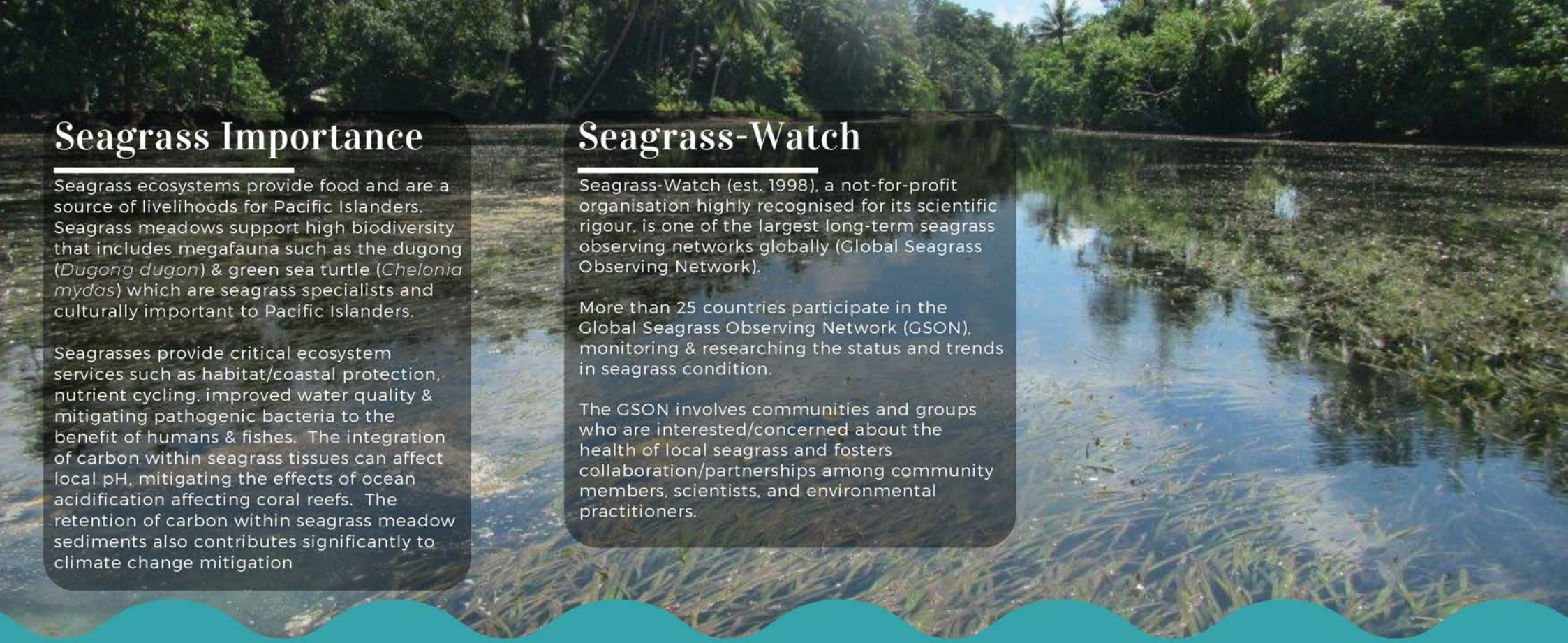

Seagrass Importance

Seagrass ecosystems provide food and are a source of livelihoods for Pacific Islanders. Seagrass meadows support high biodiversity that includes megafauna such as the dugong (*Dugong dugon*) & green sea turtle (*Chelonia mydas*) which are seagrass specialists and culturally important to Pacific Islanders.

Seagrasses provide critical ecosystem services such as habitat/coastal protection, nutrient cycling, improved water quality & mitigating pathogenic bacteria to the benefit of humans & fishes. The integration of carbon within seagrass tissues can affect local pH, mitigating the effects of ocean acidification affecting coral reefs. The retention of carbon within seagrass meadow sediments also contributes significantly to climate change mitigation

Seagrass-Watch

Seagrass-Watch (est. 1998), a not-for-profit organisation highly recognised for its scientific rigour, is one of the largest long-term seagrass observing networks globally (Global Seagrass Observing Network).

More than 25 countries participate in the Global Seagrass Observing Network (GSON), monitoring & researching the status and trends in seagrass condition.

The GSON involves communities and groups who are interested/concerned about the health of local seagrass and fosters collaboration/partnerships among community members, scientists, and environmental practitioners.

Protecting Seagrass

Seagrasses are economically and ecologically valuable to both humans and marine life. Seagrass is one of the most productive natural ecosystems in the world.

Seagrasses improve water quality by acting as nutrient sinks, buffering or filtering nutrient and chemical inputs to the marine environment. They also stabilise coastal sediments, helping to avert erosion.

Seagrass meadows are fragile ecosystems. Human impacts such as sewage discharge, oil spills, coastal runoff, dredging, boat propellers and anchors/moorings can damage or destroy seagrasses.

