



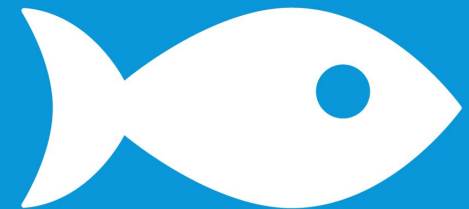
Supplementary

Sustainability Report 2021

SDG 14:

Conserve and sustainably use the oceans,
seas and marine resources for sustainable
development

14 LIFE
BELOW WATER





IPB University
Bogor Indonesia



SUSTAINABLE
DEVELOPMENT
GOALS



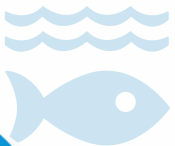
Learning Program

1

Workshop: Approach and Utilization of *In Silico* Methods in Research in the Field of Aquatic Products

The Department of Aquatic Products Technology studies protein metabolites, enzymes, and others to be used as food and non-food products (30-31/01/2021). This activity is carried out to support the development of science with computational-based research methods. Three resource persons in this activity came from the Indonesian Center for Research and Bioindustry. This activity is expected to enrich the insight of lecturers and students and assist the development of research in the field of Aquatic Product Technology. *In silico* method can be an alternative research design for lecturers and students. Participants can carry out and apply this research method in this activity for lecturer research activities or make a final thesis project

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IPB University
Kampus Merdeka INDONESIA JAYA
thp.ipb.ac.id
30 - 31 Januari 2021
Workshop
Pendekatan dan Pemanfaatan *In Silico* dalam Penelitian Bidang Teknologi Hasil Perairan
Narasumber >>>
Dr. Riza Arief Putranto, DEA Dr. Turhadi Dini Astika Sari, M.Biotech
Pusat Penelitian Bioteknologi dan Bioindustri Indonesia
Departemen Teknologi Hasil Perairan
Fakultas Perikanan dan Ilmu Kelautan, Institut Pertanian Bogor

https://www.instagram.com/p/CKk3WHqDSS/?utm_medium=copy_link



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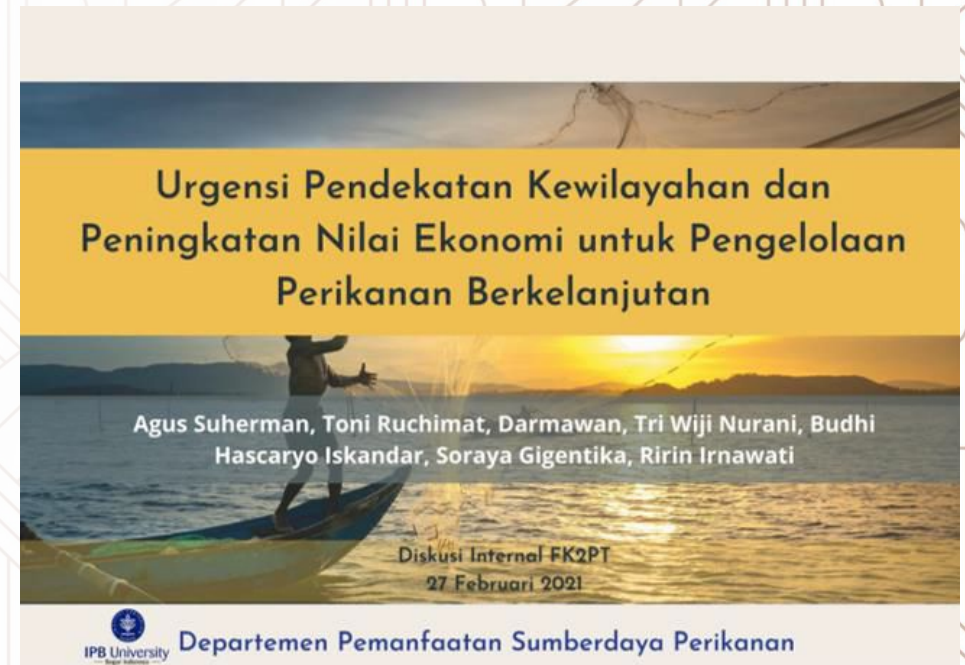
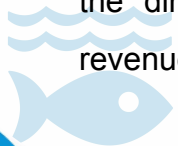


2

Internal Discussion: Urgency of Regional Approach and Increasing Economic Value for Sustainable Fisheries Management

In order to generate strategic thinking as input for the direction of government policies to increase the contribution of state revenue from the fisheries and marine sector as well as the urgency of regional-based fisheries management, FK2PT conducted an Internal Discussion of FK2PT Series 1 in collaboration with the Department of PSP IPB (27/02/2021). The Zoom Meeting platform network will hold this activity on February 27, 2021. The discussion activity was attended by 91 participants consisting of academia, government, and industry engaged in capture fisheries. The result of the activity is in the form of a book with ISBN: 978-979-1225-42-7. This activity provides input for the direction of government policies to increase the contribution of state revenue from the fisheries and marine sector

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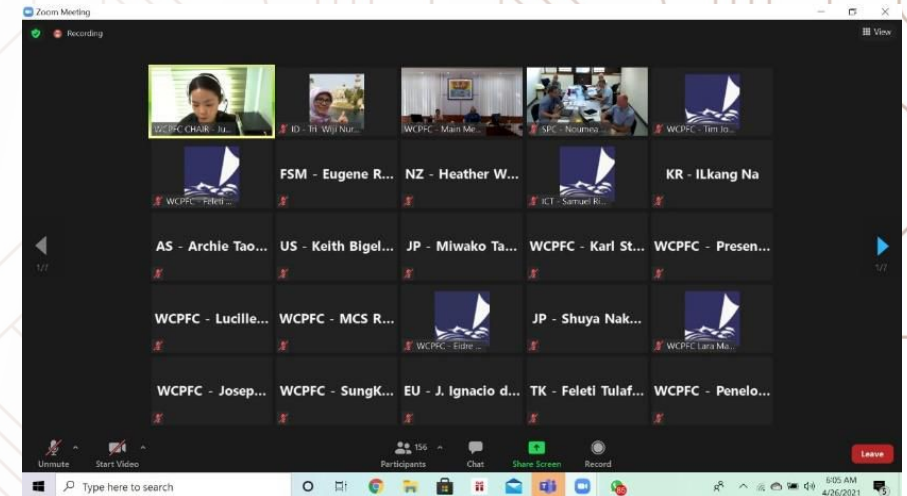
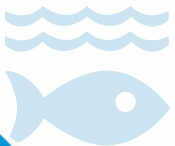


3

New WCPFC Tropical Tuna Measuring Workshop Development Seri 1

WCPFC held the Development of New WCPFC Tropical Tuna Measure Workshop 1 on 26 – 30 April 2021 online. As a member country, Indonesia needs to attend the meeting to increase its active role in WCPFC's Conservation and Management Measures (CMM) and protect Indonesia's interests in utilizing tuna resources in the Central and West Pacific regions of the WCPFC Convention. Prof. Dr. Ir. Tri Wiji Nurani from the Department of PSP IPB became one of the delegates in the workshop, representing FPIK-IPB. This activity demonstrates an active role in WCPFC's Conservation and Management Measures (CMM). It protects Indonesia's interests in utilizing tuna resources in the Central and West Pacific regions of the WCPFC Convention.

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<https://meetings.wcpfc.int/meetings/ttmw1>



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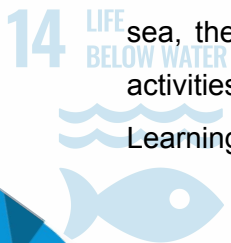
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4

Malaysian Marine Governance and Policy

This webinar was attended by Master's and Doctoral students from PS SPL. The webinar activity integrates lectures with the theme "Malaysia's ocean governance and policy" on June 7, 2021. The main speaker at this webinar is Prof. Dr. Wan Izatul Asma from University Malaysia Terengganu (UMT). Also present in this activity, Dr. Ir. Luky Adrianto, M.Sc as the Person in Charge of the Coastal and Marine Policy Course (PJMK), and Dr. Yonvitner as the Head of the Center for the Assessment of Coastal and Marine Resources (PKSPL) IPB, who also serves as teaching staff in the course. This activity aims to maintain the relationship between IPB University and University Malaysia Trengganu. The participants enthusiastically followed this webinar, which can be seen from the discussions, both opinions and questions to the presenters. Various topics were discussed, including the sovereignty of the marine area between Malaysia and Indonesia, the strategies taken by Malaysia in managing the sea, the differences in marine management institutions between Indonesia and Malaysia. Webinar activities by bringing in lecturers from outside, especially from abroad, can support the Merdeka Learning Campus Merdeka program.



A promotional poster for a webinar. The background is blue with a white grid pattern. At the top left is the Malaysian flag. Logos for IPB University and UMT are at the top right. The text reads: 'Webinar Mata Kuliah Kebijakan Sumberdaya Pesisir dan Laut (SPL636) Program Studi Magister dan Doktorat Pengelolaan Sumberdaya Pesisir dan Laut (PS-SPL) Departemen MSP, FPIK IPB University'. The main title is '“Malaysia's Ocean Governance and Policy”' in a stylized font. Below it, the word 'Bersama' is written. Three speakers are shown in a row: Dr. Ir. Luky Adrianto, M.Sc (left), Prof. Dr. Wan Izatul Asma (center), and Dr. Yonvitner (right). Their titles and affiliations are listed below them. At the bottom, the date and time are 'Senin 7 Juni 2021 Pukul 13.30 WIB'. The Zoom meeting details are 'Media: zoom meeting ZOOM' and 'Link Pendaftaran: ipb.link/daftar-webinar-kebijakanspl'. A note at the bottom says 'Terbuka untuk umum dan terbatas untuk 100 peserta' and 'Informasi: Taufiq (0812-9226-3401)'. The 'Kampus Merdeka' logo is in the bottom right corner.

<http://msp.fpiik.ipb.ac.id/perkaya-wawasan-kebijakaan-pesisir-dan-laut-ps-spl-undangprofesor-hukum-dan-kebijakan-kelautan-university-malaysia-terengganu/>



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[ipbofficial](https://www.instagram.com/ipbofficial)



5

Summer Course: Seafood sustainability and safety in Asia Pacific

The THP 2021 summer course program has the theme "Seafood sustainability and safety in the Asia Pacific," which focuses on the quality and safety aspects of fishery products. This summer course is held for two weeks, from 30 June to 14 July 2021. The lecture topics given include Seafood from Farm to Table, Ensuring the authenticity of our seafood, Biotechnology to Assure Quality and Safety of Seafood, Traditional seafood Processing, Seafood Processing By-Products. The topic was delivered by 12 lecturers from Bogor Agricultural University, Norwegian University of Science and Technology, Khon Kaen University, Thailand, Department of Food and Science Technology, Institute of the Aquaculture University of Stirling and Universiti Malaysia Terengganu. This program allows participants to gain knowledge according to the topic and are entitled to learning hours equivalent to 2 credits. Participants can develop scientific communication skills and have the opportunity to conduct cultural exchanges and gain experience competing at an international level. One hundred thirty-six participants from 35 institutions attended this summer course activity. These institutions came from 9 countries, including Indonesia, Malaysia, Vietnam, Philippines, Pakistan, Tanzania, Italy, Thailand, and the USA. The participants' number and origin were more than in the summer course program. in the previous year



6

Online Summer Course “Highland to Ocean” 2021 Tropical Aquatic Biodiversity and Management from Highland to Ocean (H₂O)

This Summer Course is organized by the Department of Water Resources Management (MSP), Faculty of Fisheries and Marine Sciences (FPIK), IPB University. This activity can provide information on developing the latest approaches, methods, and research for tropical aquatic biodiversity and its management from the highlands to the ocean. This Summer Course was held in collaboration with the Faculty of Fisheries and Marine Sciences (FPIK IPB), the Center for the Study of Coastal and Marine Resources (PKSPL IPB), and the International Collaboration Office (ICO IPB). In addition, this summer course is supported by international partners as speakers, Universiti Sains Malaysia, University Malaysia Terengganu, and the Doctoral Graduate Program at Mie University (Japan). After following the summer course program, participants can explain the types and characteristics of tropical freshwater and marine ecosystems, explain the biology and ecology of plankton, periphyton, benthos, fish, and aquatic megafauna, understand sampling techniques, laboratory analysis, and or plankton data analysis, periphyton, benthos, finfish, and aquatic megafauna, Understanding the management of tropical water resources. The summer course presented 11 speakers attended by 60 participants from Bangladesh, India, Indonesia, Italy, Japan, Malaysia, and the Philippines. The course consists of online classes through Zoom meetings, independent study in the IPB University Learning Management System (Open Courseware/OCW), and a final project. Each activity in the H2O Summer Course is considered to meet two credits or the equivalent of a minimum of 91 learning hours.

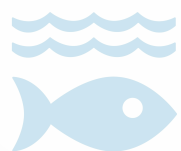


IPB University (MSP-FPIK)- University of Queensland and ICCTF Bappenas

Pre-Departure Course as the rules from IPB. How to introduce the concept of coastal and marine resources management studies, ecological perspective, spatial planning, quantitative analysis, and also ecosystem services and valuation. As part of 4 subject as the part to the IPB rules to the preparation the student before go to The UQ for full time study 3 semester under school of environmental science UQ. Strategic collaboration in terms of linkage between The UQ and IPB. We understood The UQ and IPB has a long term of collaboration since we had a MoU. Especially in the context of coastal fisheries and marine resources management. This linkage shows us that IPB University has a strategic opportunity to be a partner with The UQ in terms of coastal fisheries and marine resources management studies



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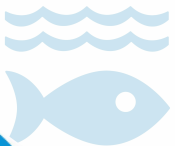
8

National Working Meeting & Discussion Overview of Capture Fisheries Policy



In preparing the work plan of the Capture Fisheries Consortium Partnership Forum (FK2PT), a national discussion was held between the management and members of FK2PT regarding the current condition of capture fisheries (6/11/2021). Especially after the policy of the Minister of Marine Affairs and Fisheries regarding actions directed at increasing Non-Tax State Revenue (PNBP). With this discussion, it is hoped that the work plan of FK2PT can synergize with current government programs. An understanding of the current state of capture fisheries, especially after several policies in the form of a Ministerial Regulation that prioritizes management actions to increase PNBP. The output of this activity is in the form of the 2021-2024 FK2PT Work Plan.

