**DOKUZ EYLÜL UNIVERSITY · SDG PROGRESS REPORT SERIES 2025**

# SDG 15 — Life on Land: Progress Report 2025

*Mediterranean Forest Stewardship (3.11M m²) · FAMER Biodiversity Atlas & Camera-Trap Monitoring · Wetland & Karst Hydrogeology · Zero-Waste Soil Protection*

Dokuz Eylül University, İzmir, Türkiye · Published by the DEU Sustainability Office · Reporting Period: 1 January – 31 December 2025 (Reconciled with THE 2027 Indicator Portfolio rev1-2910)

## 1. Executive Summary: Forest Ecosystems, Terrestrial Biodiversity, and Soil Stewardship

This report documents Dokuz Eylül University's (DEÜ) institutional governance, scientific output, biodiversity conservation programmes, and terrestrial land-management performance under United Nations Sustainable Development Goal 15 (Life on Land) for calendar year 2025 (with marked 2026 continuity evidence), prepared in full alignment with the Times Higher Education (THE) Sustainability Impact Ratings 2027 and the DEÜ Sustainability Reports 2024–2025 and 2025–2026 (UI GreenMetric). All figures in this report are strictly cross-reconciled with DEÜ's indicator evidence files across SDG 2 (Indicator 2.4.1), SDG 6 (Indicators 6.3.5, 6.4.2, and 6.5.3), SDG 12 (Indicators 12.2.1–12.4.1), SDG 14, and SDG 17 (Indicators 17.2.2, 17.2.5, and 17.4.3).

**Key Quantitative Highlights — SDG 15 (Reconciled Across All THE 2027 Indicator Files)**

• Campus Forest & Vegetated Land Stewardship (UI GreenMetric 1.8–1.10, 4.1 & THE 6.3.5): Out of 5,535,433.86 m² total campus land area across 15 campuses (5,279,327 m² [95.4%] open space vs. 256,106 m² [4.6%] building ground footprint), DEÜ protects 3,111,315 m² (56.2%) of natural, non-irrigated Mediterranean forest, maintains 686,000 m² of cultivated open vegetation in 2025 (up from 685,919 m² in 2024; reaching ~850,000 m² [>35.1% of non-forest area] including indoor/semi-open plant cover), and preserves 1,384,477 m² (25.0%) of water-absorbing permeable surfaces.
• Flora & Fauna Inventory, Camera Traps & Citizen Science (FAMER & iNaturalist): Coordinated by the DEÜ Fauna and Flora Research and Application Center (FAMER), DEÜ published the official biodiversity reference atlas 'Flora and Fauna of Dokuz Eylül University Central Campus' (ISBN 978-975-441-606-0), operates 24-hour camera traps and tree-mounted bird nesting boxes across Central Campus forests, runs the Central Campus Biodiversity Project on iNaturalist, and achieved >75% implementation of its campus biodiversity conservation programme.
• Terrestrial Research, Education & Off-Campus Ecosystem Conservation (AVESİS, 2.4.1 & 6.5.3): The DEÜ AVESİS System records 85 SDG 15 outputs in 2025–2026 (52 publications, 7 funded projects, 4 organised events, 5 conference participations, 4 theses, 12 core courses); 172 graduates (2.35% of 7,316 ISCED 6–8 graduates) completed programmes in sustainable agriculture, veterinary animal science, and aquatic/terrestrial food systems (Indicator 2.4.1); DEÜ Laboratory of Ornithology co-organised the 8th International Eurasian Ornithology Congress (IEOC 2025, Iași, Romania); and DEÜ SUMER executed ≥5 off-campus wetland, karst sinkhole (Somaklıkaya, Marmaris), and lake (Eğirdir Lake) conservation studies with 5 public authorities (Indicator 6.5.3).



*Figure 1: Protected Mediterranean Forest Ecosystems Across DEÜ Campuses Covering 3,111,315 m² (56.2% of Total Campus Area), Dominated by Non-Irrigated Turkish Red Pine (Pinus brutia), Stone Pine (Pinus pinea), Oak (Quercus spp.), and Olive (Olea europaea) Stands Used as Open-Air Research Laboratories (Source: DEÜ Sustainability Report 2025–2026, p. 14).*

## 2. Institutional Commitment, Biodiversity Governance, and Quality Monitoring

Dokuz Eylül University governs terrestrial ecosystem protection, native landscape management, and community conservation through a binding institutional framework anchored by the Campus

Biodiversity, Species Monitoring and Ecosystem Protection Policy Statement (issued by the DEÜ Sustainability Office), the Social Contribution and Sustainability Policy (University Senate Decision No. 721/11, 30 December 2025), and the Fauna and Flora Research and Application Center Regulation (FAMER).

- **Integrated Quality & Social Contribution Governance (KALBİS & KİM):** Established in July 2024, the Social Contribution Coordination Office (Toplumsal Katkı Koordinatörlüğü) coordinates public environmental and biodiversity outreach across all academic and administrative units through a Vice-Rector-chaired Coordination Board and unit representatives who convene every semester. In the 2025 Social Contribution Strategic Analysis and Activity Report (1 October 2024 – 1 October 2025), DEÜ documented approximately 3,900 social contribution activities across eight thematic areas, including 125 activities delivered by 33 units in 'Environment and Sustainability' (alongside 538 education and 766 health activities). In parallel, the Council of Higher Education (YÖK) recorded 294 social responsibility projects at DEÜ in 2025 (up from 164 in 2024), ranking DEÜ fourth nationwide (DEÜ Haber, 14 March 2026). All unit plans, KPIs, and standard output evaluation forms are tracked in Plan–Do–Check–Act (PDCA) cycles within the KALBİS Quality Information System.
- **Siting of Facilities, Forest Buffer Protection & EIA Compliance (THE 15.3.1 & 15.3.4):** Administered by the Department of Construction and Technical Works (Yapı İşleri ve Teknik Daire Başkanlığı) and registered through the national Public Investment Information System (KAYA), all campus construction and renovation works adhere strictly to national Environmental Impact Assessment (ÇED) legislation and DEÜ's forest-preservation siting rules. Building ground footprints are restricted to 256,106 m² (4.62% of total land area), preserving 95.38% (5,279,327 m²) as open and forested space, maintaining natural ground cover in forest understoreys, and establishing narrow pedestrian trails to prevent root and soil compaction (Sustainability Report 2025–2026, pp. 11–13, 30, 33).



