# Prelim Bits 10-05-2022 | UPSC Daily Current Affairs

## Powai Lake

*In a setback to the Brihanmumbai Municipal Corporation (BMC), the Bombay High Court allowed PILs challenging the construction of a cycling and jogging track around Powai Lake and said the cycle track was illegal.*

- Recognised as a **wetland**, the Powai Lake is located in the north-eastern suburbs of **Mumbai,** Maharashtra.
- The Powai Lake is an artificial **man-made lake** located to the north of Mumbai and southwest of Thane.
- It was formed as a result of two dams built on the Mithi River in 1891.
- The purpose was to create a reservoir for providing water supply in Mumbai.
- However, water quality degraded within a few years, and it was declared unfit for drinking. It is being used for industrial purposes.
- **Management** - The Maharashtra State Angling Association (then called Bombay Presidency Angling Association), formed in 1936, currently controls and manages the lake.
- In 1995, the National Lake Conservation Plan (NLCP) included Powai Lake among India's 10 main lakes to be revived and improved.
- This program, launched in 2002, was implemented by **BMC**. As a result of this move, the condition of the lake has considerably improved.

**Reference**

1. https://indianexpress.com/article/explained/powai-cycling-track-project-explained-7905427/
2. https://www.maharashtratourism.gov.in/-/powai-lake

## Pantanal Wetland

*Brazilian scientists warn that Pantanal wetland is at risk of collapse.*

- Pantanal Wetland of the South America is the world's largest wetland.
- This is a **freshwater wetland** spans for more than 179,000 $km^2$ in Brazil, Paraguay and Bolivia.
- It consists of highest concentrations of flora and fauna in South America.
- Most of its land is used for traditional cattle ranching and fishing by local communities and sport fishers, with relatively little impact on its ecosystems.
- This wetland is at risk of collapse due to a series of local and seemingly minor decisions that fail to account for their cumulative impact on one of Earth's most biodiverse ecosystems.
- In 2000, it was inscribed on UNESCO's World Heritage List.
- **Threat**- Climate change, deforestation in Amazon rainforest and severe drought and massive fires.

**Reference**

1. https://www.downtoearth.org.in/news/wildlife-biodiversity/brazilian-scientists-warn-that-the-pantanal-is-at-risk-of-collapse-82745
2. https://phys.org/news/2022-05-pantanal-world-largest-wetland-collapse.html

## State of the World's Forests 2022

The 2022 edition of the State of the World's Forests (SOFO) was released during the World Forestry Congress.

- According to the SOFO report, the world has lost 420 million hectares (mha) of forests in the last 30 years (1990-2020) due to **deforestation.**
- This loss is approximately 10.34% of its total forest area 4.06 billion ha (31 per cent) of the earth's geographical area.
- It added that although the rate of deforestation was declining, 10 mha of forests were lost every year between 2015 and 2020.
- More than 700 mha of forest (18% of total forest area) is in legally established protected areas.
- But, forest biodiversity remains under threat from deforestation and forest degradation.

  Unless additional action is taken, an estimated 289 mha of forests would be deforested between 2016 and 2050 in the tropics alone, resulting in the emission of 169 GtCO2e.

- The report also presented **three pathways** for achieving green recovery and tackling environmental crises, including climate change and biodiversity loss:
  1. Halting deforestation and maintaining forests
  2. Restoring degraded lands and expanding agroforestry
  3. Sustainably using forests and building green value chains
- **Diseases** - SOFO 2022, stated that 15% of 250 emerging infectious diseases have been linked to forests.
- It further stated that 30% of new diseases, reported since 1960, can be attributed to deforestation and land-use-change.
- Deforestation, particularly in the tropics, has been associated with an increase in infectious diseases such as dengue fever and malaria.
- SOFO 2022 suggested for better and more responsible land-use planning to address the "underlying drivers of disease emergence".
- **Fuel** - Approximately 124 million more people fell into extreme poverty after COVID-19.
- This may have longer-term impacts on wood-based fuel, as there is evidence of increased wood-based fuel use in some countries during the pandemic.
- **Population** - SOFO 2022 further stated that the world population is projected to reach 9.7 billion people by 2050.
- This will increase competition for land, as the demand for food for this large population will rise by 35 to 56 per cent by the 2050s.
- The annual global consumption of all natural resources combined is expected to more than double from 92 billion tonnes (2017) to 190 billion tonnes (2060) due to increases in population size and affluence.
- It further stated that annual biomass extraction was expected to reach 44 billion tonnes by 2060, from 24 billion tonnes in 2017.
- Demand for forest-based biomass is expected to rise further, mainly due to construction and packaging.
- It states that according to estimates, restoration of degraded land through afforestation and

reforestation could cost-effectively take 0.9 to 1.5 GtCO2e per year out of the atmosphere between 2020 and 2050.
- More than 140 countries have pledged, through the Glasgow Leaders' Declaration on Forests and Land Use, to eliminate forest loss by 2030 and to support restoration and sustainable forestry.
- To this end, an additional $19 billion has been allocated to help developing countries achieve these objectives.

