

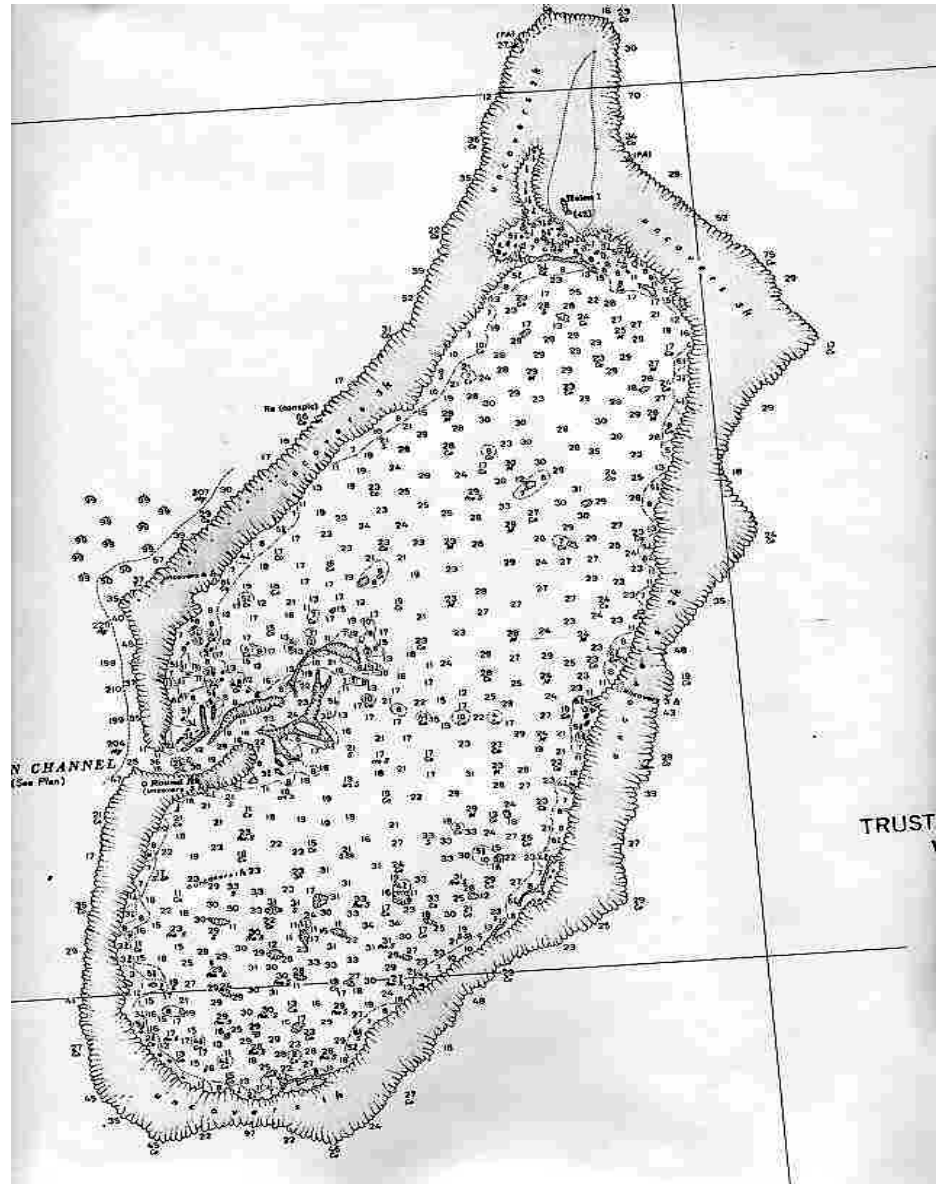
# **Conceptual Model Development for the Helen Reef LMMA Project**

September 2000 – July 2001

Prepared by the  
Hatohobei Community,  
Helen Reef Action Committee,  
The Hatohobei State Government,  
and  
the Community Conservation Network

# HELEN REEF, HATOHOBELI STATE, REPUBLIC of PALAU

- 40 miles from nearest island
- 40 hours by ship to Palau's capital city
- 165 sq km
- Rich biodiversity
- Frequented by foreign fishing vessels and supply ships



# Conceptual Modeling Process

The process of conceptual modeling for the Helen Reef Project took place in a series of steps.

Modeling progressed from simply from merely discussing the interests, problems and possible actions that the community could take...

...to more detailed outlining of the conservation targets and threats identified.

This development is displayed in the following Models 1, 2, & 3.

# Model 1

Simple textual table of project goals,  
obstacles, and actions.

**Table of Preliminary Conceptual  
Modeling Process**

Regarding Hatohebei State Marine Resources  
Atoll Way; September 1, 2000

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Regarding Hatohebei State Marine Resources  
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**Goals for the future:**

## **Table of Preliminary Conceptual Modeling Process**

Regarding Hatohebei State Marine Resources  
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### **Goals for the future:**

1. Abundance of Resources
2. Healthy Environment
3. Good Management

## **Table of Preliminary Conceptual Modeling Process**

Regarding Hatohobei State Marine Resources  
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### **Problems/Challenges:**

### **Goals for the future:**

1. Abundance of Resources
2. Healthy Environment
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## **Table of Preliminary Conceptual Modeling Process**

Regarding Hatohobei State Marine Resources  
Atoll Way; September 1, 2000

### **Problems/Challenges:**

1. Enforcement (lack of); Sovereignty (lack of)
2. Lack of Training (education)
3. Lack of Funds
4. Community Support/Cooperation
5. Poor Communication

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## **Table of Preliminary Conceptual Modeling Process**

Regarding Hatohobei State Marine Resources  
Atoll Way; September 1, 2000

### **Actions:**

### **Problems/Challenges:**

### **Goals for the future:**

- |   |                           |
|---|---------------------------|
| 1. Enforcement (lack of); Sovereignty (lack of) | 1. Abundance of Resources |
| 2. Lack of Training (education)                 | 2. Healthy Environment    |
| 3. Lack of Funds                                | 3. Good Management        |
| 4. Community Support/Cooperation                |                           |
| 5. Poor Communication                           |                           |

## **Table of Preliminary Conceptual Modeling Process**

Regarding Hatohobei State Marine Resources  
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### **Actions:**

1. Look for funds for activities
2. Increase enforcement capacity/activity
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### **Goals for the future:**

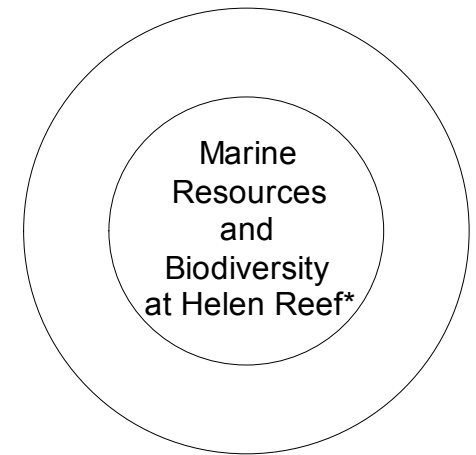
1. Abundance of Resources
2. Healthy Environment
3. Good Management

# Model 2

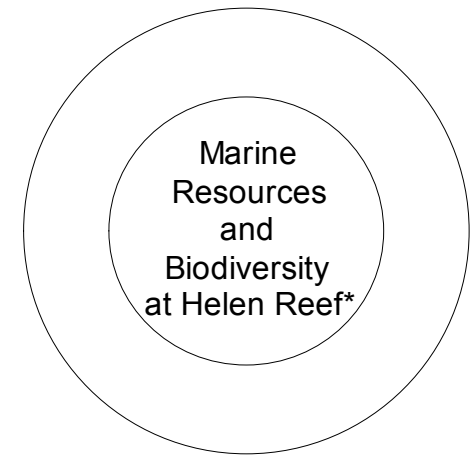
Identifying conservation target, basic threats, contributing factors, and actions.

**Conservation  
Target**

# Conservation Target



## Conservation Target

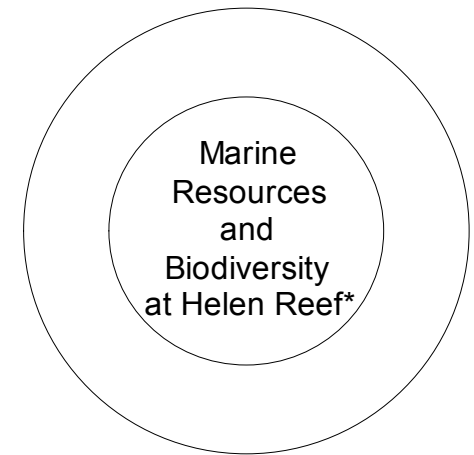


### \*Site Goals:

1. Abundance of Resources
2. Healthy Coastal Ecosystems
3. Good Management

## Threats and Contributing Factors

## Conservation Target



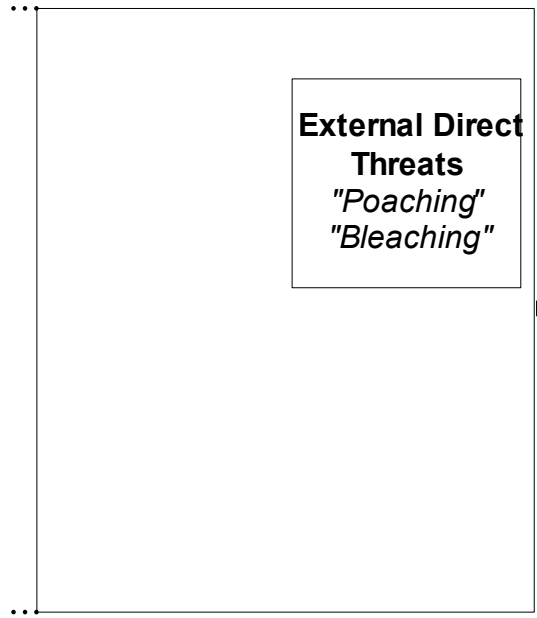
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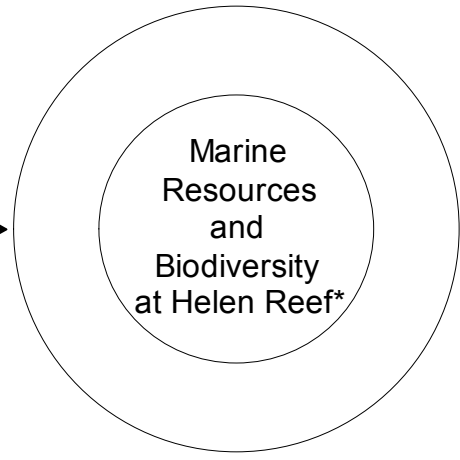


**Threats and  
Contributing  
Factors**

**Conservation  
Target**



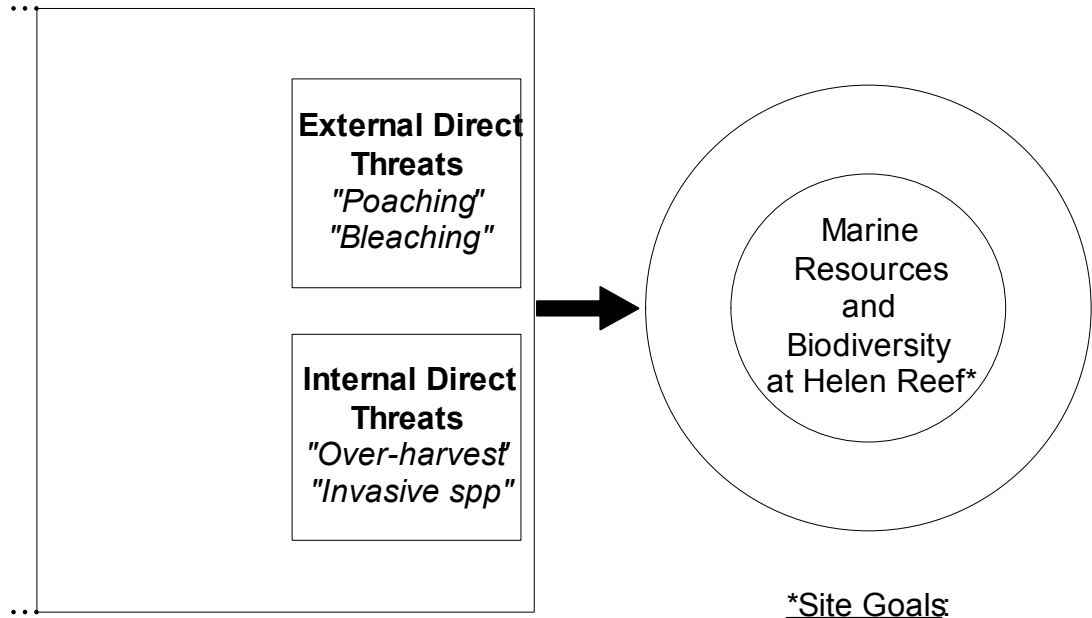
**External Direct  
Threats**  
*"Poaching"*  
*"Bleaching"*



- \*Site Goals:
1. Abundance of Resources
  2. Healthy Coastal Ecosystems
  3. Good Management