*Figure 2: Cultivated Open Vegetation (686,000 m² in 2025) and Drought-Tolerant Mediterranean Landscaping Across DEÜ Campuses Prioritizing Native Species Such as Olive, Oleander, Lavender, Rosemary, and Judas Tree (Source: DEÜ Sustainability Report 2025–2026, p. 15).*

## 3. Quantitative Progress in 2025 and Cross-SDG Data Reconciliation

Table 1 presents DEÜ's verified 2024 and 2025–2026 terrestrial ecosystem metrics, explicitly cross-referenced against the exact figures reported in DEÜ's THE 2027 indicator files for SDG 2, SDG 6, SDG 12, and SDG 17 to guarantee complete institutional data consistency.

| Terrestrial Ecosystem / SDG 15 Dimension | 2024 Baseline Value | 2025 / 2025–2026 Verified Value | Reconciled Cross-SDG Indicator & Source |
|---|---|---|---|
| **Total Campus Land Area & Open Space Ratio (GreenMetric 1.5, 1.6, 1.8)** | 5,535,433.86 m² total; 256,106 m² building footprint; 5,279,327 m² (95.4%) open space | 5,535,433.86 m² total; 5,279,327 m² (95.4%) open space (84.59 m²/person across 62,408 campus population) | GreenMetric SR 2024–25 (pp. 9–10) & SR 2025–26 (pp. 11–13) |
| **Protected Campus Forest Vegetation Area (GreenMetric 1.9 / THE 6.3.5)** | 3,111,315 m² (56.2% of campus area; non-irrigated native forest) | 3,111,315 m² (56.2% of campus area; 100% used for research, teaching & wildlife monitoring) | Reconciled with Indicator 6.3.5 Table & SR 2025–26 (p. 13) |
| **Cultivated / Planted Vegetation Area (GreenMetric 1.10 / THE 6.3.5)** | 685,919 m² cultivated open area (12.4% of total campus area) | 686,000 m² cultivated open area (~850,000 m² [>35.1% of non-forest area] incl. indoor/semi-open vegetation) | Reconciled with Indicator 6.3.5 Table & SR 2025–26 (pp. 14–15) |
| **Water-Absorbing Permeable Surface Area (GreenMetric 4.1 / THE 6.3.5)** | 1,384,477 m² (25.0% of total campus area) | 1,384,477 m² (613,921 m² unsealed soil + 770,550 m² permeable interlocking blocks) | Reconciled with Indicator 6.3.5 & SR 2025–26 (p. 81) |
| **Non-Potable & Rainwater Landscape Irrigation (THE 6.3.5 & 6.4.2)** | ≈4,700 tonnes/yr pool backwash reuse; ≈200 m³/yr rainwater reuse | ≈4,700 tonnes/yr settled backwash from 3 semi-Olympic pools + ≈200 m³/yr (48-t tank for 40 fruit/olive trees) | Reconciled with Indicators 6.3.5 & 6.4.2 (SR 2025–26, pp. 83–84) |
| **Campus Biodiversity Atlas, Camera Traps & Citizen Science (GreenMetric 1.18)** | FAMER Central Campus Flora & Fauna Atlas published (ISBN 978-975-441-606-0) | 24/7 camera-trap network, bird nesting boxes, Buca natural seed dispersal study, iNaturalist archive (>75% implementation) | FAMER (famer.deu.edu.tr) & SR 2025–26 (pp. 29–33) |
| **SDG 15 Tagged Academic Records in AVESİS (THE 15.1)** | Baseline SDG tagging in AVESİS | 85 records (52 peer-reviewed publications, 7 funded projects, 4 organised events, 5 conf., 4 theses, 12 courses) | DEÜ AVESİS SDG 15 Filter (2025–2026) |
| **Graduates in Sustainable Agriculture, Veterinary & Aquaculture (THE 2.4.1 / 15.2)** | 165 graduates out of 7,450 ISCED 6–8 graduates (2.21%; total 9,320 incl. ISCED 5) | 172 graduates out of 7,316 ISCED 6–8 graduates (2.35%; 5,828 BSc, 1,372 MSc/PhD, 116 Other; total 9,173 incl. 1,857 MYO) | Reconciled with Indicator 2.4.1 & 2025 Admin. Activity Report |

| Terrestrial Ecosystem / SDG 15 Dimension | 2024 Baseline Value | 2025 / 2025–2026 Verified Value | Reconciled Cross-SDG Indicator & Source |
|---|---|---|---|
| **Off-Campus Wetland, Karst & Lake Conservation Studies (THE 6.5.3 / 15.3.2)** | 4 applied conservation studies with 3 public partner institutions | ≥5 applied studies with 5 public partner institutions (DKMP Somaklıkaya sinkhole, DSİ Lake Eğirdir, ICUW, Water4All) | Reconciled with Indicator 6.5.3 & 2025 Admin. Activity Report (pp. 199–200) |
| **Organic Waste Composted for Soil Amendment (GreenMetric 3.5–3.8 / THE 12.3.1)** | 26.1 tonnes organic waste generated; 9.2 tonnes (35.5%) composted | 22.5 tonnes organic waste generated; 8.3 tonnes (36.9% / ~37%) composted into humus for campus soils | Reconciled with Indicators 2.2.1, 12.3.1 & SR 2025–26 (pp. 66–68) |
| **Plastic & Hazardous Waste Containment Protecting Soils (THE 12.2–12.3 / 15.4)** | 89.5 t plastic waste; 669.0 t toxic/hazardous waste (663.0 t medical, 6.0 t chemical) | 60.0 t plastic in 2025 (66.5 t in 2025–26); 931.0 t toxic waste (886.9 t medical + 44.1 t chemical) tracked via EÇBS/MOTAT | Reconciled with Indicators 12.2.3–12.3.2 & SR 2025–26 (pp. 62–76) |