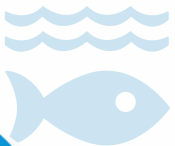
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Public Lecture: Blue Economy at Fishing Port

The public lecture was held to increase the insight and knowledge of students participating in MK TP5 related to the policy of implementing the blue economy in the management of fishing ports (24/11/2021). The resource person who gave the public lecture was Mr. Lukman Nur Hakim, SPi, MSi from the Directorate of Fisheries Ports, KKP. Knowing more about the management of fishing ports is associated with blue economy policies. Students' understanding and abilities are related to current issues regarding fishing port management, blue economy policies, and several related policies.

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KULIAH UMUM
BLUE ECONOMY
DI PELABUHAN PERIKANAN

24 November 2021
Live start at 08.00 - 10.00 WIB

Register Now !

<https://ipb.link/pendaftaran-kuliahumum-tp5>

Narasumber
Lukman Nur Hakim, S.Pi, M.Si
(Direktorat Kepelabuhanan Perikanan, KKP)

Moderator
Khorul Fatoni, S.Pi

10

Sustainable Lake Governance Dissecting the incident of fish mortality in Lake Maninjau

Fish mortality in Lake Maninjau received attention from the Department of Aquatic Resources Management (MSP), Faculty of Fisheries and Marine Sciences (FPIK), IPB University to hold a webinar: Sustainable Lake Governance Dissecting the incident of fish mortality in Lake Maninjau. In this webinar, Dr. Audy Joinaldy, the Deputy Governor of West Sumatra, was the keynote speaker. This webinar presents facts and data about the current status of the lake to explore the problems that exist in Lake Maninjau and to open opportunities that can be used as the basis for the sustainable management of Lake Maninjau. This webinar was attended by approximately 170 participants from various circles such as academics, government, NGOs, and people who care about Lake Maninjau. This webinar concludes that spatial planning is essential for managing Lake Maninjau. Therefore, an essential point of the success of these management efforts is to determine policies that encourage changes for Lake Maninjau for the better.



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SESO Academy Session 1: Perkenalan Social-Ecological Network Analysis (SENA)

The Department of Water Resources Management FPIK IPB University, in collaboration with MSP FIKP UMRAH, held a sharing session on the topic: "Introduction to Ecological Social Network Analysis (SENA)." This sharing session is part of the activities of the Fisheries Resource Management Division of the MSP FPIK-IPB Department, especially the Marine Ecology Social System Laboratory (SESO Lab), which is packaged in the SESO Academy branding. SESO Academy Session 1 aims to introduce the Social-Ecological Systems approach and the Social-Ecological Network Analysis (SENA) tool framework. SESO Academy Session 1 was facilitated by Dr. Luky Adrianto and Dr. Andi Zulfikar, FIKP UMRAH lecturer. The SESO Academy Session 1 activity, held for three days from 28-30 December 2021, was attended by 114 participants from various universities, research institutes, lecturers, researchers, and students. The next SESO Academy will be held over three sessions throughout 2022.

IPB University Bogor Indonesia | Faculty of Fisheries and Marine Sciences | Faculty of Marine Sciences and Fisheries Raja Ali Haji Maritime University

SESO ACADEMY
Social-Ecological System Approach and Analysis for Aquatic Resources Management

Keynote Message
Dr. Fredrian Yulianto, Dean, FFMS IPB | Dr. T. Erti Y. Sari, Dean, FMSE UMRAH

Introductory Speech
Dr. Majariana Krisanti, Head of Dept of AEC FMSE IPB

Facilitator
Dr. Luky Adrianto, IPB University/SESO Lab | Dr. Andi Zulfikar, UMRAH/SESO Lab

SESSION 1
SOCIAL-ECOLOGICAL NETWORK ANALYSIS (SENA) DAN APLIKASINYA UNTUK PENGELOLAAN SUMBERDAYA PERAIRAN

28-30 Desember 2021 pukul 09.00-11.00 WIB

Pengantar SES dan SENA | Algoritma SENA | Demo dan Studi Kasus SENA

Biaya Rp 0
Free tools
Open source software

- Pendaftaran paling lambat 22 Desember 2021 melalui link sbb : ipb.link/seso-academy1
- Peserta terbatas, selected participants akan dikontak dan diberikan akses ruang zoom
- Forum ini adalah forum saling belajar, bukan semata untuk mencari sertifikat.

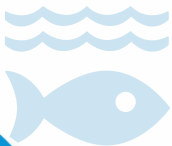
12

International Class Program: Department of Marine Science and Technology

Department of Marine Science and Technology (ITK) IPB University's international class program is undoubtedly the right choice who are interested in becoming an oceanographer with a global role. By 2020, the ITK Department will have officially opened an international class program. According to the Merdeka Campus policy, the International Class of ITK Study Program uses a new curriculum. International students get different facilities, namely research, field trips, summer courses, and winter courses abroad. In addition to obtaining the opportunity to study abroad with several partner universities, the ITK Study Program is preparing student lounge facilities as a place for student discussion. The outcome of this activity is the increasing interest of students enrolling in international class programs. Activity Benefits:

1. Opportunity to experience studying abroad
2. Expand our network of friends
3. More diverse academic experience

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<https://www.dikti.kemdikbud.go.id/kabar-dikti/kampus-kita/tertarik-jadiahli-ilmu-kelautan-berkiprah-global-kelas-internasional-itk-ipb-universityjawabannya/>
<https://edukasi.kompas.com/read/2021/06/01/093133171/ingin-jadi-ahlikelautan-global-ipb-ada-kelas-internasional-itk?page=al>



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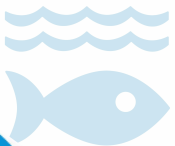
13

SCORES: School of Coral Reef Restoration

The School of Coral Reef Restoration (SCORES) is an innovation initiated by the ITK Department as a form of action in socializing coral reef conservation (12/2021-04/2021). SCORES was established to know the parties who have carried out restoration activities and the various methods used in coral reef restoration. This activity is carried out in a weekly webinar by presenting resource persons from the government, universities, and local communities to share experiences related to learning in coral reef restoration activities. For students, SCORES can be claimed as a course with a weight of 2 credits. The benefits of this activity include: can be claimed as a course with a weight of 2 credits; improved relations between educational institutions and industry; participants have wider learning opportunities and additional knowledge. The output of this activity is that participants gain deeper insight into the methods and practices of coral reefs in Indonesia.



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<https://bogor.tribunnews.com/2022/02/04/lindungi-terumbu-karang-ipb-university-berupaya-lakukan-restorasi-di-laut-indonesia>
<https://www.forestdigest.com/detail/1561/apa-itu-rock-pile>
<https://kumparan.com/news-release-ipb-departemen-itk-ipb-tekniktransplantasi-sebagai-upaya-restorasi-terumbu-karang-1xRMM2zmyQx>



14

Pelatihan Bidang Kepelabuhanan, Shipping, And Maritime Logistic

PKSPL IPB University for 2021, specifically in Port, Shipping, and Marine Logistics, will carry out two training and expertise education forms. First, the Education and Training of Indonesian Port Experts Classes 32, 33, 34, and 35 is mandatory training and certification for companies that will become managers and operators of Port Business Entities in Indonesia. The purpose of this activity is to improve the competence of port managers to develop sustainable ports (port sustainability development). This training curriculum is designed in full, not only on business and economic and operational aspects but also on environmental aspects such as the topic of the port environment, which discusses related to marine environmental protection, oil spills, waste management, and ship/port waste, green ports, impact assessments. (Environmental Impact Assessment) of port development and operational activities, then also discusses related to MARPOL. Training and Education for port experts will be held in February, July, September, November 2021.

Second, Training on Digital Technology for Port, Shipping, and Logistic System Batch 1. This is the first and only training in Indonesia related to port digitization. This training is intended to increase the capacity of port human resources in digital literacy, especially in the port sector. The development of industry 4.0 and operational sustainability and port development to ensure the logistics system continues to run amidst technological disruptions. Improving the literacy and competence of human resources in digitization is directed at realizing port operation sustainability.

- <http://pkspl.ipb.ac.id/berita/detail/pkspl-ipb-university-melakukan-akselerasi-pembangunan-sdm-kepelabuhanan-nasional>
- <http://pkspl.ipb.ac.id/berita/detail/training-digital-technology-for-port-shipping-and-logistics-system>
- <https://ipb.ac.id/news/index/2021/04/pkspl-ippm-ipb-university-fasilitasi-terbentuknya-perkumpulan-ahli-kepelabuhanan-indonesia-palki/25301f21083f1174eef2c63f73cc46a7>
- <https://ipb.ac.id/news/index/2021/08/pkspl-ipb-university-mengawal-terwujudnya-digitalisasi-kepelabuhanan-nasional/9e106583391492681e2e22b729fd38b3>

TRAINING
DIGITAL TECHNOLOGY FOR PORT, SHIPPING AND LOGISTICS SYSTEM
BATCH 2

TOPIK

- Revolusi Industri 4.0, Society 5.0 dan Digitalisasi Pelabuhan
- Logistic and Supply Chain related on Digitalization
- Port Operation & Information System
- Artificial Intelligence (AI) on Port
- Blockchain on logistics and Port Inaportnet
- National Logistic Ecosystem
- Praktik Penyusunan Blockchain, Artificial Intelligence (AI) & Implementasi Inaportnet pada pelabuhan

Pendaftaran:
ipb.link/daftaradigitalisasiipb

DEK 2021 DARING zoom

16-18 21-22

Kontak Panitia:
085214253136 /Heru
082213297195 /Roni
08129516447 /Sinta
08111108320 /Hurdin

Biaya Rp. 5.500.000,- (bim PPN) pembayaran transfer ke Rekening IPB C/Q PKSPL No. 0121109976 Bank BNI Capem IPB Dramaga



SDM Unggul dan Berdaya Saing akan Menghantarkan Indonesia Sebagai Poros Maritim Dunia"

Diklat Ahli Kepelabuhanan Indonesia

Pendaftaran: <https://bit.ly/DaftarTrainingPelabuhan> Info lebih lanjut: <https://ipb.link/ahlikepelabuhanan>



15

CoMESVal: Training on Economic Evaluation of Coastal and Marine Resources Level 1

Indonesia's coastal and marine resources have extensive and diverse biodiversity, so many interests in their management and utilization often lead to social and economic conflicts. Therefore, the development of coastal and marine areas is expected to be carried out by considering the principles of sustainability and transparency that are fair and proportionate to all stakeholders. Fair and proportional measurement in making development decisions should consider a cost-benefit analysis that has considered "tangible" and "intangible" values. The approach that is often and commonly used to bridge these various interests is the Economic Valuation of Coastal and Marine Resources (CoMESVal: Coastal and Marine Ecosystem Service Valuation). CoMESVal is an assessment technique used to measure tangible and intangible values determined by several techniques of resource economic assessment. These techniques are essential to be understood by policymakers to use them as a reference for determining the proportional economic value of resources. The CoMESVal technique enables development decisions considering social impacts, economic growth, and ecological sustainability. After participating in CoMESVAL Level 1 training, the expected results include (1) Awareness for the community and policymakers that coastal and marine resources have a value that must be taken into account, not only the value seen visually but also the intrinsic value attached to these natural resources. ; (2) Baseline data loss due to damage; (3) Coastal and marine natural resources are state assets or wealth, not just land on land; (4) As central and regional policymakers, it is necessary to look at the current state of resources compared to the past.

PKSPL (Center for the Study of Coastal and Marine Resources) – LPPM IPB has conducted online CoMESVAL Level 1 training on 22-25 November 2021 (online). Economic valuation training for coastal and marine resources level 1 as a condition for participating in the next level of training (Training CoMESVAL level 2), namely implementing economic valuation as a policy instrument. The Training on Economic Valuation of Coastal and Marine Ecosystem Services at level 1 are the government, NGOs, private companies, young lecturers, and postgraduate students.

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16

Examining the Pollution Impact of Jakarta Bay

Ecotoxicologist from Aquatic Resources Management (MSP FPIK IPB University) Prof. Ety Riani mentioned several possibilities related to the findings of paracetamol in Jakarta Bay. She revealed it in the show on Nusantara TV (8/10/2021), namely “Menelisik Dampak Pencemaran Teluk Jakarta”.

In this case, the Ministry of Environment and Forestry and BRIN, the government, will form a Working Group for the Management of Contaminants of Emerging Concern in collaboration with relevant technical ministries and universities. KLHK also collaborates with the Ministry of Health to disseminate information about the use of promising medicines, especially drugs that are freely available in the market.

Relatively high paracetamol content was found in Jakarta Bay's waters by a research team from the National Research and Innovation Agency (BRIN) and the University of Brighton, England. The results showed that, when compared to other beaches in the world, the concentration of paracetamol in Jakarta Bay was relatively high (420-610 ng/L) compared to the coast of Brazil (34.6 ng/L), the north coast of Portugal (51.2 – 584 ng/L). However, if no steps were taken to deal with it or business, as usual, it would have the potential to impact the environment.



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<https://atsea-program.com/event/essential-ecosystemapproach-to-fisheries-management-hybrid-training-acollaborative-effort-amid-covid-19-pandemic/>



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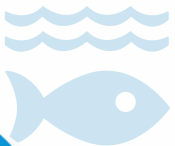


17

Object Based Image Analysis Training

The training organized by the Spatial Modeling Laboratory of the UTI Division of the ITK FPIK IPB University was conducted online through Zoom Meetings. By presenting Siddiq Sangadji, a postgraduate graduate of the Marine Technology Department of ITK FPIK IPB University, as a resource person who will provide material on image data processing using the OBIA method. This activity aims to support the capacity building of marine and fisheries human resources. The use of image processing technology during a pandemic is the most helpful thing in analyzing the sea without going directly to the location. The benefits of this activity: Opportunity to learn, discuss, and interact directly with OBIA experts; Adding new insights into image data processing methods; Source of inspiration for future research ideas; and Expanding relationships. This activity uses the OBIA data method. So that Participants can understand the steps from processing to data analysis using the OBIA data method

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<http://itk.ipb.ac.id/~itkipb/laboratorium-pemodelan-spasialdivisi-isk-departemen-itk-fpik-ipb-university-mengadakanpelatihan-object-based-image-analysis-obia>



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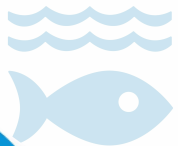


18 Remote Sensing Webinar

The Remote Sensing Webinar is part of the Field Work Practice (PKL) activities for students of the Marine Sciences Department, the University of Papua at the ITK Department of FPIK IPB University (5/8/2021). The material discussed in this webinar is about using remote sensing technology in analyzing water quality and mapping shallow marine habitats. The invited resource persons are Professors in Remote Sensing and Marine GIS and lecturers of the Division of Remote Sensing and Marine GIS Department of ITK FPIK-IPB University, namely Prof. Dr. Ir. Vincentius P. Siregar, DEA, and Prof. Dr. Ir. Jonson Lumban Gaol, M.Sc. the benefits of this activity are a place to gain new knowledge and exchange ideas with other participants; Promotion/branding events for each agency; and Expanding relationships. Participants can know and understand the use of remote sensing technology related to water quality analysis and mapping shallow marine water habitats.



