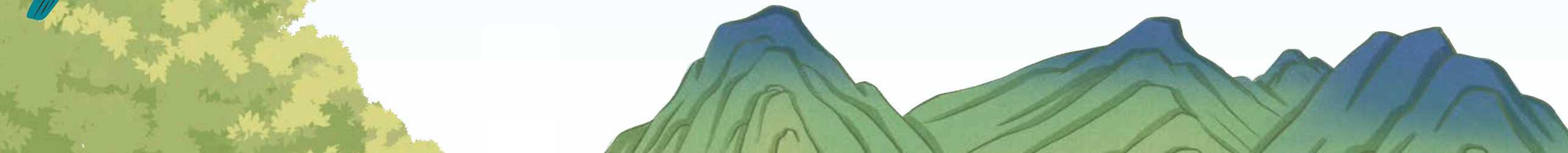
STEM PROJECT

POPULATION DYNAMICS AND MIGRATORY PATTERNS OF BIRDS

BY CLASS IX



MEET OUR TEAM

TEACHERS: MR. RAHUL KUMAR,
MS. ANAMIKA, MS. POONAM KUMARI
MENTOR: MS. PUNAM NARDIYA
&
STUDENTS OF GRADE IX


VIBES

PROJECT OVERVIEW

OBJECTIVE

Estimate population size and migration patterns of selected bird species at Sultanpur Bird Sanctuary, and identify factors influencing their trends.

The study will combine direct counts, camera traps, acoustic sensors, and tagging to produce population estimates and temporal migration profiles.

DURATION

3 MONTHS (OCTOBER - DECEMBER)

INTRODUCTION

Sultanpur National Park is a living classroom where students explore ecosystems, biodiversity, and conservation. The program builds stewardship through workshops, field visits, and citizen science, helping students understand habitat protection and species monitoring. By engaging with wetlands and their role in ecological balance, learners gain awareness while contributing to sustainable conservation outcomes.


Ruddy Shelduck
(Tadorna ferruginea)
Great White Pelican
(Pelecanus onocrotalus)
Painted Stork
(Mycteria leucocephala)
Grey Heron
(Ardea cinerea)

