

One Health Harmful Algal Bloom System (OHHABS)

Foodborne Illness Reporting Guidance

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1. Introduction

This document provides guidance for reporting harmful algal bloom (HAB)-associated foodborne cases of illnesses in the One Health Harmful Algal Bloom System (OHHABS). For the purpose of providing guidance in this document, the term “HAB-associated foodborne illness” will be used to describe one or more cases of illnesses resulting from an exposure to HAB toxins through the ingestion of food. HAB-associated foodborne illnesses may be a result of ingesting food items, such as fish or shellfish that have accumulated HAB toxins over time, or may be a result of ingesting food items containing algae (that may produce HAB toxins) as an ingredient, such as a dietary supplement. Common food items that may be contaminated with algal toxins can include but are not limited to fish, shellfish, or dietary supplements. The term “food source” will be used to describe the same food item or the same batch of food items that resulted in HAB-associated foodborne illness.

This guidance document provides an overview of how to report a HAB-associated foodborne illness in the Human Form, Animal Form, and Environmental Form. This guidance document highlights the fields used to indicate a HAB-associated foodborne illness and is intended to provide additional guidance to that found in the OHHABS Environmental, Human, and Animal Form Guidance documents on the [OHHABS website](#). HAB-associated foodborne illness can be reported to OHHABS only if exposures to food items occurred in the United States or its associated territories and resulted in human or animal cases of illness.

The Council of State and Territorial Epidemiologists (CSTE) and CDC request that all HAB-associated foodborne disease outbreaks (≥ 2 human cases of HAB-associated illness due to a common source) should report to the Foodborne Disease Outbreak Surveillance System via the [National Outbreak Reporting System \(NORS\)](#), which collects data about the entire outbreak, that is, cases of illness in aggregate. However, each individual case of illness may be reported to OHHABS to characterize individual case exposures, signs and symptoms, and health outcomes. When the same HAB-associated outbreak is reported to both NORS and OHHABS, users should indicate in OHHABS and NORS that an existing report in each system shares information about the same event.

For more information and related resources about OHHABS, please visit [CDC’s OHHABS website](#).

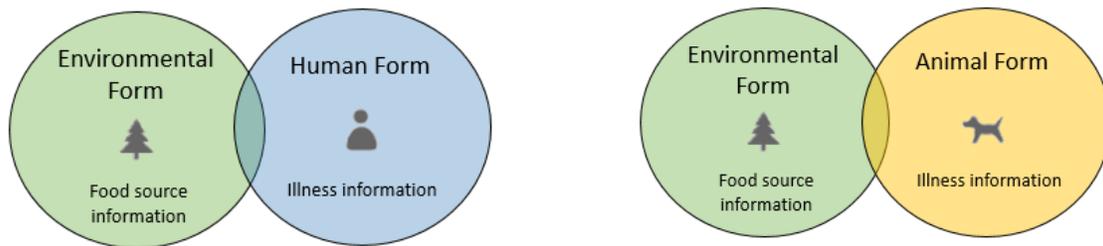
For more information about NORS and foodborne disease outbreak reporting, please visit [CDC’s NORS website](#).

For more information on HAB-associated foodborne toxins and food analysis, please refer to the [U.S Food and Drug Administration’s Bad Bug Book](#).

For more information about HAB-associated fish and shellfish monitoring activities, please refer to Chapter 6: Natural Toxins in the [FDA’s Fish and Fishery Products Hazards and Controls Guidance](#).

2. Overview of Reporting HAB-associated Foodborne Illness in OHHABS

Exposures to food items in the United States or its associated territories that result in human or animal illness can be reported to OHHABS as a HAB-associated foodborne illness, which includes information about the case(s) of illnesses and the food item implicated. HAB-associated foodborne illnesses may be reported in OHHABS by completing relevant fields in the Human or Animal Form to document the foodborne exposure and illness information about the case. Information about the food item implicated including the type of food item or the source of the food item may be documented in the relevant fields in the Environmental Form.



In the images above, examples of how to report a HAB-associated foodborne illness in each form are displayed. Information about the food can be documented in the Environmental Form and illness information about the case can be documented in the Human or Animal Form.

Step 1: An OHHABS user creates a Human or Animal Form to document information on individual cases of illness.

- For a new OHHABS report, when a Human Form or Animal Form is created first, an Environmental Form will automatically be created.
- For an existing OHHABS report that contains an Environmental Form, a new Human Form or Animal can be created to report individual human or animal cases of illness.
- If multiple cases of illness resulted from exposure to the same food source (i.e., multiple illnesses resulted from a single food source), multiple case forms can be created in a single OHHABS report; only one Environmental Form is needed to document the food source.

Step 2: The OHHABS user documents the foodborne exposure and illness information for a single case of illness in the Human Form or Animal Form.

Step 3: The OHHABS user provides information about the food source for all HAB-associated foodborne illnesses in the Environmental Form. The Environmental Form is an important component of the OHHABS report because it captures valuable traceback (i.e., location where the food was captured, harvested, or produced) and sample testing information about the contaminated food. An example of an OHHABS report summary for a HAB-associated foodborne illness with a single case of human illness is shown below. There is one Environmental Form, detailing information about the food source, and one Human Form, detailing information about the associated illness.