## 4. Campus Biodiversity Inventory, Camera-Trap Wildlife Monitoring, and Endemic Flora Protection (FAMER)

Spanning 4,500,000 m² at Central Campus and 110,265 m² at Buca Education Campus, DEÜ's urban-interface forests harbor a rich Mediterranean floral and faunal assemblage. Scientific documentation and physical habitat protection are directed by theDEÜ Fauna and Flora Research and Application Center (FAMER) in collaboration with the Department of Biology at the Faculty of Science.

- **FAMER Campus Biodiversity Atlas ('Flora and Fauna of Dokuz Eylül University Central Campus', ISBN 978-975-441-606-0):** Prepared by FAMER taxonomists and ecologists, this official peer-reviewed reference book and digital atlas (ISBN 978-975-441-606-0, Sustainability Report 2024–2025, p. 32; 2025–2026, pp. 29–30) catalogues the vascular plants, terrestrial mammals, herpetofauna, avifauna, and Lepidoptera inhabiting DEÜ's natural habitats, serving as a permanent baseline for ecological impact assessments.
- **Rare Terrestrial Orchids and Native Mediterranean Flora (THE 15.3.1 & 15.3.5):** Botanical surveys across Central Campus and Buca document extensive stands of Turkish red pine (Pinus brutia), stone pine (Pinus pinea), oak (Quercus spp.), olive (Olea europaea), Arizona cypress (Hesperocyparis glabra), oriental arborvitae (Platycladus orientalis), fig (Ficus carica), black mulberry (Morus nigra), wild pear (Pyrus communis), and almond (Amygdalus communis). Crucially, campus meadows and forest margins shelter rare and ecologically sensitive terrestrial orchids—including the pyramidal orchid (Anacamptis pyramidalis), Anatolian orchid (Orchis anatolica), yellow bee-orchid (Ophrys lutea), mirror orchid (Ophrys speculum), and bee orchid (Ophrys apifera)—alongside bulbous geophytes

(Anemone coronaria, Ranunculus bullatus) and diverse Fabaceae, Rosaceae, Asteraceae, and Lamiaceae communities (Sustainability Report 2024–2025, pp. 27–30).

- **24-Hour Camera-Trap Monitoring of Mammalian, Reptilian & Avian Fauna (THE 15.3.3 & 15.3.5):** To monitor nocturnal and crepuscular wildlife without disturbance, motion-triggered infrared camera traps (fotokapan) are deployed across campus forest corridors (Sustainability Report 2024–2025, p. 12; 2025–2026, pp. 31–32). Documented mammalian species include the Persian squirrel (Sciurus anomalus), European hare (Lepus europaeus), Eastern hedgehog (Erinaceus concolor), red fox (Vulpes vulpes), golden jackal (Canis aureus), stone marten (Martes foina), and wild boar (Sus scrofa). Recorded herpetofauna include the Ottoman viper (Montivipera xanthina), snake-eyed lizard (Ophisops elegans), European cat snake (Telescopus fallax), and Mediterranean house gecko (Hemidactylus turcicus). Documented bird species include the IUCN Vulnerable European turtle dove (Streptopelia turtur), Eurasian blackbird (Turdus merula), great tit (Parus major), Eurasian magpie (Pica pica), crested lark (Galerida cristata), European robin (Erithacus rubecula), black redstart (Phoenicurus ochruros), white wagtail (Motacilla alba), common chaffinch (Fringilla coelebs), rose-ringed parakeet (Psittacula krameri), and woodland owls.
- **Natural Seed Dispersal Study at Buca Campus, Bird Nesting Boxes & iNaturalist Citizen Science:** At the Buca Faculty of Education Campus, an ecological regeneration study documented how avian and mammalian frugivores drive natural seed dispersal and seedling recruitment of palm, bay laurel (Laurus nobilis), linden (Tilia), and mulberry (Morus) trees (Sustainability Report 2025–2026, pp. 30–31). Wooden bird nesting boxes are mounted across Central Campus trees to protect breeding passerines, while students and faculty continuously log geolocated species observations into the Central Campus Biodiversity Project on iNaturalist.




