

Idaho Cyanobacteria Recreational Waters Response Plan

A Communication Guideline for Protecting the Health of the Public

Version 2



IDAHO DEPARTMENT OF HEALTH & WELFARE

DIVISION OF PUBLIC HEALTH

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Abbreviations, Acronyms, and Symbols

CDC	Centers for Disease Control and Prevention
DEQ	Idaho Department of Environmental Quality
EDAS2	Ecological Data Analysis System
EPA	US Environmental Protection Agency
FAQ	frequently asked question
HAB	harmful “algal” bloom
DHW	Idaho Department of Health and Welfare
ISDA	Idaho State Department of Agriculture
µg/L	microgram per liter
mL	milliliter
PHA	public health advisory
PHD	public health district

1. Purpose Statement

The Idaho Harmful Algal Bloom Response Plan is intended to serve as a coordinated response plan for communication between staff of the Idaho Department of Environmental Quality (DEQ), Idaho public health districts (PHDs), and Idaho Department of Health and Welfare (DHW) Division of Public Health to protect public health when a potential cyanobacterial harmful algal bloom (cyanoHAB) is reported. Roles and responsibilities are as follows:

- DEQ conducts scientific investigations of reported blooms, reports data, answers ecology-specific questions, and provides recommendations to the PHDs and DHW.
- DHW issue and lift public health advisories based on reported data.
- DHW provides educational material and consultation on the health effects of cyanobacterial toxins, investigative protocols for responding to reports of human illness, and outbreaks of waterborne illness; tracks trends in human illness and deaths; provides input into the issuance or lifting of health advisories; maintains the Idaho Recreational Water Health Advisory map; and communicates with the Centers for Disease Control and Prevention (CDC) regarding Idaho cyanoHABs associated with human illness.
- The entity or entities responsible for managing water body access will be asked to assist DHW and DEQ in posting public health notices and cyanoHAB cautionary signs.

2. Introduction

Cyanobacteria are an important, natural component of Idaho lakes and rivers and are also present in-home aquariums as well as the soil in residential lawns and indoor potted plants. Under certain environmental conditions, however, cyanobacteria populations can rapidly increase to levels that interfere with the recreation and domestic beneficial uses of a water body. This rapid increase is often referred to as a bloom.

Many species of cyanobacteria, including those found in Idaho lakes and reservoirs, produce toxic compounds known as cyanotoxins. Cyanotoxin production is dependent upon several environmental conditions. Predominantly, these include nutrient concentration, light intensity, and temperature. Toxin production may offer cyanobacteria a number of ecological advantages, including grazing defense, allelopathy (inhibiting the growth of competitors), assistance in nutrient uptake, iron scavenging, oxidative stress, carbon-nitrogen metabolism, homeostasis maintenance, and as an infochemical (Holland and Kinnear 2013).

Cyanobacteria blooms can be unsightly and often have variable appearance in the form of foam, scum, or mats on the surface of water—especially near the shoreline. The different cyanobacteria species have a wide range of colors and can be blue, green, brown, yellow, orange, or red.

When organisms in a bloom die and decompose, they can release unpleasant odors (like the smell of rotting plants) (CDC 2016). Cyanobacteria were formerly known as blue-green algae and many Idaho residents still use that term.

Mats and scums can represent thousand-fold to million-fold concentrations of cyanobacterial cell populations, and published microcystin concentrations have ranged up to 24 milligrams/liter from scum material (Chorus and Bartram, 1999).

2.1. Health Concerns

Through their production of cyanotoxins, cyanobacteria blooms can cause eye, ear, and skin irritation as well as gastrointestinal illness, and they can severely affect neurological systems. Humans who ingest these toxins may develop muscle cramps, twitching, paralysis, cardiac or respiratory failure, and death. Symptoms can occur within an hour of exposure but may take as long as 36 hours to develop depending on the particular toxin and its concentration (CDC 2023). Table 1 provides a summary of common cyanobacteria in Idaho and their acute health effects.

Table 1: Common cyanobacteria found in Idaho, the toxins they produce, and symptoms (adapted from EPA 2022b).

Genera	Cyanotoxins	Acute Health Effects in Humans
<i>Planktonic: Microcystis, Dolichospermum, Planktothrix, Gloeotrichia, and Woronichinia</i>	Microcystins	Abdominal pain, headache, sore throat, vomiting and nausea, dry cough, diarrhea, blistering around the mouth, and pneumonia
<i>Benthic: Microcoleus/Tychonema, Oscillatoria, Phormidium, Nostoc, and Scytonema</i>		
<i>Planktonic: Aphanizomenon, Dolichospermum, Lyngbya, and Raphidiopsis (Cylindrospermopsis)</i>	Cylindrospermopsin	Fever, headache, vomiting, bloody diarrhea, liver inflammation, and kidney damage
<i>Benthic: Microseira/Tychonema, Oscillatoria, Nostoc, Scytonema</i>		
<i>Planktonic: Aphanizomenon, Microcystis, Dolichospermum, Raphidiopsis (Cylindrospermopsis), Cuspidothrix, and Woronichinia</i>	Anatoxin-a group	Tingling, burning, numbness, drowsiness, incoherent speech, salivation, and respiratory paralysis leading to death ^a
<i>Benthic: Microcoleus/Tychonema, Oscillatoria, Phormidium, Nostoc; Scytonema</i>		
<i>Planktonic: Aphanizomenon, Dolichospermum, Cuspidothrix, Raphidiopsis (Cylindrospermopsis)</i> <i>Benthic: Microcoleus/Tychonema, Phormidium, Nostoc; Scytonema</i>	Saxitoxin	Nausea, vomiting, cranial nerve dysfunction, a floating sensation, headache, muscle weakness, parasthesias and vertigo, respiratory failure and death can occur from paralysis

^a Respiratory symptoms observed in animals.

The following are the most common routes of exposures to cyanobacteria and their toxins during recreational activities:

- Oral from accidental or deliberate ingestion of contaminated water.
- Dermal by direct contact of exposed body parts with water containing cyanobacteria cells. Cyanobacteria cells can also accumulate in bathing suits, particularly diving suits, breaking and exposing skin to toxins.
- Inhalation through the aspiration of water containing cyanobacteria cells and their toxins.

DHW and the PHD environmental health directors of Idaho agree with using EPA's 2019 recommended guidelines for cyanotoxin concentrations for recreational waters regarding the congeners of microcystin and cylindrospermopsin. The parameters used to calculate values protective of child health include incidental ingestion values and mean body

weight for children 6 through 10 years of age. Based on the qualitative nature of the data available for the youngest children and given that the mean values were similar, EPA (2019) concluded that the values reported in the *Exposure Factors Handbook* are protective of children of all ages, including those younger than 6.

Table 2: Swimming advisory recommendations for microcystins and cylindrospermopsins (adapted from EPA 2019).

Application of Recommended Values	Microcystin Concentration (µg/L)	Cylindrospermopsin Concentration (µg/L)
Swimming Advisory Water Quality Threshold	8	15

Note: The EPA cyanotoxin recreational water recommended values are health advisory recommendations and are not intended to serve as water quality criteria.

2.1.1. Health Concerns for Livestock and Pets

Livestock and pets can potentially be exposed to higher concentrations of, or have increased exposure to, cyanotoxins than humans because they are known to consume cyanobacterial scum and mats and drink cyanobacteria-contaminated water (Backer et al. 2013). Dog fur acts as a filter that collects and concentrates cyanobacterial cells while in the water, and dogs receive a concentrated dose of cells from licking their fur after swimming in a water body with an ongoing bloom (Chorus et al. 2000). Common signs of HAB cyanotoxin poisonings in pets include repeated vomiting, diarrhea, loss of appetite, abdominal swelling, stumbling, seizures, convulsions, disorientation, inactivity, or skin rashes and hives (MacNeill 2014; Trevino-Garrison et al. 2015). The Oregon Health Authority developed dog-specific recreational use values (RUV) for cyanotoxins in recreational water for informational purposes (Oregon Health Authority 2019), copied below.

Table 3. Dog-specific recreational use values for cyanotoxins (µg/L)

Dog RUV	Anatoxin-a	Cylindrospermopsin	Microcystin	Saxitoxin
	0.4	0.4	0.2	0.02

**Informational values only. Health Advisories will not be issued for livestock and pets. DHW will notify the water body manager and the public health district if values exceed table 3.

3. cyanoHAB Response Goal and Objectives

DEQ, DHW, and the PHDs will work together to identify cyanoHABs and inform the public, stakeholders, and partner organizations and agencies of their existence to minimize unintentional exposure to associated toxins and irritants and associated morbidity and mortality.

3.1. DEQ Objectives

- Accurately and precisely characterize Idaho’s waters through observation, lab testing, and monitoring when a suspected cyanoHAB is reported to the agency.
- Relay scientific information and recommendation to the appropriate office (PHD or DHW) when a bloom is in progress, so the health advisory correctly characterizes the severity of the danger to water body users.
- Assist the PHDs, DHW, water body managers, and the public in better understanding the aquatic ecology of cyanobacteria and cyanotoxins.
- Update the “Water Quality Test Results” table on the DEQ Cyanobacteria HAB webpage (<https://www.deq.idaho.gov/water-quality/surface-water/cyanobacteria-harmful-algal-blooms/>)
- Provide a statewide reference for active or ongoing cyanoHABs (spreadsheet with cyanoHABs calls and results).
- Provide cyanoHAB educational materials on website.
- Stay current with the science of cyanobacteria and cyanoHABs.
- Use available limited resources to accomplish the preceding objectives.