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Link Beri:
<https://ipb.ac.id/news/index/2021/08/kolaborasi-denganuniversitas-papua-departemen-itk-ipb-university-gelar-webinarpengembangan-teknologi-penginderaan-jauh-dalam-bidangkelautan/f0f22ce652ffda8da5c1816993d77ed7/>



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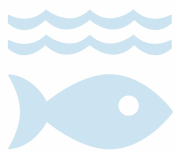
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19 SCORES: School of Coral Reef Restoration

The School of Coral Reef Restoration (SCORES) is an innovation initiated by the ITK Department as a form of action in socializing coral reef conservation (12/2021-4/2022). SCORES was established with the aim of knowing the parties who have carried out restoration activities and the various methods used in coral reef restoration. This activity was carried out in the form of a weekly webinar by presenting resource persons from the government, universities, and local communities to share experiences related to learning in coral reef restoration activities. For students, SCORES can be claimed as a course with a weight of 2 credits. Benefits: Can be claimed as a course with a weight of 2 credits; Improving relations between educational institutions and industry; Participants have wider learning opportunities and additional knowledge. Participants gain deeper insight into the methods and practices of coral reefs in Indonesia

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<https://www.kompas.com/edu/read/2021/12/08/181513571/pulihkanterumbu-karang-ipb-luncurkan-school-of-coral-reef-restoration>
<https://bogor.tribunnews.com/amp/2022/02/04/rehabilitasi-terumbu-karang-halmahera-dan-pulau-seribu-ipb-university-ungkap-metode-transplantasi>
<https://bogor.tribunnews.com/2022/02/04/lindungi-terumbu-karang-ipb-university-berupaya-lakukan-restorasi-di-laut-indonesia>
<https://www.forestdigest.com/detail/1561/apa-itu-rock-pile>
<https://kumparan.com/news-release-ipb/departemen-itk-ipb-tekniktransplantasi-sebagai-upaya-restorasi-terumbu-karang1xRMM2zmyQx>



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20

The 4th International Conference on Marine Science and Technology Contributions to The Sustainable Development Goal Life Below Waters

The International Conference on Marine Science (ICMS) is a biennial international seminar event, which in 2021 has become the fourth year this activity has been carried out (24-25/8/2021). The theme raised in Marine Science and Technology Contributions to The Sustainable Development Goal Life Below Waters (SDGs-14). This online event was attended by at least 540 participants from several countries such as Malaysia, India, Taiwan, Japan, France, Italy, the United States, and Indonesia. At this conference, there were 82 scientific manuscripts presented. There were several invited speakers, including Eko Siswanto, Ph.D. (JAMSTEC), Prof Pascale Bouruet-Aubertot (Sorbonne University, France), Dr. Stefano Vignudelli (Consiglio Nazionale Delle Ricerche, Italy), Prof James Bell (Victoria University of Wellington, New Zealand), PD Dr rer nat Habil Sonja K (DAAD long-term lecturer, IPB University), Dr. Agus Atmadipoera (IPB University), Prof Fadli Syamsuddin (Department of Marine and Fisheries of West Sulawesi), Shang Yin Vanson Liu, Ph.D. (National Sun YatSen University, Taiwan), and Assoc. Prof. Ahmad Faisal MA (Universiti Malaysia Terengganu, Malaysia). Activity Benefits: Opportunity for dissemination and publication of research results; Increase mastery and understanding of the marine sector; Provide additional knowledge related to the development of marine science and technology that occurs in various parts of the world; An event for discussion and exchange of ideas with academics, researchers, and students; and Expanding the network of relationships. Activity Outcomes: Collaboration with other agencies and publication of manuscripts



<https://ipb.ac.id/news/index/2021/08/department-of-marinescience-and-technology-ipb-university-holds-internationalconference-on-marine-science-and-technology-attended-byhundreds-of-participants-from-variouscountries/d1c716d90c16f658da4c339e87e4a81c>

https://www.instagram.com/p/CS61fawF4B7/?utm_source=ig_web_copy_link

https://web.facebook.com/itkipb/photos/the-4th-internationalconference-on-marine-science-2021-icms-2021marine-science-1530130937196059/?_rdc=1&_rdr



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Student Activities

21

Aquatic Ecological Assessment of Banten Bay for Fisheries Purposes

This activity is a research activity involving 11 students of Aquatic Resources Management and 5 students of Marine Science and Technology in Banten Bay (1-12/2021). Students conduct integrated research between environmental components and organism in the aquatic ecosystem.

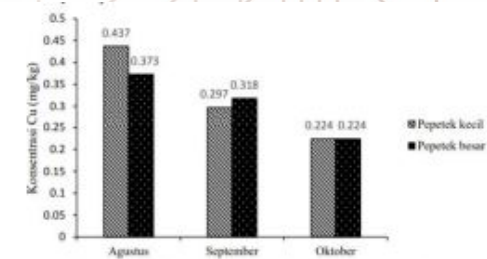
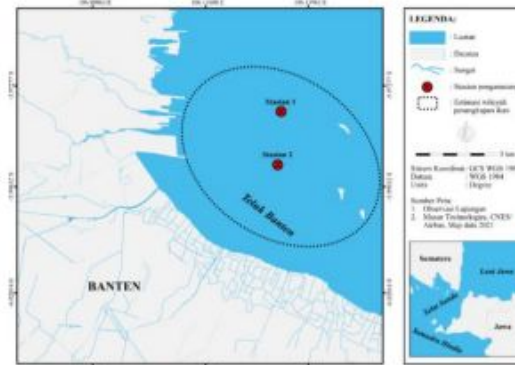
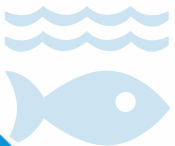


Fig. 3. Kandungan Cu daging ikan pepetek *Eubleekeria splendens* (Cuvier, 1829) di Teluk Banten. (—) merupakan baku mutu cemaran logam Cu menurut Kep. Dirjen POM 1989.

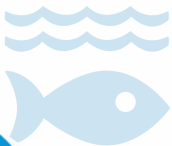
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25 Aquabindes: Village Development from Aquaculture

The Community Development Aquaculture Activity/Aquabindes 2021 is a forum that brings together students and the community through village development activities (2-11/2021). These activities include fish hatchery activities, consumption of ornamental fish, and increasing economic value through natural and artificial feeds. The activities carried out are expected to give positive results both in understanding and profit orientation in a sustainable manner. Besides that, students are expected to be able to improve their practical skills in the field of aquaculture. Activity Outcomes: Adding a new understanding of aquaculture knowledge and technology to village communities; Improving the skills and soft skills of aquaculture science acquired in lectures; Students can raise awareness of community development in the field of aquaculture; Students can become facilitators in the development of the world

14 LIFE BELOW WATER of aquaculture in the community



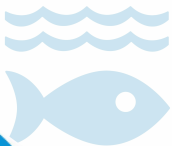
26

Aquafarm Edupark: Ornamental fish farming

Ornamental fish farming activities include the preparation of spawning containers for hatching eggs and a nursery for ornamental fish located in the production workshop. The cultivated ornamental fish include *Corydoras aenus*, *Corydoras paleatus*, *Corydoras sterby* (3-11/2021). This activity is the basis for the implementation of Aquafarm Edupark, where the production bureau improves knowledge and skills in ornamental fish cultivation, which will then be shared with Aquafarm Edupark participants. This activity helps help people affected by the COVID-19 outbreak so that they are free from unemployment by involving affected communities in pomfret fish cultivation and maggot cultivation. The output of this activity is the formation of creative groups consisting of homemakers who can increase their knowledge in making dumplings from pomfret to provide added value to pomfret fish products produced by the local community.



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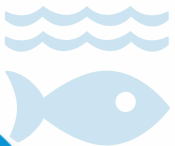


27 SEA: Social Environmental Action

SEA (Social Environmental Action) is a series of activities in the social and environmental fields. SEA consists of several series of activities (3-8/2021). The first transformation activity was related to recycling plastic bottles. Furthermore, Mentari Biru is related to the village development program with the target of becoming a tourist village. It ends with a social tourism program containing education and providing food to the surrounding community. Benefits of Activities: Improving soft skills for FPIK students; Increasing awareness and knowledge about the importance of caring for Indonesia's marine conditions. Activity Outcomes: Improving the economy of the surrounding community; Creating a tourist village; Has a typical product from the village.



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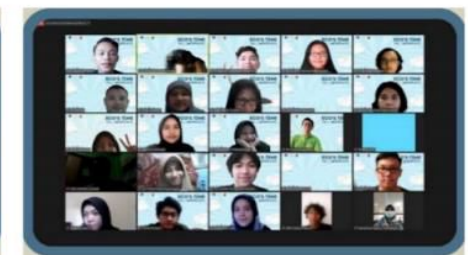
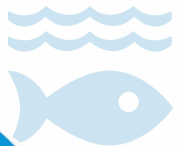
28

Eco's Time Vol. 1: Microplastic Sustainable Solutions to Protect Our Oceans

Eco's Time is a series of interactive webinars about science and scientific insights and knowledge about marine resource management (11/4/2021). Vol. 1 has the theme of analyzing marine pollution, namely microplastics and their handling. This activity can increase students' knowledge about microplastics, their impact, and appropriate and sustainable microplastic analysis and handling techniques. This activity received much enthusiasm from the participants, as seen from the number of participants who reached 200 people, and during the discussion, many asked questions. Participants became more concerned about microplastic pollution in the oceans.



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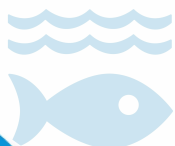


29 PRI-VILLAGE 2021: Explore the Potentials of Our Village

Pri-Village 2021 is a village development activity carried out by Himasper through the implementation of various activities that can develop village potential (18/4/2021-6/6/2021). Pri-Village 2021 activities consist of two events, namely From Zero to Eco and Himasper Foundation. From Zero to Eco is a socialization activity about the environment for the people of Gunung Bunder Village 2. The Himasper Foundation is a program to provide educational assistance for elementary school students in need. This activity introduces potential resources in the village and can help elementary school students who need educational assistance. The implementation of this activity can make the community know how to sort waste and make compost and know the potential of water resources in the village. For this reason, the foundation will help elementary school (SD) students who are constrained by costs to get educational assistance.

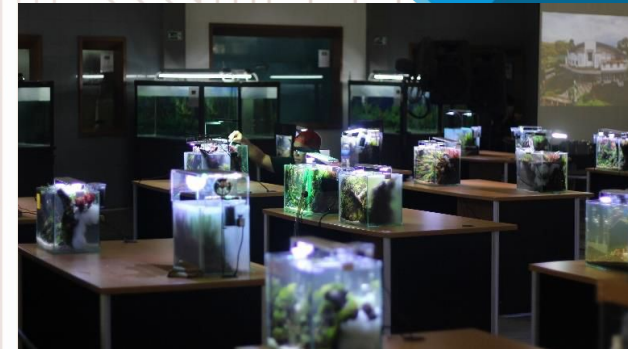


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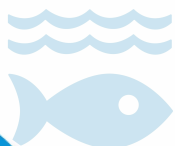


30 Aquafest: Aquaculture Festival

Aquaculture Festival (Aquafest) is Indonesia's most significant aquaculture activity on a student scale (7-10/2021). This activity has been held regularly every year in a row since 2010 by Himakua FPIK IPB. Aquafest is an intermediary for aquaculture students to introduce aquaculture to the community. In addition, the entire 2021 Aquaculture Festival event has increased the organizing committee's soft skills and hard skills. The output of this activity is the exploration of public interest in aquaculture through technology-based activities that are packaged in an attractive manner that can also add insight for students or the public about the prospects of aquaculture in the future.



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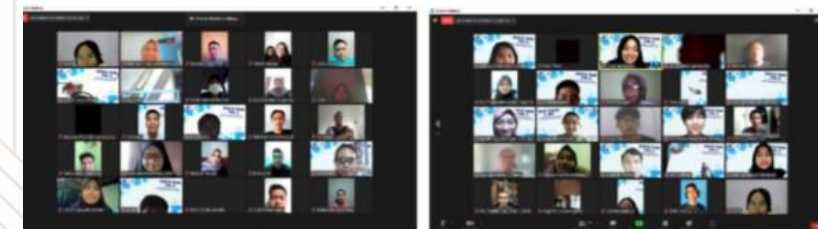
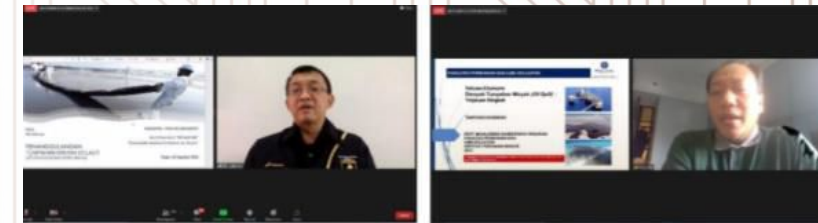
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31

Eco's Time Vol. 2: Oil Spill Sustainable Solutions to Protect Our Oceans

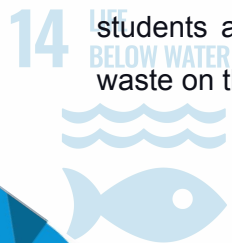
The Himasper IPB University Water Resources Management Student Association presented the Corporate Secretary of the Refining Petrochemical Sub-holding PT Pertamina Refinery Internasional Ir Ifki Soekarya to discuss environmental pollution due to oil spills. Ifki explained Pertamina's business processes from searching for potential upstream oil and gas production, processing crude oil and gas into fuel oil (BBM), LPG, petrochemicals (midstream) distribution, and marketing downstream products. Meanwhile, Dr. Taryono, Lecturer of IPB University from the Department of Water Resources Management at The Faculty of Fisheries and Marine Sciences (explains the assessment of damage to the aquatic environment due to oil spills. This activity can increase students' knowledge about oil pollution and its impact on ecology and the economy. Participants understand the meaning and impact of oil spills and the measures taken to deal with oil spills in the sea. Activities this got much enthusiasm from the participants, it was seen from the number of participants who reached 200 people, and during the discussion, many asked the participants to be more concerned about pollution from oil spills in the sea. (22/8/2021)



32

Greenbelt Conservation 2021: Mangrove Conservation

The Water Resources Management Student Association (Himasper), IPB University, held a Green Belt Conservation (GBC) activity in Manggala, Tangerang, Banten (25/9/2021). This activity is part of the 2021 Water Festival. *Green Belt Conservation* is an annual sustainable agenda organized by Himasper IPB University. This is also one of our efforts in preserving aquatic ecosystems, especially mangrove ecosystems, through social and ecological approaches. GBC consists of three sub-activities. It is monitoring and planting mangroves, fishery counseling and Focus Group Discussions (FGD), and Himasper Teaching. Activities for preserving aquatic ecosystems, especially mangrove ecosystems, through social and ecological approaches. Green Belt Conservation 2021 applies the mangrove adoption method. For Focus Group Discussion activities, the community can find out the potential of the mangrove ecosystem and gain knowledge about mangrove ecotourism and fish farming. Himasper Teaching was held at SDN Patramangga 1. This activity aims to educate elementary school students about a Clean and Healthy Lifestyle (PHBS), introduction to aquatic ecosystems, and the impact of waste on the environment.