*Figure 3: Cover of the Biodiversity Atlas 'Flora and Fauna of Dokuz Eylül University Central Campus' (ISBN 978-975-441-606-0) Published by FAMER (left) and Artificial Bird Nesting Boxes Installed in Campus Trees to Protect Breeding Avifauna (right) (Source: DEÜ Sustainability Report 2025–2026, p. 30).*



*Figure 4: Motion-Triggered Camera Traps Installed in DEÜ Campus Forests for Continuous Daytime and Nighttime Wildlife Monitoring and Microclimate Air-Quality Observation (Source: DEÜ Sustainability Report 2024–2025, p. 12).*



*Figure 5: Mammalian, Avian, and Lepidopteran Wildlife Species Documented Across DEÜ Campus Forest Habitats via Camera Traps and the iNaturalist Citizen-Science Inventory, Including Red Fox (Vulpes vulpes), Owls, Persian Squirrel (Sciurus anomalus), and Native Butterflies (Source: DEÜ Sustainability Report 2025–2026, p. 32).*



*Figure 6: Rare Terrestrial Orchids (Orchis anatolica, Ophrys apifera) and Native Mediterranean Flora Documented in the DEÜ Central Campus Biodiversity Inventory (Source: DEÜ Sustainability Report 2024–2025, p. 29).*



*Figure 7: Natural Regeneration Seedlings of Palm, Bay Laurel, Linden, and Mulberry Trees Recorded During the Seed Dispersal and Forest Continuity Study at DEÜ Buca Education Campus (Source: DEÜ Sustainability Report 2025–2026, p. 31).*

## 5. National & International Partnerships: Eurasian Ornithology Congress, TEMA Foundation, and Off-Campus Wetland Conservation

DEÜ extends its terrestrial conservation impact beyond campus boundaries through international scientific leadership in ornithology, joint afforestation and erosion-control campaigns with the TEMA Foundation, and applied hydrogeological studies with ministries on endangered wetlands, karst sinkholes, and lakes.

- **8th International Eurasian Ornithology Congress (IEOC 2025, Iași, Romania):** In May 2025, DEÜ's Laboratory of Ornithology (Department of Biology, Faculty of Science) co-organised the 8th International Eurasian Ornithology Congress (IEOC 2025) hosted at Alexandru Ioan Cuza University of Iași, Romania (IEOC 2025 Committee & DEÜ Rectorate Patronage). The congress convened avian ecologists and conservation biologists from across Eurasia to share research on migratory flyway protection, wetland bird population dynamics, and habitat fragmentation.
- **TEMA Foundation Partnership, Genç TEMA Student Society & National Afforestation Day (25 December 2025):** Consistent with Indicators 17.2.2 and 17.2.5, DEÜ and the TEMA Foundation (Turkish Foundation for Combating Soil Erosion, for Reforestation and the Protection of Natural Habitats) co-organised a joint symposium and awareness event on 25 December 2025 and participated in the 11 December 2025 Social Contribution External Stakeholder Meeting (45 representatives from 28 partner organisations). Throughout 2025, DEÜ and TEMA co-produced educational guides on soil erosion control, post-wildfire Mediterranean forest restoration, and carbon neutrality, while the Genç TEMA Student Society led annual National Afforestation Day (11 November) tree-planting campaigns expanding the DEÜ 40th Anniversary Memorial Forest.
- **Off-Campus Wetland, Karst Sinkhole & Freshwater Basin Conservation with Public Authorities (Reconciled with Indicator 6.5.3):** In 2025, researchers from DEÜ Water Resources Management and Control of Water-Borne Natural Disasters Research and Application Center (SUMER) and partner faculties executed ≥5 off-campus ecosystem conservation studies with 5 public partner institutions (2025 Administrative Activity Report, pp. 199–200):
  1. Somaklıkaya Sinkhole (Ovacık, Marmaris) Wetland Registration Study (5–7 February 2025): Field hydrogeological investigation conducted with the Wetlands Branch of the General Directorate of Nature Conservation and National Parks (DKMP — Ministry of Agriculture and Forestry) to establish the scientific protection boundary for official wetland registration.

2. Lake Eğirdir Action Plan & Water Budget Projections (April–May 2025): Conducted in direct institutional cooperation with the General Directorate of State Hydraulic Works (DSİ), modeling water budget projections and evaporation-reduction interventions for threatened Lake Eğirdir, presented at the HİDRO 2025 National Hydrogeology and Water Resources Symposium (Isparta, 22–24 May 2025).
3. İnciraltı–Çakalburnu Urban Wetland (ICUW) Hydrogeochemical Conservation Study (2025): Published in Water, Air, & Soil Pollution (Somay Altaş & Şanlı, 2025), establishing hydrogeochemical conservation baselines for İzmir's coastal urban wetland oasis adjacent to the 15 Temmuz Health and Art Campus.
4. Water4All Multilateral Project (TÜBİTAK 1071, 2024–2026): Developing sustainable industrial water and soil-protection governance across the Tire, Pancar, and Torbalı Organised Industrial Zones in the Küçük Menderes basin.




*Figure 8 : International Eurasian Ornithology Congress Iaşi, 19 – 25 May 2025*




*Figure 9 : TEMA Foundation & Genç TEMA Joint Event) and National Afforestation Day Tree Planting Visual (December 25, 2025)*

## 6. Research on Life on Land: Zoonotic Vectors, Urban Cultivation Systems, and Edible Wild Flora (THE 15.1)

In the University's AVESİS Academic Data Management System, researchers tag their scholarly outputs directly to the UN Sustainable Development Goals. For the 2025–2026 verification window, AVESİS lists 85 records under SDG 15 (Life on Land): 52 peer-reviewed journal articles and book chapters, 7 externally or institutionally funded research projects, 4 organised scientific events, 5 conference participations, 4 graduate theses, and 12 core SDG 15 courses.

