17	Asian Palm Civet	*Paradoxurus hermaphroditus*	Least Concern ↓	SCHEDULE — I
18	Bengal Fox	*Vulpes bengalensis*	Least Concern ↓	SCHEDULE — I
19	Indian Eagle-Owl	*Bubo bengalensis*	Least Concern ↓	SCHEDULE — I
20	Jackal	*Canis aureus*	Least Concern ↑	SCHEDULE — I

21	Black-headed Ibis	*Threskiornis melanocephalus*	Least Concern ↑	SCHEDULE — II
22	Bare-bellied Hedgehog	*Paraechinusnudiventris*	Least Concern ??	SCHEDULE — II
23	Blackbuck	*Antilope cervicapra*	Least Concern ??	SCHEDULE — I
24	Indian Chevrotain / Mouse Deer	*Moschiola indica*	Least Concern ??	SCHEDULE — I
25	Indian Hare	*Lepus nigricollis*	Least Concern ??	SCHEDULE — II
26	Spotted Deer / Cheetal	*Axis axis*	Least Concern ??	SCHEDULE — II
27	Wild Pig	*Sus scrofacristatus*	Least Concern ??	SCHEDULE — II
28	Barking Deer	*Muntiacus malabaricus*	Not Evaluated	SCHEDULE — I

Population trend as per IUCN:↓- decreasing; ?? - unknown; ↔ - stable; ↑- increasing

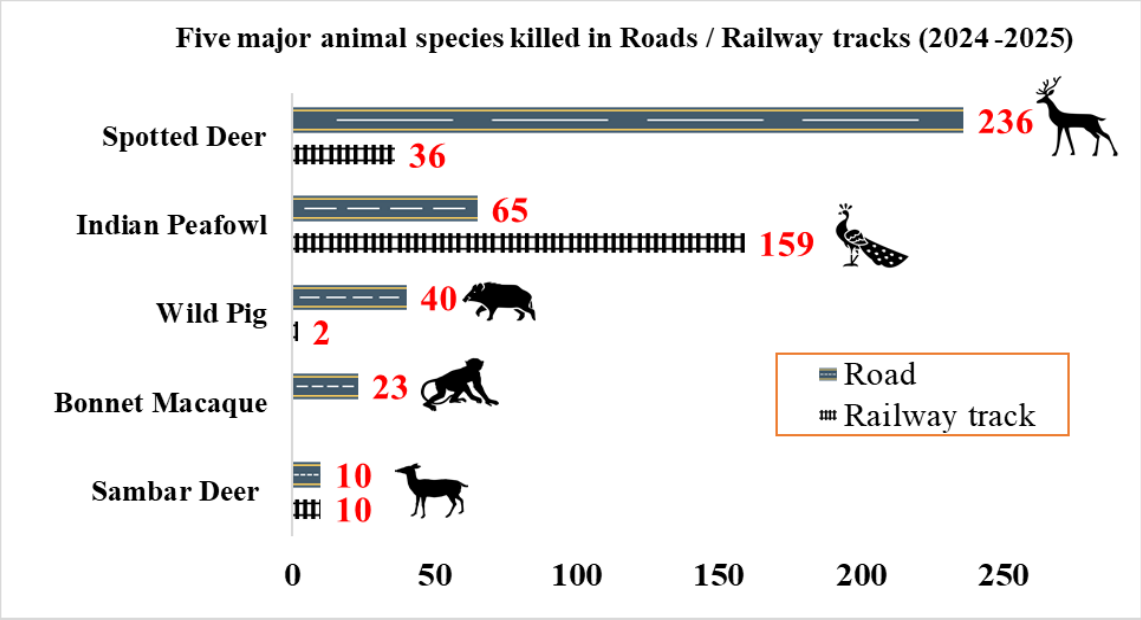

Figure 13. Top five animal species killed in roads and railway tracks

6.5. Types of roads/railway tracks-based analysis of wild animal mortality

The road network in Tamil Nadu comprises Expressways, National Highways (NH), State Highways (SH), Major District Roads (MDR), Other District Roads (ODR), and Village Roads. The total length of the NH network increased almost 60% in the last 10 years, and currently, many single-lane roads have been upgraded to 'two-lane' and 'four-lane' roads in every state and district in India. Tamil Nadu also noticeably increased the number of roads and improved its structure, with a total length of 74,955 km as of Dec 2024, of which 6,805 km are NH, 12,625 km are SH, 11,994 km are MDR, and 43,531 km are ODR. Some of these roads have been undertaken for upgradation to four lanes and two lanes. The density of the road network in Tamil Nadu is higher than the national average, which indicates a well-developed road infrastructure in the State. In respect of the rail network, Tamil Nadu has a well-developed rail network as part of Southern Railway with 4,033 km of total route length and 7,130 km of track length, making it one of the best-developed rail networks in the country.

Several roads and railway tracks intersect protected areas, reserved forests, and designated animal corridors, creating significant challenges for natural movement of wild animals. Wild animals often cross this linear infrastructure, particularly in search of food, water, mates, and escape from predators. Hence, roads and railway tracks act as physical and ecological barriers, disrupting natural movement patterns and altering animal behaviour. Such disruptions can not only increase the risk of accidents but also cause long-term habitat fragmentation.

