



FACTSHEET

PREZERO DUGONG



PLASTIC SMART CITY APPROACH TO REDUCING MARINE PLASTIC POLLUTION ON ENDANGERED DUGONG HABITAT (PREZERO DUGONG)

PROJECT BACKGROUND

Thailand's coastal ecosystems are home to one of the world's last remaining populations of dugongs, gentle marine mammals dependent on healthy seagrass meadows. The death of baby dugong Mariam in 2019 on Libong Island drew national attention to the urgent need to stop plastic leakage into the sea.

To address this, WWF Thailand, with support from WWF Germany, launched the PreZero Dugong Project in October 2020 under the global Plastic Smart Cities (PSC) framework.

The project demonstrates how integrated waste management, community engagement, and ecosystem protection can reduce plastic leakage and strengthen dugong habitat conservation in Trang Province, Thailand.

OBJECTIVES

1 Improve municipal plastic waste management to monitor and reduce leakage from land-based sources in Trang Province.



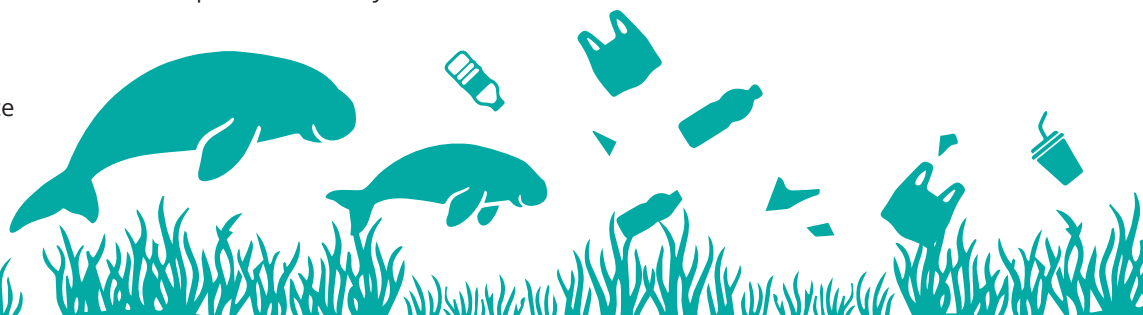
2 Enhance local waste management to prevent and reduce leakage from land- and sea-based sources within Marine Protected Areas.



3 Support local conservation to reduce dugong habitat loss and mitigate the impacts of plastic pollution on species and ecosystems.



4 Intercept plastic leakage in river and coastal systems using appropriate technologies and ensure safe disposal of collected waste.





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KEY ACHIEVEMENTS

Municipal Action Plans for Plastic Smart Cities

- **Trang and Kantang Municipalities** signed the **Declaration of Intent (DOI)** under the PSC framework and developed their **City Action Plans**.
- Established **municipal waste banks** in line with Thailand's "1 Municipality, 1 Waste Bank" policy, strengthening long-term waste segregation and recycling.

Waste Segregation and Community Engagement



- 24 segregation bins installed in schools, health centres, municipal offices, and piers.
- 18 trained community volunteers now monitor segregation and report data.
- More than **2.5 tonnes** of segregated waste collected during Jan-Jun 2025 alone.
- The initiative expanded to faith-based institutions (e.g., Nikrodharam Temple) and local communities.

Plastic-Free Schools

- **8 schools** received the PSC playbook and training curriculum.
- **5 schools** introduced single-use-plastic reduction measures such as **refillable cup campaigns, water refill stations, and waste banks**.
- **Hat Pak Meng School** recorded over **790 kg of correctly segregated waste** in 2025.
- The **"School Zero Waste"** model is now being integrated into municipal education programmes.



Tourism Sector Plastic Reduction



- The **Pak Meng Beach Glass Bottle Replacement Project** engaged ~50 businesses, reducing over **55,000 PET bottles** (≈ 0.8 t) since 2022.
- In 2025, **16 restaurants** continue to use refillable or glass bottles, collectively cutting **~1,600 PET bottles/week**.
- Planned **water refill stations** at Pak Meng Pier, Beach, and Hat Chao Mai National Park aim to institutionalise plastic-free tourism services.

Dugong and Seagrass Conservation

- Jointly conducted **UAV and ground surveys** with the Volunteer Group for Protection of Dugongs, Department of Marine and Coastal Resources, and Prince of Songkhla University.
- Mapped **200–760 ha of seagrass** around Koh Libong and identified no major plastic leakage during 2025 monitoring.
- Engaged **Rajamangala University of Technology Srivijaya** to continue ecological monitoring and analysis.

Infrastructure for Pollution Interception

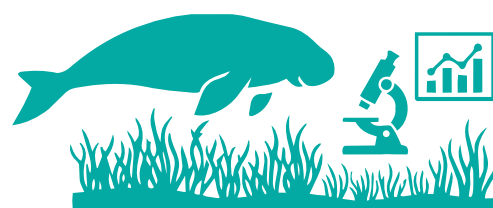


- Conducted expert assessments for installing a **protective fence at Koh Libong landfill**, preventing plastic leakage into adjacent mangroves and seagrass meadows.
- Technical design completed; institutional coordination ongoing with **Ko Libong Wildlife No Hunting Area** office.



SUSTAINED IMPACTS

- Municipal ownership strengthened through policy alignment and PSC Action Plans.
- Community monitoring institutionalised with local volunteer system.
- Youth leadership was empowered via school-based waste management and campaigns.
- Tourism stakeholders engaged in transitioning toward refillable systems.
- Scientific data on seagrass and dugongs were established to guide habitat management.
- Protective infrastructure was under preparation to prevent future plastic leakage.



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WWF, 28 rue Mauverney, 1196 Gland, Switzerland. Tel. +41 22 364 9111

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