

Deep Coral Reef Ecosystem Studies
Deep Mesophotic Coral Ecosystems
(DMCEs > 50 m = 165 ft)

Caribbean Coral Reef Institute
NOAA's Center for Sponsored
Coastal Ocean Research

Management
Significance

An underwater photograph showing a diverse marine community on a rocky reef structure. The reef is covered in various types of coral, including large, flat, brownish corals and smaller, colorful corals in shades of orange, red, and yellow. The background is a deep blue ocean. The text "DMCEs are unique and diverse communities" is overlaid in white at the top. The text "MCEs deserve protection to maintain biodiversity" is overlaid in yellow on the right side.

DMCEs are unique and diverse communities

MCEs deserve protection to maintain biodiversity

An underwater photograph of a coral reef. The left side shows a diverse and colorful reef structure with various coral species, including large brown table corals and smaller orange and red corals. The right side of the image is dominated by a deep blue background, representing the open water. A thin, white, wavy line is drawn across the image, starting from the bottom left and extending towards the top right, crossing over the reef and into the open water. This line likely represents a boundary or a specific management scale.

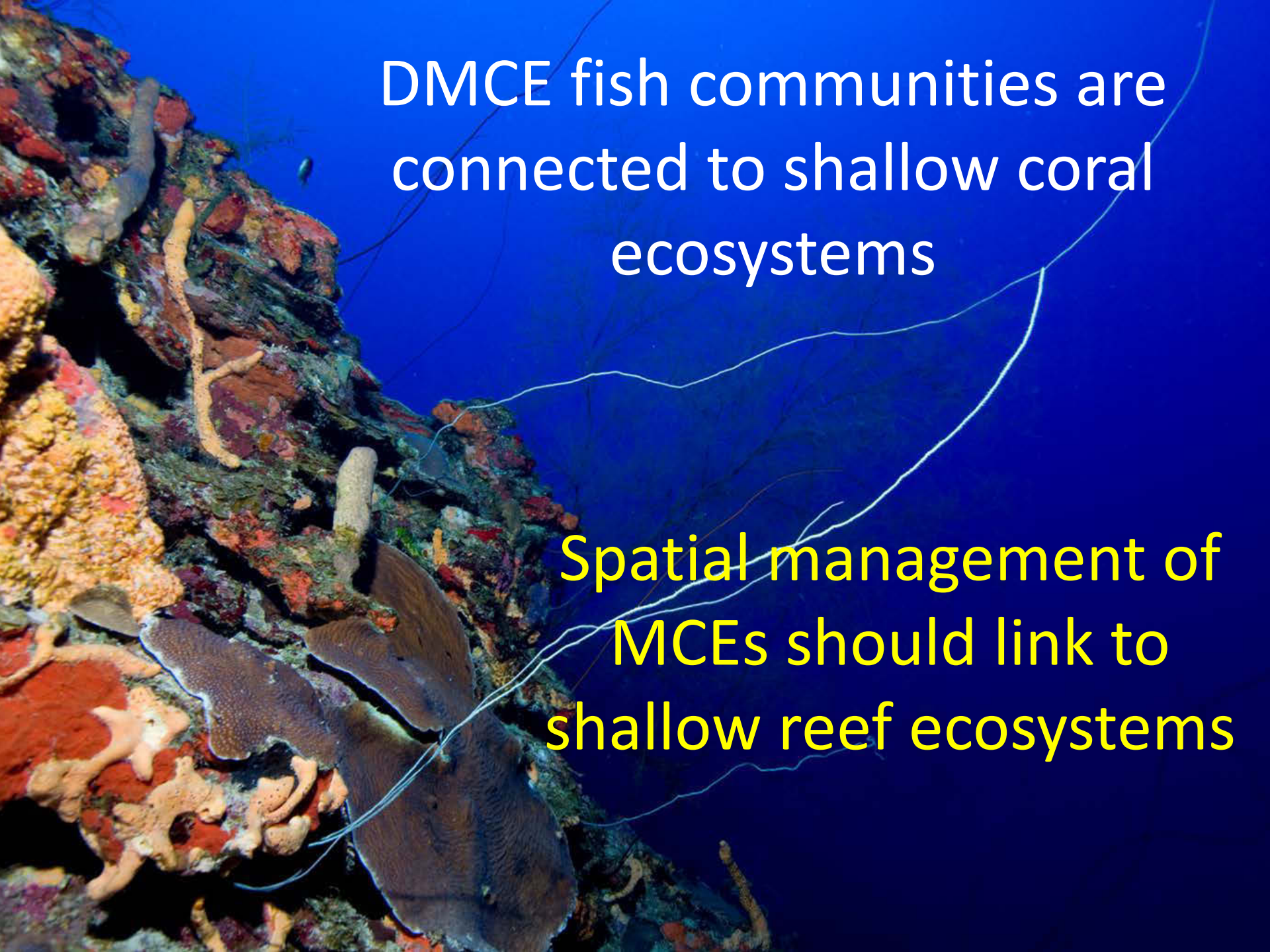
DMCEs are patchily distributed at
several scales

Management must
work where MCEs
actually occur

An underwater photograph of a coral reef. The left side shows a rocky reef structure covered in various coral species, including large brown plate corals, orange and yellow sponges, and smaller red and purple corals. The right side of the image is a deep blue background with faint, thin white lines that appear to be part of a diagram or overlay. The text is overlaid on the blue background.

