



ISSN: 0972-3153

ENVIS Newsletter

on Wetland Ecosystems including Inland Wetlands

Sarovar Saurabh

Vol. 14(1), 2018



Picture Courtesy: A. Sadam Hussian

SÁLIM ALI CENTRE FOR ORNITHOLOGY AND NATURAL HISTORY
(A Centre of Excellence under the Ministry of Environment, Forest and Climate Change, Govt. of India)
Anaikatty, Coimbatore - 641 108 (INDIA)

Editor in Chief

Dr. K. Sankar
Director - SACON & ENVIS Head

ENVIS Team

Dr. Goldin Quadros
Dr. B. Hemambika
Ms. A. Julffia Begam
Mr. N. Mohamed Ibrahim

Layout & Design

Ms. A. Julffia Begam

Published by

Environmental Information System (ENVIS)
Sálim Ali Centre for Ornithology and Natural History (SACON),
Anaikatty (P.O.), Coimbatore-641108,
Tamil Nadu, India.

Sponsored by

Ministry of Environment, Forest and Climate Change
Government of India, New Delhi.

Contents

	Page
1. Bird Census	1-2
2. Initiatives for Wetland Conservation	2-3
3. High altitude salt water Lakes of Ladakh, Jammu & Kashmir	3-4
4. Eco Awareness at Kaliveli Lake, Tamil Nadu	4-5
5. World Wetlands Day activities by SACON- ENVIS Resource Partner	6-7
6. International News	8-9
7. Abstracts from Published Literature	10

Views expressed in the articles of this newsletter are of the authors only.

Instructions to Contributors

We welcome original research and popular articles, reviews, reports, research highlights, notes, news, snippets, etc., related to the thematic area of the ENVIS Resource Partner for publication in 'Sarovar Saurabh the ENVIS Newsletter on Wetland Ecosystems including Inland Wetlands'.

The articles and other information should be neatly typed in double space not exceeding five pages. The figures, graphs/drawings should be of good quality and clarity. Photographs should be of minimum 300 dpi resolution. References should be limited and cited in the text by name and year. Council of Science editors style may be referred to for listing references at the end.

Email your articles in MS-Word 2003 or 2007 format to sacon-env@nic.in or salimalicentre@gmail.com

Send the articles in hard copy by post to:

The ENVIS Co-ordinator,
ENVIS Resource Partner,
Sálim Ali Centre for Ornithology and Natural History (SACON)
Anaikatty P.O., Coimbatore - 641108, Tamil Nadu, India
Ph: 0422-2203100, 129
Website: www.saconenvis.nic.in; www.sacon.in

From The Editors' Desk

The year 2018 has started with encouraging news for India as it has accepted to be the Global host for the World Environment Day 2018. The theme for the global event is 'Beat the Plastic Pollution'. The theme is very apt in today's times where we are experiencing the plastic menace in our everyday life. Wetlands are one of the prime recipients of plastics across the country as most of the solid waste is dumped along the wetlands, rivers and coast. It is now becoming a necessity to be judicious in our approach towards plastics and wean ourselves from at least the single use plastics.

This issue is a compilation of News articles on the activities that have been undertaken focusing the wetlands across the country. We have also included the abstracts from literature published during the first quarter of the year. However the focus is on the reports of activities conducted during the World Wetlands Day, (WWD) *i.e.* 2nd February, 2018. SACON has played an important role by popularizing the importance of the WWD by conducting events in collaboration with Bharathiar University, Coimbatore and Bharathidasan University, Trichy. SACON also designed and released the WWD poster and made the same available on line for several institutions to adapt the poster for their local events. The report of our activities has also been uploaded on the MoEF&CC website and the Environment Ministers Twitter page.

As we gear up to the battle to beat plastic pollution, we need to share constructive ideas and messages to the public at large. Here I request all readers to kindly contribute your events, activities, articles and keep us updated on the happenings of the wetlands around you. Your inputs will help us in disseminating the message of environmental well being to the larger audience.

