

# Harmful Algal Blooms and Veterinary Medicine - A Case Study

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NEHA Internship 2020

By Keelan Kenny



# About Me



# Outline

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- **What are harmful algal blooms?**
- **My project**
- **Project methods**
- **Proposal**
- **What was gained**
- **Applications**



# What are harmful algal blooms (HABs)?

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- **Cyanobacteria cause HABs**

- Occur in stagnant, warm, and high nutrient water
- Can produce harmful toxins
  - Humans and animals may be affected

- **How to identify a HAB**

- Green or blue to red or brown
- Sometimes a scum will be present
- Odor of rotting plants



# My Project

- Identify community needs
- Create accessible materials
- Reporting system
  - Line of communication between local veterinary clinics and the Clark County Public Health Department
  - Help inform advisories

# WARNING

## TOXIC ALGAE PRESENT

Lake unsafe for people and pets

**Until further notice:**

- **Do not swim or water ski.**  
No nade o practique el esquí acuático.
- **Do not drink lake water.**  
No tome el agua del lago.
- **Keep pets and livestock away.**  
Mantenga alejados las mascotas y el ganado.
- **Clean fish well and discard guts.**  
Limpie bien el pescado y deseche las tripas.
- **Avoid areas of scum when boating.**  
Evite las áreas con espuma o verdin cuando ande en lancha.

Call your doctor or veterinarian if you or your animals have sudden or unexplained sickness or signs of poisoning.

|                                                   |                                    |
|---------------------------------------------------|------------------------------------|
| Report new algae blooms to Department of Ecology: | Call your local health department: |
| <b>360-407-6000</b>                               |                                    |

For more information: [www.doh.wa.gov/ehp/algae/](http://www.doh.wa.gov/ehp/algae/)  
[www.ecy.wa.gov/programs/wq/plants/algae/index.html](http://www.ecy.wa.gov/programs/wq/plants/algae/index.html)

 May 2008



# Project Methods

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- **Interviewed 33 local clinics**
  - 12 responses
    - All but one clinic wanted to participate
- **Interview talking points**
  - Frequency of patients with blue-green algae poisoning
  - Method of owner education and prevention
  - Willingness to participate in a reporting program
  - How can the health department serve as a resource
  - Best mode of contact





# Proposal - Brochure

## Dogs & Harmful Algal Blooms (HABs)



### WHAT ARE HABs?

Cyanobacteria are the bacteria that can cause harmful algal blooms. The blooms usually occur in bodies of water that are relatively stagnant, warm, and contain excess nutrients in the form of phosphorus and nitrogen. While the blooms often occur during the summer and fall, they can occur all year round.

These blooms can produce toxins that can be harmful to dogs, livestock, and humans. It is not possible to tell if a bloom contains toxins just by looking at it. Therefore, when in doubt, stay out!

### HOW TO IDENTIFY A HAB

Blooms can be many different colors, from green or blue to red or brown. Sometimes, a scum will form on the water's surface. As the bloom is coming to an end, you may be able to smell an odor of rotting plants.

The Clark County Public Health Department conducts routine monitoring. Visit the website for current updates on local blooms.

<https://www.clark.wa.gov/public-health/public-beaches>

### HOW CAN I KEEP MY ANIMAL SAFE?

- Do not let your dog drink, wade, or swim in water with a HAB
- Do not let your animal eat scum or algae.
- Wash your pets with clean water after contact with a water body.
- Use the website above for current updates.

*When in doubt,  
stay out!*



# Proposal - Newsletter



## WATER RECREATION

Public Health Issues, Date



### HARMFUL ALGAL BLOOM VETERINARY UPDATE

Harmful algal blooms (HABs) are caused by cyanobacteria. These bacteria can produce hepatotoxins, nephrotoxins, neurotoxins, and/or dermal toxins that can be harmful to animals, livestock, and humans.

This newsletter provides notifications about current blooms with the goal of providing local veterinary clinics real time updates about HABs that are relevant to our community on a week-to-week basis when a bloom is occurring. The goal is to provide veterinarians with the information to keep pets and their owners safe from local HABs.

Clark County Public Health collected water samples from (insert lakes here) to determine if toxins are in the water. The results have informed the following advisory decisions.

