Queen Conch

CITES

Species Profile

Scientific name: *Strombus gigas*

Global status: Commercially threatened (listed on Appendix II of CITES)

Global distribution: Throughout the Caribbean, southeast Florida and Bermuda.

Status in Bermuda: Native, possibly an endemic subspecies, and critically endangered. Protected locally since 1978, but there is no evidence of a growing population.

Distribution in Bermuda: Fragmented population, primarily limited to the edge of the Bermuda platform.

Conservation importance: Cultural and aesthetic importance. Genetically distinct from other queen conch populations in the Caribbean. Bermuda's queen conch population is on the edge of its global range. Conch shells are an important refuge for a number of other marine organisms.

Habitat: Found in association with seagrass beds and sandy bottoms.

Threats: Human harvesting, habitat loss and fragmentation, small population and low recruitment levels.

Overall Targets

Short term (5 years): To ensure the current population levels are sustained.

Long term (30 years): To restore populations of the queen conch to sites they have historically occupied and to increase population numbers such that the species is no longer threatened.

Background Information on Species

These gregarious marine molluscs are herbivorous, feeding on the epiphytes growing on seagrass blades and other microalgae growing on the sea bottom. Humans historically harvested conchs for food and for their shells and, because of over-harvesting, there are now only a few small fragmented populations totalling less than 1,000 conchs (mostly adults) scattered around Bermuda's reef platform. The low number of juveniles indicates poor recruitment. Bermuda's queen conch are genetically distinct from the queen conchs in the Caribbean.

Life History

Queen conchs partially bury themselves in sand during the winter months. As the water warms they emerge and begin to form breeding aggregations in the summer months. The sexes are separate, and fertilisation is internal. Mature females produce large egg masses which can contain up to half a million eggs. There are only four known breeding sites around Bermuda where viable egg masses are produced. After hatching, the conch larvae are pelagic and travel in ocean currents for many weeks, after which they settle on the sea bottom. Juvenile conchs will then remain buried in sand for the majority of their first year of life, possibly as a means to avoid predation. Juveniles have a very thin shell and are preyed upon by octopi, crabs, lobsters, hogfish and eagle rays. Queen conch reach adulthood approximately seven years after settlement, and it is believed that they can live as long as forty years in Bermuda. Young sand tilefish, conchfish and marine hermit crabs use empty conch shells for refuge.

Existing Measures for Conservation

Queen conch are protected under the Fisheries Act (1972). Population surveys are periodically conducted.

Recommended Actions		
Legislation and Policy: Already protected by the Fisheries Act (1972).		
Habitat Protection: Further promote the protection of key habitats.		
Direct Species Intervention: If warranted, promote ex-situ cultivation of queen conch.		
Activity	**Priority**	**Action Taken**
Perform a literature search and contact experts on conch mariculture.	A	
Review available information and make recommendations as to the viability of ex-situ measures for breeding.	A	
If ex-situ measures are found to be viable, secure resources for provisioning activities and implement experimental mariculture.	B	
Research and Monitoring: Initiate and expand research activities in order to promote successful recruitment of juvenile queen conch.		
Assess the population status including the number of adult animals.	A	✓
Assess the limiting factors to recruitment, including the effects of predation.	A	
Assess the suitability of other marine areas/sites for juvenile and adult queen conch growth and survival.	A	
If the above activities indicate failure in larval retention then assess the viability of translocation of egg masses as a strategy to promote larval retention.	B	
Attempt the controlled production of juveniles for translocation into marine areas identified as suitable for growth and survival.	B	
Identify predators and implement the necessary actions to limit predation on juvenile conchs.	B	
Communications and Publicity: Promote ongoing public awareness of the threats to, and conservation of, Bermuda's queen conchs.		
Include a picture of the conch on boat registration stickers as well as a list of conservation principles and mail out to Bermuda's boat owners.	A	
Develop a media campaign to explain threats to and responsible public behaviour towards conchs.	A	
Plan Monitoring: Develop and implement a monitoring plan to assess the success of the species action plan.		
Provide an annual report to the Department of Conservation Services on the progress of the species action plan.	A	

Principle contact: Marine Conservation Officer (Department of Conservation Services)