BEST 2017

NEWSLETTER OF THE BIODIVERSITY AND ENVIRONMENTAL SUSTAINABILITY

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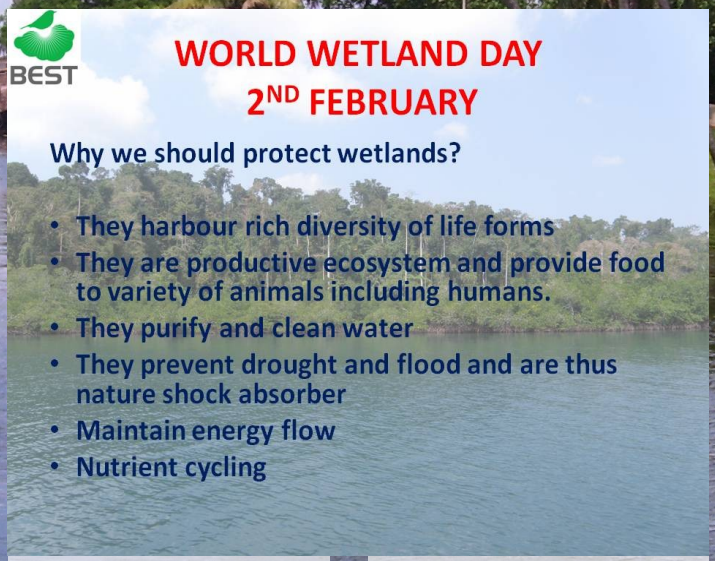
EDITORIAL

How many of us know about Wetlands? If I ask a lay man he or she may hardly say anything about wetlands. In the past wetlands were treated as wasteland with little economic value. As a result large number of wetlands disappeared, according to scientific estimates 64% of the wetlands disappeared since 1900 (Source, Ramsar.org). The picture looks gloomy and therefore require immediate and urgent action to reverse this trend.

For the conservation and wise use of wetlands and their resources the Convention on Wetlands, called ***Ramsar Convention*** an intergovernmental treaty was signed in 1971 in Iranian city Ramsar.

The convention adopted a broad definition of wetlands that included all lakes and rivers, underground aquifers, swamps and marshes, wet grasslands, oases, estuaries, deltas and tidal flats, mangroves and other coastal areas, coral reefs, and all man made sites such as fish ponds, rice paddies, reservoirs and salt pans.

For raising public awareness every year on **2nd February** World Wetland Day is celebrated. The theme for this year is "**Wetlands For Disasters Risk Reduction**"



The theme meant to highlight the importance of wetlands in mitigating the impacts of extreme events such as floods, drought and cyclones on communities and in helping to build resilience.

India currently has 26 sites designated as Ramsar Sites with a surface area of 689131 hectares.

In this issue we will present some interesting articles on wetlands of India along with some other articles related with our Trust activities that include Sparrow Day Celebration and participation Backyard Bird Count. We have made every effort to make this issue interesting for readers. I am sure this issue will bring readers closer to nature and wildlife and motivate them to protect and preserve environment.

DR. VIRAT JOLLI,
President
BEST, INDIA

SUPREME COURT DIRECTS CENTRE TO PRESERVE OVER TWO LAKH WETLANDS

NEW DELHI: In a major direction to preserve ecologically crucial wetlands threatened by encroachment in many parts of the country, the Supreme Court directed the Centre to frame a policy to protect wetlands by 30th June. The court's direction will cover over 2 lakh wetlands across India which were identified through satellite imagery by ISRO and the Centre has been asked to draw up a phased plan of action to conserve the water bodies.

The Centre informed the court it had formed a comprehensive scheme of National Plan for Conservation of Aquatic Eco-systems (NPCA) for conservation and restoration of lakes and wetlands. "The ministry has so far identifies 115 wetlands and 63 lakes in 24 states and 2 union territories for conservation and management under the scheme. So far, since 1987-88 an amount of Rs 780 crore has been released for undertaking various conservation activities," the government said.

(Source: Times of India, 9th Feb, 2017)

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Rachel Carson

"Nature has introduced great variety into the landscape, but man has displayed a passion for simplifying it. Thus he undoes the built-in checks and balances by which nature holds the species within bounds."

ECONOMIC IMPORTANCE OF AQUATIC PONDS OF BIHAR

After division of Bihar recession in State Economy has taken place, because all the major industries remained with the State of Jharkhand and Bihar left out with agricultural land and surplus water due to frequent floods. Thus it is imperative to work out the economic growth which may be promoted by harvesting crops growing in water . The potential of makhana crop being grown profusely in North Bihar region and their possible impact on the people of the area.