3.2. Public Health Districts’ Objectives

- Issue press release and education at beginning of cyanoHAB season (prior to or at onset of first cyanoHAB event).
- Provide cyanoHAB educational materials on website.
- Assist DEQ, water body managers, and the public in better understanding the health risks of cyanobacteria and the toxins and irritants they produce.

3.3. DHW Objectives

- Issue advisories, when data provided by DEQ exceeds recommended thresholds.
- Provide cyanoHAB educational materials on website.
- Maintain the DHW cyanoHAB web page (<https://healthandwelfare.idaho.gov/health-wellness/environmental-health/idaho-recreational-waters>).
- Maintain the DHW Idaho Recreational Water Health Advisories map (<https://www.gethealthy.dhw.idaho.gov/recreational-water-health-advisories>)
- Conduct surveillance for human illness associated with a HAB.
- Provide consultation on health advisories as needed.
- Submit waterborne outbreak report to CDC’s NORS-Water for outbreaks of human illness outbreaks associated with a cyanoHAB.
- Notify Idaho State Department of Agriculture (ISDA) when a health advisory is issued.

3.4. Local Water Body Management Entity Objectives

This section covers water bodies and facilities managed or operated by a single or few entities (for example, a city or county for a water body within a city or county park and canal and irrigation companies).

- Inform DEQ when a cyanoHAB is suspected or reported.
- Provide photos for DHW and DEQ to use in outreach efforts (agency websites, traditional media, and social media).

- Assist DHW efforts to inform users about the risks associated with recreating in a water during a cyanoHAB and with posting signs once a health advisory is in place and removing signs when the health advisory is lifted.
- Assist DEQ with observations and monitoring of active cyanoHABs.
- Use available limited resources to accomplish the preceding objectives.

4. cyanoHAB Response Process

The following sections expand on Figure 1 below. This flowchart describes a process for the DEQ regional offices and DHW to work together to identify and inform the public when cyanoHABs exist to prevent unintentional exposure to cyanoHAB-associated cyanotoxins.

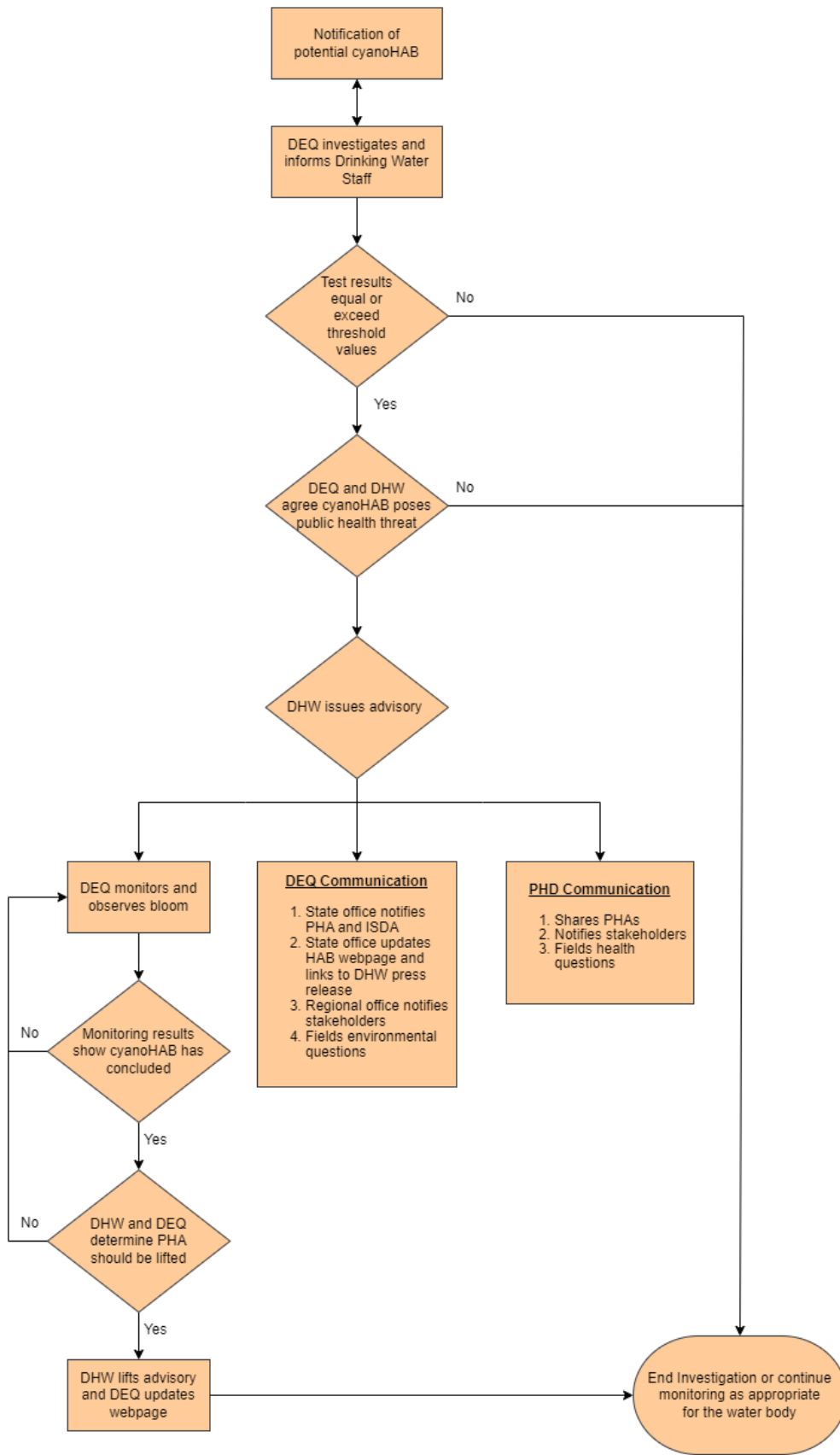


Figure 1: DEQ and DHW (on behalf of PHDs cyanoHAB response flow chart)

4.1. Notification

Complaints of a potential cyanobacteria bloom in progress may be made by the public or referred to DEQ by another agency. Appendix B contains a form for recording the observations from an individual who believes a water body may not be safe for recreation due to algal blooms. DEQ has an online form located on their website under [“report a potential harmful algal bloom”](#) or complaints could be sent directly to algae@deq.idaho.gov.

4.2. Investigation

DEQ, tribal organizations, or in some cases, Idaho Power are responsible for investigating potential cyanobacteria blooms, while DHW is responsible for issuing public health advisories. However, if waterbody managers have the resources to sample, DEQ can work with them to interpret results. Each investigation, in accordance with established sampling protocols and methods, should document the presence or absence of a cyanobacteria bloom by testing for the presence and concentration of cyanotoxins to confirm that a bloom is producing concentrations of cyanotoxins above EPA-recommended threshold values (Table 2).

Any suspected cyanobacteria bloom on a water body with a public water system needs to be reported to regional and state office drinking water staff so they can communicate with the public water systems. The DEQ investigators need to report the results of their investigations to all stakeholders associated with the bloom. Updates will also be made to the DEQ website.

DEQ will utilize DataSight to track and store environmental data in a central location, including data collected on cyanobacteria. The data collected on each water body are becoming increasingly valuable as we attempt to better understand the timing, causes, and population dynamics of cyanoHABs in Idaho.

4.3. Public Health Risk

When cyanotoxin laboratory results exceed the EPA-recommended threshold values identified in Table 2, the DEQ investigator or the DEQ state office will contact DHW and discuss the analysis results.

4.4. Communication Plan

The following sections outline PHD, DEQ, and DHW roles once a cyanoHAB is identified.

*Note: A separate, region-specific, communication plan has been made so that any change in personnel will not effect this entire document and require new review. Located in Appendix G

4.4.1. Public Health Districts’ Objectives

DHW will issue public health advisories or health alerts. In the first instance of a cyanoHAB event in the district, the PHD may release a public service announcement and

distribute educational materials on their website and social media. The PHD and DEQ may distribute public health advisories from DHW on social media and their website.

4.4.2. DEQ State and Regional Offices

The DEQ state office cyanoHAB coordinator will follow up with state office drinking water staff to ensure they are aware of the bloom. State office communications and outreach staff will update the cyanoHAB web pages about results of testing. The cyanoHAB coordinator will also contact the DHW and ISDA.

Each DEQ regional office should identify the water body managers and other relevant stakeholders on water bodies with recurring cyanoHABs (lake associations, Idaho Department of Fish and Game, Idaho Department of Parks and Recreation, Idaho Power, etc.) so they can be aware of blooms, communicate with their stakeholders, and work together to get signs posted.

If a bloom is reported in a city park, county park, or state park water body, the DEQ regional office should notify the city park and recreation department (or equivalent management agency) so the local agency can coordinate public notification with the PHD or DHW and either assume responsibility for monitoring or coordinate with the DEQ regional office.

DEQ will not be responsible for testing and reporting on private ponds or lakes.

4.4.3. DHW

DHW maintains and updates a Harmful Algal Blooms FAQ page with links to educational materials on <https://healthandwelfare.idaho.gov/health-wellness/environmental-health/idaho-recreational-waters>. The DHW Recreational Water Health Advisories map is located at <https://www.getthehealthy.dhw.idaho.gov/recreational-water-health-advisories> and displays recreational water health advisories across Idaho, including cyanoHAB advisories.

4.4.4. Public and Media Communication

Questions from press or media contacts should be referred to the appropriate agency as described below.

