

Bird diversity of IIFM campus

A visual field guide

based on
**Avian diversity and density estimation of birds of the Indian Institute of
Forest Campus, Bhopal**

Aggarwal A, Tiwari G, and Harsh S, 2015. Journal of Threatened Taxa

Executive Synthesis

A thriving micro-habitat

The 93-hectare IIFM campus, situated in the Vindhyan Hills, supports an incredible 106 distinct avian species.

In order to make the biodiversity richness information digestible, we have categorized species by feeding guilds and habitat types.

Observations were made across three habitat types; our grasslands, deciduous brush, and urbanised/ built up campus areas.



106

Species
Recorded

52

Avian
Families

93

Hectares
Surveyed

32.7

Birds/ha
Overall Density

Spatial diversity of IIFM

Open Scrub

Grasslands & sparse brush.
Key Trait: Dominant ground insectivore population.

Dry Deciduous

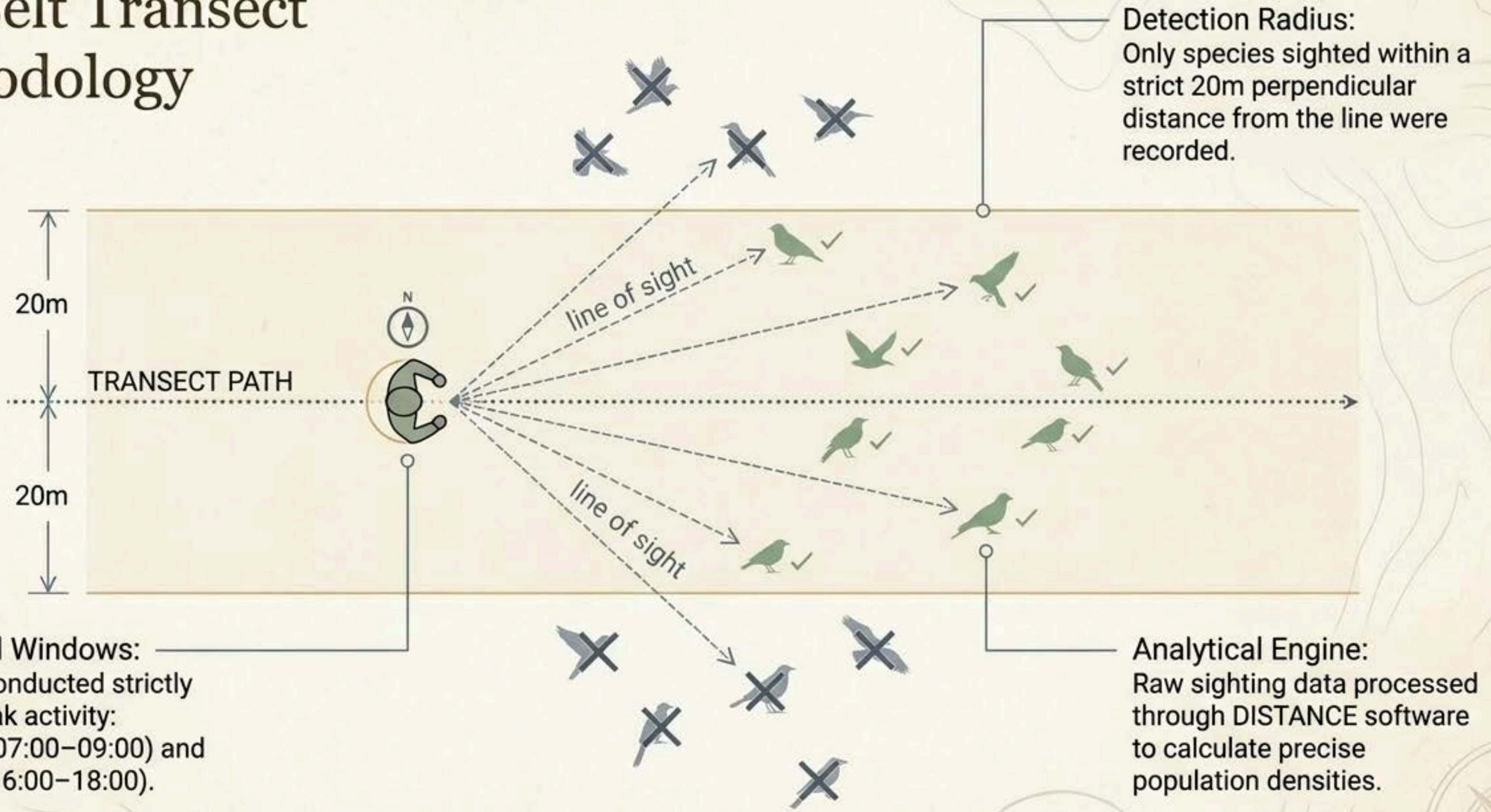
Grasses & hardwood trees.
Key Trait: Structural canopy supporting unique insectivores.

Urbanised Spaces

Academic blocks & settlements.
Key Trait: Human presence and highly adaptable generalist species.



