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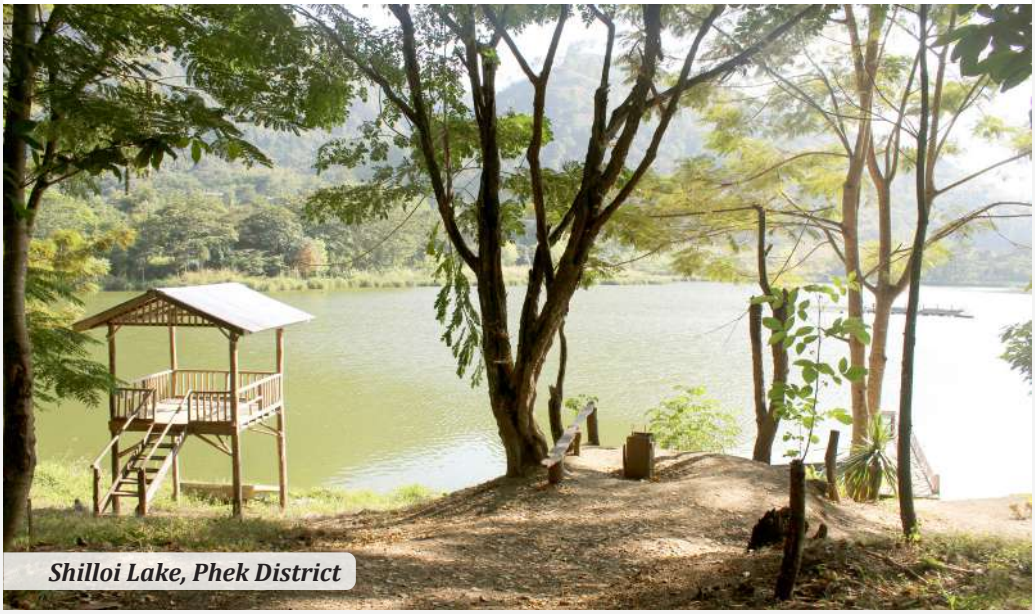
Editorial

Wetlands are often overlooked in discussions about environmental conservation, yet they are among the most vital ecosystems on our planet. Found in every continent except Antarctica, wetlands—including marshes, swamps, bogs, and estuaries—play a crucial role in maintaining ecological balance. They serve as natural water filters, flood regulators, and carbon sinks, while also providing habitat for countless species of plants and animals. Despite their immense value, wetlands are rapidly disappearing due to human activities, making it imperative to recognize their importance and take action to protect them.

Wetlands are home to an extraordinary range of biodiversity. From migratory birds and amphibians to fish and insects, these ecosystems support species that depend on wetlands for survival. Many endangered species, such as the Bengal tiger in the Sundarbans or the crane in North America, rely on wetlands for breeding and sustenance. The interdependent web of life within wetlands ensures that they remain productive and resilient environments.

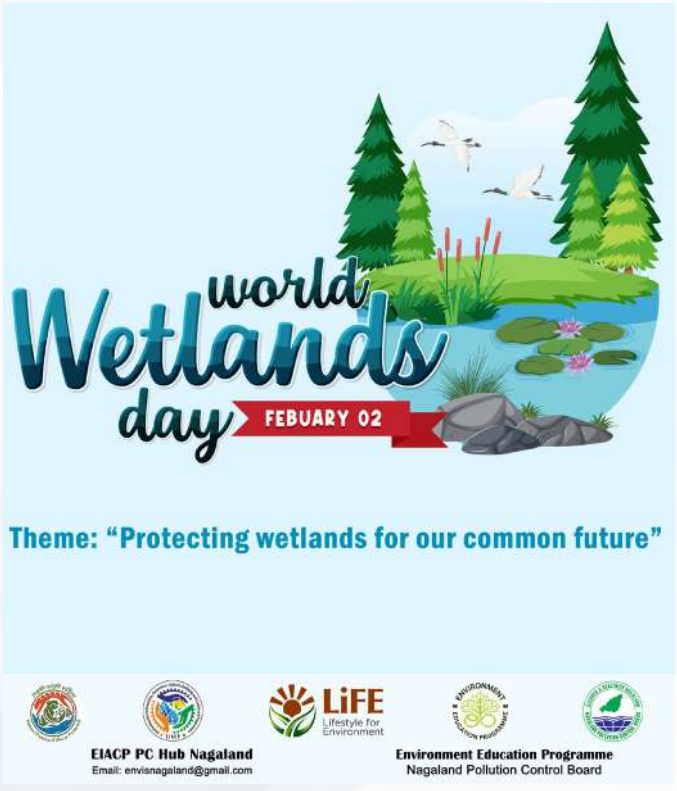
One of the most valuable functions of wetlands is their ability to act as nature's filtration system. Wetlands trap pollutants, sediments, and excess nutrients from water, improving water quality before it reaches rivers, lakes, and oceans. By acting as natural water purifiers, they help prevent contamination and safeguard drinking water sources for millions of people. This issue highlights the importance of wetlands and the significance of Shilloi Lake as one of the biggest wetlands in Nagaland state.