Contact

PO BOX 4
Clifton Beach, QLD 4879
admin@seagrasswatch.org

Join
The Global Seagrass Observing Network,
so marine life & oceans can have a future.

Local eyes, Global wise

www.seagrasswatch.org

Papua New Guinea

Seagrasses

Seagrasses of PNG

The earliest seagrass record in Papua New Guinea (PNG) comes from New Hanover in 1875. Thirteen seagrass species have been confirmed from PNG, with species diversity highest in the southern part of the country (adjacent to Torres Strait) and declining eastward. The highest number of species reported at a single location is 13, from Daru in the northern Torres Strait. Eight species are widely distributed while five species are restricted to a few localities; the rarest are *Thalassodendron ciliatum* at Manus Island and *Zostera muelleri* at Daru. *Zostera muelleri* just reaches PNG as a northern extension of its Australasian range, and although suggested to occur along the New Guinea coastline west of Daru, recent mapping efforts conducted this century have failed to locate any specimens.

Cymodocea rotundata

- leaf tip rounded with smooth edge
- leaf 2-4mm wide with 9-15 parallel veins
- leaf sheath scars continuous around stem
- old sheaths forming a fibrous mass at the base of each shoot

Cymodocea serrulata

- leaf tip rounded with serrated edge
- leaf 4-9mm wide with 13-17 parallel veins
- leaf sheath broadly flat and triangular, not fibrous
- leaf sheath scars not continuous around upright stem

Enhalus acoroides

- large plant, leaves >30 cm long, >1 cm wide
- inrolled edges of leaves
- long, black bristles protruding from thick rhizome

Halodule pinifolia

- leaf tip rounded
- narrow leaf blades 0.25-1.2mm wide
- leaf with 3 distinct parallel veins, sheaths fibrous
- rhizome usually white with small black fibres at the nodes

Seagrass habitats

Seagrass communities occur in various habitats, including fringing reefs, protected bays, the sheltered side of barrier reefs, and the leeward side of islands. Significant seagrass meadows can be found along the north coast of Manus Island in Seeadler Harbour, in the coastal bays surrounding Wewack and Port Moresby, on the island reef complexes of Milne Bay province and on the reef platforms surrounding the Tigak Islands and Kavieng. Seagrass meadows are also a major feature at several other localities (e.g., Rabaul, Kimbe) and scattered areas of seagrasses line much of the mainland coast (e.g., Madang, Morobe and Western provinces) and the offshore islands (including Lihir and Mussau).

Extensive mixed species meadows are the dominant community type in the bays, harbours and sheltered capes along the coasts of the PNG mainland and the islands of New Britain and New Ireland. These extensive meadows are dominated by *Thalassia hemprichii* and/or *Enhalus acoroides*. In the more sheltered bays and the shallow lagoons surrounding Kavieng, *Enhalus acoroides* borders the gentle sloping mangrove fringes. Smaller islands are generally characterised by relatively small fringing reef platforms, where seagrass are restricted to shallow fringing reef-flats with lagoons (0-2 m depth). In regions without large islands (e.g., Louisiades), low cover seagrass mainly occurs on the tops of the reefs and shoals with reef flats.

Halodule uninervis

- leaf tip tri-dentate or pointed, not rounded
- leaf blades 0.5-5mm wide
- leaf with 3 distinct parallel veins, sheaths fibrous
- rhizome usually white with small black fibres at the nodes

Halophila decipiens

- leaf margins finely serrated
- fine hairs on both sides of leaf blade
- leaf apex rounded to slightly pointed
- leaf 10-25mm long and 3–10mm wide
- 6-8 cross vein pairs

Halophila ovalis

- cross veins 8 or more pairs
- leaf 5-40mm long & 5-20mm wide
- leaf margins smooth
- no leaf hairs

Halophila minor

- less than 8 pairs of cross veins
- leaf 5-15mm long and 3.5-6mm wide
- leaf margins smooth
- no leaf hairs

Halophila spinulosa

- leaves arranged opposite in pairs
- leaf margin serrated
- 10-20 pairs of leaves per shoot
- leaf 15-20mm long and 3-5mm wide

Local eyes, Global wise

Syringodium isoetifolium

- leaves noodle/spaghetti like and taper to a point
- leaves contain air cavities
- leaves 7-30cm long

Thalassia hemprichii

- leaf tip rounded, may be slightly serrated
- leaf 4-12mm wide with 9-11 parallel veins
- leaf with obvious red flecks, 1-2mm long
- leaf often distinctly curved
- rhizome thick with distinct scars, usually triangular in shape
- one short root per rhizome node

Thalassodendron ciliatum

- distinct upright stem
- clusters of curved leaves (>5 mm wide), margins serrated
- stem and rhizome woody

Zostera muelleri

- leaf with 3-5 parallel-veins
- cross-veins form mesh-like pattern across leaf blade
- leaf tip smooth and rounded, may be dark point at tip
- rhizome usually brown or yellow in younger parts
- prophyllum present, i.e. single leaf originating from rhizome.