The Belt Transect Methodology

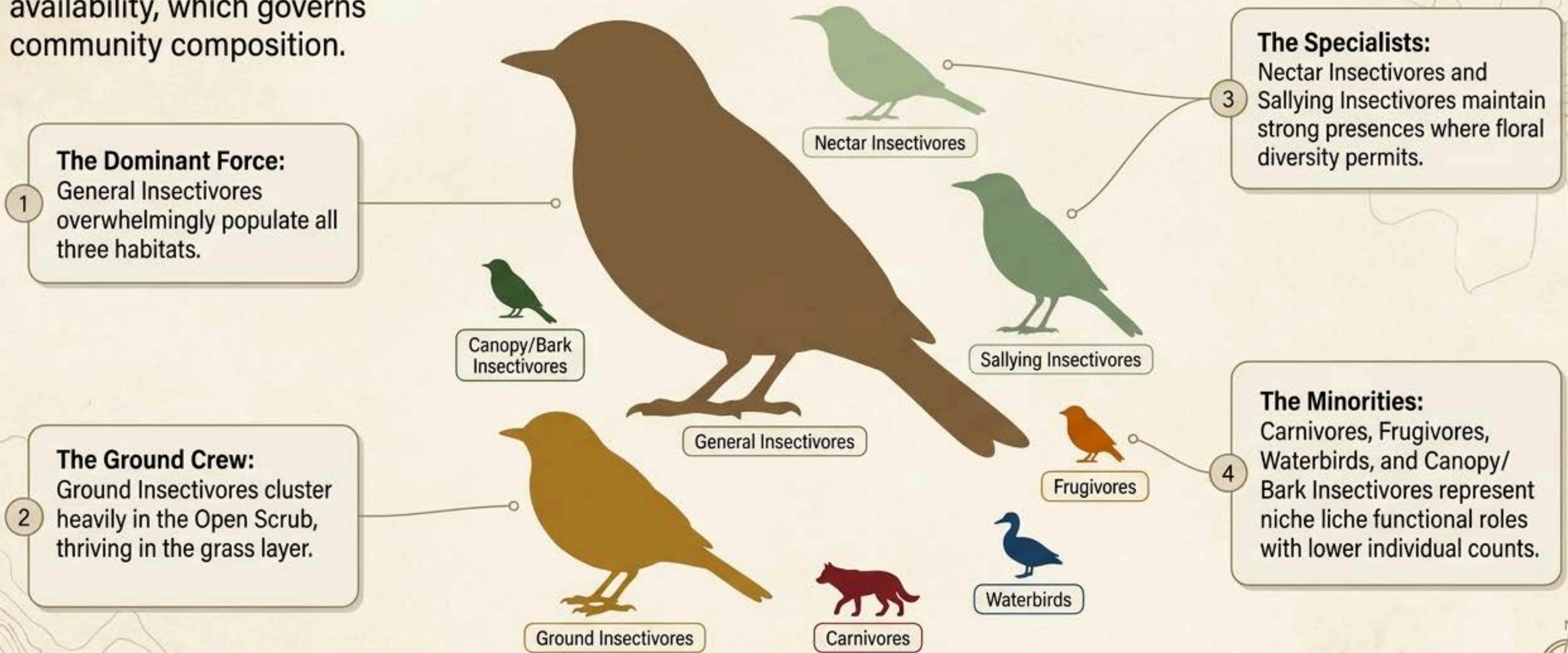


Temporal Windows:
Surveys conducted strictly during peak activity:
Morning (07:00–09:00) and
Evening (16:00–18:00).

Analytical Engine:
Raw sighting data processed through DISTANCE software to calculate precise population densities.

The Functional Ecosystem: 8 Feeding Guilds

Habitat structure dictates food availability, which governs community composition.





1. Black-winged Kite

Elanus caeruleus

[Carnivore] [Least Concern]

[Widespread Resident]

[Fairly Common]



2. Black Kite

Milvus migrans

[Carnivore] [Least Concern]

[Widespread Resident]

[Common]



3. Osprey

Pandion haliaetus

[Carnivore] [Least Concern]

[Widespread Winter Visitor]

[Irregular]



4. Common Kestrel

Falco tinnunculus

[Carnivore] [Least Concern]

[Widespread Winter Visitor]

[Fairly Common]

The Visual Field Guide — The Sky Hunters (Carnivores)



5. Shikra

Accipiter badius

[Carnivore]

[Least Concern]

[Widespread Resident]

[Common]



6. Eurasian Marsh Harrier

Circus aeruginosus

[Carnivore]

[Least Concern]

[Widespread Winter Visitor]

[Irregular]



7. Montagu's Harrier

Circus pygargus

[Carnivore]

[Least Concern]

[Widespread Winter Visitor]

[Irregular]



8. Indian Spotted Eagle

Aquila hastata

[Carnivore]

[Vulnerable (V)]

[Resident]

[Irregular]



9. Egyptian Vulture

Neophron percnopterus

[Carnivore] [Endangered (E)]
[Resident] [Uncommon]



