



Wetland, New, Monitor

March - April 2016

TRENDING TOPICS IN THIS ISSUE:

- 1. News brief on Coral Reefs**
- 2. News on Discovery of a Frog Species**
- 3. Report on Dancing Tadpoles**
- 4. Report on New Octopus Species**
- 5. News brief on Olive Ridley Turtle**
- 6. Brief News on Dolphin Sanctuaries**
- 7. Reports on Wetland Birds**
- 8. Wetland Restoration**
- 9. Report on Wetland Events**
- 10. News on Wetland Pollution**
- 11. General Wetland News**

News brief on Coral Reefs, Frog Species, Dancing Tadpole, New Octopus Species, Olive Ridley Turtle, Dolphin Sanctuaries, Wetland Birds, Wetland restoration, Activities, Events, Pollution



सत्यमेव जयते



News Brief on Coral Reefs

Scientists in Washington reported that blowing tiny bubbles through seawater may help protect coral reefs and oyster farms from acidified oceans, by transferring excess carbon dioxide from coastal marine environments to the atmosphere. The technique could provide a relatively inexpensive solution to one of the biggest threats facing coral reefs. An estimated 30 to 60 per cent of all the coral reefs have died since the industrial revolution as the oceans absorb more CO₂ and become increasingly acidic. Ocean acidification harms a variety of marine organisms, but especially those that use calcium carbonate to assemble their skeletons and shells, such as coral, mussels and oysters.

David Kowek from Stanford University stated that ocean acidification is particularly troublesome for coral reefs because the entire structure of the ecosystems is built upon the calcium carbonate skeletal remains of dead coral. Ocean acidification makes it difficult for corals to calcify and makes it easier to erode these skeletal remains, threatening the integrity of the entire reef. A healthy coral reef provides a home to thousands of organisms, which island subsistence communities rely on for the bulk of their diet. A reef's mere presence can quell the waves whipped up by a surging storm, thereby guarding low-lying coastal towns from flooding.

In the new study, researchers showed that bubbling air through seawater for a few hours in the early morning can enhance the transfer rate of CO₂ between the ocean and the air up to 30 times faster than natural processes, resulting in a significant reduction in local marine concentrations of the greenhouse gas. The coauthor Rob Dunbar, a professor at Stanford University reported that the bubble pulse method provides an engineering technique that can help bring us closer to conditions that coral reefs were used to 100 years ago, and to which they've been adapted for many thousands of years. The scientists stated that if timed correctly, bubble stripping could be an effective means of reducing extreme acidity in coastal ecosystems. The study was published in the journal *Environmental Science and Technology*.

Terry Hughes, an expert on coral reefs from James Cook University reported to the Australian Broadcasting Corporation that aerial surveys of Australia's Great Barrier Reef have revealed the worst of few corals bleaching on record in the icon's pristine north. Researchers said the view was devastating after surveying some 520 reefs via plane and helicopter between Cairns



and the Torres Strait in the north of Queensland State; and they stated that “this will change the Great Barrier Reef forever”. The Australian government revealed that bleaching at the World Heritage-listed site was "severe" but noted that the southern area had escaped the worst. Bleaching occurs when abnormal environmental conditions, such as warmer sea temperatures, cause corals to expel tiny photosynthetic algae, draining them of their colour.

Hughes, convener of Australia's National Coral Bleaching Taskforce, agreed in a statement that the southern reef had "dodged a bullet due to cloudy weather that cooled the water temperatures down". But he stated in the far north, the most remote and pristine areas, almost without exception, every reef showed consistently high levels of bleaching. The severity is much greater than in earlier bleaching events in 2002 or 1998. Fellow James Cook University expert James Kerry said more surveys were to follow, but the damage seen from the air in the north was severe, often falling into the highest category of level four, meaning 60 percent of the coral was bleached.

The Great Barrier Reef which is the world's biggest coral reef ecosystem has been under pressure from the threat of climate change, as well as farming run-off, development and the coral-eating crown-of-thorns starfish. It narrowly avoided being put on the UN World Heritage in danger list last year with Canberra working to improve the reef's health over successive decades. Conservationists put the bleaching squarely at the feet of climate change.