Shilloi Lake, Phek District

Wetlands are disappearing faster than forests and are Earth's most threatened ecosystems, which include marshes, swamps, bogs, and coastal ecosystems, are vanishing at an alarming rate- three times faster than forests. This rapid loss is due to factors such as urbanization, agricultural expansion, pollution, and climate change. Wetlands are often undervalued and misunderstood, leading to drainage and conversion for development. As a result, the planet is losing crucial habitats that regulate water cycles, store carbon, and support biodiversity.

The theme for World Wetlands Day 2025 is **"Protecting Wetlands for Our Common Future,"** emphasizing the vital role of wetlands for biodiversity and human well-being. The theme highlights the importance of wetlands as ecosystems that sustain biodiversity and provide critical services for human well-being. It underscores the need for global efforts and transformative actions to protect wetlands for the welfare of all people and ensure the continuity of benefits for future generations. The biggest threat to wetlands is pollution from industrial and human effluents, which degrade these ecosystems.



NEW RAMSAR SITES IN INDIA: Sakkarakottai Bird Sanctuary and Therthangal Bird Sanctuary (Tamil Nadu), Khecheopalri Wetland (Sikkim), and Udhwa Lake (Jharkhand) are included in the list of Ramsar sites. These are the first Ramsar Sites of Sikkim and Jharkhand. With this, Ramsar sites (Wetlands of International Importance) within India increased to 89. Tamil Nadu has the maximum number of Ramsar Sites (20 sites) followed by Uttar Pradesh (10 sites).

Wetlands in Nagaland: Importance, Major Wetlands and Conservation Challenges

Introduction

Wetlands in Nagaland are vital ecosystems that support biodiversity, provide essential water resources, and sustain local livelihoods. The state is home to several significant wetlands, including Doyang Reservoir, Shilloi Lake, and Zanibu Lake, which serve as key habitats for migratory birds, fish, and diverse wildlife. These wetlands are crucial in water conservation, flood regulation, and sustaining ecological balance. However, they are increasingly threatened by encroachment, pollution, and climate change. Protecting these wetlands is essential for both environmental sustainability and socio-economic well-being.

Nagaland is home to 421 wetlands covering 215 square kilometers, comprising natural lakes such as Shilloi Lake and artificial reservoirs like Chathe Reservoir, which play a crucial role in biodiversity conservation and water management.

CULTURAL AND HISTORICAL SIGNIFICANCE OF WETLANDS

Wetlands have not only ecological importance but also rich cultural and historical value. Across the world, they have been intertwined with human history, traditions, and spirituality:

i. **Sacred Spaces:** Many cultures revere wetlands as sacred places. For example, in India, the Ramsar-recognized Chilika Lake is not just an ecological hotspot but also holds spiritual importance for local communities. Similarly, wetlands like swamps and marshes are central to folklore and mythology, symbolizing mystery and transformation in stories from various cultures.

ii. **Ancient Civilizations:** Wetlands were the cradles of ancient civilizations. For instance, Mesopotamia, often called the "Cradle of Civilization," thrived in the Tigris-Euphrates wetlands. Similarly, the Aztec civilization flourished using chinampas (floating gardens) in the wetlands of modern-day Mexico.

iii. **Indigenous Knowledge:** Indigenous communities have lived harmoniously with wetlands for centuries, developing sustainable ways to use their resources. For example, in Southeast Asia, traditional rice farming integrates wetland ecosystems, ensuring biodiversity and food security.

