

# Didemnum vexillum (Dvex) in Sitka, AK

Prepared for House Resources Committee  
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# Acknowledgements

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- AmeriCorps
- National Oceanographic and Atmospheric Administration
- San Francisco State University Romberg Tiburon Center for Environmental Studies
- Sitka Tribe of Alaska
- Sitka Sound Science Center
- US Coast Guard and Coast Guard Auxiliary
- US Fish and Wildlife Service
- **All the people in Sitka and outside of Sitka that have come together to support this project**

# Dvex in Sitka

- Explosive growth and potential for spread
- Whiting Harbor infestation
  - First contain, then eradicate.
- Reduce possibilities for reintroduction
- Learn more about the biology of Dvex and potential impacts in Alaska



# Growth Over 10 Week Period

Appearance on 6/24/11  
Whiting Harbor, Sitka, AK



6/24/11



6/24/11



6/24/11



7/9/11



7/22/11





8/5/11



8/16/11





9/1/11





**6/24/11**  
**(10 weeks previous)**

 **9/1/11**





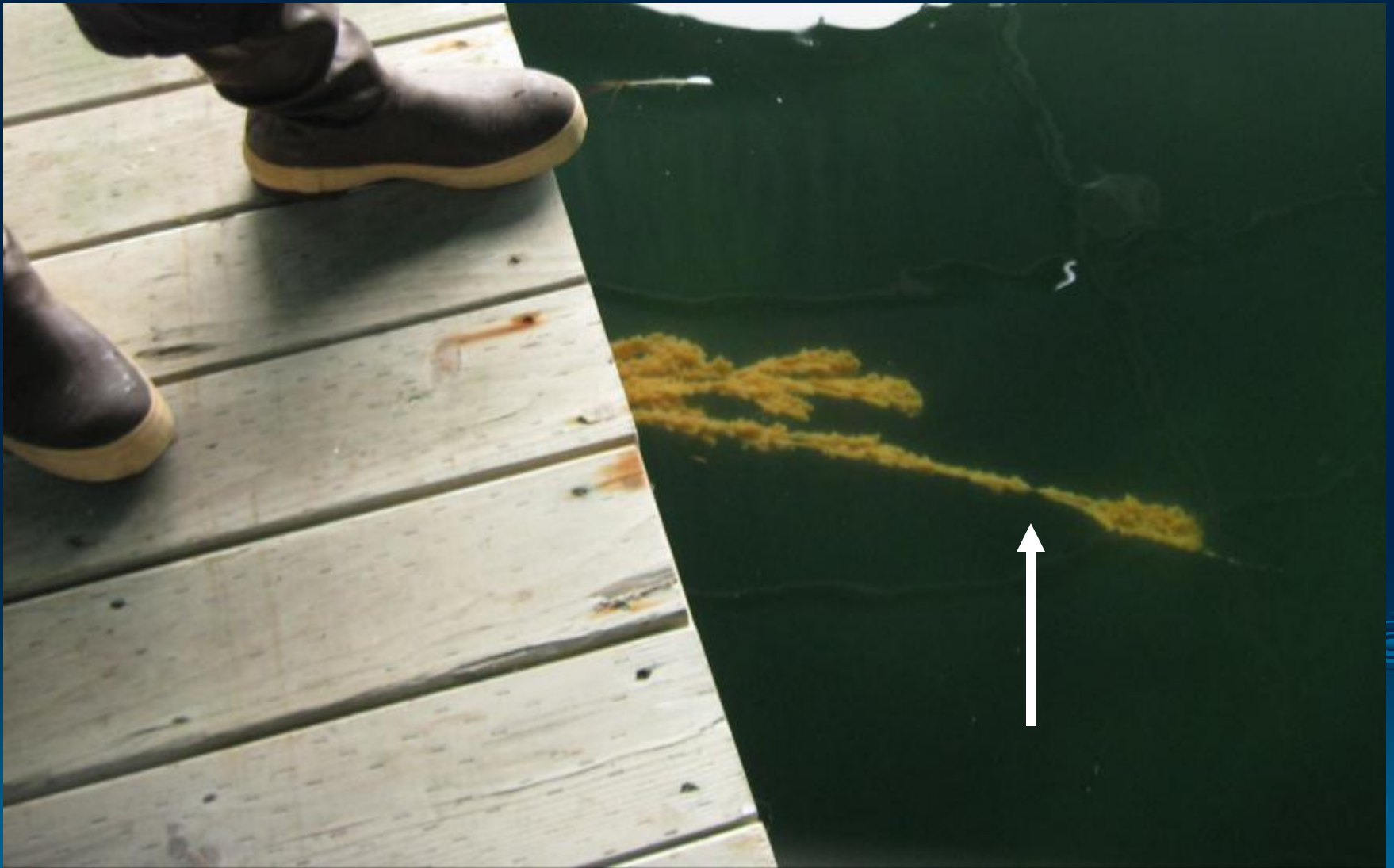
# “Dangles”