North Bihar is traversed by a number of perennial rivers and their numerous tributaries. It witnesses an average annual rainfall of 1200 mm. In this region the excavation of ponds through human efforts has been a socio-religious practice since time immemorial . Bowl-shaped physiography makes it a recurrent site of water -logging with no natural outlet. The natural water bodies in this area constitute the ox -bow lakes (mauns), thousands of depressions (called chaurs) etc. All these water bodies are utilized for rearing fishes and for cultivation of deep water paddy , Makhana and singhara .

Under makhana cultivation , Makhana provides a means of sustainable development of the area , more particularly that of the fishing community belonging to the weaker section of the society and marginal farmers . Integrated aquaculture of fish with makhana is the usual practice in this area . It has a significant bearing on the regional "economy . It is cultivated as crop in Darbhanga , Madhubani , Saharsa, Supaul, Madhepura, Araria , purnea and Katihar.

Makhana (*Euryale ferox Salisb.*) is foremost among the edible aquaphytes grown as crop in north Bihar floodplains which contribute 75% of the total makhana production in India . It is highly valued for its starch and quality of proteins .

Kosi division of north Bihar situated at longitude 86^0 60 to 87^0 15 and latitude 25^0 41 to 26^0 46 comprising Saharsa and Madhepura districts containing natural and man made water bodies is largely utilized for pisciculture and makhana cultivation .

Besides makhana, these wetlands produce a number of other plant products utilised as food . The most significant one is Singhara (*Trapa natans*) , which is high biological value . other products like Khubani-ramdana (*Scirpus articulatus*) , Bhent (*Nymphaea* spp.), Kamalgatta (*Nelumbo* sp.), are used in seed forms . However , *Ipomoea aquatica* , *Marsilea minuta* and *Colocasia esculenta* are not only being used as a leafy vegetable but having medicinal properties and are use against the several diseases such as for constipation , blood purification , anemia , skin disease insomnia , remedy for bowel complaints and for increase memory especially among children.

Makhana growing water bodies are ideal reservoirs for air – breathing fishes like Singhi ,Magur, Kawai etc. , which derive nutrition from the heavy organic detritus in the pond bottom. Thus ponds can contribute in sustaining economic health of the Bihar.

Dr. Naghma Praween
T M Bhagalpur
University, Bihar, India

Pink headed duck: probably extinct

Pink headed duck *Rhodonessa caryophyllacea* an elegant long necked duck has not been sighted since 1935 (Kazmierczak 2009) and 1949 (Birdlife International 2016). It is expected to be found in Eastern and North Eastern parts of India, Bangladesh and Myanmar. It has been classified under Critically Endangered (CE) IUCN Red List category as it is always considered rare and found in remote overgrown wetlands.

Historical record suggested its distribution as far as Punjab, Maharashtra and Andhra Pradesh. Land use change has likely to contribute in its habitat degradation e.g. conversion of wetlands for agricultural land probably has caused its decline. Some suggested hunting and alien weeds like Water hyacinth could have caused its extinction in the wild.

Male have pink head, bill and neck

Though it is currently classified as CE however it has not been sighted till date. In last 20th century human population has grown very fast in Indian Sub continent and they will continue add pressure on limited wetland available in the region where this duck inhabit. Considering this, there presence in the wild seems to be doubtful and its probably Extinct.

(Source: Birdlife International 2016)

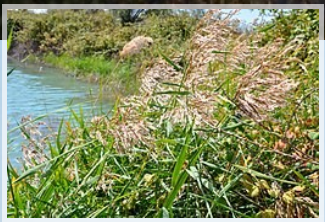
Common grasses of wetlands

Typha or Cattail *Typha angustifolia* is a herbaceious and perennial aquatic plant of wetland ecosystem. It is a dominant grass often outcompete other. Its rhizome is edible and mammals like rats feed on them. It is classified as emergent wetland plant as its leaves, stem, reproductive organs are aerial.

Common Reed or *Phragmitis communis* is a common wetland plant. It's a very large grass plant with thick rhizome and stiff stem. It blooms during winter. This plant is commonly used in constructed wetland to treat sewage water.

Water Lens or Duckweed *Lemnoideae* is a floating plant with leaves and stem floating and roots may or may not be present and not connected to the bottom substrate.

Typha spp. (Photo credits: Derek Jensen (Tysto), Wikimedia)

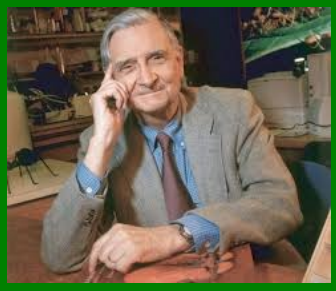


Phragmitis spp.