Table 7. Percentage of roadkills in various types of roads in Tamil Nadu

Sl. No.	Type of Road	No. of Roadkills	Percentage (%)
1	National Highways (NH)	172	40.66
2	State Highways (SH)	102	24.11
3	Major District Roads (MDR)	55	13.00
4	Other District Roads (ODR)	59	13.95
5	Village Roads	18	4.26
6	City Roads	9	2.13
7	Ghat Roads	8	1.89

Table 8. Percentage of train accidents in various types of railway tracks in Tamil Nadu

Sl. No.	Type of Railway track	No. of train accidents	Percentage (%)
1	Broad Gauge	206	99.52
2	Meter Gauge	1	0.48
3	Narrow Gauge	0	0

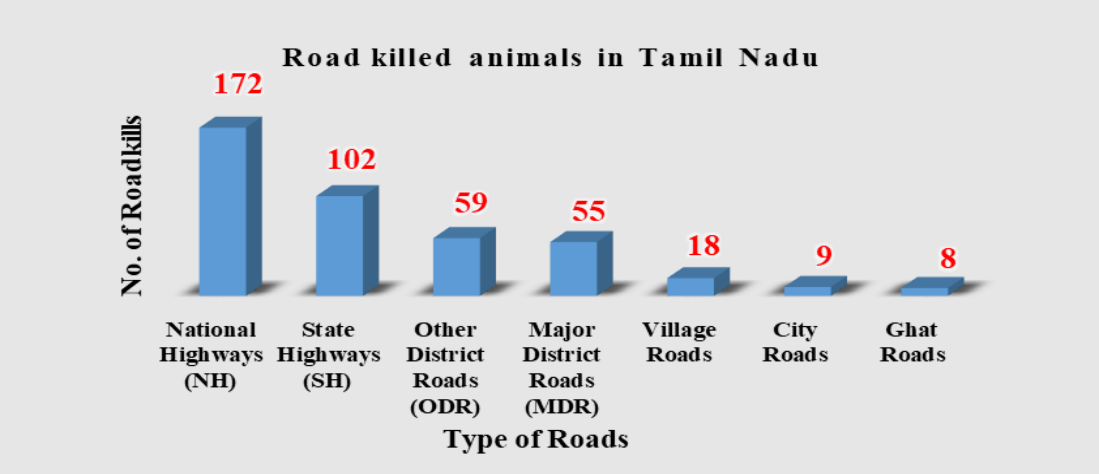

Figure 14. Number of roadkills in various types of roads

Analysis of the data shows that roadkills account for 67% of incidents, while train accidents account for 33% of incidents. The majority of roadkills were observed on national highways (40.66%), followed by state highways (24.11%) among various road types/classifications. Almost 99% of train accidents occurred on broad-gauge tracks rather than meter gauge or narrow-gauge tracks. Among 30 national highways, the NH-38 recorded the highest number of roadkill, followed by NH-44, NH-87, and NH-32. Similarly, among 59 state highways, the highest number of roadkill was recorded in SH-62, followed by SH-37. Among various major district roads, the highest number of roadkills was observed in MDR-903. Other District Roads (59 nos.) have more roadkill records than Major District Roads (55 nos.). The majority of wild animal kills occurred when the roads and railway tracks intersected the Reserved Forests or other wildlife habitats. A total of 145 records of animal mortality due to train accidents have been reported by loco pilots to forest officials whenever the train reaches the nearby railway station, and 62 reports of wildlife mortality from railway tracks have been directly documented by forest officials. These incidents highlight a critical and growing concern in wildlife conservation, particularly in areas where railway tracks intersect animal habitats and corridors.

Table 9. Number of roadkills in different types of National Highways

National Highways (NH)	No. of Roadkills
NH-38	38
NH-44	20
NH-87	11
NH-32	10
NH-85	9
NH-136	8
NH-36	8
NH-181	6
NH-383	6
NH-81	6
NH-844	6
NH-83	5
NH-138	4
NH-785	4
NH-183	3
NH-48	3
NH-532	3
NH-744	3
NH-77	3
NH-79	3
NH-536	2
NH-544	2
NH-948	2
NH-132	1
NH-179A	1
NH-179B	1
NH-207	1
NH-332A	1
NH-381B	1
NH-544H	1
Total	**172**

Table 10. Number of roadkills in different types of State Highways

State Highways (SH)	No. of Roadkills
SH-62	6
SH-37	5
SH-15	4
SH-9A	4
SH-142	3
SH-29	3
SH-39	3
SH-40	3
SH-115	2
SH-117	2
SH-134	2
SH-152	2
SH-154	2
SH-161	2
SH-167	2
SH-182	2
SH-184	2
SH-19A	2
SH-222	2
SH-257	2
SH-286	2
SH-30	2
SH-34	2
SH-41	2
SH-60	2
SH-68	2
SHU-144	2
SHU-97	2
SH-100	1
SH-102	1
SH-121	1
SH-127	1
SH-130	1
SH-137	1
SH-139	1
SH-164	1
SH-177	1
SH-178	1
SH-17A	1
SH-187	1
SH-18A	1
SH-199	1
SH-20A	1
SH-224	1
SH-236	1
SH-25	1
SH-287	1
SH-42	1
SH-45	1
SH-56	1
SH-60A	1
SH-70	1
SH-71	1
SH-73	1
SH-89	1
SH-9	1
SHU-101	1
SHU-146	1
SHU-75	1
Total	**102**

Table 11. Number of roadkills in different types of Major District Roads

Major District Roads (MDR)	No. of Roadkills
MDR-903	11
MDR-341	3
MDR-1044	2
MDR-194	2
MDR-300	2
MDR-387	2
MDR-581	2
MDR-777	2
MDR-951	2
MDR-1027	1
MDR-1142	1
MDR-1218	1
MDR-1230	1
MDR-1247	1
MDR-244	1
MDR-276	1
MDR-277	1
MDR-371	1
MDR-422	1
MDR-431A	1
MDR-44	1
MDR-455	1
MDR-594	1
MDR-663	1
MDR-712	1
MDR-713	1
MDR-789	1
MDR-806	1
MDR-810	1
MDR-811	1
MDR-86	1
MDR-912	1
MDR-914	1
MDR-944	1
MDR-953	1
MDR-995	1
Total	**55**

6.6. Age & Sex-wise analysis of mortality of wild animals caused by road/train accidents

The data revealed that adult animals accounted for the high proportion of road and train accident fatalities (43%), followed by young individuals (32%), while sub-adults were the least affected. Additionally, around 4 % of the roadkill reports were unable to determine the age category, therefore, they were categorized as "unknown". Among adults, females (49.68%) were involved in more roadkill records than males (44.60%). Immature animals were killed in small numbers (1.9%). Furthermore, 44 records failed to indicate the sex of the animals killed on the road. Notably, a tiger (*Panthera tigris*) cub was killed in the Nilgiris. The Spotted deer and Indian peafowl were the most commonly killed animals on the roads. In Spotted deer, males and females have more or less equal records of roadkills. On the other hand, Indian Peafowl females (Peahen) had the highest records (63.39%) than males, and there were no reports of young individuals in the roadkill data.

