

COASTAL MANAGEMENT

### Artisanal fish fences

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Sustainable management of coastal fisheries is a continuing challenge. Managing the gear used to fish is one strategy. Artisanal fish fences, semi-permanent structures that use fences to funnel fish into holding structures as waters recede at low tide, are often considered relatively benign given their use by individuals or small groups rather than by industrial fishing operations.

Dan Exton, of Operation Wallacea, UK, and colleagues assessed the geographic extent and temporal change of artisanal fish-fence use and conducted a longitudinal case study of Kaledupa Island, Indonesia. Given the size and semi-permanence of these structures, the authors identified and expanded the number of countries known to contain them to 22. At Kaledupa Island,

the number of fences used and the number of juvenile fish caught both increased by about 400% between 2002 and 2016. Surprisingly, the number of fish caught per day fell by about 90%, and fish abundances on surrounding coral reefs were halved during this time. Household interviews and discussion workshops suggested rising social conflict related to fence ownership and fishing access. The findings suggest trade-offs with artisanal fish fences and value in looking critically at their socio-environmental impacts.

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