Subtropical and Temperate Coastal Saltmarsh: description, threats, protection

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Coastal Saltmarsh

- EPBC listed TEC: VU 2013; P3 in WA
- Well described, not mapped well by DotE (OzCoasts estuaries)
- DPaW improving mapping, other data
Distribution

• Narrow coastal margin in subtropical and temperate climatic zones south of 26°S latitude in WA (23°S eastern).
• 6 States: Queensland, NSW, Victoria, Tasmania, SA, SW WA
• On some islands
• Shark Bay stated N limit (Carnarvon mapped as EPBC limit)
• Southern/eastern extent in WA: estuaries near Esperance
• Most significant: estuaries of SCP (Swan-Canning, Peel-Harvey, Leschenault and Vasse-Wonnerup).

• DPaW current mapping – 246 occs, total ~4,300ha
Subtropical and Temperate Coastal Saltmarsh Ecological Community

Legend
- Major localities
- Tropic of Capricorn
  - Subtropical and Temperate Coastal Saltmarsh EC

DRAFT
Description

• Recognised nationally and globally as ecosystem of high ecological value increasingly under threat

• Extensive ecosystem services:
  • filtering surface water flowing to ocean
  • carbon sequestration
  • fish nursery habitat; provision of food and nutrients for fauna,
  • buffers coastlines and riverbanks
• Increasing diversity of saltmarsh plant species with increasing latitude
Description

- Dense to patchy areas of characteristic coastal saltmarsh plant species (incl. bare sediment)
- Has connection with tidal regime
- On coastal margin, estuaries, coastal embayments, low wave energy coasts
- May occur on offshore coastal islands
- Primarily on sandy, muddy substrate, includes coastal clay pans
**Description**

**Exclusions:**
- saltmarsh on inland saline soils with no tidal connection
- near coastal patches disconnected from tidal regime (once connected).
- seepage zones on rocky areas above tidal limit; headlands subject to wind blown salt
- saltmarsh with > 50% weeds (i.e. must be dominated by native spp)
- >50% tree cover
- land permanently replaced with crops, urban areas etc.
Description

• Most common families: Chenopodiaceae and Poaceae
• Mainly salt-tolerant vegetation (halophytes): grasses, herbs, reeds, sedges, shrubs.
• Includes saltbush flats, many other vegetation types (sedgelands, grasslands, herbfields, mudflats)
• Vegetation generally <0.5m tall
• 95 flora species known - WA Coastal Saltmarsh; very species rich
• SW WA: important world centre of endemicity, diversity of saline adapted groups including Samphires (*Tecticornia*), *Samolus* (water pimpernel), *Triglochin* (arrow grass) (G. Keighery)
Threats

Estimated ~50% loss of coastal salt marsh in WA:

- **Clearing and fragmentation**: can further degrade. Loss of ecological function (tidal links, food web dynamics etc)
- **'Land-claim' or infilling**: areas cleared and converted for urban, industry, agriculture.
- **Altered Hydrology/Tidal restriction**: developments impacting groundwater access and surface runoff (freshwater and tidal).
- **Weeds**: replacing native plants, changing vegetation structure
- **Climate Change**: changes to temperature, sea level, storm frequency, sediment dynamics
- **Other**: Recreation, eutrophication, acid sulfate, grazing, insect control, fire regimes
Management

- Improving mapping (incl. condition)
  - Geraldton, Albany, Shark Bay surveys
  - DPaW Regional/District, specialist staff
  - Volunteer/Friends groups
  - Healthy Wetland Habitats surveys
Swan-Canning

Mandurah area
Management

• Controls on land clearing (eg land clearing regulations)
• Manage hydrology (eg through EIA/planning)
• Information and advice to stakeholders (eg HWH)
• Weed control (eg Friends Groups, HWH, LGAs)
• Other land management eg recreation, grazing, fire
• Climate Change? Research into impacts and amelioration
Conclusion

EPBC (and State) listing of coastal saltmarsh; opportunities and incentives:

• Improving mapping
• Increased awareness of significance
• Improved management: potential federal resources for rehabilitation/management; HWH
• Improved outcomes in EIA