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REPORT ON THE TRAINING PROGRAM “Vietnamese and international methods, processes, and practices in assessing and monitoring marine waste”

Location: Center for Marine Conservation and Community Development (MCD)

Time: 27- 29 July 2022

Partners: HCMUNRE

From July 27 - 29, 2022, within the framework of the Project "Supporting the implementation of initiatives to reduce ocean plastic waste in Vietnam", the Center for Marine Conservation and Community Development (MCD) coordinated together with Nam Dinh Department of Natural Resources and Environment and domestic and foreign specialized units such as the Institute of Sea and Island Studies, Ho Chi Minh City University of Natural Resources and Environment. Ho Chi Minh City, Can Tho University, Maritime University, Xuan Thuy National Park, University of Georgia (USA), University of Toronto (Canada), etc. organized the training program "Methods, processes, practices of Vietnam and internationally in assessing and monitoring marine waste".

On July 27, 2022 at the Nam Dinh Department of Natural Resources and Environment, the training program opened with the topic "Introduction and instructions on procedures and techniques for investigating and surveying plastic waste (large plastic and microplastic) at sea." and coastal areas" from experts from the Institute of Sea and Island Studies.





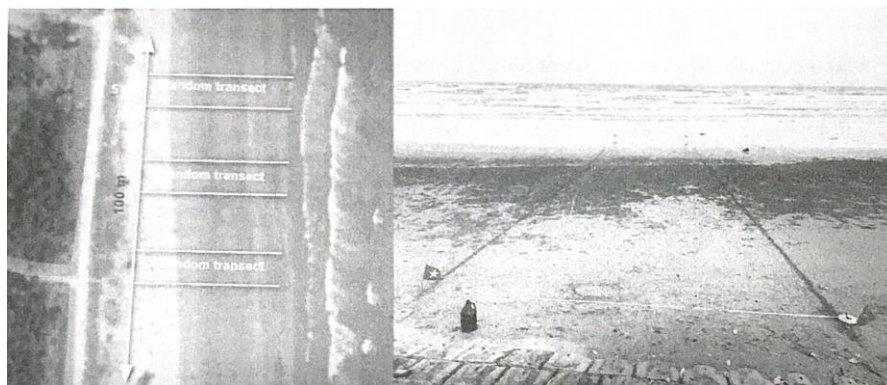
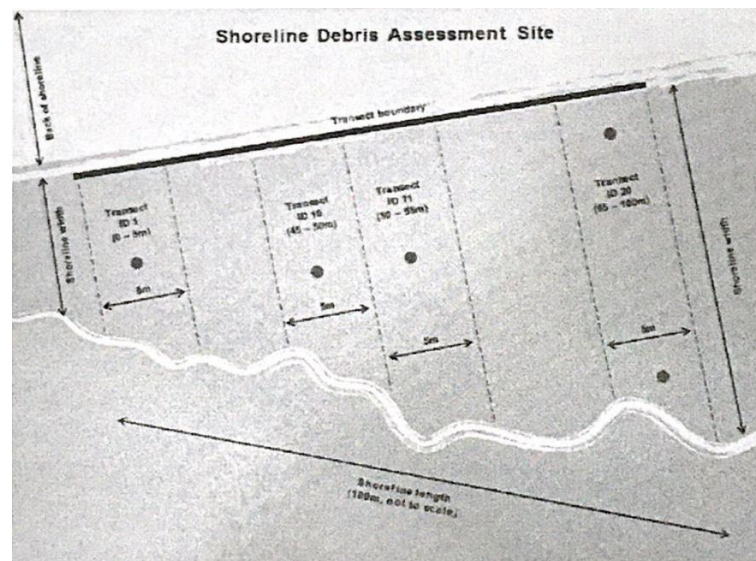
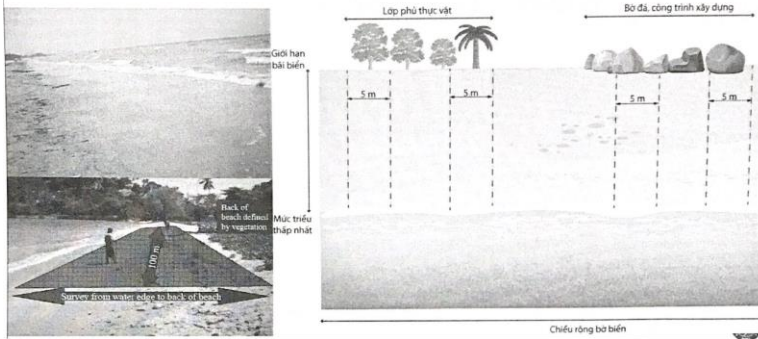
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In this topic, experts introduced processes and methods for evaluating marine waste such as:

1. Assess plastic waste on the coast according to each survey route and cross-section

2. Xác định mặt cắt khảo sát



The procedure follows these steps:

Prepare surveys and assessments

- Planning



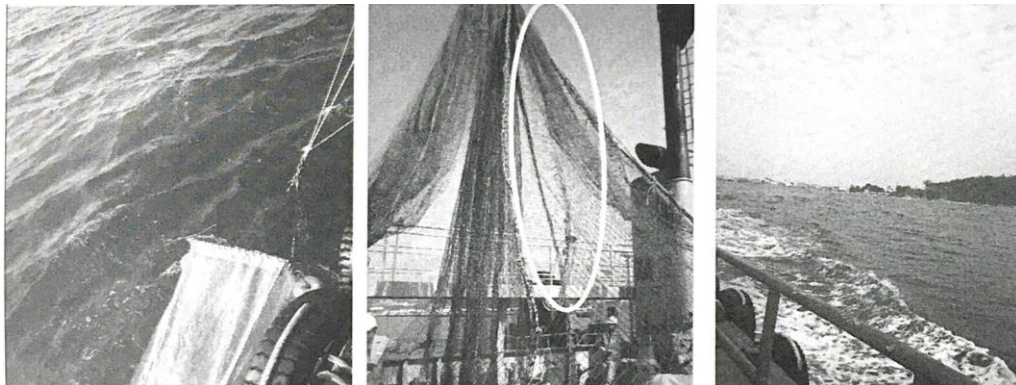
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- Determine survey and evaluation time
 - Determine survey goals
 - Identify survey objects (plastic waste samples by size)
 - Make a list of survey tools and equipment.
- ☐ Assess plastic waste on the coast
- Determine the survey cross section with a width of 5m and perpendicular to the coastal boundary, number it and randomly select 04 survey cross sections
 - Collect samples and count the number of RTN on the KS sections (take photos of the current status, collect all RTN samples according to each criterion, package and record information, ...)
 - Collect microplastic samples using 25mm and 5mm sieves (sand beaches) or sediment columns (mangroves, tidal flats).
 - Classify RTN and calculate RTN fragment density at the survey station.

2. Assess plastic waste floating at sea

- The main method used is to monitor and pick up floating RTN in the sea using nets, record information about the quantity and type of RTN, take photos and then calculate the density of large floating RTN in the seawater environment.