- PHD
 - Field health-related questions
 - Issue press release and education at beginning of cyanoHAB season (prior to or at onset of first cyanoHAB event).
 - Provide cyanoHAB educational materials on website.
 - Assist DHW, DEQ, water body managers, and the public in better understanding the health risks of cyanobacteria and the toxins and irritants they produce.

- DEQ
 - Fields environmental-related questions
 - DEQ will field questions from the hotline and email.

- cyanoHABs hotline: 1-866-671-5385
 - Email: algae@deq.idaho.gov DEQ will answer ecological related questions only. Non-ecological questions will be re-directed to the appropriate PHD or DHW.
 - Phone calls to DEQ from the general public should be referred to the appropriate regional office staff (see contact list in Appendix A). If that person is not available, callers can be referred to the DEQ state office.
 - DEQ maintains a cyanoHAB FAQ document that can be accessed through DEQ's Cyanobacteria Harmful Algal Blooms webpage at <https://www.deq.idaho.gov/water-quality/surface-water/cyanobacteria-harmful-algal-blooms/>. The Idaho DEQ Cyanobacteria Harmful Algal Bloom Information storymap at <https://storymaps.arcgis.com/stories/4990590489e04fc18ff1ce0ddc01099a> includes information on identifying and reporting cyanobacteria harmful algal blooms, DEQ's response, links to recreational water health advisories, and additional resources.
 - The DEQ employee contacted by the media will refer to the most recent FAQ, notify the state office and report all media contact to mediacontact@deq.idaho.gov.
- DHW
 - Will answer questions related to the recreational water health advisories map and webpage.
 - Will answer questions related to health advisories issued.
 - Will direct ecological related calls to DEQ and region/water body specific questions to the appropriate agency.

4.5. Monitoring and Observation

The frequency of monitoring activities may depend on the location of the water body, the amount of use the water body receives (heavily used urban water body versus a remote location, for example), and the travel time required to reach the site. With the goal of protecting public health, the investigator should make a reasonable effort to monitor the water body at least once every 2 weeks or every week if it appears the extent and risk associated with a bloom is growing and when toxin samples or other appropriate indicators indicate the bloom is senescing and the threat to public health has subsided.

The DEQ investigator needs to notify the PHD and DHW when lab results indicate that cyanotoxin concentrations have decreased below the threshold in Table 2. When toxin concentrations have been below the threshold value for 2 consecutive weeks, and if the DEQ and or DHW staff members agree the likelihood of the bloom re-forming is low, any health advisory can be removed from the water body.

Because the DEQ sampling results table on the DEQ CyanoHAB webpage is updated through the information provided by regional office staff submitting cyanoHAB Reporting Forms, updated forms should be submitted in a timely manner.

4.6. Public Health Advisory Lifted

Because cyanoHABs are complicated and can vary throughout the water body, cautionary language will be included in the press release lifting the advisory. Sample language is provided in Appendix E. A press release to lift an advisory is recommended, especially if the initial advisory issued indicated a press release would be issued when the advisory is lifted. At minimum the agency making the decision to lift an advisory, should share via social media.

5. Plan Revisions

This response plan is designed to be a living document. The scientific knowledge on cyanobacteria is changing rapidly, and our understanding of the potential consequences of human and animal contact with cyanotoxins is steadily increasing. When a portion of this document is found to reflect a response that is no longer current, no longer protects public health, or no longer serves the needs of DEQ, DHW, or the PHDs, the DEQ cyanoHAB coordinator and the DHW cyanoHAB lead should be consulted regarding proposed changes. Any updates or changes will be implemented by the DEQ cyanoHAB coordinator after receiving the approval of the PHD environmental health directors' forum chair, with a notice of the change and an explanation sent to the DEQ regional offices. The DEQ sampling protocol and quality assurance project plan is referenced as standalone documents and should also undergo coordinated changes and implementation.

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Accessed April 2017. www.mdpi.com/2072-6651/7/2/353/htm.

Appendix A: Contact Information

Idaho Department of Environmental Quality

DEQ Surface Water Program

1410 N. Hilton
Boise, ID 83706
Phone: (208) 373-0502
Contact: Beth Spelsberg
E-mail: algae@deq.idaho.gov

DEQ Drinking Water Program

1410 N. Hilton
Boise, ID 83706
Phone: (208) 373-0502
Contact: Jami Delmore
E-mail: Jami.delmore@deq.idaho.gov

DEQ Toxicology

1410 N. Hilton
Boise, ID 83706
Phone: (208) 373-0502
Contact: Norka Paden
E-mail: Norka.Paden@deq.idaho.gov

DEQ Communications and Outreach

1410 N. Hilton
Boise, ID 83706
Phone: (208) 373-0465
Contact: Anna Marron
E-mail: Anna.Marron@deq.idaho.gov

DEQ Boise Regional Office

1445 N. Orchard St.
Boise, ID 83706
Phone: (208) 373-0550
Contact: Lance Holloway
E-mail: Lance.Holloway@deq.idaho.gov

DEQ Lewiston Regional Office

1118 F St.
Lewiston, ID 83501
Phone: (208) 799-4370
Contact: Sujata Connell
E-mail: Sujata.Cornell@deq.idaho.gov

DEQ Coeur d'Alene Regional Office

2110 Ironwood Parkway
Coeur d'Alene, ID 83814
Phone: (208) 769-1422
Contact: Bob Steed
E-mail: Robert.Steed@deq.idaho.gov

DEQ Pocatello Regional Office

444 Hospital Way, #300
Pocatello, ID 83201
Phone: (208) 236-6160
Contact: Jennifer Cornell
E-mail: CJennifer.Cornell@deq.idaho.gov

DEQ Idaho Falls Regional Office

900 N. Skyline Drive, Suite B
Idaho Falls, ID 83402
Phone: (208) 528-2650
Contact: Alex Bell
E-mail: Alex.Bell@deq.idaho.gov

DEQ Twin Falls Regional Office

650 Addison Avenue West, Suite 110
Twin Falls, ID 83301
Phone: (208) 737-3886
Contact: Sean Woodhead
E-mail: Sean.Woodhead@deq.idaho.gov

Idaho Department of Health and Welfare

DHW Division of Public Health

450 W. State Street, 4th Floor

Boise, ID 83702

Phone: (208) 334-5939

Contacts:

Tyler O'Donnell, HAB Program Coordinator: tyler.odonnell@dhw.idaho.gov

Kris Carter, Career Epidemiology
Field Officer/Waterborne Outbreak

Coordinator;

E-mail: kris.carter@dhw.idaho.gov and
epimail@dhw.idaho.gov;

Drew Pendleton, State Toxicologist; drew.pendleton@dhw.idaho.gov

Brigitta Gruenberg, Environmental Health Program

Manager; Brigitta.gruenberg@dhw.idaho.gov

Idaho Public Health Districts

Panhandle Health District

8500 N. Atlas Road

Hayden, ID 83835

Phone: (208) 415-5100

Contact: Eric Ketner

E-mail: EKetner@phd1.idaho.gov

South Central Public Health

1020 Washington St N

Twin Falls, ID 83301-3156

Phone: (208) 734-5900

Contact: Josh Jensen E-mail:

jjensen@phd5.idaho.gov

Southwest District Health

13307 Miami Lane

Caldwell, ID 83607

Phone: (208) 455-5300

Contact: Colt Dickman

E-mail: Colt.Dickman@phd3.idaho.gov

Southeastern Idaho Public Health

1901 Alvin Ricken Drive

Pocatello, ID 83201

Phone: (208) 233-9080

Contact: Ken Keller, EH Director

E-mail: kkeller@siph.idaho.gov

Central District Health Department

707 North Armstrong Place

Boise, ID 83704-0825

Phone: (208) 375-5211

Contact: Mike Reno

E-mail: mreno@cdhd.idaho.gov

Eastern Idaho Public Health

1250 Hollipark Drive

Idaho Falls, ID 83401

Phone: (208) 522-0310

Contact: Kellye Johnson

E-mail: kjohnson@eiph.idaho.gov

Public Health—Idaho North Central District

215 10th st, Lewiston, ID 83501

Contact: Sherise Bruce

Phone: 208-799-0356

E-mail: sbruce@phd2.idaho.gov

Idaho Department of Fish and Game Regional Offices

Panhandle Region

2885 W. Kathleen Ave.
Coeur d'Alene, ID 83815
Phone: (208) 759-6229
Contact: Andy Dux
E-mail: andy.dux@idfg.idaho.gov

Clearwater Region

3316 16th St.
Lewiston, ID 83501
Phone: (208) 750-4208 or (208) 553-8299

Contact: Joe Dupont
E-mail: joe.dupont@idfg.idaho.gov

Southwest Region

3101 S. Powerline Rd.
Nampa, ID 83686
Phone: (208) 697-1117
Contact: Joe Kozfkay
E-mail: joe.kozfkay@idfg.idaho.gov

McCall Subregion

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Magic Valley Region

324 South 417 East, Suite 1
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E-mail: mike.peterson@idfg.idaho.gov

Southeast Region

1345 Barton Road
Pocatello, ID 83204
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Contact: Pat Kennedy
Email: pat.kennedy@idfg.idaho.gov

Upper Snake Region

4279 Commerce Circle
Idaho Falls, ID 83401
Phone: (208) 390-0601
Contact: Dan Garren
E-mail: dan.garren@idfg.idaho.gov

Salmon Region

99 Hwy. 93 N.
Salmon, ID 83467
Phone: (208) 561-1030
Contact: Greg Schoby
E-mail: greg.schoby@idfg.idaho.gov

Idaho State Department of Agriculture

Scott Leibsle, DVM, DABVP
Administrator / State Veterinarian
Division of Animal Industries
Idaho State Department of Agriculture
2270 Old Penitentiary Rd
Boise, ID 83712
Phone: (208) 332-8540
E-mail: scott.leibsle@isda.idaho.gov

Cyanobacteria Analysis Laboratories

Advanced Eco-Solutions, Inc.