Dr. K. Sankar,
Director, SACON

BNHS, Wetlands International to hold crucial 15-day waterbird count

The Bombay Natural History Society (BNHS) and Wetlands International conducted waterbird census in and around wetlands and Important Bird and Biodiversity Areas (IBA) from 6th to 21st January 201, across the country. A statement issued by the BNHS said waterbirds are the key indicators to understand the health of wetlands. They also highlighted the importance of these wetlands for both humans and birds. Asian Waterbird Census (AWC), a pan-India initiative, is a citizen science programme supporting management and conservation of waterbirds and wetlands. It is a part of the global initiative “International Waterbird Census”. The AWC encourages people to count waterbirds in wetlands around them and collect information to promote the management of internationally important sites such as Ramsar. They welcomed people to participate in the census anytime in January, apart from the mentioned dates, and counts from any day in January. The data obtained will be valuable to conserve waterbirds habitats at the national level and also in the wetlands under the Central Asian Flyway at international level.

Monitoring these water-bird numbers and wetlands plays an importance role in understanding the threats they face and the reason for the decline of water-birds around the world. The rapid urbanisation has resulted in the growing pollution of the wetlands. This is bound to have an impact on the bird species that cannot tolerate such pollutants. Pockets like Uran, Sewri, Thane Creek and Bhandup Pumping station still have a few wetlands that house the greater and lesser flamingos, the Gadwalls, Shelducks and other such water-birds that are need to be protected.

Source:

<https://timesofindia.indiatimes.com/city/pune/bnhs-wetlands-intl-to-hold-crucial-15-day-waterbird-count-this-month/articleshow/62386653.cms>

<https://timesofindia.indiatimes.com/city/thane/thane-birders-flock-to-wetlands-to-take-part-in-water-bird-census/articleshow/62370954.cms>

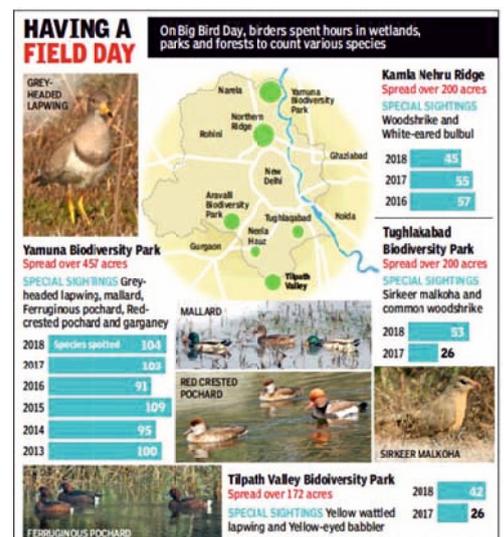
Climate change, shrinking wetlands cause migratory birds to stay away from UP sanctuary

Climate change is the source to shrink wetlands that cause migratory birds to stay away from Uttar Pradesh Sanctuary. The sarus crane, which is the state bird of UP, was not spotted at the Hastinapur Wildlife Sanctuary this winter. Migratory birds like the oriental darter and the great cormorant were completely absent, according to Asian Waterbird Census (AWC) 2018. The data showed that not just resident birds, there was a sharp decline in the number of migratory aquatic birds from the colder regions of Eurasia, including Siberia, that come to roost in winter. The sanctuary, spanning five districts of UP - Meerut, Muzaffarnagar, Bijnor, Bulandshahr and Amroha is a mix of forest land, wetland and marshes besides human habitat. It provides a diverse habitat for birds, especially in the Hastinapur range, attracting both migratory and resident water birds. Many birds are in the IUCN Red List of threatened species. Due to its rich avian diversity, the sanctuary is listed as 'important bird and biodiversity area' in India. According to TK Roy, ecologist and AWC Delhi state coordinator, 2,450 winged visitors comprising 48 species were spotted in 2017 whereas the number has fallen to 1,677 birds from 45 species this year i.e., 2018. Poor rainfall and climate change are reasons for shrinking wetlands that cause birds to turn away from the wetlands.