OHHABS - One Health Harmful Algal Bloom System

Go to: [All Reports](#)
State ReportID: **Foodborne_Illness_CountyA_11May2016**

CDC Report ID: 99 Report Author: JYu Date Created: 5/11/2016 Status: Active

Welcome, JYu
[Logout](#)

View and Edit Report

 Foodborne_Illness_CountyA_11May2016	State/Jurisdiction: Wisconsin	Water Body:	No Bloom Date	Author: JYu
 Case1	Sex: F Age: 36	Location Name:	Date Illness Onset: 08/20/2015	Author: JYu 

Actions:

Create New Form:

 [Ergalg](#)  [Human](#)  [Animal](#)

3. Reporting HAB-associated Foodborne Illness in the Human Form

The foodborne illness guidance aligns with guidance provided in the Human Form Guidance document on the [OHHABS website](#). Several fields that help to indicate that a human illness was food-related are reviewed in more detail below.

3.1. Human Exposure Info Section

In the Exposure Description tab of Human Exposure Info Section, the location and setting(s) of the exposure for each individual case that is part of the OHHABS report may be detailed.

3.1.1. Exposure Description Tab

The screenshot shows the 'Human Exposure Info' section of the OHHABS form, specifically the 'Exposure Description' tab. The form is divided into several sections:

- State(s) where exposure occurred? (select all that apply):** A dropdown menu with options: CDC, Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut.
- Count(ies) where exposure occurred? (select all that apply):** A dropdown menu with options: Adams, Allen, Ashland, Ashtabula, Athens, Auglaize, Belmont, Brown, Butler.
- Setting(s) of the exposure:** A dropdown menu with options: Apartment/Condo, Beach - Nonspecific, Beach - Private, Beach - Public, Camp/Cabin Setting, Club (Requires Membership), Community/Municipality, Farm/Agricultural Setting.
- Specific location name:** A text input field.
- Save:** A blue button in the top right corner.

- **State(s) where exposure occurred?** – Indicate the state where the foodborne exposure occurred. Select all states that apply for this case of illness. If multiple cases or states of exposure were identified, see the additional guidance on reporting multistate HAB-associated foodborne illnesses in the OHHABS Multistate Guidance document on the OHHABS website.
- **Count(ies) where exposure occurred?** – Counties displayed are dependent on the “State(s) where the exposure occurred.” If more than one state is selected, select all counties that apply. Counties are listed alphabetically by state. For example, if Alaska and California are selected, California’s counties will be listed after Alaska’s counties.
- **Setting(s) of the exposure?** – Indicate the setting(s) where the person was exposed to the food item(s). The setting is the location where the person ingested the contaminated food item. Select all settings that apply.
- **Specific location name** – The “Specific location name” is the specific location where the person ingested the contaminated food item. For specific locations that include brand names or restaurant names, please provide a broad description of the location without identifying the specific location by name (e.g., restaurant in County A).

3.1.2. Activities Tab

In the Activities Tab of Human Exposure Info Section, foodborne exposures may be described in more detail. This is a key section for identifying and characterizing exposures to food contaminated with algal toxins. An example of an Exposure Activity in the Human Form is shown below to reflect a foodborne exposure from eating contaminated fish.

Human Exposure Info						
Exposure Description						
Activities						
Exposure Routes and Remarks						
Save						
	Exposure source	Exposure activity	Exposure activity description	Water type (if applicable)	Food type (if applicable)	Duration (and unit)
Delete Row	Food	Other	Ate seafood		Grouper, other	
Add Row						

- Exposure source** – For HAB-associated foodborne illness, select “Food” as the “Exposure source”. The following fields in this tab further characterize the food. More than one row can be created for the same “Exposure source” if the “Exposure activity” or the “Exposure activity description” is different for the source. For example, if someone ate fish and shellfish, enter a second row for shellfish.
- Exposure activity** – If the “Exposure source” is “Food”, select “Food consumption” as the “Exposure activity”.
 - Food consumption** – Select “Food consumption” if the exposure activity was related to eating or ingesting food items potentially contaminated with HAB toxins. Food items may include but are not limited to fish, shellfish, dietary supplements, or other food items that incorporate algae (e.g., juice, yogurt).
- Exposure activity description** – Provide a brief description of the “Exposure activity” in the “Exposure activity description” field (e.g., eating fish, shellfish at luncheon, taking dietary supplements). Descriptions for multiple activities can be entered but must be within the 50 character limit. Please use the Remarks field to provide a more detailed description.
- Food type** – Indicate the “Food type” for the food item implicated. This list supports reporting general and more specific reporting of types of fish. For example, if an exposure occurred from eating grouper but the specific type is not listed, select “Grouper, other”. However, if the fish was determined to be tiger grouper, a specific type of grouper, select “Grouper, tiger”. If the type of food is not listed, select “Other” and explain in the “Exposure Remarks” field. If the food item is unknown, select “Unknown” and explain in the “Remarks” field.