**Threats and  
Contributing  
Factors**

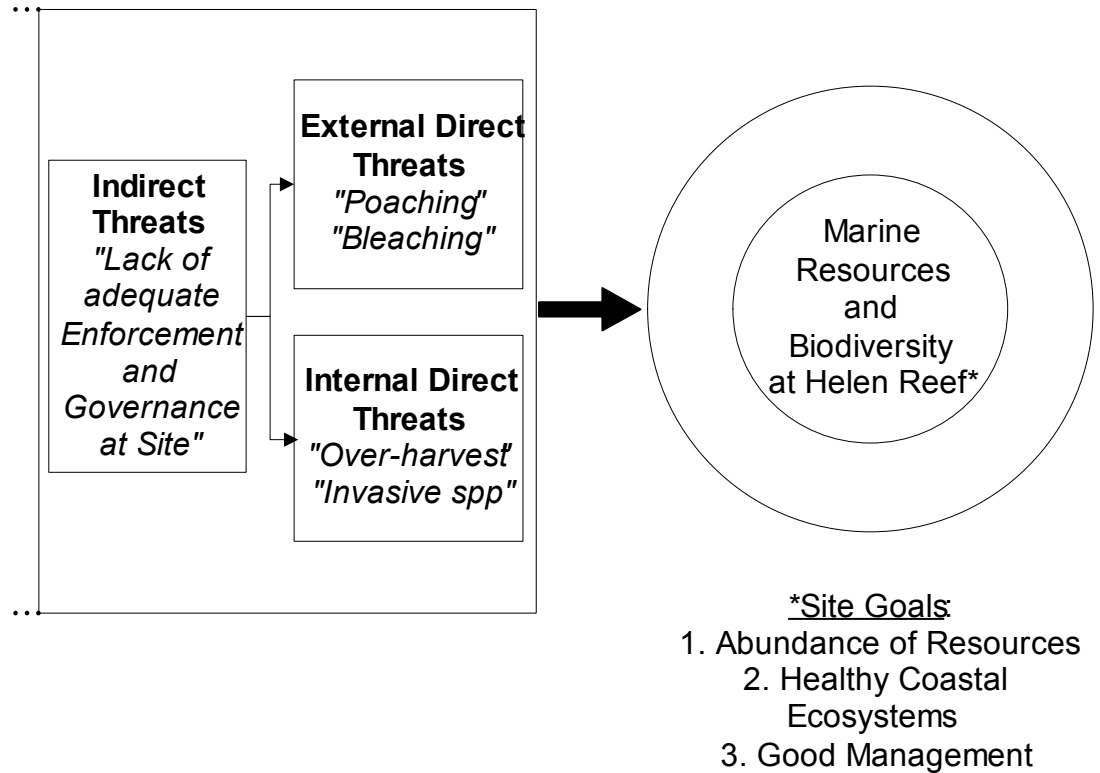
**Conservation  
Target**



- \*Site Goals:
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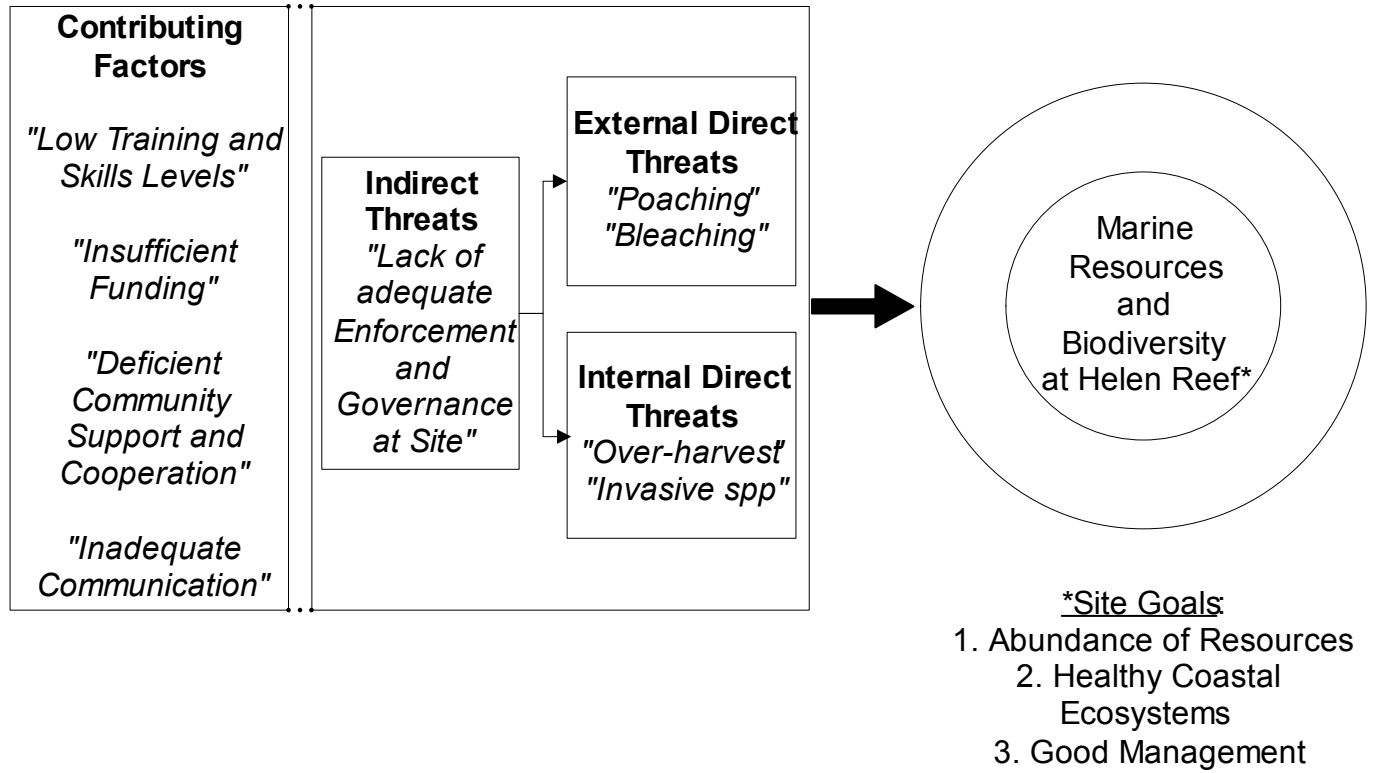
## Threats and Contributing Factors