Scientists reported that Australia's Great Barrier Reef is suffering its worst coral bleaching in recorded history with 93 per cent of the World Heritage site affected. After extensive aerial and underwater surveys, researchers at James Cook University said only seven per cent of the huge reef had escaped the whitening triggered by warmer water temperatures. The damage ranges from minor in the southern areas which are expected to recover soon to very severe in the northern and most pristine reaches of the 2,300 kilometre site off the east coast. Mr. Hughes said of the 911 individual reefs surveyed, only 68 (or seven per cent) had escaped the massive bleaching event, which has also spread south to Sydney Harbour for the first time and across to the west. Researcher Verena Schoepf, from the University of Western Australia, said coral was already dying at a site she had recently visited off the State's far north coast. Bleaching occurs when abnormal environmental conditions, such as warmer sea temperatures, cause corals to expel tiny photosynthetic algae, draining them of their colour. Corals can recover if the water



temperature drops and the algae are able to recolonise them, but scientists warned last year that the warming effects of a El Nino weather pattern could result in a mass global bleaching event.

Source:

- <http://timesofindia.indiatimes.com/home/environment/flora-fauna/Blowing-bubbles-through-oceans-may-help-protect-coral-reefs/articleshow/51571153.cms>
- <http://timesofindia.indiatimes.com/home/environment/flora-fauna/Worst-bleaching-on-record-for-Great-Barrier-Reef-Scientists-say/articleshow/51593719.cms>
- <http://www.thehindu.com/todays-paper/tp-national/coral-bleaching-hits-93-of-great-barrier-reef/article8500926.ece>

News on Discovery of a Frog Species

Thumbnail-size frog was found on the west coast. The discovery of a possibly-endangered frog species, smaller than a fingernail, among laterite rocks of coastal Karnataka, reveals the need to protect this heavily-mined habitat. The frog, named the Laterite narrow-mouthed frog (*Microhyla laterite*) after the habitat it was found in, was first seen by Ramit Singal, an independent researcher who was conducting field survey near Manipal (Udupi district) as a part of his citizen-science initiative. He then contacted a team of researchers from Gubbi Labs, Ashoka Trust for Research in Ecology and the Environment (ATREE), Bengaluru, and National University of Singapore, who confirmed the discovery. The frog is just 1.7 cm in length (smaller than a 50 paise coin). It is found primarily in small pools that fill up in the monsoon in and around Manipal and Mangaluru. The researcher's analysis shows that the frog is found only in a 150 sq km area of coastal Karnataka, making it eligible for a classification under the endangered category of the International Union for Conservation of Nature.

Researchers have discovered a new species of pale gold-coloured frog in the cloud forests of the high Andes in Colombia. Its name, *Pristimantis dorado*, commemorates both its colour (dorado means "golden" in Spanish) and El Dorado, a mythical city of gold eagerly sought for centuries by Spanish conquistadors in South America. The new species was found calling from bushes along a roadside at about 8,700 feet elevation near Chingaza National Park, roughly 10



miles east of Bogota, Colombia's capital and largest city. Its discovery so close to a metropolitan area of nearly 10 million inhabitants illustrates how much of the planet's biodiversity remains to be discovered. The findings were described in the journal *Amphibia-Reptilia*.

Source:

- <http://www.thehindu.com/todays-paper/tp-national/thumbnailsize-frog-found-on-the-west-coast/article8338759.ece>
- <http://timesofindia.indiatimes.com/home/environment/flora-fauna/New-golden-frog-species-discovered-in-high-Andes/articleshow/51473125.cms>

Report on Dancing Tadpoles

Researchers have discovered a new tadpole that burrows through sand and lives in complete darkness in streambeds in the Western Ghats, Thiruvananthapuram. The tadpole, belonging to the Indian Dancing Frog family *Micrixalidae*, was documented in a joint expedition by a group of scientists from University of Delhi, University of Peradeniya, Sri Lanka and Gettysburg College, USA.