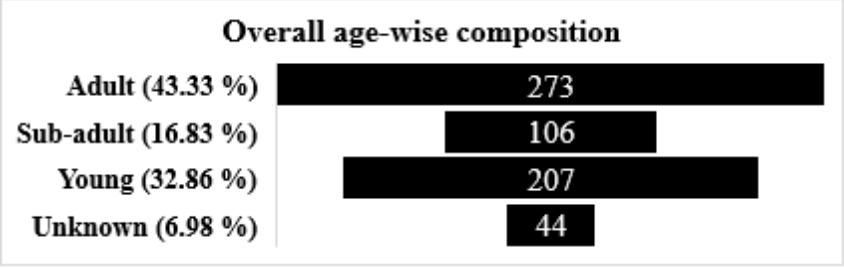

Figure 15. Overall age-wise composition of wild animals killed on roads/railway tracks

Table 12. Age & sex composition of Spotted Deer in roadkills

Age category	No. of roadkills	Percentage (%)
Adult	89	32.72
Sub-adult	63	23.16
Young	95	34.93
Unknown	25	9.19

Sex	No. of roadkills	Percentage (%)
Male	138	50.74
Female	125	45.96
Unknown	9	3.31

Table 13. Age & sex composition of Indian Peafowl in roadkills

Age category	No. of roadkills	Percentage (%)
Adult	129	57.59
Sub-adult	30	13.39
Young	53	23.66
Unknown	12	5.36

Sex	No. of roadkills	Percentage (%)
Male	76	33.93
Female	142	63.39
Unknown	6	2.68

6.7. Time of occurrence of wild animal mortality due to road and train accidents

Based on the available data, 61% of wildlife roadkill incidents occurred during the daytime, while 21% took place at night or late evening. For the remaining 18% of cases, the exact time of occurrences could not be recorded. In the case of train-related fatalities, most carcasses were reported after being brought to railway stations or junctions, meaning the exact time as well as location of the collision was often unknown. Majority of animals were killed by vehicles primarily in daytime because they are often out foraging, migrating, or crossing roads to meet their basic needs during this period, which is coincides with increased human activity and vehicle presence. Since many species are active during the day hours, there are more chances of interactions between vehicles and animals throughout the day.

Several other factors could contribute to this pattern:

- Increased daytime traffic volumes raise the likelihood of animal-vehicle collisions, especially in areas where roads intersect forest patches or lie near water sources.
- Diurnal species activity may play a role, with some wildlife species being more active during early morning or late afternoon hours, overlapping with peak traffic times.
- Better visibility during the daytime might lead to more accurate detection and reporting of roadkill incidents, whereas night-time events may often go unnoticed or unreported.
- Conversely, lower night-time traffic volume might reduce the number of potential collisions, even though many nocturnal species are active during this period.

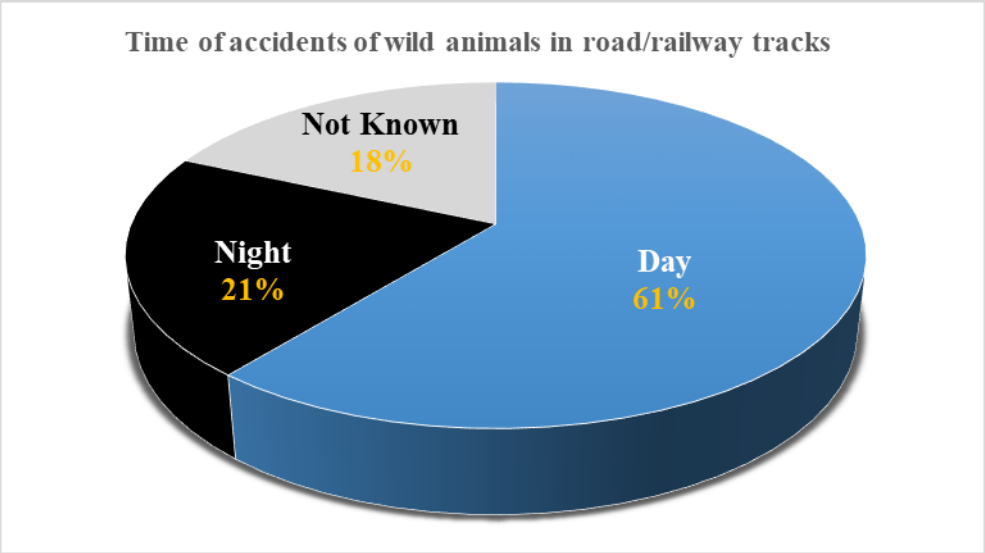

Figure 16. Percentage of time of incidence of roadkills/train accidents

This time-based distribution suggests the need for round-the-clock mitigation measures, with a focus on daytime driver awareness campaigns, speed control in wildlife-sensitive areas, and the installation of warning signage in known hotspots. Additionally, improving night-time road monitoring through the use of thermal cameras, motion sensor cameras or reflective animal signage could help detect and prevent underreporting of incidents during dark hours.