| Research Project / Scientific Initiative (2025–2026) | Scientific Scope & Terrestrial Ecosystem Mechanism | Lead Unit / Funding & Date | THE SDG 15 Alignment |
|---|---|---|---|
| **Zoonotic Nairoviruses and Tick Vectors in Türkiye** | Molecular phylogenetic surveillance and ecological habitat modeling of emerging zoonotic nairoviruses and their ixodid tick vectors across wildlife–livestock–forest interfaces in Türkiye. | Faculty of Science (Biology) / Faculty of Veterinary Medicine & Medicine (2025–2026) | 15.1.1–15.1.3, 15.3.3 |
| **NUYSC-PRIMA (TÜBİTAK 125N002): Novel Urban Cultivation Systems Enforcing Green & Circular Economy** | Euro-Mediterranean PRIMA project developing soil-conserving, circular urban cultivation systems and bio-fertilizer loops. | BIOMER & Faculty of Science (Launched 1 June 2025; SR 2025–26, p. 115) | 15.1.3, 15.2.3, 15.3.2 |
| **EU PRIMA VALUEFARM & DEÜ Soil Health Living Lab** | Domestication, climate-change tolerance, and heavy-metal uptake assessments of Mediterranean wild edible plants, paired with experimental plots at the campus Soil Health Living Lab. | FAMER, BIOMER & Buca Faculty of Education (SR 2024–25, pp. 13, 15; SR 2025–26, p. 118) | 15.1.2, 15.2.3, 15.3.5 |
| **Molecular Phylogenetics of Anatolian Lizards & Bryophyte Secondary Metabolites** | Taxonomic classification of Turkish lizard taxa (Lacertidae) using molecular phylogenetics and phytochemical profiling of mosses and native vascular flora. | FAMER Research & Seminar Series (16 May – 20 June 2025; SR 2025–26, p. 118) | 15.1.1, 15.2.1, 15.3.3 |
| **Urla Sustainable Coastal Design Summer School** | Interdisciplinary field studio designing low-impact coastal-terrestrial ecological corridors, dune/maquis buffer restoration, and permeable landscape structures in Urla. | Faculty of Architecture & Urla Campus (July 2025) | 15.2.1, 15.2.4, 15.3.1 |

| Research Project / Scientific Initiative (2025–2026) | Scientific Scope & Terrestrial Ecosystem Mechanism | Lead Unit / Funding & Date | THE SDG 15 Alignment |
|---|---|---|---|
| **MARA-MEDITERRA: Nature-Based Solutions & Paleoseismology of Bornova Basin** | EU-funded cross-border research on Mediterranean nature-based land restoration and paleo-environmental reconstruction of the Bornova terrestrial basin. | DEÜ Thematic Research Cluster (SR 2025–26, p. 146) | 15.1.2, 15.3.2, 15.3.4 |



*Figure 10: Wild Edible Mediterranean Plants Cultivated Under the EU VALUEFARM Project (left) and Field Planting Activities at the DEÜ Soil Health Living Lab (right) (Source: DEÜ Sustainability Report 2024–2025, pp. 13, 15).*

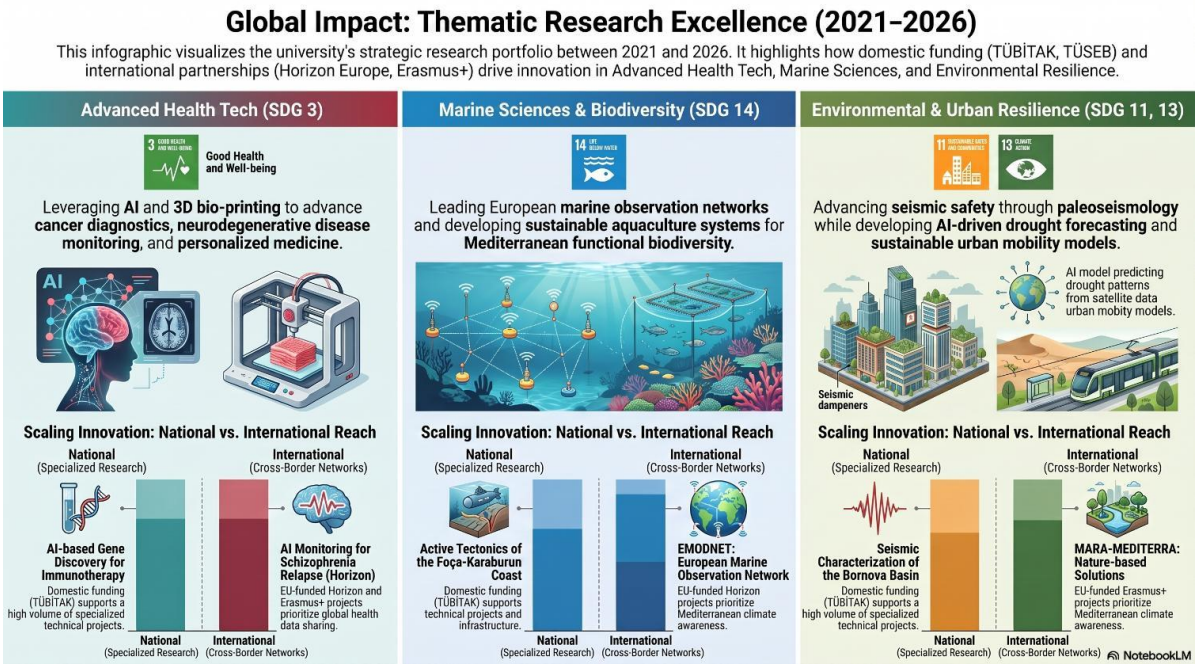


*Figure 11: Global Impact — Thematic Research Excellence (2021–2026): Column 3 Highlights DEÜ's Environmental & Urban Resilience Cluster Including MARA-MEDITERRA Nature-Based Solutions and AI-Driven Drought Forecasting (Source: DEÜ Sustainability Report 2025–2026, p. 146).*




*Figure 12: Urla Sustainable Coastal Design 1st Summer School, July 7–12, 2025*



*Figure 13 DSI (State Hydraulic Works) Lake Eğirdir Action Plan Water Budget Workshop (HYDRO 2025), April 19–20, 2025*




*Figure 14 İnciraltı–Çakalburnu Urban Wetland*

## 7. Teaching, Graduate Curricula, Green-Collar Certification, and Community Seminars (THE 15.2)

Educational programmes on terrestrial ecosystems, conservation biology, soil science, and sustainable agriculture are embedded across undergraduate and postgraduate degree tracks as well as open community seminars.