1324 N. Liberty Lake Rd. #124
Liberty Lake, WA 99019
Contact: Darren Brandt
Phone: (208) 660-8733
Cell: (208) 660-8733
E-mail: Darren.brandt@adveco-sol.com

Bend Genetics, LLC

87 Scripps Drive, Ste. 108
Sacramento, CA 95825
Contact: Timothy Otten, PhD, MPH
Phone: (916) 550-1048
Cell: (541) 600-GENE
E-mail: ottentim@bendgenetics.com
www.bendgenetics.com

EcoAnalysts, Inc.

1420 S. Blaine St., Suite 14
Moscow, ID 83843
Phone: (208) 882-2588
E-mail: eco@ecoanalysts.com

Appendix B. Reported Bloom and Investigation Forms

Public Report	
Date	
Water Body	
County	
Name	
Phone Number	
Lat/Long	
Authorized Release of Name? Yes / No / NA	
Photo Provided? Yes / No	
Description of Report	
Received by:	
Responding investigator:	

Field Investigation

Date	
Responder	
Observations (mention any nearby structures)	
Bloom conditions visible? Extent and location? Color? Odor?	
Scum visible? Extent and location?	
Fish kill? Animal impacts reported?	
Sample(s) collected— Describe and record GPS location	
Other measurements (if applicable)	
Temperature	
Dissolved Oxygen	
Chlorophyll a	
Secchi Depth	
Other	

Appendix C. Press Release Public Health Advisory

Idaho Department of Health and Welfare and Idaho Department of Environmental Quality

Public Health Advisory

Date

FOR IMMEDIATE RELEASE

Health advisories issued for **Water Body Name** (**insert and change the heading in black above, a picture can be included here, if needed**)

The Idaho Department of Health and Welfare (DHW) is issuing a health advisory for **Water Body Name**, urging caution when recreating in or near the water. **DHW** works closely with the Idaho Department of Environmental Quality (IDEQ) to identify, respond to, and monitor cyanobacteria harmful algal blooms (cyanoHABs).

Recent samples from the water body showed high amounts of toxin-producing cyanobacteria. The toxins they produce (cyanotoxins) can be harmful to people, pets, and livestock.

When recreating near or in **Water Body Name**, take the following precautions while the advisory is in effect:

- Avoid swimming, wading, or other contact with the water. Take extra care to ensure children do not drink or get the water on them.
- Ensure pets and livestock do not drink or go into the water. If they have contact with the water, clean skin, hide, or fur with clean water right away.
- Do not drink or cook with the water. Boiling or filtering the water does not remove the toxins and can increase the risk of becoming sick.
- Wash hands thoroughly in clean water after handling fish or objects from the water.
- If you choose to eat fish from the water, clean and wash fish thoroughly in uncontaminated water. Filet the fish, and remove all fat, skin, and internal organs before cooking. Cyanotoxins can build up in fish, and the risk to people is unknown.
- Watch for symptoms. If you touch or swim in the water or breathe in water droplets, you might experience a rash, hives, red eyes, wheezing, coughing, or shortness of breath. If you swallow the water, you might have stomach pain, diarrhea, or vomiting. You might have a headache, muscle weakness, or dizziness. If your liver is damaged, your skin might turn yellow, and you will have dark urine. If you think you might be sick from cyanotoxin, consult your healthcare provider or call the poison center at 1-800-222-1222. Notify algae@deq.idaho.gov.

- Monitor media reports and DHW’s website for health advisories.

Cyanobacteria are a natural part of Idaho’s water bodies. When temperatures rise, their populations can bloom and toxic chemical compounds, or cyanotoxins, can be released into the water. Blooms don’t all look the same. They may look like mats, foam, spilled paint, or surface scum, and have a foul odor. Mats can be out of sight on the bottom of the water body.

Pets, livestock, and wildlife can get sick or die, within minutes to days after cyanotoxin exposure. Dogs may become sick first because they are more likely to swim in or drink contaminated water or lick contaminated water or bloom material off their fur. If your pets or livestock have been in the water, immediately wash them with clean water to keep them from licking cyanobacteria off their bodies. Seek veterinary care immediately if your pets or livestock seem sick after going in or drinking the water.

For more information about cyanoHABs, visit DEQ’s website at <https://www.deq.idaho.gov/water-quality/surface-water/cyanobacteria-harmful-algal-blooms/> or DHW’s website at <https://www.gethealthy.dhw.idaho.gov/recreational-water-health-advisories>.

The public will be advised when it is likely the concern no longer exists. (Keep if using notice to lift, remove if not)

DEQ media contact:	Anna Marron	208.373.0427
	anna.marron@deq.idaho.gov	
DHW media contacts:	Greg Stahl	208-334-0668
	greg.stahl@dhw.idaho.gov	

Appendix E. Health Advisory Lifted

CYNOBACTERIA HARMFUL BLOOM ADVISORY LIFTED FOR **WATER BODY NAME**

The Idaho Department of Health and Welfare (DHW)—has lifted the health advisory for **Water Body Name**. The advisory was issued DATE.

Idaho Department of Environmental Quality (DEQ) officials monitor cyanobacteria and their toxins where cyanobacteria harmful algal blooms (cyanoHABs) are present. DEQ has confirmed that **cyanobacteria or cyanotoxin** levels in **Water Body Name** have decreased below the level considered unsafe for human recreational water activities.

Other blooms may exist on this water body that have not been reported to DEQ or the public health district. Water users should always be careful around water bodies with visible slime, surface scum, bottom mats, or a foul odor. High amounts of toxin-producing cyanobacteria may cause illness to both humans and animals. Report any concerns to DEQ at 866-671-5385 or algae@deq.idaho.gov

For more information about cyanobacteria harmful algal blooms, visit DEQ's website at <https://www.deq.idaho.gov/water-quality/surface-water/cyanobacteria-harmful-algal-blooms/> and DHW website at: <https://healthandwelfare.idaho.gov/health-wellness/environmental-health/idaho-recreational-waters>

Appendix F. DHW & DEQ Caution Signs



Animal Safety Alert

Cyanobacterial blooms can be deadly for pets and livestock.

Cyanobacteria (CyanoHABs) are microscopic organisms found naturally in all types of water. Sometimes cyanobacteria rapidly grow, or bloom. They can have various colors like green, blue, red, or brown. Cyanobacterial blooms are mostly found in fresh water, such as lakes, rivers, and streams.

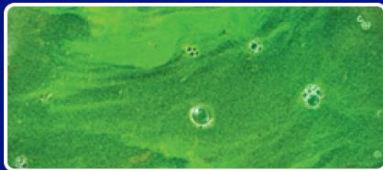
Signs of a cyanobacterial bloom



Foam, scum, mats, or paint-like streaks on the water's surface.



Benthic blooms grow up from sediment, and attach to rocks.



As the bloom dies off, it may smell like rotting plants.



Cyanobacteria bloom more often in late summer and fall but can bloom anytime.

You cannot tell if a cyanobacterial bloom is toxic just by looking at it. When in doubt, keep animals out!



For more information
SCAN HERE



Action to Prevent Contact

- Keep pets and livestock away from water if an advisory is in place or you see signs of a cyanobacterial bloom such as scum or changes in the water's color.
- Pets and livestock can get very sick and die within hours to days after swallowing small amounts of cyanobacterial toxins.
- If you think there is a cyanobacterial bloom, **do not** let your pets or livestock do any of the following:

Cyanobacterial blooms can make toxins (poisons) that are deadly for animals.

Take action if your pets or livestock go near or into water with a cyanobacterial bloom.

- If your pets or livestock have been in the water, immediately wash them off with clean water to keep them from licking cyanobacteria off their fur.
- Call a veterinarian if your animal shows any of these signs:
 - » Loss of energy
 - » Loss of appetite
 - » Vomiting
 - » Stumbling and falling
 - » Foaming at the mouth
 - » Diarrhea

Report a bloom to Idaho Department of Environmental Quality:

- DEQ Online form (www.deq.idaho.gov/report-a-potential-cyanobacteria-algal-bloom/)
- By phone: (866) 671-5385
- By email: algae@deq.idaho.gov

Contact the ASPCA Animal Poison Control Center at (888) 426-4435, the Pet Poison Helpline at (855) 764-7661 (fees may apply) or your veterinarian for questions about your animal. Call the Idaho Department of Health and Welfare at (800) 445-8647 if you have questions about cyanobacterial toxin poisoning.

- Drink the water**
- Lick their fur and paws after being in the water**
- Swim or play in the water**
- Eat dead animals, found near the bloom**
- Eat near the water**
- Eat mats of cyanobacteria**



**For more information
SCAN HERE**



Harmful Algal Blooms

Cyanobacteria

Cyanotoxins and People



Cyanotoxins

Cyanobacteria are a natural part of Idaho water bodies. When temperatures rise their populations can "bloom" and toxic chemical compounds, cyanotoxins, can be released into the water.



Avoid Contact

Don't let children or pets into questionable looking water. Wash your hands after handling fish. Cyanotoxins can accumulate in fish and the risk to people is being researched.



Don't Drink the Water

Do not drink or cook with water containing a bloom. Boiling and filtering the water can increase the risk.



You Can Help!

Report suspicious looking water to DEQ by phone, email, or with the bloomWatch app. Consider volunteering as a citizen scientist!



