



PROMOTING SCIENCE-BASED CONSERVATION IN ISRAEL:

IDENTIFICATION OF GAPS AND PROPOSED ACTION PLAN

A FINAL REPORT OF A WORKING GROUP AIMED AT STRENGTHENING THE LINKS BETWEEN
THE SCIENCE, POLICY AND PRACTICE OF BIODIVERSITY CONSERVATION IN ISRAEL

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EXECUTIVE SUMMARY

In recent years, there has been a dramatic increase in the awareness of the importance and value of biodiversity and the ecosystem services it provides to humans at both local and global levels. Biodiversity conservation is complex, and requires substantial knowledge, clearly defined goals, and often a quick response. It also requires an effective and thoughtful use of limited resources.

Science-based conservation of biodiversity is especially important in Israel – a small country with exceptionally rich and unique biodiversity that is under continuously escalating threats. Nevertheless, there are clear gaps between the policy makers and practitioners that shape the future of Israel's biodiversity and the scientific knowledge that can assist in promoting effective, relevant and evidence-based action.

During 2009-2010, a working group comprised of academics, governmental and non-governmental organization representatives, policy makers and practitioners led an initiative aiming to bridge the gap between conservation science, practice and policy in Israel. The overall aim of the working group was to propose a set of actions that would advance the scientific basis of the conservation of biodiversity and natural resources in Israel. The objective was to strengthen the long-term links between scientists, practitioners and policy makers in the area of biodiversity conservation and to promote science-based conservation of biodiversity in Israel.

Additional goals were to map the gaps within and amongst various organizations working in the field; to study the platforms and solutions adopted in other countries and globally; to enhance links with international organizations with similar goals; to build partnerships and improve communication between scientists and decision makers and to propose platforms that would promote the cooperation of people within the biodiversity conservation arena in Israel. The ultimate goal was to improve the ability of sustaining and protecting Israel's unique and rich biodiversity. This was done by involving a wide range of organizations and stakeholders.

The activity of the Israeli working group is in line with the UN's newly established Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). This forum is equivalent to IPCC, the International Panel on Climate Change. The new IPBES platform aims to provide policy makers with the best science available for decisions and to improve communication between scientists and policy makers in the fields of biodiversity and ecosystem services. This is done with the hope of minimizing the rapid decline of native biodiversity and the valuable ecological services to which it contributes.

The science-based conservation working group mapped major gaps in Israel, including: (i) the need to create a framework for applied scientists and research that would address the shortage in the area of applied conservation, ecology and biodiversity; (ii) the need for stronger financial support for applied science in the field and the need to establish a research foundation and direct dedicated grants (for scientists and students) that would fund applied research in the area of biodiversity conservation, which could be translated into policy and management recommendations; (iii) the need to provide scientific support and outreach of scientific knowledge to policy, and to provide a one-stop-shop for scientific advice for policy makers and national projects, including Israel's National Biodiversity Plan; (iv) the need to train policy makers, managers and academics – to increase awareness of the importance of scientific knowledge in making decisions, as well as training scientists about how to better communicate with policy makers and managers; (v) the need to enhance communication between the major players in Israel's biodiversity and conservation arena and with international partners and (vi) the importance of establishing and managing a central national database in the fields of biodiversity and ecosystem services.

The working group identified several important issues towards practical recommendations in Israel, which are detailed in this report. There is wide interest in building and

strengthening the connections between scientists, policy makers and practitioners in Israel and internationally. There are many similarities in the difficulties and challenges faced elsewhere around the world in closing the gaps between scientists, decision makers and practitioners. There is a range of platforms aimed at linking the major players worldwide. Most of these platforms receive governmental support and some have the mandate to provide policy advice. It is important to direct funds to inter-organizational activities that promote these links in order to encourage scientists, policy makers and practitioners to work together.



The endangered Nazareth Iris in the Upper Eastern Galilee
Photo: Noam Levin

In addition, it is crucial that academic institutions build systems to accredit and reward academics that work with policy makers and practitioners in practical conservation.

There is a need to develop a cadre of people in Israel with interdisciplinary training that can understand and converse in multiple 'languages', as well as knowledge brokers and science communicators that can help link between science, policy and practice. Techniques should also be explored that extend and strengthen the scientific staff of organizations that deal with conservation in Israel. In addition, more efforts should be directed towards collaboration and to maximizing the returns from the limited budgets, rather than emphasizing the historical differences between organizations dealing with biodiversity conservation.

Based on the gap analysis and detailed review performed as part of this project, it is clear that Israel is currently lacking an institution that is responsible for applied research in the area. It also lacks scientific outreach in the area, which can provide a better basis for policy and management of Israel's ecosystems and natural resources. Such a platform should be supported (at least partly) by governmental funds, and should be built in correspondence with Israel's current needs, context, budgets and organizational framework. Such an institute is required in order to:

- Enable effective biodiversity conservation and provision of ecosystem services in Israel.
- Maximize the scientific potential and demand for these fields among the young generation as well as early-career scientists.
- Provide a basis for interdisciplinary research and a meeting place between natural scientists and social scientists including economists, political scientists, geographers, planners, and practitioners.
- Save limited resources that are wasted when decisions are uninformed, uncoordinated, duplicated, and when existing information and data is dispersed among organizations and is not available for the use of practitioners and policy makers.