10. Spotted Owlet

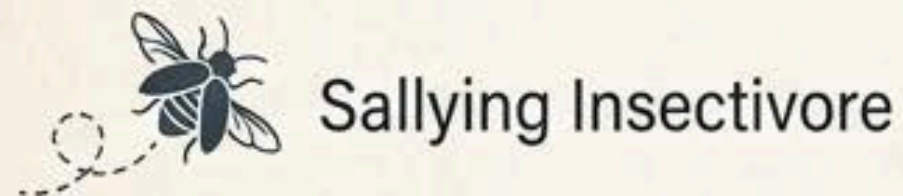
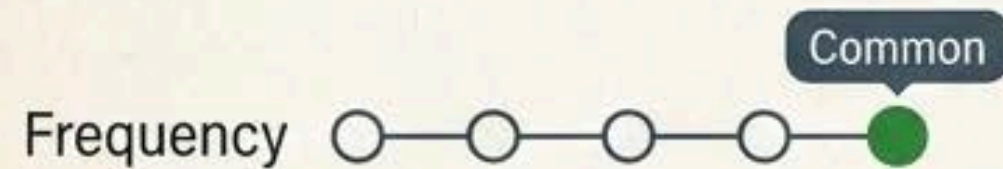
Athene brama

[Carnivore] [Least Concern]
[Widespread Resident]
[Fairly Common]



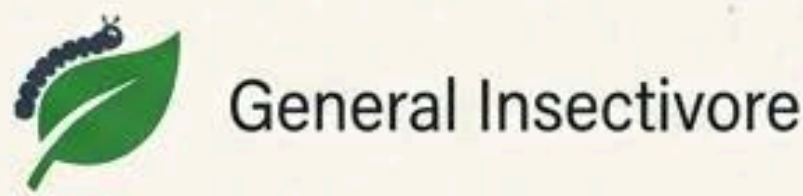
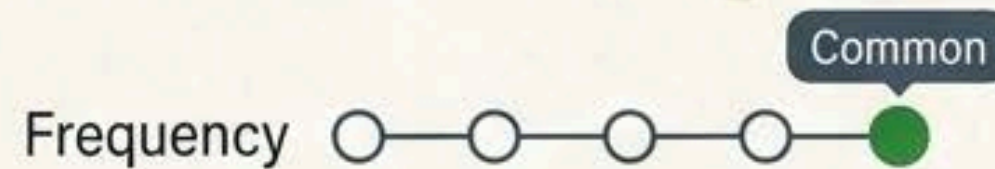
11. Green Bee-eater
Merops orientalis

[Least Concern] [Widespread Resident / Summer Visitor]



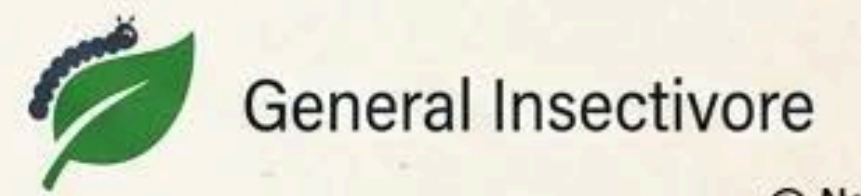
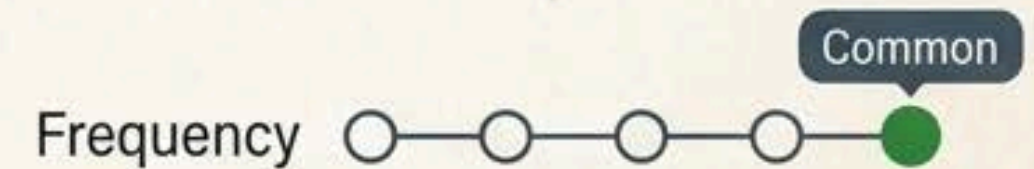
12. Greater Coucal
Centropus sinensis

[Least Concern] [Resident]



13. Coppersmith Barbet
Megalaima haemacephala

[Least Concern] [Resident]

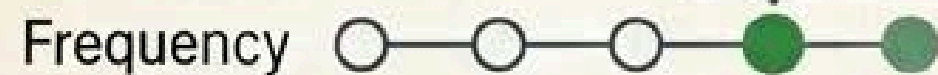




14. Rose-ringed Parakeet
Psittacula krameri

[Least Concern] [Widespread Resident]

Fairly Common



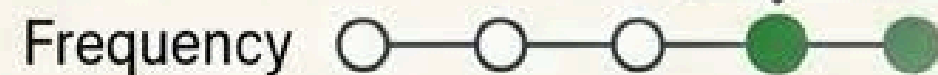
Frugivore



15. Indian Grey Hornbill
Ocyrceros birostris

[Least Concern] [Widespread Resident]

Fairly Common



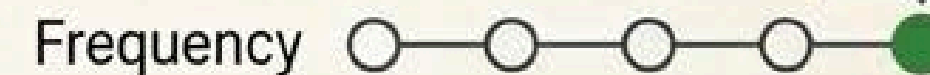
General Insectivore



16. Indian Peafowl
Pavo cristatus

[Least Concern] [Resident]