PLOS ONE, an open-access journal, recently published the study on this by Gayani Senevirathne from the University of Peradeniya and colleagues. According to the study, these tadpoles were discovered in the deep recesses of streambeds where they live in total darkness until they fully develop into froglets. With muscular eel-like bodies and skin-covered eyes which facilitate burrowing through gravel beds, the tadpole has well-serrated jaw sheaths which may help prevent large sand grains from entering its mouth while feeding and moving through sand. The Indian Dancing frogs typically wave their legs as a territorial and sexual display while sitting on boulders in streams. Though these displays are well known, the tadpoles of these frogs were completely unknown. This was, in fact, the only family of frogs and toads whose tadpoles remained a mystery.

Prof S D Biju from University of Delhi said that they have provided the first confirmed report of the tadpoles of Indian Dancing Frog family. These tadpoles probably remained



unnoticed all these years because of their fossorial nature which in itself is a rare occurrence in the amphibian world. Very little is known about the habitat requirements of these tadpoles. Observations made so far show that they inhabit sandy banks under canopy-covered streams. The new finding reiterates the uniqueness of amphibians of the biodiversity hotspot of Western Ghats, providing a platform for future studies on this amphibian family, while also delivering useful information for conservation of these ancient and endemic frogs.

Source:

- <http://timesofindia.indiatimes.com/home/environment/flora-fauna/Dancing-tadpoles-found-in-Western-Ghats/articleshow/51650153.cms>

Report on New Octopus Species

Michael Vecchione of the National Oceanic and Atmospheric Administration says in a statement that on February 27 a team discovered a new species of octopus while searching the Pacific Ocean floor near the Hawaiian Islands which is a small light-colored octopus at a depth of about 2.5 miles in the ocean near Necker Island. Vecchione says the octopus did not have fins and all of its suckers were in one row on each arm. He says the octopus "did not seem very muscular" and was light colored. Vecchionne says the octopus was discovered during a search of the ocean floor by NOAA's Okeanos Explorer.

Source:

- <http://timesofindia.indiatimes.com/home/environment/flora-fauna/New-octopus-species-found-claim-scientists/articleshow/51266168.cms>

News brief on Olive Ridley Turtle

Olive Ridley turtle hatchlings released. 15 Olive Ridley turtle hatchlings were collected and protected by sea turtle conservationists, who patrol the beaches between Neelankarai and Mhabalipuram. Marine life conservationist Supraja Dharini reported that annually olive ridleys

lay the eggs between December and March and it would take 48-52 days to hatch. At a time a female can lay up to 150 eggs. Researchers say one in thousand females only come back to the same beach to lay the eggs. The hatchlings were released 15 feet away from the high tide line by STPF Members and TREE Foundation volunteers. Releasing them 15 feet away from the high tide, the hatchlings can crawl to the sea thus making their flippers stronger, get the imprinting of the location they emerge from in order to help them to come back to the same beach to nest on when they reach adulthood.

An unprecedented number of carcasses of Olive Ridley Turtles along the stretch of the Krishna Wildlife Sanctuary (KWL) in Krishna district speak about the pathetic state of their conservation by the forest and wildlife authorities. The KWL has been one of the safest nesting sites for the Olive Ridley Turtles in the State. The forest authorities have initiated numerous measures, conserving the eggs and hatchlings during its breeding season that lasts till early summer.



Olive Ridley Turtle found dead in the Krishna Wildlife Sanctuary area in Krishna district

Source: The Hindu Dt.: March 05, 2016

During a walk through the coastal belt near the confluence point of river Krishna into Bay of Bengal here in the Krishna district, one can see dead Olive Ridley Turtles. Most of them were in a decomposed state. The dead Olive Ridley Turtles were documented within the



jurisdiction of the KWL near Eelachetladibba area during a field visit by this correspondent accompanied by Avanigadda forest range authorities and the M.S. Swaminathan Research Foundation. The International Union for Conservation of Nature's Red Data declared the Olive Ridley Turtle as 'vulnerable'. Fishing nets, which were left by the boat operators on the beach, turned death traps for death of the Olive Ridley Turtles.