Source: <https://timesofindia.indiatimes.com/city/meerut/climate-change-shrinking-wetlands-cause-migratory-birds-to-stay-away-from-up-sanctuary/articleshow/62838250.cms>

Birders flock together to get a count

Big Bird Day 2018, an annual national event started by a birding group, Delhibird was held on 11th February 2018 in Delhi-NCR, birding sites like Dighal, Sultanpur, Basai, Asola, Najafgarh, Yamuna Khadar, Mangar Bani, Dhanauri, Dadri, Okhla Bird Sanctuary, Aravalis, Yamuna Biodiversity Park etc. About 38 teams from Delhi-NCR participated in the event, each having 10-40 birders. In all, more than 10,000 birders from across the country participated. The results took couple of days to compile that play a crucial



role in documenting the number of birds and diversity in the country.

Yamuna Biodiversity Park recorded 104 species. Rare sightings included the Grey-headed lapwing, Ferruginous pochard, mallard, Red-crested pochard and garganey. At Kamla Nehru Ridge, the number of species spotted was 45. Woodshrike and White-eared bulbul were the rare sightings in the area. However, numbers at Tughlakabad Biodiversity Park and Tilpath Valley rose significantly this year to 52 and 43 species recorded respectively as compared with just 26 species at each of the locations last year. The sightings at these locations included a Sirkeer malkoha, common woodshrike, Yellow wattled lapwing and Yellow-eyed babbler, among others.

M. Shah Hussain, scientist in charge at Aravalli Biodiversity Park said that a total of 900 birds of 79 species were spotted during the count period. Important bird species that were seen in Aravalli Biodiversity Park included Jungle bush quail, Eurasian eagle owl and Oriental skylark. He added that tufted duck was also sighted at Neela Hauz Biodiversity Park after its restoration. The highlights, Jungle bush quail and Eurasian eagle owl, are rare for south Delhi.

Source: <https://timesofindia.indiatimes.com/city/delhi/birders-flock-together-to-get-a-count/articleshow/62974847.cms>

INITIATIVES FOR WETLAND CONSERVATION

Use of satellite imaging to protect wetlands, Maharashtra

Bombay high court on 05th February 2018 directed the Maharashtra government to use satellite imaging and mapping to continuously monitor and protect wetlands across the state. A division bench of Justices Naresh Patil and Nitin Sambre warned the government to appoint the authority under the new Wetland Rules 2017 or face contempt action. The bench was hearing a PIL filed by NGO Vanashakti. Advocate Zaman Ali, counsel for the petitioner, claimed the deadline for appointment of the authority under the new rules was 26th December 2017. Additional government pleader G W Mattos assured the court that the panel would be set up within two weeks. The court questioned the state on why it had not yet constituted a grievance redressal committee, even as wetlands and mangroves were being destroyed and said that people were without a proper remedy. The court has told the advocate general to be present at the next hearing. It sought a progress report on the protection of wetlands.

Source: <https://timesofindia.indiatimes.com/city/mumbai/use-satellite-imaging-to-protect-wetlands-hc-tells-state/articleshow/62796048.cms>

Weed removed, water visible in Kanjhli Wetland, Punjab

Kanjhli wetland is one of the 26 Ramsar sites in India and the smallest wetland out of three Ramsar sites in Punjab. Around 50% decline in total population of the birds at the site was reported during the recent census. Only 110 birds were spotted against 232 seen last year. In the 2016 census, 263 birds were spotted. This year, only three birds of a long distance migratory bird species were spotted as compared to five species spotted last year.

Kanjhli Wetland was covered with water hyacinth in the peak winter season, which led to a drastic fall in the population of migratory birds. Almost 90% of the wetland has been overrun by weeds. Water hyacinth was cleared from the wetland earlier, but it was not done regularly, due to which the population of migratory birds nosedived. With reference to a report of the Asian water-bird census, environmentalist Baba Balbir Singh Seechewal started to work on clearing the weeds and stated that the state government should ensure regular maintenance of the wetland. He added that it would have to be ensured that water remained visible before migratory birds started flying into the region.



Kanjhli Wetland after weed removal

Source: <https://timesofindia.indiatimes.com/city/chandigarh/weed-removed-water-visible-in-kanjhli-wetland/articleshow/62977506.cms>

Dhamapur Lake, Sindhudurg District, Maharashtra

Citizens of Sindhudurg district in the state of Maharashtra fight to protect Dhamapur Lake. Since more than a year, civil society groups have been fighting to protect the wetlands in the coastal areas of the state. Despite various orders being passed by the Bombay High Court and setting-up of a grievance redressal committee, the “state's biggest man-made” lake Dhamapur is under severe threat. Environmentalists have now drawn the attention of state chief secretary seeking his intervention.