Common



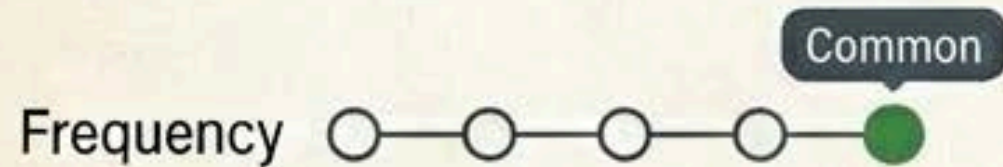
General Insectivore



17. Laughing Dove
Stigmatopelia senegalensis

[Least Concern]

[Widespread Resident]

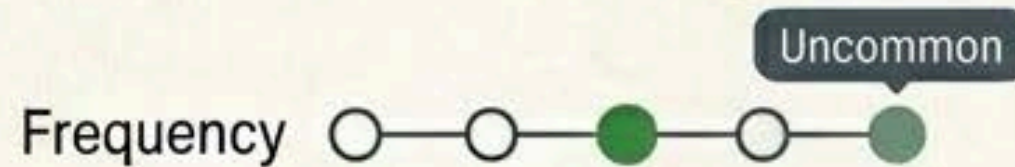


General Insectivore

18. Spotted Dove
Stigmatopelia chinensis

[Least Concern]

[Widespread Resident]

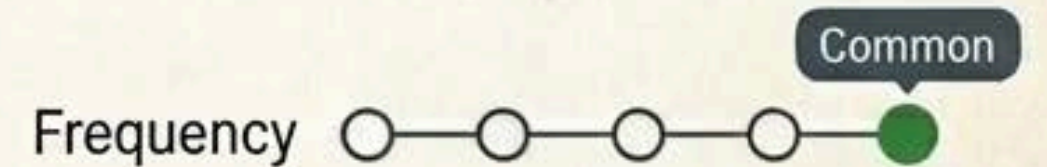


General Insectivore

19. Common Pigeon
Columba livia

[Least Concern]

[Widespread Resident]



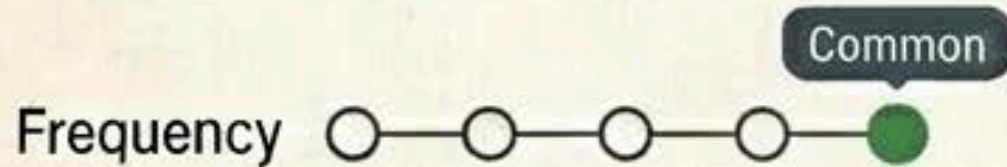
Ground Insectivore



20. Brown Rock Chat
Cercomela fusca

[Least Concern]

[Resident]



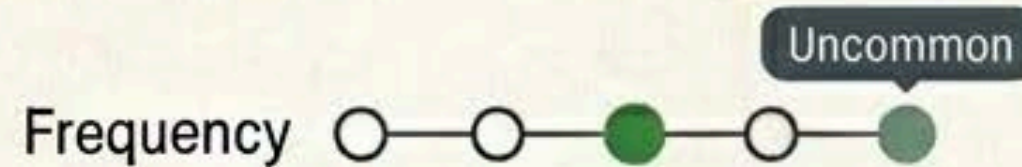
General Insectivore



21. Asian Pied Starling
Gracupica contra

[Least Concern]

[Resident]



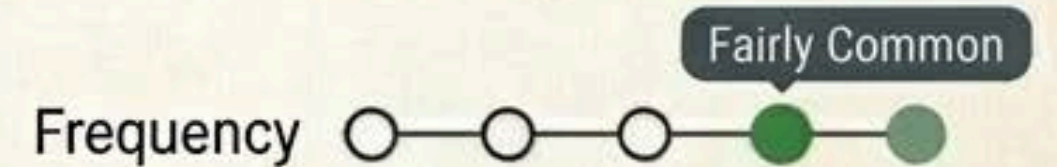
General Insectivore



22. Asian Koel
Eudynamys scolopaceus

[Least Concern]

[Widespread Resident]



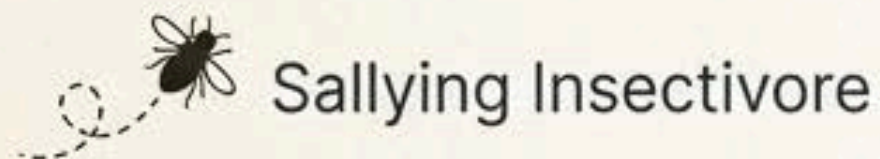
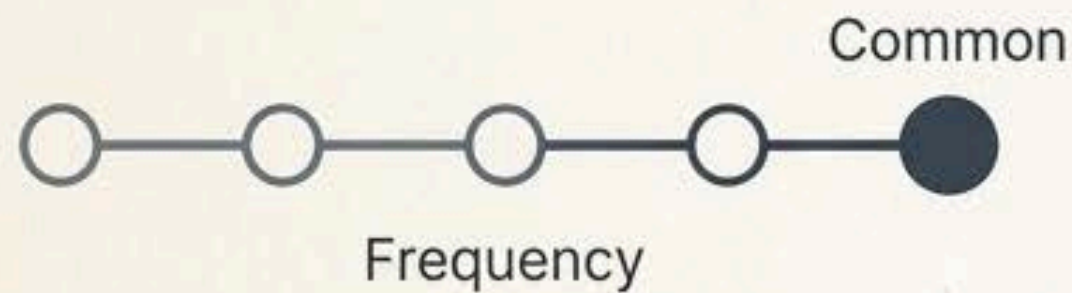
General Insectivore



