

# Rapid Response Plans for Marine Invasive Species



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# Rapid Response Plans for Marine Invasive Species

- The importance of rapid response
- The value of response planning
- Elements of a rapid response plan
- Preparedness to use the plan
- Information needs

# **Connection to PICES...**

## **Working Group 21: Non-Indigenous Aquatic Species**

### **Terms of Reference:**

**“Review and evaluate initiatives  
on mitigation measures...”**

# Prevention first, but...

- New species continue to arrive
- Prevention efforts won't eliminate risk
- Second-best strategy is to detect invasions early and **respond rapidly** with the intent to eradicate

# Marine invasive species introductions... ...an emergency in slow motion



*Photo courtesy of National Oceanic and Atmospheric Administration*

**“Government and industry plans, individually and collectively, proved to be wholly insufficient...”**

**United States National Response Team Report to the President, 1989**

# Attempts at marine invasive species eradication...

*Terebrasabella heterouncinata*



Photo courtesy of California Sea Grant

*Caulerpa taxifolia*

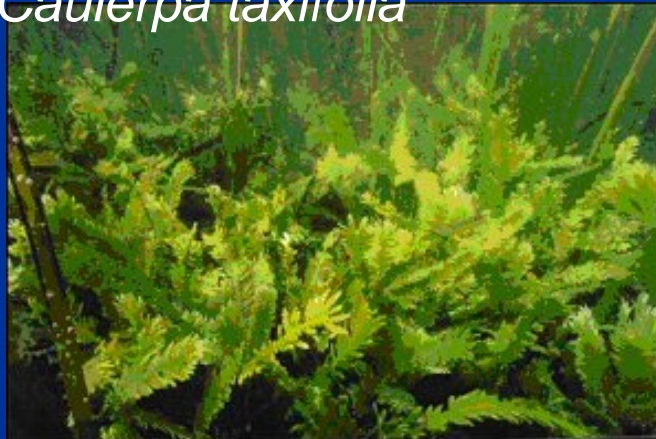


Photo by Rachel Woodfield

*Styela clava*



Photo by Georgia Arrow



Photo courtesy of U.S. Geological Survey



**What if, for example, the green crab *Carcinus maenas* was found during a rapid assessment survey in Dalian?**



*Photo courtesy of U.S. Geological Survey*



# **Aquatic Invasive Species Rapid Response Plans**

- **Serve as a road map to actively guide response activities, not a cook book**
- **90% of the value is in agreements that occur before plan is finalized**
- **Templates and models available  
(e.g., <http://100thmeridian.org/ColumbiaRT.asp>)**



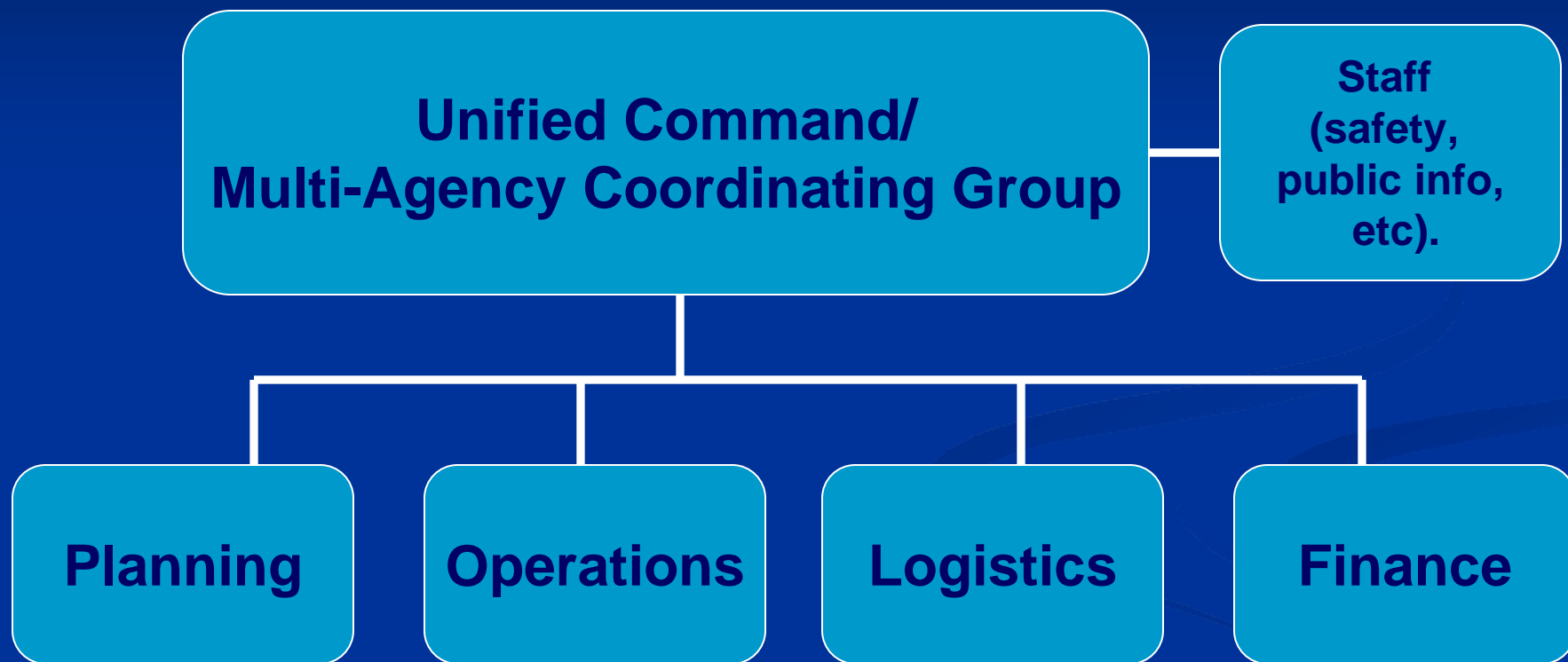
# 10 Elements of Marine Invasive Species Rapid Response Plans

1. **Verify Reported Detection**
2. **Make Initial Notifications**
3. **Define Initial Extent of Colonization**
4. **Institute Response Organization**





# Incident Management/Command System





# **10 Elements of Marine Invasive Species Rapid Response Plans**

- 5. Establish External Communications System**
- 6. Organize Resources**
- 7. Initiate Secondary Pathway Management**
- 8. Determine if Eradication is Warranted, and if so, Initiate Control Measures**
- 9. Establish Response Monitoring Effort**
- 10. Post-Response Evaluation**

# Rapid response plans alone **don't** equal preparedness

- Need to practice
- \$\$\$
- Notification system
- Available tools for eradication





# Information Challenges/Needs

- **Should we respond?**
  - taxonomy/biogeography
  - risk modeling
  - distribution data
- **Can we eradicate?**
  - population viability
  - effective control measures
  - information on potential harm to non-targets

**Thank you!**

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