



**University of Kerala**

<b>Discipline</b>	<b>ZOOLOGY</b>				
Course Code	<b>UK2DSCZOO102</b>				
Course Title	<b>Wildlife Ecology</b>				
Type of Course	<b>DSC</b>				
Semester	II				
Academic Level	100 – 199				
Course Details	Credit	Lecture per week	Tutorial per week	Practical per week	Total Hours/Week
	4	4 hours	-	hours	4
Pre-requisites	Pass in class XII				
Course Summary	The course provides an exploration of wildlife ecology and behaviour, human-wildlife interactions, emphasizing the importance of understanding these dynamics in conservation planning. It covers aspects such as wildlife management techniques, human-wildlife conflict management, equipping them with practical skills to address real-world conservation challenges.				

**Detailed Syllabus**

Module	Unit	Content	60 hrs
<b>I</b>	<b>Introduction to Wildlife ecology</b>		<b>10</b>
	1.1	Definition and scope of wildlife ecology, Concepts of biodiversity- Genetic, species and ecosystem diversity	2
	1.2	<b>Ecological Principles:</b> Population dynamics: Birth rate , Death rate, Biotic Potential, Carrying capacity Community ecology: Species interactions (competition, predation, parasitism, mutualism and commensalism - brief account only )	5
	1.3	Concept of Habitat and Niche, Wildlife corridors, Habitat selection and utilization by wildlife species	3

<b>II</b>	<b>Wildlife Behaviour and Ecology</b>		<b>13</b>
	2.1	Social Behaviour- Dominance Hierarchy, Territoriality and Home range, Mourning behaviour and musth- eg: Elephant	4
	2.2	Social groups in animals- eg. elephant, Lion	4
	2.3	Role of Pheromones and chemical signaling in wildlife	3
	2.4	Impacts of human activities on wildlife behaviour and ecology.	2
<b>III</b>	<b>Challenges to Wildlife</b>		<b>8</b>
	3.1	Natural and anthropogenic threats: Climate change, habitat destruction, pollution, Poaching, Illegal Trade and Exploitation of Wildlife	4
	3.2	Invasive species and their impact on native Wildlife Eg : Cane toad, Red-eared slider turtle	2
	3.3	Common Zoonotic diseases and their impact on wildlife ( Brief account only )	2
<b>IV</b>	<b>Wildlife Conservation</b>		<b>16</b>
	4.1	<b>In-situ and Ex-situ Conservation Strategies:</b> Types of protected areas (e.g., national parks, wildlife sanctuaries, biosphere reserves )Brief account only <b>Related activity:</b> <i>Field study – Visit to a Zoo/ Zoological Park/ Natural History Museum/National Parks/Sanctuaries/Community Reserves and Submit a detailed report with photographs/ Prepare a list of birds in the Zoo.</i>	5
	4.2	Conservation status and threats to endangered species ( Eg. Nilgiri Tahr ) : Conservation efforts for flagship ( Eg : Indian Elephant ) and keystone species ( Great Indian Hornbill )	4
	4.3	Importance of wildlife corridors and buffer zones ( brief account only )	3
	4.4	Role of International Conventions and Treaties in wildlife conservationn - CITES, CBD (Brief account only)- Gadgil Commission & Kasturirangan Commission. ( Brief account only )	4
<b>V</b>	<b>Wildlife Management</b>		<b>13</b>
	5.1	<b>Population management:</b> census methods, reintroduction, and control strategies.	3

5.2	<b>Habitat management:</b> restoration, enhancement, and fragmentation mitigation.	3
5.3	<b>Human-Wildlife Conflict Management:</b> Causes and mitigation strategies for human-wildlife conflicts.	3
5.4	Tools and techniques in wildlife management: GPS tracking, camera traps, drones, and telemetry	4

### References

1. S K Singh (2010) Text Book of Wildlife Management International Book Distributing Company, Lucknow.
2. Vivek Menon (2014) Indian Mammals: A Field Guide Hachette Book Publishing India Pvt Ltd, Gurgaon.
3. S S Negi (1992) Himalayan Wildlife. Indus Publishing Company, New Delhi.
4. Mohan Pai (2005) The Western Ghats. M/S Narcinva Damodar Naik Margao, Goa.
5. Richard Carmichael (2007). Indian Wildlife. Apa Publications GmbH Co. Vertag KG (Singapore).
6. C. Michael Hall and Stephen Boyd (2006) Nature based tourism in peripheral areas - Development or disaster? Viva Books Pvt Ltd New Delhi.
7. Ministry of Environment & Forests GoI, (2002), National Biodiversity Strategy & Action Plan
8. Krebs C. J (1985). The experimental analysis of distribution and abundance. Ecology. Harper and Row, New York.
9. Odum, E.P. & Barrett, G W. (1953) Fundamentals of Ecology, Philadelphia.

