Prelim Bits 17-06-2023 | UPSC Daily Current Affairs

Predator Unmanned Aerial Vehicles (UAV)

Defence Acquisition Council (DAC) approved the procurement of armed Predator Unmanned Aerial Vehicles (UAV) from General Atomics Aeronautical Systems (GA-ASI), United States.

- **Unmanned Aerial Vehicle (UAV) -** It is an aircraft that carries no human pilot or passengers.
- UAVs are sometimes called as drones that can be fully or partially autonomous but are more often controlled remotely by a human pilot.
- **Predator Unmanned Aerial Vehicles (UAV) -** The Predator drone or the MQ-9 Reaper is a long-endurance, medium-altitude, turboprop-powered, multi-mission, unmanned aircraft system (UAS).
- **Developed by** - General Atomics Aeronautical Systems, U.S.
- **Endurance** - > 27 hours.
- **Speed** - 240 KTAS. (KTAS - True Airspeed of an Airplane charter measured in Knots).
- **Height** - up to 50,000 feet.
- **Payload Capacity** - 1,746 kilograms.
- **Advantages** - It provides a long-endurance, persistent surveillance/strike capability for the war fighter.
- It is equipped with a fault-tolerant flight control system and triple redundant avionics system architecture.
- It is engineered to meet and exceed manned aircraft reliability standards.

The maritime variant of the MQ-9 UAV, known as Sea Guardian, has an endurance of over 30 hours.

Reference

The Indian Express | India to buy Predator UAVs from the US

Fish Kill

Recently thousands of dead fish washed up on multiple beaches of southeast Texas, USA due to a phenomenon called, "fish kill".

- Fish kill is the sudden and unexpected death of many fish or other aquatic animals over a short period and mostly within a particular area.

Causes of fish kill

- **Low levels of dissolved oxygen -** When sea surface temperatures rise, it becomes difficult for the fish to breathe as oxygen dissolves easily in colder water compared to warmer water.
- When many fishes get trapped in shallow water, they get warmer more quickly, leading to suffocation.
- This causes fish to act more erratically, which in turn, further depletes the oxygen from the water, ultimately leading to the death of the fish.
- **Calm Seas** - Oxygen enters the sea water by mixing with wind and waves.
- Very calm seas causes the depletion of dissolved oxygen and causes fish kill.
- **Overcast weather** – It refers to *more than 95% of cloud coverage.*
- Photosynthesis is driven by sunlight and it slows down on cloudy days, resulting in decreased dissolved oxygen concentration.
- **Other reasons** – Alteration in natural water chemistry, biological changes, rising temperatures of oceans, chemical pollution or miscellaneous human activity.

Event	Probable Cause	Explanation
Large fish die (all types) Small fish still alive	Low Dissolved Oxygen	Kills often due to hot weather with algal blooms.
Small fish die (all types) Large fish still alive	Toxins: metals, pesticides, herbicides, fertilizers, and chemicals.	If the chemical amount is large, all fish die. Effect on fish varies by chemical.
Only one type of fish dies	Diseases	Often all the fish are the same size. Most often it is 10 days after a weather disturbance.
	Typically virus	All the fish died within 1 or 2 days.
	Typically bacteria	All the fish died within 5 to 10 days.
All types and all sizes of fish die	Acute Stress	Weather made water too cold or too hot.
Fish die after cold front	Temperature	Water temperature too cold.
Fish die in shallow water with temperature over 100	Temperature	Water temperature over 100°F.
Fish die and water clear when it would normally be very green.	Very low dissolved oxygen or toxins	Large amounts kill all living organisms.

Quick Facts
• Some 300 wild birds of various species were found dead along the coasts of Mexico's western coasts were likely caused by due to El Niño, warming of sea waters in Central-east Equatorial Pacific.

Reference

The Indian Express | Thousands of dead fish wash up on Texas coast

Alligator Gar Fish

A non-native alligator gar fish was found in one of Kashmir's dal lake, raising fears about its impact on the native fish species.

- Alligator gar, the largest of the gar is a fish species with crocodilian head and razor-sharp teeth.
- It is a close relative of the bowfin species.
- **Family** - Belonidae.
- The common name *gar*, or *garfish* or *garpike*, is applied to the needlefish.
- **Habitat** – Central America and North America.
- They are found in freshwaters - Rivers, lakes, and estuaries.
- It is a ray-finned Euryhaline fish and is one of the biggest freshwater fish in North America.
- It is listed as *Least Concern* in the IUCN's Red data list.
- Being a predator fish and a carnivore, it can eat all types of fishes.
- Gars have the ability to gulp air in response to low-oxygen conditions that often occur in sluggish waters.
- They can even sustain in the cold water temperatures of 11-23 degrees Celsius.
- Alligator gars are oviparous (lay eggs).
- It is considered an *alien fish species (invasive species)* in India as it occurs here outside of its native habitat.
- The alligator gar's fossil records date back to nearly 100 million years ago, hence they are referred as *"living fossil fish".*

Reference

Down to Earth | The latest threat for Srinagar's idyllic Dal Lake

Wilful Defaulters

The Reserve Bank of India (RBI) has allowed wilful defaulters and loans accounts involved in frauds to go in for a compromise settlement with banks to settle their dues.

- **Willful defaulter** - A willful defaulter is an entity or a person that has not paid the loan back despite the ability to repay it.
- A fraudster is one who intentionally cheats the bank with false documents/information and misappropriates the money.
- As per the RBI regulations, willful default covers several broad areas:
    - Deliberate non-payment of the dues despite adequate cash flow and good networth,
    - Tapping off of funds to the detriment of the defaulting unit,
    - Assets and proceeds have been misutilised;

    - Misrepresentation / falsification of records;
    - Disposal / removal of securities without bank's knowledge;
    - Fraudulent transactions by the borrower.
- The amount of wilful default must be of at least Rs. 25 lakhs as per the Central Vigilance Commission.
- Restrictions for wilfull defaulters
    - Barred from participating in the capital market.
    - Barred from availing of banking facilities for 5 years to start a new venture.
    - Lenders are free to initiate the process of recovery with full ferocity and ay initiate criminal proceedings.
    - Lending institutions do not allow any wilful defaulter to become a board member of any company.
    - Barred from making an open offer.

Reference

The Indian Express | Compromise settlement for wilful defaulters

Shakti Scheme

Karnataka government has recently launched the Shakti scheme

- Sakthi Scheme offers free travel to women and transgender people in government-run buses in the state of Karnataka.
- The scheme allows women and transgenders irrespective of their age.
- It aims to empower women financially by providing them free of cost bus service.
- The government has also reserved 50% of the seats for men in all RTCs, except BMTC services.
- The scheme follows the footsteps of *Delhi, Punjab and Tamil Nadu*, which have introduced similar initiatives.

Reference

The Hindustan Times | Shakti Scheme

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