PUTTING SCIENCE AND TECHNOLOGY INTO COLLABORATIVE MPA PLANNING

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New Zealand’s Marine Protected Area (MPA) Policy
Protect marine biodiversity by establishing a network of MPAs that is comprehensive and representative of New Zealand’s marine habitats and ecosystems

Network Design Principles:
• Representativity: Sites included in a MPA network should be representative of all habitats and cover centres of endemism and rare habitats or ecosystems.
• Replication: each habitat will be protected in a minimum of 2 separate MPAs. More replicates where a habitat or ecosystem is particularly vulnerable to irreversible change.
• Connectivity: on the nature of the protection, presence of replicate MPAs, connectivity, maintenance of ecosystem processes, nature of threats, recoverability from threats, amenability for mitigation of threats.
• Preference for fewer, larger MPAs rather than numerous smaller MPAs

Planning principles:
• Consistent approach to classification
• Provide for special relationship between the Crown and Maori
• Processes will be undertaken in a transparent manner that informs and allows for participation and input from the public.
• Minimise adverse impacts on existing users of the marine environment
• Use best available information in decision-making

SeaSketch is designed to be easy to use by non-specialists, anytime, anywhere. All you need is an internet connection.

The SeaSketch Toolbox

Access to best available information
An intuitive user interface allows users to view and explore biological, physical and socio-economic data for the planning area.

Marine environment
• Bathymetry
• Currents
• Substrate
• Marine habitats
• Species distribution
• Areas of high ecological value

Ecosystem services
• Uses and existing management
• Navigational charts
• Commercial fishing
• Extraction and prospecting
• Recreational activities
• Shipping
• Heritage sites
• Cultural
• Location of marae
• Matarangarangi marae

Land use and catchment
• Land use and catchment
• Catchments
• Rivers
• Water quality
• Land cover
• Land use and conservation

Collaboration - Online sharing and discussing of MPA proposals
SeaSketch can be used to engage with others face-to-face and online. Users can share their MPA designs with SeaSketch’s built-in chat function. Individually or collaboratively, users can explore alternative use scenarios and ultimately modify MPA proposals towards options that reflect agreement across different interests.

Sketching MPA designs and retrieving analytical reports
SeaSketch’s analytical capability represents its core functionality as a geospatial decision-support tool. Custom-built reports, reflecting planning objectives and integrating MPA design criteria, analyse the often complex geospatial information to inform stakeholders’ discussions. As users sketch areas of interest on a map, SeaSketch will provide analytical feedback about the area within seconds. These reports can identify information such as types and percentage of habitats included in the sketch, and potential social or economic costs and benefits, e.g. what biodiversity, social, cultural and economic values are found in the area I have drawn? In addition, a report might provide feedback on how well the sketch might be meeting process objectives, e.g. Does my MPA network include examples of all habitats?

Survey tool - Collection of spatial information relevant to MPA planning
SeaSketch has the built-in capability for quick set-up and dissemination of web-based surveys that collect spatially-referenced information. Surveys targeting the general public or experts can provide valuable data and leverage local knowledge. It also provides a cost-effective way of promoting and facilitating public participation at various stages of the process.

Uses and existing management
• Commercial fishing
• Extraction and prospecting
• Recreational activities
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Further reading

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The SeaSketch crew at the Marine Sciences Institute, University of California, Santa Barbara

Systematic conservation planning
A systematic, ecosystem-based approach to marine conservation planning is recognised as an efficient path towards balancing the protection of marine species and ecosystems with economic, social and cultural demands. Historically, achieving sustainable, equitable and cost-effective solutions in the marine context has often been highly contentious due to the unequal access to information and a lack of involvement perceived by the public and stakeholders. Collaborative, participatory and transparent approaches to decision-making, based on best available information and science, are increasingly proven to be the best way forward towards successful marine stewardship.

What is SeaSketch?
SeaSketch (www.seasketch.org) is a web-based tool specifically developed for use in collaborative and participatory marine spatial planning initiatives such as New Zealand’s MPA planning.

Developed by researchers and software developers at the University of California Santa Barbara, SeaSketch is currently in use in a range of planning processes around the world. SeaSketch’s predecessor (MarineMap) was instrumental in the successful development of a comprehensive MPA network in California.

Since 2012 DOC has been working with the SeaSketch developers to bring SeaSketch to New Zealand for its use in collaborative and participatory MPA planning initiatives.

Citations