34 BMC 2021: Business Model Canvas Competition

Kegiatan Lomba Marine and Fisheries Business model canvas sebagai wadah inovasi ide produk kewirausahaan di bidang Perikanan dalam kategori pangan dan non pangan (1/10/2021-1/11/2021). Manfaat kegiatan ini meningkatkan kemampuan mengukur, analisis, dan interpretasi sumberdaya perikanan menjadi model bisnis.

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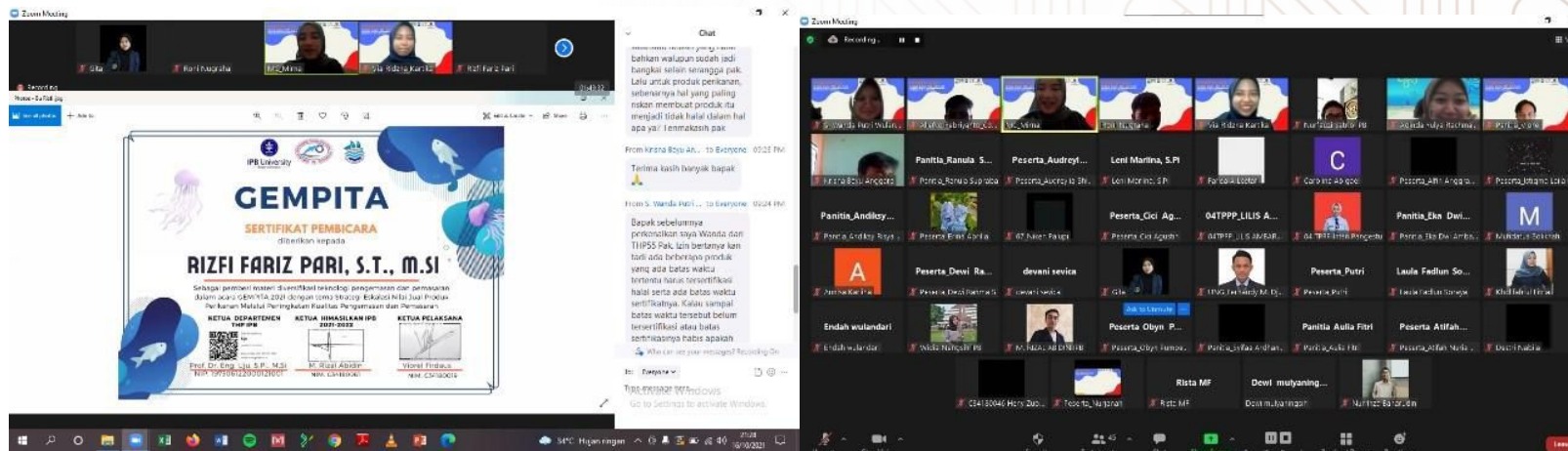


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GEMPITA 2021: Smart Community Movement and Love for Fishery Products

Kegiatan edukasi pengolahan hasil perikanan teknologi pengemasan pemasaran dan sertifikasi halal untuk mahasiswa masyarakat dan pelaku usaha. Manfaatnya Membentuk mindset wirausaha kreatif dan inovatif untuk kemandirian ekonomi. Luaran: Kreativitas & Inovasi; Pola Pikir Wirausaha; Kesadaran & Tanggung Jawab Sosial; Kefasihan Digital & Teknologi. (17/10/2021).



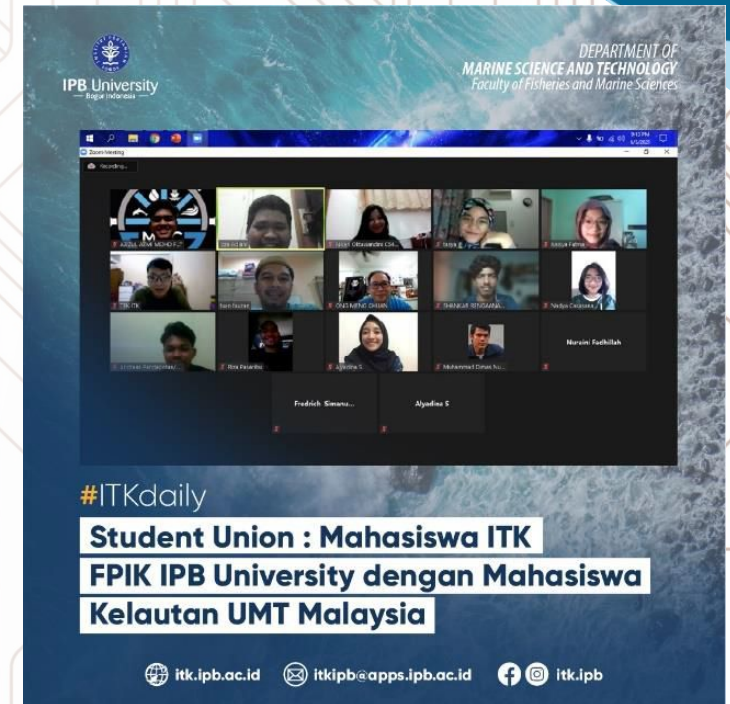
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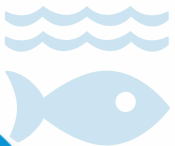
36

Student Union: Himiteka IPB x UMT Malaysia

In order to build international relations, the Marine Science and Technology Student Association (HIMITEKA) held a Student Union with Marine Students at the University of Malaysia Terengganu (UMT) (17/10/2021). The meeting, held virtually through the Zoom Meeting, discussed collaboration in organizing the Indonesia Marine Summit 2021. Based on the Memorandum of Understanding (MoU) between IPB University and UMT, cooperation usually only at the faculty and departmental level will now be expanded into student activities. In addition to expanding networking, this collaboration is expected to increase student activities to an international level. The benefits of expanding the network of relationships; include means to improve the branding/good image of the organization; the opportunity to share knowledge not only in the academic field but also in organizational management and other things. Outcome: There is a collaboration between HIMITKA and UMT Malaysia students in the Indonesia Marine Summit 2021



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<http://itk.ipb.ac.id/~itkipb/rancang-kerjasama-berbasisinternasional-itk-adakan-pertemuan-bersama-umt/>



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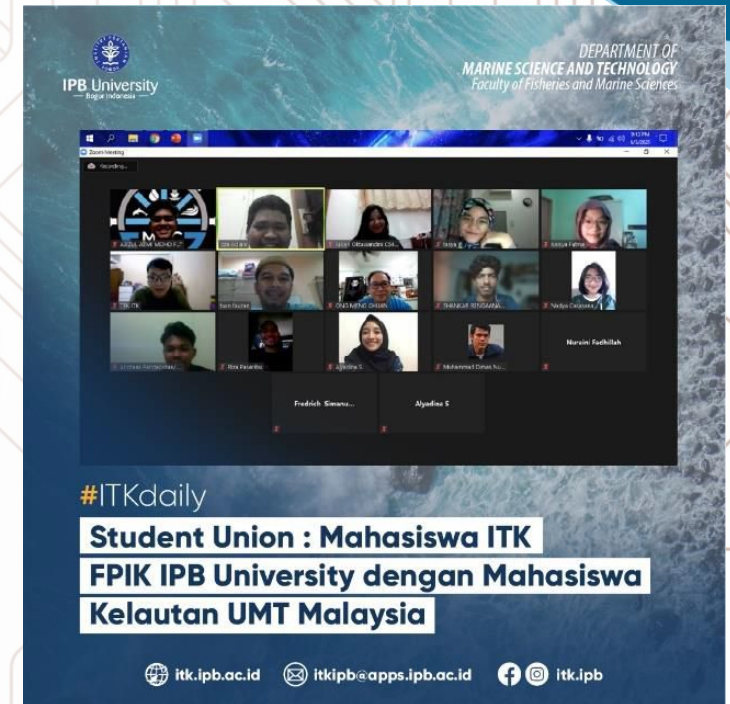
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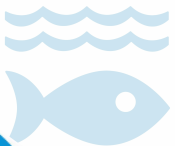
37

Konservasi dan Survei Lapang Kelautan Marine Field Survey and Conservation

The activity of collecting data on physical, biological, and chemical parameters in the mangrove ecosystem area helps know the condition of the waters and interest in matters and their application as an effort to preserve the environment. Foster a love for maintaining, managing, and rehabilitating mangrove ecosystems as a form of environmental conservation. Outputs: Scientific Reports, Popular Reports, Documentation Videos, Exhibition of Consurv Results.



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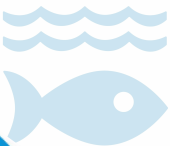
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38 7th Himiteka Expedition

Activities include taking oceanographic data, marine acoustics, mapping, marine hydrobiology, and studying the characteristics of living things in coastal areas. The existing data is then informed in popular magazines, scientific reports, and video documentation to the general public. Benefits: Exploring the waters of Panaitan and Peucang Islands, Ujung Kulon National Park to obtain oceanographic data, marine acoustics, mapping, and marine hydrobiology; Obtaining facilities for the implementation of 4 scientific fields in the ITK department of FPIK IPB. In theory and practice in the field and relations with the community; Exploring the marine potential in the waters of Panaitan and Peucang Islands, Ujung Kulon National Park. (8-12/8/2021).

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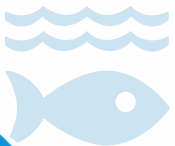


39

Basic Sea Survival (BSS) Workshop

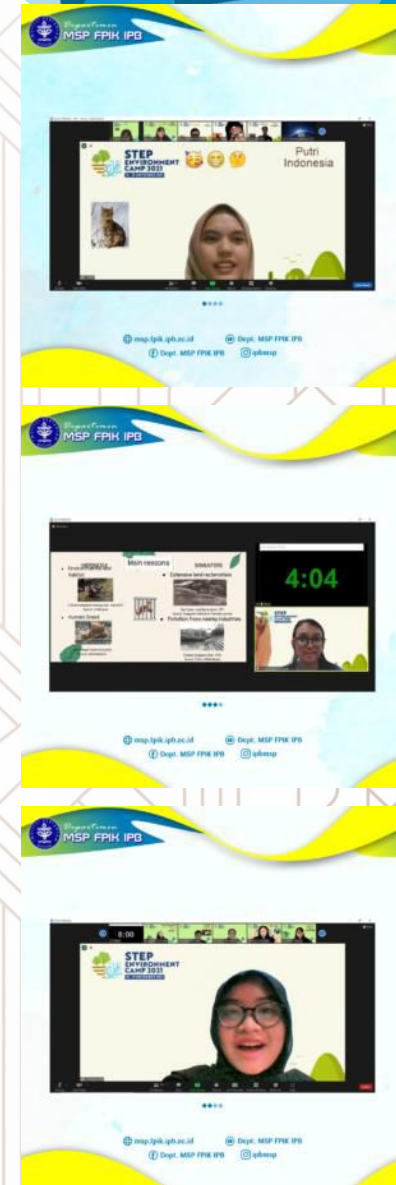
Sea Survival is a training activity to survive when life is in danger, before or during, and after leaving offshore waters, related to the dangers of the environment. Sea Survival is an endurance training activity at sea that aims to train students' interests and talents to survive in a state of danger when at sea and certify and increase student skills in prevention and self-rescue actions from accidents in the waters. Benefits This activity provides knowledge, ability, and confidence about sea survival in the case of offshore emergencies, such as providing rescue assistance with the proper use of available emergency equipment. Outcomes: Students can explore knowledge about Sea Survival; Capture fisheries students can apply one of the PSP courses, namely the Underwater and Marine Observation Method; Capture fisheries students can improve their skills in prevention and self-rescue measures against accidents in the waters; Capture fisheries students have the knowledge and skills to be able to survive in the event of an accident.

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40 STEP Environment Camp 2021

Five students of the Department of Water Resources Management (MSP), Faculty of Fisheries and Marine Sciences, IPB University be the representative team of Indonesia in the STEP Environment Camp 2021 activities. STEP Environment Camp 2021 is a 5-day virtual program organized by the National University of Singapore (NUS) and the Temasek Foundation for youth from Singapore and Asia (7/11/2021). Activities at STEP Environment focus on Climate Change and Sustainability, with this year's theme being Biodiversity Conservation. The STEP Environment Camp 2021 was attended by youth from 10 countries, including Singapore, Indonesia, Malaysia, Thailand, Cambodia, Brunei Darussalam, Vietnam, the Philippines, Myanmar, and China. This activity is suitable for students, especially MSP students who are indeed engaged in the environment. It can enrich their knowledge of the environment on land and water in Asia and open up networking opportunities with fellow youths in Asia. Various knowledge and new things during this series of activities. In addition, their knowledge of biodiversity conservation in Southeast Asia from several sources that give lectures. The knowledge gained by participants is expected to be an incentive for participants to be more concerned and carry out environmental conservation activities to maintain environmental biodiversity from an early age. The main thing is the creation of links and communication networks between youth representatives in Asia, which are expected to synergize in maintaining biodiversity and the environment.



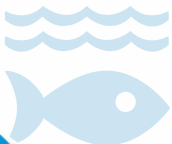
41

Indonesia Maritime Talk

Zoom meeting, Mei – September 2021

Indonesia Marine Talk is a forum provided by HIMITEKA to study the latest marine issues to educate the general public regarding the marine sector. benefits: Building good relations with students, government agencies, non-government organizations, and the general public; Increase knowledge about marine affairs for the parties concerned. (5-9/2021).

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42 IPB University Vocational School Lecturers Provide Training on How to Process "Baby Fish"

IPB University Vocational School lecturers participated in providing training in the Village Community Empowerment Program (P2MD) activities in Cisaat Village, Sukabumi, (18/10). This program is a program organized by the Food and Nutrition Vocational Student Association (HIMAVOPAGI) and the Industrial Management Accounting and Agribusiness Management Vocational Student Association (HIMAVOAKMAPESA). This program received funding from the Directorate General of Vocational Education, Ministry of Education and Culture. The training provided was in the form of processing baby fish products and P-IRT licensing as well as halal certification. Ai Imas, IPB University lecturer from the Vocational School said, "Baby fish crispy is a snack that is gaining popularity because of its savory taste, small and crunchy shape. One type of fish that can be used as raw material is tilapia.

