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Field Diagnosis

Step 1: Identify abnormal corals

- Is there recent tissue loss?
- What species are affected?
- How common is it?
- Is it spreading?
- Is it killing coral colonies?
- Are there unusual environmental factors at the site?
- Can you attribute visual signs to presumed cause ?

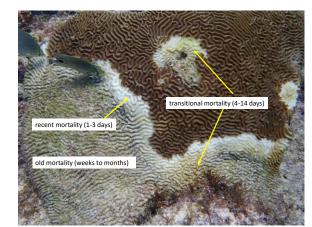
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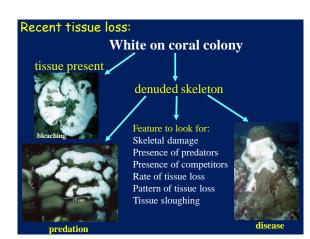
Differentiating SCTLD from other syndromes

- Identify presence/prevalence of tissue loss
- Determine if lesions are signs of disease or other factors (predation, overgrowth, competition, physical damage etc.)
- If it appears to be a disease, characterize lesion characteristics and potential type of disease
- Evaluate coral community: species present, species with tissue loss, prevalence of affected corals
- Estimate time of emergence based on presence of recently dead corals

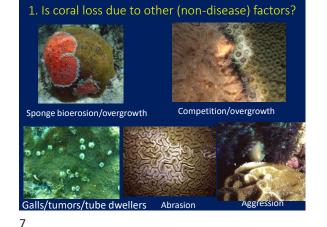


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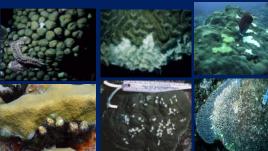
Damselfish algal garden

Algal overgrowth

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Other causes: Predation

- 1. Is a predator present ?
- 2. Is there a loss of underlying skeleton?
- 3. What are the patterns of tissue loss?



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Hermodice predation

- Fireworms consume branch tips, projections or knobs; also seen on necrotic/diseased tissue
- Tissue adjacent to exposed skeleton appears normal
- Most feeding at night fireworms often not seen near injury
- Fireworms often associated with diseased corals



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Snail predation

 Snails on or around lesion; often retreat to base of coral (or underside)

Coralliophila galea

- Aggregate (2-50+ snails)
- Create characteristic scallopshaped injury or a "trail" that extends across colony
- Tissue adjacent to exposed skeleton non-necrotic
- Snails often associated with diseased tissue
- Occur on most species of stony corals
- May be cryptic (algal covered shells)



Parrotfish White Spot Biting (PWSB)



- spot biting one or more fish many species of scarids scraping behavior

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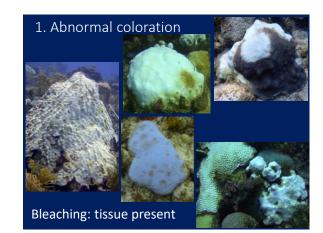
- tissue regenerates in weeks tissue regenerates in weeks
 tissue may regenerate
 recent and old lesions on coral
 lesions expand outward



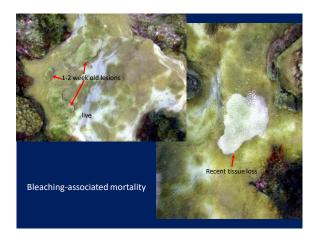
focused biting • one or more fish • only *Sparisoma viride* • excavating behavior



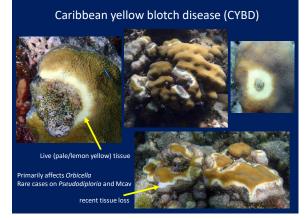
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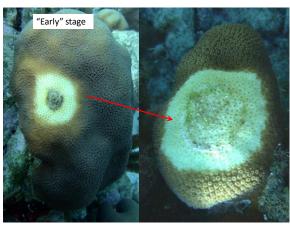


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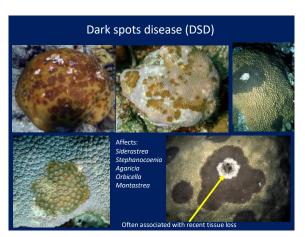
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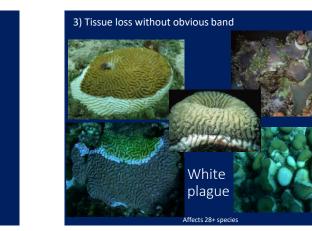




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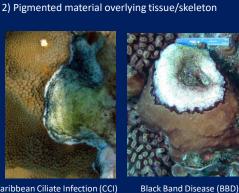


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Caribbean Ciliate Infection (CCI)

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Characteristics of SCTLD

- Primarily affects boulder, plating and encrusting corals.
 Does not affect Acropora or Porites
- 1. Distinct pattern of spread among species
- 2. Presence of colonies with unusual bleaching/paling
- 3. Lesions occur in multiple locations on colonies
- 4. Patterns of tissue loss highly variable among same species
- 5. Affected corals have prominent areas of recently denuded (white) skeleton as a result of rapid rates of tissue loss
- 6. High prevalence of affected corals once disease is established
- 7. High rates of colony mortality in early susceptible species
- 8. Disease active throughout the year and for multiple years in individual reefs

9. Disease often highly virulent during winter months; declines during peak temperatures especially when colonies paling or bleaching

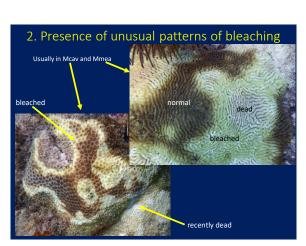


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1. Pattern of spread among species

Highly variable depending on when the disease is first identified:

- If all brain corals, maze coral, elliptical star corals, pillar corals are live and unaffected and scattered Orbicella, Siderastrea, Stephanocoenia are the only affected corals it may be white plague or some other syndrome
- If many brain corals (etc.) are recently dead and active lesions on star corals the reef was affected by SCTLD weeks to months earlier
- If only a few maze, brain corals (etc.) are affected and no or few star corals show signs of disease its likely that the disease just emerged
- If only Ssid shows signs of tissue loss and other species intact, it is unlikely to be SCTLD



Intermediate susceptible species

Stephanocoenia intersepta,

coral

Montastrea caverno Large-cup star coral

Siderastrea siderea, starlet con

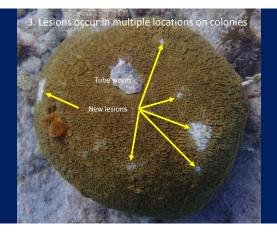
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Orbicella spp. Mountainous star coral,

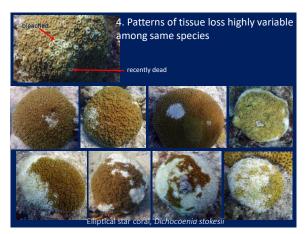
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Lobed star coral















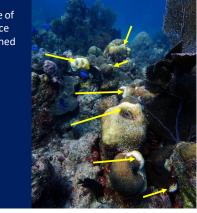


5. Affected corals have prominent areas of recently denuded skeleton



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6. High prevalence of affected corals once disease is established



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Once the disease moves through a reef, few susceptible species remain

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9. Disease often highly virulent during winter months; declines during peak temperatures especially when colonies paling or bleaching