## Conservation Target



## Threats and Contributing Factors

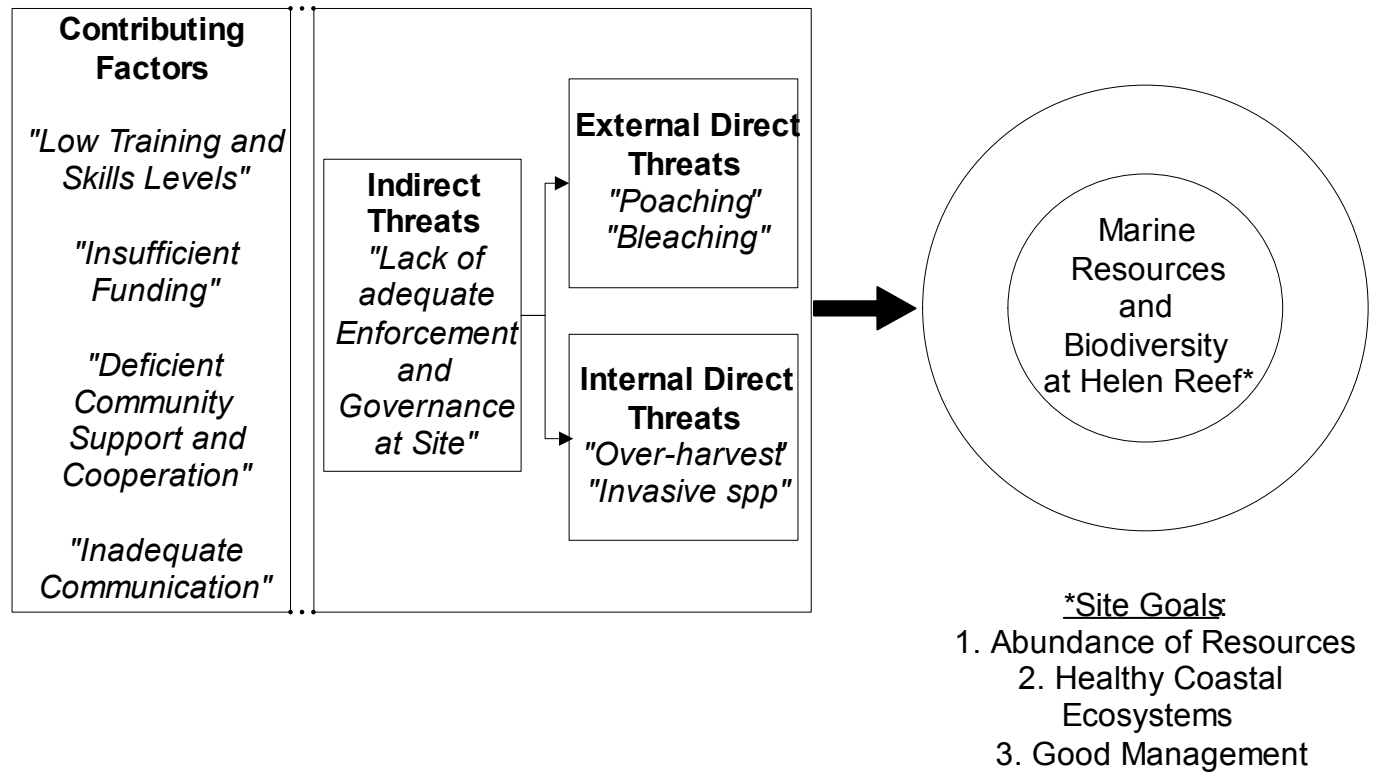
## Conservation Target



# LMMA Actions

# Threats and Contributing Factors

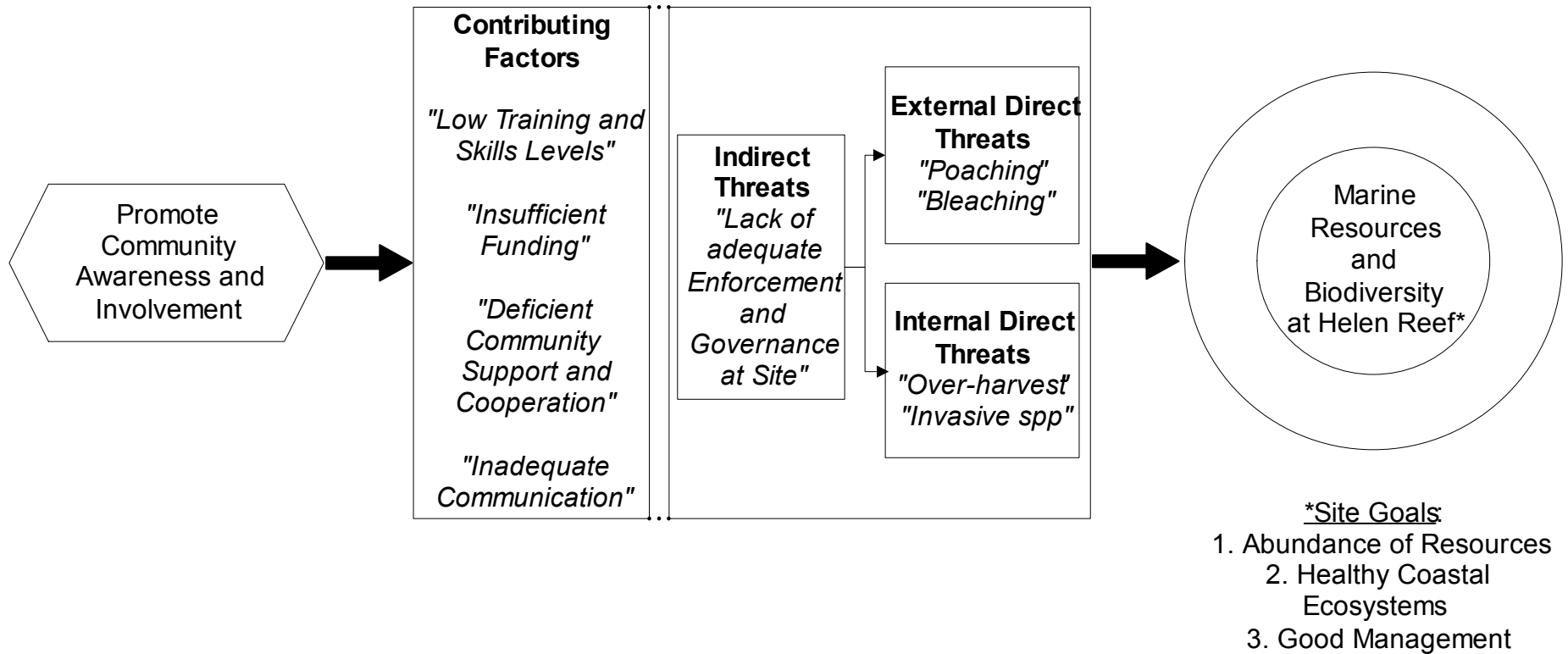
# Conservation Target



## LMMA Actions

## Threats and Contributing Factors

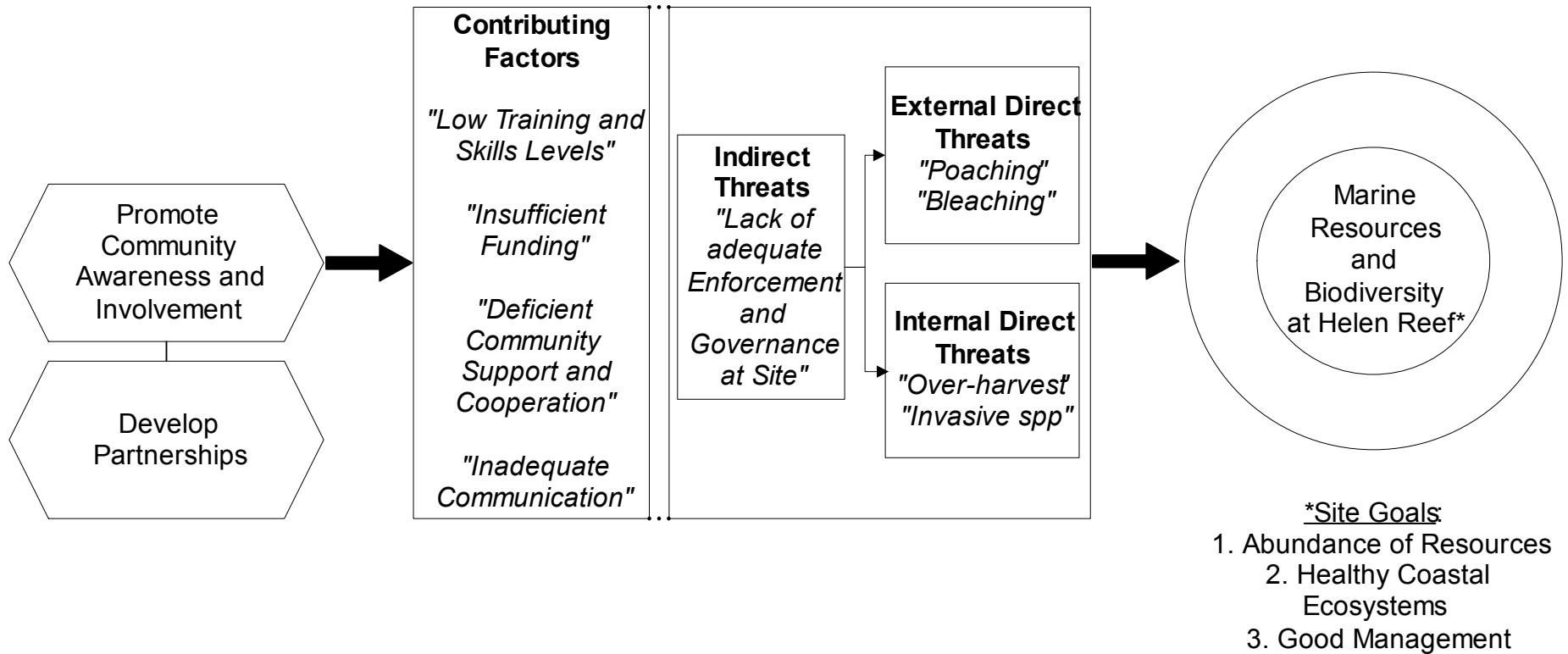
## Conservation Target



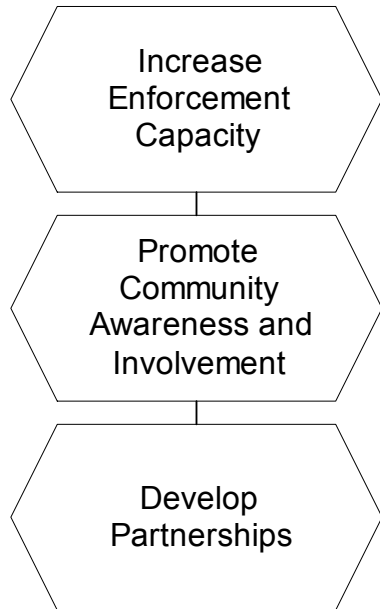
## LMMA Actions

## Threats and Contributing Factors

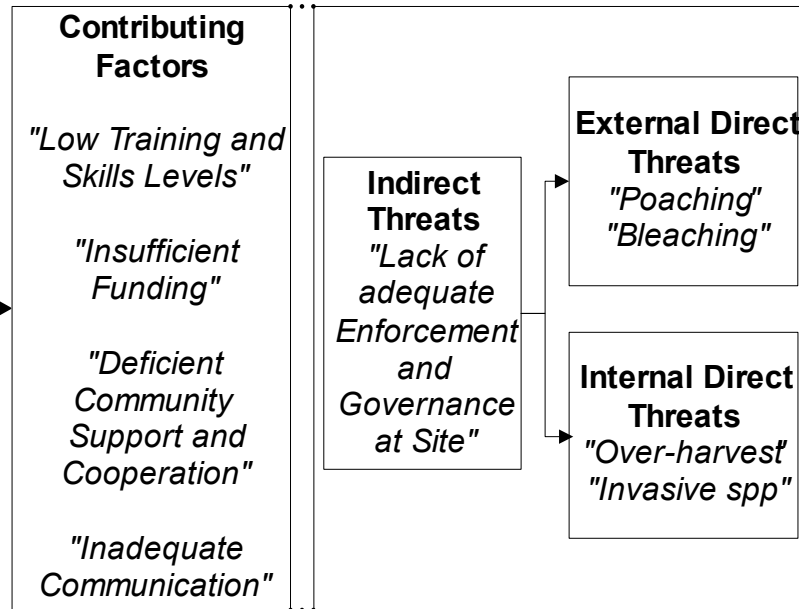
## Conservation Target



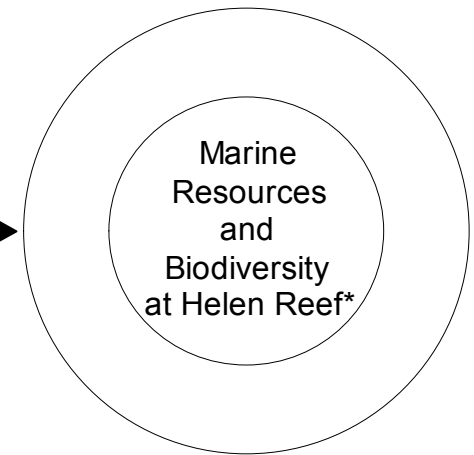
## LMMA Actions



## Threats and Contributing Factors



## Conservation Target

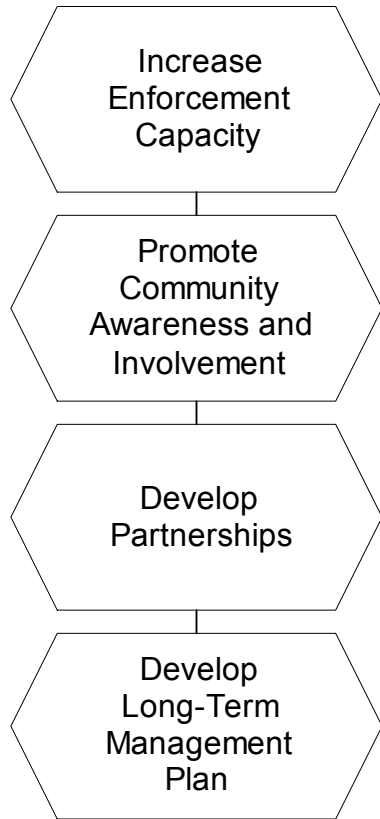


### \*Site Goals:

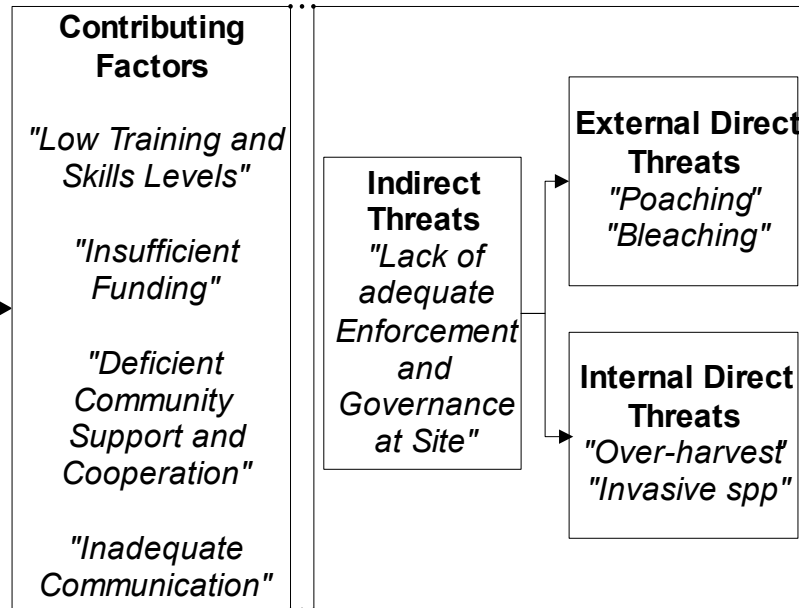
1. Abundance of Resources
2. Healthy Coastal Ecosystems
3. Good Management



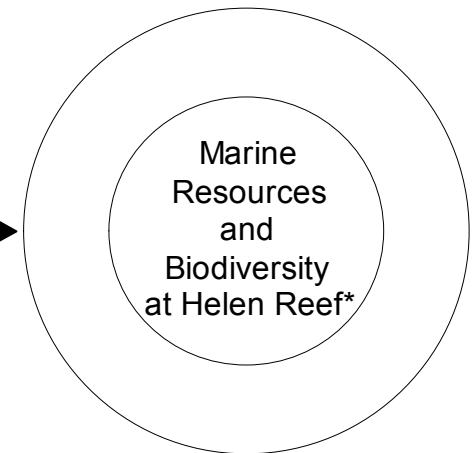
## LMMA Actions



## Threats and Contributing Factors



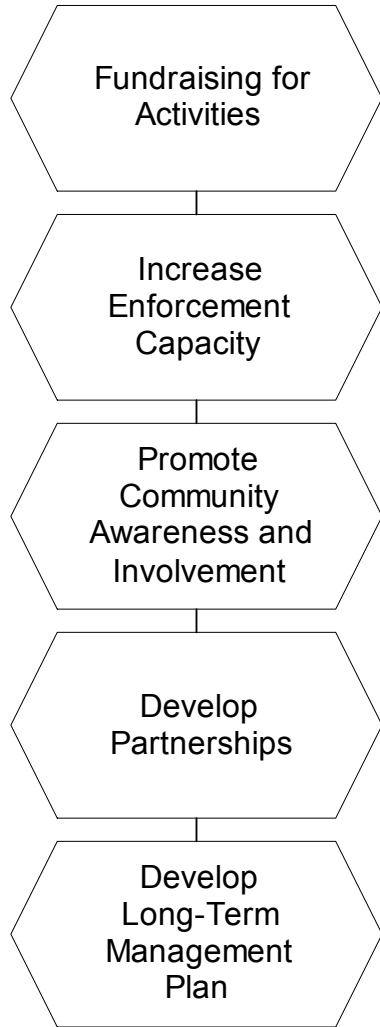
## Conservation Target



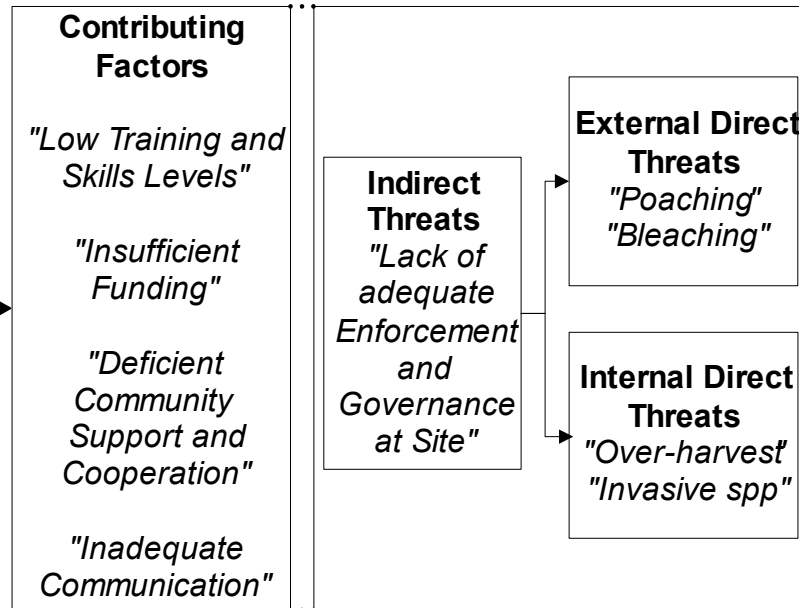
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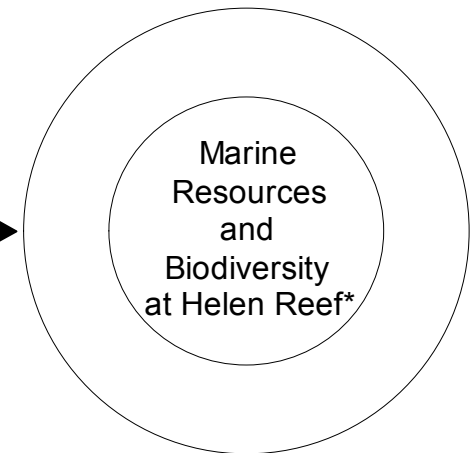
## LMMA Actions



## Threats and Contributing Factors



## Conservation Target



### \*Site Goals:

1. Abundance of Resources
2. Healthy Coastal Ecosystems
3. Good Management

# Model 3

Adding greater detail to conservation target and distinguishing internal and external threats.