"The processing of Crispy Tilapia Baby Fish has several weaknesses, including the crunchiness which decreases quickly and absorbs a lot of oil so that it quickly becomes rancid. This can be overcome by proper frying and draining the oil so that the product does not go rancid," said Ai Imas. In the other hand, M Agung Zaim Adzkiya who is also a lecturer at IPB University from the Vocational School said that in addition to quality products, business licensing for the Home Food Industry and halal certification also requires serious attention. This is to increase consumer confidence and also the safety of food products. "Document completeness, fulfillment of requirements and consistency in recording are things that must be considered in managing food business licensing and halal certification," he said.



<https://ipb.ac.id/news/index/2021/10/dosen-sekolah-vokasi-ipb-university-berikan-pelatihan-cara-pengolahan-baby-fish/5c26ebdc882fa5b3bf80c60870ce7185>



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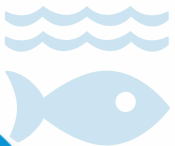
43

Seaweed Rice Prevents Diabetes with Persada Purnawira Halim in Jakarta

The pre-diabetes program with seaweed rice is a series of activities carried out by Prof. Sri Purwaningsih with Persada Purnawira Halim Executive Club. This activity is part of the store's matching fund. During 2021, Prof Sri conducted a series of research and production of seaweed rice. This product was also the concern of the Minister of Marine Affairs and Fisheries at the 2021 FPIK Anniversary event. The seaweed rice product has gone through the test phase on animal models through other research activities. This activity contributes to SDG 3 and SDG 9. This activity reviews pre-diabetes by consuming seaweed rice during an interval. The output of this activity is the role of seaweed rice on diabetes. This

product has provided benefits to Indonesia, especially in Persada Purnawira Halim. (Jan, 2021)

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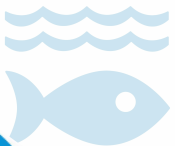


44 Development of Lobster Cultivation in Pesisir Barat Regency, Lampung

This activity is part of the Kedaireka IPB activities with the chairman Dr.Ir.Irzal Effendi, Msi. Research that supports this activity is related to social mapping of lobster fishing communities, lobster supply/value chains, lobster biology and reproduction, and estimation of lobster stocks at the study site. The results of this research are used as the basis for sustainable lobster fisheries management and independent seed development. The output of this activity is the role of seaweed rice on diabetes. This product has provided benefits to Indonesia, especially in Persada Purnawira Halim. The output of this activity is to make the Krui community a supplier of lobster, both seed size, baby lobster or clear seeds for consumption size from the catch of fishermen and become the main supplier of lobster seeds in Lampung. (21/10/2021).



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<https://lampungpro.co/post/36479/ipbuniversity-dorong-krui-pesisir-barat-jadi-pusatpengembangan-benih-lobster->



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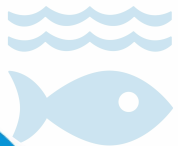


45 *Macroplastic in Citarum River*

This research is part of main project ASEAN-Norwegian cooperation project on local capacity building for reducing plastic pollution in the ASEAN region is a project led by the Norwegian Institute for Water Research (NIVA) and financed by the Norwegian Development Assistance Program Against Marine Litter and Microplastics. Environmental Research center IPB University (PPLH-LPPM IPB) with Dr. Sigid Hariyadi from Aquatic Resources Management take part of this research. This research was conducted April to December 2021 in Citarum River (Upstream, Midstream, Downstream).

This research is to quantify the amount of plastic litter transported in the upstream, midstream and downstream of Citarum River within seasonal variations (wet and dry season) at different times of day, namely, morning, noon, and afternoon. Type of plastics that commonly found in high number of item are plastic bags, clear plastic bags, and plastic packaging. The highest volume of plastic debris was found in the upstream part of Citarum River compared to midstream and downstream. The existing reservoirs act as a trap for plastic debris and all riverine debris of Citarum River. (April-December, 2021).

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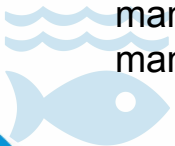


46 Study of Marine Biodiversity in Mining Areas

This e-DNA study is part of the collaborative research umbrella of PHE ONWJ and PPLH IPB University which includes the Study of Biodiversity (Kehati) and environmental monitoring around the WKP PHE ONWJ in the Java Sea. The efforts and outputs of the study can be used as an illustration of a good collaboration between academia and corporate. The study area for marine biodiversity e-DNA includes four locations in the coastal waters of Karawang Regency, Bekasi Regency, and the Thousand Islands. In sampling, each location will be replicated 3 times spatially representing the land and sea interfaces, so that intertidal organisms around mangrove forests, coral reefs, seagrass beds, and in the water column are also represented in the e-DNA study. This marine biodiversity e-DNA study is a breakthrough initiative from PHE ONWJ directed by PPLH IPB University, as a complement to conventional coastal and marine biodiversity studies. This effort can be considered as an activity beyond compliance (more than just being obedient) to the environmental management obligations as mandated in the environmental management document.



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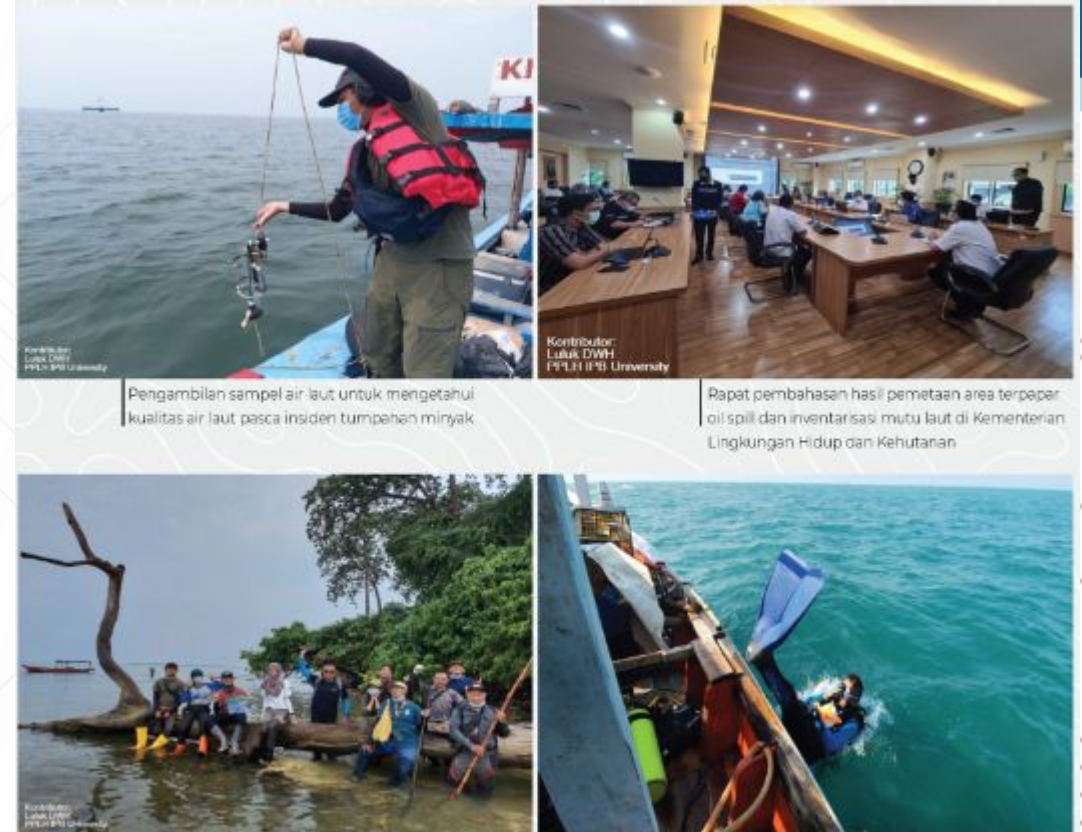


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Marine Quality Inventory After Oil Spill Incident

The incident of leakage of crude oil pipelines in the BZZA area belonging to PT Pertamina Hulu Energi Offshore North West Java (PHE ONWJ) resulted in the exposure of sea waters in the Karawang, Bekasi and Seribu Islands area, marked by the presence of oil spills or tarballs in these waters up to the coastal area and about some coastal ecosystems such as mangroves. In order to assess the impacts that may arise on coastal ecosystems, marine biota, capture fisheries, aquaculture, and coastal tourism, PHE ONWJ collaborates with a number of universities, including PPLH (Environmental Research Center) IPB, Singaperbangsa Karawang University, and Polytechnic Karawang Fisheries, where PPLH IPB is the coordinator to conduct studies in areas that may be exposed. These four universities conducted an inventory study of marine quality on a number of environmental components such as: coastal substrates, mangrove ecosystems, coral reef ecosystems, water quality, aquatic biota (plankton, benthos, fish), capture fisheries, aquaculture, and coastal tourism, in the region. Karawang, Bekasi, and the Seribu Islands.



48 Study on Establishment of Pelagic Conservation Areas in the Sulawesi Sea



This study presents a scientific rationale for establishing a Pelagic Marine Protected Area (MPA) in the Sulawesi Sea. The establishment of Marine, Coastal and Small Island Conservation Areas (KKP3K) aims to preserve marine biodiversity to support the sustainability of biological resources such as fish. So far, the development of KKP3K in Indonesia is concentrated in coastal areas (0-12 nautical miles) and does not include offshore waters (>12 nautical miles) that have high commercial value marine fish resources. Therefore, the establishment of the Pelagic MPA is a strategic choice to fill the void of KKP3K in offshore waters and support the implementation of inter-regional spatial patterns in the National Spatial Plan. Besides, it will directly support Indonesia's efforts to fulfill its commitment to the Convention on Biological Diversity (Aichi Biodiversity Target. 11) and the achievement of the Sustainable Development Goals (Goal 14: Underwater life), the establishment of a Pelagic MPA will also strengthen Indonesia's presence (visibility) in the waters of the Exclusive Economic Zone (EEZ), particularly in the waters of the Sulawesi Sea bordering the neighboring Philippines. As a scientific rationalization, the basis used is several vital features such as (i) the presence of seamounts and related physical-biological oceanographic conditions and the potential for upwelling; and (ii) large and small pelagic fishery production, which is the foundation for regional and national economic development. Seamounts are habitats and refugia for various marine species with large areas, such as tuna and tuna-like species, and charismatic and protected marine animals such as turtles and marine mammals.

The status of several large pelagic species in FMA 716 is reported to have been fully exploited, so it is necessary to find ways to manage their recovery.

- 14 The establishment and effective management of the Pelagic MPA will protect the seamounts from pressure from human activities and maintain them as habitats and refugia for populations of various economically valuable pelagic fish species that can be utilized sustainably. Offshore MPAs are needed to prevent environmental degradation, use sustainable natural resources, combat IUU fishing, restore habitat and fish stocks. Offshore MPAs can be an option in meeting the 10% conservation target of marine areas (Aichi Target 11), Long-term resilience of offshore biodiversity that contributes to fisheries sustainability, Provision of undisturbed areas for scientific studies and long-term monitoring; Updating of national marine spatial planning (Inter-Region Spatial Planning) and integrated management arrangements for EEZ waters. The output of this activity is Pelagic Conservation Area Design.(2/2/2021)

Development of Eel Innovative Fishing Technology, Conservation, and Regulation

Focus Group Discussion on the development of innovation in fishing technology, conservation and regulation of eel has been held on December 13, 2021 in Palabuhanratu, Sukabumi Regency. Participants who attended were from local government agencies of Sukabumi Regency, business actors and groups of fishermen who caught eel. This activity is the result of the PRN/BRIN program activities carried out by the Eel team of the Faculty of Fisheries and Marine Sciences, IPB. Research activities were carried out in the period July – December 2021 under the research coordinator Dr. Ir Ronny I Wahyu. The output of this research is a prototype of glass eel fishing gear and transportation containers as a tool in catching eel seeds to reduce the mortality rate of glass eel so that the sustainability of eel resources can be maintained. Application of eel fishing gear and eel seed containers for the sustainability of eel resources. Prototype of glass eel fishing gear and transportation containers as a tool for catching glass eel to reduce the mortality rate of glass eel.

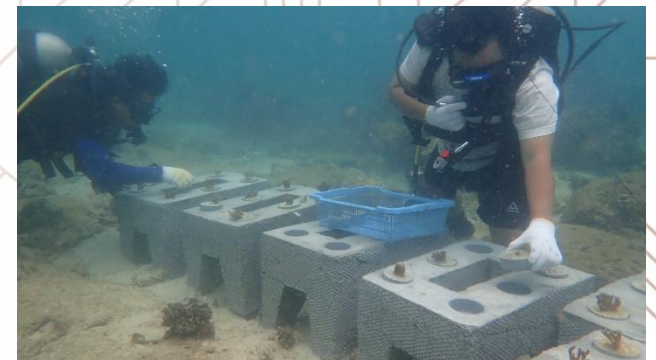


51 Rehabilitation Of Coral Reefs On Mandangin Island, Madura

PKSPL LPPM IPB cooperates with Husky-CNOOC Madura Limited (HCML) to deal with the damage to coral reefs on Mandangin Island, Madura. Activities in collaboration with oil and gas companies hope that the coral reefs in the Mandangin Island area of Madura can be repaired. The condition of coral reefs on Mandangin Island, Sampang, Madura is very worrying, with only seven percent of live coral remaining. Causes of damage due to human activities.

PKSPL IPB University, Together with the surrounding community, carried out coral reef rehabilitation on Mandangin Island, Sampang Madura. The expected result of this activity is public awareness to be able to protect the coastal environment on Mandangin Island, Sampang, Madura. Coral reef rehabilitation activities will be carried out in 2021 October. The model used in this program is forming a coral reef observer group as an implementing/management group, doing a module for attaching transplanted coral fragments and collecting coral fragments.

The results of monitoring coral reef transplants carried out on Mandangin Island, Sampang Madura, are that the survival rate of coral reefs that have been transplanted reached 80%. Although the water conditions at the transplant site were relatively cloudy, the transplanted corals were not covered by algae that could interfere with coral growth.



