

THEME 1 BIODIVERSITY ALONG THE WESTERN CAPE COAST

Biodiversity is described as the variability of organisms and their collective ecological complexes. The study area of the SoCR incorporates the terrestrial, estuarine, shore and beach, and marine (oceans and islands) ecosystems.



DRIVERS

There are many cross-cutting and specific indicators that relate to drivers of change. Some examples include coastal sprawl, agriculture, industry, resources use, alien invasive species, protected areas and aquaculture.

PRESSURES

Coastal pressures are experiences in various coastal realms, including terrestrial, estuarine/shoreline and marine. Terrestrial pressures include habitat loss due to land use change and the illegal trade of species. Estuarine pressures include habitat loss/degradation, hydrological regime changes and unsustainable resource use. Marine pressures include commercial fishing, offshore oil and gas and the shipping transport industry. Cross-cutting pressures include alien invasive species, climate change and plastic pollution

STATE

State of coastal biodiversity and ecosystem health is tracked by reporting on the following indicators:

- Ecosystem threat status
- Ecosystem protection levels
- Species threat status and population trends
- Habitat degradation
- Invasive Alien species

Although there has been, and continues to be, concerted effort placed into biodiversity conservation through the expansion of protected areas and the WC Biodiversity Spatial Plan (2017), species and ecosystems are still facing decline. The loss of natural habitat and species affects the delivery of ecosystem services and compromises the environment's resilience to climate change.

IMPACT

The ability of the ecosystem to provide valuable services is severely compromised when it is degraded. The threat status of Terrestrial and Marine ecosystems can be used to assess the impacts on biodiversity at the ecosystem level. Of the 66 assessed terrestrial ecosystems, almost 14% have declined as indicated by the increase in threat status. In total 11% of threatened ecosystems have been lost to development and agricultural activities, and are no longer in a natural state (2014). Marine ecosystems are under threat due to a number of pressures and the threat status of such ecosystems can be monitored and assessed using beach stranding as indicators (Figure 1). In terms of impacts on species, 72% of all plants in the coastal zone are declining (Figure 2). There is no information on population trends of over half (53%) of all the terrestrial reptiles known to occur along the coast, and even less is known about marine fish species (2018). The percentage loss of threatened ecosystems was assessed. In 1990, 13% of the threatened ecosystems were transformed, while in 2014 the number declined to 11%. Although the overall percentage was relatively similar, the difference is over 200ha of permanent loss to settlements.

RESPONSES

A number of policies, programmes and legislation have been created in response to pressures and impacts on coastal biodiversity:

- National Biodiversity Strategy and Action Plan (2015)
- Western Cape Biodiversity Strategy and Action Plan (2017) (Figure 3)
- Western Cape Coastal Management Programme (2016) (Figure 4)
- Western Cape Protected Area Expansion Strategy
- Operation Phakisa (MPA Lab)

Other activities are being undertaken to improve the state of biodiversity in the Province:

- CapeNature has identified "top ten" estuaries selected for prioritised conservation (Olifants, Verlorenvlei, Groot Berg, Bot/Kleinmond, Klein, Uilkraal, Heuningnes, Goukou, Goukamma, and Keurbooms).
- Operation Phakisa proposed establishing 10 MPAs off the coast of the Western Cape, which could potentially contribute a further 6% protection of marine habitat.
- The National Water Act provides for the determination of Resource Directed Measures and associated Resource Quality Objectives (RQOs) of water systems.

