



## **DAILY CURRENT AFFAIRS 11-07-2025**

### **GS-1**

1. Mahi River

### **GS-3**

2. India's "Battery Passport" System
3. Wildlife Institute of India (WII)
4. Panna Tiger Reserve
5. Seine River

## **Mahi River**

**Syllabus: GS-1; Geography- Rivers**

### **Context**

- 11 Killed After Vehicles Fall Into River As Bridge Collapses In Gujarat.

### **About**

The Mahi River is one of the major west-flowing rivers in India, originating in the Vindhya Range of Madhya Pradesh and flowing through Rajasthan and Gujarat before draining into the Arabian Sea.

### **1. Origin & Course**

- **Source:** Rises near **Village Bhopawar** in the **Dhar district** of **Madhya Pradesh**.
- **Length:** Approximately **580 km**.
- **Flow Path:**
  - Flows north through **Madhya Pradesh**
  - Turns northwest into **Rajasthan** (passing **Banswara, Dungarpur**)
  - Enters **Gujarat** and flows southwest towards the **Gulf of Khambhat**
  - Empties into the **Arabian Sea** near **Bharuch**.

### **2. Tributaries**

- **Left Bank:** Som, Jakham, Anas, Moran
- **Right Bank:** Eru, Chap

### **3. Dams & Reservoirs**

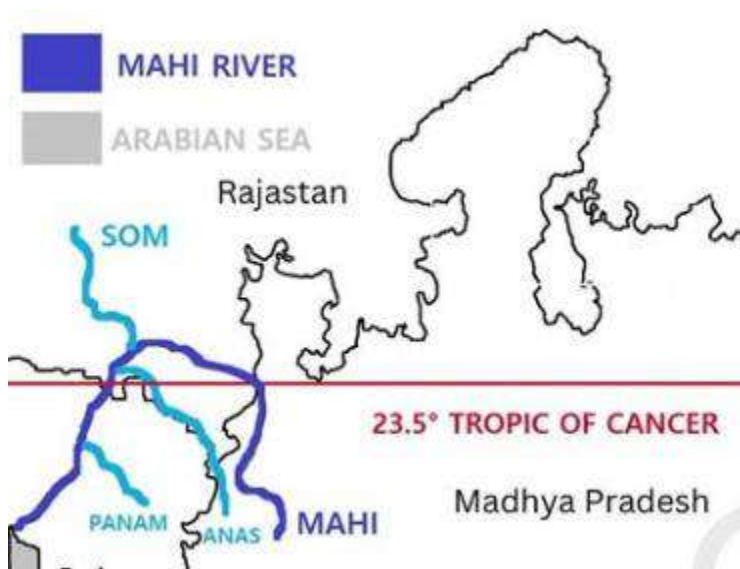
- **Mahi Bajaj Sagar Dam** (Rajasthan) – Major irrigation & hydroelectric project.
- **Kadana Dam** (Gujarat) – Used for power generation and water supply.

### **4. Significance**

- **Agriculture:** Supports irrigation in **Rajasthan & Gujarat**.
- **Hydropower:** Generates electricity via dams.
- **Ecological Importance:** Home to diverse flora and fauna.
- **Historical/Cultural:** Known as "**Mahisagar**" in ancient texts; flows near historic sites like **Champaner-Pavagadh**.

## 5. Unique Feature

- The **Mahi River** is the **only river in India** that crosses the **Tropic of Cancer twice** along its course.



## India's "Battery Passport" System

**Syllabus: GS-3; Science and Technology, GS-2; Governance**

### Context

- India is set to implement a groundbreaking "Battery Passport" system that is likely to revolutionise the electric vehicle (EV) sector by providing comprehensive digital documentation for every EV battery throughout its operational life.

### About

- This initiative, currently under development by **NITI Aayog** in collaboration with key government ministries, aims to enhance **transparency, safety, and sustainability** in the battery supply chain.

### Key Features of India's Battery Passport System

#### 1. Digital Identity for Every Battery

- Each battery will have a **unique digital profile** (similar to an "Aadhaar for batteries") encoded in a **QR code**.