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52 PKSPL IPB Designs Site Engineering Technology and Appropriate Methods for Nurseries and Planting for Tangerang Coastal Mangrove Restoration

The Tangerang coast is facing severe environmental damage due to the opening of mass ponds and industrial waste runoff, which significantly affects the quality of the environment, including its coastal ecosystem. For this reason, it is very urgent to restore and rehabilitate coastal land that used to exist. There are challenges and obstacles in the effort to conserve and replant mangrove forests. However, they have been carried out seriously. They are facing challenges due to less than ideal environmental conditions. To facilitate the implementation of restoration and rehabilitation of coastal ecosystems, an appropriate and appropriate design of technology and engineering methods is needed so that the implementation of mangrove nurseries and planting can be to the needs of mangrove life. In 2021, in collaboration with the Tangerang Regency Development Planning Agency, PKSPL IPB University conducted research to prepare a Site Engineering Technology Planning and Appropriate Methods for Nurseries and Planting for Mangrove Restoration.

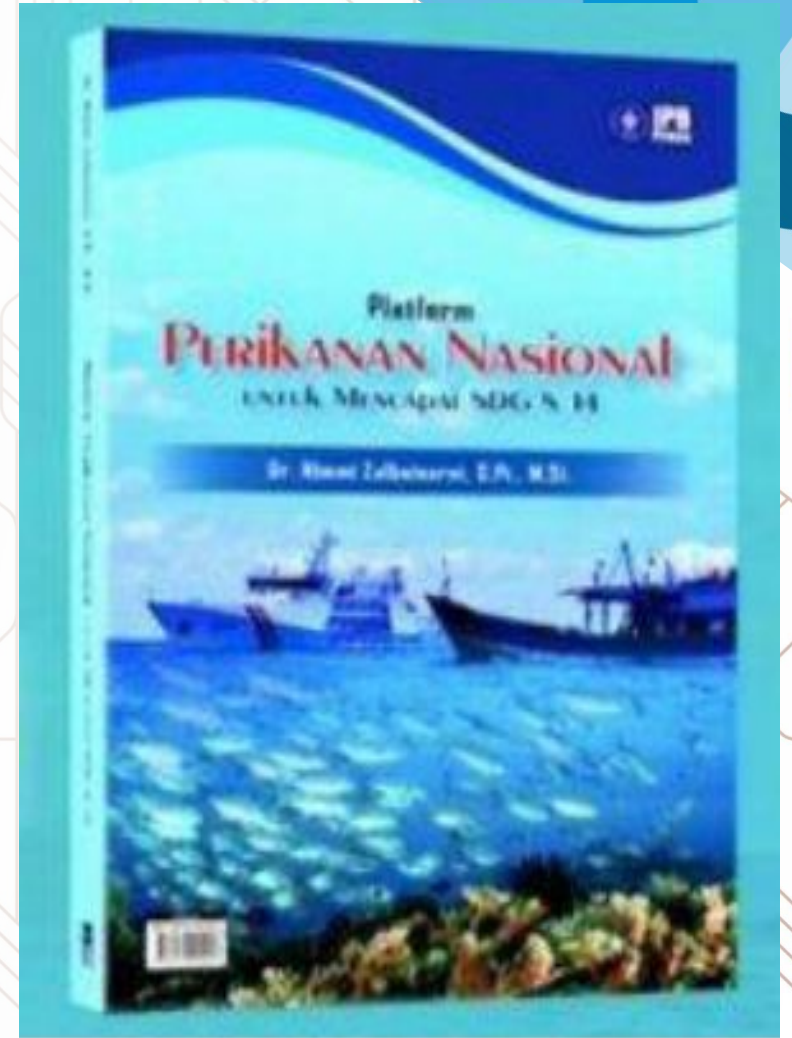
Site Engineering Technology and Appropriate Methods of Seedling and Planting for Mangrove Restoration are needed to support the acceleration of environmental improvement efforts in the northern coastal area of Tangerang Regency, especially in rehabilitating mangrove ecosystems. The study aims to design a site engineering technology plan and an appropriate method of seeding and planting for mangrove restoration and optimizing mangrove revegetation activities, which include:

1. Technical engineering design for mangrove nursery
2. Technical engineering design of planting in the context of mangrove rehabilitation
3. Recommendations for the establishment of a nursery and the implementation of improved mangrove rehabilitation

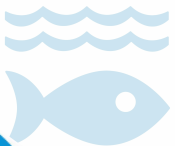


54 Book Launching: Platform Perikanan Nasional untuk Mencapai SDG's 14

“Platform Perikanan Nasional untuk Mencapai SDG's 14” is a book compiled as a form of role and or contribution to increasing in the national fisheries sector. This platform can become a bridge for multi-stakeholders, namely the government, business actors, fishers, academics, and associations, realize just and prosperous policies through synergy and management of applicable policies.



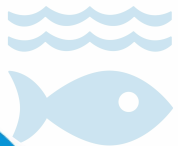
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World Fisheries Congress in Adelaide, Australia

Lecturers of the Department of Fisheries Resources Utilization FPIK IPB participated as presenters at the World Fisheries Congress in Adelaide, Australia (online) on 20-24 September 2021. Dr. Budy Wiryawan, Prof Ari Purbayanto, and Prof Tri Wiji Nurani presented research results on Marine Protected Areas, IUU Fishing, and Sustainable Tuna Fisheries Management. An active role in delivering research related to fisheries technology, management, and policy in Indonesia is a benefit of this activity. The output is from research results on Marine Protected Areas, IUU Fishing, and Sustainable Tuna Fisheries Management.

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Design of Integrated Coastal Area Management to Support the Acceleration of Rzwp-3-K Implementation in West Papua Province

Currently, Indonesia is promoting coastal and marine development in various sectors. For this reason, spatial planning for coastal areas and small islands is the main component in determining the direction of development and guaranteeing investment. However, the implementation of the Zoning Plan for Coastal Zone and Small Islands (RZWP-3-K) is expected to cause an overlap between conservation interests and economic interests/resource use that do not support each other and do not even reinforce each other. In addition, social conflicts at the grassroots level will also occur because the RZWP-3-K, in its planning process, is not able to involve the role of the community at the lowest level, has not been socialized, can limit community accesses which have become a source of livelihood and daily activities and does not yet have technical guidelines for its implementation. RZWP-3-K is expected to be able to realize sustainable development in coastal and marine areas, as well as ensure legal certainty in investment. For this reason, it is necessary to have the right instrument in its implementation, namely the RZWP-3-K protocol with the ICZM framework.

The expected outcomes include Effectiveness of controlling the use of coastal and marine areas; (2) Increasing the capacity of human resource stakeholders in integrated coastal management; (3) Recovery of critical ecosystems in coastal areas and small islands; (4) Implementation of project quality monitoring, evaluation, and control; (5) The implementation of the Integrated Coastal Area Management Design project in Supporting the Acceleration of the Implementation of the RZWP-3-K in West Papua Province. The achievements obtained during the activity included implementing ICZPM training for stakeholders in Raja Ampat, West Papua; several workshops on the coast; FGDs; rehabilitation of coastal ecosystems; coral reef monitoring. All implementation activities are carried out from January to December 2021.



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<https://ipb.ac.id/news/index/2021/06/pkspl-ipb-university-kampanyekan-konservasi-dan-pemanfaatan-sumber-daya-pesisir-dan-lautan-berkelanjutan-terhadap-pelajar-di-raja-ampat/95e319d0378c6e4e05f86048194805dc>
<https://greenindonesia.co/2021/07/mendesain-pesisir-di-timur-nusantara/>
<https://ipb.ac.id/news/index/2021/06/pkspl-ipb-university-tanam-mangrove-lamun-dan-transplantasi-karang-bersama-kelompok-pengelola-ekosistem-pesisir-kampung-yensawai-raja-ampat/75b74bd40a624bf464b816e7f7199dc3>



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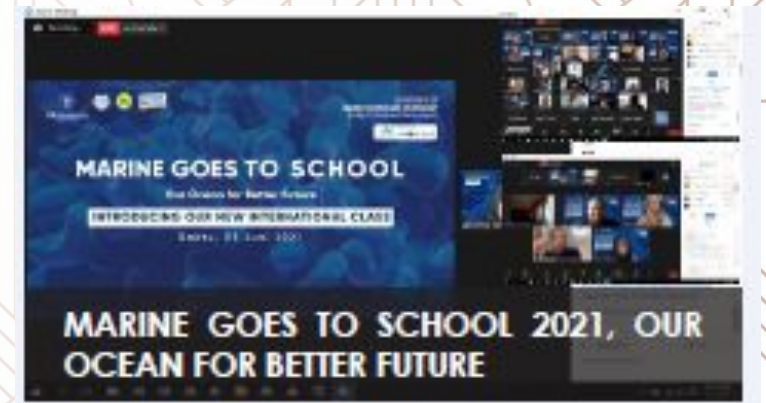
Campus Operation

MGTS: Marine Goes to School 2021

Marine Goes to School (MGTS) was carried out to introduce the Department of Marine Science and Technology while providing socialization related to work programs and achievements and excellence of the Department of Marine Science and Technology to SMA/SMK/MA/equivalent students. Not only that, but MGTS also provides:

- insights and knowledge related to marine affairs
- related information about the entrance of the Department of Marine Science and Technology
- an overview of being a marine student
- international class programs

The activity is carried out through the Zoom meeting platform and can also be watched through the Marine Science and Technology Youtube channel. (5/6/2021). Benefits: SMA/SMK/MA/equivalent students will obtain more information regarding academic, campus activities, exhibitions, and counseling by departmental representatives; Means of introduction and dissemination of information related to the Department of Marine Science and Technology to the general public. Outcomes: Event documentation; Increasing the number of students interested in continuing their studies in the department of Marine Science and Technology

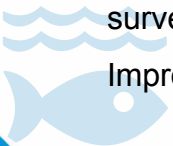


58

Launching SUA MSTPreneur

The establishment of the Department of Marine Science and Technology Academic Business Unit (SUA), MSTpreneur, is an effort to expand activities to develop education, research, and community service. The Department of Marine Science and Technology Academic Business Unit is legal under the Rector's Decree No. 188 of 2021 concerning the establishment of the MSTpreneur academic business unit. The establishment of MSTpreneur academic business unit aims to provide expert services in the marine sector, especially in remote sensing and marine geographic information systems, acoustics and marine instrumentation, oceanography, and hydrobiology. Advantages: Develop their respective potential in surveys, expert services, research, and publications; Improve relationships between agencies; Can be an alternative for integrated research for the Department of Marine Science and Technology staff; Existing survey tools can be utilized properly so that they can always be maintained. Outcomes: Improved consulting services and expertise in the marine sector

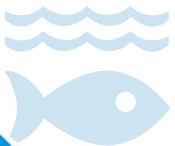
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59 THP Department: Capacity-Building

Good cooperation between lecturers and education staff is needed to achieve the goals of the THP Department. Therefore, capacity-building activities are carried out every year at THP. A psychologist accompanied this activity from PT Fitalent Integration and an outbound team from Taman Budaya Sentul. This activity is expected to increase cooperation, trust, cohesiveness and hone the communication strategies of lecturers and educators. Improving the effectiveness and productivity of the THP department's teamwork to achieve the institution's visions and missions together. (12/12/2021)

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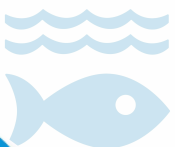


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Technical Competency Test for Fisheries and Marine Experts

TUK FPIK-IPB held the Technical Competency Test for Fisheries and Marine Experts on August 30, 2021, in the Ayodyoa Room, Department of Fisheries Resources Utilization. The competency test activity was attended by 22 teaching staff of the Faculty of Fisheries and Marine Sciences, IPB. The competency test schemes carried out are Fish Cultivation Experts, Fishery Products Processing Experts, Fishing Experts, Marine Protected Area Planning Occupations, and Business Supervisor Occupations. Activity Benefits: Provide legal recognition to the fishery and marine experts. Activity Outcomes:

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Certificate of competence



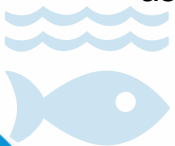
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Recognition Current Competency (RCC)

The RCC is carried out by the Fisheries and Marine Certification Institute (LSPKP) in collaboration with the Competency Test Place of the Faculty of Fisheries and Marine Sciences IPB (TUK FPIK-IPB). The RCC Competency Assessor for TUK FPIK-IPB was held on 22-23 October 2021 in the Ayodyoa Room, Department of Fisheries Resources Utilization. The RCC activity was attended by assessors from the Faculty of Fisheries and Marine Sciences IPB, Bogor Fisheries College, Faculty of Agriculture, Sultan Ageng Tirtayasa University, and Fisheries Companies. Benefits: Provide legal recognition to the fishery and marine assessors. Activity Outcome: Competency assessor certificate



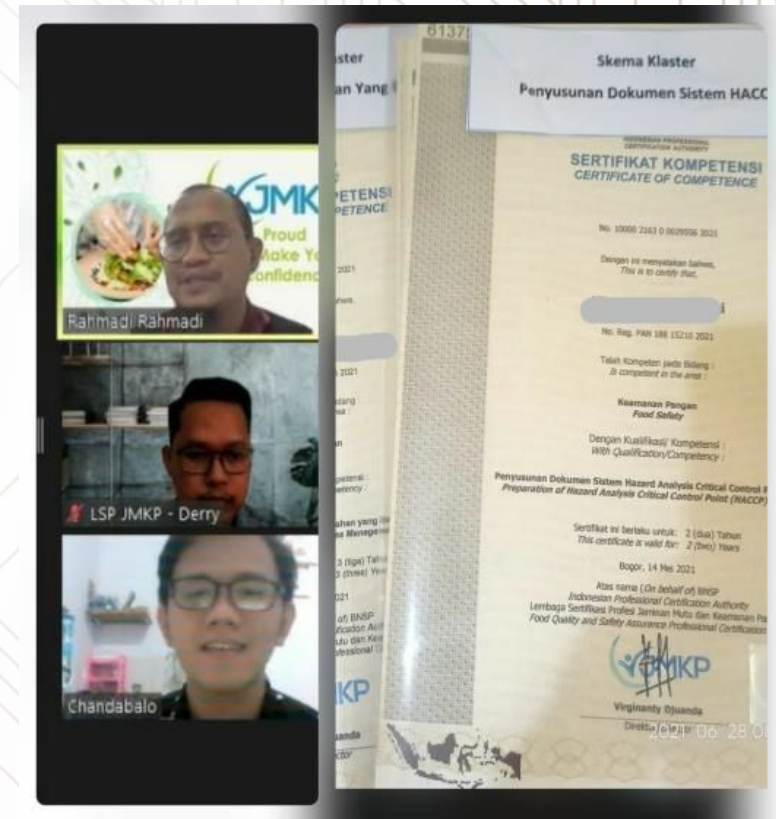
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Personal Competency Certification for Students

In order to improve the quality of graduates of the THP Department, FPIK collaborates with the Food Safety Quality Assurance Personal Certification Agency (LSP JMKP) to conduct a competency exam for the Hazard Analysis and Critical Control Point (HACCP) Design Document Scheme and Good Processed Food Production Methods (CPPOB). This activity is carried out every year and can be followed by students who have done field practice. This collaboration supports the goal of SDG 4 to get good quality education. From this activity, participants who pass are entitled to a certificate of competence from the National Professional Certification Agency (BNSP), thereby increasing student confidence and competitiveness of graduates. With LSP JMKP, competency test activities can be carried out routinely so that students get the opportunity to test at a lower cost THP FPIK graduates have a competency certificate from BNSP so they can shorten the waiting time to get a job. (9/10/2021 & 17/11/2021).