**Reference**


1. https://www.downtoearth.org.in/news/forests/state-of-the-world-s-forests-2022-10-of-total-forest-area-on-earth-lost-in-30-years-82658
2. https://www.fao.org/publications/sofo/2022/en/


# Thalassemia

*Every year World Thalassemia day is observed on May 07 in order to create the awareness to honour the struggle of patients suffering from the disease.*

- Thalassemia is an inherited blood disorder caused when the body doesn't make enough of the protein hemoglobin, a part of red blood cells (RBCs).
- Hemoglobin enables RBCs carry oxygen to all the cells of the body.
- Thalassemia can cause anemia, leaving you fatigued.

When there isn't enough hemoglobin, it is called Thalassemia.

When there aren't enough healthy RBCs, it is called anemia.

- When there isn't enough hemoglobin, the body's RBCs don't function properly and they last shorter periods of time, so there are fewer healthy red blood cells traveling in the bloodstream.
- When there are not enough healthy RBCs, there is also not enough oxygen delivered to all the other cells of the body, which may cause a person to feel tired, weak or short of breath.
- People with thalassemia may have mild or severe anemia.
- Severe anemia can damage organs and lead to death.
- **Causes** - Thalassemia is caused by mutations in the DNA of cells that make hemoglobin - the substance in RBCs that carries oxygen throughout your body.
- The mutations associated with thalassemia are passed from parents to children.
- Hemoglobin molecules are made of chains called alpha and beta chains that can be affected by mutations.
- In thalassemia, the production of either the alpha or beta chains are reduced, resulting in either alpha-thalassemia or beta-thalassemia.
- In alpha-thalassemia, the severity of thalassemia you have depends on the number of gene mutations you inherit from your parents. The more mutated genes, the more severe your thalassemia.
- In beta-thalassemia, the severity of thalassemia you have depends on which part of the hemoglobin molecule is affected.
- **Risk factors -** Factors that increase your risk of thalassemia include:
    1. **Family history of thalassemia.** Thalassemia is passed from parents to children through mutated hemoglobin genes.

2. **Certain ancestry.** Thalassemia occurs most often in African Americans and in people of Mediterranean and Southeast Asian descent.

- **Complications** - Possible complications of moderate to severe thalassemia include iron overload, infection, bone deformities, enlarged spleen, slowed growth rates and heart problems.
- **Prevention** - In most cases, you can't prevent thalassemia.
- If you have thalassemia, or if you carry a thalassemia gene, consider talking with a genetic counselor for guidance if you want to have children.
- There is a form of assisted reproductive technology diagnosis, which screens an embryo in its early stages for genetic mutations combined with in vitro fertilization.
- This might help parents who have thalassemia or who are carriers of a defective hemoglobin gene have healthy babies.
- The procedure involves retrieving mature eggs and fertilizing them with sperm in a dish in a laboratory.
- The embryos are tested for the defective genes, and only those without genetic defects are implanted into the uterus.

**Reference**


1. https://pib.gov.in/PressReleasePage.aspx?PRID=1823666
2. https://www.indiatoday.in/information/story/world-thalassemia-day-2022-date-history-theme-and-significance-1946828-2022-05-08
3. https://www.cdc.gov/ncbddd/thalassemia/facts.html
4. https://www.mayoclinic.org/diseases-conditions/thalassemia/symptoms-causes/syc-20354995


# Rocket-Propelled Grenade

*The Rocket-Propelled Grenade attack on the Punjab Police's Intelligence headquarters in Mohali late Monday night has brought the weapon into focus.*

- The Rocket-Propelled Grenade (RPG) is a weapon of Soviet origin.
- Its initials stand for Rucknoy Peotivotankovvy Granaromyot, which roughly translated means a handheld anti-tank grenade launcher.
- It is a portable, shoulder fired weapon, which is easy to operate.
- It can cause widespread damage whether used in an anti-personnel mode, against armoured vehicles or against buildings.
- There are different versions of the RPG which are designed as per the usage of the weapon with varying capacity of the warhead, effective range and penetration levels.
- **Origin** - The origins of RPG lie in the various conflicts that have taken place in modern military warfare, dating back to World War I.
- The most prolific of the handheld weapons developed by western military powers has been the RPG.
- The RPG has made its presence felt in almost every major insurgency or terrorism-affected region in the world.
- The Soviet-origin RPGs have been used extensively in the Vietnam conflict as well as in conflicts in Afghanistan, Somalia, Syria, Iraq and even closer home, in Jammu and Kashmir.
- Security forces in J&K have, in the past, recovered RPGs from slain terrorists, and have also found evidence of its use.
- **Threat -** There is a thriving illicit market for Soviet-origin weapons like the RPG, which are still in circulation worldwide.
- Such weapons are not difficult to procure by arms smugglers, and these then find their way to

terrorist organisations.
- Eastern European countries, especially those from the former Soviet Union bloc, are well known markets for the sale and purchase of these weapons.

**Reference**


1. https://timesofindia.indiatimes.com/city/chandigarh/rpg-fired-at-punjab-cops-intel-hq-but-it-fails-to-explode/articleshow/91451032.cms
2. https://indianexpress.com/article/explained/everyday-explainers/rocket-propelled-grenade-punjab-police-intelligence-hq-attack-mohali-7909287/