## Conservation Target

## Conservation Target

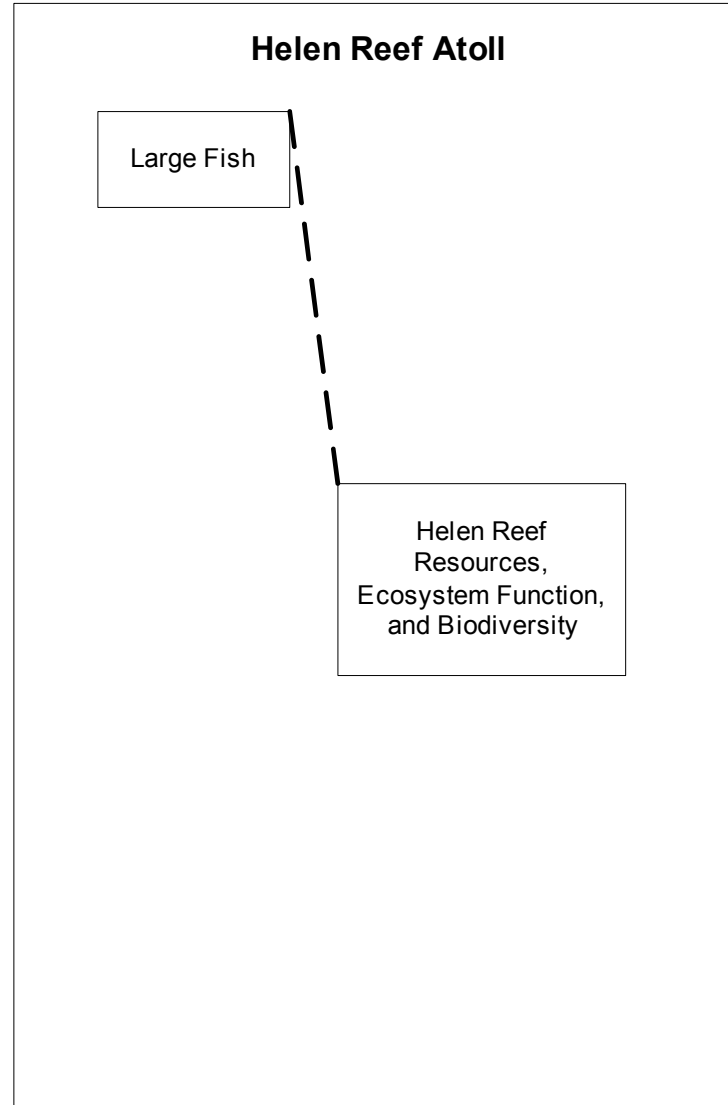
**Helen Reef Atoll**

## Conservation Target

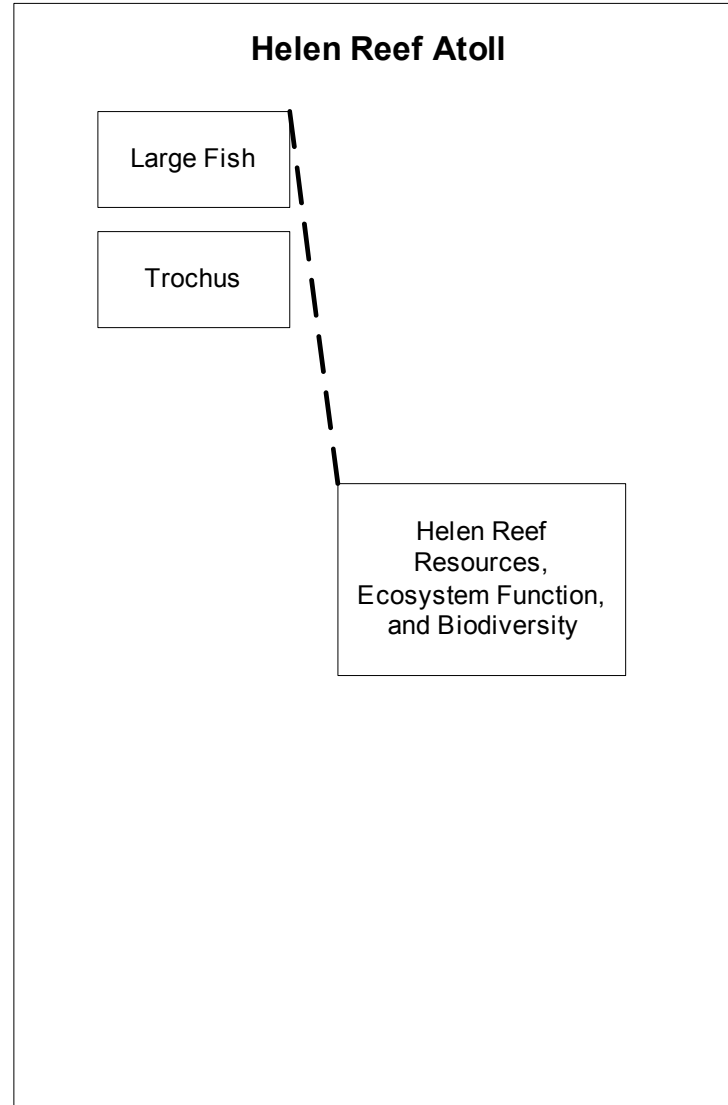
**Helen Reef Atoll**

Helen Reef  
Resources,  
Ecosystem Function,  
and Biodiversity

# Conservation Target

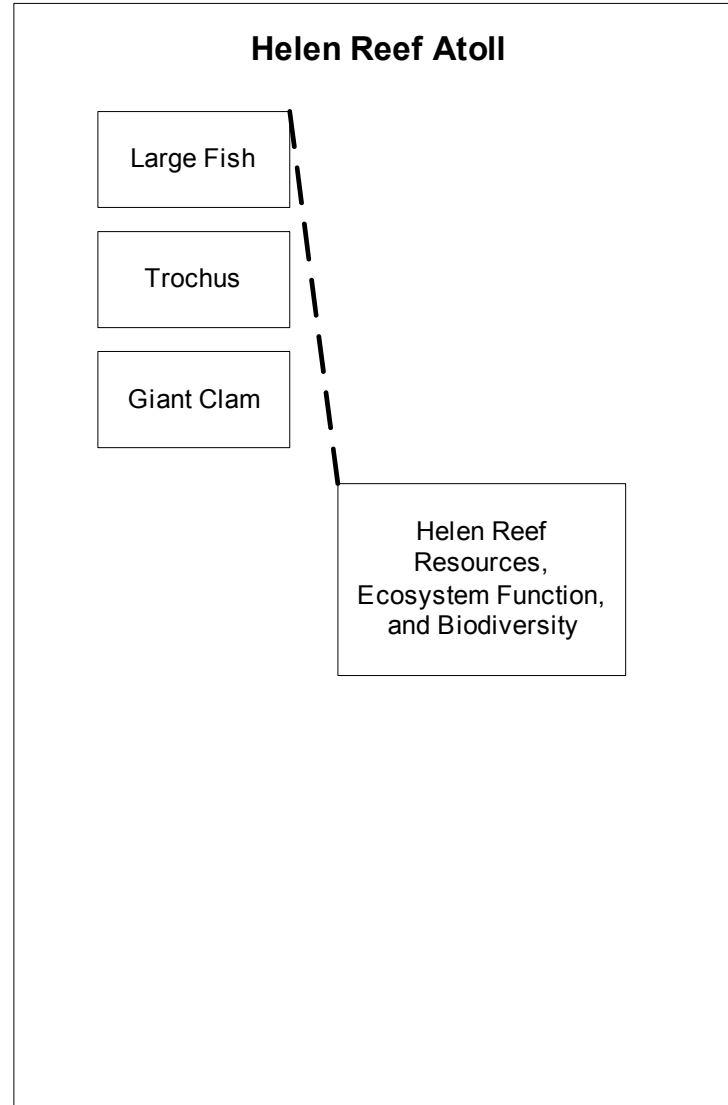


# Conservation Target

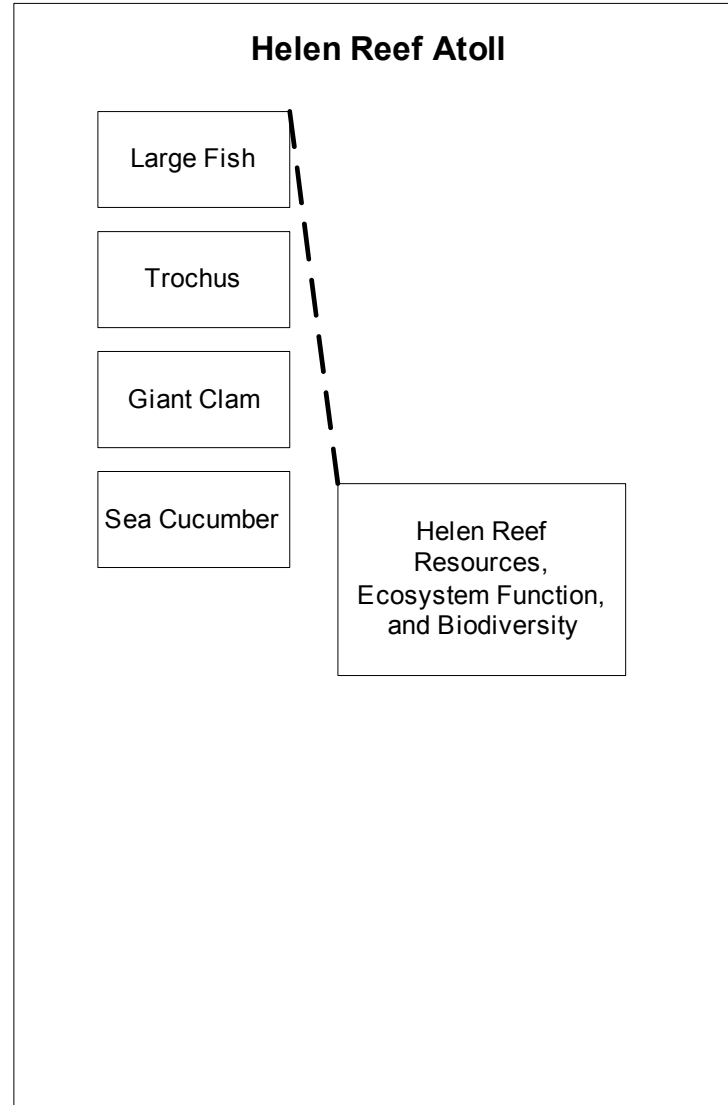




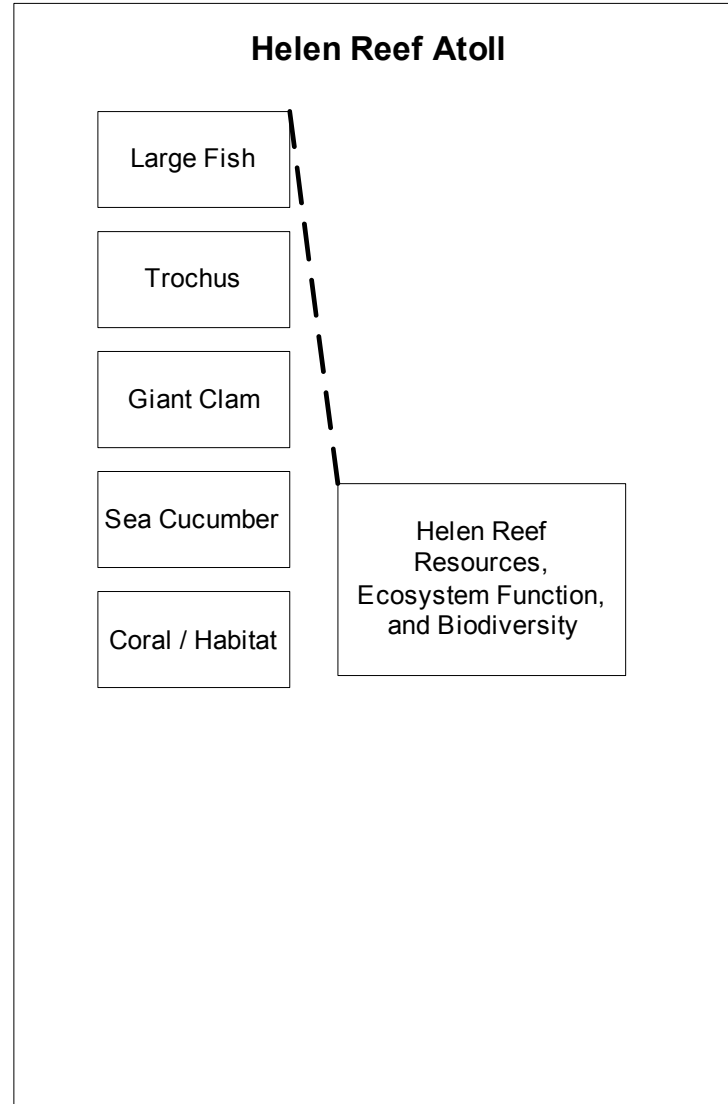