3.1.3. Exposure Routes and Remarks Tab

In the Exposure Routes and Remarks Tab in the Human Exposure Section, the route of exposure can be identified and a more detailed description of the exposure can be added.

The screenshot shows the 'Human Exposure Info' tab selected in the OHHABS system. Within this tab, the 'Exposure Routes and Remarks' sub-tab is active. The form contains the following elements:

- Navigation tabs: General, Human Exposure Info (selected), Illness and Outcomes, Clinical Testing, Supplemental Info, Author and Agency.
- Sub-tab navigation: Exposure Description, Activities, Exposure Routes and Remarks (selected).
- Question: "What were the routes of exposure? (select all that apply)"
- Options: Ingestion, Inhalation, Skin contact, Other (describe in remarks), Unknown.
- Text area: "Exposure Remarks (e.g. additional description of single or multiple exposures)" with the text "Case consumed grouper at a restaurant."
- Save button: A blue button labeled "Save" in the top right corner.

- **What were the routes of exposure?** – For a HAB-associated foodborne illness, select “Ingestion” as the route of exposure. If other routes of exposures were suspected to have occurred at the same time (e.g., skin irritation from handling the food), please report these routes of exposure and describe further in the Exposure Remarks.
- **Exposure Remarks** – If additional information about the exposure, exposure activities, or routes of exposure is available or would benefit from further clarification, please describe in this field. Please included a description of the food item in this field if it is not available in the “Food type” picklist.

3.2. Signs/Symptoms of Illness and Health Outcomes Section

In the Illness and Health Outcomes Section, health outcomes for individual cases of HAB-associated foodborne illnesses can be detailed.

3.2.1. Signs/Symptoms of Illness Section Tab

In the Signs/Symptoms of Illness Tab below the Signs/Symptoms table, there are several descriptive fields about the HAB-associated foodborne illness.

General	Human Exposure Info	Illness and Outcomes	Clinical Testing	Supplemental Info	Author and Agency
Signs/Symptoms of Illness		Medical Care and Health Outcomes	Health History and Differential Diagnosis		
Save					
Sign/Symptom	Time to onset	Onset unit	Duration of symptoms	Duration unit	Recurrence following multiple exposures?
Delete Row Gastrointestinal (nonspecific) ▼	<input type="text"/>	<input type="text"/>	6.5	Hours ▼	No ▼
Delete Row Neurological symptoms (nonspecific) ▼	<input type="text"/>	<input type="text"/>	4	Hours ▼	No ▼
Add Row					
If Yes to any of the questions below, describe in remarks.					
Was the person still experiencing signs/symptoms at the time of interview?					
<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown					
Were the signs/symptoms consistent with the routes of exposure (e.g., location of rash consistent with exposed body parts)?					
<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown					
If a food item was implicated, were the signs/symptoms consistent with foodborne fish/shellfish poisoning?					
<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown					
Poisoning description (select one from list) <input type="text" value="Ciguatera Fish Poisoning (CFP)"/>					
Signs/Symptoms Remarks					
<input type="text" value="Signs and symptoms experience by the case were consistent with CFP."/>					

- **Sign/Symptom** – Select the sign(s) (e.g., fever) or symptom(s) (e.g., self-reported nausea) the person experienced. If the “Sign/Symptom” is not listed, please select “Other” and describe the sign or symptom in the “Remarks” field.
- **Time to onset** – Enter the numeric value of “Time to onset” in this field. “Time to onset” is the time between exposure to algae or algal toxins and when the signs or symptoms of illness began in minutes, hours, or days.
- **Onset unit** – Indicate the unit of time for the “Time to onset” (i.e., Minutes, Hours, Days).

- **Duration of symptoms** – Enter the numeric value of the duration of a sign or symptom up to 2 decimal places for the duration in this field (e.g., 2.15). “Duration of symptoms” is the length of time the sign or symptom of illness lasted. For example, a patient had neurological symptoms that appeared on July 4th that resolved on July 7, the duration of illness would be 4 days (July 4–7).
- **Duration unit** – Indicate the unit of time for the “Duration of symptoms” (i.e., Minutes, Hours, Days).
- **Recurrence following multiple exposures?** – If the sign or symptom recurred with repeat exposures (e.g., stomach pain after eating a shellfish two separate times), report “Yes” and describe in the “Medical Care and Health Outcomes Remarks” field.
- **Was the person still experiencing signs/symptoms at the time of interview?** –Indicate whether the person was still experiencing any signs or symptoms of illness when sign/symptom data were collected for this report. If “Yes,” please describe in the “Signs/Symptoms Remarks” field.
- **Were the signs/symptoms consistent with the routes of exposure?** – Indicate whether the sign(s) or symptom(s) were consistent with the route(s) of exposure.
 - Select “Yes” if the person experienced any signs or symptoms consistent with all routes of exposure. Signs or symptoms consistent with the exposure route can include foodborne HAB exposures (e.g., a person ingesting food contaminated with algal toxins and then developed gastrointestinal symptoms and neurological symptoms) or can include other exposure routes (e.g., a person breathing in aerosolized HAB toxins developed respiratory symptoms).
 - Select “No” if the signs or symptoms were not consistent with any route of exposure.
 - Select “Unknown” if it is not possible to determine whether the signs/symptoms were consistent.
- **If a food item was implicated, were the signs/symptoms consistent with foodborne fish/shell poisoning?** – If food was identified as an exposure source during the investigation, indicate if the signs or symptoms were consistent with those known to occur in fish or shellfish poisoning. Implicated food may include suspected food items after investigation or laboratory confirmed food items. For more information about the signs and symptoms of foodborne fish/shellfish poisoning, please refer to the [Harmful Algal Bloom-Associated Illnesses website](#).
- **Poisoning description** – Specific poisoning descriptions can be used to better characterize HAB-associated foodborne illnesses and implicate the algal toxin that caused an illness in the absence of laboratory testing [e.g., symptoms fit the description of Ciguatera Fish Poisoning (CFP)]. The poisoning description may also inform the type of the laboratory testing needed to identify a specific algal toxin (e.g., if symptoms fit the description of CFP, a