Figure 17. Wild animals/birds killed on roads/railway tracks

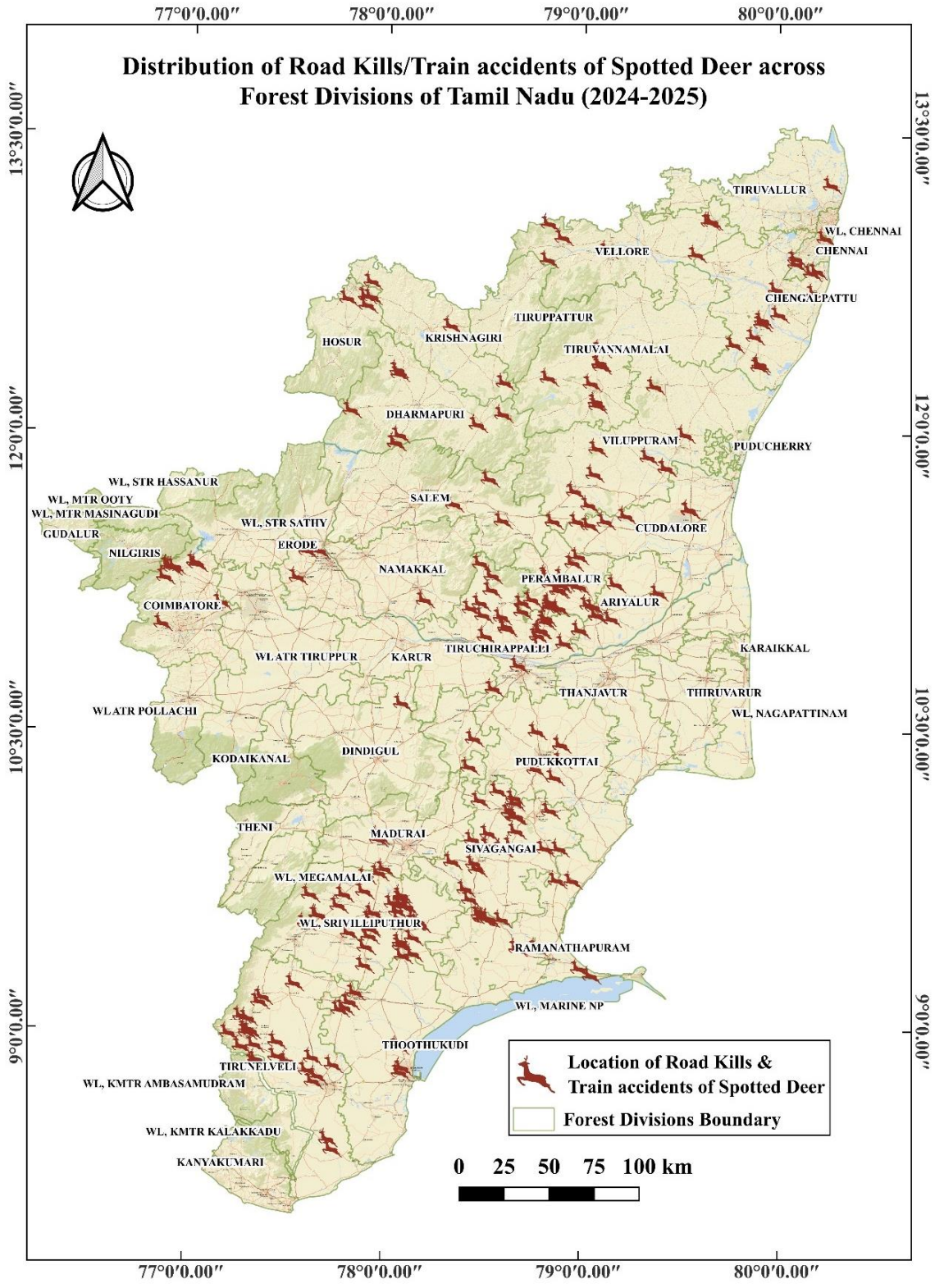

Figure 18. Map indicating the roadkill deaths of Spotted deer in Tamil Nadu Forest Divisions