Contact your local DEQ office for more information or to report a bloom.

Cyanobacterial Harmful Algal Blooms (HABs) in Idaho



Harmful algal blooms (HABs) are made of cyanobacteria that can produce toxins, collectively called cyanotoxins. These toxins can harm humans and animals. As water temperatures increase the cyanobacteria can rapidly increase in number, this quick increase is called a bloom. People and animals can be exposed to cyanotoxins while a body of water is in bloom by swallowing or touching the water during activities, such as:

- Drinking contaminated water
- Swimming
- Playing in or near contaminated water
- Water sports
- Fishing
- Eating contaminated fish

Cyanobacterial Harmful Algal Blooms (HABs)

- **Symptoms can vary depending on how a person or animal was exposed to cyanotoxins and for how long.**
 - ◇ Recreating in affected water during a HAB may irritate the skin or eyes, cause coughing or difficulty breathing or nausea from inhaling or ingesting droplets or spray.
 - ◇ If you experience irritation of the eyes or skin, have difficulty breathing, or feel nauseous, you should leave the water and seek medical care if symptoms persist.
- **When in doubt, stay out!**
 - ◇ If you see a bloom, stay out of the water, and keep your pets and livestock out of the water.
 - ◇ Please report suspected blooms to Idaho Department of Environmental Quality at (208)-373-0502 or (866) 790-4337.
- **How long after a public health advisory is lifted do I need to wait before recreating in an affected body of water?**
 - ◇ Because blooms can change rapidly, and conditions can be difficult to predict, there is currently no recommended waiting period during or after a HAB.
 - ◇ Currently, health advisories are not lifted until two consecutive weekly toxin samples are below contact recreation threshold.
 - ◇ For current information on potential blooms visit arcg.is/yOGu0.

Eating Fish from an affected body of water.

- **What precautions should I take if I want to eat the fish caught in affected water?**
 - ◊ Remove the fat, skin, and organs before cooking. Be careful not to cut into the organs.
 - ◊ Before cooking or freezing the fish, rinse the fillets with clean water.
 - ◊ Cooking fish will not remove toxins that may be in the fillet.
- **Is there a limit on how many fish I can safely eat?**
 - ◊ Due to the limited amount of research on HAB toxins in fish, no specific recommendations on fish consumption have been determined for these toxins but there may be a risk.
 - ◊ Follow Idaho's Fish Consumption recommendations when choosing to eat fish: healthandwelfare.idaho.gov/health-wellness/environmental-health/fish-advisories.
- **Are there any fish that are of more concern?**
 - ◊ Fish that migrate from salt waters into fresh waters, such as salmon and steelhead, have less time to build up toxins than those that spend their entire life-cycle in freshwater, such as trout, bass, and catfish.
 - ◊ Crayfish or crawdad muscle can be eaten, but their internal organs and liquid fat should be discarded, if caught from waterbodies impacted by a bloom.
 - ◊ Include hand wipes or clean water in your equipment and wash your hands after handling a fish or changing lures, and especially before eating. Hand sanitizers will not remove cyanotoxins.



Resources

1. Idaho HABs advisories: www.deq.idaho.gov/water-quality/surface-water/cyanobacteria-harmful-algal-blooms
2. Report a bloom: www.deq.idaho.gov/report-a-potential-cyanobacteria-algal-bloom
3. Idaho Fish Consumption Advisory: healthandwelfare.idaho.gov/health-wellness/environmental-health/fish-advisories
4. Idaho Fish and Game: idfg.idaho.gov/fish
5. Centers for Disease Control and Prevention Harmful Algal Bloom (HAB)-Associated Illness: www.cdc.gov/habs/index.html

Contact

Idaho Department of Health and Welfare Environmental Health Program
healthandwelfare.idaho.gov/environmentalhealth
BCEH@dhw.idaho.gov
(800) 445-8647



September 2021

Appendix G. Communication Plan. PHDs with corresponding regional DEQ and IDFG Offices

Harmful Algal Blooms (CyanoHABs) Communication Plan

Agency Stakeholders: Idaho Department of Health and Welfare (DHW), Idaho Department of Environmental Quality (DEQ), Idaho Public Health Districts (PHDs), Idaho Fish and Game (IDFG), Idaho State Department of Agriculture (ISDA), and Idaho Power,

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1. Goals:

1. Consistent, coordinated, and efficient communication between agencies to respond quickly to CyanoHABs in Idaho.
2. Educated and update the public on CyanoHABs, so they can make informed decisions on keeping themselves and their loved ones safe when bodies of water are potentially dangerous.
3. Update agency websites with most recent information regarding health advisories being issued or lifted. Provide relevant contact information for those with any questions or concerns.

2. DHW will issue all public health advisories or health alerts.

DHW will develop public health advisories and issue a press release based on the results of lab analysis and recommendation of DEQ. DHW will work with the PHD if they want to issue the press release and post educational materials on their website and social media. The PHD may also post or link DHW health advisories on their website and social media.

3. Private Water Body Management

Private entities, such as Idaho Power or irrigation organizations, are responsible for informing DEQ when a cyanoHAB is suspected. Private water body managers should provide DHW and DEQ with photos of the suspected cyanoHAB to use in outreach efforts and should assist DEQ in observing and monitoring active cyanoHABs. Other objectives are to assist DHW efforts to inform users about the health risks associated with recreating in water during a cyanoHAB event and post signs once a health advisory is in place.

4. Contacts

4.1. DHW Contacts:

Tyler O'Donnell, HAB Program Coordinator: tyler.odonnell@dhw.idaho.gov

Brigitta Gruenberg, Environmental Health Program Manager:

Brigitta.gruenberg@dhw.idaho.gov

Drew Pendleton, State Toxicologist: drew.pendleton@dhw.idaho.gov

Kris Carter, Career Epidemiology Field Officer/Waterborne Outbreak Coordinator:

kris.carter@dhw.idaho.gov and epimail@dhw.idaho.gov

4.2. DEQ Regional Office Contact (include on all HABs communication):

Beth Spelsberg, Senior Water Quality Standards Scientist:

elizabeth.spelsberg@deq.idaho.gov

4.3. Contact information by Public Health District Area:

4.3.1. Public Health District 1 (Panhandle)

PHD Contact: Jason Peppin – jpeppin@phd1.idaho.gov, (208)415-5220

DEQ regional contact(s): Bob Steed – Robert.Steed@deq.idaho.gov, (208)769-1422

Chantilly Higbee: Chantilly.Higbee@deq.idaho.gov

Fish and Game regional contact(s): Andy Dux – andy.dux@idfg.idaho.gov, (208)759-6229

Coeur d'Alene Tribe: Scott Fields – sfields@cdatribe-nsn.gov, (208)686-0252

Initial Contact: Jason Peppin and DHW will be contacted by DEQ or HAB Sampling Agency.

Health Advisories: Tyler O'Donnell or Brigitta Gruenberg, DHW will issue public health advisories or health alerts while also notifying Bob Steed and Chantilly Higbee at DEQ, Andy Dux at IDFG, and Scott Leibsle at ISDA.

Public health advisories and all other signage in the Panhandle region, per IDFG, can be posted by DEQ, Coeur d'Alene Tribe, or the primary HAB sampling agency.

Panhandle Region Water Bodies and Managers:

Waterbody Name	Recreation/Fisheries Managing Agency	Primary Managing Agency	HAB Sampling Agency
Avondale Lake	NA - Private Lake	Avondale Lake Golf Course	DEQ
Benewah Lake	Coeur d'Alene Tribe: Scott Fields	Coeur d'Alene Tribe	Coeur d'Alene Tribe
Black Lake	North - IDFG: Andy Dux South - Coeur d'Alene Tribe: Scott Fields	North - ID State South - Coeur d'Alene Tribe	DEQ - Coeur d'Alene Tribe
Boyer Slough	IDFG	ID State	DEQ
Cascade Pond	US Fish and Wildlife Refuge	USFW	USFW
Cave Lake	IDFG	ID State	DEQ
Coeur d'Alene Lake	IDFG	Mixed	DEQ
Chuck Slough	IDFG	ID State	DEQ
Cocolalla Lake	IDFG	ID State - Cocalalla Lake Association	DEQ - CLA
Ellisport Bay	IDFG	ID State	DEQ
Fernan Lake	IDFG	ID State - FLRCA	DEQ - U of I
Hauser Lake	IDFG	ID State	DEQ
Hayden Lake	IDFG	ID State - Hayden Lake Association	DEQ - HLA
Pend Oreille Lake	IDFG	ID State	DEQ
Priest Lake	IDFG	ID State	DEQ
Round Lake (Bonner)	IDFG	Idaho Parks and Rec	Idaho Parks and Rec
Sagle Slough	IDFG	ID State	DEQ
Solomon Lake	IDFG	USFS	DEQ
Spirit Lake	IDFG	ID State	DEQ
Twin Lakes	IDFG	ID State - TLWIA	DEQ
Sansouchi Lake	NA - Private Lake	Private	?
Chatcolet Lake (Reservation)	Coeur d'Alene Tribe: Scott Fields	Coeur d'Alene Tribe	Coeur d'Alene Tribe

Round Lake (Benewah)	Coeur d'Alene Tribe: Scott Fields	Coeur d'Alene Tribe	Coeur d'Alene Tribe
Chatcolet Lake (Heyburn SP)	IDFG	ID State	DEQ

Additional Contact information:

Idaho DEQ – Christine Harmon (switchboard)	208-769-1422	Christine.Harmon@deq.idaho.gov
IDPR (Round Lake) – Mary McGraw	(208) 263-3489	mary.mcgraw@idpr.idaho.gov
USFS (North Zone) – Brandon Glaza	(208) 267-5561	bglaza@fs.fed.us
USFS (South Zone) – Christopher Robinson	No number available	Christopher.Robinson2@usda.gov
Frank Wilhelm, Ph.D – University of Idaho	(208) 885-7218	fwilhelm@uidaho.edu

4.3.2. Public Health District 2 (North Central)

PHD Contact: Sherise Bruce – sbruce@phd2.idaho.gov, (208)799-0356

DEQ contact(s): Sujata Connell – Sujata.Connell@deq.idaho.gov, (208)799-4370

David McIntyre: David.mcintyre@deq.idaho.gov

Fish and Game: Joe DuPont – joe.dupont@idfg.idaho.gov, (208)750-4208 or (208)553-8299

Kevin Jones: kevin.jones@idfg.idaho.gov

Nez Perce Tribal Water Resources: Sierra Higheagle – SierraH@nezperce.org, Office: (208)843-7368, Direct: (208)621-3895

Initial Contact: Sherise Bruce and DHW will be contacted by DEQ or HAB Sampling Agency.