Source:

- <http://timesofindia.indiatimes.com/home/environment/flora-fauna/Olive-Ridley-turtle-hatchlings-released/articleshow/51270216.cms>
- <http://www.thehindu.com/todays-paper/tp-national/tp-andhrapradesh/conservation-eludes-olive-ridley-turtles/article8315940.ece>

Brief News on Dolphin Sanctuaries

Bangladesh banned boats from sailing through a key southwestern river after a ship loaded with coal capsized, threatening the sanctuaries of rare dolphins in the world's largest mangrove forest. The authorities imposed the ban after the ship sank in the Shela river carrying over a thousand tonnes of coal, raising fears for two sanctuaries of endangered Irrawaddy and Ganges river dolphins and the delicate ecology of the Sundarbans forest.

Bangladesh suspended cargo boat transport through the same river in 2014 after a catastrophic oil spill that damaged the Sundarbans and triggered concerns for the forest's dolphins and other endangered animals including Bengal tigers. But the suspension was lifted under pressure from local trade groups, who have said the Shela river must be open for cargo vessels to ensure the smooth supply of industrial goods and food-grains to the southwestern region. Officials said the hull of the vessel, which sank carrying more than 1,200 metric tonnes of coal and is yet to be salvaged, was cracked.

The forest conservator Zahir Uddin Ahmed said that the sunken coal could pose grave threat to the aquatic biodiversity of the Sundarbans. The pristine mangrove forest said to be the South Asian nation's largest protection against tsunamis and cyclones, is already facing

unprecedented human and industrial encroachment and poaching by gangs of sophisticated pirates.

Source:

- <http://timesofindia.indiatimes.com/home/environment/flora-fauna/Bangladesh-bans-ships-in-rare-dolphin-sanctuaries/articleshow/51500162.cms>

Reports on Wetland Birds

The migrant birds that reached Kadalundi estuary during the winter have begun their return journey. The estuarine sanctuary at Kadalundi had witnessed a spurt in the number of winged visitors during the wintering season between November and February. Scientists monitoring the ecosystem of Kadalundi had found the climatic change in the eastern coast of India as the reason for the spurt in migrant birds. Kadalundi is one of the most important wintering destinations for birds along the west coast of Indian subcontinent. The climatic change in the east coast was believed to have prompted the migrant birds reaching there to divert to Kadalundi. Tourists reaching Kadalundi could witness a large number of birds this season. However, they all looked alike for them.



A flock of migrant birds in flight at Kadalundi.

Source: The Hindu Dt.: March 10, 2016



A spoon-billed sandpiper was spotted in south China's Hainan province on April month, the third time the endangered bird has been seen on the tropical island. Luo Lixiang with the Xinying Mangrove National Wetland Park photographed the sandpiper while he was patrolling the park. Spoon-billed sandpipers are listed as "critically endangered" by the International Union for Conservation of Nature. According to Lu Gang, an expert with Kadoorie Conservation China, there is fewer than 200 spoon-billed sandpipers living in the wild due to environmental degradation. He added that the Spoon-billed sandpipers migrate to wetlands in Southeast Asia every spring and autumn, and during the course they make stops in China's Jiangsu, Hainan and Guangdong provinces. In 2009, English birdwatcher Paul I. Holt and his assistant found a spoon-billed sandpiper in Hainan's Haikou city, the first time it was spotted on the island.

Source:

- <http://www.thehindu.com/todays-paper/tp-national/tp-kerala/winged-beauties-going-home-after-wintering-at-kadalundi/article8333870.ece>
- <http://timesofindia.indiatimes.com/home/environment/flora-fauna/Endangered-bird-spoon-billed-sandpiper-spotted-in-China/articleshow/51774541.cms>

Wetland Restoration

Wildlife Institute to undertake biodiversity restoration in Ganga. In an attempt to improve the riverine ecosystem of the Ganga, the union ministry of Ganga Rejuvenation has entrusted a pilot project to the Wildlife Institute of India to work towards the restoration of select aquatic species that thrive in the river. This three year project costs Rs 25 crore. According to S A Husaain, WII scientist handling this project, the institute has selected a river stretch Narora near Hastinapur Wildlife Sanctuary, UP where by an ideal environment of lesser pollution will be created and healthy population of species such as crocodile, turtle, otters, fish etc. will be nurtured over a period of three years. The experiment will help demonstrate the role of restoration of biodiversity in keeping the river clean. As the aquatic species such as the otters feed on dead fish while turtles eat up dead human bodies thrown in the Ganga and thus keep the holy river clean.