23. Black Drongo
Dicrurus macrocercus

[Least Concern]

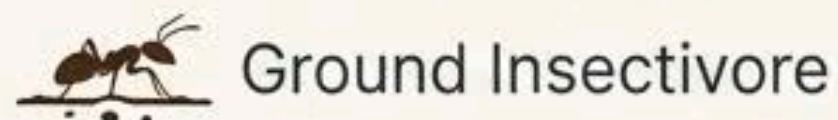
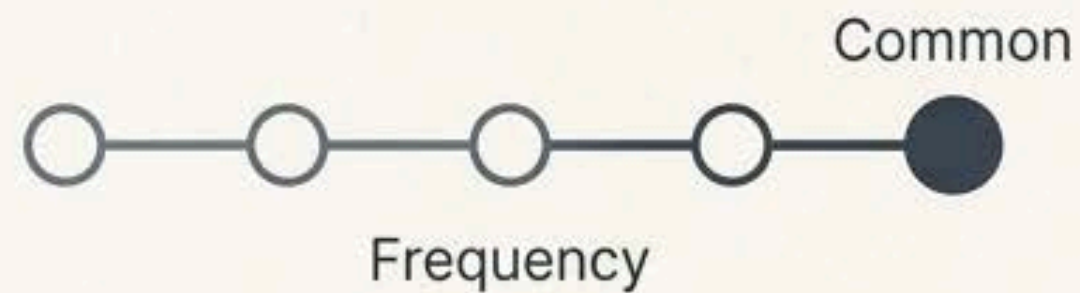
[Widespread Resident]



24. Jungle Babbler
Turdoides striata

[Least Concern]

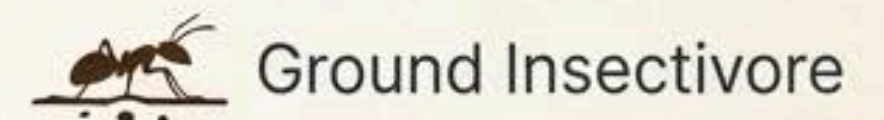
[Widespread Resident]



25. Large Grey Babbler
Turdoides malcolmi

[Least Concern]

[Resident]





26. Rufous Treepie

Dendrocitta vagabunda

Status: Least Concern

Distribution: Widespread Resident

Frequency: Common

Guild: General Insectivore



27. Indian Golden Oriole *Oriolus (oriolus) kundoo*

Status: Least Concern

Distribution: Resident

Frequency: Fairly Common

Guild: Canopy and Bark Insectivore (CBI)

The sole Canopy and Bark Insectivore in this sequence, demonstrating the vertical stratification of the IIFM campus from the wetlands up to the dry deciduous canopy.




28. Yellow-eyed Babbler
Chrysomma sinense

[Least Concern] [Widespread Resident]



Irregular


 Ground Insectivore

29. Small Minivet
Pericrocotus cinnamomeus

[Least Concern] [Widespread Resident]



Fairly Common


 Canopy and Bark Insectivore

30. Grey Francolin
Francolinus pondicerianus

[Least Concern] [Widespread Resident]



Fairly Common

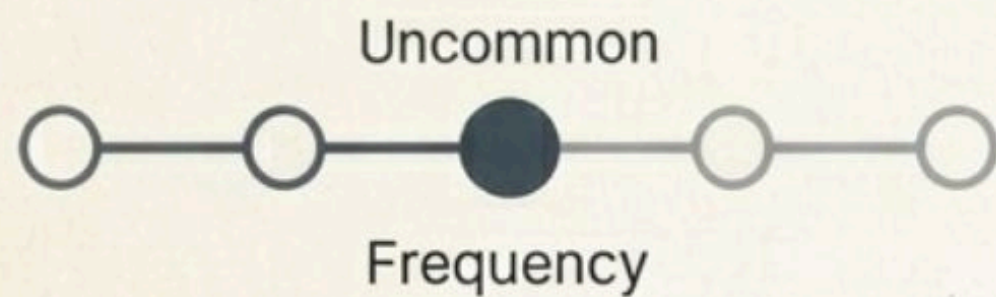
 Ground Insectivore




31. Common Iora
Aegithina tiphia

[Least Concern]

[Widespread Resident]