Health Advisories: Tyler O'Donnell or Brigitta Gruenberg, DHW will issue public health advisories or health alerts while also notifying Sujata Connell and David McIntyre at DEQ, Joe DuPont at IDFG, and Scott Leibsle at ISDA.

Public health advisories and all other signage in the North Central region, per IDFG, will be posted by DEQ or Nez Perce Tribe, depending on HAB sampling agency.

North Central Region Water Bodies: Lewiston Region

Waterbody Name	Recreation/Fisheries Managing Agency	Primary Managing Agency	HAB Sampling Agency	Additional Contacts
Spring Valley Reservoir	IDFG/Latah County Parks and Recreation	IDFG	Idaho DEQ	PHD2
Moose Creek Reservoir	IDFG/Latah County Parks and Recreation	IDFG	Idaho DEQ	PHD2

Elk Creek Reservoir	IDFG/Elk River Recreation District	IDFG	Idaho DEQ	PHD2
Deer Creek Reservoir	IDFG	IDFG/Potlatch	Idaho DEQ	PHD2
Campbell Pond	IDFG	IDFG	Idaho DEQ	PHD2
Deyo Reservoir	IDFG/Weippe Frazier Recreation District	IDFG:	Idaho DEQ	PHD2
Soldiers Meadow Reservoir	IDFG	LOID/USBR	Idaho DEQ	PHD2
Tolo Lake	IDFG	IDFG	Idaho DEQ	PHD2
Winchester Lake	IDFG/IDPR	IDFG	Nez Perce Tribal Water Resources: Sierra Higheagle	PHD2
Waha Lake Waha Lake, Cont.	IDFG (only around the boat ramp)	LOID/USBR/ Nez Perce Tribal Water Resources	Nez Perce Tribal Water Resources/ Idaho DEQ	PHD2
Mann Lake	IDFG	LOID/USBR	Nez Perce Tribal Water Resources: Sierra Higheagle	PHD2
Dworshak Reservoir	ACOE/IDPR	ACOE/IDPR	Nez Perce Tribal Water Resources/ Idaho DEQ	PHD2
Lewiston Levee Ponds	City of Lewiston: Tim Barker:	ACOE/City of Lewiston	Idaho DEQ	PHD2

	tbarker@cityoflewiston.org 208-746-2313			
Laird Park/Camp Grizzly	USFS (Palouse Ranger District)	USFS (Palouse Ranger District): 208-875-1131	Idaho DEQ	Boy Scouts of America, PHD2
Hordeman Pond	City of Moscow/IDFG: David Schott: dschott@ci.moscow.id.us	City of Moscow: David Schott: 208-883-7098	Idaho DEQ	PHD2

Additional Contact information:

ACOE (US Army Corps of Engineers) (Dworkshak) – Paul Pence	208-476-1258	Paul.J.Pence@usace.army.mil
ACOE (US Army Corps of Engineers) (Levee Ponds/Lower Granite Pool) – Jason Achziger	509-751-0251	Jason.K.Achziger@usace.army.mil
LOID – Barney Metz	208-746-8235	barneymetz@loid.net
USBR (US Bureau of Reclamation) – Callianne Harris	208-383-2236	callianneharris@usbr.gov

4.3.3. Public Health District 3 (Southwest)

PHD Contact: Colt Dickman – Colt.Dickman@phd3.idaho.gov, (208)455-5300

Mitch Kieseter: mitch.kieseter@phd3.idaho.gov

DEQ contact(s): Lance Holloway – Lance.Holloway@deq.idaho.gov, (208)373-0550

Danielle Terhaar: Danielle.terhaar@deq.idaho.gov

Fish and Game: Joe Kozfkay – joe.kozfkay@idfg.idaho.gov, (208)697-1117

Initial Contact: Colt Dickman and DHW will be contacted by DEQ or HAB Sampling Agency.

Health Advisories: Tyler O'Donnell or Brigitta Gruenberg at DHW will issue public health advisories or health alerts while also notifying Lance Holloway and Danielle Terhaar at DEQ, Joe Kozfkay at IDFG, and Scott Leibsle at ISDA.

Idaho Power is responsible for sampling and monitoring Hells Canyon Reservoir, Brownlee Reservoir, Oxbow Reservoir, CJ Strike, and Swan Falls.

DHW will issue health advisories for these water bodies as needed and send to Nick Gastellucutto at Idaho Power.

Public health advisories and signage at the affected water body will be posted by DEQ, HAB sampling agency, or the water body manager.

Idaho Power Contact:

Nick Gastelucutto: Idaho Power HABs Correspondance –
Ngastelecutto@idadhopower.com

- Monitors: Hells Canyon Complex Reservoirs (Hells Canyon, Bronwlee, Oxbow), CJ Strike, Swan Falls

Additional contacts for Boise area water bodies (Covers PHD 3 & 4)

Lake Cascade

- Idaho Parks & Rec: Blake Packer: blake.packer@idpr.idaho.gov
- USFS: Raymond Brown: raymond.f.brown@usda.gov
- Kelly's Whitewater Park: directors@kwpid.com
- City of Cascade Chamber of Commerce: info@cascadechamber.com
- Friends of Lake Cascade: Lenard Long: lenard.long@gmail.com
- Valley County Soil and Water Conservation District: Durena Farr: durena.farr@id.nacdnet.net
- Cascade Water Master: Neil Shippy: neil.waterdistrict65@gmail.com

Lake Lowell

- Deer Flat National Wildlife Refuge: Eddie Owens: Edward_owens@fws.gov, Susan Kain: susan_kain@fws.gov

Horsethief Reservoir

- YMCA Camp: Lincoln McClain: Lincoln.mclain@yymcatvidaho.org, Teresa Wood-Adams: Teresa.wood-adams@yymcatvidaho.org

4.3.4. Public Health District 4 (Central)

PHD Contact: Curtis Loveless – Cloveless@cdh.idaho.gov, (208)327-8520

Mike Reno: mreno@cdh.idaho.gov

DEQ regional contact(s): Lance Holloway – Lance.Holloway@deq.idaho.gov, (208)373-0550

Danielle Terhaar: Danielle.Terhaar@deq.idaho.gov

Fish and Game: Joe Kozfkay – joe.kozfkay@idfg.idaho.gov, (208)697-1117

Initial Contact: Curtis Loveless and DHW will be contacted when by DEQ or HAB Sampling Agency.

Health Advisory: Tyler O'Donnell or Brigitta Gruenberg, DHW will issue public health advisories or health alerts on while also notifying Lance Holloway and Danielle Terhaar at DEQ, Joe Kozfkay at IDFG, and Scott Leibsle at ISDA.

4.3.5. Public Health District 5 (South Central)

PHD Contact: Josh Jensen – jjensen@phd5.idaho.gov, (208)737-5909

DEQ regional contact(s): Sean Woodhead: sean.woodhead@deq.idaho.gov

Amie Parris: Amie.parris@deq.idaho.gov

Jake Barnes: Jake.Barnes@deq.idaho.gov

Fish and Game (Magic Valley region): Mike Peterson – mike.peterson@idfg.idaho.gov

Initial Contact: Josh Jensen will be contacted when any advisory or alert is issued.

Health Advisories: Tyler O’Donnell or Brigitta Gruenberg, DHW will issue public health advisories or health alerts while also notifying Amie Parris and Jake Barnes at DEQ, Mike Peterson at IDFG, and Scott Leibsle at ISDA.

There are several water bodies in the South Central region that are managed by BLM.

The BLM Shoshone office has delegated HABs related responsibilities to DEQ.

