



NOAA
FISHERIES

Endangered Species Act Updates

Coral Listing (*final*)

Acropora Recovery Plan (*draft*)

Nassau Grouper Listing (*proposed*)

October 2014



Coral Listing (*final*)

- 20 reef-building coral species listed as threatened
 - 15 in Indo-Pacific
 - 5 in Caribbean
- Caribbean elkhorn and staghorn corals previously listed in 2006 remain listed as threatened

Proposed Versus Final Determinations



	Indo-Pacific Species			Caribbean Species		
	LISTING STATUS					
	E	T	NW	E	T	NW
Proposed	7	52	16	7	2	0
Final	0	15	44	0	7	2

Endangered: In danger of extinction now

Threatened: In danger of extinction within foreseeable future
(100 years)

Threatened Corals

* Listed as threatened in 2006

**Only at Flower Garden Banks National Marine Sanctuary

Currently Known in These U.S. Geographic Areas

Caribbean Waters	Florida - Atlantic	Puerto Rico	U.S. Virgin Islands	Gulf of Mexico
<i>Staghorn</i> (<i>Acropora cervicornis</i>)*	X	X	X	
<i>Elkhorn</i> (<i>Acropora palmata</i>)*	X	X	X	X**
<i>Rough Cactus Coral</i> (<i>Mycetophyllia ferox</i>)	X	X	X	
<i>Pillar Coral</i> (<i>Dendrogyra cylindrus</i>)	X	X	X	
<i>Lobed Star Coral</i> (<i>Orbicella annularis</i>)	X	X	X	X
<i>Mountainous Star Coral</i> (<i>Orbicella faveolata</i>)	X	X	X	X
<i>Boulder Star Coral</i> (<i>Orbicella franksi</i>)	X	X	X	X



What Changed?



- New information
 - Improved our understanding of habitat diversity, abundance, distribution, species-specific exposure to threats, and species' vulnerability and resilience
 - Enabled us to more fully account for characteristics that may help to moderate or buffer extinction risk

Major Sources of New Information

- Public comments, scientific literature and coral experts
- Supplemental reports
 - **Veron 2014:** Report by Charlie Veron on distribution and abundance of 66 corals
 - **Jackson et al. 2014:** Report sponsored by IUCN and edited by Jeremy Jackson providing meta-analyses for many Caribbean corals and coral reefs from 1970 to 2012
 - **IPCC WGI 2013:** Synthesis of physical science of climate change by IPCC Working Group One, including new “pathways” that project climate change impacts to 2100 and beyond

Threat

Relative Severity

Ocean Warming

High

Disease

High

Ocean Acidification

Medium-High

Reef Fishing—Trophic Effects

Medium

Sedimentation

Low-Medium

Nutrients

Low-Medium

Sea-Level Rise

Low-Medium

Toxins

Low

Changing Ocean Circulation

Low

Changing Storm Tracks/Intensities

Low

Predation

Low

Destructive Fishing Practices

Low

Ornamental Trade

Low

Natural Physical Damage

Low

Human-induced Physical Damage

Negligible-Low

Aquatic Invasive Species

Negligible-Low



What's Next?

- ESA conservation measures:
 - **Prohibit take** (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect): No prohibitions at this time for newly listed corals; potential 4(d) rule if necessary and advisable
 - **Consult on federal actions that “may affect” listed corals**: Effective October 10
 - **Designate critical habitat**: If determinable and prudent
 - **Develop recovery plan**: If promotes conservation

Acropora Recovery Plan *(draft)*

- Non-regulatory road map for species recovery
 - Objective and measurable recovery criteria
 - Actions necessary to achieve recovery
- Goal
 - Increase abundance and protect genetic diversity while sufficiently reducing threats to warrant delisting

Recovery Criteria

- Population-Based
 - Abundance
 - Genetic diversity
 - Recruitment
- Threat-Based
 - Disease (Interim)
 - Rising Ocean Temperature and Acidification
 - Loss of Recruitment Habitat
 - Nutrients, Sediments, and Contaminants (Interim)
 - Regulatory Mechanisms
 - Abrasion and Breakage
 - Predation (Interim)



Recovery Actions

1. Outreach & education
2. Coordinated recovery implementation
3. Strategic research of coral biology
4. Mapping & inventory products
5. Monitoring (species & environments)
6. Active population enhancement
7. Understand diseases
8. Respond to & minimize disease effects
9. Reduce CO2
10. Reduce local impacts of temperature stress
11. Enhance adaptation/acclimation to increases in climate stress
12. Restore, protect & enhance ecosystems
13. Address sewage discharge
14. Implement land-use management plans
15. Restore & maintain mangroves/seagrass
16. Study/remedy response to nutrients & contaminants
17. Pilot Regional Intergovernance Plan
18. Enforce existing or develop new regulations
19. Respond to 50% of known physical disturbance events
20. Reduce impacts from planned physical disturbances
21. Protect against & prevent physical impacts
22. Address snails
23. Evaluate risks & benefits of removal strategies for other corallivores

What's Next?

- Public comment period on draft plan closed October 20
- Final plan expected March 2015

Nassau Grouper Listing (*proposed*)

- Threatened (likely to become in danger of extinction in foreseeable future (30 years)) based on
 - Inadequacy of existing regulatory mechanisms
 - Lack of law enforcement
 - Decreased size and number of spawning aggregations



Status & Trends

- Spawning aggregation trends used as proxy for population trends
 - Historically, 50 sites identified throughout Caribbean
 - Of these 50, less than 20 probably remain
 - Numbers of fish reduced from tens of thousands to less than 3,000 at sites where counts made
 - Size and age of fish at many of the sites also reduced

What's Next?

- 120-day comment period ends December 31
- Soliciting information on
 - Spawning aggregations
 - Threats to the species
 - Conservation efforts
- Final rule expected September 2015



Potential Impacts (if listing finalized as proposed)

- Take prohibitions: None unless proposed through separate rulemaking
- Federal agency consultation requirements
- Critical habitat designation: If determinable and prudent
- Recovery plan: If promotes conservation

Resources

Contacts

Coral Listing

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Acropora Recovery Plan

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Nassau Grouper Listing

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Fact Sheets and FAQs

Coral Listing

http://www.fisheries.noaa.gov/stories/2014/08/docs/corals_fact_sheet.pdf

Acropora Recovery Plan

http://sero.nmfs.noaa.gov/protected_resources/coral/documents/faqs_draft_recovery_plan_elkhorn_and_staghorn_corals.pdf

ESA Listing Overview

http://sero.nmfs.noaa.gov/protected_resources/outreach_and_education/documents/esa_listing_faqs.pdf

Questions?