English Abstracts

Summary of the first decade of biodiversity monitoring in Israel: Current status and major threats

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Biodiversity, which includes all living organisms and their interactions, is the foundation for strong and stable ecosystems. Global threats and the combination of characteristics unique to the country create significant challenges for protecting Israel's biodiversity. The major threats to Israel's biodiversity include habitat loss, which directly and indirectly affects biodiversity; natural habitat fragmentation resulting from infrastructure development and agriculture, which mainly affects connectivity between populations; invasive species that harm native species; light pollution that interferes with physiological and behavioral characteristics in plants and animals; climate change that modifies seasonal activity patterns and dispersal, and proliferation of extreme events, including fires. This paper presents an updated picture of the major threats to biodiversity in Israel and to representative species groups. Most of the data come from the last two State of Nature Reports compiled by the Maarag – Israel's National Ecosystem Assessment Program. The findings of the National Terrestrial Biodiversity Monitoring Program summing up a decade, show an increasing trend in the threat factors and a decline in biodiversity. The global biodiversity crisis occurs in Israel as well, and probably at a much higher rate than in Europe. Over 13 years there has been a 34% decrease in the number of butterflies and a shift in their peak activity period. The number of breeding birds decreased by 17.2% in nine years, together with an extreme increase in invasive mynahs as well as a decrease in the number of birds associated with humans and the number of shrubland birds. There have also been several achievements in nature conservation in Israel, as can be seen in the Biodiversity Volume in the State of Nature Report 2023. These include the increase in the number of ungulates and a decrease in the presence of jackals in the Carmel as a result of management, improved biodiversity indexes in some of the coastal streams and increased nesting in two sea turtle species. These accomplishments emphasize that informed planning and resource allocation for specific nature conservation objectives can produce significant results. The major threats are mostly policy-dependent and can be reduced to enable ecosystems and biodiversity in Israel to thrive.

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Protecting protected natural assets while managing forests – from vision to routine at the KKL-JNF

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In 2018 KKL-JNF and the INPA formulated a memorandum of understanding and expert definitions to minimize the damage to natural assets protected by law during forest management activities, by means of a reducing the use of permits for damaging protected natural assets. As part of the implementation of the memorandum, KKL-JNF and OLI developed survey and mapping methods of protected natural assets in forests, on which a GIS database was based. From 2019 surveys of natural assets are conducted regularly as part of the annual KKL-JNF forestry work plan. KKL-JNF ecologists supervise and monitor the management activity in forests to minimize damage to natural assets. Six years after the start of the implementation of the memorandum, it is apparent that these actions contribute to the protection of natural assets in the forests and do not interfere with essential forest thinning and renewal activity. Moreover, the surveys of natural assets in the forests have an important function in broadening the scientific knowledge regarding Israel's biodiversity, as they allow discovery of new species in Israel and a broader understanding regarding the distribution of other species, among other things. Along with the implementation of the memorandum an ecology section was established in the KKL-JNF Forestry Department, and its staff instructs and supervises workers in the field on all topics related to protecting natural assets and the characteristic forest biodiversity.

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