- (Lake name and advisory)
- (Lake name and advisory)

Please reference the images on the following pages for how to keep clients and pets safe. If there is ever a doubt about the safety of the water, cliental should not let their animals drink, swim, or wade in the water. The animal should not eat scum or algae and the owner should rinse their pet with clean water if the animal does enter the lake. When in doubt, stay out!

Public Health will continue to monitor the lake, and signs will be updated as conditions change. Additional information and current advisories are posted on the Public Health beach website. <https://www.clark.wa.gov/public-health/public-beaches>

#### INFORMATION ABOUT CYANOBACTERIA

- You cannot tell if a bloom is toxic by looking at it.
- Algal blooms are most common in summer but can also occur at any time of year.
- Toxins produced by blue-green algae may be present during a visible bloom or may persist after a bloom has disappeared. Blooms can also be produced by other algae species that are not harmful.

#### How to Report an Illness:

*Lorem ipsum dolor sit amet, tation viderer sit eu, pri morum tincam omnesque ne. No sit quaestio liberavisse. In alii iudico mei, dolorum ponderum sea et. Eos eos alia aeterno volutpat. Quo no nulla*





# Proposal - OHHBAS Reporting System



## One Health Harmful Algal Bloom System (OHHABS)

Public reporting function of the collection of information is estimated to average 20 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Do not include the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to OMB at 0401-0188 and to the Office of Management and Budget, Paperwork Project Director (0401-0188), Washington, DC 20503.

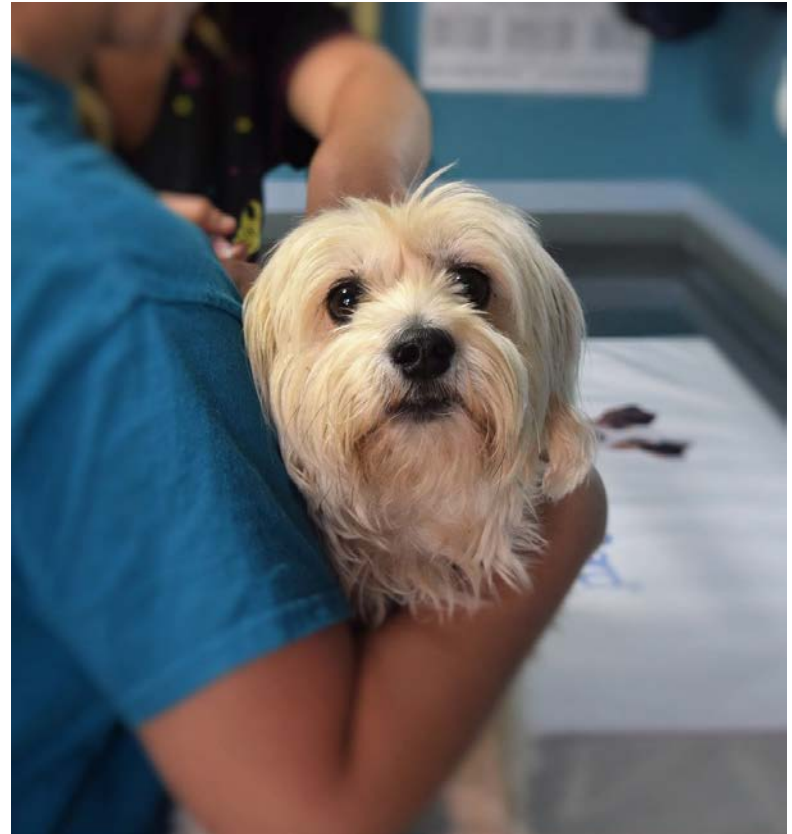


Form Approved  
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Expires 03/31/2022