public health laboratory may test for ciguatoxins). Regardless of whether a specific food item was implicated, if the human case experienced signs or symptoms consistent with specific foodborne fish or shellfish poisoning, indicate the type of poisoning. For more information about foodborne fish/shellfish poisoning, please refer to the [Harmful Algal Bloom-Associated Illnesses website](#).

- **Amnesiac Shellfish Poisoning (ASP)** – ASP is caused by eating shellfish contaminated with domoic acid, a toxin produced by diatoms of the genus *Pseudo-nitzschia*, *Nitzschia*, and *Amphora*. Symptoms can vary and may include: vomiting and diarrhea within 24 hours of eating, dizziness, headache, disorientation, short-term memory loss, seizures, weakness, paralysis, and death may occur in severe cases.
- **Azaspiracid Poisoning (AZP)** – AZP is associated with eating contaminated shellfish with an algal toxin believed to be produced by a dinoflagellate species. The species has not yet been identified. AZP is the most recently discovered human illness related to algal toxins. Symptoms may include: nausea, vomiting, diarrhea, stomach cramps.
- **Ciguatera Fish Poisoning (CFP)** – CFP is caused by eating fish contaminated with ciguatera toxins. Ciguatera toxins are produced by the dinoflagellate species, *Gambierdiscus toxicus*. CFP can cause gastrointestinal and circulatory symptoms including diarrhea, abdominal pain, nausea, vomiting, numbness in extremities, dizziness, muscle aches, decreased heart rate, low blood pressure, or heightened response to hot or cold temperatures. Symptoms often begin within 12-24 hours of eating the contaminated fish and might last up to 4 days.
- **Diarrhetic Shellfish Poisoning (DSP)** – DSP is caused by eating shellfish contaminated with okadaic acid and dinophysistoxins, toxins produced by the dinoflagellate genus *Dinophysis* and *Procentrum*. DSP can cause gastrointestinal symptoms usually within 30 minutes to a few hours after eating contaminated shellfish and can last up to 3 days with or without medical treatment. These symptoms can include: vomiting, severe diarrhea, nausea, abdominal cramps, or chills.
- **Neurotoxic Shellfish Poisoning (NSP)** – NSP is caused by eating shellfish contaminated with brevetoxins produced by a dinoflagellate species *Karenia brevis*. Symptoms are often related to the nervous or gastrointestinal system and usually resolve within 2-3 days. Symptoms may include numbness; tingling in the mouth, arms, and legs; loss of coordination, vomiting, diarrhea, or heightened response to hot or cold temperatures.
- **Paralytic Shellfish Poisoning (PSP)** – PSP is caused by eating shellfish contaminated with saxitoxins produced by the dinoflagellate of the genus *Alexandrium*. Saxitoxins, also known as PSP toxins, cause symptoms related to the nervous system. PSP toxins can be found in shellfish. PSP symptoms usually begin within 2 hours of eating

contaminated shellfish but can start anywhere from 15 minutes – 10 hours after a meal. The symptoms are generally mild and can include numbness or tingling of the face, arms, and legs, headache, dizziness, nausea, loss of coordination, or a floating sensation. In rare but severe cases, muscle paralysis and respiratory failure may occur.

- **Signs/Symptoms Remarks** – Describe any relevant information not captured above regarding any signs or symptoms that the human case experienced.

4. Reporting HAB-associated Foodborne Illness in in the Animal Form

The foodborne illness guidance aligns with general guidance for the Animal Form found in the [OHHABS website](#). Several fields that help to indicate that an animal illness was food-related are reviewed in more detail below.

4.1. Exposure Description Section

In the Exposure Description Section, the location and setting(s) of the exposure may be provided.