South Central Region Water Bodies & Managers

Waterbody Name	Primary Managing Agency	Recreation/Fisheries Managing Agency	HAB Sampling Agency	Additional Contacts
Cedar Creek/Roseworth Reservoir	BLM-Jarbidge Field Office	IDFG	IDEQ	Cedar Mesa Inc
Dierkes Lake/Hidden Lakes	City of Twin Falls/Parks and Rec	IDFG	IDEQ	PHD5
Dog Creek Reservoir	State of Idaho	IDFG	IDEQ	
Emerald Lake	Private	IDFG	Send to City - Per Amie	
Fish Creek Reservoir	BLM-Shoshone Field Office	IDFG	IDEQ	Fish Creek Irrigation District
Goose Creek/Oakley reservoir	BLM	IDFG	IDEQ	Oakley Canal Company
Lake Walcott	ID State Parks and Recreation, Minidoka National Wildlife Refuge	IDFG	IDEQ	
Little Wood Reservoir	Bureau of Reclamation	IDFG	BOR	Little Wood River Irrigation District
Magic Reservoir	BLM-Shoshone Office	IDFG	IDEQ	Big Wood Canal Company, Residents of West Magic and East Magic

Mormon Reservoir	IDFG	IDFG	IDEQ	
Murtaugh Lake	Twin Falls County	IDFG	IDEQ	Snake River Council, BLM
Penny and Dollar Lake	USFS - Sawtooth Natl Forest	IDFG	IDEQ	PHD5
Salmon Falls Creek Reservoir	BLM- Burley Field Office	IDFG	IDEQ	Salmon River Canal Company
Snake River - Lex Kunua Park	City Of Burley	IDFG	IDEQ	PHD5
Snake River - Milner Dam/Lake	BLM -Burley Field Office	IDFG	IDEQ	PHD5
Sublett Reservoir	USFS	IDFG	IDEQ	Sublett Irrigation Company
Thorn Creek Reservoir	BLM - Shoshone Field Office	IDFG	IDEQ	PHD5
Wilson Lake	BLM	IDFG	IDEQ	Valley Recreation District

****Communication in PHDs 6 and 7 may be challenging as many of the water bodies that can be HAB impaired are owned/managed by private irrigation companies.**

4.3.6. Public Health District 6 (Southeastern)

PHD Contact: Ken Keller – kkeller@siph.idaho.gov, (208)233-9080

DEQ contact(s): Jennifer Cornell – Jennifer.Cornell@deq.idaho.gov, (208)236-6160

Adam Eckersell: adam.eckersell@deq.idaho.gov

Fish and Game: Pat Kennedy: pat.kennedy@idfg.idaho.gov

Initial Contact: Ken Keller and DHW will be contacted by DEQ.

Health Advisories: Tyler O’Donnell or Brigitta Gruenberg, DHW will issue public health advisories or health alerts while also notifying Jennifer Cornell and Adam Eckersell at DEQ, Pat Kennedy at IDFG, and Scott Leibsle at ISDA.

There are several water bodies in the Southeast region that are managed by BLM. The BLM Pocatello office has delegated HABs related responsibilities to DEQ.

4.3.7. Public Health District 7 (Eastern)

PHD Contacts: Kellye Johnson – kjohnson@eiph.idaho.gov, (208)522-0310

Brenna Christofferson - bchristofferson@eiph.idaho.gov

DEQ contact(s): Alex Bell – Alex.Bell@deq.idaho.gov, (208)528-2650

Destiny Locke: Destiny.locke@deq.idaho.gov

Fish and Game: Greg Schoby: greg.schoby@idfg.idaho.gov

US Forest Service: James Townley (Salmon-Challis National Forest):

james.townley@usda.gov

Susan James (Sawtooth National Recreation Area): susan.james@usda.gov

US Bureau of Reclamation: Mike Hilliard – mhilliard@usbr.gov, 208-2780-0461

Initial Contact: Kellye Johnson will be contacted when any advisory or alert is issued.

Health Advisories: Tyler O’Donnell or Brigitta Gruenberg, DHW will issue public health advisories or health alerts while also notifying Alex Bell and Destiny Locke at DEQ, Brett High and Greg Schoby at IDFG, and Scott Leibsle at ISDA.

Public health advisories and all other signage in the Eastern region, per IDFG, will be posted by DEQ.

There are several water bodies in the Eastern region that are managed by BLM or the US Forest Service. The BLM Salmon office has delegated HABs related responsibilities to DEQ. Will update when USFS provides input.

Idaho Falls Region Waterbody Management List

Waterbody Name	Recreation/Fisheries Managing Agency	Primary Managing Agency	HAB Sampling Agency	Additional Contacts
Henrys Lake	Henrys Lake SP/ IDFG/ BLM/ Fremont County	Fremont-Madison Irrigation District	Idaho DEQ	PHD7
Island Park Reservoir	USFS/IDFG	USBR	Idaho DEQ	PHD7
Palisades Reservoir	USFS/IDFG	USBR	Idaho DEQ	PHD7
Ririe Reservoir	IDFG/Bonneville County	USBR	Idaho DEQ	PHD7
Williams Lake	IDFG	Williams Lake Recreational Water & Sewer District	Idaho DEQ	PHD7
Mackay Reservoir	IDFG/BLM	Big Lost River Irrigation District	Idaho DEQ	PHD7
Egin Lake	BLM	BLM	Idaho DEQ	PHD7
Mud Lake	IDFG	IDFG/Mud Lake Water Users, Inc.	Idaho DEQ	PHD7
Redfish Lake	USFS/IDFG	USFS	Idaho DEQ	PHD7
Gem Lake	IDFG	Idaho Falls Power	Idaho DEQ	PHD7
Jefferson County Lake	Jefferson County	Jefferson County	Idaho DEQ	PHD7

4.4. General Communication contact information

DHW will maintain and update a Harmful Algal Bloom FAQ page with links to educational materials on <https://healthandwelfare.idaho.gov/health-wellness/environmental-health/idaho-recreational-waters>. The DHW Recreational Water Health Advisories map is located at <https://www.gethealthy.dhw.idaho.gov/recreational-water-health-advisories> and displays recreational water health advisories across Idaho, including cyanoHAB advisories.

Public and Media Communication

Questions from press or media contacts should be referred to the appropriate agency as described below.

- DEQ fields environmental related questions
 - cyanoHABs hotline: 1-866-671-5385
 - Email: algae@deq.idaho.gov
 - Elizabeth Spelsberg at DEQ will field questions from the hotline and email or refer questions to regional DEQ personnel. DEQ will answer ecological related questions only. Non-ecological questions will be re-directed to the appropriate PHD or DHW.
 - Phone calls to DEQ from the public should be referred to the appropriate regional office staff. If that person is not available, callers can be referred to the DEQ state office
- DHW
 - Answers health related questions
 - Will answer questions related to the recreational water health advisories map and webpage.
 - Will answer questions related to health advisories issued by DHW.
 - Will direct ecological related calls to DEQ and region/water body specific questions to the appropriate agency.

Appendix H. Waterbody Management List

Lewiston Region

Waterbody Name	Recreation/Fisheries Managing Agency	Primary Managing Agency	HAB Sampling Agency	Additional Contacts
Spring Valley Reservoir	IDFG/Latah County Parks and Recreation	IDFG	Idaho DEQ	PHD2
Moose Creek Reservoir	IDFG/Latah County Parks and Recreation	IDFG	Idaho DEQ	PHD2
Elk Creek Reservoir	IDFG/Elk River Recreation District	IDFG	Idaho DEQ	PHD2
Deer Creek Reservoir	IDFG	IDFG/Potlatch	Idaho DEQ	PHD2
Campbell Pond	IDFG	IDFG	Idaho DEQ	PHD2
Deyo Reservoir	IDFG/Weippe Frazier Recreation District	IDFG	Idaho DEQ	PHD2
Soldiers Meadow Reservoir	IDFG	LOID/USBR	Idaho DEQ	PHD2
Tolo Lake	IDFG	IDFG	Idaho DEQ	PHD2
Winchester Lake	IDFG/IDPR	IDFG	Nez Perce Tribal Water Resources	PHD2
Waha Lake	IDFG (only around the boat ramp)	LOID/USBR/Nez Perce Tribal Water Resources	Nez Perce Tribal Water Resources/Idaho DEQ	PHD2
Mann Lake	IDFG	LOID/USBR	Nez Perce Tribal Water Resources	PHD2
Dworshak Reservoir	ACOE/IDPR	ACOE/IDPR	Nez Perce Tribal Water Resources/Idaho DEQ	PHD2
Lewiston Levee Ponds	City of Lewiston	ACOE/City of Lewiston	Idaho DEQ	PHD2
Laird Park/Camp Grizzly	USFS (Palouse Ranger District)	USFS (Palouse Ranger District)	Idaho DEQ	Boy Scouts of America, PHD2
Hordeman Pond	City of Moscow/IDFG	City of Moscow	Idaho DEQ	PHD2

Blue Lagoon Ponds (Latah County)	IDL	IDL	Idaho DEQ	PHD2
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Contact information:

Idaho DEQ – Sujata Connell	208-799-4370	Sujata.Connell@deq.idaho.gov
Nez Perce Tribal Water Resources – Sierra Higheagle	208-843-7368, 208-621-3895	SierraH@nezperce.org
PHD2 (Public Health – Idaho North Central District) – Sherise Jurries	208-799-3100, 208-882-7506	SJurries@phd2.idaho.gov ; Clark Filip, cfilip@phd2.idaho.gov
IDL (Pondersa Area)- Chris Tretter	208-877-1121	ctretter@idl.idaho.gov
IDPR (Winchester) – Steve Kuskie	208-924-7563	steve.kuskie@idpr.idaho.gov
Latah County Parks and Recreation – Andy Grant	(208) 883-5709	agrant@latah.id.us
Weippe Frazier Recreation District – Marge Kuchynka	208-435-4362	edandmarge@frontier.com
Elk River Recreation District – Brett Pippenger	208-827-0715	elkriverrcreationdistrict@gmail.com
IDFG – Joe DuPont and Kevin Jones	208-799-5010	joe.dupont@idfg.idaho.gov ; kevin.jones@idfg.idaho.gov
City of Lewiston – Tim Barker	208-746-2313	tbarker@cityoflewiston.org
City of Moscow – David Schott	208-883-7098	dschott@ci.moscow.id.us
ACOE (US Army Corps of Engineers) (Dworkshak) – Paul Pence	208-476-1258	Paul.J.Pence@usace.army.mil
ACOE (US Army Corps of Engineers) (Levee Ponds/Lower Granite Pool) – Jason Achziger	509-751-0251	Jason.K.Achziger@usace.army.mil
LOID – Barney Metz	208-746-8235	barneymetz@loid.net
USBR (US Bureau of Reclamation) – Callianne Harris	208-383-2236	callianneharris@usbr.gov
Boy Scouts of America – Dale Rose	208-875-1385	daleroose83834@gmail.com
USFS (Palouse Ranger District)	208-875-1131	