- **Biology, Environmental Engineering, Veterinary & Landscape Courses (GreenMetric 6.1):** Across DEÜ's curriculum, 138 sustainability-related courses at the Faculty of Science (Department of Biology), 289 courses at the Graduate School of Natural and Applied Sciences (Fen Bilimleri Enstitüsü), 54 courses at the Faculty of Architecture, and 34 courses at the Faculty of Veterinary Medicine address ecology, taxonomy, conservation genetics, climate change impacts on flora/fauna (Biological Impacts of Climate Change, Climate Change Policy), soil mechanics, and landscape planning (Sustainability Report 2025–2026, pp. 53, 114–115).
- **Graduates in Sustainable Agriculture, Veterinary & Environmental Food Systems (Reconciled with Indicator 2.4.1):** In the 2025 graduation cycle (1 November 2024 – 31 October 2025), DEÜ conferred 7,316 degrees at ISCED levels 6, 7, and 8 (5,828 Bachelor's, 1,372 Master's/PhD, and 116 State Conservatory/other degrees; totaling 9,173 graduates when including 1,857 ISCED level 5 vocational school graduates). Of the 7,316 ISCED 6–8 graduates, 172 graduates (2.35%) completed specialized programmes in sustainable agriculture, veterinary animal nutrition/zootechnics, environmental agro-waste valorization, and living resources (up from 165 graduates or 2.21% in 2024). In addition, across a 3-year window, 4,642 out of 31,978 graduates (14.51%) graduated from green-job tracks (Sustainability Report 2025–2026, p. 143).
- **Green Collar (Yeşil Yaka) Micro-Credential & Forest Ecosystems Pathway:** As documented in the 2025–2026 Sustainability Report (p. 53), DEÜ operates a structured certification pathway covering human–nature interactions, forest ecosystems, climate change, environmental monitoring, and circular economy, awarding participants an official university certificate and a Green Collar Badge.

- **2025 Public Seminar Series on Wild Plants, Herpetofauna & Terrestrial Biodiversity (THE 15.2.1 & 15.2.4):** In May–December 2025, FAMER, BIOMER, and student societies hosted a comprehensive open seminar and congress programme (Sustainability Report 2025–2026, pp. 115, 118, 124, 139): (1) Climate Change Tolerance and Heavy Metal Uptake of Edible Wild Plants (16 May 2025); (2) Extraction and Uses of Essential Oils from Plants (16 May 2025); (3) Production of Green Chemicals and Biofuels from Biomass (23 May 2025); (4) Secondary Metabolites of Plants and Mosses (23 & 30 May 2025); (5) 6th Environmental Days Symposium (4 June 2025); (6) Taxonomic Classification of Lizards Using Molecular Phylogenetic Methods (13 June 2025); (7) Lizard Hermits in Türkiye (20 June 2025); (8) Congress on Molecular Biology and Genetic Diseases by the Biodiversity and Environment Student Society (12 December 2025); and (9) III. Biologists Summit: DEÜ FAMER and Biodiversity (21 April 2026, continuity).




*Figure 15 Seminar poster: Taxonomic classification of lizards using molecular phylogenetic methods – June 13, 2025*



*Figure 16 Animal feeding/rehabilitation initiatives led by the Faculty of Veterinary Medicine and the Student Volunteer Society*

## 8. Water-Sensitive Land Management, Organic Composting, and Zero Soil Contamination (THE 15.4)

Protecting terrestrial soil structure, soil microbiota, and groundwater aquifers from chemical, plastic, and organic degradation is achieved through DEÜ's Sponge-Campus permeable infrastructure, aerobic composting loop, and ISO 14001 hazardous waste containment.

- **Permeable Surfaces, Rainwater Harvesting & Pool Backwash Irrigation (Reconciled with Indicators 6.3.5 & 6.4.2):** Excluding 227,579 m² of asphalt vehicle roads, all hard surfaces across DEÜ campuses (770,550 m² of sidewalks, plazas, and parking areas) are paved with water-permeable interlocking concrete blocks. Combined with 613,921 m² of unsealed soil/deforested land, DEÜ maintains 1,384,477 m² (25.0% of total campus area) of water-absorbing surfaces alongside its 3,111,315 m² (56.2%) forest cover. Landscape irrigation relies on drip systems, ≈4,700 tonnes/year of settled backwash water recovered from three semi-Olympic swimming pools (~30 tonnes/pool/week), and ≈200 m³/year of harvested rainwater from a 48-tonne cistern (fed by a 360 m² roof) irrigating 40 fruit and olive trees around the Technical Workshops (Sustainability Report 2025–2026, pp. 81–84).
- **Aerobic Kitchen Waste Composting for Soil Restoration (GreenMetric 3.5–3.8 & Indicator 12.3.1):** Operating continuously since 2022, DEÜ's campus composting unit processes segregated biodegradable waste from four central campus kitchens. In 2024, out of 26.1 tonnes of organic kitchen waste (sampled via the 'What's on My Plate?' study), 9.2 tonnes (35.5%) were composted. In the 2025–2026 cycle, card-linked smart meal reservations lowered total organic waste to 22.5 tonnes, of which 8.3 tonnes (36.9% / ~37%) were converted into nutrient-rich humus applied to campus planting beds and forest nurseries, while safe food leftovers were directed to campus stray-animal feeding stations (Sustainability Report 2025–2026, pp. 65–68).
- **Plastic & Toxic Waste Containment Preventing Soil Contamination (THE 15.4.2 & 15.4.3; Indicators 12.2.3–12.3.2):** Across 15 campuses holding renewed Zero Waste Certificates valid until 2031, plastic waste fell by 33.0% from 89.5 tonnes (2024) to 60.0 tonnes (2025) (66.5 tonnes sorted in 2025–2026), supported by three DOA Reverse Vending Machines, free water dispensers, and a 10 TL reusable cup discount. In 2025–2026, 410.915 tonnes of recyclable inorganic waste (up from 181.912 tonnes in 2024) were transferred to a single licensed recovery contractor. All 44.1 tonnes of hazardous laboratory/chemical waste, 886.9 tonnes of sterilized medical waste (931.0 tonnes total toxic waste in 2025–2026 vs. 669.0 tonnes in 2024), and 5.1 tonnes of waste cooking oil were stored in bunded leak-proof depots (maximum 180-day retention) and tracked via the Ministry's EÇBS / MOTAT system, preventing any heavy-metal, solvent, or plastic leaching into campus soils.