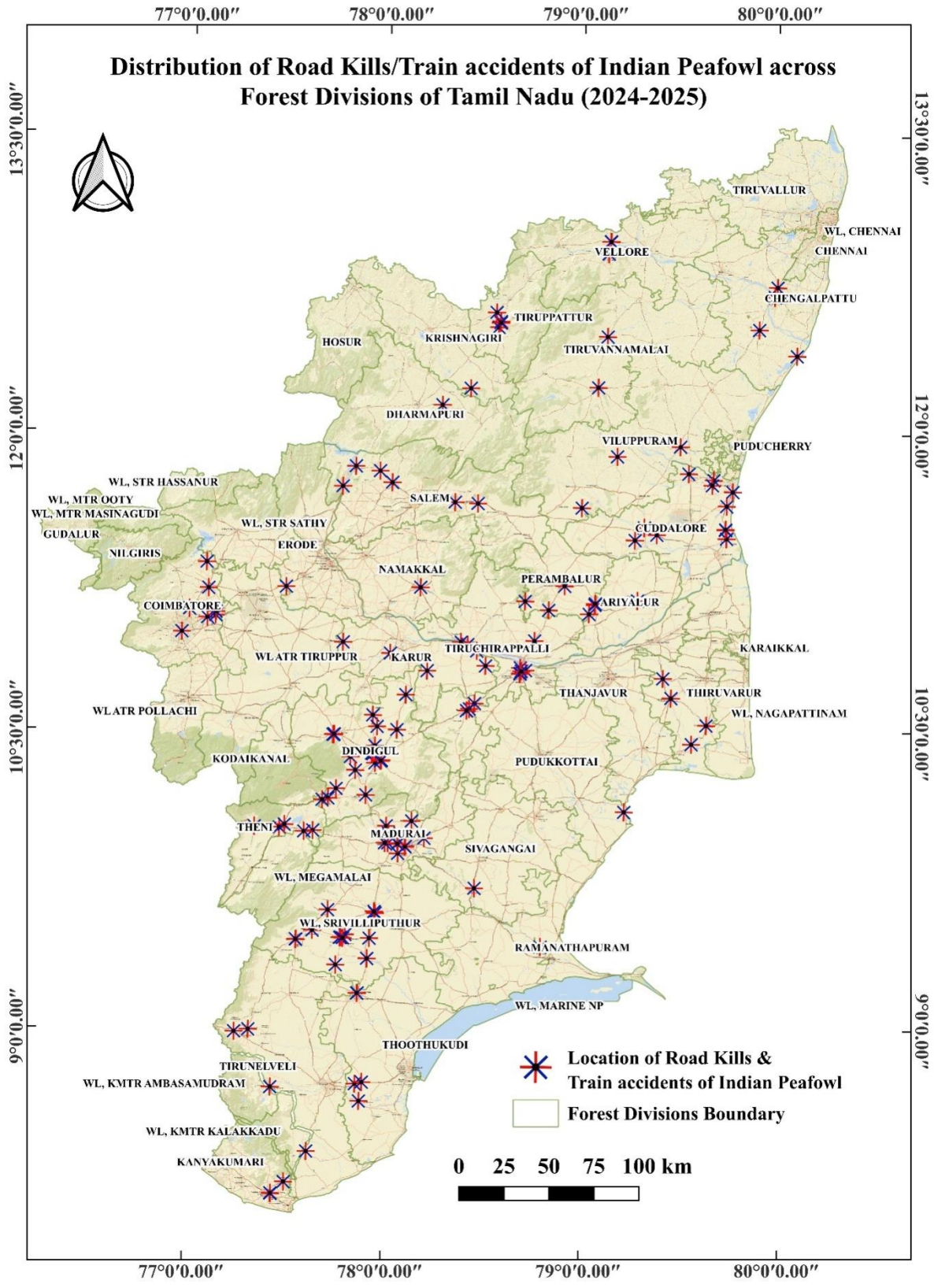

Figure 19. Map indicating the roadkill deaths of Indian Peafowl in Tamil Nadu Forest Divisions

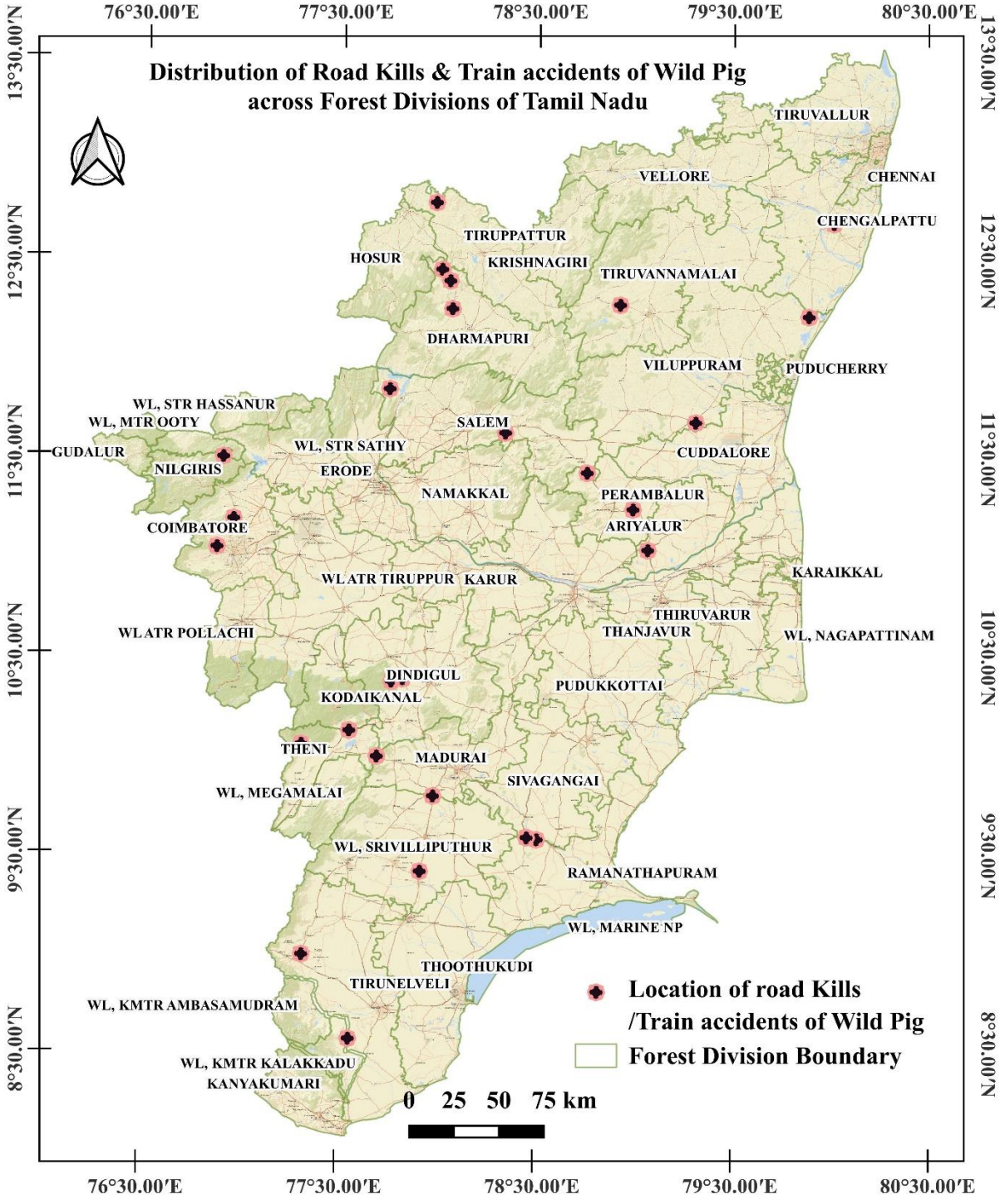

Figure 20. Map indicating the roadkill deaths of Wild Pig in Tamil Nadu Forest Divisions