This report recommends the establishment of a national biodiversity and natural resources institute in Israel. This institute will target a wide range of topics, areas and gaps that are currently not addressed in Israel, and will place Israel as an international leader in this important area.

The National Institute for Biodiversity and Natural Resources will be an independent body. Its major goal and authority will be to perform applied research, and to establish the links between science, policy and practice in the fields of biodiversity conservation and ecosystem services in Israel. Investment in the proposed institution in Israel will be an effective and important tool for advancing evidence-based decisions and policy in the areas of biodiversity and ecosystem services. The institute will directly and continuously link scientists, policy makers and practitioners with one another, while providing accessible



Agricultural fields during springtime with native red poppies and white mustard (in yellow) in Lachish region

Photo: Jeremy Kark

scientific support to policy makers and managers. The establishment of the proposed National Institute for Biodiversity and Natural Resources corresponds with applied research organizations that exist for many years in other environmental fields, such as the Agricultural Research Organization (Volcani Center), the Israel Oceanographic and Limnological Research Institute and the Geological Survey of Israel. These institutions lead applied research and address public and national needs that come up in Israel in other environmental fields.

The new proposed institute will address the need for applied scientists in the field and will include in-house permanent scientists and residents (including graduate students linked to universities), and promotion will be based on the institution's goals, in addition to academic criteria. The institute will include ecologists, environmental lawyers, environmental economists, public policy experts, database experts, spatial planners, database and Geographic Information Systems experts, and others. This configuration will enable stronger ties between academics from diverse areas. The institution will employ knowledge brokers and science communicators who will work towards increasing the accessibility of scientific information and data to policy makers and managers. The institute will support and promote research in the fields of biodiversity and ecosystem services in the human- and society-context and will provide policy support in the framework of biodiversity and ecosystem services.

The activity, authority and organizational structure of the proposed institute will include establishing the agenda for national scale research in the fields of biodiversity conservation, collecting data and information, as well as responsibility for a national grant foundation for applied research for scientists and graduate students, which will fund research with management and policy recommendations. The institute will be authorized to provide policy advice, evidence-based and professional advice to planners, managers and policymakers. It will form an umbrella institute for joint activity of multiple relevant organizations and will enable better coordination between different institutions, stakeholders and organizations that work in related fields (such as agriculture, health and tourism).

The institute will provide support in applying and updating the National Biodiversity Plan, in assessing ecological systems in Israel, in regulation and legal processes, in joint work with the Knesset's Research and Information Center, and in dealing with issues and national topics that require rapid response and scientific support. The institute will also address long-term issues, such as improving the outreach and accessibility of data and incorporating biodiversity considerations into regional and national (spatial) plans. It will also improve the ability to professionally analyze the value of Israel's natural resources and ecosystem services following an interdisciplinary approach. This will enable scientific information to be provided clearly and directly to

policy makers. It will provide a link to other related fields such as climate change, where the sum of the parts is bigger than each part when considered alone. The institute will provide training for policy makers and managers in the area of biodiversity conservation and ecosystem services (e.g., via executive courses and workshops). It will also offer training for environmental assessors, set standards for assessments in the private and public sectors, and provide professional support for national environmental assessments when required.

The National Biodiversity and Natural Resources Institute will include several units, such as:

1. **Applied research unit:** activity will include (i) applied research in the fields of biodiversity conservation and ecosystem services, including interdisciplinary research (natural and exact sciences, social sciences, law); (ii) Rapid Response Unit; (iii) Research and Management Unit for national databases on biodiversity and ecosystem services.
2. **Research Foundation for applied research and synthesis:** management and directing of grants on a competitive basis, focused on management- and policy-directed research.
3. **Science-policy access, outreach and support unit:** scientific support for policy, publication division (e.g., policy papers, scientific material for managers etc), Internet website for outreach and broad impact. This unit will be in charge of the science-policy interface.
4. **Training unit for policy makers, practitioners, managers and scientists:** including training for public and private organizations performing environmental assessments.
5. **A coordination and liaison unit:** links to other policy and science institutions in Israel and abroad, coordination to universities, assistance with international treaties, and a science-policy forum.

Along with the establishment of the National Institute for Biodiversity and Natural Resources in Israel, a series of actions are recommended for various organizations that will enable better connections between scientists, policy makers and practitioners. This will effectively strengthen the scientific basis of biodiversity conservation in Israel. These recommendations are detailed in the report, which



Bonelli's Eagle flying over the Negev Highlands near Sede Boker
Photo: Liana Joseph

also provides an overview of the major organizations and institutions currently dealing with biodiversity conservation in Israel and the scientific basis for their activity. Most of these organizations were partners in the initiative and working group activity, and we hope that our activity will allow decisions that improve the scientific basis of the conservation of biodiversity and ecosystem services in Israel to be made. This will enable stronger and more effective links between science, policy and practice in the crucial area of biodiversity conservation. The combination of Israel's rich biodiversity in both terrestrial and marine ecosystems, its location at the geographic crossroads between Asia, Europe and Africa, the practical experience, the scientific potential and human resources of the country, can place Israel, with wise investment, as a leader in the area within a relatively short time.

More information and products from the activity of the working group can be found in:

www.ScienceBasedConservation.org



The Hoopoe was recently selected as Israel's national bird

Photo: Yosi Yaari