The almost 500-year-old lake, which is located in Sindhudurg district, is a man-made biodiversity-rich site and a tourist spot. Since centuries it is a source of drinking water for many villages around it. Trouble began for the lake in 2014 when the district administration initiated the construction of a skywalk over the lake which was built in 1530 and is spread over an area of 43.80 hectares as per the latest report of the water resources department. As per the Wetlands Conservation and Management Rules and ruling of various courts, construction is not allowed within 75 meters of a wetland but, construction was done right in the middle of the lake.

Meenal and Sachin Desai, who are running a study centre for experiential learning in Dhamapur village, were one of the first few who raised an objection to the construction activity. After fighting a battle with the administration of Sindhudurg for over a year, the Desai couple has now filed a complaint with the state chief secretary. They have demanded that the skywalk should be removed before the monsoons and offences be registered against concerned officials. The complaint stated that though the construction is not in compliance with wetland rules, the administration is blatantly going ahead with it. He added that the 'banned' diesel boats are also being used and posing threat to human health. Sachin added that the lake seems to be shrinking too and as per the latest report of irrigation department, the lake covers area of about 43.80 hectares. But the Ratnagiri District Gazette, 1962, states the area to be 50.58 hectares, if the construction is not stopped, the state will lose one of its biggest wetlands.



Wetland area adjacent to the almost 500-year-old Dhamapur Lake in Sindhudurg district

Source: <https://timesofindia.indiatimes.com/city/nagpur/save-dhamapur-lake-citizens-fight-to-protect-wetland/articleshow/63338326.cms>

HIGH ALTITUDE SALT WATER LAKES OF LADAKH, JAMMU & KASHMIR

The stunning lakes of Ladakh keep fauna and flora alive

Ladakh is the land of alluring lakes, monasteries and pastoral people. Fascinating flora and fauna make the region colourful during summer. A part of the Trans-Himalayan range, it is in the northern most area of Jammu and Kashmir. The Trans-Himalayan cold desert, also known as the Tibetan Himalayan region lies in the rain shadow area receiving an annual rainfall of just five cm. Life in this region is sustained by the melting snow in summer. Zaskar, Ladakh and Karakoram are the three major ranges of this part of the Himalaya.



Tso Moriri Lake, Ladakh.
Picture Courtesy: Google Images

The natural high altitude salt water lakes - Tso Kar, Tso Morari and Pangong Tso, are a typical feature of Ladakh and lie in the sweeping valleys of Rupshu and the Changthang Plains. 'Tso' means river in the Tibetan language. The Pangong Tso, made famous by its appearance in several Indian movies, is a 'high grassland lake' located at an altitude of 14,270 ft. on the Sino-Indian Line of Actual Control. An Inner Line Permit is necessary to visit this lake that is endorheic in nature and completely freezes during winter. A rather thrilling drive on the rough mountainous route through the villages of Gya and Shey, crossing over the Chang La takes us to this picturesque water body. The harsh environmental conditions and high saline saturation are responsible for the low bio-diversity that exists.



