

An underwater photograph of a coral reef. The water is clear and blue. The coral is primarily yellowish-brown and has a branching, staghorn-like structure. Several small, light-colored fish are visible swimming among the coral. The text is overlaid on the image in a yellow, serif font.

Endangered Species Listing Process

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Federal Endangered Species Act (ESA)

- Purposes of the Act are to:
 - Provide a means to conserve ecosystems on which endangered and threatened species depend
 - Provide a program for the conservation of endangered and threatened species
 - Take appropriate steps to recover a species

ESA Listing

- To be considered for listing, a group of organisms must constitute a “species”
- “Species” = any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature

ESA Listing

- Secretary (Commerce or Interior) determines whether any species is endangered or threatened based on:
 - The present or threatened destruction, modification, or curtailment of its habitat or range
 - Overutilization for commercial, recreational, scientific, or educational purposes
 - Disease or predation
 - Inadequacy of existing regulatory mechanisms
 - Other natural or manmade factors affecting its continued existence

ESA Listing Process

- An interested person or persons can submit a petition to NMFS or FWS requesting that a species be listed, delisted, or reclassified
- Within 90 days after receiving a petition, the Secretary makes a finding
- The conclusion of the finding is published in the Federal Register

ESA Listing Process

- Finding indicates whether the petition presents substantial scientific or commercial information indicating that the petitioned action may be warranted
- If the 90-day finding concludes the petitioned action may be warranted, a review of the status of the species is begun

ESA Listing Process

- Review of the status of the species conducted
- Efforts being made by any state or foreign nation, or any political subdivision of a state or foreign nation, to protect such species must be taken into account
- Secretary makes determination on the basis of the best scientific and commercial data available

ESA Listing Process

- Within 12 months of a finding that a petition may be warranted, the NOAA Assistant Administrator for Fisheries (delegated authority by the Secretary) determines whether:
 - The petitioned action is not warranted
 - The petitioned action is warranted and a general notice and text of the proposed regulation to implement the action is published
 - The petition action is warranted but the timely completion of a regulation is not possible, but progress is underway to add species to the threatened or endangered lists

Acropora Status Review



Background

- In 1991 NMFS identified elkhorn and staghorn as candidate species
- In 1997 NMFS removed these corals from the candidate species list because available information didn't indicate a decline throughout the species' range
- In 1999, elkhorn and staghorn were again added to the candidate species list
- Elkhorn and staghorn were transferred to the species of concern list when created in 2004

Background

- March 4, 2004, NMFS received a petition to list *Acropora cervicornis*, *Acropora palmata*, and *Acropora prolifera* as either threatened or endangered
- NMFS made a positive 90-day finding
- Atlantic *Acropora* Biological Review Team (BRT) was established to review the status of the corals

Acropora Status Review

- BRT found that both species underwent dramatic declines throughout their ranges in the early 1980s that have continued until the present
- BRT categorized threats as sources, stressors, or responses to assess the five factors outlined in the ESA (modification/destruction of habitat, overutilization, disease and predation, inadequacy of regulatory mechanisms, other factors)

Acropora Status Review

- Sources = natural or anthropogenic processes that create stressful conditions for organisms
- Stressor = specific condition that causes stress to the organism
- Response = reaction of organisms to stressor

Acropora Status Review

- Present of Threatened Destruction, Modification, or Curtailment of Habitat or Range - natural and anthropogenic abrasion and breakage, sedimentation, persistent elevated sea surface temperatures, competition, nutrients, excessive sea level rise
- Overutilization for commercial, recreational, scientific, or educational purposes (potential threat)
- Disease – single largest cause of decline and greatest threat to persistence and recovery; predation threat much less than that of disease
- Existing regulatory mechanisms – impact of stressors reduced, but none totally abated
- Other factors: competition, nutrients, sedimentation, sea level rise, elevated temperatures, abrasion and breakage, contaminants, loss of genetic diversity, African dust, elevated CO₂, sponge boring

Acropora Status Review

- Major threats are severe, unpredictable, likely to increase in foreseeable future, and currently unmanageable: disease, elevated temperature, natural abrasion and breakage (hurricanes)
- Less severe stressors: anthropogenic abrasion and breakage, competition, predation, sedimentation, nutrients, elevated CO₂, sea level rise, contamination
- BRT concluded that elkhorn and staghorn corals are not currently at risk of extinction but are likely to become so in the foreseeable future

- Websites

- <http://sero.nmfs.noaa.gov/pr/pr.htm>

- <http://sero.nmfs.noaa.gov/pr/esa/acropora.htm>

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