PROCESS

1

PLANNING AND RESEARCH
1-15 OCTOBER

2

FIELD SETUP AND EQUIPMENT DESIGN
16-31 OCTOBER

3

FIELD OBSERVATION AND DATA COLLECTION
1-15 NOVEMBER

4

DATA ANALYSIS AND MAPPING
16-30 NOVEMBER

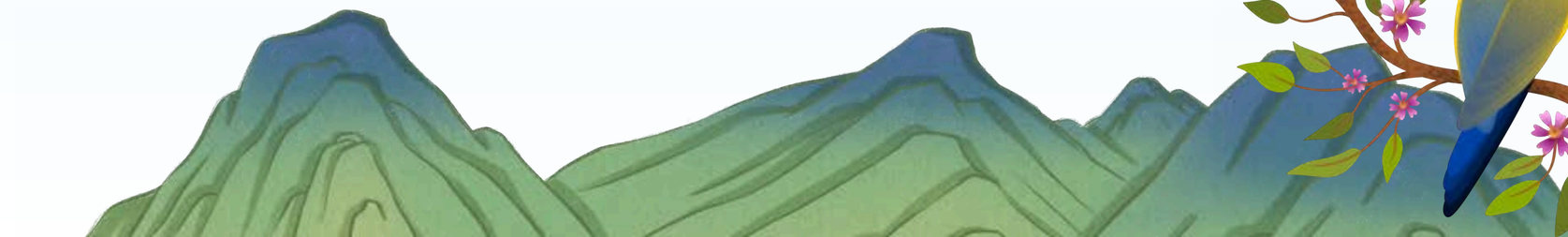
PROCESS

5

INTERPRETATION
AND CONSERVATION
STRATEGIES
1-15 DECEMBER

6

PRESENTATION
AND REFLECTION
16-31 DECEMBER



PRE-VISIT WORKSHOP & ORIENTATION

A. Introduction to Ecosystems & Wetlands

B. Resident vs Migratory Birds

C. Do’s and Don’ts During the Visit

CLASS-WISE PRE-VISIT ACTIVITIES

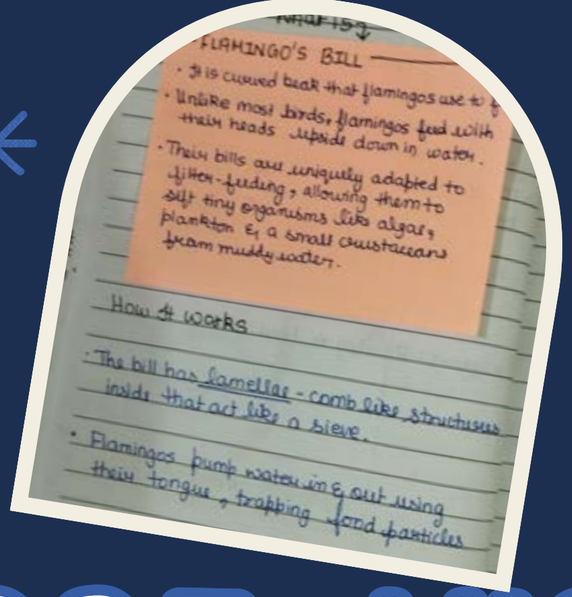
Class 9A — Pre-Visit Task
Topic: Place and Causes of Migration

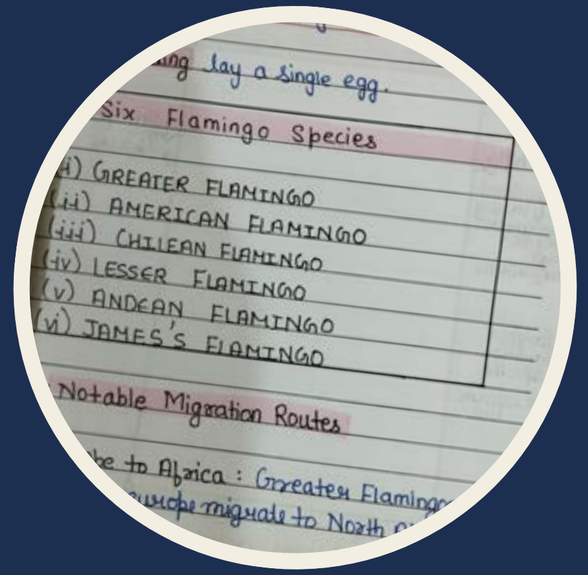
Class 9B — Pre-Visit Task
Topic: Flash Cards of Native (Resident) Birds

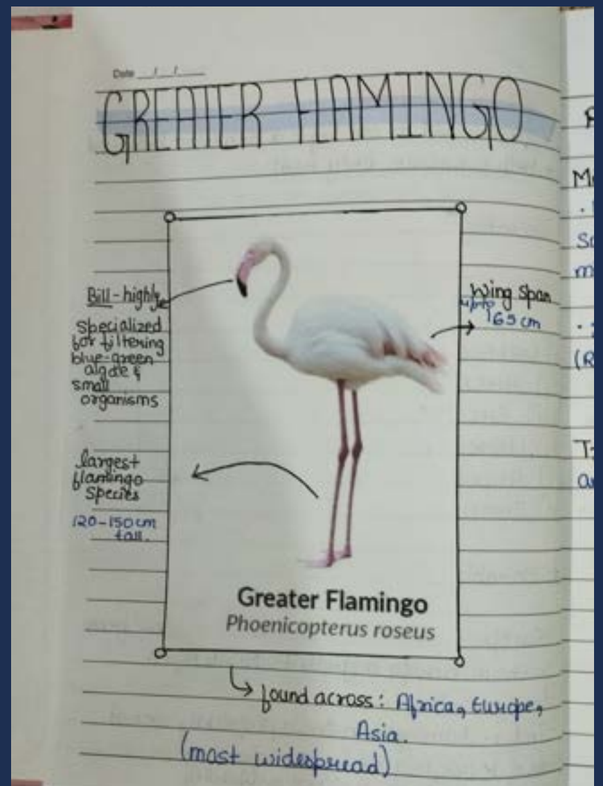
Class 9C — Pre-Visit Task
Topic: Flash Cards of Migratory Birds