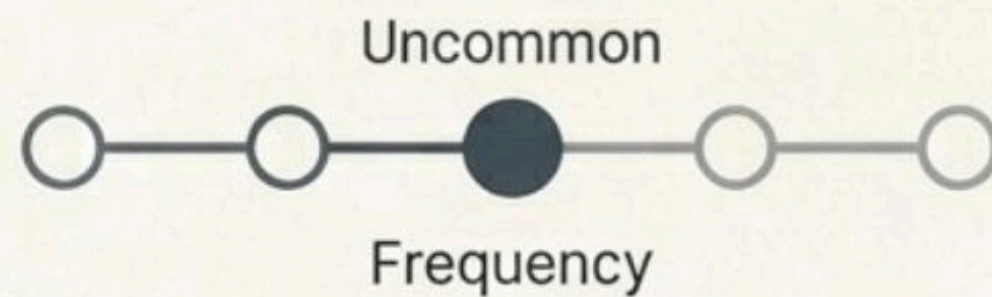
 Canopy and Bark Insectivore




32. Lesser Goldenback
Dinopium benghalense

[Least Concern]

[Widespread Resident]



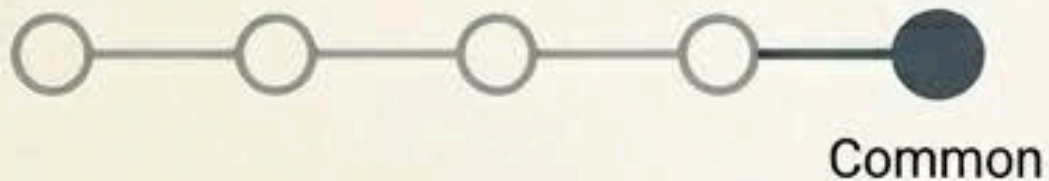
 Canopy and Bark Insectivore



33. Red-vented Bulbul *Pycnonotus cafer*

[Least Concern]

[Widespread Resident]



General Insectivore

Diagnostic Indicators: Avian Signals of Urbanization

Urban Indicator Species	Traditional City Species
Jungle Babbler Black Drongo Red-vented Bulbul	House Crow Common Myna
COMMON	RARE

"The abundant populations of the Jungle Babbler, the Black Drongo, and the Red-vented Bulbul show increasing urbanization in the vicinity and even inside the campus."

The data acts as a biological warning system. An increase in human settlements creates compounding pressures on local avian species. To transform urban environments into species-rich ecosystems, a deliberate shift toward eco-friendly urbanization and appropriate conservation mechanisms is essential.



34. House Sparrow
Passer domesticus

[Not Threatened]

[Widespread Resident]



Rare



Ground Insectivore



35. House Crow
Corvus splendens

[Least Concern]

[Widespread Resident]



Rare



General Insectivore



36. Common Myna
Acridotheres tristis

[Least Concern]

[Widespread Resident]



Rare



General Insectivore

The Robins: General Insectivores



37. Oriental Magpie Robin
Copsychus saularis

Status: Least Concern

Distribution: Widespread Resident

Frequency: Common

Guild: General Insectivore



38. Indian Robin
Saxicoloides fulicatus

Status: Least Concern

Distribution: Widespread Resident

Frequency: Common

Guild: General Insectivore



39. White-browed Fantail
Rhipidura aureola

Least Concern

Widespread Resident



Rare



Sallying Insectivore



40. Lesser Whitethroat
Curruca curruca

Least Concern

Widespread Winter Visitor



Irregular



General Insectivore



41. Wire-tailed Swallow
Hirundo smithii

Least Concern

Widespread Resident



Uncommon



Sallying Insectivore



42. Streak-throated Swallow
Petrochelidon fluvicola

[Least Concern]

[Widespread Resident]



Irregular



Sallying Insectivore



43. Black Redstart
Phoenicurus ochruros

[Least Concern]

[Widespread Winter Visitor]



Uncommon



Sallying Insectivore



44. Pied Bushchat
Saxicola caprata

[Least Concern]

[Widespread Resident]



Uncommon



General Insectivore



45. Asian Paradise Flycatcher
Terpsiphone paradisi

 Guild: Sallying Insectivore


Status: Least Concern (LC)

Distribution: Widespread Resident

Abundance: Uncommon



46. Verditer Flycatcher
Eumyias thalassinus

 Guild: Sallying Insectivore


Status: Least Concern (LC)

Distribution: Widespread Winter Visitor

Abundance: Uncommon



47. Tickell's Blue Flycatcher
Cyornis tickelliae

 Guild: Sallying Insectivore


Status: Least Concern (LC)

Distribution: Resident

Abundance: Uncommon



48. Red-breasted Flycatcher
Ficedula parva

 Guild: Sallying Insectivore


Status: Least Concern (LC)

Distribution: Widespread Winter Visitor

Abundance: Rare



49. Bluethroat
Luscinia svecica

 General Insectivore


LC

Widespread Winter Visitor

Rare



50. Common Chiffchaff
Phylloscopus collybita

 General Insectivore


LC

Widespread Winter Visitor

Fairly Common



51. Greenish Warbler
Phylloscopus trochiloides

 General Insectivore

LC

Widespread Winter Visitor

Fairly Common



52. Purple Sunbird
Cinnyris asiaticus

 Guild: Nectar Insectivore

Status: Least Concern (LC)

Distribution: Widespread Resident

Abundance: Common



53. Oriental White Eye
Zosterops palpebrosus

 Guild: Nectar Insectivore

Status: Least Concern (LC)

