1 Title.
Distribution and status of seagrasses in Moreton Bay, Australia, and an evaluation of community based monitoring (Seagrass-Watch)

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8 Abstract.
Moreton Bay contains a complex system of seagrass habitat totalling 25,000 ha and supports seven seagrass species with extensive meadows in certain locations. Seagrass plays a critical role in supporting the ecological health of the Bay and is routinely monitored to determine its condition. The community based Seagrass-Watch program, established in 1998 as an initiative of the Queensland Department of Primary Industries and Fisheries, has operated in Moreton Bay since 2001 and is now the largest scientific, non-destructive, seagrass assessment and monitoring program in the world. Seagrass-Watch aims to raise awareness of the condition and trends of near-shore seagrass ecosystems and provide an early warning of major coastal environmental changes.

The survey methods are well established, simple and scientifically rigorous. After considerable training, groups of volunteers adopt a site and conduct surveys within three distinct periods per year: autumn (March-April), winter (July-August) and summer (November-December). In Moreton Bay seagrass condition is visually assessed at two to five sites (50 x 50 m area) nested within each of 17 locations (53 sites in total).

There are many advantages to this kind of data collection, including cost efficiency, coverage over large spatial scales, community involvement and education and multi-organisational engagement. However, the accuracy and usefulness of data collected by volunteers is often considered questionable. This paper shows that the visual assessment of percentage seagrass cover by Moreton Bay volunteers is highly correlated with that of the trainers' ($r=0.85$, $v=2423$, $P<0.001$). 84 % of the time, the volunteers' score of seagrass cover was less than 19 % different to that of the trainers'. Thus seagrass data collected by volunteers in Moreton Bay is accurate enough to be correlated with water quality data (i.e. turbidity, pollution and temperature) collected by the Ecosystem Health Monitoring Program.