4.1.1. Location Tab

The screenshot shows the 'Exposure Description' tab in the OHHABS Animal Form. The 'Location' sub-tab is active. It contains the following fields:

- State(s) where exposure occurred?**: A dropdown menu with options: CDC, Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut.
- Count(ies) where exposure occurred? (select all that apply):**: A text input field.
- Setting(s) of the exposure:**: A dropdown menu with options: Animal boarding/day care, Apartment/Condo, Beach - Nonspecific, Beach - Private, Beach - Public, Camp/Cabin Setting, Club (Requires Membership), Community/Municipality.
- Specific location name:**: A text input field.

A 'Save' button is located in the top right corner of the form.

- **State(s) where exposure occurred?** – Indicate the state where the foodborne exposure occurred. Select all states that apply for this case of illness. If multiple cases or states of exposure were identified, see the additional guidance on reporting multistate HAB events and illnesses in the OHHABS Multistate Reporting Guidance document found in the [OHHABS website](#).
- **Count(ies) where exposure occurred?** – Counties displayed are dependent on the “State(s) where the exposure occurred.” If more than one state is selected, select all counties that apply. Counties are listed alphabetically by state. For example, if Alaska and California are selected, California’s counties will be listed after Alaska’s counties.
- **Setting(s) of the exposure?** – Indicate the setting(s) where the animal was exposed to the food item(s). The setting is the location where the animal ingested the contaminated food item. Select all settings that apply.
- **Specific location name** – The “Specific location name” is the specific location where the animal ingested the contaminated food item. For specific locations that include brand names or restaurant names, please provide a broad description of the location without identifying the specific location by name (e.g., restaurant in County A).

4.1.2. Activities Tab

In the Activities tab in the Exposure Description Section, foodborne exposures may be described in more detail. This is a key section for identifying and characterizing exposures to food contaminated with algal toxins. An example of an Exposure Activity in the Animal Form is shown below to reflect a HAB-associated foodborne exposure from eating contaminated fish.

General		Exposure Description	Illness and Outcomes	Clinical Testing	Supplemental Info	Author and Agency
Location	Activities	Exposure Routes and Remarks				
Save						
Exposure source	Exposure activity	Water type (if applicable)	Food type (if applicable)	Duration (and unit)		
Delete Row Food	Coyote ate fish from lake		Perch, white			
Add Row						

- **Exposure source** – For a HAB-associated foodborne illness, select “Food” as the “Exposure source”. The following fields in this tab further characterize the food. More than one row can be created for the same “Exposure source” if the “Exposure activity” or the “Exposure activity description” is different for the source. For example, if the animal ate fish and shellfish, enter a second row for shellfish.
- **Exposure activity** – Provide a brief description of the “Exposure activity” in the “Exposure activity” field (e.g., ate a dead fish washed up on the shore). Descriptions for multiple activities can be entered but must be within the 50 character limit. Please use the Remarks field to provide a more detailed description.
- **Food type** – Indicate the “Food type” for the food item implicated. This list supports reporting general and more specific reporting of types of fish. For example, if an exposure occurred from eating white perch select “Perch, white” as the “Food type”. If the specific type of perch is not listed, select “Perch, other”. If the type of food is not listed, select “Other” and explain in the “Exposure Remarks” field. If the food item is unknown, select “Unknown” and explain in the “Remarks” field.

4.1.3. Exposure Routes Tab

In the Exposure Routes and Remarks Tab in the Exposure Description Section, the route of exposure can be identified and a more detailed description of the exposure can be added.

The screenshot shows a web form with a navigation bar at the top containing tabs: General, Exposure Description (highlighted), Illness and Outcomes, Clinical Testing, Supplemental Info, and Author and Agency. Below this is a sub-navigation bar with tabs: Location, Activities, and Exposure Routes and Remarks (highlighted). A blue 'Save' button is located in the top right corner of the form area. The main content area contains the following text and controls:

What were the routes of exposure? (select all that apply)

Ingestion Inhalation Skin contact Other (describe in remarks) Unknown

Exposure Remarks (e.g. additional description of single or multiple exposures)

Below the text is a large, empty rectangular text input field.

- **What were the routes of exposure?** – For a HAB-associated foodborne illness, select “Ingestion” as the route of exposure. If other routes of exposures were suspected to have occurred at the same time, please report these routes of exposure and describe further in the Exposure Remarks.
- **Exposure Remarks** – If additional information about the exposure, exposure activities, or routes of exposure is available or would benefit from further clarification, please describe in this field. Please included a description of the food item in this field if it is not available in the “Food type” picklist.

5. Reporting HAB-associated Foodborne Illness in in the Environmental Form

In the Environmental Form, several fields can be completed to indicate the food item implicated in the HAB-associated foodborne illness. It is important to document key pieces of information that may be available about the food item or food source, such as the water body in which the food item was caught or harvested. Data about the food item will help improve the understanding of where implicated food is caught or harvested, laboratory testing, and linkages to other data systems. Report the catch or harvest location of the food item implicated in the HAB-associated foodborne illness in which the exposure occurred in the United States or its associated territories.

5.1. General Information Section

In the General Information Section, a HAB-associated foodborne illness and information about the food item can be indicated.

5.1.1. Dates Tab

In the Dates Tab, HAB-associated foodborne illness can be indicated.