*Figure 17: Unsealed Soil Infiltration Zones (613,921 m²) and Water-Permeable Interlocking Paving Blocks (770,550 m²) Forming 1,384,477 m² (25.0% of Total Campus Area) of Groundwater-Recharging Permeable Surfaces Across DEÜ Campuses (Source: DEÜ Sustainability Report 2025–2026, pp. 81–82).*



*Figure 18: Biodegradable Kitchen Waste Loaded into the DEÜ Aerobic Composting Unit (left) and Finished Nutrient-Rich Humus Applied to Campus Gardens and Reforestation Plots (right, 8.3 Tonnes Treated in 2025–2026) (Source: DEÜ Sustainability Report 2025–2026, p. 67).*




*Figure 19: Bunded, Leak-Proof Temporary Hazardous Waste Storage Depots on DEÜ Campuses Preventing Chemical and Toxic Leaching into Terrestrial Soils and Forested Sub-Basins (Source: DEÜ Sustainability Report 2025–2026, p. 74).*

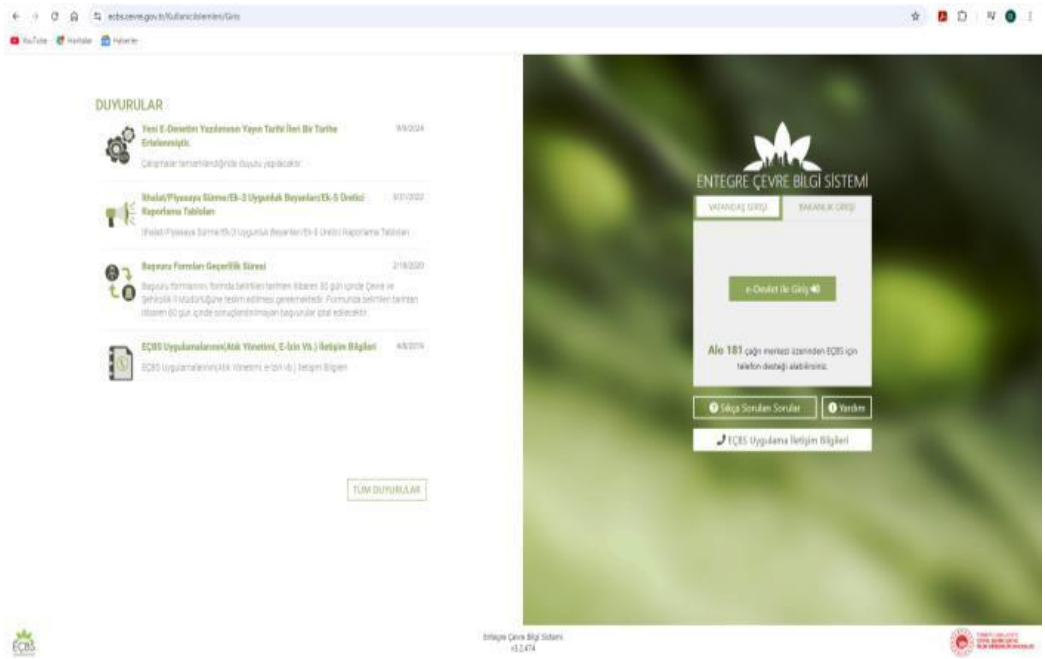


*Figure 20: Ministry of Environment, Urbanization and Climate Change Integrated Environmental Information System (EÇBS / MOTAT) Ensuring Digital Traceability of All Hazardous, Medical, and Recyclable Waste Streams (Source: DEÜ Sustainability Report 2024–2025, p. 77).*




*Figure 21: Renewed Zero Waste Certificates (Valid Until 2031) Across All 15 DEÜ Campuses (Source: DEÜ Sustainability Report 2025–2026, p. 69).*

## 9. Complete UI GreenMetric 2025–2026 Cross-Walk to SDG 15

Table 3 maps all 16 primary and secondary UI GreenMetric indicators from the DEÜ Sustainability Report 2025–2026 to their verified institutional values and corresponding THE Impact Rankings SDG 15 sub-indicators.