Pangong Tso Lake, Ladakh. Picture Courtesy: Google Images



Tso Kar Lake, Ladakh. Picture Courtesy: Google Images

The Tso Morari, a pearl shaped mountain lake that lies on the Ladakhi part of the Changthang plateau is considered to be 'a sacred gift to a living planet.' This area known as the Tso Morari Wetland Conservation Reserve protects and preserves rare and unique plant and animal life. Black-necked Cranes, Bar-headed Geese, Kiangs, Barrels, marmots, Snow Leopards and Tibetan Wolves roam during the summer months when the temperature rises to 30°C. Encircled by mountains rising over 20,000 ft., this 'Jewel of the Rupshu Valley' is at an altitude of 14,836 ft. Changpas, the nomadic community of shepherds inhabit this part of the valley raising Yak, Sheep, goats and horses of Tibetan origin. It completely freezes in winter when the temperature plunges — to 10 to -40 °C. The 400-year-old Korzak Monastery lies on the western bank of the lake. The Tso Kar or 'white lake' lies in the Rupshu Valley in the Southern part of Ladakh. Earlier, the Changpas exported salt, manufactured from this lake to Tibet. Wolves, fox and marmots, Tibetan Gazelles and Kiangs inhabit this basin of Tso Kar and the adjoining Morey Plains. These landlocked lakes retain water and do not flow into the river or ocean but instead feed swamps, which help hold the coastal soil and sand, controls floods and provide valuable ecological services.

Lakes such as Tso Kar, Tso Morari and Pangong Tso are a typical features of Ladakh and lie in the sweeping valleys of Rupshu and the Changthang Plains. 'Tso' means river in the Tibetan language.

Source: <http://www.thehindu.com/todays-paper/tp-features/tp-fridayreview/picturesque-pockets/article23388294.ece>

ECO AWARENESS PROGRAMME AT KALIVELI LAKE, VILLUPURAM DISTRICT, TAMIL NADU

Kaliveli floodplain (12° 5'N-79° 47'E & 12° 3'N-79° 51'E & 12° 9'N- 79° 53'E): Although called a lake or a tank, it is by definition a floodplain. This petal-shaped waterbody covering an area of ca. 7,040 ha., is a seasonal freshwater habitat and remains completely dry during the summer months. It begins to fill up with the advent of the southwest monsoon and reaches its maximum extent by the end of the northeast monsoon when the depth can reach 2.1m. Its watershed covers an area of ca. 740 sq.km. and includes the Auroville plateau to the south, Marakkanam to the north and extends well beyond Tindivanam to the northwest. The copious run-off water from this entire area ultimately reaches the floodplain through more than 250 interconnected tanks and channels. The fauna reported from here not only includes the wetland and its surroundings, but also a different set of species utilising it during the summer months when it is completely dry. (Source: Ramanujam M.E. and Anbarasan R. (2007) A preliminary report on the vertebrate diversity of the Kaliveli watershed region. *ZOOS' PRINT Journal* 22(3): 2608-2616)

The Villupuram Forest Division of the Tamil Nadu Forest Department along with the Universal Eco Foundation



(UEF) conducted a Kaliveli wetland awareness program involving the local school and college students. The permission to involve schools in the activity was granted by the Chief Education officer, Villupuram. The awareness program sponsored by the forest department was undertaken from 27th February to 7th March 2018, and was inaugurated by Sri V.C. Ragul, IFS, District Forest officer, Villupuram district. The students were taken to the Kaliveli wetland and were accompanied by the forest officials namely Sri Periyannan, Forest Range officer, Forester and Forest Guard from Tindivanam Range. In the field, the students were introduced to its vast biodiversity, the importance of conservation of habitats and were given a hands on training on identification of birds. The students participated in several competitions like Drawing, elocution, cultural, etc. Under the guidance of educationist Mr. P. Veeramani and Mr. Bhavakarnana, the participants prepared awareness slogans, placards and displayed the same as they participated in the cycle rally along the Kaliveli floodplains. Mr. Sivaoli, Naturalist from Payanam cycle rally team Auroville contributed immensely by spending his time, expertise & interacting with students during the course of the rally. Later in the day Dr. Bubesh Gupta (Founder, UEF) gave a talk on the "Biodiversity Conservation and Human Responsibilities" with special reference to Kaliveli wetlands. There were several other awareness lectures and interactions with the forest department and invited resource persons viz. Mr. Hussain, Ecologist, Mr. Ramanan, Naturalist and Mr. Sathyamoorthy, Biologist. Apart from the prizes to the students who won the competitions, the participants were provided with Eco-friendly bags, notebooks, pens, wildlife labels. The entire program was well received and covered by the local electronic and print media.