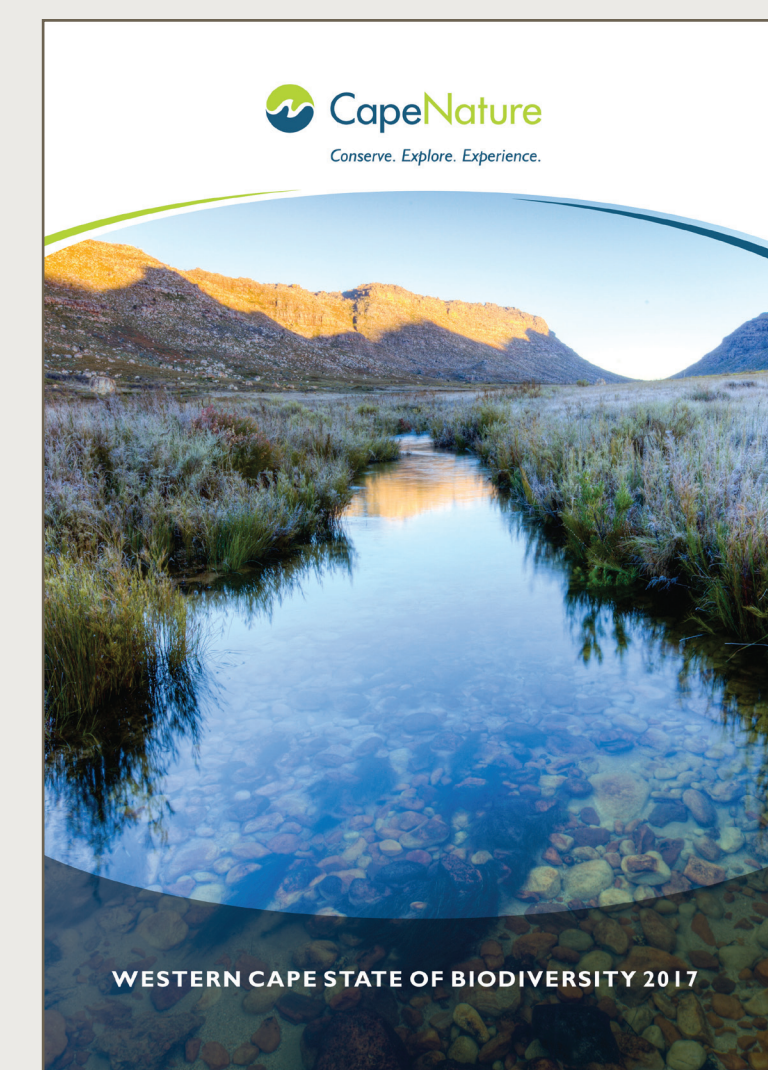


Figure 3: Western Cape State of Biodiversity Report (2017)

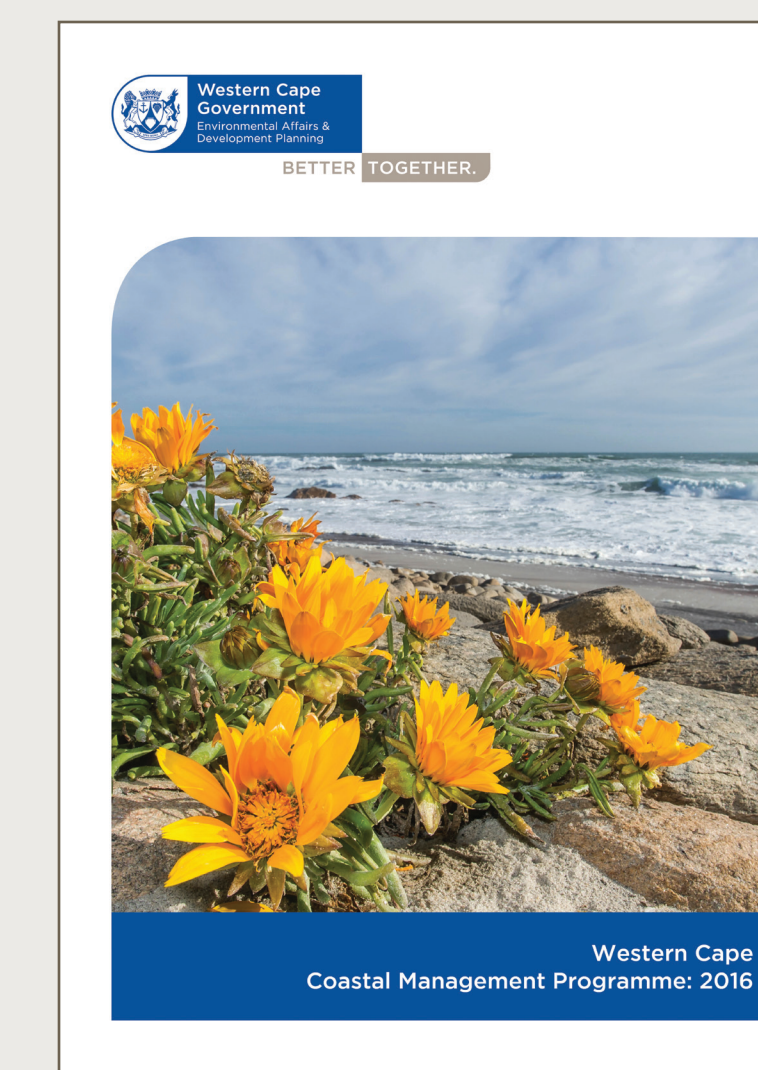


Figure 4: Western Cape Coastal Management Programme (2016)

