

Ecosystem Services

Strategic water source areas for urban water security: Making the connection between protecting ecosystems and benefiting from their services

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ABSTRACT:

Strategic water source areas are those areas that have a relatively high natural runoff in the region of interest, which is made accessible for supporting the region's population or economy. These areas contribute substantially to development needs, often far away from the source. This disconnect between ecosystem service supply and use means that the social-ecological impacts of development decisions in these areas may not be obvious to users and decision makers. We identified 22 strategic water source areas in southern Africa linked to major urban centers. We quantified the population size and economy they support, and their current levels of protection. We found that strategic water source areas form only 8% of the land area but contribute 50% of the runoff. When linked to downstream urban centers, these areas support at least 51% of South Africa's population and 64% of its economy. Yet only 13% of their land area is formally protected. We recommend using multiple strategies for the legal protection of these areas. Identifying strategic water source areas and their links to downstream users offers an opportunity for achieving synergy in spatial planning across diverse policy sectors, and enables new patterns of collaboration between government, business and civil society.