The screenshot shows the OHHABS web application interface. The main header is "OHHABS - One Health Harmful Algal Bloom System". Below the header, there are navigation links: "Go to: All Reports" and "Report Summary: Foodborne_Illness_CountyA_11May2016". The user is logged in as "JYu" and has a "Logout" link. The main content area shows the "State Report ID: Foodborne_Illness_CountyA_11May2016". There are two summary sections: "Environmental Summary" and "Report Summary". The "Environmental Summary" section includes fields for "Water Body:", "Event Date:", and "Author: JYu". The "Report Summary" section includes fields for "State Report ID: Foodborne_Illness_CountyA_11May2016", "Status: Active", "Water Body:", "CDC Report ID: 99", "Author: JYu", and "Date Created: 5/11/2016". Below these sections are several tabs: "General", "Bloom Description", "Laboratory Testing", "Other Systems", "Supplemental Info", and "Author and Agency". The "Dates" tab is selected and highlighted. Under the "Dates" tab, there are three sub-sections: "Dates", "Geographic Description", and "Water Body Characteristics". The "Dates" sub-section contains the following fields: "Date bloom was first observed" (with a calendar icon), "Date of notification to Local, Territorial, Tribal, or State Health Authorities:" (with a calendar icon), and a dropdown menu labeled "If no bloom date is available, select one below and explain in Date Remarks:" with the selected option being "Foodborne intoxication". There is a "Save" button in the top right corner of the form area.

- **Date bloom was first observed** – If a bloom was observed and may have been a HAB-associated foodborne illness, please enter the first observation date of a bloom. Please indicate in the “Date Remarks” field that the bloom resulted in a HAB-associated foodborne illness.
- **Date of bloom notification to Local, Territorial, Tribal, or State Health Authorities** – If a bloom notification or notice was sent to a health authority (e.g., state public health department, local health department), indicate the date the notification was sent. Please

indicate in the “Date Remarks” field bloom notification was issued and the event resulted in a HAB-associated foodborne illness. If a health advisory to fishing or shellfish was issued, please indicate the advisory or notification in the Health Advisories/Warnings Tab in the Bloom Description Section.

- **If no bloom date available** (Select an option that best describes the event) – Please select “Foodborne intoxication” in this field. For fish or shellfish that can become contaminated with algal toxins, it can be difficult to know the exact time when a HAB occurred. Fish or shellfish may become contaminated without an observed HAB but by consuming toxic algae throughout their lifetime. Other than routine fish and shellfish monitoring for algal toxins, sometimes foodborne intoxication is the only indicator of a HAB.
 - **Foodborne intoxication** – Select “Foodborne intoxication” if a HAB-associated foodborne illness occurred due to the consumption of food by humans or animals. Food items might include but are not limited to seafood, shellfish, or dietary supplements. Please provide more information in the “Date Remarks” field about why this value was selected.
- **Date Remarks** – Describe any relevant date information that was not documented above. For example, if the no bloom date option was selected, please explain details in this section.

5.1.2. Geographic Description Tab

In the Geographic Description Tab, if the location where a food item was caught or harvested is known, OHHABS users may detail the catch or harvest location.

The screenshot shows the 'Geographic Description' tab in the OHHABS reporting system. It features a navigation bar with tabs: General, Bloom Description, Laboratory Testing, Other Systems, Supplemental Info, and Author and Agency. Below this, there are sub-tabs: Dates, Geographic Description (active), and Water Body Characteristics. A 'Save' button is in the top right. The 'Location' section includes a dropdown for 'State/Jurisdiction' (set to California) and a list of counties (Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado). A question asks 'Did an algal bloom impact water quality in any other states?' with radio buttons for Yes, No, Unknown, and Not applicable (selected). Below this is a dropdown for 'Other states (select all that apply):' listing CDC, Alabama, Alaska, Arizona, Arkansas, California, Colorado, and Connecticut. At the bottom are text input fields for 'Official Name of Water Body', 'Common Name of Water Body', 'Specific location name', and 'Nearest city/town'.

Location:

*For food caught or harvested in Non-U.S. countries, **report only if exposures to food items occurred in the United States or its associated territories and resulted in human or animal illness.** For example, if a person in New York consumed a fish imported from a Non-U.S. country and became ill, the location of the food source in the Environmental Form would be 'Non-U.S. Country,' and the exposure location would be New York in the Human Form.*

- **State/Jurisdiction** – Indicate the state or jurisdiction in which the food was caught or harvested. When “Foodborne intoxication” is selected for the “If no bloom date available” field in the Dates Tab, OHHABS users may select the state or jurisdiction where the food item was caught or harvested. If “Foodborne intoxication” is not selected, this field will be auto-populated with the state or jurisdiction that created the report. If changes need to be made to this field while it is locked, please contact NORSWater@cdc.gov. For more instructions on how to report HAB-associated foodborne illnesses in multiple states, see the OHHABS Multistate Guidance document on the [OHHABS website](#).
 - For food catch, harvest, or production locations within the United States (e.g., inland lake, coastal water bodies), please select the state or jurisdiction where the food was caught or harvested.
 - For food catch or harvest locations outside the United States (e.g., fish caught in international waters), please select the “Non-U.S. country” option and describe the location in the “Geographic Description Remarks” field.
- **Counties** – For food catch or harvest locations within the United States, select the all count(ies) that apply. For food catch or harvest locations outside of the United States, please do not select count(ies) in this field.

