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| Category | Element | Detail/Comment |
| **Dataset** | Title | NE Australia dugong distribution and relative density groups |
| Custodian | Helene Marsh and Alana Grech, James Cook University  Collaborators: Christophe Cleguer, James Cook University |
| Jurisdiction | Gulf of Carpentaria, Torres Strait, Great Barrier Reef, Hervey Bay, Moreton Bay |
| Resource Constraint | Copyright remains with the data owners |
| Filename | Duggoc: WGS\_1984\_UTM\_Zone\_54S  Dughb: WGS\_1984\_UTM\_Zone\_56S  Dugmb: WGS\_1984\_UTM\_Zone\_56S  Dugngbr: WGS\_1984\_UTM\_Zone\_55S  Dugsgbr: WGS\_1984\_UTM\_Zone\_55S  Dugts: WGS\_1984\_UTM\_Zone\_54S |
| **Description** | Abstract | Spatially-explicit models of dugong density and distribution were developed using data from marine megafauna aerial surveys conducted in NE Australia. The method followed Grech and Marsh (2007) and Grech et al. (2011) with improvements as per Sobtzick et al. (2017).  Input data: Dugong counts corrected for perception and depth-specific availability probabilities as per the Hagihara method, except in Torres Strait.  Model: The data were modelled using the geostatistical interpolation method Empirical Bayesian Kriging (EBK) in ArcGIS 10.7. The semivariogram type was linear and the smoothed search neighbourhood was set to a radius of 5000m. Relative densities were calculated at a grid size of 1 km2.  Dugong densities per grid cell were classified as Low (0 dugongs per km2); Medium (0-0.5 dugongs per km2); High (0.5-1 dugongs per km2), and Very high (>1 dugongs per km2). Grid cells with 0 dugongs per km2 were included: (1) to ensure that the spatial layers of dugong density extended across the entire survey area; (2) because dugongs are likely to move across grids where they were not detected during the surveys, and (3) because we have not attempted to estimate abundance for areas where dugongs were not sighted.  The value of grid cells in the data are: 1 = Low; 2 = Medium; 3 = High; 4 = Very high. |
| Search Words | Dugong, Great Barrier Reef World Heritage Area, Gulf of Carpentaria, Torres Strait, Hervey Bay, Moreton Bay, aerial surveys |
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| **Currency** | Origin Date | Nov 26, 2021 |
| Ending Date | Nov 26, 2021 |
| **Status** | Progress | Complete |
| Projection | UTM Zone X |
| Datum | WGS84 |
| Resolution | 1 kilometre squared |
| Maintenance, Update Frequency | Complete |
| Stored Data Format | Raster grid |
| Available Format Type | Digital raster grid |
| Access Contraint | None |
| **Quality** | Lineage | Derived from marine megafauna aerial survey data collected:  Moreton Bay 2005, 2011, 2013 and 2016  Hervey Bay 2005, 2011 and 2016  SGBR 2005, 2011 and 2016  NGBR 2006, 2013 and 2018/19  Torres Strait 1987, 1991, 1996, 2001, 2006, 2011, and 2013  Gulf of Carpentaria 2006 and 2007 |
| Attribute Accuracy | Information finalized |
| Logical Consistency | Attributes are standardised |
| Completeness | Complete |
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| **Metadata** | Metadata Date | Nov 26, 2021 |
| **Additional Metadata** | Funding source | Great Barrier Reef Marine Park Authority  National Environmental Research Progam Tropical Ecosystems Hub  Australian Marine Mammal Centre  TropWATER |
| FoR Codes | 050202  050206  060207  060809 |
| SoE Codes | 960802  960808 |
| References | Grech A., Sheppard J., and Marsh H. 2011. Informing species conservation at multiple scales using data collected for marine mammal stock assessments. PLoS ONE. 6(3): e17993. <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0017993>  Grech, A., and Marsh, H. 2007. Prioritising areas for dugong conservation in a marine protected area using a spatially explicit population model. Applied GIS 3: 1-14. <https://www.researchgate.net/publication/228360895_Prioritising_areas_for_dugong_conservation_in_a_marine_protected_area_using_a_spatially_explicit_population_model>  Sobtzick, S., Cleguer, C., Hagihara, R., and Marsh, H. 2017. Distribution and abundance of dugong and large marine turtles in Moreton Bay, Hervey Bay and the southern Great Barrier Reef. A report to the Great Barrier Reef Marine Park Authority. Centre for 48 Tropical Water & Aquatic Ecosystem Research (TropWATER) Publication 17/21, James Cook University, Townsville. <https://www.researchgate.net/publication/248883043_Distribution_and_Abundance_of_Dugongs_in_the_Northern_Great_Barrier-Reef_Marine_Park>  Sobtzick, S., Hagihara, R., Grech, A., Jones, R., Pollock, K., and Marsh, H. 2015. Improving the time series of estimates of dugong abundance and distribution by incorporating revised availability bias corrections. Final report to the Australian Marine Mammal Centre. (105pp.). <https://data.marinemammals.gov.au/common/documents/grants/2013/13_31_Marsh_Grech.pdf>  Sobtzick, S., Penrose, H., Hagihara, R., Grech, A., Cleguer, C. and Marsh, H. 2014. An assessment of the distribution and abundance of dugongs in the Northern Great Barrier Reef and Torres Strait. Final report to the National Environmental Research Program Tropical Ecosystems Hub, Townsville, Australia (78pp.). <http://www.nerptropical.edu.au/sites/default/files/publications/files/An%20assessment%20of%20the%20distribution%E2%80%A6%20Sobtzick%20et%20al%202014.pdf>  Marsh, H., Collins, K. Grech, A., Miller, R. and Rankin, R. (2020). An assessment of the distribution and abundance of dugongs and in-water, large marine turtles along the Queensland coast from Cape York to Hinchinbrook Island. A report to the Great Barrier Reef Marine Park Authority, May 2020 |