HOW WETLANDS CAN BE PRESERVED

To protect and preserve wetlands, individuals and communities must recognize the value of these vital ecosystems. This can involve supporting conservation efforts, promoting sustainable land use practices, and taking action to mitigate the effects of climate change.

- Establishing protected areas, such as national parks and wildlife refuges, is one of the most effective ways to safeguard wetlands for future generations. Many wetlands worldwide have already been designated as protected spaces. Governments and organizations are also actively working to restore degraded wetlands by removing invasive species, controlling pollution, and reintroducing native plants and animals.
- Participating in local conservation organizations or volunteering with wetland restoration projects is a powerful way to contribute. These efforts often require assistance with tasks like monitoring, seed collection, and the removal of invasive species.
- Promoting sustainable land use is another key step. This includes supporting farmers and landowners who adopt eco-friendly agricultural practices that protect wetlands and their surrounding habitats. Additionally, investing in green infrastructure, such as rain gardens and green roofs, can reduce the negative impact of urban development on wetlands.
- Addressing climate change is critical for wetland preservation. This can involve reducing reliance on fossil fuels, increasing the use of renewable energy, and improving energy efficiency. These efforts help slow the pace of climate change, which poses a significant threat to wetlands worldwide.

THREATS TO WETLANDS IN NORTHEAST INDIA

- Urbanization and Encroachment: Rapid expansion of cities and towns has led to encroachment and pollution in wetlands like Deepor Beel.
- Agricultural and Industrial Pollution: Pesticides, fertilizers, and industrial waste have degraded water quality in many wetlands.
- Climate Change: Rising temperatures and changing rainfall patterns are affecting the water levels and ecological balance of these wetlands

CONSERVATION EFFORTS

- The designation of wetlands like Loktak Lake and Deepor Beel as Ramsar Sites has brought international attention to their conservation.
- Local NGOs and government bodies are working to restore and protect wetlands through community engagement, awareness campaigns, and restoration projects.
- Sustainable tourism and eco-friendly practices are being promoted to reduce human impact on these fragile ecosystems.

SHILLOI LAKE: The Largest Natural Lake in Nagaland

Shilloi Lake is the largest natural lake in Nagaland, located in the Phek district in the southeastern part of the state. Nestled in the Patkai Hills at an elevation of about 983 meters above sea level, the lake is a major tourist attraction known for its scenic beauty, cultural significance, and ecological importance.

Shilloi Lake is not just a scenic natural attraction but also a culturally significant and ecologically valuable wetland in Nagaland. Its untouched beauty, rich biodiversity, and deep-rooted legends make it a fascinating destination. Conservation efforts are crucial to preserve this lake for future generations while promoting sustainable tourism and environmental protection.

GEOGRAPHICAL FEATURES

- **Location** : Phek District, Nagaland
- **Coordinates** : 25.8 N latitude, 94.5 E longitude
- **Elevation** : Approximately 983 meters (3,225 feet)
- **Shape** : The Lake is uniquely shaped like a human footprint.
- **Depth** : Varies depending on the season, with an average depth of around 4 meters.

Ecological Importance of Shilloi Lake

- The lake is home to various species of birds, fish, and aquatic plants making it an essential part of Nagaland's ecosystem.
- Shilloi Lake serves as a stopover site for migratory birds, including species from Siberia and other parts of Asia.
- The lake plays a crucial role in groundwater recharge and maintaining the ecological balance in the region.
- Surrounding forests are rich in diverse plant species, butterflies, and small mammals adding to their ecological significance.

Unique Aspects of Shilloi Lake

- Nagaland's Largest Natural Lake- A unique untouched freshwater body in the hills.
- Sacred and Mythological Significance- Deeply embedded in local Naga traditions and folklore.
- Biodiversity Hotspot- Home to rare birds, fish, and aquatic plants.
- Scenic Beauty- A breathtaking natural retreat, perfect for tourism and adventure.

