

Planning Spotlight: Using "Sliding Windows" to Design MPAs

A paper in the December 2008 issue of the journal *Ocean & Coastal Management* describes a new approach to designing MPAs. Rather than defining the size and shape of an MPA's boundaries at the end of a planning process, as is typically done, the described approach sets the size and shape as the first step, even before any aspects of physical location are considered. The paper calls this the "sliding windows" approach. Once the outline of the potential MPA is set, planners can shift it back and forth throughout the study area to gauge its ideal location, similar to how a sliding window of consistent size and shape can be moved from side to side.

The paper suggests this method may be useful in cases where protection of contiguous habitats is necessary, such as for species that migrate daily or change habitats over the course of their lifecycle. "Home range size of target organisms is increasingly known from tagging, telemetry, and marine landscape ecology studies, thereby enabling informed selection of reserve size and necessary core area," according to the authors. "The same data may indicate that a combination of habitats must be included adjacent to each other to accommodate daily or ontogenetic migrations. In such cases, analysis should focus only on reserves with size, shape, and orientation suitable for capturing a contiguous series or cross-section of these habitats; merely including some of all bottom types in a discontinuous reserve network is insufficient."

Lead author Matt Kendall of the U.S. National Oceanic and Atmospheric Administration (NOAA) notes the approach can also result in simple boundaries that may be easy to explain to stakeholders and enforce. "For situations where complex boundaries are not a concern, or where the region is largely homogeneous, or where there is no need for ensuring habitat adjacency, some other optimization tool would likely perform more appropriately," says Kendall. He notes the sliding window approach has not been tested for MPA network design yet, something that he hopes to do in coming years.

For a PDF copy of the paper "MPA Design Using Sliding Windows: Case Study Designating a Research Area", e-mail Matt Kendall at matt.kendall@noaa.gov.

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