Supplementary Material

# Supplementary Table

**Appendix 1:** List of assessed Malaysian ecosystem service valuation (ESV) studies and description. CV = Contingent valuation; MP = Market price; TC = Travel cost; RC = Replacement cost; BT = Benefit transfer.

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| --- | --- | --- | --- | --- | --- | --- |
| **Goal of valuation** | **Study site** | **Valuation method(s)** | **Ecosystem services valued** | **Description of valuation study** | **Reference** | **Type of publications/**  **literatures (Number of citations)** |
| Raise awareness of the value of mangrove ecosystems | Kuala Perlis mangrove forest, Perlis | CV | Mangrove value | This study valued ecosystem monetary value of mangrove forest to inform local forestry decision makers. | Hasan-Basri et al., 2020 | Journal article (2) |
|  | Kuala Selangor Mangrove Forest, Selangor | MP, TC, RC | Aquaculture production, fisheries production, non-timber forest product, riverine production, coastal protection, tourism, mangrove preservation, total economic value | Study valued 7 ES in Kuala Selangor Mangrove Forest, Selangor that was under great pressure for conversion to other economic activities. Valuations are readily comparable with Total Economic Value. | Leong et al., 2005 | Book (N/A) |
|  | Sungai Merbok Forest Reserve, Kedah | Remote sensing ESV coefficient | Mangrove value | Used remote sensing to value the impact of mangrove changes on the socio-economic value of Sungai Merbok Forest Reserve mangrove. | Khuzaimah et al., 2013 | Conference article (4) |
|  | Kampung Sungai Melayu, Johor | CV | Mangrove value | This study valued the local community’s willingness to pay to conserve mangrove forests in Kampung Sungai Melayu and assessed their satisfaction level with the current mangrove forest management. | Sunoto et al., 2020 | Journal article (1) |
|  | Kuching Delta Mangrove Forest, Sarawak | CV | Mangrove value | This study valued the local community’s willingness to pay to conserve mangrove forests in Kuching Delta Mangrove Forest, Sarawak. | Shuib et al., 2012 | Journal article (N/A) |
|  | Sarawak Mangrove Forest Reserve, Sarawak | MP | Timber production, fisheries production, tourism | This study valued the economic value of the Sarawak Mangrove Forest Reserve and provided information of other mangrove management scenarios such as oil palm plantations and aquaculture ponds. | Bennet & Reynold, 1993 | Journal article (144) |
|  | Kudat, Sabah | MP | Fisheries production | This study valued the fisheries production ecosystem services of mangrove forests in Kudat, Sabah. | Mojiol et al., 2016 | Journal article (21) |
|  | Kuala Selangor Nature Park & Sungai Haji Dorani, Selangor | MP | Carbon sequestration | This study valued the potential revenue from carbon stocks to inform the local mangrove manager in both the mangrove forests of Kuala Selangor Nature Park and Sungai Haji Dorani. | Hong et al., 2017 | Journal article (18) |
|  | Kilim Karst Geoforest Park, Kedah | TC | Tourism | This study valued the economic value of Kilim Karst Geoforest mangrove forest, Langkawi, Kedah in tourism. | Matthew et al., 2019 | Journal article (16) |
|  | Larut Matang, Perak | CV | Tourism | This study valued the recreational value of mangrove forests in Larut Matang, Perak. | Ahmad, 2009 | Journal article (39) |
|  | Matang Mangrove Forest Reserve, Perak | TC | Tourism | This study attempted to value the additional opportunity cost the management at Matang Mangrove Forest Reserve, Perak, can explore. | Razak et al., 2018 | Journal article (5) |
| Provide justification and support to certain decision making | Benut, Johor | CV | Fisheries production, coastal protection, tourism | This is a case study by Johor State Forestry Department, to inform decision-making on whether to change the status of Benut mangrove forest from state land into a permanent reserve forest. | Bann, 1999 | Report (N/A) |
| Compare costs and benefits of different uses of the environment and assess trade-offs. | Teluk Air Tawar-Kuala Muda coast, Penang | MP, CV, TC, BT | Fisheries production, coastal protection, tourism | This study assessed the economic value of several mangrove forest ecosystem services from Teluk Air Tawar to Kuala Muda Coast, Penang. It provided comparisons of management scenarios between preservation and clearing of mangrove forests. | Foong et al., 2016 | Report (N/A) |
|  | Matang Mangrove Forest Reserve, Perak | MP and opportunity cost analysis | Timber production, carbon sequestration | Tapping into REDD++, this study demonstrated a comparison of cost benefits between two mangrove management scenarios in Matang Mangrove Forest Reserve. | Aziz et al., 2015 | Journal article (21) |
| Determine appropriate charging rates for environmental use | Penang National Park, Penang | CV | Tourism | The study assessed willingness to pay among local residents and visitors to indicate the revenue opportunities for the Penang National Park to introduce entrance fees. | Kaffashi et al., 2015 | Journal article (37) |
|  | Pulau Redang Marine Park, Terengganu  Pulau Payar Marine Park, Kedah | CV | Tourism | The study valued the willingness to pay among local residents and visitors to indicate the feasibility of both Pulau Redang and Pulau Payar Marine Park to increase entrance fees to favour better management. | Yakob et al., 2009 | Journal article (85) |
|  | Matang Mangrove Forest Reserve, Perak | CV | Mangrove value | This study assessed the potential additional revenue based on the willingness to pay visitors and local fishermen to Matang Mangrove Forest Reserve, Perak, with comparison to existing entrance fees. | Ramli et al., 2017 | Journal article (14) |