

## COURSE REPORT

# HIGH CONSERVATION VALUES-HIGH CARBON STOCK MANAGEMENT AND MONITORING AND TREE SPECIES IDENTIFICATION

Berau, East Kalimantan, Indonesia  
June 12-14, 2023

A field course organized by:

The Environmental Leadership & Training Initiative (ELTI) and Yayasan Hutan Biru (Blue Forests Foundation)



Course participants and organizers at the end of field practice

**Background:** Sumalindo Lestari Jaya IV is a private company managing a 63,550-hectare logging concession on state forestland in Berau, East Kalimantan. The company has an approved long-term management plan that is based on the results of a periodic comprehensive forest inventory. The management plan prescribes the allowable cut of timber, planned work areas, and other forest management operations. One of the main forest inventory activities is tree species identification, which is crucial to determining the harvestable species and identifying protected species.

ELTI is an initiative of: **Yale SCHOOL OF THE ENVIRONMENT**





Field practice in identifying HCV and tree species in the concession's permanent sample plot

The company conducted a high conservation value (HCV) assessment in 2016 to identify the important environmental, ecological, social, and cultural values in its concession area. The six high conservation values are as follows:

- HCV 1. Species diversity: Concentrations of biological diversity including endemic species and rare, threatened, or endangered species that are significant at global, regional, or national levels.
- HCV 2. Landscape-level ecosystems, ecosystem mosaics, and intact forest landscapes: Large landscape-level ecosystems, ecosystem mosaics, and intact forest landscapes (IFL) that are significant at global, regional, or national levels and that contain viable populations of the great majority of the naturally occurring species in natural patterns of distribution and abundance.
- HCV 3. Ecosystems and habitats: Rare, threatened, or endangered ecosystems, habitats, or refugia.
- HCV 4. Ecosystem services: Basic ecosystem services in critical situations, including protection of water catchments and erosion control for vulnerable soils and slopes.
- HCV 5. Community needs: Sites and resources fundamental to satisfying the basic necessities of local communities or indigenous peoples (for livelihoods, health, nutrition, water, etc.), identified through engagement with these communities or indigenous peoples.
- HCV 6. Cultural values: Sites, resources, habitats, and landscapes of global or national cultural, archaeological, or historical significance and/or of critical cultural, ecological, economic, or religious/sacred importance for the traditional cultures of local communities or indigenous peoples, identified through engagement with these local communities or indigenous peoples.

Based on this assessment, the company identified the presence of HCVs 1, 2, 4, and 6 and potentially HCV 3. HCV 1 (species diversity), for example, includes 14 species of dipterocarp listed as critically endangered (CR) on the IUCN Red List. Overall, the HCV assessment team identified a total of 11,549 ha of HCV areas within the management unit.



The concession's ownership and management changed to PT. Sani Mardani Resources (SMR) in 2021, while the concession name remains PT. Sumalindo Lestari Jaya IV. The new management needed to train its new staff on HCV and HCS, especially for managing and monitoring the identified HCV values in its concession. In addition, as the company is a certified FSC (Forest Stewardship Council), the FSC requires that HCV management and monitoring efforts be regularly updated to reflect changing conditions and threats to the HCV area.

As part of their efforts to support landscape conservation in East Kalimantan, Blue Forests and ELTI collaborated with PT. Sumalindo Lestari Jaya IV to conduct training on HCV-HCS management and monitoring and tree species identification.

### **Training Objectives:**

The goal was to update staff members' understanding of the HCV-HCS management and monitoring requirements within the natural forest concession area and improve their skills in tree species identification and categorizing trees' conservation status.

### **Content:**

The course was divided into five modules:

1. Introduction to high conservation values (HCV)
2. Introduction to high carbon stock (HCS)
3. HCV-HCS threat assessment and management and monitoring recommendations
4. Tree species identification
5. Dipterocarpaceae species identification

The course took place over three days in PT. Sumalindo Lestari Jaya IV's forest concession. ELTI's Indonesia coordinator, Ms. Lely Puspitasari, the lead instructor for HCV-HCS management and monitoring, facilitated the training. Ms. Lely Puspitasari is a member of the High Conservation Value Network's quality panel and is familiar with HCV-HCS assessment across Indonesia and Malaysia. Mr. Bina Swasta Sitepu led the tree species identification classroom training and field practice. He is an expert on species identification and conservation at BRIN (Indonesian National Research Agency).





Field practice on identifying HCV and how to manage and monitor them along the Gee River.

## Program

### Day 1

The trainers arrived at the Sumalindo Lestari Jaya IV base camp after a four-hour drive from Berau City and were welcomed by the company's sustainable forest management department and operations manager. Ms. Lely Puspitasari presented an overview of the Blue Forests-ELTI programs in Indonesia and the course objectives. The classroom training started with an introductory presentation on the six HCVs and HCS and the processes for identifying them in the field.

### Day 2

Ms. Lely Puspitasari gave a presentation on HCS and its identification. The concept of HCS was new to participants; training materials provided a general introduction to carbon stocks, how to select sample plots for HCS identification, tree measurements, and the HCS approach using forest density (forest cover classes). The forests in Sumalindo Lestari Jaya IV's concession area consist mainly of primary forests and previously logged areas which may have high carbon stocks. The participants took quizzes and discussed HCV and HCS identification in their areas.

Classroom training continued with tree species identification and an introduction to herbarium specimens. Mr. Bina Swasta Sitepu introduced basic plant identification by analyzing the trunk (such as characteristics of the tree's buttresses, bark color, sap, rooting system, etc.), leaves (leaf forms, midribs, stipules, margins, veins, tips, axils, etc.), flowers, fruits, and seeds. He invited participants to identify the species shown in various pictures. He also provided materials on how to make herbarium specimens.



The trainer analyzes bark and sap to identify a tree





Participants learn to identify tree species by analyzing leaf structures

### Day 3

The third day was a field practicum. Trainers led an exercise in the concession's permanent sample plot in which participants learned to identify various trees, including members of Dipterocarpaceae, Meliaceae, Dilleniaceae, and Euphorbiaceae. Participants collected leaves they had identified and used them later to make plant herbarium specimens.

At second site, a site near the Gee River (a tributary of the Mahakam River), participants practiced HCV identification and tree identification. After an explanation by the trainer, participants analyzed the area and identified present and potentially present HCV values, then discussed with the trainer how to manage and monitor the identified HCV values.

The last activity was to practice making herbarium samples from the leaves collected earlier in the day. Mr. Bina Swasta Sitepu showed how to prepare papers, alcohol sprays, and plastic bags to store leaves prior to treating them in the laboratory.

### Course Participants:

Course participants were twenty-seven staff members of PT. Sani Mardani Resources, the company now managing the PT Sumalindo Lestari Java IV concession. The staff members came from a number of different divisions, including sustainable forest management, forest maintenance, forest protection, and the production departments.

---

*This event received the generous support of Arcadia - a charitable fund of Lisbet Rausing and Peter Baldwin - and the Yale Poorvu Center for Teaching and Learning.*