Asha Raghuvanshi, WII scientist also added that Bacteria Phage, microbe which is found only in Ganga gobble up all the bacteria and keeps Ganga water pure for years. But if the flow of the water is blocked then these microbes will perish. Director of WII, VB Mathur said that the healthy presence of aquatic species such as otter, ghariyals, turtle etc. are reliable indicator as these species thrive only in clean water. Under this project, WII will conduct survey where the presence of these species is increasing and, where they are depleting. Where they are decreasing, the restoration programs will be run with the help of local community people. Besides this, the help of forest department as well as other related department such as irrigation, tourism etc. will be sought in monitoring of identified species of conservation significance. Rescue and rehabilitation centres will be set up for endangered fauna at selected sites. In this project, a Ganga Aqualife Conservation Monitoring Centre will be set up at WII premises.

Ruchi Badola, WII scientist who will work on community aspect of this project said, "No project is successful without public support. So, local people living near the Ganga banks will be educated about the significance of aquatic species so that they do not hunt or harm them. They will be given positions such as Ganga prahari (guard) to remain vigilant that the Ganga is not polluted and the aquatic species remain safe. They will be rewarded with incentives for rescuing any aquatic animal. We will also take help of panchayat to reach out to people."

Source:

- <http://timesofindia.indiatimes.com/city/dehradun/Wildlife-Institute-to-undertake-biodiversity-restoration-in-Ganga/articleshow/52029688.cms?>

Report on Wetland Events

Awareness programmes lined up for Water Day. In the run up to the World Water Day, Andhra Pradesh Pollution Control Board (APPCB), Samaikya and Green Environment Service Society (GESS) conducted the World Water Protection Week from March 15 to 22 with a host of events. As a part of the awareness programmes, a poster was released at Andhra University Academic Staff College seminar hall by AU Vice Chancellor E.A. Narayana. As part of the World Water Protection Week, awareness programmes was held at various educational institutions in the city



from March 16 to 21. On March 20, drawing, painting and essay writing competitions on the theme 'Water is Life' held at Public Library, Dwarakanagar from 10 a.m. Prizes and participation certificates was given on March 22 at a meeting organised by AP Pollution Control Board on the occasion of the World Water Day at YVS Murthy Auditorium, AU, at 10 a.m.

First aqua park starts functioning in Wayanad. The State Fisheries Department has set up an aqua park, the first of its kind in the State, on the banks of Pookode Lake in Wayanad district to sensitize the people to the significance of conserving fish diversity. B.K. Sudheer Kishan, Assistant Director, Fisheries Department, Wayanad reported that the aqua park will be a breeding centre for almost all varieties of indigenous fish, including *Channa marulius* (locally called Vatha varal), *Channa micropealtis* (Cherumeen), *Eteroplus suratansis* (Karimeen), *Lactus calcariser* (Kalanchi), *Tor kudree* (Decan Mahseer), *Heteropneustes fossilis* (Kari) and *Clarius dimerri* (Kadu or Mushi). Those fish varieties would be bred in separate floating cages set up on the lake for the purpose. The park with 10 units of floating cages has been set up at a cost of Rs. 30 lakh, including a lake reclamation cost of Rs. 5.60 lakh, construction of floating cages with platform and solar lights Rs. 18.5 lakh, fish seed Rs. 1.5 lakh and fish feed Rs. 2.5 lakh. The park was envisaged to propagate suitable technology to protect indigenous fish resources, beside protecting natural fish diversity. He added that this endeavour would have the potential to provide awareness to tourists, public, students and researchers. The park will also act as a training centre for farmers in handling and feeding fishes, checking water quality and disease diagnosis and packing and marketing of fish after harvest.