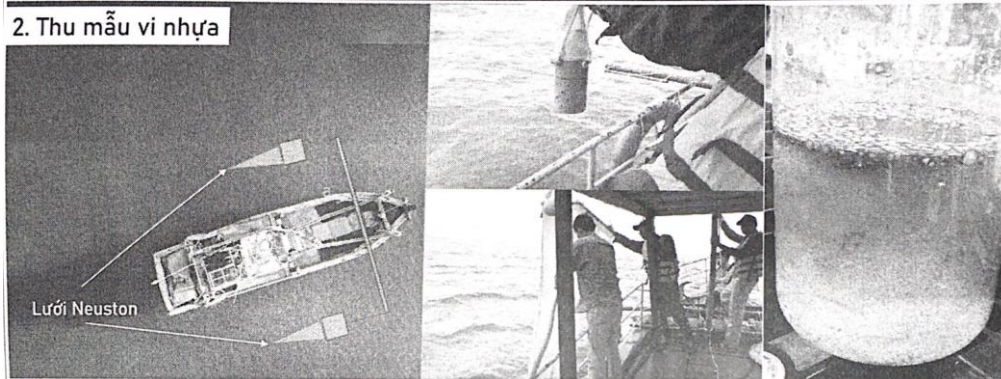




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2. Thu mẫu vi nhựa

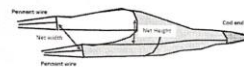


3. Evaluation of plastic waste on the seabed and in marine sediments

Use sampling methods using nets, buckets or diving or use ROVs depending on the depth and sediment conditions in the survey area

ĐÁNH GIÁ RÁC THẢI NHỰA TẠI ĐÁY BIỂN VÀ TRONG TRẦM TÍCH BIỂN

Phương pháp	Thực hiện	Đơn vị	Đơn vị khác	Khối lượng
Lặn thông thường/lặn SCUBA	Quan sát/Lấy mẫu	Mảnh/ 100m	Mảnh/100m ²	Sau khi làm sạch
Lưới kéo đáy	Lấy mẫu		Mảnh/ha Mảnh/km ²	Khả thi
ROVs	Quan sát	Mảnh/ 1000m	Mảnh/ha Mảnh/km ²	Không khả thi



Khu vực biển có nền đáy mềm, bằng phẳng



Khu vực biển nông có độ sâu dưới 20 m nước, nền cứng (đá gốc lộ, san hô) hoặc nằm trong khu vực bảo tồn

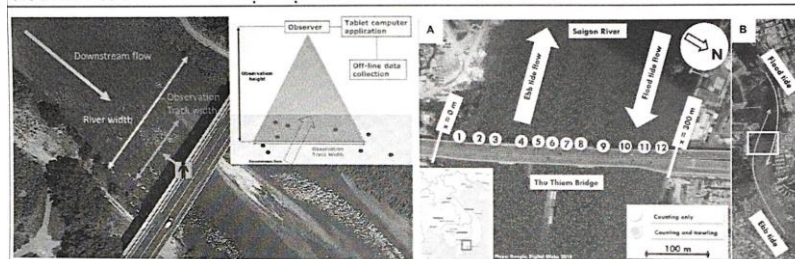


Khu vực biển có độ sâu trên 20 m nước hoặc nằm trong khu vực bảo tồn

4. Evaluation of plastic waste in estuaries and coastal areas

Use indirect methods by installing and monitoring with cameras or interpreting images through drones, UAVs, satellites, etc.

IV. ĐÁNH GIÁ RÁC THẢI NHỰA TẠI CỬA SÔNG VEN BIỂN



(Daniel González-Fernández and Georg Hanke, 2017)

(van Emmerik, 2018)

Giám sát gián tiếp (camera, giải đoán hình ảnh)

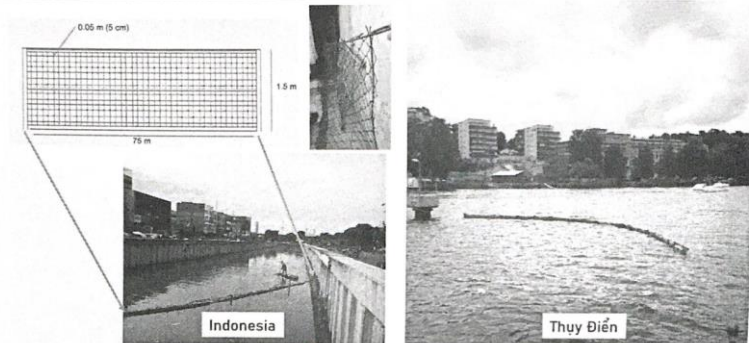
Use the direct method by installing trash traps (garbage screens,...)



