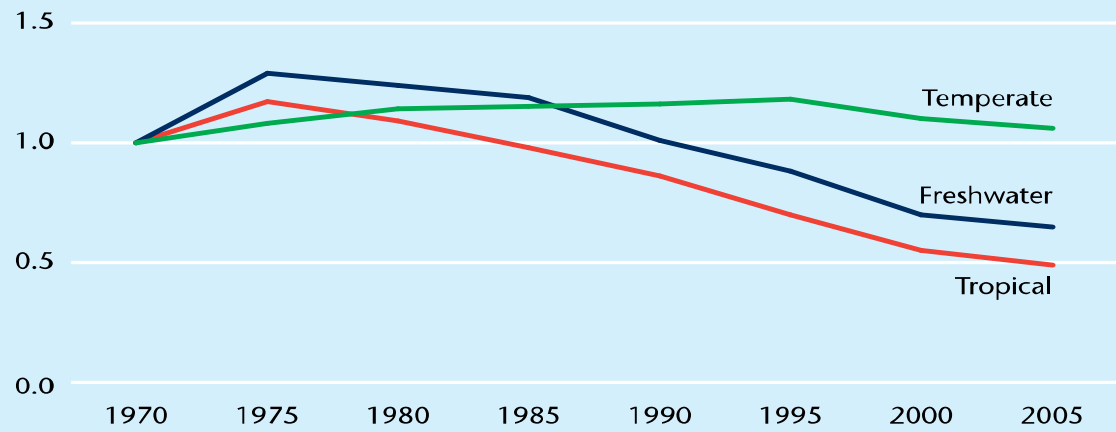


Indicator name	Freshwater species population trends index
<p data-bbox="272 296 1143 323">Freshwater, temperate and tropical Living Planet Indexes, 1970-2005</p>  <p data-bbox="289 779 1341 842">Note: The Living Planet Index tracks trends in populations of 1,313 vertebrate species around the world.</p>	
Prepared by	UNEP
Example	WWDR3, Chapter 8, Figure 8.1 WWDR2, Chapter 5, Figure 5.2
Rationale	A relatively simple, easy to communicate measure of biodiversity measuring a key component of biodiversity change, i.e. change in species composition within communities. Trends in freshwater species populations reflect the health and quality of freshwater ecosystems and biomes on various scales.
Position in DPSIR chain	State
Definition of indicator	A measure of change and trends in the populations of freshwater species since 1970, the base year, more specifically, the mean population changes of a set of species, i.e. measure biodiversity as number of individuals in populations and how this statistic is changing; also a measure of change in species composition, rates of change and changes in this rate.
Underlying definitions and concepts	The indicator is based preferably on data all freshwater taxa, according to availability. In this case only vertebrate data are in use.
Specification of determinants needed	Data on number of freshwater species populations, dating back at least 10 years, preferably to 1970.
Computation	The index is generated from the average change in population trends and expressed in a figure between 0 and 2, where the average value of 1970 (base year) is set as 1.
Units of measurements	The index is a relative measure expressed in relation to the value at a set point in time (preferably 1970 if data available).
Data sources, availability and quality	Published and unpublished population data of all freshwater species, 1970 to the present. WWF, Living Planet Report 2008 http://assets.panda.org/downloads/living_planet_report_2008.pdf (Accessed 04 March 2009)
Scale of application	Mostly globally, depending on data availability and quality, but also at the regional and national level.
Geographical coverage	Global and regional.
Interpretation	The indicator describes the status and trends of the freshwater species, some subset of those or a selected group of species. Interpretation requires caution.

	The index states more the overall status and trend and can be used in measuring success towards a set target (CBD 2010) or other sub-targets reflecting the conservation of freshwater ecosystems. Further interpretation is only possible by overlaying and correlation with pressure indicators. GIS tools, still in need of development, could provide further insights and cope with analyses and interpretation.
Linkage with other indicators	Linkages with other indicators could be pressure indicators for interpretative purposes. The geographical link with water quality indices within the chapter, but also with others from other chapters, such as water withdrawal, is potentially valuable. Indicators on restoration and protection and management are other valuable indicators of the success and failure of freshwater ecosystem management.
Alternative methods and definitions	Ideally, the extent of freshwater ecosystems should be part of the indicator. However, data on freshwater ecosystems is only available for certain biomes and habitats. For the majority even remote sensing data are incapable in capturing changes in extent and quality. For population data often sufficient data are lacking to cover all of the anticipated scope of the indicator. Alternatively only more frequently available data on population trends of Red Listed species can be generated to display a similar index. It has been known for some time that the ecological character of an ecosystem is hard to capture by an indicator, mainly due to insufficient qualitative information other than species richness and trends.
Related indicator sets	Red List indicators
Sources of further information	All countries and country agencies, global and local NGO's hold various sorts of population trend data which still have not been generated and made accessible for this indicator.
Other institutions involved	WWF, UNEP-WCMC, IUCN, BirdLife International, Wetlands International, Convention on Biological Diversity (CBD), Ramsar Secretariat, CMS