

Laem Phak Bia Royally Initiated Project — Oxidation Ponds, Constructed Wetlands & Mangrove Filtration for Municipal Wastewater (Phetchaburi, Thailand)

PES & Nature-Based Solutions · Good practice · Thailand

Quality score: 40/100

Evidence strength: Moderate

Summary

Since 1990, Thailand's royally initiated Laem Phak Bia project has treated municipal wastewater via oxidation ponds, wetlands and a 181-hectare mangrove forest; monitoring shows the mangrove stage lifts dissolved oxygen 32% and cuts ammonia up to 74%.

Key dimensions

Dimension	Score
Carbon — sequestration / storage, evidenced	0/3
Biodiversity — conservation / improvement, evidenced	1/3
Water & soil — retention, infiltration, erosion control	3/3
Fire resilience — risk reduction, evidenced	0/3
Governance, certification & transferability	2/3

Evaluated by C-NAPSE

Data sources

[C-NAPSE web research](#) — accessed 2026-08-22

[Chaipattana Foundation / Laem Phak Bia Environmental Research and Development \(LERD\) Project](#) — accessed 2026-08-22

[LERD Project official site](#) — accessed 2026-08-22

[Water Quality from Mangrove Forest: LERD Project \(Modern Applied Science, CCSE\)](#) — accessed 2026-08-22

Cite this — Evidoria. *Laem Phak Bia Royally Initiated Project — Oxidation Ponds, Constructed Wetlands & Mangrove Filtration for Municipal Wastewater (Phetchaburi, Thailand)*. Persistent ID: 17f75679-3959-4a3f-afe3-6392fa97e7cb.