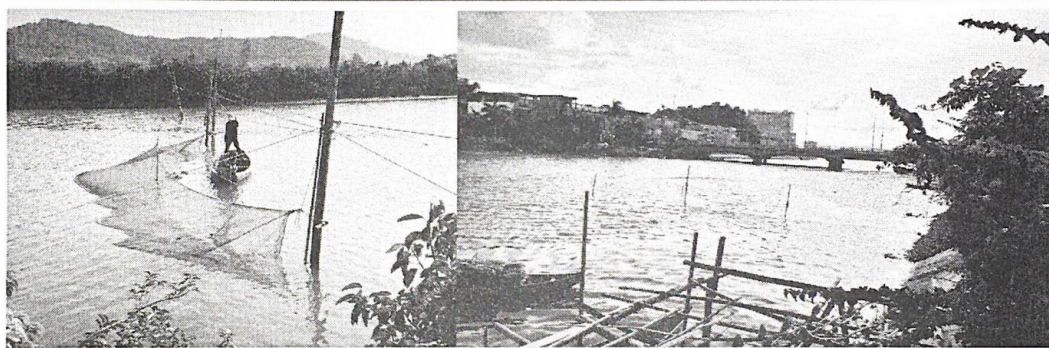
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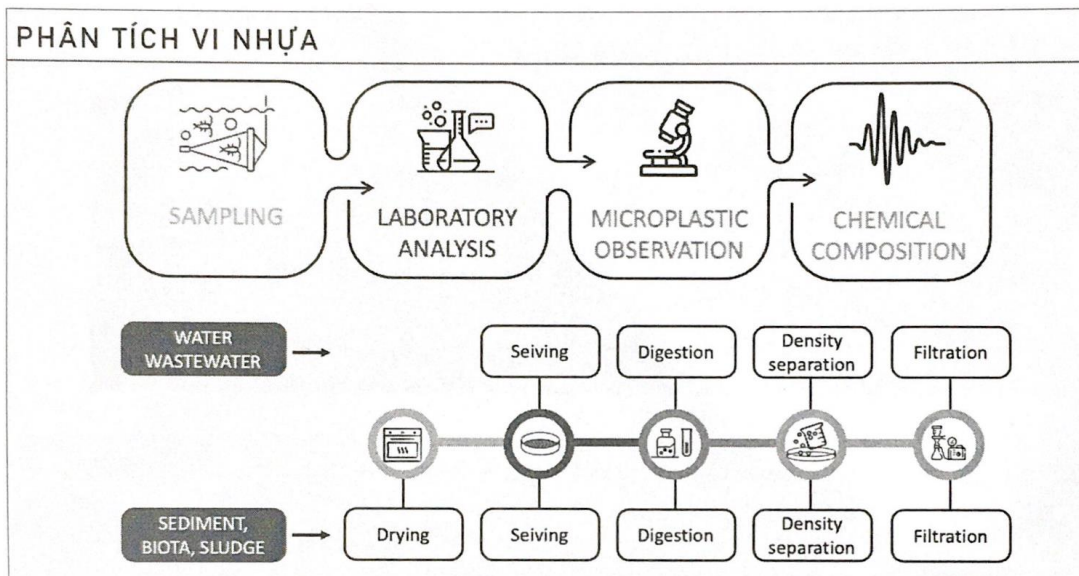
ĐÁNH GIÁ RÁC THẢI NHỰA TẠI CỬA SÔNG VEN BIỂN



Thu mẫu trực tiếp: bẫy rác (lưới chắn rác)



5. Microplastic analysis



The samples were analyzed and evaluated for the following criteria: shape (twisted, fibrous, thin, round, oval,...); type and size; quantity and volume of microplastics in the sample.



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The next topic was presented by Dr. Jenna Jambeck and colleagues from the University of Georgia (USA) and experts from MCD on "Waste assessment method using circular assessment process (CAP)" have been implemented in many countries around the world, including Vietnam. In addition, Dr. Jenna Jambeck also introduced the Debris Tracker project with open source code to classify types of waste generated in each area - locality.