Birdwatching and Group activities on Biodiversity

WORLD WETLANDS DAY ACTIVITIES BY SACON-ENVIS RESOURCE PARTNER

The SACON-ENVIS Resource Partner celebrated World Wetlands Day 2018 in collaboration with Bharathiar University, Coimbatore and released a poster carrying the theme “Wetlands for a Sustainable Urban Future”. The poster was released by Dr. K. Sankar, Director, SACON and Dr. Vanitha, Registrar, Bharathiar University, Coimbatore. Additionally, the SACON-ENVIS Resource Partner also released the poster independently and collaboratively with different organisations and institutions to reach out to the students as well as the common people. The list of institutions is given below.

- Bharathidasan University, Trichy
- Amritha University, Coimbatore
- Tamil Nadu Forest Department
- Environmental Conservation Group (ECG)
- World Wide Fund for Nature (WWF), Coimbatore
- Maharashtra College, Mumbai
- Sophia college for Women, Mumbai
- MD College, Mumbai
- Vartak College, Thane
- B.N. Bandodkar College, Thane, Maharashtra
- Maharashtra College, Mumbai



World Wetlands Day 2018 Poster by SACON-ENVIS Resource Partner

The SACON ENVIS RP conducted an Essay Writing Competition for the students of Dept. of Zoology, Bharathiar University, Coimbatore titled “Impact of Plastics in Urban Wetlands” and distributed certificate and prizes to the winners. Dr. Goldin Quadros, ENVIS Coordinator gave a brief introduction about the ENVIS activities and the newly launched Green Skill Development Program (GSDP). The GSDP Brochures sent by the ENVIS Secretariat were also circulated to the students of Dept. of Zoology, Bharathiar University. Dr. Ram Pratap Singh, Scientist from SACON delivered a talk on “Impact of Plastics in Urban Wetlands”.

Some of the activities by our collaborators included an Essay Writing competition on “Role of students in conserving Wetlands” and a talk on ‘Importance of wetlands’ by Dr. Jayashree Menon for the members of Sarus Nature Club, Maharashtra College, Mumbai who also pledged to protect and conserve the wetlands in and around Mumbai.

The B.N. Bandodkar College of Science, Thane organised a lecture on “Mind Tracing” by Prof. Sung Hwan Kim, Board Member of IMEI, Korea to mark the occasion of World Wetlands Day.

The model of ecotourism developed by local villagers at “Ujani Bhigwan Wetland” was presented by Mr. Makrand Joshi to the students and members of Nature Club of M.D. College, Mumbai.

Sophia College involved its students and faculty to collect the Newspaper articles on World Wetlands Day and had an exhibition of the same for larger awareness.



Poster Release at Bharathiar University, Coimbatore



Prize Distribution by Dr. K. Sankar, Director, SACON



Dr. Ram Pratap Singh, delivering the talk



Poster released at M.D. College, Mumbai



B.N. Bandodkar College of Science, Thane



Poster released at Bharathidasan University, Trichy

சதுப்பு நில தின விழிப்புணர்வு
கோவை, பிப். 9-

கோவை பாரதியார் பல்கலைவழிப்போக்கியல் துறை மற்றும் சலீம் அலி பறவைகள் சரணாலயம் அமைப்பு இணைந்து, உலக சதுப்பு நில தின விழிப்புணர்வு நிகழ்ச்சியை நடத்தின. இதில், பல்கலை பதிவாளர் பொறுப்பு வனிதா தலைமை வகித்து நிகழ்ச்சிகளை துவக்கிவைத்தார். இந்நிகழ்ச்சியில், நீர் நிலைகளின் முக்கியத்துவம், சுற்றுச்சூழல் பாதுகாப்பு, பிளாஸ்டிக் பயன்பாடு மற்றும் விளைவுகள் போன்றவை குறித்து மாணவர்கள் மத்தியில் விழிப்புணர்வு ஏற்படுத்தப்பட்டது. இதில், சலீம் அலி பறவைகள் சரணாலயம் அமைப்பின் இயக்குனர் சங்கர், பல்கலை விலங்கியல் துறை பேராசிரியர் ரமேஷ் உள்ளிட்ட பலர் பங்கேற்றனர்.