Drinking Water Intake Contacts

Waterbody Name	Intake Name/ID	Operator Contact
Dworshak Reservoir	Ahsahka / 2180001	Larry Annen C 827-0527 larryannen@hotmail.com
Dworshak Reservoir	Big Eddy Marina/ 2180007	John Stinson, 208-476-0323, c- 208-821-2719 john.g.stinson@usace.army.mil
Dworshak Reservoir	Dworshak Dam/ 2180009	John Stinson, 208-476-0323, c- 208-821-2719 john.g.stinson@usace.army.mil
Dworshak Reservoir	Freeman Creek Campground/ 2180010	DO/OP: Robert VanKirk, 476- 1276, 509-520-4572, Robert.C.VanKirk@usace.army.mil Jake Davis- Park Ranger cell - 208-819-2833 Jake.davis@idpr.idaho.gov
Dworshak Reservoir	USFW Fish Hatchery/ 2180035	John Stinson, 208-476-0323, c- 208-821-2719 john.g.stinson@usace.army.mil

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Waterbody Name	Recreation/Fisheries Managing Agency	Primary Managing Agency	HAB Sampling Agency	Additional Contacts
Avondale Lake	NA – Private Lake?†	Avondale Lake Golf Course	DEQ	
Benewah Lake	Coeur d'Alene Tribe	Coeur d'Alene Tribe	Coeur d'Alene Tribe	
Black Lake	North – IDFG South – Coeur d'Alene Tribe	North – ID State South – Coeur d'Alene Tribe	DEQ – Coeur d'Alene Tribe	
Boyer Slough	IDFG	ID State	DEQ	

Cascade Pond	US Fish and Wildlife Refuge	USFW	USFW	
Cave Lake	IDFG	ID State	DEQ	
Coeur d'Alene Lake	IDFG	Mixed	DEQ	
Chuck Slough	IDFG	ID State	DEQ	
Cocolalla Lake	IDFG	ID State – Cocalalla Lake Association	DEQ – CLA	
Ellisport Bay	IDFG	ID State	DEQ	
Fernan Lake	IDFG	ID State - FLRCA	DEQ – U of I	U of I
Hauser Lake	IDFG	ID State	DEQ	
Hayden Lake	IDFG	ID State – Hayden Lake Association	DEQ – HLA	
Pend Oreille Lake	IDFG	ID State	DEQ	
Priest Lake	IDFG	ID State	DEQ	
Round Lake (Bonner)	IDFG	Idaho Parks and Rec	Idaho Parks and Rec	
Sagle Slough	IDFG	ID State	DEQ	
Solomon Lake	IDFG	USFS	DEQ	
Spirit Lake	IDFG	ID State	DEQ	
Twin Lakes	IDFG	ID State – TLWIA	DEQ	
Sansouchi Lake	NA – Private Lake?	Private	?	
Chatcolet Lake (Reservation)	Coeur d'Alene Tribe	Coeur d'Alene Tribe	Coeur d'Alene Tribe	
Round Lake (Benewah)	Coeur d'Alene Tribe	Coeur d'Alene Tribe	Coeur d'Alene Tribe	
Chatcolet Lake (Heyburn SP)	IDFG	ID State	DEQ	
† Posted Private, but hydraulically connected ownership in dispute				

Contact information:

Idaho DEQ – Christine Harmon (switchboard)	208-769-1422	Christine.Harmon@deq.idaho.gov
CDA Tribal Water Resources – Scott Fields	208-686-0252	sfields@cdatribe-nsn.gov
PHD1 (Public Health – Idaho North District) – Erik Ketner	(208) 415-5224	eketner@phd1.idaho.gov
IDPR (Round Lake) – Mary McGraw	(208) 263-3489	mary.mcgraw@idpr.idaho.gov

IDFG – Andy Dux	(208) 769-1414	andy.dux@idfg.idaho.gov
USFS (North Zone) – Brandon Glaza	(208) 267-5561	bglaza@fs.fed.us
USFS (South Zone) – Christopher Robinson		Christopher.Robinson2@usda.gov

Boise Region

<u>Waterbody</u>	<u>Plan to Monitor?</u>	<u>Nearest Town</u>	<u>County</u>
Big Payette Lake	Y	McCall	Valley
Cascade Reservoir	Y	Cascade	Valley
Horsethief Reservoir	Y	YMCA Camp - Cascade	Valley
Warm Lake	Y	Warm Lake	Valley
Lake Lowell	Y	Nampa	Canyon
Brownlee Reservoir	Y	Cambridge	Washington
Oxbow Reservoir	Y	Cambridge	Adams
Hells Canyon Reservoir	Y	Cambridge	Adams
CJ Strike Reservoir	Y	Bruneau	Elmore
Bruneau Arm	Y	Bruneau	Owyhee
Anderson Ranch Reservoir	Y	Pine	Elmore
Lucky Peak Reservoir	M	Boise	Ada
Arrowrock Reservoir	M	Boise	Boise
Sage Hen Reservoir	M	Smiths Ferry	Gem
Deadwood Reservoir	M	Warm Lake/Lowman	Valley
Crane Creek Reservoir	N	Midvale	Adams
Mann Creek Reservoir	M	Weiser	Adams
Black Canyon Reservoir	M	Emmett	Gem
Little Camas Reservoir	N	Mountain Home	Elmore
Succor Creek Reservoir	N	Jordan Valley	Owyhee
Lost Valley Reservoir	N	New Meadows	Adams
Mountain Home Reservoir	N	Mountain Home	Elmore
Long Tom Reservoir	N	Mountain Home	Elmore
Indian Creek Reservoir	N	Orchard	Ada

Waterbody	Office	Contact	Method	Notes
CJ Strike	SWDH (PHD 3)	Colt Dickman	colt.dickman@phd3.idaho.gov	Not participating in issuing or lifting advisories
		Mitch Kiester	mitch.kiester@phd3.idaho.gov	
		Monique Evancic	monique.evancic@phd3.idaho.gov	
	CDH (PHD 4)	Mike Reno	mreno@cdh.idaho.gov	Wants interpreted results Leaves primary responsibility to SWDH
		Community and Environmental Health Program Manager	208-327-8522 208-869-9144	office cell
Black Sands Marina	Bill Reese	208-490-4979 208-490-7248 208-834-2798 fatboy_60@msn.com	Cell phone Reservations Resort #	
Mountain Home Air Force Base Marina	366 FSS, Outdoor Recreation	Shane Stephens, CIV, USAF/NAF Operations Manager **Note, I don't know what any of these acronyms mean	728-6139 208-828-6139 shane.stephens.1@us.af.mil	DSN Comm
Lake Lowell				
	SWDH (PHD 3)			Not participating in issuing or lifting advisories

	Colt Dickman	colt.dickman@phd3.idaho.gov	
	Mitch Kiester	mitch.kiester@phd3.idaho.gov	
	Monique Evancic	monique.evancic@phd3.idaho.gov	
Deer Flat National Wildlife Refuge			
13751 Upper Embankment Road	Eddie Owens	edward_owens@fws.gov	
Nampa, ID 83686	DFNWR Refuge Manager	208-467-9278	office
		208-204-4773	cell
	Susan Kain	susan_kain@fws.gov	
	Visitor Services Manager	208-467-1019	office

Lake Cascade

CDH (PHD 4)			Wants interpreted results
	Mike Reno	mreno@cdh.idaho.gov	
	Community and Environmental Health Program Manager	208-327-8522	office
		208-869-9144	cell
Idaho F&G			
	Jordan Messner	jordan.messner@idfg.idaho.gov	
Idaho Parks and Recreation			
	Blake Packer	blake.packer@idpr.idaho.gov	
Forest Service - Cascade Ranger District			
	Raymond Brown	raymond.f.brown@usda.gov	
Kelly's Whitewater Park			
		directors@kwpid.com	
City of Cascade Chamber of Commerce			

Horsethief Reservoir	Friends of Lake Cascade	Julie	info@cascadechamber.com	
	Valley County Soil and Water Conservation District	Lenard Long	lenard.long@gmail.com	
		Cascade Water Master	Durena Farr	durena.farr@id.nacdnet.net
			Neil Shippy	
Hells Canyon Reservoirs	CDH (PHD 4)			Wants interpreted results
		Mike Reno Community and Environmental Health Program Manager	mreno@cdh.idaho.gov 208-327-8522 208-869-9144	office cell
	YMCA Camp	Lincoln McClain	lincoln.mclain@ymcatvidaho.org	
		Teresa Wood-Adams	teresa.wood-adams@ymcatvidaho.org	
Idaho Power Co	SWDH (PHD 3)			Not participating in issuing or lifting advisories
		Colt Dickman Mitch Kiester Monique Evancic	colt.dickman@phd3.idaho.gov mitch.kiester@phd3.idaho.gov monique.evancic@phd3.idaho.gov	
		Nickel Castelgutto	208-388-2256	Office

Senior Resource Professional -
Water Quality

208-861-9350

Cell

ngastelecutto@idahopower.com