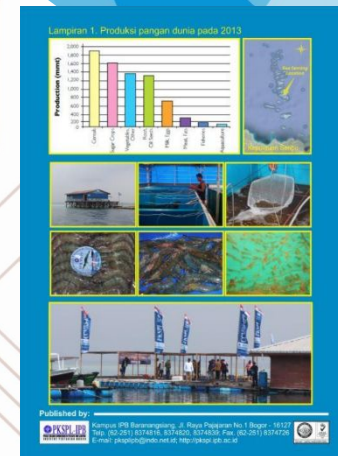
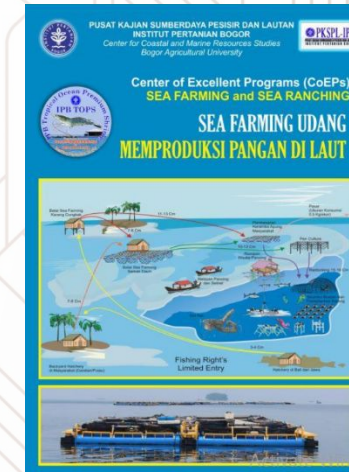
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PKSPKL IPB University Supports Independent Campus Through Sea Farming

Sea Farming is an integrated fishery development program initiated by the Center for the Study of Coastal and Ocean Resources (PKSPL) at IPB University. Sea Farming PKSPL IPB University, located on Semak Daun Island, Kepulauan Seribu, has marine aquaculture, hatchery, restocking, marine conservation, capture fisheries, marine tourism, and community economic empowerment. The Sea Farming program is also a vehicle for education and research for students and community service.

Seafarming Hall which is located in the waters of Semak Daun, Panggang Island Village, Kab. Adm. Thousand Islands, every year the Sea Farming Center PKSPL IPB facilitates more than 60 IPB students for research activities, street vendors, and internships. The Center of Excellent (CoE) Program is one of the mainstay programs of PKSPL IPB University for aquaculture in the sea. Dr. Irzal Effendi, the founder of sea farming, said that the Semak Daun Sea farming Center supports the sea farming program in supporting education, research, and service in the marine and fisheries sector, so it is necessary to revitalize it to strengthen its function in supporting long-term education. The activities carried out consisted of checking research facilities in marine cages, sea farming hall buildings, and other supporting facilities.

The sea farming program is monitored and evaluated in Semak Daun waters, Pulau Panggang Village, Kab. Adm. Thousand Islands is carried out every year. This is done to ensure the readiness of the Sea Farming Center in supporting the strengthening of the independent learning program for the independent campus of IPB in marine and fisheries and research collaboration between PKSPL IPB University and IPB postgraduates. The outcome to be achieved is that the presence of the Semak Daun Balai Sea farming field station can help and provide convenience for students in fieldwork practices and obtain data for writing the final study report. (9/10/2021 & 17/11/2021).



Implementation Framework of Sea Farming System





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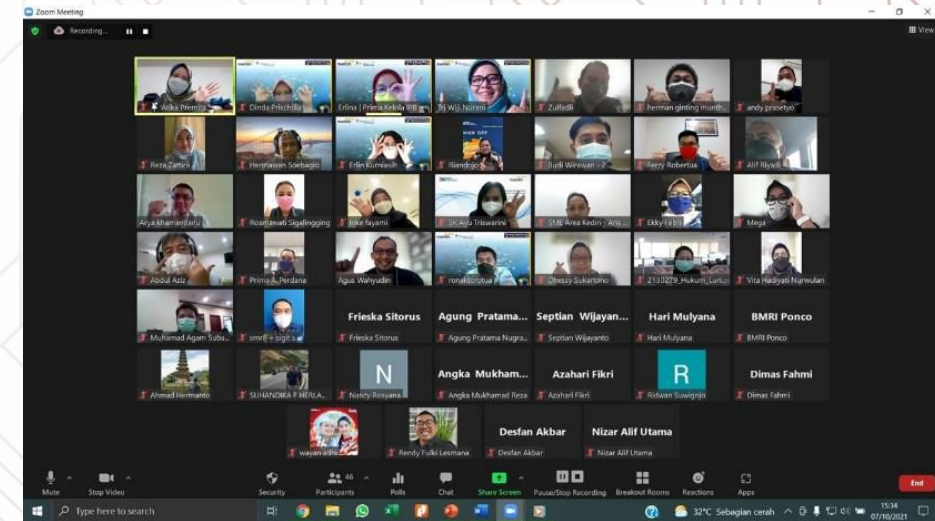


Community Engagement

64 Fishery Sector Expertise Program Training

Fishery Sector Expertise Program Training implemented by PT Bank Mandiri (Persero) Tbk in collaboration with PT Prima Manage IPB, held on 6-7 October; October 13-14; 15-16 November 2021 online. The training aims to carry out training in the fisheries sector for the staff of PT Bank Mandiri (Persero) Tbk.

Prof. Dr. Ir. Tri Wiji Nurani, M.Si attended the event as a resource person. The material provided is capture fisheries marketing, business models and characteristics of business & legal and capture fisheries licensing capture fisheries production techniques, operational management, critical points, risk, mitigation & financial aspects, and capture fisheries financing skills. Benefits of Activities: Fishery sector training for PT Bank Mandiri (Persero) Tbk employees. Activity output: Increased understanding of training participants related to the fishery sector



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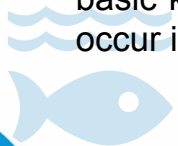
Training of Trainer: Training for Capacity Building for Human Resources in Order to Support Food Security in Transmigration Areas

This training activity collaborates between the Department of Aquaculture IPB University and PT Suri Tani Pemuka. This training was attended by 59 marketing and technical service personnel for feed. The material presented in this training covers the principles and systems of freshwater fish farming, the role and quality of broodstock and fry in rearing activities, water quality management, aquatic organism health management, phytoplankton management and natural feed in rearing activities, feeding management, and harvesting and Seed transportation. This activity is helpful Nature formed a network between the teaching staff of the Department of Aquaculture, FPIK-IPB with the Business School of IPB and the Ministry of Villages, PDT, and Transmigration to improve the standard of living of the people in the transmigration area. The output of this activity is the formation of marketing and technical service staff for feed who have basic knowledge of aquaculture that can help fish cultivators solve problems that occur in the field with a scientific approach.



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67 The 3rd Integrated Coastal Management & Marine Biotechnology (ICMMBT) 2021 Towards Sustainable Bioeconomy

The vision of PKSPL LPPM IPB is to become an institution with solid capabilities, roles, and commitments in the context of developing the utilization and control of coastal and marine areas based on sustainability and welfare for the entire community. To achieve this vision, PKSPL IPB University conducts international scientific activities.

The International Integrated Coastal Management and Marine Biotechnology (ICMMBT) event is a biennial meeting attended by stakeholders in the marine and fisheries sector. In 2021 The 3rd ICMMBT will be organized by PKSPL IPB University in collaboration with the Center for Marine & Coastal Studies Universiti Sains Malaysia, the Center for Research and Community Services Dumai of Marine and Fisheries Polytechnic, and in partnership with the Faculty of Fisheries and Marine Sciences, Bogor Agricultural University (FPIK-IPB), Department of Aquatic Product Technology and Department of Aquatic Resources Management, Faculty of Fisheries and Marine Sciences IPB University. This congress involves scientists, business people, government/bureaucrats, and non-governmental organizations. This includes presenting the latest technology 4.0 in the marine and fisheries sector.

The 3rd ICMMBT 2021 was attended by 84 participants from countries such as the Netherlands, USA, Malaysia, the Philippines, Vietnam, Spain, the Czech Republic, Japan, Germany, and Indonesia. The congress will be held online from 11-12 August 2021. The outputs of this activity are: International publications to be published in the Scopus indexed proceedings IOP Conference Series: Earth and Environmental Science; Paper Manuscripts, as many as 50 pieces with 25 IPB-affiliated manuscripts that are ready to be published in international proceedings indexed by Scopus.



PKSPL IPB Relive Coastal National Conference by Organizing Coastal Scientific Forum Event

The Center for the Study of Coastal and Ocean Resources (PKSPL) of the Bogor Agricultural University is a pioneer and history-maker implementing Integrated Coastal Management (ICM) in Indonesia. Routine has entered its 10th implementation. Various institutions are ready to support and cooperate with the Ministry of Maritime Affairs and Fisheries, the Coordinating Ministry for Maritime Affairs and Investment, the Association of Indonesian Coastal Management Experts (HAPPI), the DKI Jakarta Government, the Leaders Forum of Indonesian Maritime Affairs and Fisheries Universities (FP2TPKI), with the theme Realizing Coastal, Island -Small islands, and the sea as a Blue Economy Driver for Community Welfare through Measurable Governance.

One of the main events of KONAS 2021 is the Coastal Scientific Forum (CSF), which will be held on 9-10 November 2021 in a hybrid manner at the IPB Baranangsiang Campus and online via the Zoom platform. The event was attended by ICM experts from within and outside the country and was opened by the Chancellor of IPB and Plt. Director-General of Outer Space Management of the Ministry of Marine Affairs and Fisheries. The CSF is part of an effort to reaffirm coastal and oceanic institutions and become a space for coastal and marine experts in Indonesia to unite their passion for achieving coastal and ocean development in Indonesia. The Coastal Scientific Forum will be a forum for scientists from universities and research institutions to exchange ideas, innovations, and experiences in managing coastal and marine resources and small islands to become drivers of the national economy that can support community welfare. The objectives of organizing the Coastal Scientific Forum are: To provide a forum for scientists, activists, and policymakers of coastal, marine, and small island management from all over Indonesia to exchange ideas, works, and innovations and discuss the progress of coastal, marine and small island management in Indonesia; Identify progress and achievements of coastal, marine and small island management in Indonesia; and Collecting innovative ideas for policy directions, strategies and implementation as well as actual actions in order to strengthen the management of coastal, marine and small islands in Indonesia in Indonesia.

In addition to the CSF agenda in KONAS X, several other events were also held, including (1) Coastal Leader Forum by the DKI Regional Government, (2) Coastal Award, (3) Coastal Scientific Forum, and other side events, including Maritime Policy and HAPPI and Sustainable Forum. Development Goals (SDG#14).



<http://pkSpl.ipb.ac.id/berita/detail/pkspl-ipb-kawal-konas-pesisir-ke10-dengan-adakan-coastal-scientific-forum>



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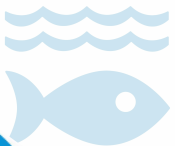


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Dissemination of the Study Plan on the Effectiveness of LED Lights as a Bycatch Mitigation Tool and Regulation of Shark, Ray, and Cetacea Conservation

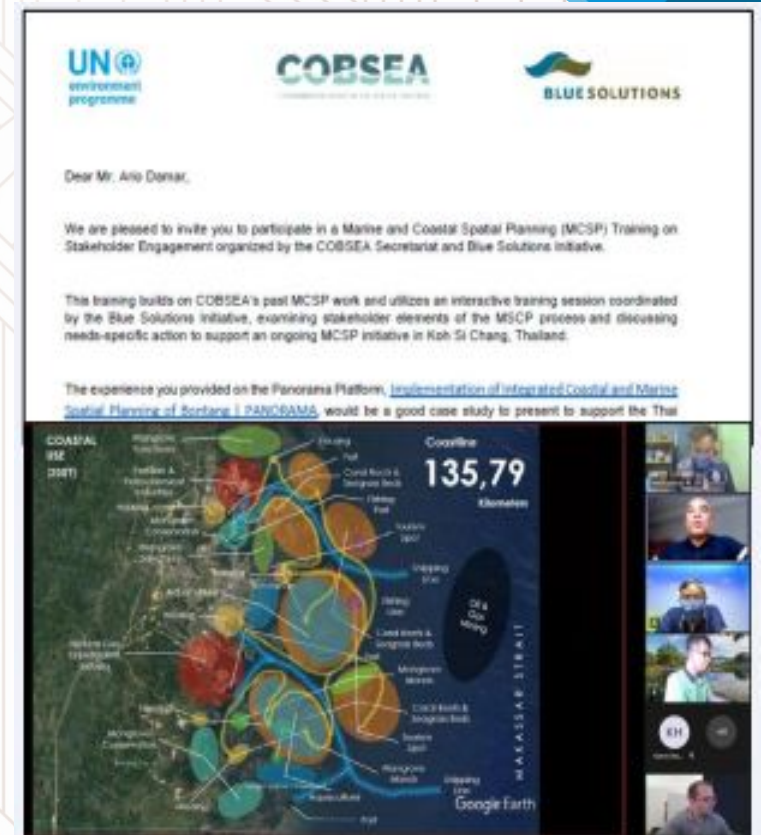
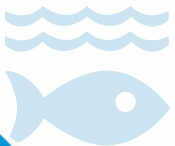
The trial of the application of LED lights on gillnet fisheries in the Savu Sea was carried out by ICCTF, the Reefcheck Indonesia Foundation, in collaboration with the Department of Fisheries Resource Utilization, Faculty of Fisheries and Marine Sciences, IPB. This research activity involved fishers in Nangalili Village, West Manggarai Regency (17/4/2021). One of the speakers who became the resource person was Dr. Muhammad Riyanto. The material presented at the socialization was applying LEDs Lighting Technology in Small-Scale Gillnet Fisheries in Nangalili Village. Benefit: Efforts to reduce Parimanta bycatch in gillnet fisheries. Outcomes: 50 Fishermen join the socialization program



Marine and Coastal Spatial Planning Training Stakeholder Engagement UNEP COBSEA Thailand

Training on the preparation of Marine Spatial Planning conducted in Thailand. This training invites Prof. Dr. Ario Damar to provide knowledge about how to prepare Marine Spatial Planning with examples of PKSPL experiences in their involvement in MSP Bontang City. Delivered material with the title "Development of Marine Spatial Planning at Bontang City Indonesia" (26/6/2021). Benefit: Building an ICM management network within UNEP and COBSEA in East Asian countries. Outcomes: Prof. Ario Damar had the opportunity to be one of the resource persons for this activity.

