# Sunflower Sea Star Wasting Syndrome Pandemic

(2013 - 2017+)

NOAA FISHERIES

## Causes and impacts of Sea Star Wasting Syndrome

- An unknown, virus-sized pathogen, which research is ongoing to isolate and identify
- Transmitted through direct contact among stars and indirect contact via water
- Healthy individuals detect sick individuals, and actively flee away from them
- Many sea star species affected, but sunflower sea stars most severely impacted

1. A healthy sunflower sea star.

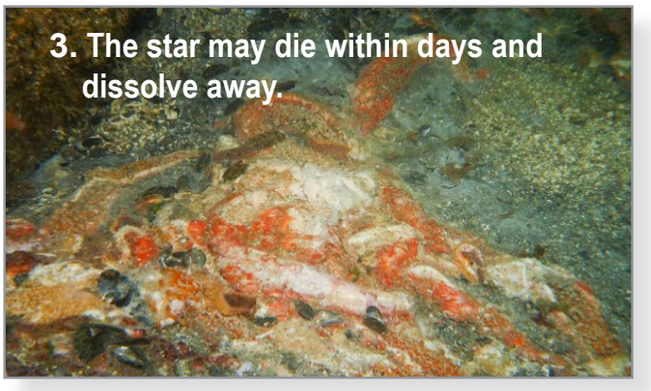
2. Initial symptoms of infection include lesions and arms that curl and break off.

## How does the syndrome progress?

- White lesions appear on the star
- Arm tips curl, bend, then break off – and may crawl away!
- Star dissolves into pile of gooey skeletal remains within days of first externally visible symptoms

## What triggered the pandemic? Is the syndrome still a concern?

- Ultimate cause remains unknown, but linked with known stressful conditions
- Stressors include rapid change in temperature, decreased pH, pollution, and other physical and chemical parameters
- Populations have not bounced back, showing stressors remain and Sea Star Wasting Syndrome is still a threat



3. The star may die within days and dissolve away.

Photos: Janna Nichols

## Research and Monitoring Underway

Research seeks to identify the causative agent of the syndrome using clinical trials

- Natural resource managers and scientists continue to monitor outbreaks and population status
- You can report observations of both healthy and sick sea stars at https://marinedb.ucsc.edu/ssd/public/observation-log/create

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