Cultural and Mythological Significance of Shilloi Lake

- The local Lotha and Kheza tribes believe that Shilloi Lake is sacred and that its waters are protected by a spirit or deity.
- It is said that no one has ever drowned in the lake, as the water is believed to be cursed in a way that prevents people from sinking.
- According to a famous legend, a divine child used to reside at the bottom of the lake, making it a spiritual site for locals.

Wetlands and Climate Resilience

As climate change continues to alter weather patterns across the world, Nagaland's wetlands are playing an increasingly vital role as natural climate regulators. Wetlands act as buffer zones, helping to mitigate the effects of extreme weather events such as heavy monsoons, prolonged droughts, and erratic rainfall patterns. Their ability to store excess rainwater and release it gradually makes them essential for maintaining water balance, supporting agriculture, and preserving biodiversity. However, without proper conservation, these wetlands could dry up or become severely degraded, leading to water scarcity and ecological imbalances.

The Role of Wetlands in Climate Resilience

i. **Rainwater Storage and Groundwater Recharge:** During the monsoon season, wetlands act as natural reservoirs, absorbing and storing large amounts of rainwater. This prevents immediate runoff, reducing the risk of flash floods in downstream areas. The stored water gradually seeps into the ground, replenishing underground aquifers and ensuring a steady groundwater supply even during dry months. This function is particularly important for rural communities in Nagaland that rely on wells, streams, and small rivers for drinking water and irrigation.

ii. **Regulating Water Availability in Dry Seasons:** Wetlands slowly release stored water back into the environment through evaporation, transpiration from plants, and underground seepage, which helps in maintaining river flows and keeping soil moisture levels stable. This is crucial during periods of drought, when rainfall is scarce, and water sources start drying up. Without wetlands, many regions in Nagaland would face severe water shortages, affecting both human settlements and wildlife.

iii. **Flood Control and Erosion Prevention:** Due to Nagaland's hilly terrain, heavy rainfall often leads to landslides, soil erosion, and flash floods in valleys and low-lying areas. Wetlands act as natural sponges, absorbing excess rainwater and reducing the speed of surface runoff. This not only prevents soil erosion but also helps protect agricultural lands, villages, and infrastructure from flooding. Additionally, wetlands with dense vegetation help bind the soil together, further preventing land degradation.

iv. **Temperature and Climate Regulation:** Wetlands help in moderating local temperatures by absorbing heat and maintaining humidity levels. They act as carbon sinks, capturing and storing carbon dioxide (CO_2), which helps in reducing greenhouse gas emissions. Peat lands, marshes, and swampy wetlands are especially effective in storing carbon, playing a role in mitigating global warming. The presence of healthy wetlands can lead to cooler, more stable microclimates, benefiting both human populations and wildlife.

v. **Biodiversity and Ecosystem Stability:** A changing climate threatens many plant and animal species that depend on stable wetland environments. Wetlands in Nagaland serve as breeding and feeding grounds for migratory birds, amphibians, fish, and aquatic plants. If these wetlands dry up due to climate change or human interference, species that rely on them for food and shelter will face population declines or extinction. Protecting wetlands ensures that biodiversity remains intact, helping ecosystems to adapt and recover from climate disturbances.

Future of Wetlands in Nagaland

Despite their vital role in maintaining biodiversity, water conservation, and local livelihoods, wetlands in Nagaland are increasingly threatened by deforestation, pollution, encroachment, and unregulated development. To safeguard these crucial ecosystems, a multi-faceted conservation approach is needed.