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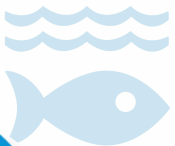
71

The International Essential Training Ecosystem Approach to Fishery Management (EAFM) for ATSEA (Arafura and Timor Seas Region)

EAFM training activities for actors, officials, and policy makers in the management of red snapper fisheries from countries included in the ATSEA region (Indonesia especially FMA 718), Australia, Timor Leste, and Papua New Guinea. Activities are carried out in a hybrid manner. Participants from Indonesia gathered in Bali, while other participants followed online. After that, there were 18 participants selected for the ToT, one each from Indonesia (6), Timor Leste (6) and PNG (6). The benefits of this activity are, introducing EAFM as an improvement tool in sustainable fisheries management, Looking for potential participants to become EAFM trainers in their respective countries, Analyzing the level of utilization and level of management of red snapper as an economically important SDI, and Towards the management of red snapper fishery sustainable. The output of this EAFM training activity is to produce 18 trainers who are ready to work in their respective countries, understanding in overcoming potential conflicts in the use of human resources between countries in the ATSEA region.



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<https://atsea-program.com/event/essential-ecosystemapproach-to-fisheries-management-hybrid-training-acollaborative-effort-a-mid-covid-19-pandemic/>



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Community Economic Empowerment on Fishery Products on the Scale of MSMEs in Semarang, Central Java

Together with PT Penjamin Infrastruktur Indonesia (PT PII), this activity was carried out to empower small business actors engaged in processed inland fishery products. The empowerment activities include 1. Increasing participants' knowledge and understanding of the food safety of processed products. 2. Increased knowledge and understanding of participants on techniques for improving the quality and packaging of processed products. 3. Provide technical understanding of managing halal certificates for processed products. 4. Gaining knowledge about the types and regulations of BPOM on the use of product additives (BTP). 5. Enlarging the reach of product marketing through online media. This activity improves the welfare of fisheries MSMEs in the city of Semarang.

The outputs of this activity are 1. They increased the knowledge and understanding of participants on food safety of processed products. 2. Increased knowledge and understanding of participants on techniques for improving the quality and packaging of processed products. 3. Provide technical understanding of managing halal certificates for processed products. 4. Gaining knowledge about the types and regulations of BPOM on the use of product additives (BTP). 5. Enlarging the reach of product marketing through online media. (21/10/2021).



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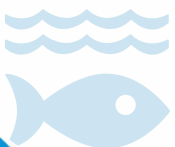
Public Lecture on Fishing Port

To introduce the concept of environmental based governance and as part of establishing good relations, the teaching staff of the Department of Fisheries Resource Utilization, FPIK IPB, Dr. Iin Solihin and Dr. Mustaruddin, was asked by the Faculty of Fisheries and Marine Sciences, Teuku Umar University (UTU) Aceh to give a public lecture on Port Fisheries. The activity, which was held on September 14, 2021, took the theme "Strategy for the Management of Fisheries Ports in Aceh Province".

This public lecture to improve the understanding of UTU students regarding the management of fishing ports. And Increasing the understanding of UTU students regarding the management of fishing ports.



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<http://psp.fpik.ipb.ac.id/index.php/id/2021/09/22/kuliah-umum-kepulauan-perikanan/>



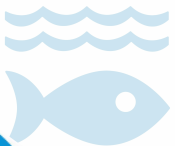
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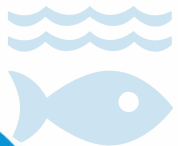
BIMTEK activity has the theme of Technical Guidance for the Safety of Fishing Vessels. The PSP Department of FPIK IPB University, in collaboration with the Department of Marine Affairs and Fisheries (DKP) of Tangerang Regency and the Faculty of Fisheries and Marine Sciences UNPAD, has again carried out technical guidance on shipping safety for fishermen. This activity to equipping fishermen with practical knowledge and skills related to shipping safety. And Thirty fishermen have been equipped with practical knowledge and skills related to shipping safety. (29/9/2021).



Develop a Conservation Area Management Plan

Head of the Maritime Affairs and Fisheries Service of the Riau Islands Province, Dr. H.T.S. Arif Fadillah, S. Sos, M.Si, attended and opened the Bintan Conservation Area Management Training Workshop at CK Tanjungpinang Hotel and Convention Center. The activity will be carried out on September 20-21, 2021. Until now, the Bintan Conservation Area is waiting for determination by the Ministry of Marine Affairs and Fisheries. In this 2-day activity, the Head of the Service said the Conservation Area to be designated was very important to support sustainable marine fisheries. Dr. M. Fedi A. Sondita attended this training workshop as a resource person and a facilitator.

The benefits of this activity are to build the planning capacity of the personnel of the organizational management unit (SUOP) of the Bintan Conservation Area, to draw up a draft management plan for the Bintan KK, and to build communication among the parties with interest in the Bintan KK. Moreover, the output of this activity is to increase the capacity of the Bintan Conservation Area SUOP and the Draft Management Plan for the Bintan Conservation Area.



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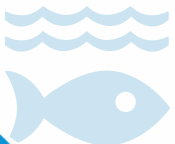
Training on Processing and Utilization of Crab Industrial Waste in Lampung Province

The development and implementation of Zero waste production in the processing of fishery products, especially in the crab fishing industry, needs to be carried out in order to increase added value. The training activity on the processing and utilization of crab industry waste was carried out in collaboration with the Environmental Defense Fund (EDF Indonesia)–the Fisheries Service of Lampung Province – and Mitra Bentala. The activity was carried out by a team from IPB, namely Dr. Ir. Wini Trilaksani. M.Sc, Dr. eng. Wahyu Ramadhan, S.Pi. M.Si, and Zacky Arivaie Santosa, S.TP, and Mitra Bentala (Izzatul Janah). The training was carried out at crab centers in 5 target villages in Lampung Province.

This activity to Provide knowledge on the use of crab waste and how to apply the waste into food and non-food processing so that it becomes an additional alternative livelihood for the community in 3 (three) regencies in Lampung Province. There is an increase in the knowledge and understanding of participants in processing crabs by implementing zero waste production, providing skills and recommendations for processing crab-based products and recommendations for the use of crab boiled water waste as fertilizer.



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<https://ipb.link/limbahrajanglanlampung>



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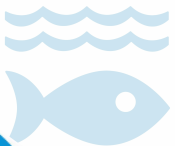
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Assessment Team Evaluation of the Effectiveness of Management of Protected Fish species

Activities to assess the effectiveness of protected fish species, based on the Decree of the Minister of Marine Affairs and Fisheries No. 113 of 2021. Dr. Mukhlis Kamal from Department of Aquatic Resources Management is one of the team. The benefits of this activity are identifying protected fish species, efforts to protect protected fish species, and socialization so that people know about protected fish species. The outcome of this activity were (1) Identification of protected fish species; (2) Efforts to protect protected fish species; (3) socialization for the public to know. (8/12/2021).

9.	Juwah, A.P., S.P., M.S., Pengarah Hama dan Penyakit Ikan Ahli Muda pada Pusat Riset dan Pengabdian Masyarakat, Pengabdian Masyarakat, dan Kerjasama Riset Perikanan, Kementerian Kelautan dan Perikanan	Anggota
10.	Purwa Setiadi, Sains Publik, S.Si.Pi., M.Si., Pengajar Praktikum Perikanan Tangkap Ahli Muda pada Direktorat Pengabdian Masyarakat, Direktorat Jenderal Perikanan Tangkap, Kementerian Kelautan dan Perikanan	Anggota
11.	Dr. Elan Oktaviani, S.Si., M.Si., Prodi Media pada Pusat Riset Perikanan, Budidaya Riset dan Sumber Daya Manusia Kelautan dan Perikanan, Kementerian Kelautan dan Perikanan	Anggota
12.	Dr. Ir. Mukhlis Kamal, M.Sc., Lektor/Ekspert Departemen Manajemen Sumber Daya Perairan pada Fakultas Perikanan dan Ilmu Kelautan, Institut Pertanian Bogor	Anggota
13.	Dr. Ir. Mochamad Nurcahyo, M.Sc., Dosen Tetap Wakil Dekan Bidang Kerjasama pada Fakultas Perikanan dan Perikanan, Universitas Tadulako	Anggota
14.	Dr. Ir. Novie F.I. Pangemanan, M.Si., Dosen ahli Lektor Kepala pada Fakultas Perikanan dan Ilmu Kelautan, Universitas Sam Ratulangi	Anggota
15.	Dr. Ir. Devi Silvan, M.Sc., Dosen pada Jurusan Manajemen Sumber Daya Perairan pada Fakultas Perikanan dan Ilmu Kelautan, Universitas Riau	Anggota
16.	Randy R. Tumel, Shark and Ray Conservation Specialist, Yayasan WWF Indonesia	Anggota
17.	Ella Murtajin, Pemerhati Konservasi	Anggota
18.	Angga Yudhanita, Pemerhati Konservasi	Anggota

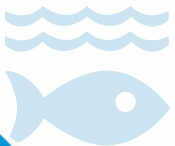


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Workshop on Dialogue On Marine Spatial Planning And Sustainable Blue Economy In The South China Sea And Gulf Of Thailand Region

Workshop on sharing experiences and information on marine spatial planning and Blue Economy in the South China Sea Region. Organized by UNESCO IOC. Delivering information about the development of Marine Spatial Planning and Blue Economy in Indonesia with the title “An overview of the implementation of coastal and marine spatial planning in Indonesia: an opportunity and challenge related to ICM and Blue Economy”. The benefit of this workshop was Sharing knowledge about the implementation of MSP and Blue Economy in the South China Sea Region. And Prof. Ario Damar had the opportunity to be one of the resource persons for this activity. (15/12/2021).

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<http://msp.fpik.ipb.ac.id/en/workshop-on-dialogue-on-marinespatial-planning-and-sustainable-blue-economy-in-the-southchina-sea-and-gulf-of-thailand-region/>



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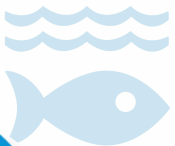
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Examining the Potential of the Fishery Sector as a Source of New Economic Growth

“Workshop: Examining the Potential of the Fisheries Sector as a Source of New Economic Growth” was held by Bank Indonesia and the Gorontalo Provincial Government on December 14, 2021, on online Virtual Zoom. The purpose of the workshop is to map the potential of the fisheries sector (capture and aquaculture) of Gorontalo Province as one of the main sectors driving the acceleration of economic recovery. Prof. Dr. Ir. Tri Wiji Nurani, M.Si attended the event as a resource person. This benefit of the workshop was mapping the potential of the fisheries sector (capture and aquaculture) of Gorontalo Province as one of the main sectors driving the acceleration of economic recovery. And the outcome of this workshop was the design of a potential map for the fisheries sector (catch and aquaculture) of Gorontalo Province.



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<http://psp.fpik.ipb.ac.id/index.php/2021/12/19/workshopmenelisik-potensi-sektor-perikanan-sebagai-sumber-pertumbuhan-ekonomi-baru>



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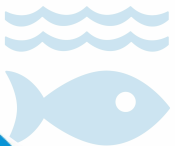
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Collaboration between FPIK-UPS and FPIK IPB in the Development of Science and Technology in Capture Fisheries and Aquaculture for the Welfare of Coastal Communities

In order to increase the competence of Graduates of the Faculty of Fisheries and Marine Sciences, Pancasaksi University, Tegal. FPIK UPS Tegal held a workshop in collaboration with the Faculty of Fisheries and Marine Sciences, Bogor Agricultural University. The theme of the workshop is the Collaboration of FPIK-UPS and FPIK IPB in the Development of Science and Technology, Capture Fisheries and Aquaculture for the Welfare of Coastal Communities. Speakers from FPIK IPB, namely Prof. Mulyono, Dr. Mohammad Imron, Dr. Budy Wiryawan and Dr. Moch. Riyanto. The workshop discussed the development of capture fisheries technology and aquaculture and discussions on MBKM cooperation in the fisheries sector. This activity increases the capacity and knowledge of FPIK UPS Tegal students regarding fisheries development.

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<http://psp.fpiik.ipb.ac.id/index.php/2021/12/11/workshop-kolaborasi-fpiik-ups-dan-fpiik-ipb-dalam-pengembangan-ipteksperikanan-tangkap-dan-budidaya-untuk-kesejahteraan-masyarakat-pesisir/>



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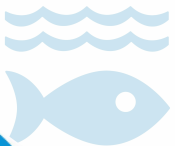
IPB University and the Provincial Government of East Nusa Tenggara Cooperate to Overcome Poverty and Stunting

This activity is the Kedaireka IPB program with the chairman Prof.Dr. Alimuddin, SPi., MSc. The IPB University team from several faculties united to help overcome poverty and stunting in NTT. The research activity in Kedaireka is to produce biscuits based on nutritious catfish and moringa flour to help NTT deal with stunting. Programs that will be implemented include fisheries development, moringa development, livestock and animal feed.

This activity is useful in the context of forming a network between IPB University, Udayana University and other universities with the NTT Provincial Government in empowering the people of NTT Province through the Family Welfare Development (PKK) program. The output of this activity is an increase in the standard of living of the people in the province of East Nusa Tenggara so that they are free from poverty and stunting through programs related to the development of fisheries, moringa, livestock and animal feed. (20/10/2021).



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<https://bogor-kita.com/peneliti-ipb-university-bertemugubernur-ntt-untuk-membantu-mengatasi-stunting-melalui-program-kedaireka/>



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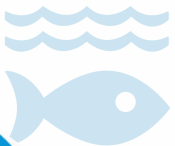
Development of Lobster Culture in the Kepulauan Seribu

This activity is part of the Kedaireka IPB activity which is a collaboration between PKSPL IPB and Aquatec with the chairman Dr.Ir.Irzal Effendi, MSi. The research supporting this activity is related to the testing of sinking cages for lobster culture produced by Aquatec. Cultivation activities are a consequence of regulations regarding the mandatory restocking of 2% of the harvest in lobster fisheries management.

This lobster cultivation activity is beneficial in improving the quality of lobster cultivation production and empowering coastal communities and small islands in the Thousand Islands. The output of this activity is the realization of Permen KP No. 17 of 2021 concerning the obligation to restock lobster through lobster cultivation in the Thousand Islands so that sustainable lobster cultivation is carried out.



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https://www.kompasiana.com/restukandela/6175714adfa97e165f557e23/kembangkan-budidaya-a-lobster-di-pulau-seribu-program-kedaireka-satukan-mahasiswa-dosen-pkspl-ipb-dan-aquatec?page=1&page_images=1



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