| GreenMetric Code & Indicator | Relation to SDG 15 | Verified 2024–2025 & 2025–2026 Institutional Value | THE SDG 15 Sub-Indicator Link |
|---|---|---|---|
| **1.9 Forest Vegetation Used for Research and Education** | Primary | 3,111,315 m² (56.2% of total campus area; non-irrigated natural Mediterranean forest). | 15.2.3, 15.3.1, 15.3.4 |
| **1.10 Planted Vegetation** | Primary | 685,919 m² in 2024 (12.4%); 686,000 m² cultivated open area in 2025 (~850,000 m² [>35.1% of non-forest area] incl. indoor planting). | 15.2.3, 15.3.1, 15.3.5 |
| **1.18 / 1.22 Conservation of Flora, Fauna and Wildlife** | Primary | FAMER Biodiversity Atlas (ISBN 978-975-441-606-0); camera traps; bird nests; iNaturalist project; >75% conservation implementation. | 15.3.1, 15.3.3, 15.3.5 |
| **1.8 Ratio of Open Space Area to Total Area** | Secondary | 5,279,327 m² open space out of 5,535,433.86 m² total area (95.4% open space; 84.59 m²/person in 2025–26). | 15.2.3, 15.3.4 |
| **2.13 Innovative Programs in Energy and Climate Change** | Secondary | 15,205 kWe solar PV across 7 campuses generating 24,110,405 kWh (2025–26); 1,943,670 kWh geothermal; 51.0% renewable energy share. | 15.2.3, 15.3.4 |
| **3.7 & 3.8 Organic Waste Treated & Treatment Method** | Secondary | 8.3 tonnes composted out of 22.5 tonnes organic waste in 2025–26 (36.9% / ~37%); 9.2 t out of 26.1 t (35.5%) in 2024. | 15.2.3, 15.4.1 |
| **3.15 & 3.16 Toxic Waste Treated & Treatment** | Secondary | 100% licensed treatment via EÇBS/MOTAT: 931.0 t in 2025–26 (886.9 t sterilized medical + 44.1 t chemical) vs. 669.0 t in 2024. | 15.4.1, 15.4.3 |
| **4.1 Water Absorption Areas** | Secondary | 1,384,477 m² (25.0% of total campus area: 613,921 m² unsealed soil + 770,550 m² permeable interlocking parquet). | 15.3.4, 15.4.1 |

| GreenMetric Code & Indicator | Relation to SDG 15 | Verified 2024–2025 & 2025–2026 Institutional Value | THE SDG 15 Sub-Indicator Link |
|---|---|---|---|
| **5.13 & 5.14 Ground Parking Ratio & Limitation Program** | Secondary | Ground parking restricted to <2.5% of campus area and surfaced with permeable blocks; ring shuttles & bicycle lanes reduce vehicle encroachment. | 15.2.3, 15.3.4 |
| **6.1, 6.3, 6.9 & 6.11 Sustainability Courses, Programs, Publications & Events** | Secondary | 937 / 2,492 mapped sustainability courses (138 Science, 289 FBE); 2,250 sustainability publications (0.79/academic); 85 AVESİS SDG 15 records; 180+ events/yr. | 15.1.1–15.1.3, 15.2.1, 15.2.4 |



*Figure 22:The Integration of Academic Facilities Within Contiguous Mediterranean Pine and Oak Forest Ecosystems (Source: DEÜ Sustainability Report 2025–2026, p. 5).*

## 10. Institutional Performance Analysis and Barrier-Removal Roadmap for 2026–2027

In accordance with Dokuz Eylül University's Research University performance monitoring framework, Table 4 links each SDG 15 target indicator to its causal driver, classifies institutional barriers, and assigns a concrete intervention, accountable owner, and verification date.

| THE / Research Univ. Indicator & Driver | Barrier Classification & Root Cause | Targeted Intervention (2026–2027 Action) | Accountable Owner & Review Date |
|---|---|---|---|
| **15.3.1 & 15.3.5 Public Web Portal for Campus Species & IUCN Red List Inventory**<br>**Driver: Open-access species database linked to policy.** | Information Barrier: The FAMER book (ISBN 978-975-441-606-0) and iNaturalist observations exist, but IUCN conservation statuses are not consolidated on a single English webpage. | Publish an interactive English/Turkish 'DEÜ Campus Flora & Fauna Red-List Inventory Table' on greencampus.deu.edu.tr and famer.deu.edu.tr cross-referencing all documented species with IUCN and Bern Convention categories. | FAMER Directorate & DEÜ Sustainability Office<br>Review: 15 October 2026 |
| **15.3.2 & 15.3.5 Invasive Alien Species Management Procedure**<br>**Driver: Formal operational protocol for invasive flora/fauna control.** | Regulatory Barrier: Landscape maintenance teams remove invasive weeds and monitor pests (e.g., pine processionary moth Thaumetopoea pityocampa and rose-ringed parakeet Psittacula krameri), but lack a standalone Senate/Rectorate SOP. | Adopt and publish the 'DEÜ Invasive Alien Species Monitoring and Biological Control Procedure' prohibiting chemical broad-spectrum herbicides and mandating biological/mechanical control in campus forests. | Department of Construction & Technical Works + FAMER<br>Review: 30 November 2026 |
| **15.1.1–15.1.3 Terrestrial Ecology & Biodiversity CiteScore / FWCI**<br>**Driver: High-impact Q1 publications from camera-trap, herpetology, ornithology, and zoonotic vector data.** | Resource & Incentive Barrier: Field camera-trap arrays and molecular barcoding consumables rely on small individual BAP grants. | Establish a dedicated 'BAP Priority Call for Mediterranean Biodiversity, Zoonotic Vectors & Wildfire Recovery' co-funded under the Research University budget to double Q1 outputs. | BAP Coordination Unit, Faculty of Science & FAMER<br>Review: 31 December 2026 |
| **15.2.2 & 15.4.1 Scaling Campus Composting to 75%+ Organic Waste Coverage**<br>**Driver: Expanding aerobic composting capacity across peripheral campuses.** | Resource & Logistics Barrier: Currently 8.3 tonnes out of 22.5 tonnes (36.9%) of organic kitchen waste are composted at the central unit. | Commission modular in-vessel composting units at 15 Temmuz Health Campus and Buca Education Campus to raise organic waste composting coverage from 36.9% to >75% for forest soil restoration. | Zero Waste Coordination Office & SKS Department<br>Review: 31 December 2026 |

## 11. Contact and Verified References

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