Distribution: Widespread Resident

Abundance: Fairly Common



54. Chestnut-shouldered Petronia
Gymnoris xantocollis

 Guild: Ground Insectivore


Status: Least Concern (LC)

Distribution: Resident

Abundance: Rare



55. Ashy-crowned Sparrow Lark
Eremopterix griseus

 Guild: Ground Insectivore

Status: Least Concern (LC)

Distribution: Widespread Resident

Abundance: Fairly Common



56. Rufous-tailed Lark
Ammomanes phoenicura

Ground Insectivore

LC

Resident

Fairly Common



57. Syke's Lark
Galerida deva

Ground Insectivore

LC

Resident

Fairly Common

Ecological Insight Banner

The Post-Fire Migration

Following a wild fire in the open scrub in October 2012, bird density surged from 1.35 to 8.80 birds per hectare. The resulting boom in insect populations triggered the immediate arrival of flocks of larks, capitalising on the new ecological reality.



58. Common Hoopoe
Upupa epops

Guild: Ground Insectivore

Status: Least Concern (LC)

Distribution: Widespread Winter Visitor

Abundance: Fairly Common



59. Paddyfield Pipit
Anthus rufulus

Guild: Ground Insectivore

Status: Least Concern (LC)


Distribution: Widespread Resident


Abundance: Fairly Common

60. Tree Pipit

Anthus trivialis



 LC - Least Concern

 Resident & Widespread
Winter Visitor


 Rare

 Ground Insectivore

61. Savanna Nightjar


Caprimulgus afinis



 LC - Least Concern

 Widespread Resident

 Fairly Common

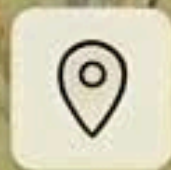
 Sallying Insectivore

62. Common Stonechat

Saxicola torquatus



LC - Least Concern



Widespread Winter Visitor



Common



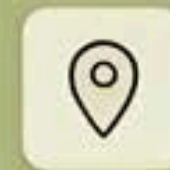
General Insectivore

63. Common Woodshrike

Tephrodornis pondicerianus



LC - Least Concern



Widespread Resident



Uncommon



General Insectivore



64. Bay-backed Shrike
Lanius vittatus

Vital Stats



LC - Least Concern



Widespread Resident



Fairly Common



Sallying Insectivore



65. Brown Shrike
Lanius cristatus

Vital Stats



LC - Least Concern



Widespread Winter Visitor



Rare



Sallying Insectivore

66. Baya Weaver
Ploceus philippinus



LC - Least Concern



Widespread Resident



Uncommon



Ground Insectivore

67. Common Tailorbird
Orthotomus sutorius



LC - Least Concern



Widespread Resident



Uncommon



Nectar Insectivore



68. Ashy Prinia
Prinia socialis



LC - Least Concern



Widespread Resident



Common



General Insectivore



69. Jungle Prinia
Prinia sylvatica



LC - Least Concern



Widespread Resident



Fairly Common



General Insectivore



70. Plain Prinia
Prinia inornata



LC - Least Concern



Widespread Resident



Uncommon



General Insectivore



71. Grey-breasted Prinia
Prinia hodgsonii



LC - Least Concern



Widespread Resident



Uncommon



General Insectivore



72. Scaly-breasted Munia
Lonchura punctulata

-  LC - Least Concern
-  Rare
-  Widespread Resident
-  Ground Insectivore



73. Indian Silverbill
Euodice malabarica

-  LC - Least Concern
-  Common
-  Widespread Resident
-  Ground Insectivore



74. Red Avadavat
Amandava amandava

🛡️ LC - Least Concern

🌐 Widespread Resident

👁️ Irregular

🐞 Ground Insectivore



75. Indian Roller
Coracias benghalensis

🛡️ LC - Least Concern

🌐 Widespread Resident

👁️ Uncommon




🐞 General Insectivore




76. Northern Pintail
Anas acuta



77. Ruddy Shelduck
Tadorna ferruginea

-  LC - Least Concern
-  Widespread Winter Visitor
-  Irregular
-  Water Bird





-  LC - Least Concern
-  Widespread Winter Visitor
-  Common
-  Water Bird







78. Indian Spot-billed Duck
Anas poecilorhyncha



79. Little Grebe
Tachybaptus ruficollis

 LC - Least Concern
 Widespread Resident
 Fairly Common
 Water Bird

 LC - Least Concern
 Widespread Resident
 Rare
 Water Bird



80. Painted Stork
Mycteria leucocephala


NT - Near
Threatened


Widespread
Resident


Fairly
Common


Water Bird



81. Woolly-necked Stork
Ciconia episcopus


LC - Least
Concern


Widespread
Resident


Uncommon


Water Bird



82. Pied Kingfisher
Ceryle rudis



LC - Least
Concern



Widespread
Resident



Rare



Water Bird



83. Common Kingfisher
Alcedo atthis



LC - Least
Concern



Widespread
Resident



Rare



Water Bird

84. White-throated Kingfisher

Halcyon smyrnensis



LC - Least
Concern



Widespread
Resident



Fairly
Common



Water Bird



85. Stork-billed Kingfisher *Pelargopsis capensis*

Status: Least Concern

Distribution: Widespread Resident

Frequency: Rare

Guild: Waterbird

A rare widespread resident contributing to the diverse waterbird guild supported by the campus's surrounding water bodies.