Typical 7-14  
day growth of  
dangles.





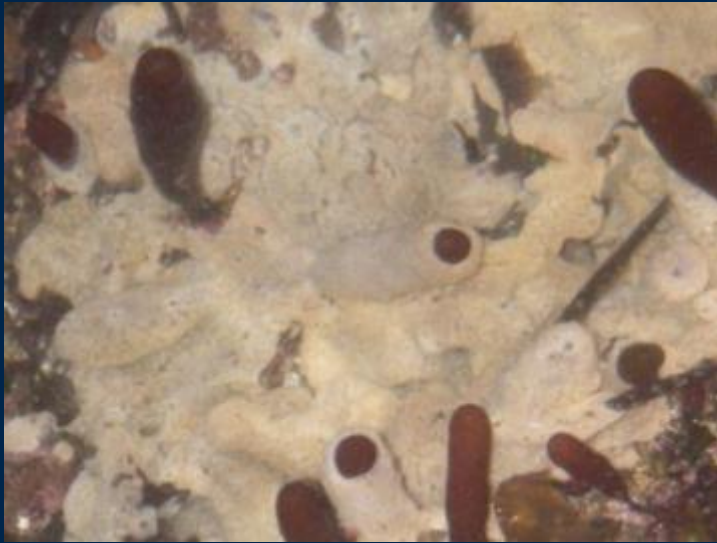
# Dangles attenuate and break free



Within a few days .....



# Intertidal Dvex Sitka, Alaska





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# Whiting Harbor infestation

## First contain, then eradicate.

- We all have been saying “Whiting docks are deteriorating and may carry Dvex out of Whiting”
- In fall of 2011, more than a year after Dvex discovery we lost dock structures out of Whiting
- Much has been cleaned up after storms
- There is still a rapidly deteriorating dock structure in Whiting that is heavily infested with Dvex and not well secured.
- Ability to quickly identify and carryout containment is crucial for communities. Still needs to be addressed in Sitka

**Summer  
2010**



# Whiting Farm Deterioration

**Sept 26  
2011**





# Eradication

- We need to learn how to eradicate
- Smithsonian Environmental Research Center is testing eradication methods.
- This spring the plan is to scale up and try application of salt to limited area of sub-tidal habitat.