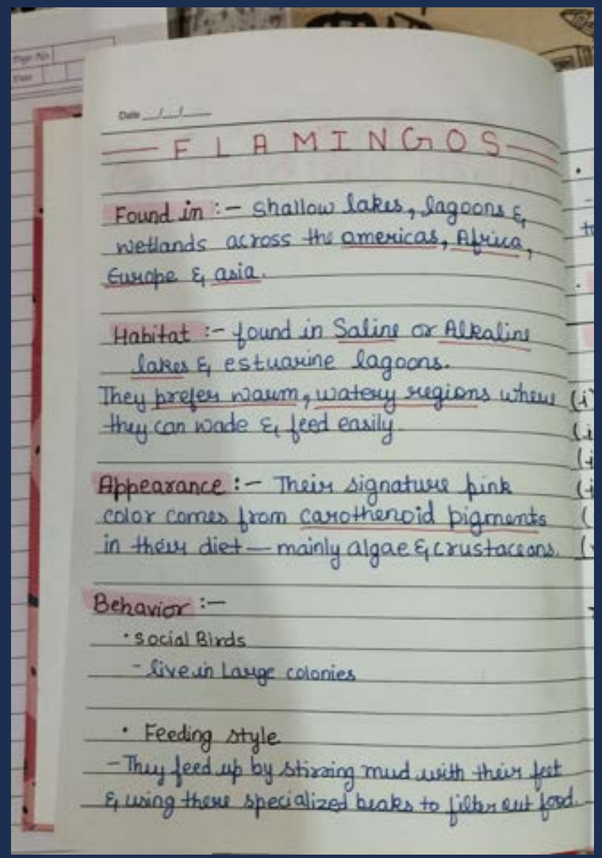
Class 9D — Pre-Visit Task
Topic: Why Birds Migrate to India

PRE-VISIT activities









VISIT TO SULTANPUR NATIONAL PARK

CLASS-WISE POST-VISIT ACTIVITIES

CLASS 9A — POST-VISIT ACTIVITIES

1. Migration Reflection Report
2. Map Making
3. Report on Conservation of Biodiversity
4. Sketch Work
5. Poster Making
6. Government Conservation Steps

CLASS 9B — POST-VISIT ACTIVITIES

1. Resident Bird Documentation Chart
2. Poster Making
3. Map Activity
4. Poem Writing
5. Sketching
6. Government Conservation Steps

CLASS 9C — POST-VISIT ACTIVITIES

1. Migratory Bird Identification Report
2. Government Conservation Report
3. Creative Poster

Poster theme: Protect Migratory Birds

4. Map of Migration Routes

Draw migration routes of at least 4–5 migratory birds.

5. Bird Sketching
6. Poem / Creative Writing

Poem titled -Journey of a Traveler Bird.

CLASS 9D — POST-VISIT ACTIVITIES

1. Analytical Report: Topic
2. Government Conservation Steps Report
3. Biodiversity Conservation Report
4. Poem Writing-Poem theme: Songs of the Sanctuary.
5. Sketch / Drawing
6. Poster Making

Poster theme: India – A Safe Heaven for Migratory Birds.

7. Map Task

RESULT

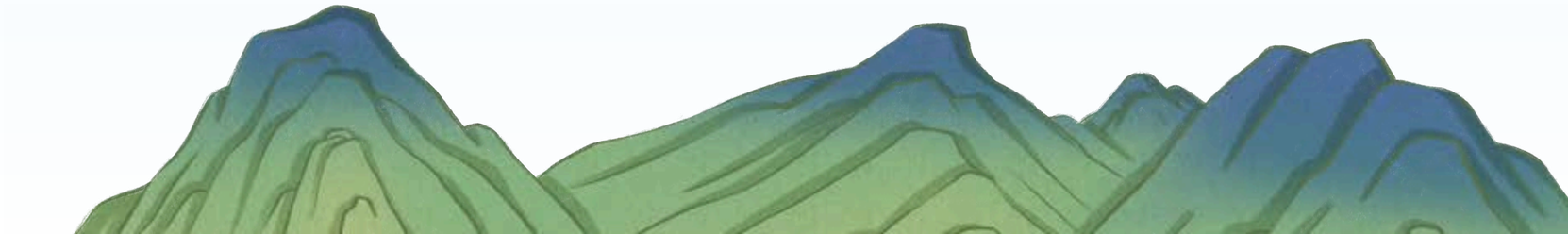
Students of Class IX successfully integrated science, mathematics, geography, and environmental studies to study bird populations and migration at Sultanpur Bird Sanctuary/National Park.

The group project helped students understand bird ecology, migration drivers, and conservation needs, while also building skills in research, technology use, teamwork, and environmental responsibility.

CONCLUSION

This project highlighted the interdependence of ecosystems and bird life, showing how climate, food availability, and habitat conditions shape migration and population trends. Students realized that wetlands like Sultanpur are vital for sustaining biodiversity, and that conservation efforts—such as habitat protection, anti-poaching measures, and awareness campaigns—are essential for safeguarding both resident and migratory birds. Beyond scientific learning, the project nurtured a sense of environmental stewardship and social responsibility, inspiring students to view themselves as active contributors to biodiversity conservation.

Priority actions: restore wetlands, strengthen monitoring, and expand education to build sustained local support.



THANK YOU