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EDITORIAL ANALYSIS

Monarch Butterfly Recovery — Lessons for Global Migratory Species Conservation

 **DOWN TO EARTH**

23 March 2026

SUBJECTS COVERED**ENVIRONMENT****GS PAPERS****GS3****CURATED & WRITTEN BY****Bharat Choudhary**

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Monarch Butterfly Recovery — Lessons for Global Migratory Species Conservation

Down to Earth 23 March 2026 **GS3**

DTE Down to Earth | MAINS RELEVANCE: **GS Paper 3**



INTERVIEW ANGLE

"The monarch butterfly population surged 64% but remains 84% below its 1990s peak. What does this tell us about the effectiveness of international conservation frameworks for migratory species?"

WHY IN NEWS

Down to Earth reported on the 64% surge in monarch butterfly populations in Mexico's overwintering forests during 2025-26, while analysing why this encouraging recovery still falls far short of long-term conservation targets and what lessons it holds for migratory species worldwide.

A Recovery in Context

The 64% increase in monarch butterfly presence (from 1.79 to 2.93 hectares of forest occupied) is the largest annual recovery since 2018 and the second consecutive year of growth. However, the broader trajectory remains alarming:

PERIOD	AREA OCCUPIED	% OF 1990S PEAK
1996-97 (peak)	18.19 ha	100%
2013-14 (nadir)	0.67 ha	3.7%
2023-24	0.90 ha	4.9%
2025-26 (current)	2.93 ha	16.1%
Target	6.00 ha	33%

Even at its current recovery level, the population is **84% below its 1990s peak** and less than half the 6-hectare target set by conservationists.

Why the Recovery Happened

The editorial identifies a convergence of favourable factors:

- ❶ **Climate conditions** — Less drought in the US Midwest during spring/summer 2025 boosted milkweed growth and monarch breeding success
- ❷ **Milkweed restoration** — US conservation programmes have planted millions of milkweed plants along monarch corridors
- ❸ **Reduced illegal logging** — In Mexico’s core biosphere reserve zones, illegal logging has been practically eradicated since 2008
- ❹ **Community engagement** — Mexican ejido (community land) programmes provide alternative livelihoods to reduce logging pressure

Why Recovery Is Fragile

The editorial warns against complacency — the recovery is driven largely by **one good weather year**, not structural improvements:

PERSISTENT THREAT	SCALE
Milkweed habitat loss (US)	1.3 billion milkweed stems lost since 1999
Glyphosate-resistant crops	Eliminated milkweed from 80% of US Midwest farmland
Climate change	Shifting temperature zones disrupting migration timing
Extreme weather	2016 storm killed 5-10% of overwintering population in one event
Urbanisation	Habitat fragmentation along 4,800 km migration corridor

The Trinational Conservation Framework

Monarch conservation requires **trinational cooperation** among Canada, the US, and Mexico — the three countries spanning the migration route:

COUNTRY	ROLE	KEY ACTION
Canada	Summer breeding (northernmost)	Species at Risk Act listing (Endangered)
United States	Breeding + migration corridor	ESA listing proposed (Threatened); milkweed restoration
Mexico	Overwintering habitat	Biosphere Reserve protection; ejido programmes

The **Monarch Butterfly Biosphere Reserve** (UNESCO World Heritage Site since 2008) in Mexico provides the critical overwintering habitat.

Lessons for India’s Migratory Species

India hosts several spectacular migratory species that face similar conservation challenges:

SPECIES	MIGRATION ROUTE	THREAT	CONSERVATION STATUS
Amur Falcon	Siberia → Nagaland → Southern Africa	Trapping in Nagaland (now reduced)	LC (IUCN)
Bar-headed Goose	Central Asia → India (winters)	Wetland loss, poisoning	LC (IUCN)
Olive Ridley Turtle	Indian Ocean → Odisha coast (nesting)	Fishing nets, light pollution	VU (IUCN)
Indian Skimmer	Central Asian rivers → Indian rivers	Riverbed mining, disturbance	EN (IUCN)

The monarch’s experience offers direct lessons:

- **Corridor protection** — Conservation of the entire migration route, not just endpoints
- **Community involvement** — Local communities must benefit from conservation
- **Cross-border cooperation** — India shares migratory flyways with 30+ countries under the Central Asian Flyway
- **Climate adaptation** — Conservation plans must account for climate-induced habitat shifts

Convention on Migratory Species (CMS)

FEATURE	DETAIL
Also known as	Bonn Convention
Adopted	1979
Parties	133 countries
Secretariat	Bonn, Germany
India’s role	Party since 1983; hosted COP13 in Gandhinagar (2020)
COP14	Samarkand, Uzbekistan (February 2024)
Key finding	44% of CMS-listed species show declining populations

UPSC RELEVANCE

CMS/Bonn Convention, Monarch IUCN status, Biosphere Reserve, Central Asian Flyway, CITES vs CMS.

MAINS GS-3:

International conservation frameworks for migratory species; lessons from monarch conservation for India; climate change impacts on biodiversity; trinational cooperation models.

★ FACTS CORNER — KNOWLEDGEPEDIA

MONARCH BUTTERFLY CONSERVATION:

IUCN Status: Endangered (migratory subspecies, 2022)

Migration: 4,800 km (Canada/US to Mexico)

Overwintering: Monarch Butterfly Biosphere Reserve (UNESCO WHS, 2008)

2025-26 recovery: 2.93 ha (+64% from 1.79 ha)

Still 84% below 1990s peak of 18.19 ha

GLOBAL MIGRATORY SPECIES CONSERVATION:

CMS (Bonn Convention): 133 parties, adopted 1979

CMS COP14: Samarkand (Feb 2024)

State of Migratory Species (2024): 44% declining

Central Asian Flyway: 30 countries, India is key

INDIA'S KEY MIGRATORY SPECIES:

Amur Falcon: Siberia to Africa via Nagaland

Bar-headed Goose: Central Asia to Indian wetlands

Olive Ridley Turtle: Nests at Gahirmatha (Odisha)

Greater Flamingo: Iran/Afghanistan to Gujarat

INDIA AND CMS:

India party to CMS since 1983

Hosted COP13: Gandhinagar, Gujarat (2020)

Adopted: Gandhinagar Declaration on migratory species

Central Asian Flyway Action Plan: India is a lead country

OTHER RELEVANT FACTS:

Milkweed (Asclepias): Sole food plant for monarch caterpillars

1.3 billion milkweed stems lost in US since 1999

Illegal logging in Mexico biosphere core zone: eradicated since 2008

Ejido system: Mexican communal land ownership model

Sources: [Down to Earth](#) , [WWF](#) , [NWF](#)

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