The Kerala Nadi Samrakshana Samithi in association with Pulpally, Mullankolly grama panchayats and Dotta Bhairavan Kuppa grama panchayat in Karnataka organised a workshop on river protection, on 22nd April 2016 at the Service Co-operative Bank auditorium at Pulpally in the district to mark World Earth Day. A.T. Rajan, State secretary of the Samiti, reported to media that though climate change and environmental degradation in the hill district had sounded the death knell for waterbodies, the public and governmental machinery were yet to respond positively. Many villages in Pulpally and Mullankolly grama panchayats were undergoing a process of desertification, especially after the massive destruction of bamboo groves after the gregarious blooming of the plant in the forest areas of the Kerala-Karnataka State border recently. He added that the samiti is preparing to launch awareness programmes and to plant



various species of plants, including bamboo, on the banks of rivers and lakes to rejuvenate perennial water sources and the workshop was the first initiative in the series and it would discuss measures to rejuvenate the Kabani river, a major tributary of the Cauvery.

The organisation, with the support of district administration, Kudumbasree units, local bodies, environmental organisations, and forest departments in Kerala and Karnataka would launch a tree-planting drive on the banks of the Kabani and its tributaries on June 5, World Environment Day. The project is aimed at constructing a green belt on the Kerala-Karnataka border to combat desertification. As many as 10 lakh saplings of bamboo and various species of plants would be planted on the day and it would be protected with the support of Kudumbasree members in those areas.

The Kerala Nadhi Samrakshna Samithi plans to conduct a campaign aimed at rejuvenation of rivers in Kozhikode region, especially the Kabini in Wayanad. The organisation plans to seek the support of experts from the Centre for Water Resources Development and Management, National Institute of Technology-Calicut and the Calicut University, prepare an action plan and submit it to the State government. The samithi said in a statement issued here that the plan had been discussed in detail at a State-level workshop in Wayanad recently.

Elaborating on the discussions, samithi general secretary T.V. Rajan said that as part of the Save Kabini Project, 10 lakh saplings would be planted in phases along the banks to prevent soil erosion. The task of nurturing these would be given to Kudumbasree workers, local residents' groups and other voluntary organisations. As for Kozhikode, Mr. Raju said it had six rivers, and three or four of them needed rescue measures.

Source:

- <http://www.thehindu.com/todays-paper/tp-national/tp-andhrapradesh/awareness-programmes-lined-up-for-water-day/article8359463.ece>
- <http://www.thehindu.com/todays-paper/tp-national/tp-kerala/first-aqua-park-starts-functioning-in-wayanad/article8376596.ece>
- <http://www.thehindu.com/todays-paper/tp-national/tp-kerala/new-eco-plans-for-world-earth-day/article8492073.ece>



- <http://www.thehindu.com/todays-paper/tp-national/tp-kerala/greens-to-launch-campaign-for-conservation-of-rivers/article8526318.ece>

News on Wetland Pollution

A project to study the impact of pollution on the acoustic quality of birds is being undertaken at the National Zoological Park. The project is being undertaken by the students of the Delhi University at the zoo that houses around 642 birds of 51 different species (as per 2015 inventory report). A zoo official said that Delhi zoo with its rich diversity of birds and animals has always been a destination for various environmental projects. The avian project will record the sounds of birds here in order to gauge the impact of pollution on their acoustic quality. Ankita Das, final year environmental science student of DU who is part of the project, says that birds generally produce low frequency sounds so that these signals travel long distances and reach their mates or other birds. But due to the rising pollution level, there has been a sharp increase in their frequency levels.