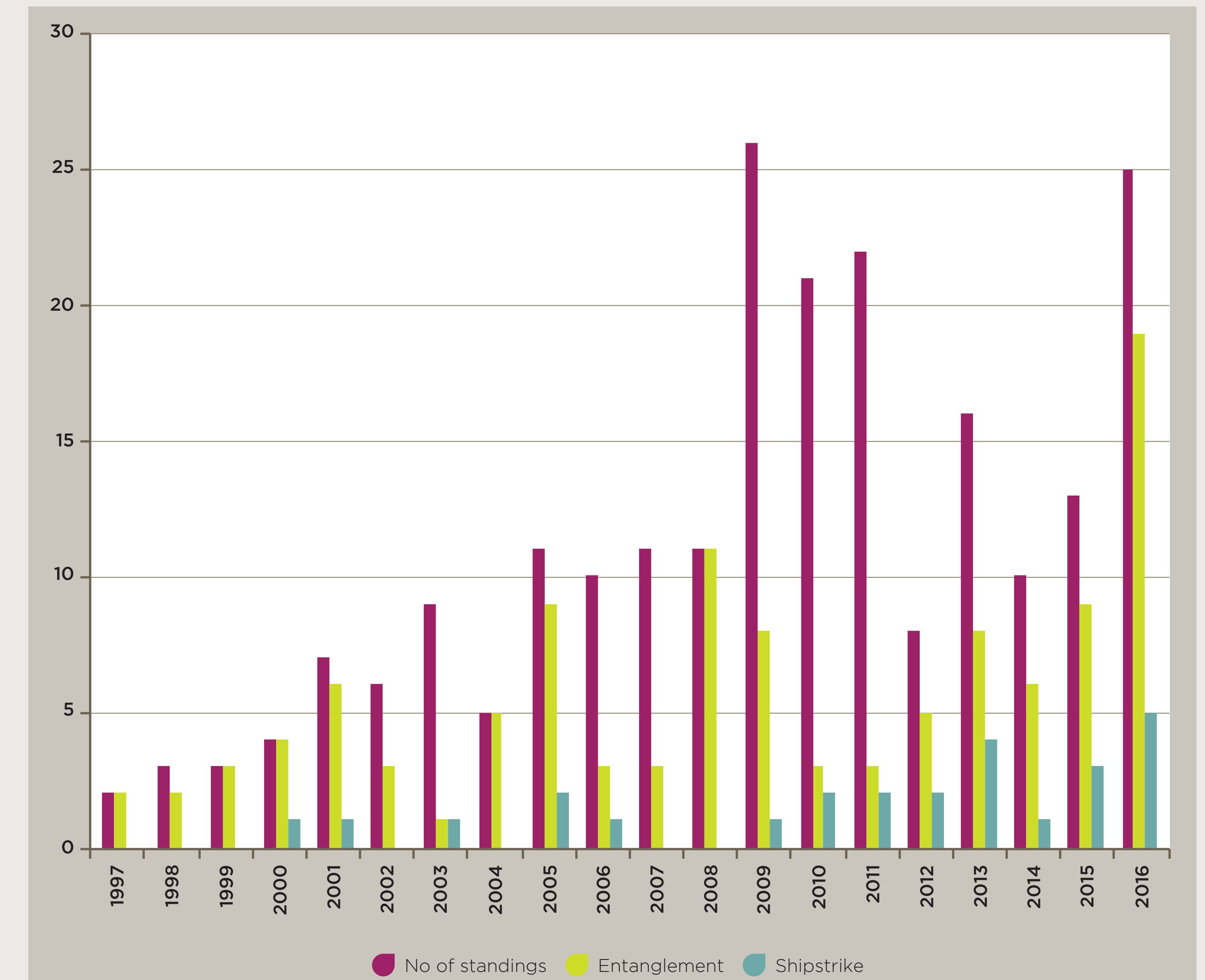


Figure 1: Number and type of marine mammal strandings (1997-2016)