5.2. Bloom Description Section

In the Bloom Description Section, detailed information about any health advisories or warnings for a HAB or food- advisories can be documented.

5.2.1. Health Advisories/Warnings Tab

In the Health Advisories/Warnings Tab, food-related health advisories or warnings can be indicated. Fish and shellfish caught or harvested for consumption are regularly monitored for pathogens, chemicals, or toxins. In the event that routine monitoring of fish or shellfish detects a pathogen, chemical, or toxin, health advisories, fishing closures, or shellfish bed closures might be issued.

Health Advisories/Warning						
Observational Data						
	Advisory or Warning Type	Response	Issuing Agency (if applicable)	Criteria/Reason(s) for issue	Start Date	End Date
Delete Row	Water body closure (fish/shellfish)	Yes				
Add Row						

- Advisory or Warning Type** – For a food- related advisory,, users can report any advisories or warnings related to water body closures for fishing or shellfish harvest by selecting “Water body closure (fish/shellfish)”.

5.3. Laboratory Testing Section

In the Laboratory Testing Section, sample testing for contaminated food items can be reported.

5.3.1. Algae, Algal Toxins or Components Testing Tab

In the Algae, Algal Toxins or Components Testing Tab, sample testing for food items can be indicated in addition to any other sample testing that may have been performed. Testing for food items can include meal remnant testing or routine fish or shellfish monitoring.

The screenshot shows a web form with the following structure:

- Navigation tabs: General, Bloom Description, **Laboratory Testing**, Other Systems, Supplemental Info, Author and Agency.
- Sub-sections: **Algae, Algal Toxins or Components Testing**, Laboratory Results.
- Question: "Which of the following was tested for algae, algal toxins or components (select all that apply)?"
- Options: Air, Algae, Finished drinking water, Food, Raw water/Ambient, No Testing, Other, Unknown.
- Section: "If testing was conducted,"
- Question: "1) Why was it tested (select all that apply)?"
- Options: Fish illness/kill*, Animal health event response*, Citizen complaint, Human health event response*, Monitoring, Odor, Other, Unknown.
- Text: "*Please create a human and/or animal case report if a human or animal illness occurred (including fish kills)"
- Question: "2) If water was tested, was it tested for any of the following (select all that apply)?"
- Options: Algae, Algal toxins, Chlorophyll, Copper sulfate, Enterococci, Fecal coliforms, Other.
- Button: Save

- **Which of the following was tested for algae, algal toxins, or components?** – Indicate any environmental or food samples that were tested to detect algae, algal toxins, or other algal components. Testing may include environmental testing, routine water quality monitoring, or fish and shellfish monitoring.
 - **Food** – Indicate “Food” if food samples (e.g., meal remnants, dietary supplements) were tested.

5.3.2. Laboratory Results Tab

In the Laboratory Results Tab, details about laboratory testing for food items can be reported. Detailed information about any samples that were tested, the test type used, or any kits used are helpful to identify methods of detecting algae or algal toxins in food items. This information is useful for the analysis and interpretation of HAB-associated foodborne illness data.

OHHABS - One Health Harmful Algal Bloom System

Go to: [All Reports](#) [Report Summary: Ciguatoxin Illnesses](#) Welcome, JYu
[Logout](#)

 State Report ID: Ciguatoxin_Illnesses

Environmental Summary:		Report Summary:	
Water Body:	Author: JYu	State Report ID: Ciguatoxin_Illnesses ✓ CDC Report ID: 23	  
Event Date:		Status: Active	Author: JYu
		Water Body:	Date Created: 12/8/2015

General
Bloom Description
Laboratory Testing
Other Systems
Supplemental Info
Author and Agency

Algae, Algal Toxins or Components Testing
Laboratory Results

Save

Please report information that characterizes algal testing results in environmental or food samples (more extensive results may be attached to the report)

	Classification	Genus or toxin	Species	Subspecies	Detected in?	Sample description	Concentration (and unit)	Test type	Sample collection date	Sample collection time	
Delete Row	Toxin				<div style="font-size: x-small; padding: 2px;">Air</div> <div style="background-color: #006633; color: white; padding: 2px;">Food</div> <div style="font-size: x-small; padding: 2px;">Other</div> <div style="font-size: x-small; padding: 2px;">Unknown</div>	meal remnant		Biological Assay (ELISA, PPIA, neurochemical, PCR, DNA or RNA probe) Culture DNA or RNA sequencing Fluorimeter Gas Chromatography with Flame Ionization (GC/FID) Gas Chromatography with Mass Spectrometry (GC/MS) Liquid Chromatography Ion Trap Mass Spectrometry (LC/IT MS) Liquid Chromatography Single Quadrupole Mass Spectrometry (LC/MS) Liquid Chromatography Time-of-Flight Mass Spectrometry (LC/TOF MS) Liquid Chromatography Triple Quadrupole Mass Spectrometry (LC/MS/MS) Liquid Chromatography/ Fluorescence (LC/FL) Liquid Chromatography/ Ultraviolet-Visible Detection (LC/UV or HPLC) Microscopy (Brightfield, Phase, DIC, Epifluorescence, EM) Other Unknown			
Add Row	Meal remnant of Brown-marbled group was tested for ciguatoxin. REAGEN's Cigau-Check Fish Poison EIA Test Kit (Lot #1234-5678) was used to perform testing on meal remnants.										