The topic was also discussed by experts and scientists attending the training and a number of technological solutions contributing to the project could be developed and better served in the issue of waste classification, and raise community awareness.

The same afternoon, Dr. Chelsea Rochman and colleagues (University of Toronto - Canada) presented the topic "Research methods to assess the current status of plastic waste pollution in riverside, estuary, and coastal areas and research results in Vietnam." "

Next is the section "Detailed practical instructions and dissemination of field implementation procedures and preparation work" to equip you with knowledge about survey procedures and methods for sampling and classifying RTN for the day. fieldwork July 28, 2022.



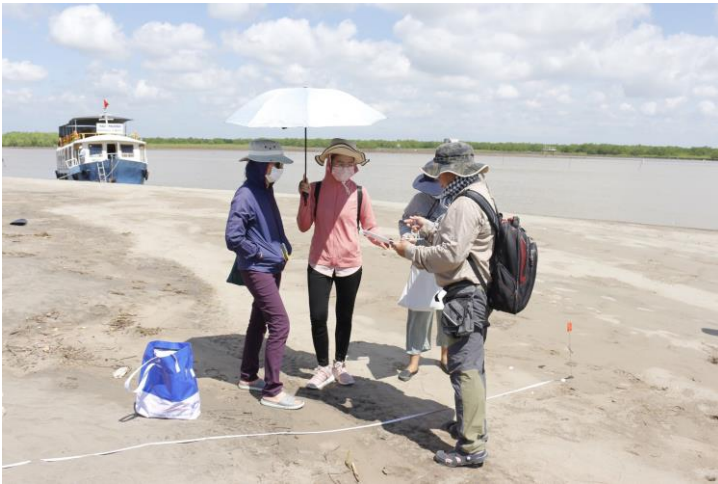
On July 28, 2022, the survey team divided into 02 groups present at Xuan Thuy National Park (Nam Dinh) - moved to the Con Lu area by boat, determined the survey area, and quickly divided the cross-sections, and began the work of collecting and evaluating RTN samples,



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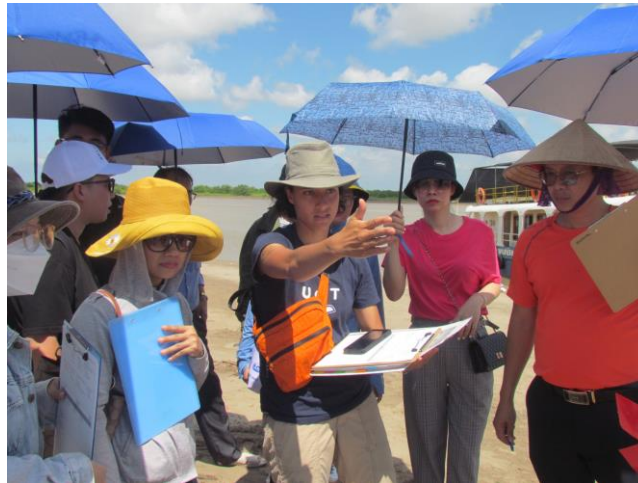


recording information, classifying and taking photos.





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On July 29, 2022, the survey team divided into 02 groups present at the location along the Red River (Nam Thang, Nam Truc, Nam Dinh communes), determined the survey area, quickly divided cross-sections and Begin the work of collecting and evaluating RTN samples, recording information, classifying and taking photos.





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On the same afternoon, the assessment team returned to the city. Nam Dinh, conducted data entry and analyzed the results obtained.

On July 30, 2022, at Nam Dinh Department of Natural Resources and Environment, on behalf of the Organizing Committee, MCD center summarized the training trip, discussed and discussed RTN assessment and monitoring methods and the results obtained after 02 months. recent field day.

At the end of the day, the organizers including the Institute of Sea and Island Research, Nam Dinh Department of Natural Resources and Environment, MCD Center and foreign experts awarded training certificates to individuals, scientists and experts who attended. .

The training trip ended successfully and ended at 4:00 p.m. the same day.





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