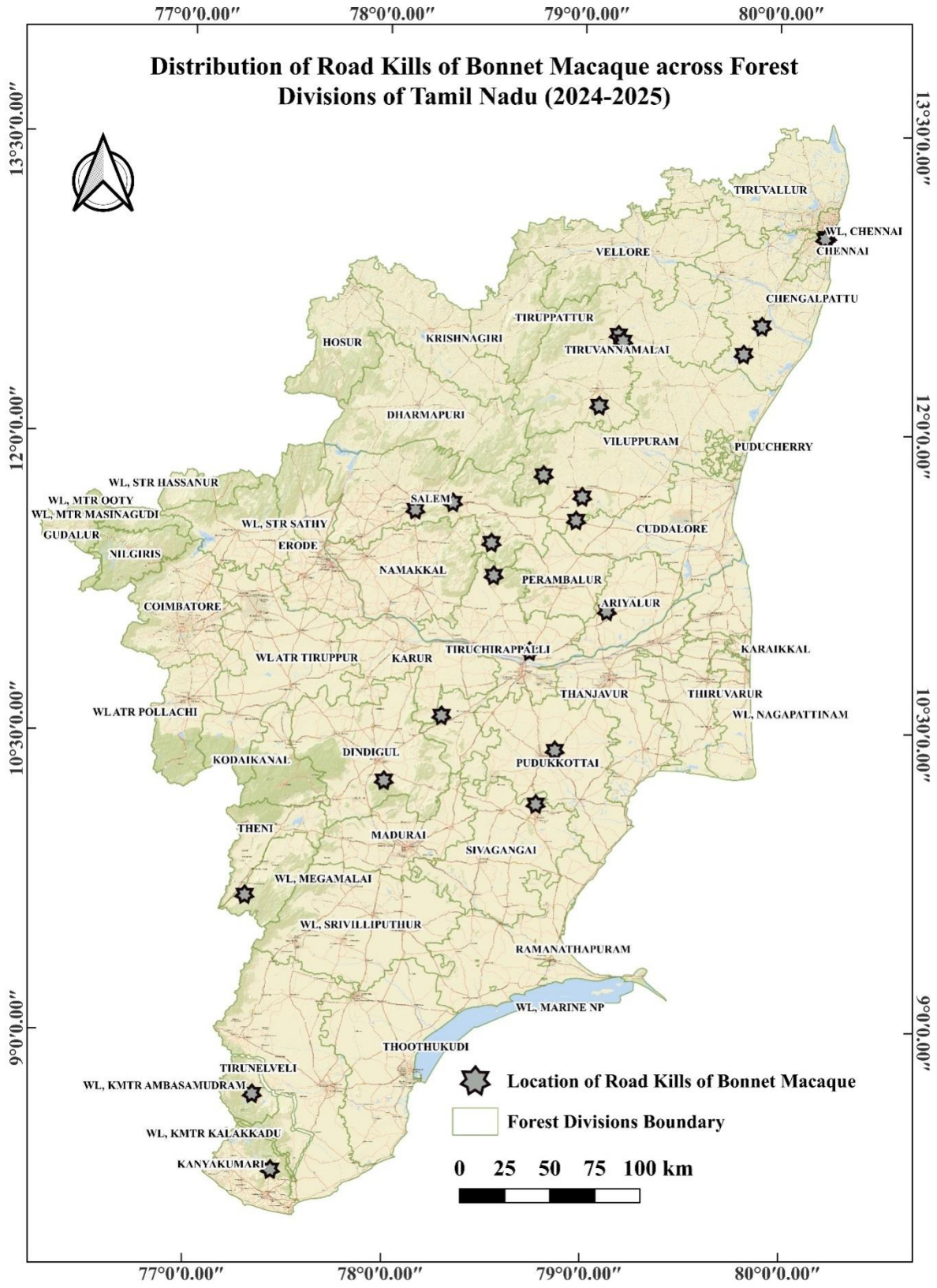

Figure 21. Map indicating the roadkill deaths of Bonnet macaque in Tamil Nadu Forest Divisions