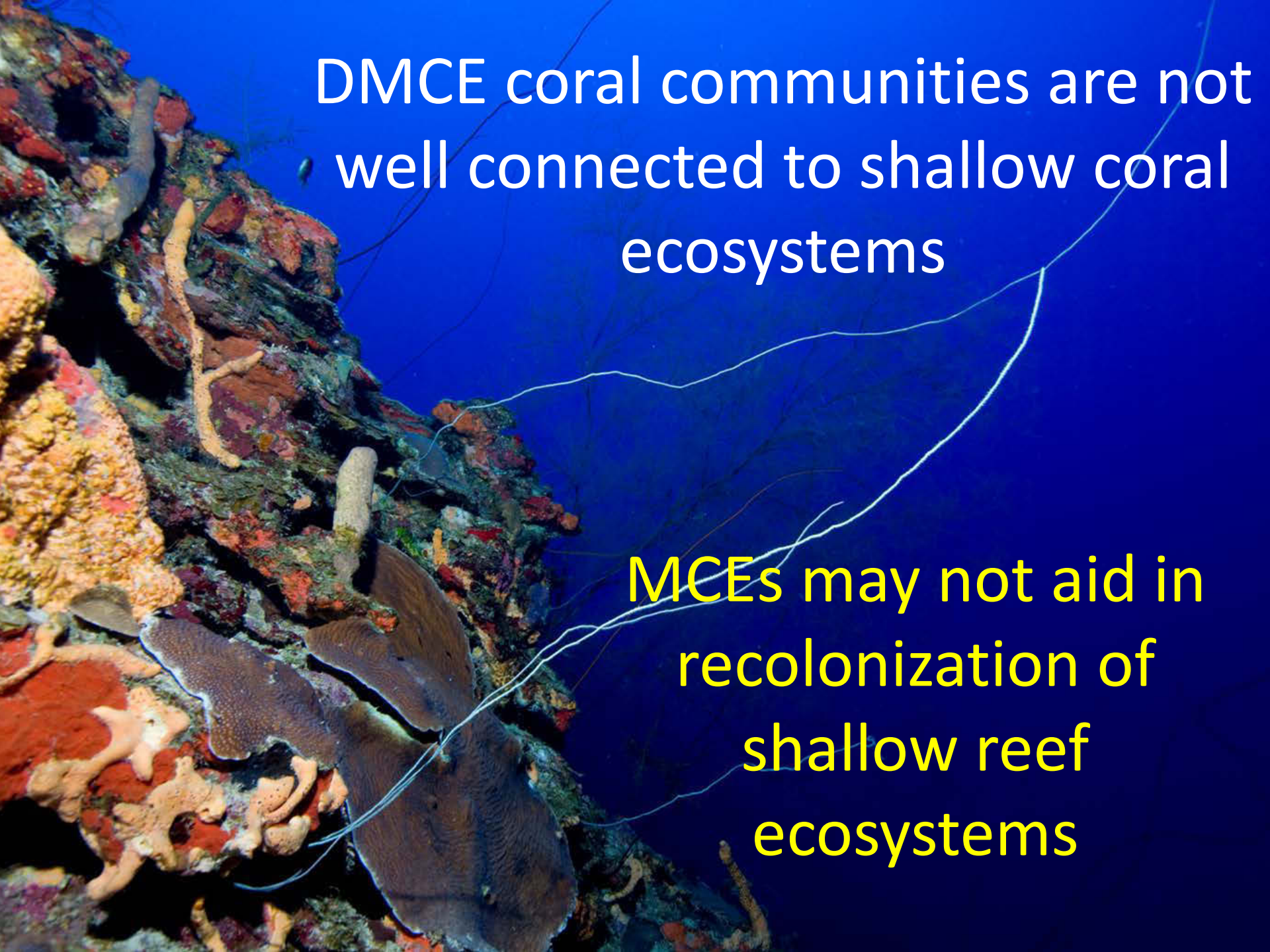
Distribution of DMCEs is
potentially predictable

Management can work
where MCEs are
predicted as highly
probable

An underwater photograph of a coral reef. The foreground shows a variety of coral species, including large, flat, brownish corals and smaller, more colorful ones in shades of orange, red, and yellow. The background is a deep blue ocean. The text is overlaid on the right side of the image.

DMCE fish communities are
connected to shallow coral
ecosystems

Spatial management of
MCEs should link to
shallow reef ecosystems

An underwater photograph of a coral reef. The reef is covered in various types of coral, including large, flat, brownish corals and smaller, colorful ones. A white net is visible in the foreground, partially obscuring the view of the reef. The background is a deep blue ocean.


DMCE coral communities are not well connected to shallow coral ecosystems

MCEs may not aid in recolonization of shallow reef ecosystems

An underwater photograph of a coral reef. The reef is covered in various types of coral, including large, flat, brownish-purple plates and smaller, more colorful branching corals. A fishing net is visible in the foreground, partially obscuring the view of the reef. The background is a deep blue ocean.

DMCEs serve as refugia for
large overfished species

Spawning stock within MCE
depths may help replenish
overfished shallow
resources

An underwater photograph of a vibrant coral reef. The reef is covered in various types of coral, including branching and plate corals, in shades of orange, red, and brown. A large, flat, brownish coral plate is prominent in the lower center. The background is a deep blue ocean. A small fish is visible in the upper left, and a white, branching structure is on the right.

DMCEs serves as essential habitat
for threatened species

- sleeping

Protection of MCEs can
aid in the conservation of
rare and threatened
species

DMCEs are vulnerable

Protection of MCEs is warranted, especially from local threats

