

**Marine protected areas limit the spread of the invasive tunicate *Didemnum vexillum* on Atlantic sea scallop *Placopecten magellanicus* habitat on Georges Bank**

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While the success of marine protected areas (MPAs) in promoting high fish biomass in some fisheries has been well-documented, less well known is how MPAs might serve to protect against impacts from invasive species. In 2002, an invasive colonial tunicate (*Didemnum vexillum*) was discovered on Georges Bank, and it has since spread both inside and outside of the MPAs located there. It can form dense mats on gravel substrates that are also a preferred habitat for the Atlantic sea scallop (*Placopecten magellanicus*), which supports a highly valuable commercial fishery. We used Habcam, a vessel-towed underwater imaging system, to investigate the spatial distributions of *P. magellanicus* and *D. vexillum* both inside and outside of an MPA. Our results indicate that *D. vexillum* is more common in areas open to fishing than in the MPA, even taking bottom substrate effects into account. Additionally, we found a negative correlation between *P. magellanicus* and *D. vexillum*, suggesting that *D. vexillum* competes with the scallops for substrate. Our results support the hypothesis that *D. vexillum* is more prevalent in the areas open to bottom-fishing and the spread of this species may be linked to fishing. This research highlights the potential for MPAs to protect essential fish and invertebrate habitat from degradation due to invasive species.

**Key words:** biological invasions, fisheries, essential fish habitat, vessel-towed underwater camera system

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