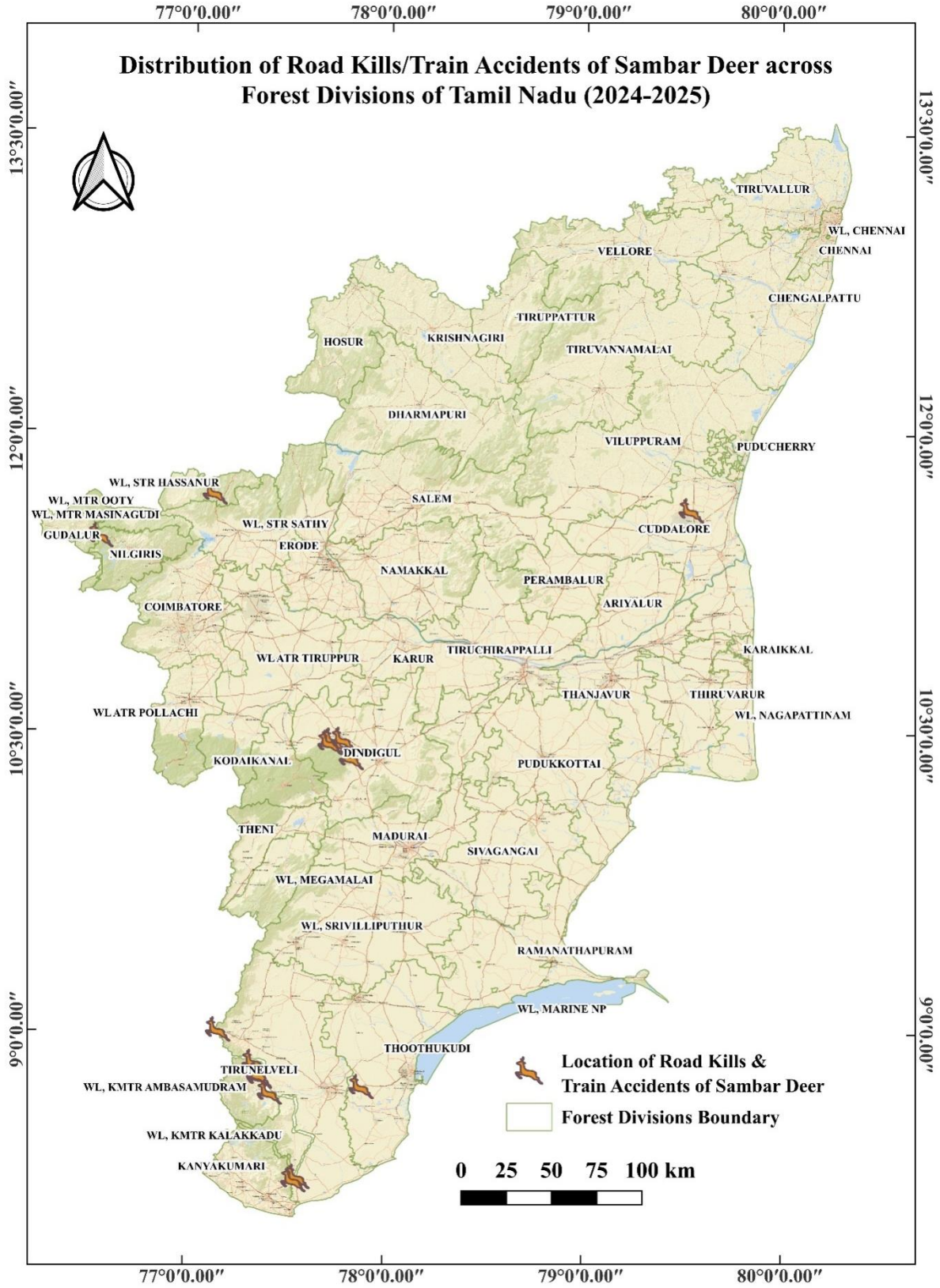

Figure 22. Map indicating the roadkill deaths of Sambar Deer in Tamil Nadu Forest Divisions

7. CONCLUSION

The overall roadkill data collected across various forest divisions of Tamil Nadu from April 2024 to March 2025 highlights significant threats to wildlife across different species (28 species) due to man-made infrastructure developments such as roads and railways. A total of 630 wild animal mortality cases were recorded, with over 42.06% concentrated in just five divisions—Srivilliputhur, Dindigul, Tiruchirappalli, Tirunelveli, and Sivagangai—indicating critical hotspots that require urgent conservation attention.

Remarkably, most of these incidents (65%) occurred during the daytime, which may reflect increased traffic, greater wild animal movement or other human-related factors. On the other hand, seven divisions—Masinagudi, Nagapattinam, Pollachi, Ramnad Wildlife Sanctuary, Thanjavur, Virudhunagar, and Udhagai—reported zero roadkill cases, which could either point to successful mitigation or reveal gaps in surveillance and reporting.

In addition to road-related incidents, 105 wildlife deaths due to train collisions were reported in five divisions, underlining the need for similar safety interventions along railway routes. These findings emphasise the importance of focused and location-specific mitigation strategies—such as installation of wildlife crossings, speed regulation in high-risk zones, better signage, and enhanced surveillance and data reporting systems. Proactive steps in these areas are critical to reduce wildlife mortality and protect Tamil Nadu’s rich biodiversity.

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9. ANNEXURES

Table 14. Template of roadkill data collection sheet circulated to the Forest Divisions of Tamil Nadu

Sl. No	Month	Circle	Division	Date	Animal species killed	Range	Beat	Geocoordinates	
								Lat	Long

Name or ID of road/ rail track	Approx. width of the road (in m)	Sex of animal (M/F)	Adult (A) / Subadult (S) / Young (Y)	Approx. Age if known	Type of vehicle involved in accident (if known)	Time of accident (If known) or Day/Night	Any other remarks

HIGHLIGHTS OF THE REPORT

630	Total number of **roadkill**records
28	Total number of **species**reported
40	Records received from the **divisions**

Type of mortality - No. of records

Roadkills **423**

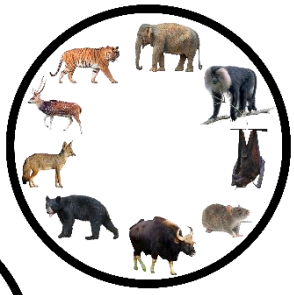
Train accidents **207**

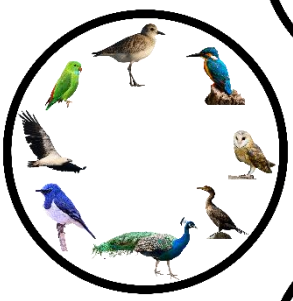
Top Five Divisions

Srivilliputhur	11.9 %
Dindigul	10.6 %
Tiruchirappalli	9.3 %
Sivagangai	5.5 %
Tirunelveli	4.6 %