- b. Scanning the QR code will provide instant access to critical details, including:
  - i. **Manufacturing origin** (supply chain, raw materials)
  - ii. **Performance metrics** (health, efficiency, charging history)
  - iii. **Chemical composition** (materials used, hazardous substances)
  - iv. **Recycling & disposal guidelines**
- 2. **Aligned with Global Standards (EU Influence)**
  - a. India's framework is heavily inspired by the **EU Battery Regulation**, which mandates battery passports for **EV and industrial batteries (≥2 kWh) from 2027**.
  - b. The system will track the **entire lifecycle**—from raw material extraction to recycling—ensuring compliance with **sustainability and circular economy** principles.
- 3. **Supports India's Battery Swapping Policy**
  - a. The rollout coincides with India's upcoming **battery swapping policy**, where real-time battery data will be crucial for **interoperability, safety, and efficiency**.

### Strategic Objectives

- 4. **Boost EV Exports**
  - a. Compliance with **global standards** (like the EU's) will make Indian EVs more competitive in international markets.
  - b. Attracts foreign investment, particularly under **Production-Linked Incentive (PLI) schemes** for advanced battery manufacturing.
- 5. **Enhance Safety & Quality**
  - a. Prevents **unsafe practices** (e.g., mixing old and new battery cells, which can cause fires).
  - b. Ensures **standardized performance** and longevity, increasing consumer trust.
- 6. **Promote Sustainability & Recycling**
  - a. Encourages **responsible disposal** and **reuse of battery materials**, reducing reliance on imported critical minerals (like lithium).
  - b. Supports India's **circular economy** goals under the **Battery Waste Management Rules (2022)**.

### Implementation & Rollout Plan

- **Phased Approach:**
  - Initial focus on **two-wheelers** (largest EV segment in India).

- Later expanded to **three-wheelers and four-wheelers**.
- **Preliminary Framework:** Expected to be released in the coming months.
- **Full Integration:** Likely before **2027**, aligning with global mandates.

### Why This Matters?

- **Consumer Confidence:** Batteries account for **~40% of an EV's cost**—transparency on health and lifespan will drive adoption.
- **Global Manufacturing Hub:** Strengthens India's position as a key **EV and battery export hub**, competing with China.
- **Regulatory Preparedness:** Positions India ahead of **EU-style regulations**, avoiding future trade barriers.

### Challenges Ahead

- **Infrastructure:** Scaling up **recycling facilities** and digital tracking systems.
- **Industry Compliance:** Ensuring manufacturers and recyclers adhere to the new norms.
- **Standardization:** Balancing **global frameworks** with local industry needs.

### Conclusion

India's **Battery Passport** system is a **major step forward** in the country's EV ambitions. By ensuring **traceability, safety, and sustainability**, it will not only boost domestic EV adoption but also strengthen India's role in the **global clean energy transition**.

## Wildlife Institute of India (WII)

### Syllabus: GS-3: Wildlife Conservation

#### Context:

Recently, Dr. Gobind Sagar Bhardwaj, a 1994-batch Indian Forest Service (IFS) officer of Rajasthan cadre, has been appointed as the Director of the Wildlife Institute of India (WII).

### Wildlife Institute of India (WII)

#### Overview

- **Established:** 1982

- **Location:** Dehradun, Uttarakhand
- **Type:** Autonomous institution under the **Ministry of Environment, Forest and Climate Change (MoEFCC)**
- **Status:** Recognized as a premier institute for wildlife research, training, and management in India.

### Objectives

- **Conduct research** in wildlife ecology, biodiversity, and management.
- Provide **training to forest officers, scientists, and researchers.**
- Serve as a **national repository** of information on wildlife.
- Promote **conservation awareness and capacity building.**

### Key Functions

- Field-based research in **wildlife ecology, habitat management, population estimation.**
- **Training courses** for Indian Forest Service (IFS), State Forest Service (SFS), and frontline staff.
- Develop **action plans for endangered species** and protected areas.
- Use of **modern technology** like satellite telemetry, GIS, and remote sensing in wildlife studies.
- **Collaborations** with national and international bodies (e.g., UNESCO, UNEP, WWF).

### Important Projects

- All India Tiger Estimation (in collaboration with NTCA)
- Elephant Census
- Snow Leopard Population Assessment in India (SPAI)
- Project on Great Indian Bustard
- Species Recovery Programs (e.g., Hangul, Manipur Brow-antlered deer)

## **Panna Tiger Reserve**

**Syllabus: GS-3; Biodiversity**

### **Context**

- 'Vatsala', considered to be Asia's oldest elephant, died recently at the age of more than 100 years at the the Panna Tiger Reserve in Madhya Pradesh.