# Conservation Target



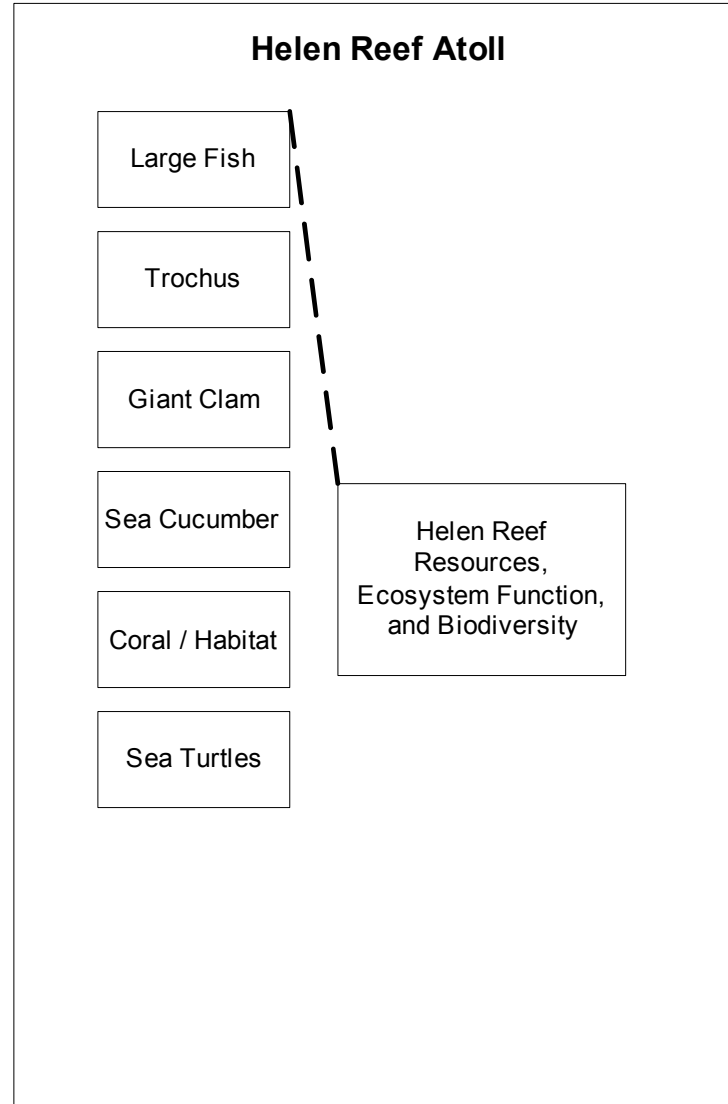
# Conservation Target



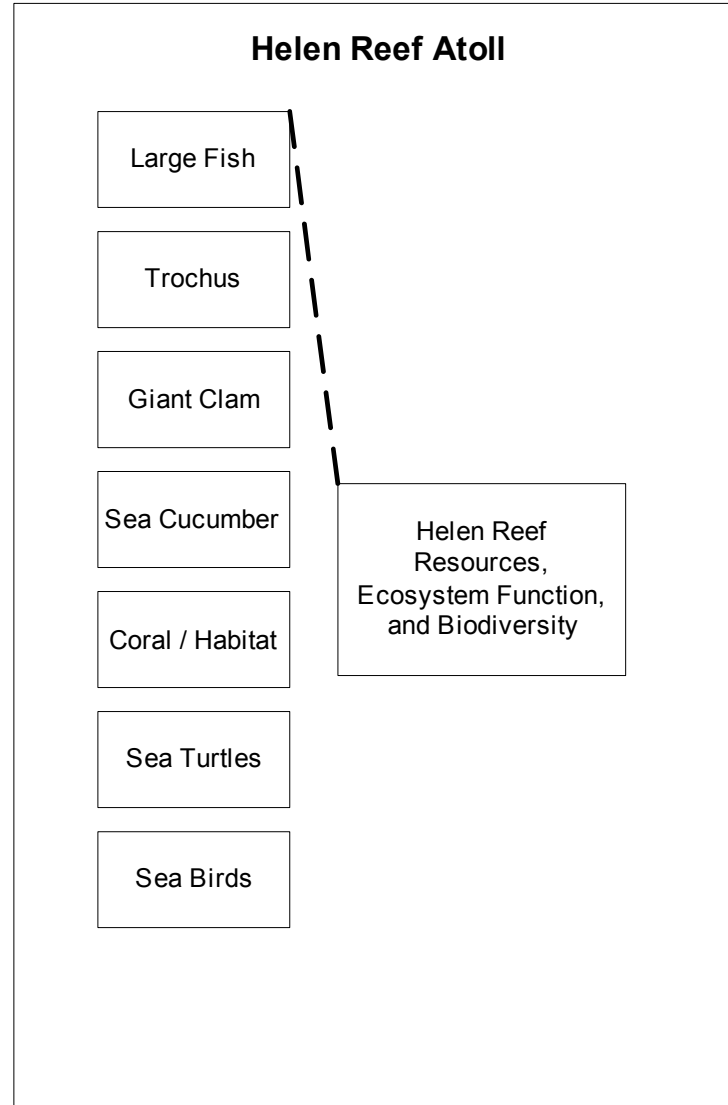
# Conservation Target



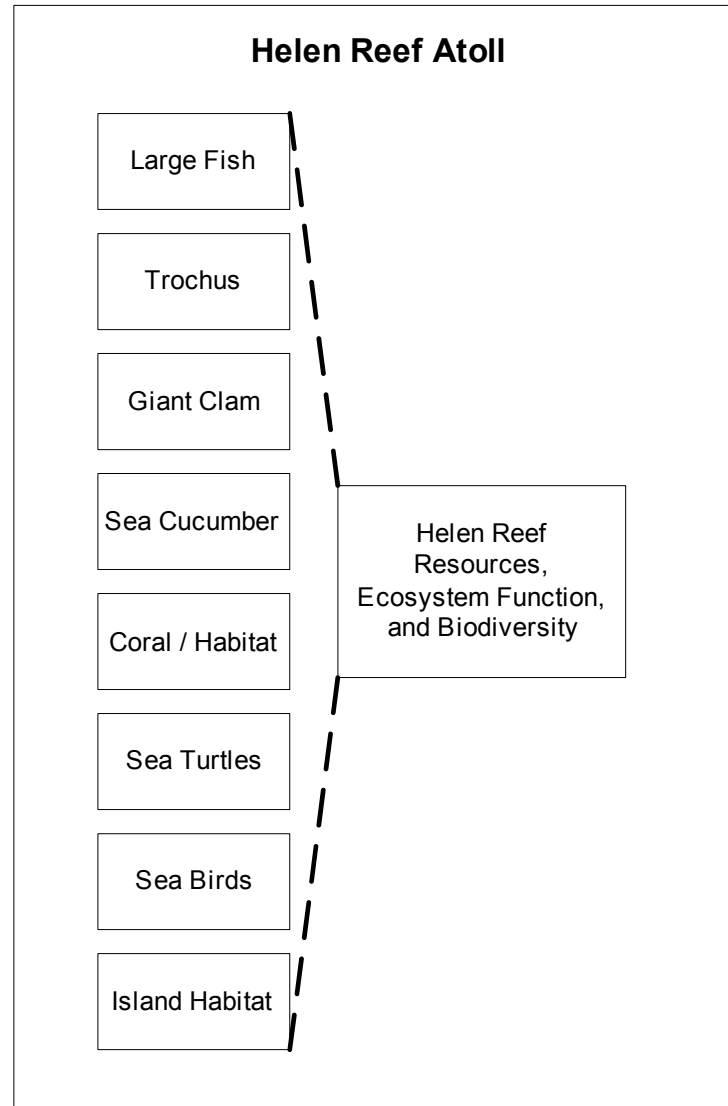
# Conservation Target



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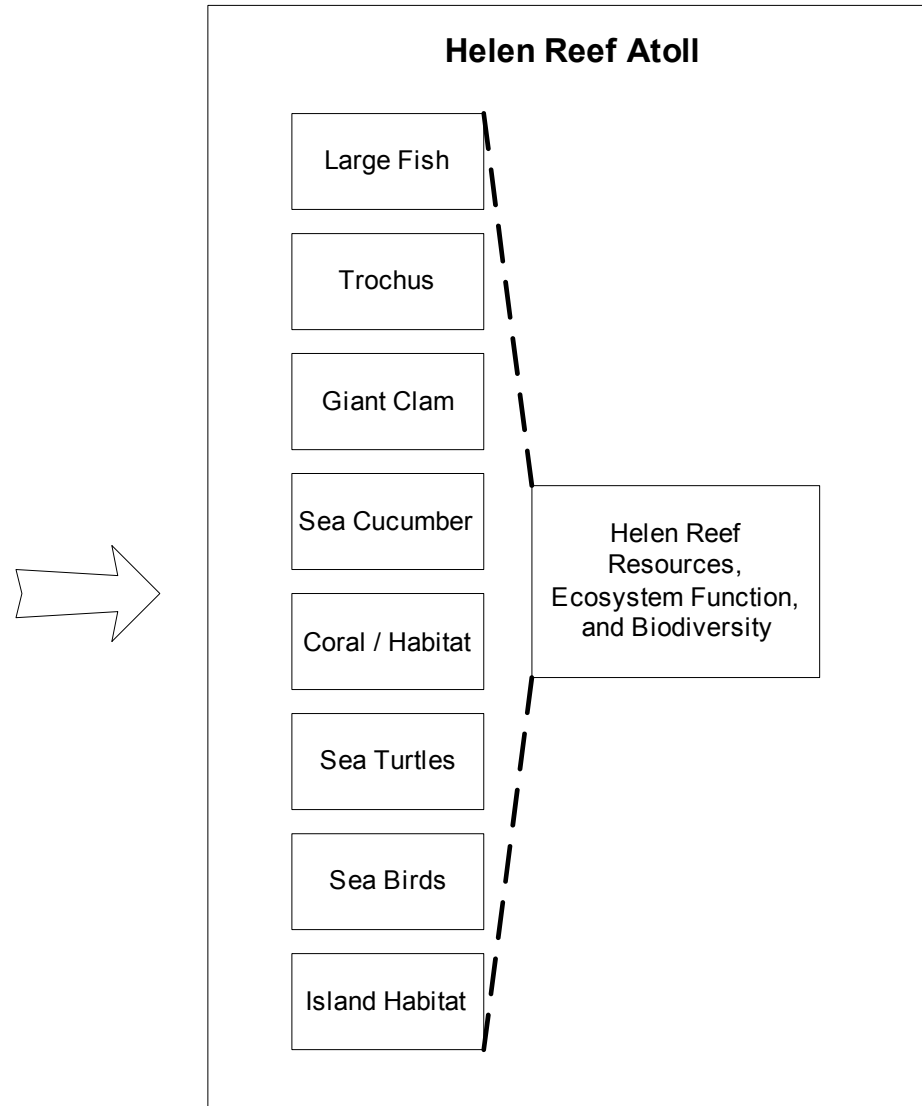


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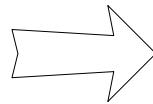


