



State of Oceans and Coasts SINGAPORE



Singapore's National SOC Report (publication pending) provides information on the status of seas and coasts of Singapore, including the national ocean economy; quantity and quality of resources the coastal areas; and the existing and potential uses of such resources. The report also aims to contribute to the blue

economy assessment and monitoring progress on the implementation of the Sustainable Development Strategy for the Seas of East Asia (SDS-SEA), the UN Sustainable Development Goals (SDGs), other international agreements subscribed to by Singapore, and related national laws and policies on oceans and coasts.

Singapore's Ocean Economy in Context

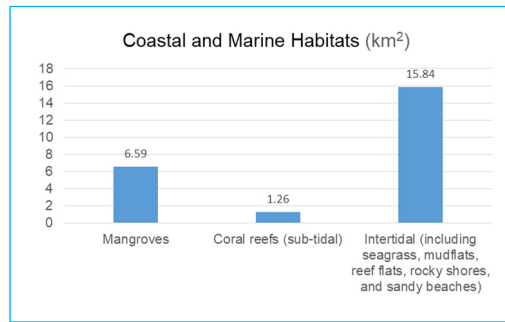
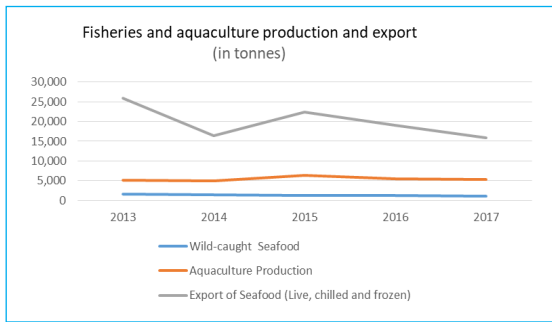
Indicator	Available Information (as of 2017)
Land area ¹ (square kilometres or km ²)	719.9 km ²
Coastline ¹	197 km (main island)
Sea area ¹ (territorial waters up to 12 nautical miles)	
Population ¹	5.61 million
Population density ¹	7,797 per km ²
Coastal population ¹	100% of total population (entire population live within 100 km of the coasts)
Ocean economy ¹	7% of GDP (shipping, port, and offshore and marine engineering sectors, and maritime services)
Employment in ocean economy ¹	170,000
Estimated value of coastal and marine ecosystems ¹	n.a.
Percentage of coastline with ICM ¹	100%
Marine protected area ² (percentage of territorial waters)	
Ocean health index (OHI) ³	59 (rank at 183 among 221 countries and territories)
Gross domestic product ² (GDP, in constant 2010 US\$ prices)	US\$310 billion
Human development index (HDI) ⁴	0.932 – very high human development category—Singapore ranks 9 out of 189 countries and territories
Gross national income (GNI) per capita ⁴ (at 2011 PPP prices)	US\$82,503
Access to safely managed water supply ²	100%
Access to safely managed sanitation ²	100%

¹ National SOC Report 2018

² World Bank Open Data. <https://data.worldbank.org/country/singapore>

³ www.oceanhealthindex.org/region-scores/scores/singapore

⁴ http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/SGP.pdf



Transitioning to Blue Economy

Ocean economy	Blue Economy Initiatives
<p>Made up of shipping, port, offshore and marine engineering (manufacture and repair of ships, boat, marine engines, oil rigs, oil field and gas field machinery and equipment), and maritime services sectors, Singapore's maritime industry contributes 7% of Singapore's GDP, and employs over 170,000 people.</p> <p>Ports and shipping Port of Singapore is the world's top transshipment hub and the second busiest container port.</p>	<p>Sustainable ports</p> <ul style="list-style-type: none"> Maritime Singapore Green Initiative (MSGI): consists of 5 programmes: Green Ships, Green Ports, Green Technology, Green Awareness, and Green Energy. <ul style="list-style-type: none"> Green Port Programme: As of end Oct 2018, more than 4,500 vessel calls switching to marine fuel with sulphur content not exceeding 1% in 2016. As of 2018, 108 companies have voluntarily signed the Green Pledge to demonstrate their commitment in promoting clean and sustainable shipping in Singapore. As of end Oct 2018, 479 Singapore-flagged ships qualified for the Green Ship Programme. LNG bunker-ready port: Committed to providing a broad range of fuel solutions, including LNG, to meet the future energy needs of the global shipping industry; Embarked on a three-year LNG bunkering pilot programme from 1 January 2017, in preparation for the wider adoption of LNG as a marine fuel; Working with eleven other ports to establish a global network of LNG bunker ready ports. Ballast water management: Singapore provides ballast water sediment reception facilities in ports and terminals where the cleaning and repair of ballast tanks occur.
<p>Coastal and marine ecosystem Singapore's cruise industry directly contributed US\$515 million to the nation's economy in 2016.</p>	<p>Sustainable tourism</p> <ul style="list-style-type: none"> Ecotourism, nature reserves and marine parks Dive trails at Sisters' Islands Marine Park: responsible diving protocols Guided bird-watching tours and workshops are organized at the Sungei Buloh Wetland Reserve during the migratory season between September and March.
<p>Fisheries and aquaculture</p>	<p>Biotechnology and aquaculture</p> <ul style="list-style-type: none"> Application of Recirculation Aquaculture Systems technology, with culture protocols, development of closed containment systems for coastal fish farms Selective breeding technology for development of faster-growing fish
<p>Energy</p>	<p>Marine renewable energy</p> <ul style="list-style-type: none"> Target of reducing greenhouse gas emissions by 36% compared to 2005 levels by 2030. Green-e Renewable Energy Standard and Green-e Energy certification of renewable energy. Ocean renewable energy (ORE): research, development of test bedding sites for tidal power.
<p>Water</p>	<p>Desalination</p> <ul style="list-style-type: none"> Three desalination plants, with two more in the pipeline to be completed by 2020. Focus on technological improvements to reduce energy use and cost <p>Wastewater treatment and water reclamation</p> <ul style="list-style-type: none"> 100% of wastewater is collected and treated. Reuse of treated wastewater: NEWater, or Singapore's brand of ultra-clean high-grade reclaimed water, is the pillar of its water sustainability and water security.
	<p>Solid waste management measures</p> <ul style="list-style-type: none"> All waste is collected and treated; promotion of 3Rs (reduce, reuse, recycle) Singapore aims to achieve an overall national recycling rate of 70% by 2030 as part of the <i>Sustainable Singapore Blueprint 2015</i>. The ultimate goal is to work towards becoming a <i>Zero Waste Nation</i>. All incinerable waste that is not recycled is incinerated at waste-to-energy plants to reduce the waste volume by 90%, and produce energy. Only non-incinerable waste that is not recycled is sent to the Semakau Landfill. Reduction of packaging waste through the Singapore Packaging Agreement.
	<p>Habitat restoration and management</p> <ul style="list-style-type: none"> Mangrove rehabilitation and coastal protection: innovative combination of hard and soft engineering solutions to arrest coastal erosion, and restore mangrove areas; Pulau Tekong coastal protection project Marine and coastal parks. Four Nature Reserves (3,347ha), over 400 parks and the park connector network (2,792ha), with an overall total area of around 15,570 ha. In 2016, the marine and coastal parks and reserves cover an area of 1721.39 ha. The Sisters' Islands Marine Park is Singapore's first marine park. Coral restoration and conservation: Coral colonies are grown in a nursery and transplanted back onto the degraded reefs. Endangered species recovery: to safeguard the survival and sustainability of species native to or of particular significance, e.g., marine turtles, giant clams, etc.