News Clipping

**Sarav Nature Club
Of
Maharashtra College
Celebrates
"Wetlands Conservation
Awareness Day"
On 03RD February '18 in
collaboration With → SACON-ENVIS
PROGRAMMED:
→ Talk On Importance Of Wetlands
→ Essay Competition**

World Wetlands Day 2018 Celebrated by Maharashtra College, Mumbai

Scientists, volunteers rescue about 1,000 cold-stunned sea turtles

Florida's second-largest turtle rescue of 21st century is “exhausting, inspiring,” USGS biologist says on the icy cold shores of Florida's St. Joseph Bay, a team of volunteers and wildlife experts have rescued an estimated 1,000 cold-stunned sea turtles since January 2 in what is believed to be Florida's second-largest mass cold-stunning event of the 21st century, according to U.S. Geological Survey research biologist Margaret Lamont.

Lamont has been coordinating the turtle rescues in cooperation with the Florida Fish and Wildlife Conservation Commission. About 50 people – about 30 volunteers from the Florida Coastal Conservancy, employees of the U.S. Fish and Wildlife Service, Eglin Air Force Base, the Florida FWCC, Gulf World Marine Park, and two more USGS scientists have taken part in the rescues from Jan. 2-7, when about 700 turtles were rescued, and from Jan. 17-19, when about 300 more were brought in.

So many cold-stunned turtles have been rescued from the bay's waters and mud flats that Gulf World, where the turtles are taken to rest and recover, is full and can only take in injured animals, she said. A rented house where Lamont and two scientists conduct their research was full of turtles, inside and outside, on Friday, Jan. 19.

The vast majority of the turtles rescued were threatened green turtles (*Chelonia mydas*), but the teams also brought in endangered Kemp's ridleys (*Lepidochelys kempii*), threatened loggerheads (*Caretta caretta*) and one endangered hawksbill (*Eretmochelys imbricata*).

“I'm very happy with how we've been able to minimize the mortality to the animals,” said Lamont, who has been studying sea turtles in Florida since 1995. “And I'm very proud of how everyone has come together to get it done. I'm especially proud of the volunteers who are out here in the cold and mud, doing exhausting work for no reward and often no recognition.”

When water temperatures drop below 50 degrees Fahrenheit (10 degrees Celsius), cold-blooded sea turtles' metabolisms slow so much that they become unable to swim or even lift their heads above the water to breathe. Without warmth or help, they drown.

Every winter, when strong cold fronts sweep through the Florida Panhandle, volunteers and scientists rescue about 30 to 40 cold-stunned turtles. In 2010, a statewide cold snap led to the rescue of about 1,700 turtles, the largest such rescue in this century, Lamont said. This winter, so many animals have needed rescuing because the back-to-back cold spells have lasted so long. And middle-of-the-night low temperatures have coincided with high tides that washed the turtles into the shallows, Lamont said.

St. Joseph Bay is home to a dense population of overwintering sea turtles, Lamont said. “It's perfect habitat for them. It has some of the most pristine sea grass beds in Florida where they can feed, cut through by deep channels where they can escape from predators,” she said. In cold weather, turtles normally leave the shallows for deeper water that doesn't



David Seay, a contract biologist working with the USGS, holds a green sea turtle that is recovering from the effects of cold-stunning in St. Joseph Bay. Photo by Margaret Lamont, USGS.

turn cold so quickly – but if the cold lasts long enough, even those depths can fall below 50 degrees. Meanwhile strong winds can blow the sea turtles onto the coastal mudflats where they become stranded.

The rescue teams work by boat, with USGS, USFWS and Florida FWCC scientists using nets to scoop cold-stunned turtles out of the bay, and on foot. On the bay's Cape San Blas, teams of scientists, wildlife workers and specially-trained and licensed volunteers walk the beaches and marshes, picking up cold-stunned turtles from the shoreline and loading them onto kayaks. When fully loaded with turtles, the kayaks may weigh 400 pounds or more, “and the only access points are two or three miles apart,” Lamont said.

“So people are out there in the cold and mud, with harnesses around their chests, pulling the kayaks across the mud flats,” Lamont said. “It's exhausting. It's really tough. And it's really inspiring to see that people are willing to do it to save these animals.”

The turtles are weighed, measured, and marked with an identifier, and examined to determine whether they need medical care. If they don't, a few hours in sunlight or another warm space is usually enough to revive them, Lamont said.

