

## Biodiversity

About 20 tree and shrubs species are identified as undergrowth or colonisers in the open field of tin tailings. Many wildlife species especially birds are sighted.



## On-going research

- Monitoring of demonstration plots
- Accumulation of heavy metals by timber species
- Biodiversity of colonisation species
- Carbon sequestration potential of timber species
- Silviculture of aromatic herbal species



## FACILITIES

- Guesthouse \ Meeting room
- Recreational area

## CONTACTS

Contact person: Dr Ang Lai Hoe  
Tel: +603 6279 7103 / 7096  
E-mail: [anglh.frim@1govuc.gov.my](mailto:anglh.frim@1govuc.gov.my)  
GPS: N4.08551 E101.24397

### TIN TAILINGS AFFORESTATION CENTRE (TTAC) FOREST RESEARCH INSTITUTE MALAYSIA (FRIM)

Bidor FRIM Research Station  
Lot. 2661, Batu 4, Jalan Teluk Intan, 35000 Bidor, Perak.  
Tel: 603 62797103 / 7096  
Web: [www.frim.gov.my](http://www.frim.gov.my) E-mail: [anglh.frim@1govuc.gov.my](mailto:anglh.frim@1govuc.gov.my)

Hotline: 603 6279 7000



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# BIDOR

**FRIM RESEARCH STATION**  
*Tin Tailings Afforestation Centre (TTAC)*





## INTRODUCTION

Bidor FRIM Research Station, also known as the Tin Tailings Afforestation Centre (TTAC) was established in 1996 over 121.5 ha of ex-tin mine leased by the Perak state government.

Nutrients deficiency, low available soil water and heavy metal contamination are some of the problems associated with tin tailing which inhibit the growth of forest species. The tailings are thus considered as marginal lands that are predominantly covered by weeds and ferns, and sparsely colonised by pioneer species such as *Macaranga gigantea* and *Melastoma malabathricum*.

In order to improve the ecological and economical values of the ex-tin mine, policy makers as well as the state government have acknowledged and endorsed the need to green and to rehabilitate these tailings.



## OBJECTIVES



- To conduct research in developing cost-effective tree planting techniques on tin tailings,
- To conduct research in improving the site quality of tin tailings,
- To establish demonstration plots of plantations species
- To enrich plant species on tin tailings for biodiversity conservation, and
- To generate revenue from ecotourism activities

## RESEARCH ACTIVITIES

### Research activities and consultation services

Successful establishment of mixed-forest plantation on barren tin tailings at TTAC has received various supports from government agencies, private companies as well as international institutions in its R&D activities and consultations services. Areas of interest include:

- Phytoremediation of heavy metals
- Biodiversity and conservation
- Agroforestry
- Carbon sequestration
- Tree physiology
- Soil amendment techniques
- Timber and herbal species trials
- Bioremediation of domestic and industrial wastes

The research station welcomes collaborations with all interested parties and is a choiced destination for field visits of seminars/workshops to demonstrate the successful rehabilitation of a degraded area.

### Species Planted

Species suitable for growing on sand tailings are wood- and fibre-producing species including *Hopea odorata* (merawan siput jantan), *Khaya ivorensis* (African mahogany), *Swietenia macrophylla* (mahogany), *Acacia* spp., *Dyera costulata* (jelutung), *Dryobalanops oblongifolia* (keladan) and *Hibiscus cannabinus* (kenaf). In addition, some medicinal plants like *Eurycoma longifolia* (tongkat ali), *Morinda cetrifolia* (mengkudu), and *Zingiber officinale* (ginger) are found to be suitably cultivated at the degraded site. *Fagraea crenulata* (malabera), *Acacia* spp. and *Hibiscus cannabinus* (kenaf) are found to be suitable species for greening the tailings.