## Direct Threats

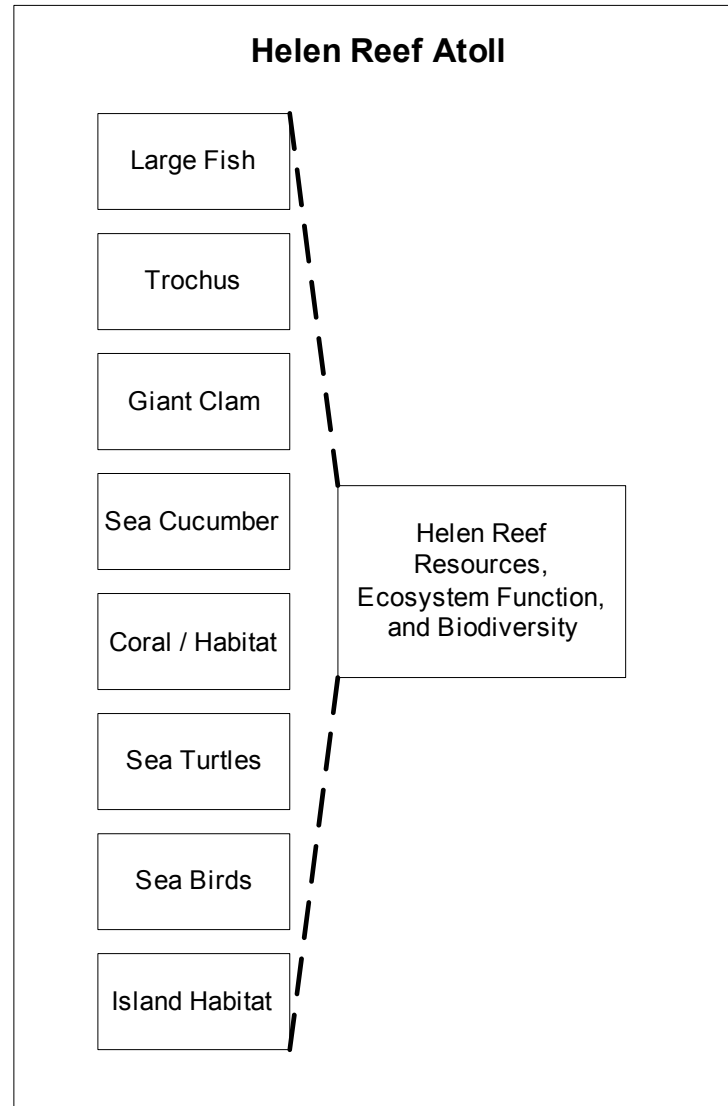
## Conservation Target



## Direct Threats



## Conservation Target

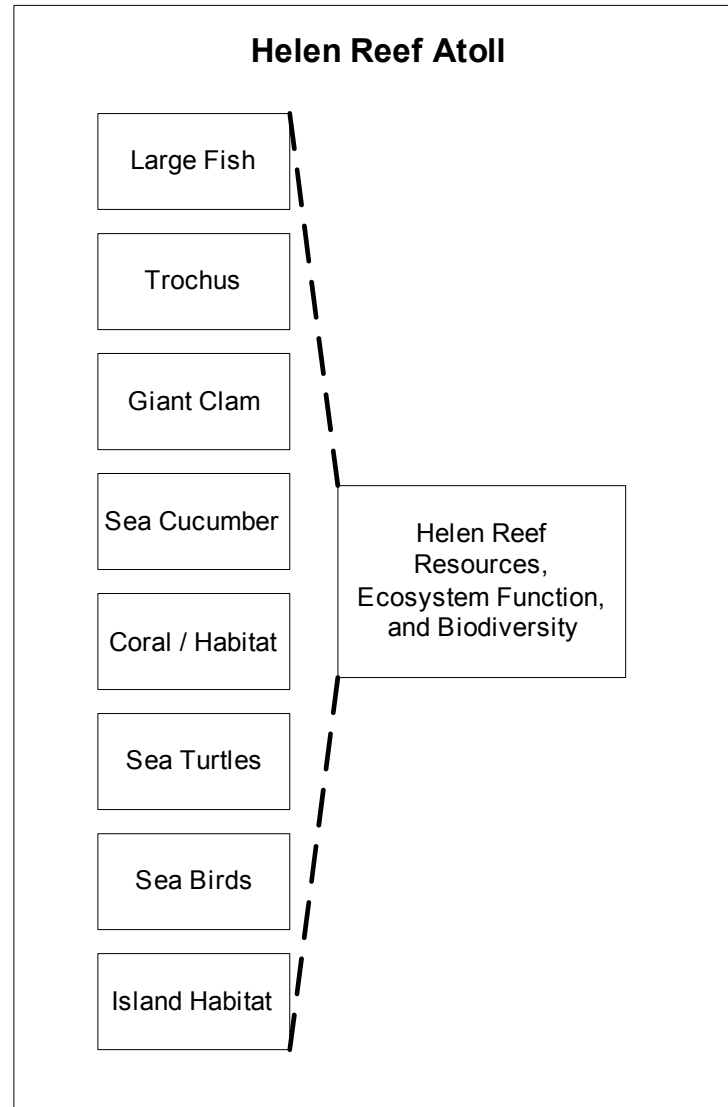




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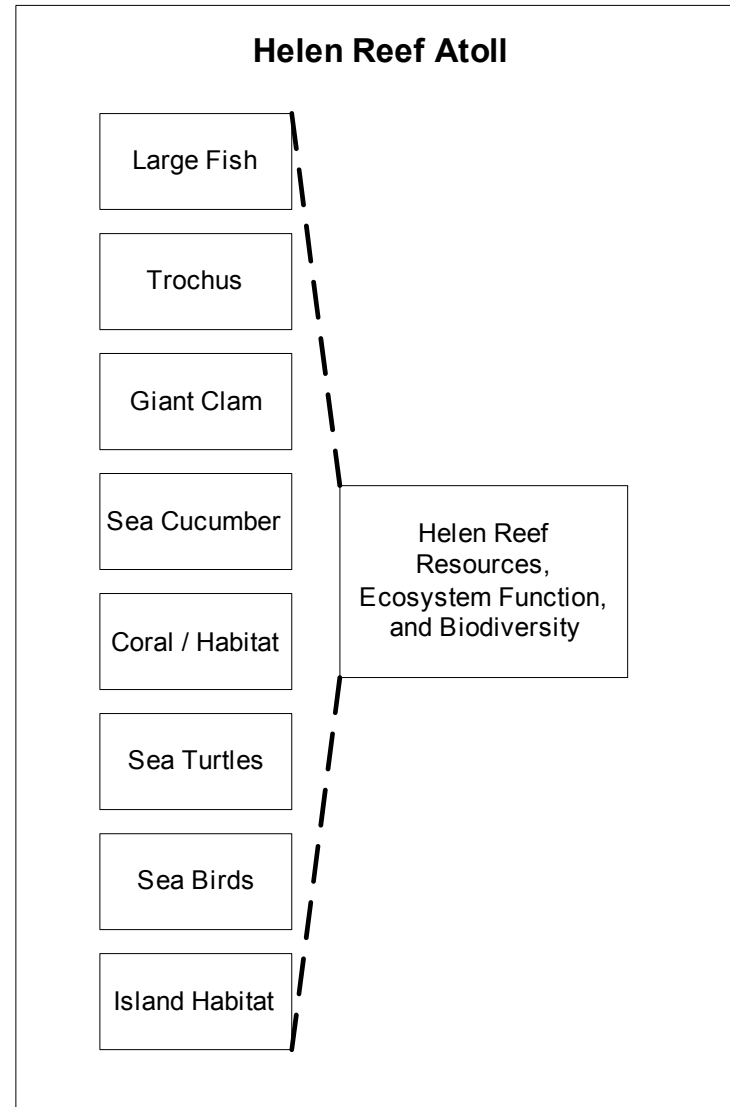
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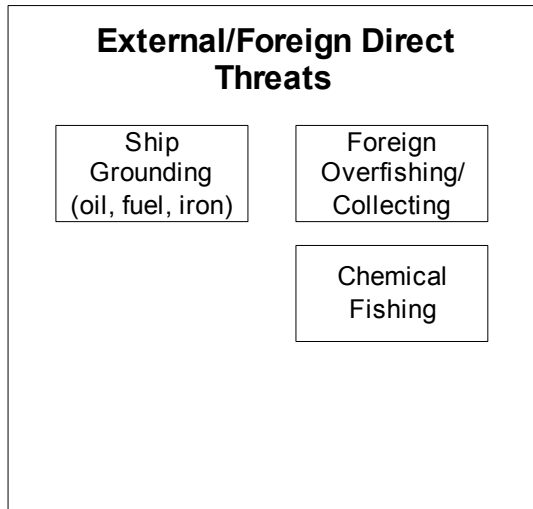
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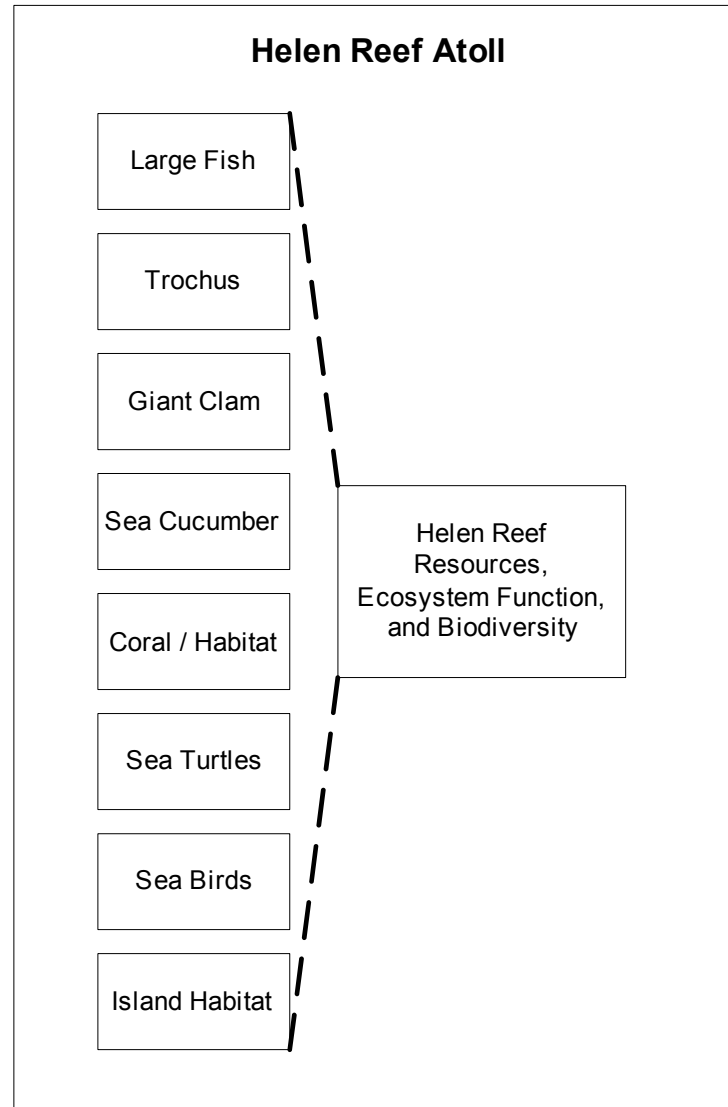
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## Direct Threats