Irrigation potential of Noyyal as well as many water bodies in Tirupur got affected primarily because of industrial pollution, indiscriminate dumping of wastes, and encroachments that reduced the width of water bodies. A section of farmers, and environment activists feel that efforts to clean River Noyyal and other water bodies will not get the desired result unless stringent action was taken to stop pollution caused by effluent discharge and garbage. C. Nallasami, secretary of Federation of Tamil Nadu Agriculturists Associations reported that no dyeing units should function near a major water body like River Noyyal because the pollution continued unabated despite the Madras High Court order asking the dyeing units to confine to zero liquid discharge norms during dyeing activities. The farmers feel that agriculture should be given more importance than apparel manufacturing. K. Ravindran, president of Nature Society of Tirupur, said that cameras should be placed alongside Noyyal and other water bodies. Speedy action should be initiated against those caught causing pollution, if the water bodies had to be revived.



Fish in Ukkadam, Coimbatore turn green, heavy effluent discharge into lake. Fishermen in the Ukkadam Big Tank found the fish turning green due to the algae bloom in the lake. Senior scientists said this was the result of high discharge of effluents into the lake. Despite a treatment plant being in place at Ukkadam, scientists questioned its functionality and why it was not being utilized to treat the water before letting it into the lake. Scientists in the city said that this type of green colour was due to a phenomenon called algae bloom. Senior principal scientist of SACON P Pramod reported that generally, due to the increase in water pollution, this occurs in almost all the wetlands. The only solution for this is to ensure that water is treated before being let into the lake. But scientists did not rule out the possibility of dyeing units letting out effluents into open drains. S Muralidharan, senior principal scientist at SACON, said some dyeing units in Telungupalayam and some other parts of the city which operate out of homes as cottage industries discharge waste in the drains. He added that most of these algae blooms are high in phosphorus, sulphates and nitrates which are harmful for humans and animals. They form a layer onto the water which might lead to a condition called dead zone where the oxygen level of the water in the deeper areas will reduce and cause mass mortality of fish. The environmentalists said that this could expose humans and animals to harmful toxins causing skin rashes, headaches, fever, diarrhoea, nausea, vomiting and liver failure.

Source:

- <http://timesofindia.indiatimes.com/home/environment/pollution/Is-pollution-affecting-birds-sound-DU-to-study/articleshow/51275978.cms>
- <http://www.thehindu.com/todays-paper/tp-national/tp-tamilnadu/take-action-against-polluters-before-launching-project-to-clean-noyyal/article8411300.ece>
- <http://timesofindia.indiatimes.com/home/environment/flora-fauna/Fish-in-Ukkadam-turn-green-heavy-effluent-discharge-into-lake-to-blame/articleshow/51872219.cms>

General Wetland News

Swedish-Norwegian Signe Johannessen is a mission to save wetlands. Exploring the coexistence of humans with nature through art is the forte of Swedish-Norwegian artist Signe Johannessen.



Ms. Johannessen has been visiting India for the last couple of years and exploring wetlands through contemporary art. Ms. Johannessen visited the theatre festival in Odisha when the devastating super cyclone struck in 1999 killing over 15,000 people. Having survived the catastrophe, the visit to India and her meeting with nature turned emotional. Ms. Johannessen have been visiting India to explore the ecosystems and networking with experts working in various fields on current environmental issues, while exploring how art can act as knowledge bearer for new research.

During her travels, Ms. Johannessen looks at tidal wetlands in India while contemplating on the fresh water wetlands in her native Sweden. Wetlands are a big and important area for conservation worldwide. She reported that the loss of wetlands were because of forestry in Sweden. So there are many common grounds even if these are two different countries. She added that Conservation of wetlands is a global issue and the art community is taking steps to talk about these very important issues. The forest department in Sweden has understood the importance of wetlands and taking steps for conservation. It is now a beautifully managed ecosystem and open to students and researchers.

One of the objectives of this project in the future is to invite artists and experts from different fields to talk about wetlands. This is a global issue and experts and scientists from various fields are coming together looking at a common goal. The title Swamp Storytelling alludes to the mangroves in the Andaman Islands. The project aims to combine working the fields for scientific research and artistic production on current environmental issues, while exploring how art can act as knowledge bearer for new research. Ms. Johannessen added that Sweden and India's different preconditions are an interesting foundation for this work.

Source:

- <http://www.thehindu.com/news/cities/puducherry/exploring-wetlands-through-contemporary-art/article8350869.ece>