Account for over **42.06%** of the total roadkill incidents

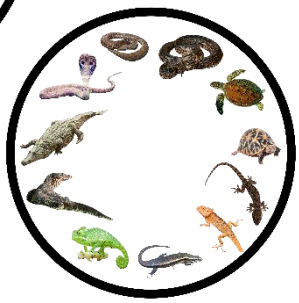
21 species of Mammals



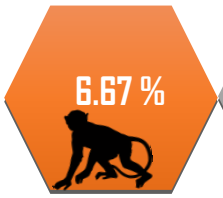


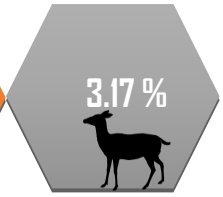
04 species of Birds

03 species of Reptiles

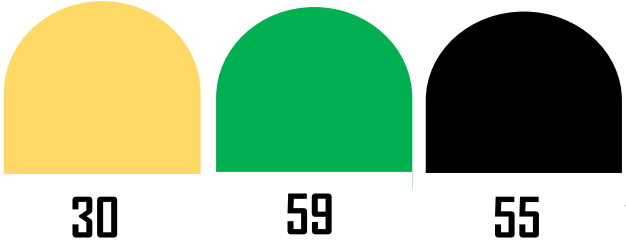


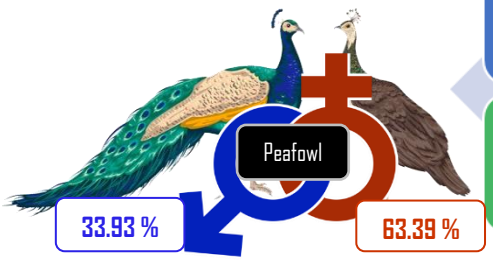
Top Five Road Killed Species





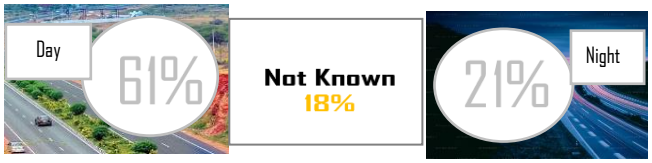
Status under the Wildlife [Protection] Act, 1972





SCHEDULE I	23 sp.
SCHEDULE II	05 sp.

NH-38	38	SH-62	6	MDR-903	11
NH-44	20	SH-37	5	MDR-341	3
NH-87	11	SH-15	4	MDR-1044	2
NH-32	10	SH-9A	4	MDR-194	2
NH-85	9	SH-142	3	MDR-300	2



Tamil Nadu Forest Department
Advanced Institute for Wildlife Conservation
(Research, Training & Education)

Contact

The Principal Chief Conservator of Forests & Director

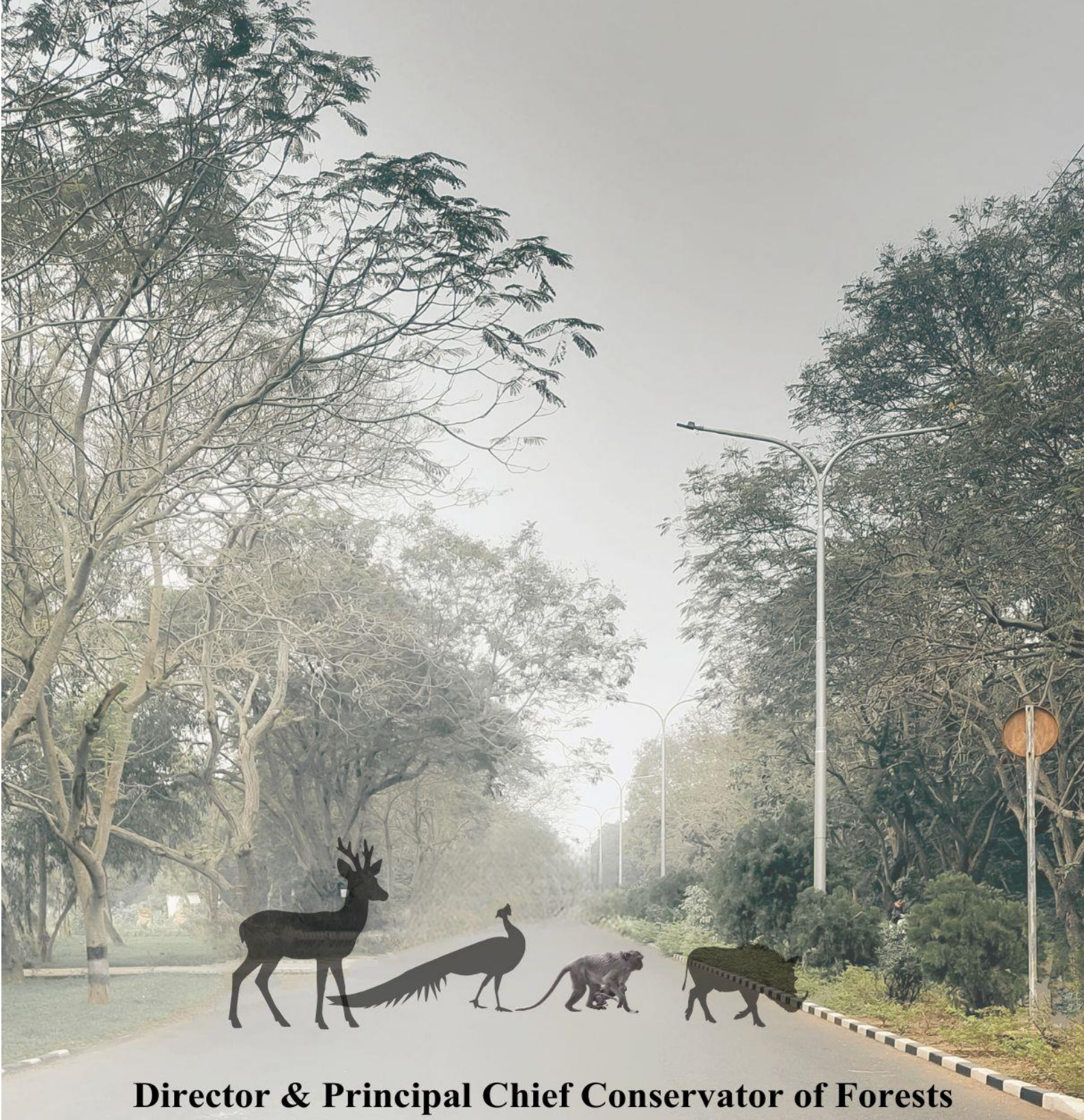
Advanced Institute for Wildlife Conservation (Research, Training & Education)

Tamil Nadu Forest Department, Vandalur, Chennai - 600 048

Office of Director: 044-29872331

For any queries e-mail: aiwcrte@tn.gov.in

Website: https://www.aiwc.res.in/



Director & Principal Chief Conservator of Forests

Advanced Institute for Wildlife Conservation

(Research, Training & Education)

Vandalur, Chennai- 600048

Phone: 044-29872337

@Aiwcrteofficial aiwc_vandalur aiwcrte@tn.gov.in www.aiwc.res.in