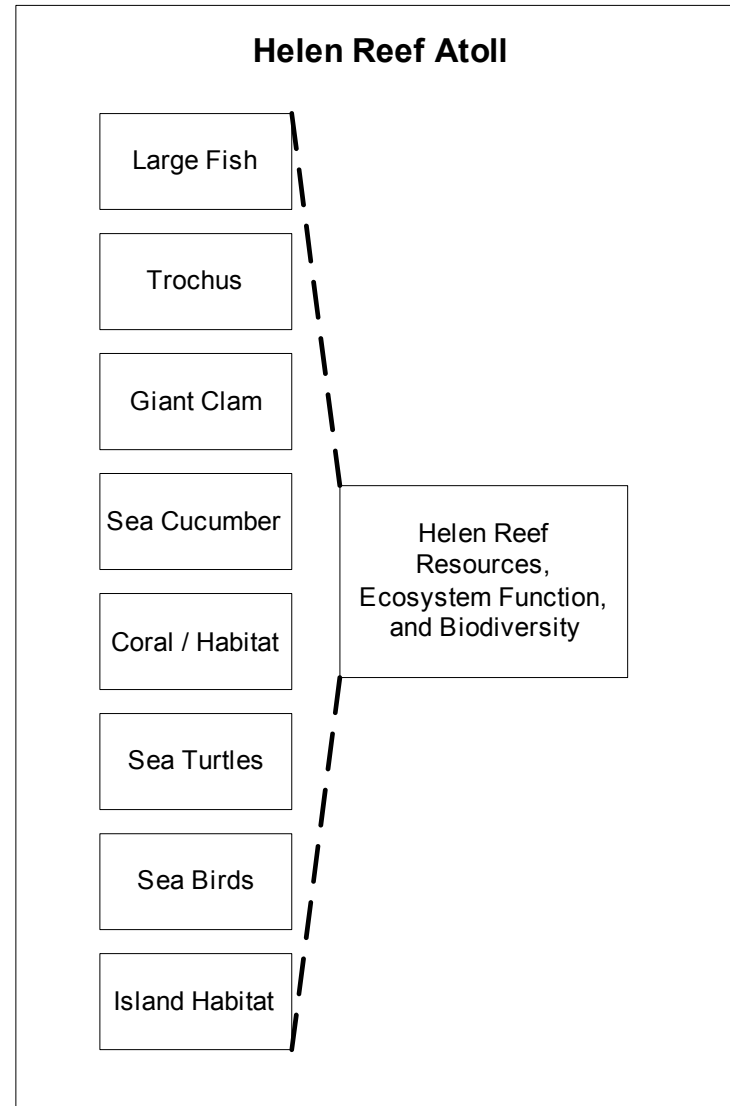
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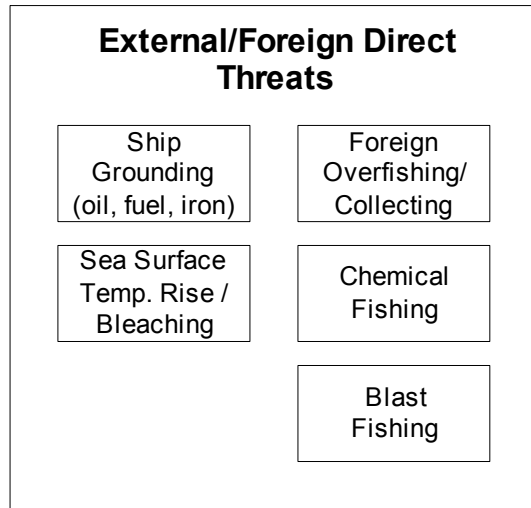
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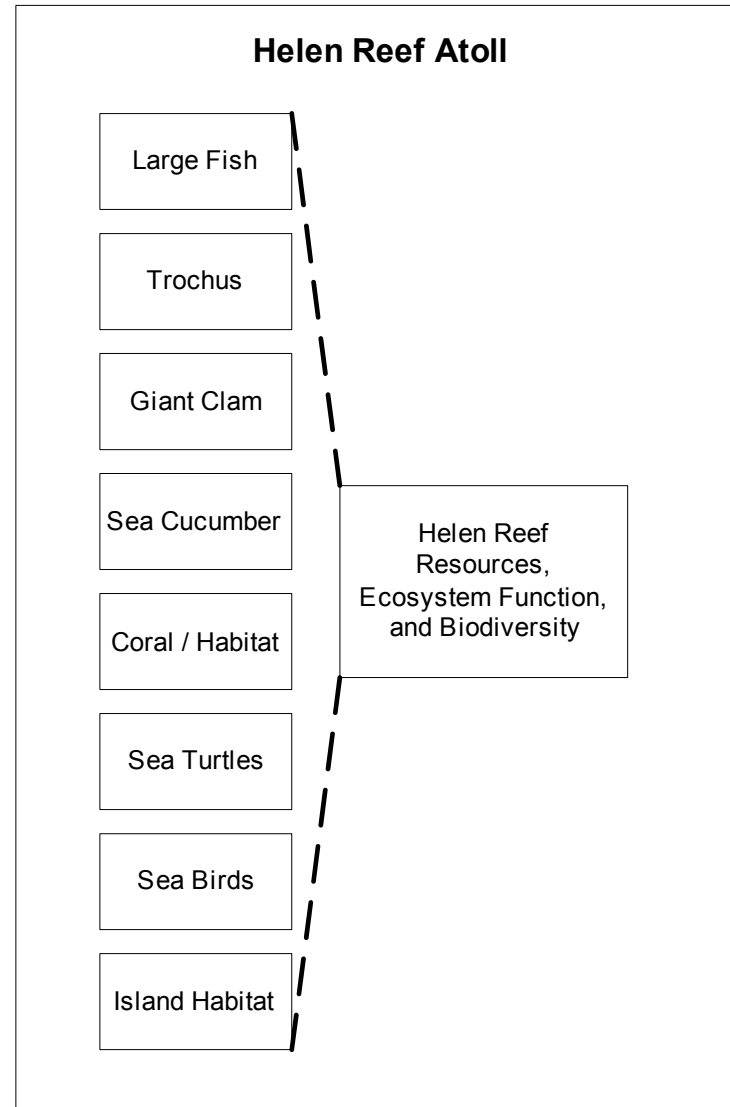
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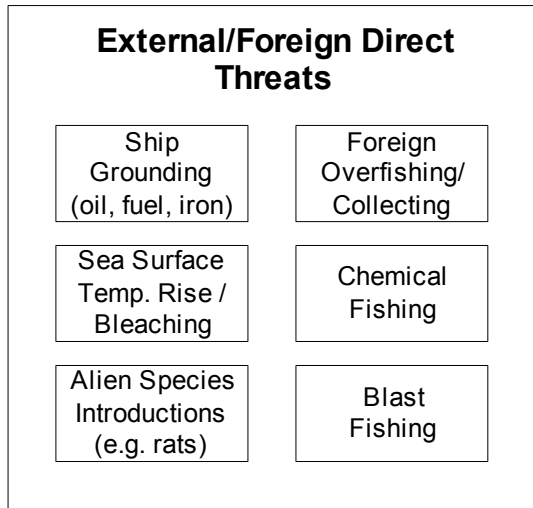
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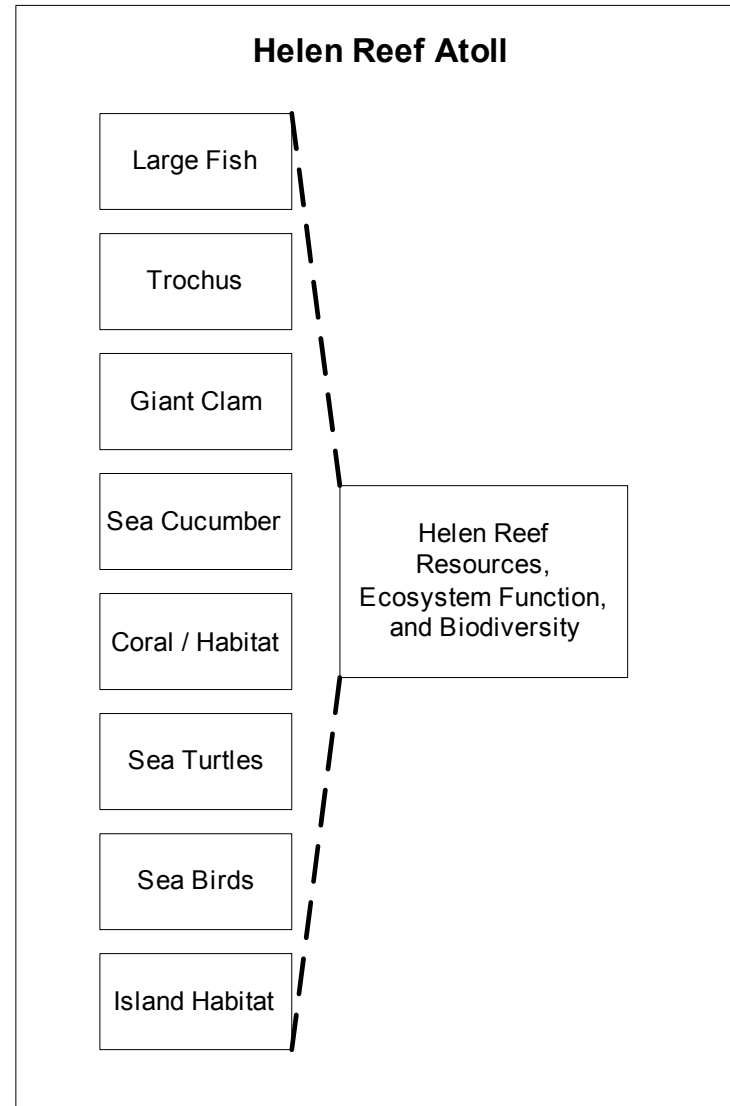
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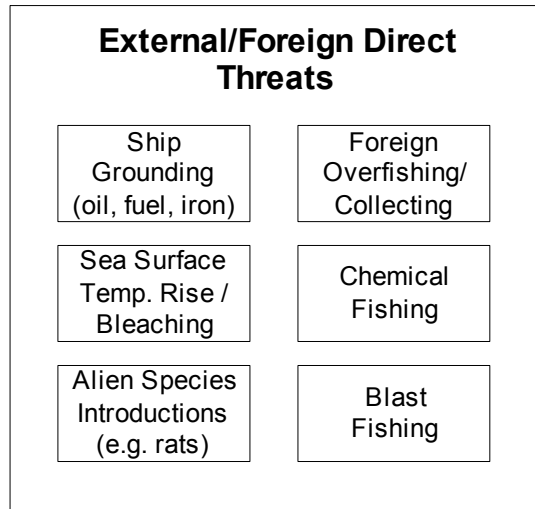
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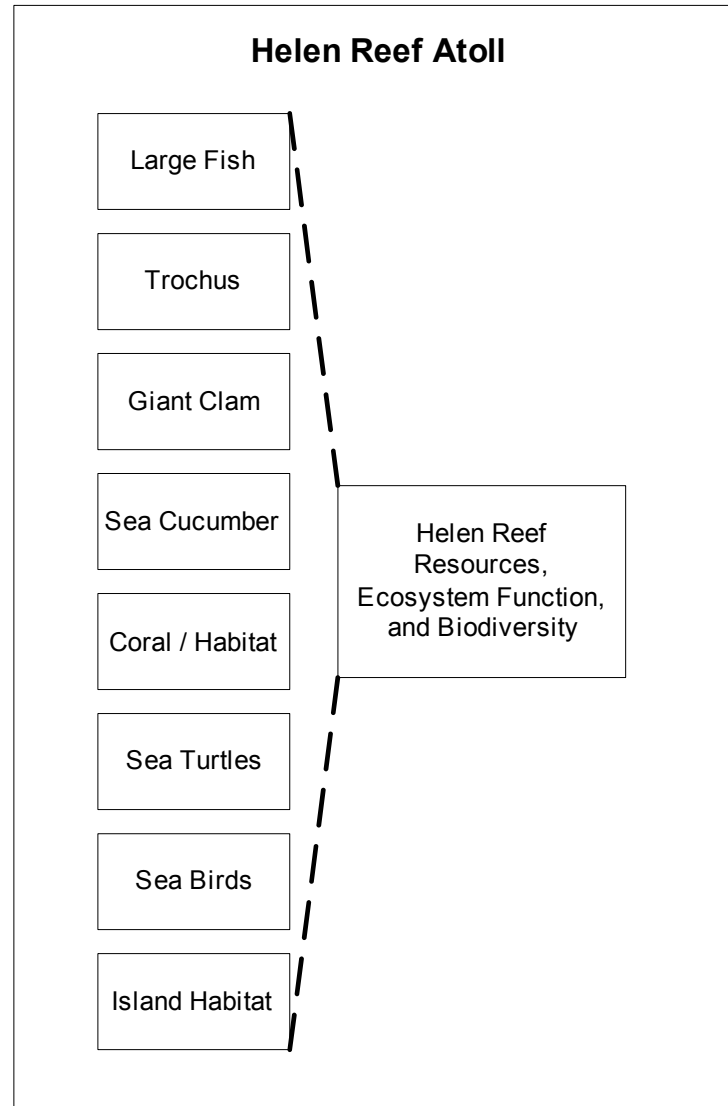
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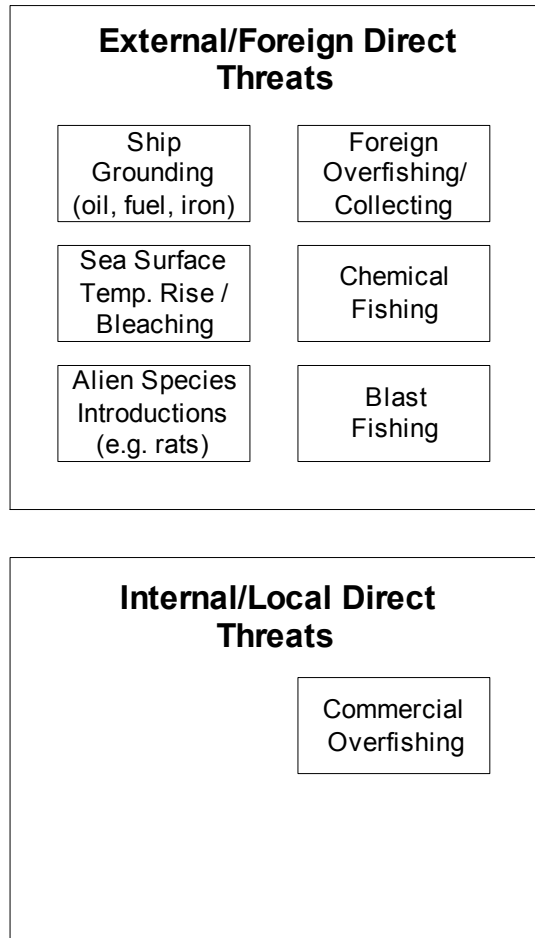
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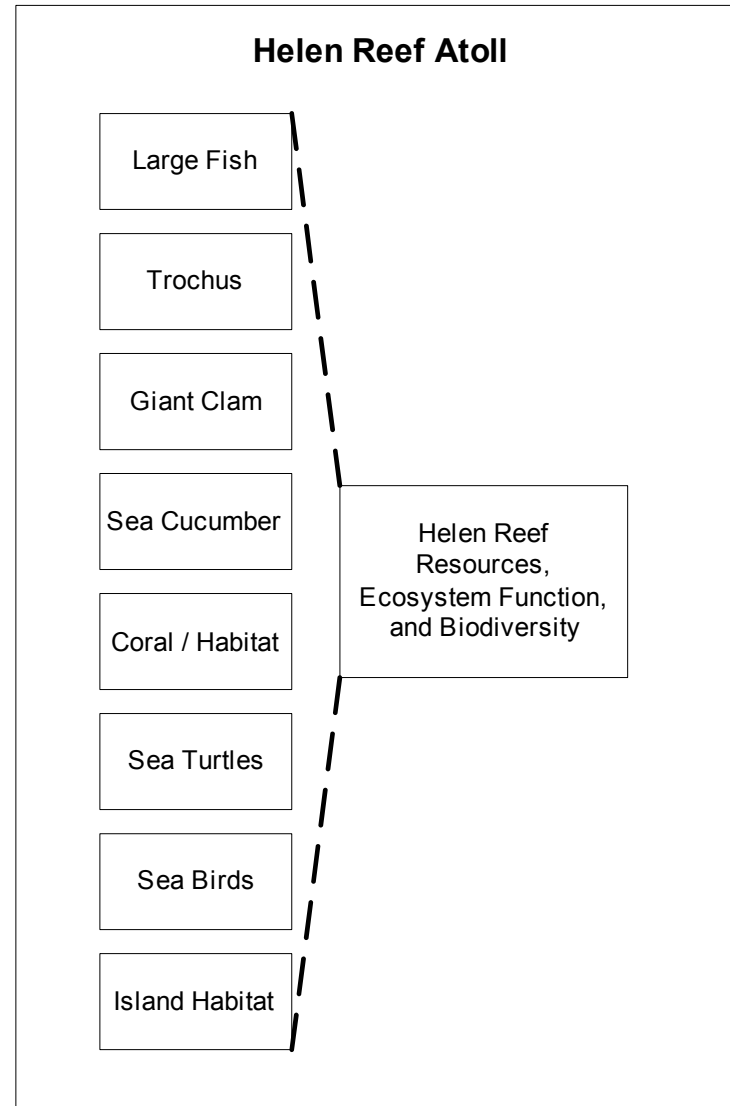
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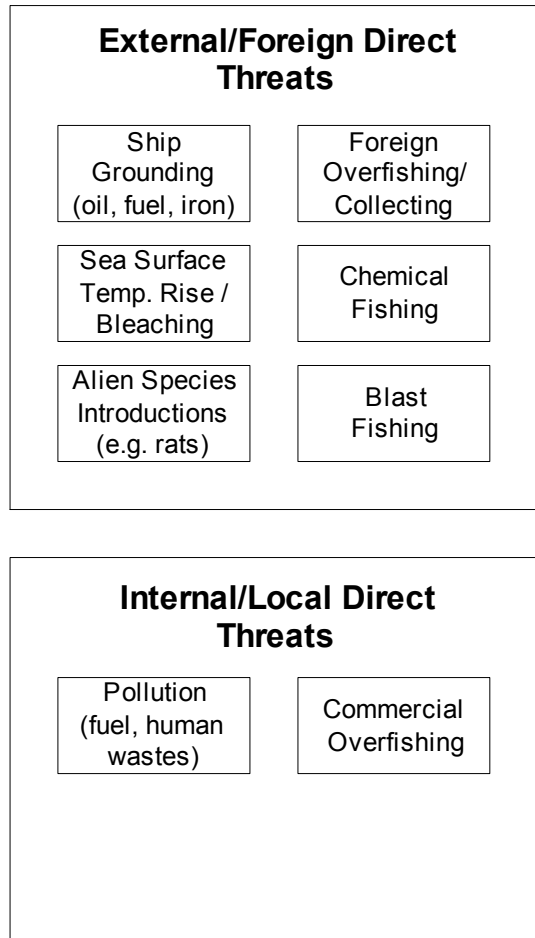


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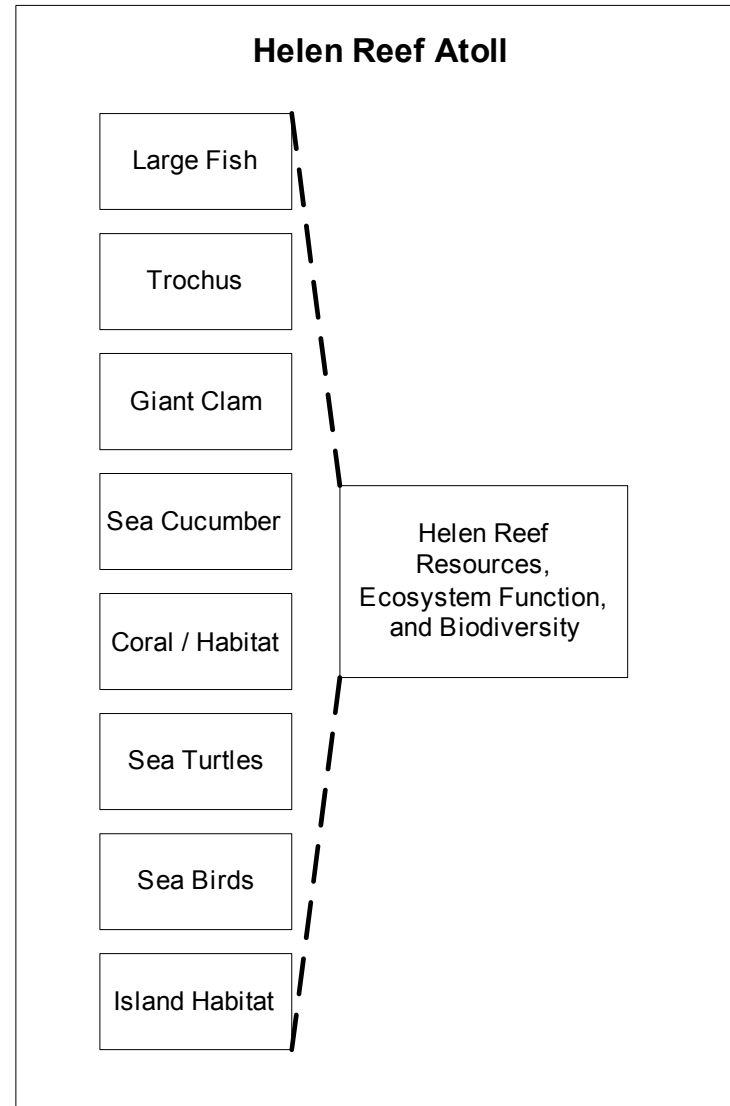