The Lapwings of Genus *Vanellus*



86. Red-wattled Lapwing
Vanellus indicus

Status: Least Concern

Distribution: Widespread Resident

Frequency: Fairly Common

Guild: Waterbird



87. Yellow-wattled Lapwing
Vanellus malabaricus

Status: Least Concern

Distribution: Widespread Resident

Frequency: Irregular

Guild: Waterbird

Analytical Takeaway: While both are widespread residents of the IIFM campus, the Red-wattled is fairly common whereas the Yellow-wattled makes only irregular appearances.

Waders of the Shallows



88. Black-winged Stilt
Himantopus himantopus

Status: Least Concern

Distribution: Widespread Winter Visitor

Frequency: Fairly Common

Guild: Waterbird



89. Bronze-winged Jacana
Metopidius indicus

Status: Least Concern

Distribution: Widespread Resident

Frequency: Uncommon

Guild: Waterbird

Analytical Takeaway: Highlights the seasonal shift—the Stilt utilizes the campus as a winter visitor, while the Jacana is an uncommon year-round resident.

The Wagtails: A Shift to Ground Insectivores



90 | White-browed Wagtail
Motacilla maderaspatensis

Least Concern

Widespread Resident

Fairly Common

Ground Insectivore



91 | Grey Wagtail
Motacilla cinerea

Least Concern

Widespread Winter Visitor

Fairly Common

Ground Insectivore

Unlike the preceding wetland species, this Motacillidae cluster represents the Ground Insectivore guild, dominated heavily by Widespread Winter Visitors.



92 | White Wagtail
Motacilla alba

Least Concern

Widespread Winter Visitor

Uncommon

Ground Insectivore



93 | Yellow Wagtail
Motacilla flava

Least Concern

Widespread Winter Visitor

Uncommon

Ground Insectivore

The Cormorants



94. Little Cormorant
Phalacrocorax niger

Status: Least Concern

Distribution: Widespread Resident

Frequency: Common

Guild: Waterbird



95. Great Cormorant
Phalacrocorax carbo

Status: Least Concern

Distribution: Widespread Resident

Frequency: Fairly Common

Guild: Waterbird

Analytical Takeaway: Both are widespread residents, but the Little Cormorant achieves a 'Common' frequency at the IIFM campus compared to the Great Cormorant's 'Fairly Common' status.

The Egrets



96. Intermediate Egret
Mesophoyx intermedia

Status: Least Concern

Distribution: Widespread Resident

Frequency: Fairly Common

Guild: Waterbird



97. Little Egret
Egretta garzetta

Status: Least Concern

Distribution: Widespread Resident

Frequency: Uncommon

Guild: Waterbird

The Herons



98. Grey Heron
Ardea cinerea

Status: Least Concern

Distribution: Widespread Winter Visitor

Frequency: Fairly Common

Guild: Waterbird



99. Indian Pond Heron
Ardeola grayii

Status: Least Concern

Distribution: Widespread Resident

Frequency: Fairly Common

Guild: Waterbird

Analytical Takeaway: Both maintain a 'Fairly Common' presence, but the Grey Heron is strictly a winter visitor while the Indian Pond Heron resides year-round.

The Sandpipers: Winter Arrivals



100. Common Sandpiper
Actitis hypoleucos

Status: Least Concern

Distribution: Widespread Winter Visitor

Frequency: Fairly Common

Guild: Waterbird



101. Wood Sandpiper
Tringa glareola

Status: Least Concern

Distribution: Widespread Winter Visitor

Frequency: Uncommon

Guild: Waterbird

The Little-ringed Plover patrols the margins of campus wetlands



102. Little-ringed Plover
(*Charadrius dubius*)

Water Bird

Note: This species highlights the importance of the aquatic margins surrounding the IIFM campus hill.

The Terns



103. Whiskered Tern
Chlidonias hybrida

Status: Least Concern

Distribution: Widespread Winter Visitor

Frequency: Rare

Guild: Waterbird



104. River Tern
Sterna aurantia

Status: Not Threatened (NT)

Distribution: Widespread Resident

Frequency: Fairly Common

Guild: Waterbird

Analytical Takeaway: Emphasize the River Tern's NT status and its establishment as a fairly common resident in the campus ecosystem.

Rallidae of the Reeds



105. White-breasted Waterhen
Amaurornis phoenicurus

Status: Least Concern

Distribution: Widespread Resident

Frequency: Rare

Guild: Waterbird



106. Common Moorhen
Gallinula chloropus

Status: Least Concern

Distribution: Resident & Widespread Winter Visitor

Frequency: Uncommon

Guild: Waterbird

Analytical Takeaway: Note the Common Moorhen's dual classification, indicating both a baseline resident population and an influx of widespread wintering individuals.