### **Establishment & Recognition:**

- Declared a **Project Tiger Reserve** in **1994**.
- Recognized as a **Biosphere Reserve** by UNESCO in **2020**.
- Also designated as a **Critical Tiger Habitat**.

### **Area & Landscape:**

- **Terrain:** Dominated by the **Vindhya Range**, with plateaus, gorges, and dense forests.
- **Rivers:** **Ken River** (a tributary of the Yamuna) flows through the reserve, supporting rich biodiversity.

### Flora:

- **Forest Type:** Dry deciduous and tropical dry forests.
- **Key Trees:** Teak, salai, khair, tendu, mahua, and bel.
- **Grasslands:** Patches of grasslands along riverbanks.

### Fauna:

- **Big Cats:**
  - **Bengal Tigers** (successfully reintroduced after local extinction in 2009; now thriving).
  - **Leopards** (commonly sighted).
- **Other Mammals:**
  - Sloth bear, Indian wolf, striped hyena, jungle cat, chital, sambar, nilgai, chinkara, wild boar, and four-horned antelope.
- **Rare Species:**
  - **Gharial** and **mugger crocodile** in the Ken River.
  - **Indian vultures** (critically endangered).
- **Birds:** Over **250 species**, including the **bar-headed goose, honey buzzard, Indian vulture, and white-necked stork.**

### Conservation Success Story:

- Tigers were **locally extinct** in Panna by **2009** due to poaching and mismanagement.
- **Reintroduction Program (2009-2014):** Tigers were relocated from **Bandhavgarh** and **Kanha**.
- **Current Population (2024):** Around **50-60 tigers**, making it one of India's most successful tiger reintroduction projects.

### Conservation Challenges:

- **Poaching threats** (though reduced due to strict monitoring).
- **Human-wildlife conflict** in buffer zones.
- **Habitat fragmentation** due to mining (regulated now).

## Seine River

### Syllabus: GS-3: Environmental pollution – River Pollution

#### Context:

The River Seine in Paris, once infamous for pollution, has recently been declared safe for public swimming.

- For the **first time since 1923**, the River Seine in Paris has been declared **safe for public swimming**.
- This is the result of a **\$1.5 billion clean-up initiative**, launched in preparation for the **2024 Paris Olympics**.

#### Historical Background

- The Seine was heavily **polluted for over a century**.
- Main sources of pollution:
  - **Untreated sewage discharge**.
  - **Combined sewer system**: Rainwater and wastewater flowed in the same pipes.
  - **Storm overflows** released raw sewage directly into the river.
- **High E. coli levels** made the water unsafe for humans and aquatic life.
- **Swimming banned since 1923** due to health risks.

#### Causes of Contamination

| Cause                         | Details                                                                           |
|-------------------------------|-----------------------------------------------------------------------------------|
| Legacy infrastructure         | Combined sewer system not designed for modern urban volumes                       |
| Storm overflows               | Rain events caused system overloads, bypassing treatment plants                   |
| Urbanisation                  | Increased impermeable surfaces and unconnected households added to pollution load |
| Outdated treatment facilities | Inadequate to handle the scale of waste and rainfall                              |

#### Clean-up and Infrastructure Upgrades

**Paris invested over \$1.5 billion in:**

- **Underground stormwater storage tank** (50,000 m<sup>3</sup> capacity) in southeastern Paris.
- **Upgraded wastewater treatment plants** to enhance capacity and efficiency.
- **Connected 20,000+ homes** previously discharging waste into the river.
- **Real-time water monitoring systems** for pollution control.

*Result:* Major reduction in untreated sewage reaching the Seine.

**Seine as an Olympic and Public Swimming Venue**

- Hosted **open-water swimming and triathlon events** during 2024 Olympics.
- **Three public swimming zones** designated post-Olympics.
- **Daily testing** for E. coli and water quality indicators.
- Capacity to accommodate **1,000+ swimmers/day** during summer.

**Environmental and Urban Significance**

- **Model for sustainable urban water management.**
- Demonstrates the value of **infrastructure investment in ecological restoration.**
- Balances **urban recreation with environmental conservation.**
- Acts as a **global case study** for:
  - Reviving polluted rivers
  - Mitigating legacy pollution
  - Achieving SDG 6 (Clean Water and Sanitation)