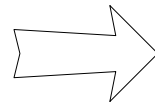
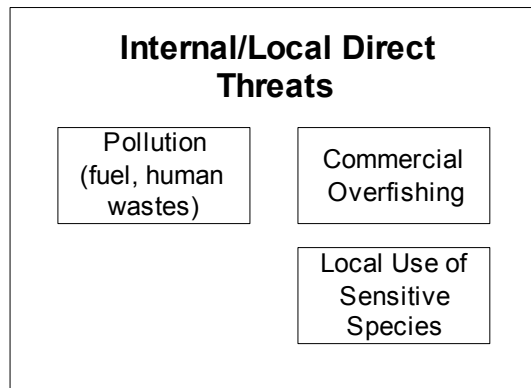
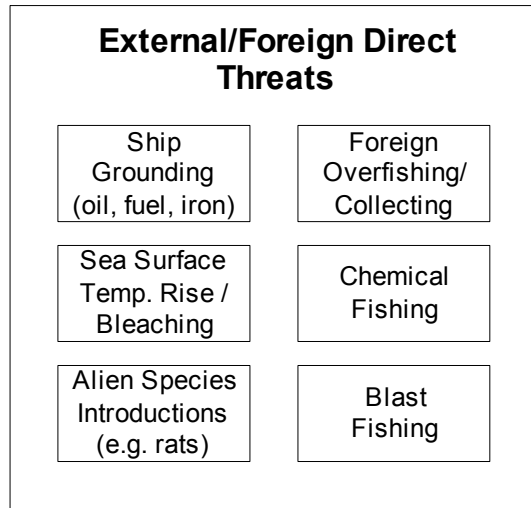
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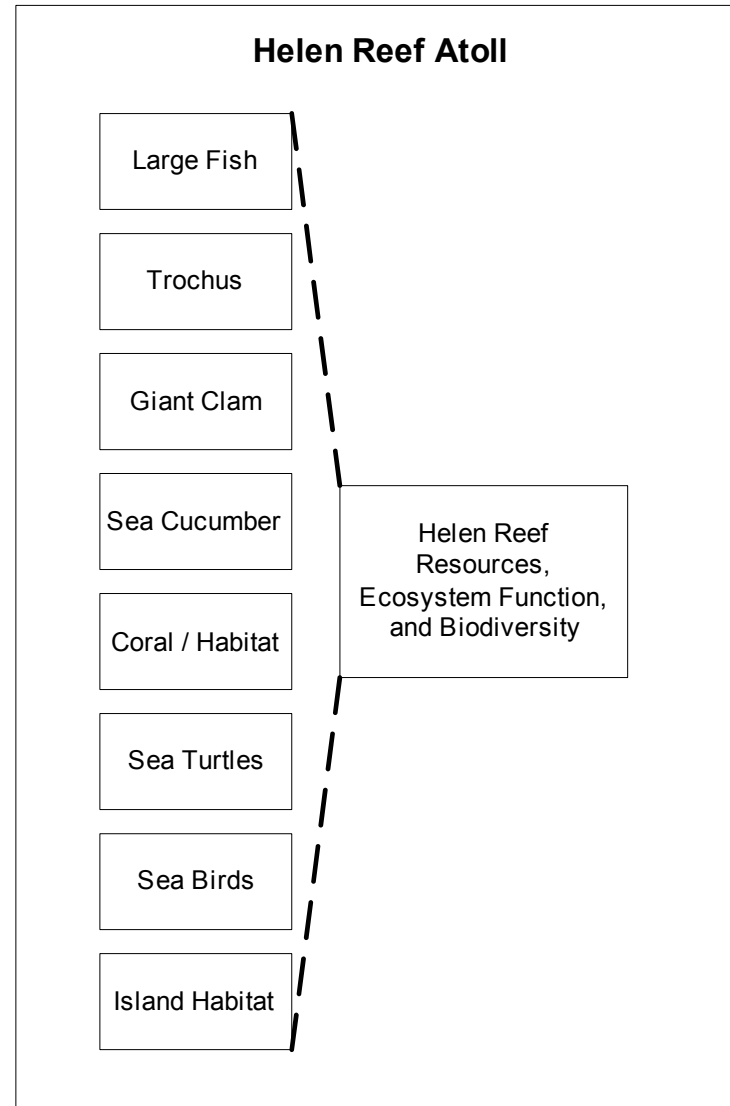
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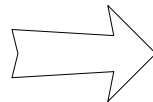
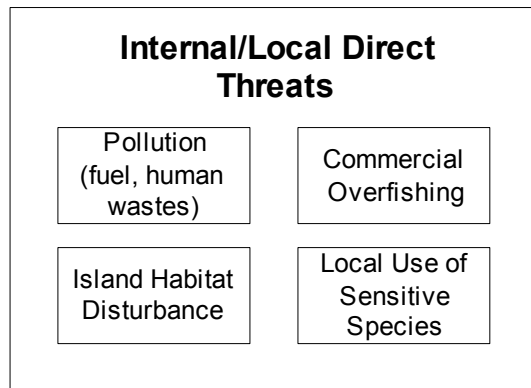
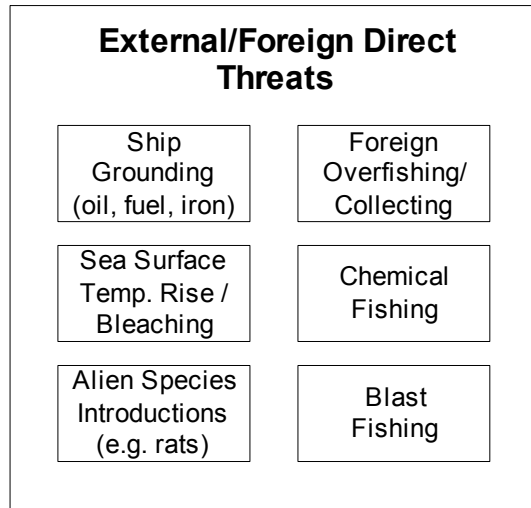
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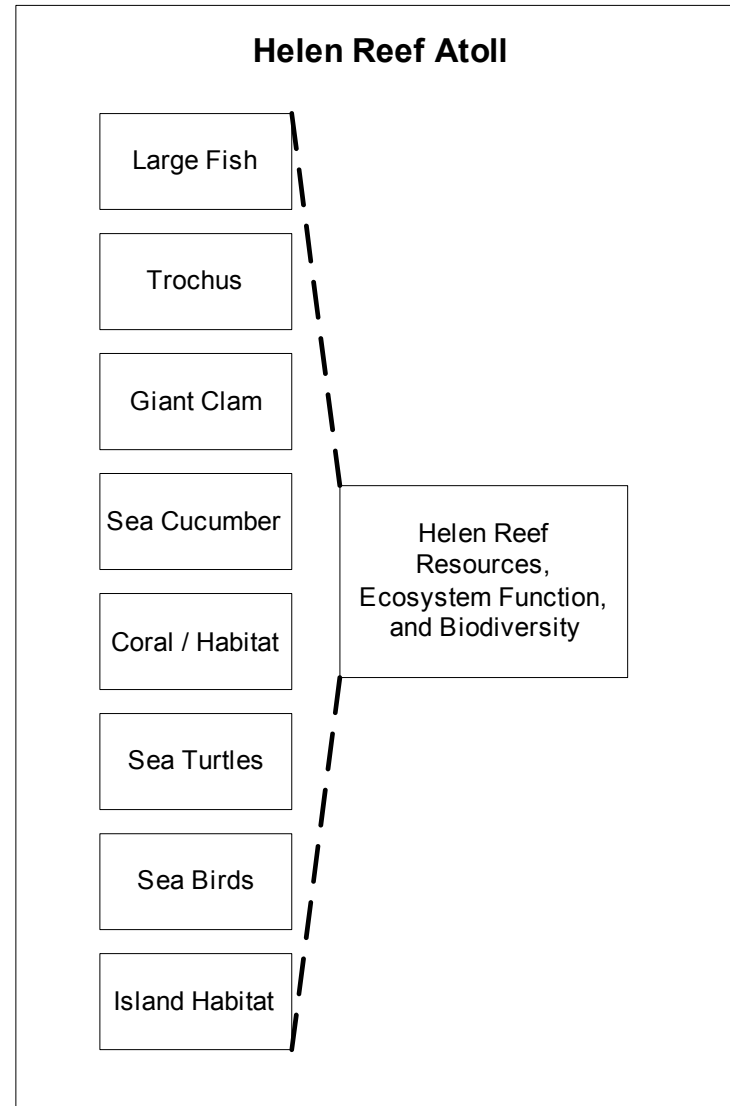
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## Direct Threats



## Conservation Target





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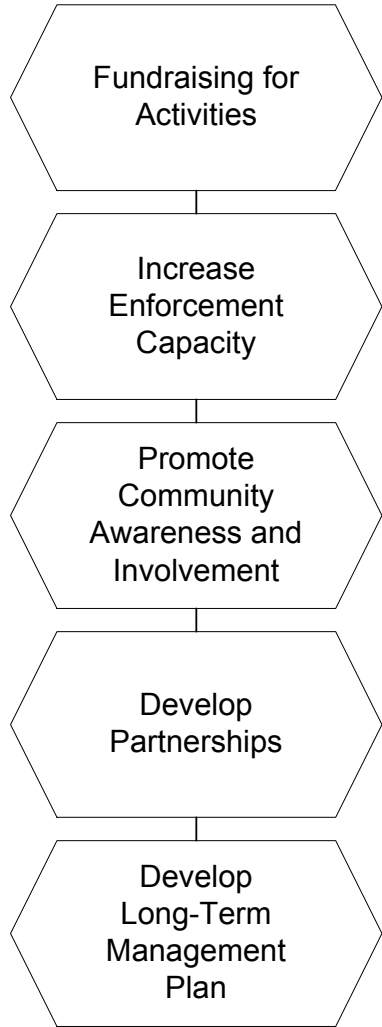
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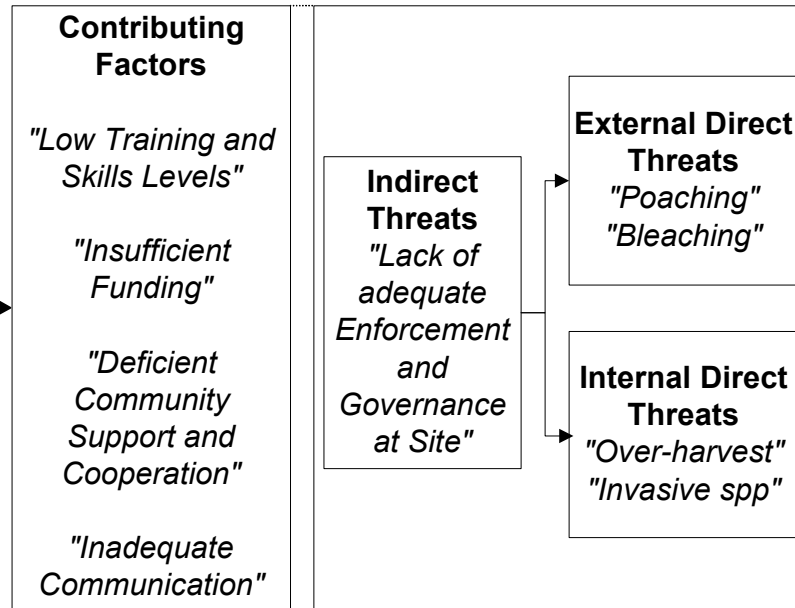
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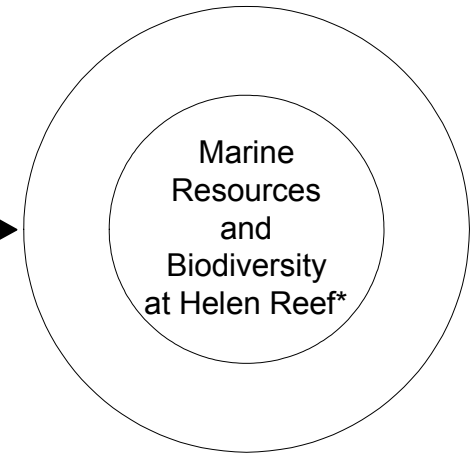
## Actions



## Threats and Contributing Factors



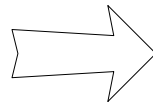
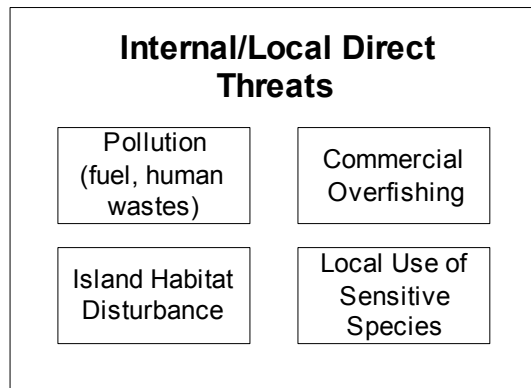
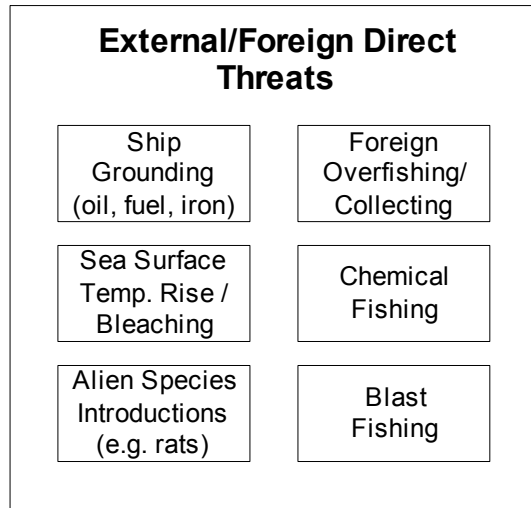
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## Conservation Target