(Photo credit: Wikimedia)

Lemna minor

(Photo Credit: By Kurt Stüber https://commons.wikimedia.org/w/index.php?curid=5225)



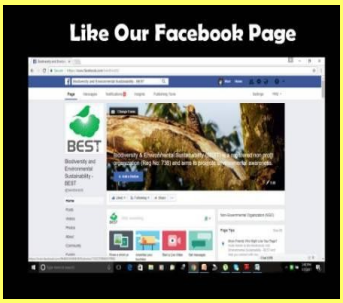
E. O Wilson

Nature holds the key to our aesthetic, intellectual, cognitive and even spiritual satisfaction.

BEST

In

Social Media



WORLD SPARROW DAY 2017: HUM AUR HAMARE PAKSHI

For promoting the cause of sparrow conservation **Biodiversity and Environmental Sustainability (BEST)** a Delhi based NGO celebrated World Sparrow Day 2017 in Sainj Valley also known as God Valley in Kullu District of Himachal Pradesh. The reason behind organising this event in Himalayas is due to the fact that this region still has relatively healthy sparrow population which need protection. For last 17 years dam building activity is underway in this region. Therefore in order to conserve sparrow we need to encourage local people of the valley to give more space to sparrows in their backyards, farms and houses. If we all work together, their population can be restored. Through this one day event, a T-shirt embroidery competition on the theme 'hum aur hamare pakshi' was organized. The overwhelming response of students from Kullu has given us a ray of hope. We invited **Shri. Fateh Singh Thakur**, Principal, Government Senior Secondary School, Sainj to deliver a talk and motivate local youth for coming forward to conserve sparrows.

Photo 1: Student participants showing their needle work at the embroidery competition.

Photo 2: Guest of honor presented to Smt. Pratibha Palsra, Member Block Development Committee, Kullu.

Photo 3: Shri. Fateh Singh Thakur, Principal, Government Senior Secondary School, Sainj giving a lecture to motivate youth to conserve sparrows.

Photo 4: Display of student's needle work with event organisers and invited guests.

Following educational institute participated in the event:

Alma Institute Sainj, Balichouki, Kullu, Himachal Pradesh
IBSTI, Sainj, Kullu Himachal Pradesh
Dhaneshwari Institute of IT, Sainj, Kullu, Himachal Pradesh

Apart from this below mentioned invited guest were also present during the program.
Smt. Pratibha Palsra, Member Block Development Committee, Kullu,
Shri. Prem Singh Palsra, President Executive Committee, Gram Panchayat, Raila.
Shri. Moti Ram Katval, Social Worker
Shri. Manohar, Managing Director, Alma Institute, Sainj
Shri. Prem, Managing Director, Alma Institute, Balichouki
Shri. Khemchand, MD, IBSTI Sainj
Shri. Teksingh, GTI, Atal Bihari Vajpai Mountaineering Institute, Manali.

Winners of T-shirt Embroidery Competition were given certificate of appreciation and cash prize.
1) 1st Position: **Miss Hem Lata**, DIIT Sainj
2) 2nd Position: **Miss Rekha Thakur**, LBSTI Sainj
3) 3rd Position: **Miss Indira**, DIIT Sainj

Mr. Dabe Ram and Chuni Lal were the Program Co-ordinators, and worked hard to make this event a success. We would like to acknowledge **Ms Abha Jolly**, Manager UCO Bank for her generous donation for this event.

T-SHIRT

EMBROIDERY COMPETITION WINNERS

RECEIVING THEIR CERTIFICATES AND

PRIZE MONEY

Sandra Postel

For many of us, water simply flows from a faucet, and we think little about it beyond this point of contact. We have lost a sense of respect for the wild river, for the complex workings of a wetland, for the intricate web of life that water supports.

VEMBANAD-KOL WETLAND SYSTEM: SUPPORTING BIODIVERSITY AND LIVELIHOOD

Vembanad-Kol Wetland (VKW) Ecosystem is a unique wetland supporting important biodiversity and livelihoods of the people. It is one of the largest brackish wetland systems of South-West India. It forms the part of backwaters of Kerala, because of its flooding in high tides. It is located (09° 00' – 10° 40' N and 76° 00' -77° 30' E) in state of Kerala covering approximately 4% of the states area. It is spread over four districts of Alapuzzha, Ernakulam, Kottayam and Thrissur. VKW is a complex ecosystem consisting of 96 Km long coastal backwaters, reclaimed lands, marshes and mangroves. Water of VKW comes from ten rivers originating from Western Ghats.

VKW play a major role in agricultural productivity of Kerala. Rice production, specially, is high from this wetland. VKW, hence, is also known as the "Rice bowl of Kerala". Other than its ecological and agricultural importance, VKW also serve as an important inland transport system. This water transport covers nearly 196 Kms, connecting almost all the villages. Government of India has declared it as a National Waterway. VKW each year attracts large number of tourist. Avian fauna, aesthetic beauty, beautiful landscape, boating and village tourisms are major tourist attraction.