- **Detected in?** – If a food sample was tested, select “Food”.
- **Sample Description** – Provide a brief explanation of the food sample that was tested. The “Sample Description” can include general descriptive information about the sample (e.g., meal remnant sample, shellfish monitoring sample).
- **Test Type** – Indicate the type of laboratory test used to detect the algae or algal toxins in the food sample. If more information about the “Test type” (e.g., the specific name of the kit, the lot number, the specific test type such as ELISA or PCR) or testing performed on the food sample is available, please describe in the “Laboratory Testing Remarks” field.
- **Laboratory Testing Remarks** - Describe any relevant information not captured above regarding the food sample tested or laboratory testing details.

5.4. Links to Other Systems Section

The Other Systems Sections helps identify any other systems or reports that contain information related to the food item or the HAB-associated foodborne illness. If a NORS report shares information about HAB-associated foodborne illnesses, please indicate the NORS CDC Report ID in this section.

The screenshot shows a web interface with several tabs: General, Bloom Description, Laboratory Testing, Other Systems (highlighted), Supplemental Info, and Author and Agency. Below the tabs is a section titled "Links To Other Data Systems Containing Information About This Bloom" with a "Save" button. A text box instructs the user to use the table below to link the report to other data systems, and to enter the NORS State ID in the System Report ID Number field if applicable. The table has four columns: System type, System name, System report ID number, and Brief description of linked information. A "Delete Row" button is next to the first row, which has "Federal" selected in the System type dropdown. An "Add Row" button is located below the table.

	System type	System name	System report ID number	Brief description of linked information
Delete Row	Federal			
Add Row				

- **System type** – Indicate the “System type” or the type of system (i.e., Federal, State) in which information about this report has been collected.
- **System name** – Indicate the “System name” or the exact name of the system in which information related to this report (e.g., routine fish/shellfish toxin monitoring data, environmental sampling data, illness data) has been collected. If a NORS report shares information about HAB-associated foodborne illnesses, indicate NORS as the system name.
- **System report ID number** – Indicate the “System report ID number” used within the other system. For example, if an interview for a HAB-associated foodborne illness is in a state system, provide the unique identifier (e.g., number or name of the entry). Please do not include personally identifiable information. For environmental reports or fish/shellfish water monitoring results, provide the unique identifier or report name for the specific report that contains HAB-associated data. If a NORS report shares information about HAB-associated foodborne illnesses, indicate the State Report ID for the NORS report.
- **Brief description of linked information** – Provide a brief description of what information is reported or linked to the other system. Please do not report any personally identifiable information. An example of a brief description could be “routine toxin monitoring data at <insert water body name> July 2016”.

5.5. Supplemental Information Section

The Supplemental Information Section collects supplementary information for the HAB-associated foodborne illness that may not have been captured elsewhere in the form or report.

5.5.1. Remarks Tab

The screenshot shows the 'Remarks' tab interface. At the top, there are navigation tabs: General, Bloom Description, Laboratory Testing, Other Systems, Supplemental Info (selected), and Author and Agency. Below these, there are sub-tabs: Remarks (selected) and Attachments. A 'Save' button is located in the top right corner. The main area contains a text box labeled 'General Remarks (please include any other information that was not captured above)'.

- **General Remarks** – Provide a description of any relevant information that may not have been collected in the form or report about the HAB-associated foodborne illness. Do not include any personally identifiable information (e.g., address for a private property).

5.5.2. Attachments Tab

The screenshot shows the 'Attachments' tab interface. At the top, there are navigation tabs: General, Bloom Description, Laboratory Testing, Other Systems, Supplemental Info (selected), and Author and Agency. Below these, there are sub-tabs: Remarks and Attachments (selected). A 'Save' button is located in the top right corner. The main area contains a text box with the instruction: 'Any additional information may be attached to this form (e.g. state summaries).'. Below this is an 'Upload' button and a 'Browse...' button. A table lists the attached files:

Document Name	Document Length (bytes)	Document Type	Upload Date
WaterQualityMonitoringData.xlsx	7,653	application/vnd.openxmlformats-officedocument.spreadsheetml.sheet	11/02/2015

Please attach any relevant information about the HAB-associated foodborne illness not captured in the form. Do not include any personally identifiable information (e.g., address for a private property). Attachments may include additional information about the routine toxin monitoring in fish or shellfish or food production details. File types that can be attached include images (e.g., jpeg, png), documents (e.g., Word, PDF), or other data file types such as Excel.