- **Strengthening Wetland Protection Laws to Prevent Encroachment:** Many wetlands in Nagaland are at risk due to unregulated human activities, including agriculture, urban expansion, and infrastructure projects. Strengthening existing environmental laws and introducing strict monitoring mechanisms can help prevent encroachment. Legal frameworks should ensure that wetlands are designated as protected areas, with clear guidelines on their use and conservation. Additionally, community participation in enforcing these laws can create stronger local stewardship.
- **Encouraging Sustainable Tourism to Promote Awareness While Minimizing Human Impact:** Wetlands like Shilloi Lake and Doyang Reservoir attract tourists due to their scenic beauty and ecological significance. However, unregulated tourism can lead to littering, habitat destruction, and water pollution. Promoting eco-tourism initiatives, such as guided nature trails, bird watching programs, and responsible tourism guidelines, can increase awareness while ensuring minimal damage to these fragile ecosystems. Creating designated pathways, eco-friendly accommodations, and waste management systems can help in balancing tourism with conservation.
- **Community-Led Conservation Projects That Blend Traditional Knowledge with Modern Scientific Approaches:** Many Naga tribes have traditionally respected and protected wetlands due to their spiritual and cultural beliefs. Incorporating indigenous knowledge such as taboos against overexploiting water bodies alongside scientific conservation techniques can enhance wetland protection efforts. Community-led afforestation, wetland restoration projects, and local monitoring teams can help sustainably manage these ecosystems. Engaging local farmers, fishermen, and youth groups in conservation activities will foster a sense of ownership and responsibility for protecting wetlands.

- **Afforestation Programs to Prevent Soil Erosion and Siltation in Wetland Areas:** Deforestation and land degradation near wetlands lead to increased soil erosion, which results in siltation—the excessive accumulation of sediments in water bodies. This reduces water depth, depletes aquatic habitats, and disrupts wetland functions. Implementing large-scale afforestation programs by planting native trees, grasses, and shrubs around wetlands can stabilize soil, reduce erosion, and enhance water retention. Encouraging agroforestry and controlled land-use practices will further help prevent wetland degradation.

  The future of wetlands in Nagaland can be protected by integrating legal frameworks, sustainable tourism, community involvement, and afforestation programs. These efforts will ensure that wetlands continue to provide ecological, economic, and cultural benefits while adapting to climate change and human pressures.

Mission LiFE Awareness Activities from January to March 2025:

Under the Mission LiFE campaign, various awareness programs and cleanliness drives with several schools and colleges were conducted to promote sustainability, community engagement, and environmental awareness.

KUBC Youth Ministry, Tseminyu District on 6 Jan 2025

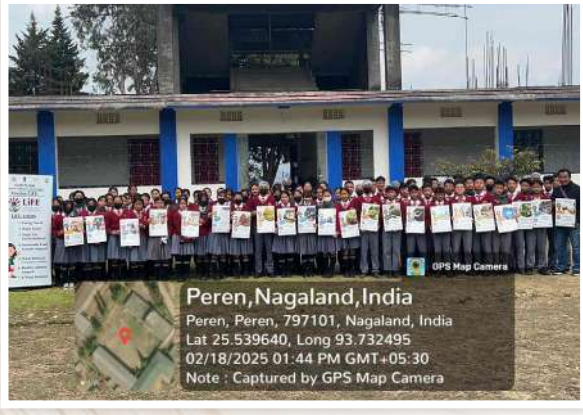
Kohima College on 30 Jan 2025

GHSS Diphupar A on 22 Jan 2025

Mt Mary College on 1 Feb 2025

Brighter Academy on 13 Feb 2025

Baptist Hr Sec School, Peren on 18 Feb 2025



All Saints Hr Sec School Peren on 18 Feb 2025

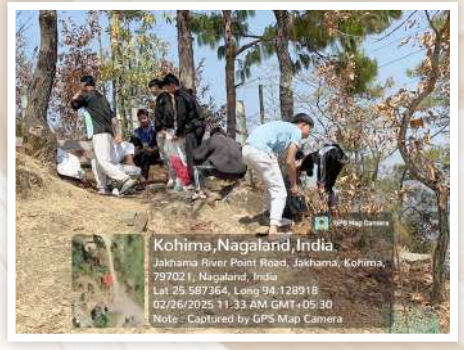
St Xavier College Jalukie on 20 Feb 2025

Tetso College on 28 Feb 2025

Sacred Heart High School, Khuzama on 6 Mar 2025

St Joseph Hr Sec School Viswema on 18 Mar 2025

Kin High School on 11 Feb 2025



Cleanliness drive by Loyola Higher Secondary School, Jakhama on 26 February 2025

All queries and feedback regarding this newsletter can be sent to:

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