### Course Outcomes

No.	Upon completion of the course the graduate will be able to	Cognitive Level	PSO addressed
CO-1	Understand the fundamental principles and scope of wildlife ecology, Wild life Behaviour, important conservation strategies, management of wildlife and challenges posed.	U,	PSO-1
CO-2	Apply the knowledge in analysing the principles and scope of wildlife ecology, Wild life Behaviour, important conservation strategies, management of wildlife and challenges posed and to recommend appropriate actions.	A	PSO-1, PSO-3
CO-3	Analyze the principles and scope of wildlife ecology, Wild life Behaviour, important conservation strategies, management of wildlife and challenges posed the impact of zoonotic diseases and invasive species on wildlife	An	PSO-1,4,5,6
CO-4	Evaluate the principles and scope of wildlife ecology, Wild life Behaviour, important conservation strategies, management of wildlife and challenges posed the impact of zoonotic diseases and invasive species on wildlife.	E	PSO-3,4

CO-5	Develop creative strategies to explore Wild life Behaviour,important conservation strategies , management of wildlife , challenges posed, the impact of zoonotic diseases and invasive species on wildlife. Demonstrate proficiency in Tools and techniques in wildlife management: GPS tracking, camera traps, drones, and telemetry .	C	PSO-1,7

**R-Remember, U-Understand, Ap-Apply, An-Analyse, E-Evaluate, C-Create**

**Name of the Course: Wildlife Ecology  
Credits: 4:0:0 (Lecture: Tutorial: Practical)**

CO No.	CO	PO/PSO	Cognitive Level	Knowledge Category	Lecture (L)/Tutorial (T)	Practical (P)
1	Understand the fundamental principles and scope of wildlife ecology,Wild life Behaviour,important conservation strategies , management of wildlife and challenges posed	PO-1,2,3/PSO-1	U	F, C	L	
2	Apply the knowledge in analysing the principles and scope of wildlife ecology,Wild life Behaviour,important conservation strategies , management of wildlife , challenges posed and to recommend appropriate actions.	PO1,2,3/PSO-1,PSO-3	A	F,C,P	L	

3	Analyze the principles and scope of wildlife ecology, Wildlife Behaviour, important conservation strategies, management of wildlife, challenges posed and the impact of zoonotic diseases and invasive species on wildlife.	PO-1,2,4/PS O-1,4,5	An	F	L	
4	Evaluate the principles and scope of wildlife ecology, Wildlife Behaviour, important conservation strategies, management of wildlife and challenges posed the impact of zoonotic diseases and invasive species on wildlife.	PO-1,2,3,6/ PSO-3,4	E	F,C,M	L	

5	Develop creative strategies to explore Wild life Behaviour, important conservation strategies, management of wildlife and challenges posed, the impact of zoonotic diseases and invasive species on wildlife. Demonstrate proficiency in Tools and techniques in wildlife management: GPS tracking, camera traps, drones, and telemetry.	PO1, 2,7,8/ PSO1,7	C	F, C,P,M	L	
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**F-Factual, C- Conceptual, P-Procedural, M-Metacognitive**

**Mapping of COs with PSOs and POs**

	PS O1	PS O2	PS O3	PS O4	PS O5	PS O6	PS O7	PS O8	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO8
CO 1	2	-	-	-	-	-	-	-	2	1	1	-	-	-	-	-
CO 2	-	2	-	-	1	2	-	-	1	3	2	-	3	-	-	2
CO3	-	-	2	2	-	-	-	-	2	2	*	2	-	1	-	-
CO 4	-	-	2	3	-	-	-	-	3	2	1	-	-	3	-	
CO 5	2	-	-	-	-	-	2	-	-	3	-	-		-	2	2

**Correlation Levels:**

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

**Assignment /Seminar Topics**

- Prof. Madhav Gadgil and Kasturirangan Report
- Different types of forests
- Human wildlife conflict
- Biodiversity Hotspots – Western Ghats
- Community based conservation
- Population monitoring techniques

**Continuous Comprehensive Assessment**

1. Assignments
2. Seminars
3. Test
4. Quiz/ Debate

**End Semester Evaluation**

1. Multiple Choice Questions
2. Very Short Answer Questions
3. Short Answer questions
4. Essay Type questions

**Mapping of COs to Assessment Rubrics**

	Internal Exam	Assignment	Project Evaluation	End Semester Examinations
CO 1	✓	✓		✓
CO 2	✓	✓		✓
CO 3	✓	✓		✓
CO 4	✓	✓		✓
CO 5	✓	✓		