A View from the Bottom

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A View from the Bottom

• How did I get started in marine biology?
• What have I learned from my research?
• What STEM skills are needed for marine biology?
• What marine biology resources are there for teachers?
School is . . .
talking with your teacher
The Undersea World of Jacques Cousteau (1968-1975)
Florida Keys National Marine Sanctuary
A View from the Bottom

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Why do lobsters share dens?
Why do juvenile lobsters share dens?

- Den Limitation
- Group Defense
- Guide Effect
Group defense?

Childress & Herrnkind 2001 Anim Behav

Survival (%)

<table>
<thead>
<tr>
<th>Location</th>
<th>Solitary</th>
<th>Gregarious</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Density</td>
<td>80</td>
<td>60</td>
</tr>
<tr>
<td>High Density</td>
<td>80</td>
<td>60</td>
</tr>
</tbody>
</table>

- Density: $G = 0.207$, $P = 0.649$
- Conspecifics: $G = 0.000$, $P = 0.999$
- Interaction: $G = 1.896$, $P = 0.169$
**Guide effect?**

- **Den finding**
  - G = 11.43, P = 0.001
  - t = 2.967, P = 0.006

- **Search time**
  - Absent
  - Present

Childress & Herrnkind 2001 Anim Behav
Why do lobsters share dens?

- Lobsters are attracted to a cue found in the urine of conspecifics.
- Attraction develops when habitat transitions begin.
- Attraction rather than den sharing decreases the risk of predation.
Does habitat loss impact lobsters?
No change in density?

- **Location**
  - F = 201.5
  - P = 0.0001

- **Period**
  - F = 516.4
  - P = 0.0001

- **Interaction**
  - F = 668.6
  - P = 0.0001

- **Location**
  - F = 4.253
  - P = 0.0451

- **Period**
  - F = 0.726
  - P = 0.3989

- **Interaction**
  - F = 14.40
  - P = 0.0004

![Image of underwater scene with corals and fish]
Decreased conspecific attraction?
Decreased dispersal?
Does habitat loss impact lobsters?

- No change in density
- Decreased den sharing
- Decreased conspecific attraction
- Decreased dispersal
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Learning & Determination
Curiosity & Observation
Dedication & Sacrifice
Creativity & Teamwork
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- Cellular processes
- Human body
- **Biological inquiry**
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A Netflix Original Documentary

CHASING CORAL

What lies below reveals what lies ahead.

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