Table 1: Biodiversity of Vembanad Wetland *(compiled from various sources)*

Groups	No. of species
Flora	
Phytoplanktons	67
Herbs, shrubs	142
Trees	68
Fauna	
Zooplanktons	32
Fishes	102
Insects	26
Birds	189

Despite the well known socio-economic and environmental importance, VKW is threatened. Main threats to the wetland includes, reclamation of wetland area, silting, sand mining, degradation of Western Ghats, salinity, water pollution, chemical effluents from industries, agricultural runoff, eutrophication and municipal waste. Many conservation activities have been taken up in the past. Government of India initiated protection of the wetland in National conservation and Management Plan.

NGOs and local help groups are involved in creating awareness and generating local solution to overcome different livelihood and conservation issues.

Reference

1. https://rsis.ramsar.org/ris/1214

Mr. RAJNEESH DWEVEDI
BEST, INDIA
&
ASSISTANT PROFESSOR,
DEPARTMENT OF ENVIRONMENTAL SCIENCE,
LADY IRWIN COLLEGE (DU)

ACTIVITES

BEST President presented research work at the British Ornithologist Union Annual Conference Avian tracking and population processes, 2017, University of Warwick, UK, During conference, he met Director Songbird Survival, *Mr. Keith Cowieson*; *Dr. Helen Baker* and *Dr. David Buckingham* of RSPB. During UK visit our President visited and presented BEST T-shirt to Dr. Sonal Choudhary, Lecturer, Sheffield University Management School.

Great Backyard Bird Count, 17-20 Feb 2017 was hosted by **BEST**. Our Field assistants **Mr. Chuni Lal** and **Dabe Ram** coordinated the activity. During the count they recorded number of Himalayan bird species.

Like our work?

Support us by donating for the cause of biodiversity

conservation and environmental protection and also get income tax benefit under Section 80G of Income Tax

BIODIVERSITY AND ENVIRONMENTAL SUSTAINABILITY

Registered Office
1st Floor 143, F-17 Sector-8,
Rohini, New Delhi-110085,
India

Mobile:+91-9871781351
Telephone: +91-11-27948782
Email: secretary@bestbirds.in or president@bestbirds.in

We are on the Web
www.bestbirds.in

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BEST
Biodiversity And Environmental Sustainability

Membership Form

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1st Floor, 143, F-17, Sector-8, Rohini, New Delhi-110085

Name: Mr/Ms……

Address……

……..State……..Pin code……

Phone/Mobile No…….. Email……

Student/Individual/Lifetime Membership Rs……..

Mode of Payment……..Cash…….Cheque/Demand Draft (add Rs 15 for outstation /Non Delhi DD/Cheque No…… Dated…….payable to

Biodiversity and Environmental Sustainability, New Delhi.

Annual Student Membership for undergraduate/graduate **Rs 250 and** for PhD Scholars **Rs 500**; Annual Individual Membership **Rs 1000;** Lifetime Membership Rs **10000.**

*For online registration email us at secretary@bestbirds.in or lalharjit@gmail.com.

Signature

ROLE OF RENEWABLE ENERGY RESOURCES IN ENVIRONMENTAL PROTECTION

Renewable energy an alternate source of energy is the panacea for most of our environmental problems. It has the potential to meet our ever increasing energy requirement. Renewable technologies are considered as clean source of energy and maximum use of these resources minimise environmental impacts and produce minimum secondary wastes and are sustainable for current and future economic and social needs. Amongst the renewable resources, Sun is the majour and most important source of renewable energy from Indian perspective. For this, Government of India has plenty of schemes to encourage the people to adopt this form of energy. Even Government has made law to compulsory adopt this technology particularly in Hospitals, Government buildings, restaurants, schools, colleges and other big establishments, lighting on streets and roads etc. We can also install solar panels on roof tops of our houses and take benefit of this technology which does not produce any harmful air pollutants and noise and thus keep our environment free of smoke, dust and noise.

Renewable energy is generated from natural sources and thus can be regenerated over a period of time. Such as sunlight, wind, flowing rivers, tides, waves and geothermal heat which are renewable. Renewable energy technologies ranges from solar power, wind power, hydro electricity etc.

Government of India is providing financial assistance to those who want to install solar system in his establishment through banks on subsidy basis e.g. Syndicate Bank is providing loan under **Synd Solar Scheme**. GOI is monitoring this project through its administrators like Deputy Commissioner at district level and block level and reviewing their performance whether Indian banks are providing adequate finance to needy and interested people. This is very effective scheme and people should take this advantage which helps to conserve biodiversity and sustaining healthy environment.

Reference:

1.Syndicatebank.in/downloads/SyndSolar.pdf

MRS. KAMLA
GENERAL SECREATARY
&
MR. HARJIT LAL
(Ex-Bank Executive)
TREASURER
BEST, ROHINI, INDIA