| CDC REPORT ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | CDC FORM ID | STATE REPORT ID | ANIMAL CASE ID | DATE CREATED |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------------|----------------|--------------|
| <p><b>**Note:</b> Create or update a report by appending an environmental form to this animal form.</p> <p>If reporting more than one animal, please create one report for each animal unless they are part of a large herd, flock, school of fish, etc.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |                 |                |              |
| <b>GENERAL INFORMATION</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                 |                |              |
| <b>Animal Description</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |                 |                |              |
| <p>What is the category of animal(s) being reported? (e.g., wildlife, domestic pet, livestock) _____</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |             |                 |                |              |
| <p>What type of animal(s) are you reporting? (e.g., dog, bird, fish) _____</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                 |                |              |
| <p>Additional animal description? (e.g., beagle, brown pelican, catfish) _____</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |                 |                |              |
| <p>Does this illness report describe a single animal or a group of animals?</p> <p style="margin-left: 20px;"> <input type="checkbox"/> Single animal (e.g., dog, bird, sea lion)             <span style="margin-left: 100px;"><input type="checkbox"/> Group of animals (e.g., fish kill, flock of birds, herd of cattle)</span> </p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |                 |                |              |
| <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <p><b>If reporting a single animal:</b></p> <p>What is the age of the animal? _____ years</p> <p>What is the weight of the animal? _____ <input type="checkbox"/> lb <input type="checkbox"/> kg</p> <p>Did the animal die? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown</p> <p>What condition was the animal found? (check all that apply)</p> <p> <input type="checkbox"/> Alive                             <input type="checkbox"/> Fresh                             <input type="checkbox"/> Scavenged                             <input type="checkbox"/> Decomposed                             <input type="checkbox"/> Unknown                             <input type="checkbox"/> Not Applicable                         </p> </div> <div style="width: 48%;"> <p><b>If reporting a group of animals:</b></p> <p>How many animals were affected? _____</p> <p>Did the animals die? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown</p> <p>How many dead animals were counted? _____</p> <p>What condition were the animals found? (check all that apply)</p> <p> <input type="checkbox"/> Alive                             <input type="checkbox"/> Fresh                             <input type="checkbox"/> Scavenged                             <input type="checkbox"/> Decomposed                             <input type="checkbox"/> Unknown                             <input type="checkbox"/> Not Applicable                         </p> </div> </div> |             |                 |                |              |
| <p><b>Dates (MM/DD/YYYY)</b></p> <p>Did the animal(s) have exposure to algae and/or algal toxins on a single date or multiple dates? (check one)</p> <p> <input type="checkbox"/> Single date                             <input type="checkbox"/> Multiple dates                             <input type="checkbox"/> Unknown                         </p> <p>Date of first exposure: _____ <input type="checkbox"/> AM <input type="checkbox"/> PM</p> <p>Date of last exposure: _____ <input type="checkbox"/> AM <input type="checkbox"/> PM</p> <p>Date of discovery: _____ <input type="checkbox"/> AM <input type="checkbox"/> PM</p> <p>Date of illness onset: _____ <input type="checkbox"/> AM <input type="checkbox"/> PM</p> <p>Date of death: _____ <input type="checkbox"/> AM <input type="checkbox"/> PM</p> <p>Date of notification to Local, Territory, Tribal, or State Health Authorities _____</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |                 |                |              |
| <p>Date Remarks</p> <div style="border: 1px solid black; height: 60px; margin-top: 5px;"></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                 |                |              |



# What was gained



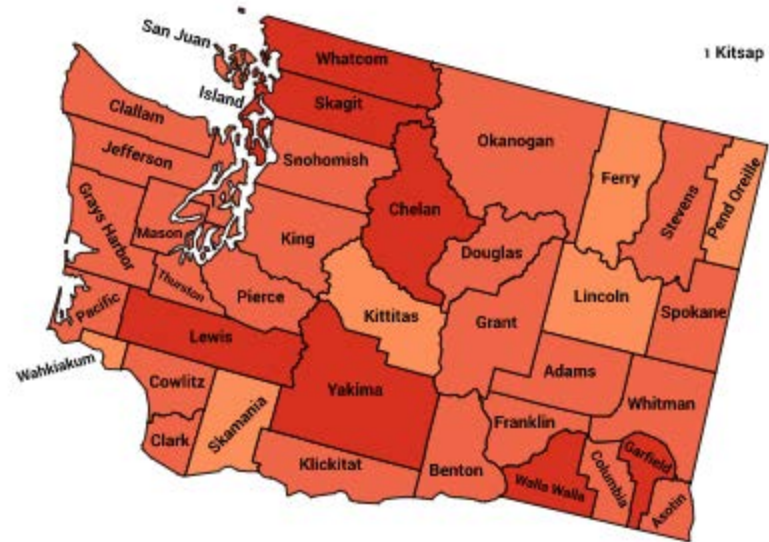
# Application

- **Pet-based businesses**

- Materials could be edited to be used by groomers, boarders, and other pet-based businesses

- **Other health departments**

- Create a statewide reporting system



# Thank you!

## Comments and questions

Clark County Public Service Center

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