Warmer weather was due to return on the night of Friday, January 19, so Lamont expected the rescues to end that evening. Weather permitting, most of the turtles sheltering at Gulf World Marine Park were scheduled to be released back into bay waters on Saturday, January 20, according to the marine park.

Source: <https://www.usgs.gov/news/scientists-volunteers-rescue-about-1000-cold-stunned-sea-turtles>



Mollusc diversity at Pulicat Lagoon (India)

Ravichandran R. and Sivalingam G.

Transylv. Rev. Syst. Ecol. Res. 20 (1): 31-42

Abstract

During our routine ecological survey conducted at Pulicat Lagoon, the most diverse class Gastropods comprised of 26 families with 34 species and Bivalvia with 13 families and 17 species were recorded. The most abundant mollusc species was *Crassostrea madrasensis*, captured between October 2013 – September 2015. Quite a good number of molluscs were washed ashore. The economic value of the shells in the field of cosmetics was raised high recently. Both in terms of aquaculture and market value the attention should be diverted towards their conservation. With few exceptions, the majority of these molluscs were ornamental.

Keywords: Diversity, bivalve, gastropod, ecosystem, Thiruvallur District, India.

Systematics and phylogeography of the Australasian mangrove crabs *Parasesarma semperi* and *P. longicristatum* (Decapoda : Brachyura : Sesarmidae) based on morphological and molecular data

Adnan S., Peter J.F.D. and Christoph D.S.

Invertebrate Systematics (2018) 32(1):196-214

Abstract

Parasesarma semperi (Bürger, 1893) was first described from Bohol in the Philippines and is considered to be widely distributed in Southeast Asia. *Parasesarma longicristatum* (Campbell, 1967) was originally described as a subspecies of *P. semperi* from Queensland, Australia, and later recognised as a full species. In this study, we re-examine specimens of the two species from across their entire geographic range using genetic markers, a morphometric analysis, and traditional morphological characters. Previous taxonomic species diagnoses were found to be unreliable, but morphometric principle component analyses consistently separate the two species, with the length to width ratio of the propodus of the fourth pereopod being of particular importance. Genetic data corresponding to the mitochondrial genes COI, ND1 and 16S confirmed a close sister relationship between the two species, forming reciprocally monophyletic groups. Both species have high haplotype diversities and high intraspecific gene flow.

Keywords: gene flow, insular species, morphometrics, re-description, Thoracotremata

Multiscale Invasive Plant Monitoring: Experiences from the Greater Everglades Restoration Area

Rodgers L., Pernas T., Redwine J., Shamblin B., Bruscia S.

Weed Technology (2018)32: 11-19

Abstract

Obtaining spatially explicit, cost-effective, and management-relevant data on invasive plant distributions across large natural areas presents considerable challenges. This is especially true when multiple monitoring objectives exist, because the utility of different monitoring methodologies varies with scale, logistical considerations, and information needs. The Florida Everglades is a vast wetland landscape with widespread invasive plant infestations and multiple management jurisdictions. A multi-agency team Working Group conducted a workshop in 2013 to explore opportunities to enhance the performance of a regional weed control program. Among the most important developments occurring at this meeting was the recognition that relevant management questions are scale-dependent. This led the team to define multiple monitoring objectives. Essential for conveying the success of the weed management program is quantifying large-scale patterns of change, as are quantifying finescale patterns informing control activities, defining mechanisms of spread, recognizing accelerating rates of spread, and detecting patterns of occupancy immediately before management intervention. The group's deliberation resulted in the emergence of a multiscale monitoring program utilizing several distinct monitoring protocols, including systematic landscape-level reconnaissance, a sample-based spatially stratified monitoring system, detailed inventories in planned treatment areas, and a set of methods focused solely on early detection and rapid response. Here we provide an overview of the Everglades multiscale invasive plant monitoring program, highlight benefits and challenges of each program component, and discuss how this program has improved regional invasive plant management.

Keywords: Exotic plants, digital aerial sketch mapping, Everglades Cooperative Invasive Species Management Area, spatially stratified monitoring, landscape, vegetation management