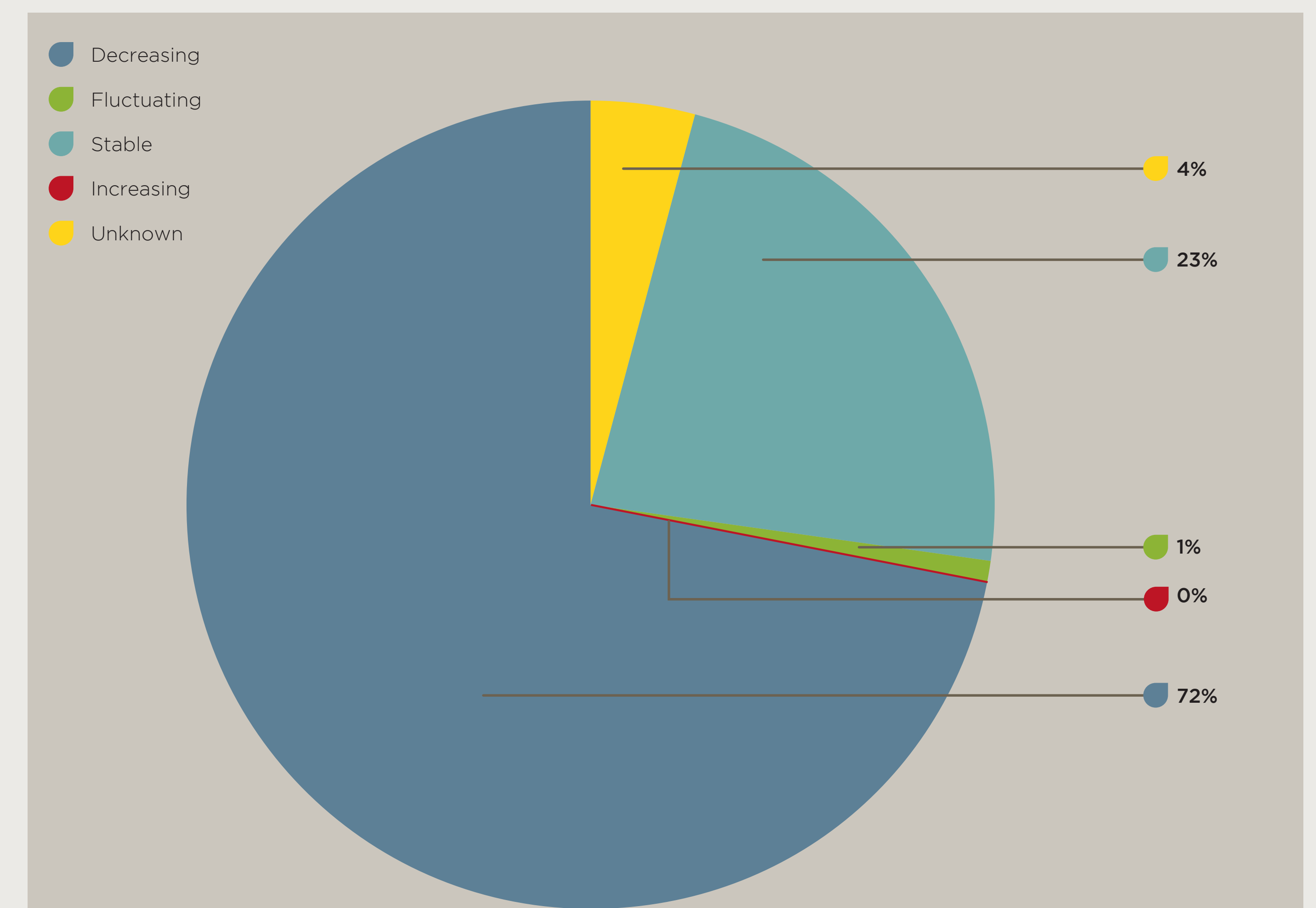


Figure 2: Population trend of coastal/terrestrial plant species as assessed by the IUCN (%)

OUTLOOK: TERRESTRIAL DECLINING MARINE HIGH CONCERN

Although there has been, and continues to be, concerted effort placed into biodiversity conservation through the expansion of protected areas and the WC Biodiversity Spatial Plan (2017), the data indicates that, despite these efforts, species and ecosystems are still facing decline.

The loss of natural habitat and species, especially in critical biodiversity and ecological support areas, affects the delivery of ecosystem services and compromises the environment's resilience to climate change.

It is evident that there are fundamental differences between pressures, threats and impacts experienced in the terrestrial, estuarine and marine environments. It is also evident that there are large data gaps in knowledge and data availability with respect to the marine environment. Most of the priority actions recommended are therefore focused on marine data collection and conservation.