# 10% Acetic Acid (5 min)



Before



After



1 Week



3 Weeks


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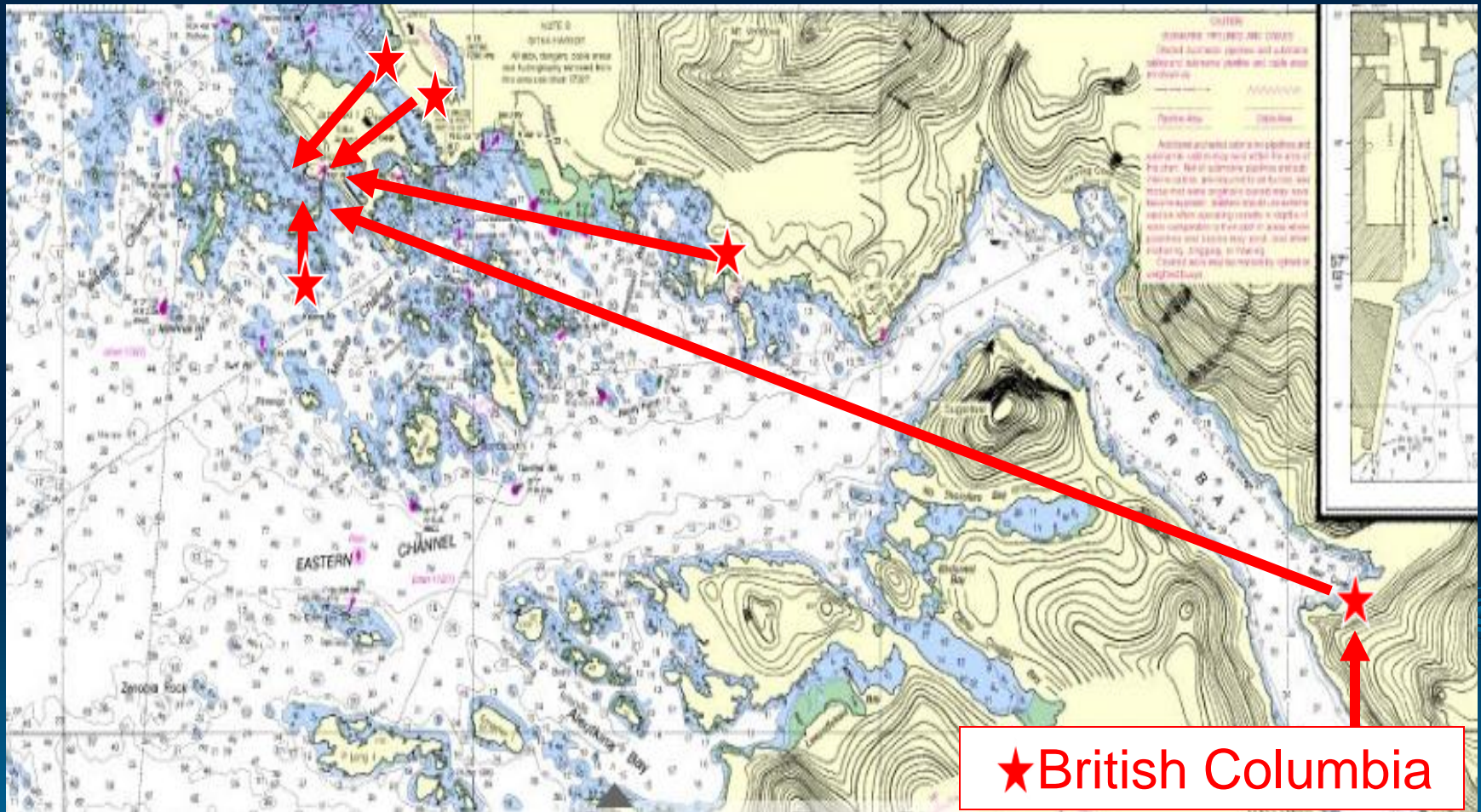




# Reduce possibilities for reintroduction

- Ballast water, hull fouling, etc. all important
  - Movement of docks other floating infrastructure has huge potential for spread of marine invasive species
  - Moving a dock moves an entire habitat
  - Very common in SE AK
  - No legislation (?), little public awareness
- 

# Whiting docks pieced together from local and distant sources



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# Learn more about the biology of Dvex and potential impacts in Alaska

- Population genetics
- Distribution
- Ecological interactions and impacts
- Sexual reproduction & reproductive cycles
- Asexual reproduction & growth
- Considerations for containment & radication

# Impacts for Sitka and Alaska are Unknown

- Example: Herring Eggs (below)
- We know patches of Dvex can reach nearly 100% coverage Whiting.
- We do not know if herring will spawn on Dvex or if herring eggs can survive on Dvex.



Where do we go from here?  
Where does Dvex go from here?



Whiting Harbor  
Sitka, Alaska