## APPENDIX L

# Standard Operating Procedures for HAB Data Management System

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Last Revised</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Survey Web Application (DM-001)</td>
<td>03/30/19</td>
</tr>
<tr>
<td>Oracle Harmful Algal Bloom Database System (DM-002)</td>
<td>03/30/19</td>
</tr>
<tr>
<td>KDHE Harmful Algae Bloom Management System (DM-003)</td>
<td>03/30/19</td>
</tr>
</tbody>
</table>
THE SURVEY WEB APPLICATION  
(DM-001)

The Survey Web Application is the public facing web interface to the KDHE's complaint tracking system, http://www.kdheks.gov/algae-illness/index.htm. It has three distinct entry forms:

1) Algal Bloom complaint
https://survey123.arcgis.com/share/5b5aeaa4205c411d97cbeb173a5d6d96

2) Human Health complaint
https://kdheks.co1.qualtrics.com/jfe/form/SV_6G7KaEywuwGtsBD and

3) Animal Health complaint
https://kdheks.co1.qualtrics.com/jfe/form/SV_3m9Zfcls27nckMB

The algal complaint form is routed simultaneously to environmental staff in BOW and BEFS and queued into the HAB Tracking System. The human and animal health complaints are simultaneously routed to staff in BEPHI. Complaints are responded to by the respective staff.

1. Algal bloom complaints are received into the HAB Tracking System, where they will be reviewed by BOW-WPMAS staff to determine whether the complaint is valid and whether the waterbody is a “public” lake and/or a Public Drinking water supply source.

2. Human and Animal health complaints are reviewed by the BEPHI staff to determine if the illness is associated with HAB exposure. The BEPHI staff is required to enter the environmentally relevant portion of the complaint information (no Protected Health information) into the algal bloom component to initiate the investigation.

Technical Note: The Survey Web Applications are built within KDHE ArcGIS Online Organizational account. They were built by Office of Information Technology GIS Staff using Desktop ESRI Survey123 Connect Application. The data from the Survey is written into the KDHE Oracle GIS Schema, which is then consumed by the Harmful Algal Bloom Tracking System (Oracle APEX application). Verification of the Survey is the first step in the HAB Management System.
Oracle Harmful Algal Bloom DATABASE System

(DM-002)

I. A critical component of the HAB Management System, which is required by the HAB Tracking System, are two other Oracle databases. The two other Oracle databases are updated through separate applications:

A. The Surface Water Site ID System. The locations of all sites sampled for any water quality parameter are entered into this database. This geospatial database gives the geographic location of the sites, names, and other fields explained below. A site not existing in the system needs to be entered prior to associating-entering any data. (Oracle Table: GIS.HYDRO_BOW_MON_POINT)

B. The Algae Database. This contains cell counts for several individual cyanobacteria taxa as well as for diatoms, dinoflagellates, cryptophytes, euglenophytes, and other algae. It also contains calculated metrics (percent cell counts) and percent biomass counts for these. In addition, it contains results from toxin analysis. Data must be hadn entered into this database before the HAB Tracking System can evaluate recommended advisory status for a given waterbody. (Oracle Table: BEFS_ADMIN.ALGAE)

Both databases are used by the monitoring networks outside of the HAB system. The procedures to enter both databases are as follows:

A. Surface Water Site ID System

In order to enter HAB data into KDHE’s Oracle database, first a Surface Water Site has to be created in Oracle Forms for the HAB site. If a header already exists for the site then proceed to B.

1. Logon to Oracle has to be authorized by IT:

   http://kdhenet/KDHEoracle_apps_gallery.htm

   ![Surface Water Quality Analysis](http://kdhenet/KDHEoracle_apps_gallery.htm)
2. Log onto Oracle, and click on ‘Add/Edit Sites’ to add HAB site header:

3. This will open a Web Map Editor in which to add the new Site Header. 
   **NOTE: If you receive a 404 web page not found error, please request your name be added to the approved Web Map Editing. This is a separate security layer for editing in the map.

   ** Click Refresh on the browser if the map or template doesn’t draw first time.
4. Add the Point Using one of the following methods:
   1. Click on the “Select A Template” Monitoring Site to make it active
   2. A. - Zoom in on the map to location …
      - Click …
      - Click on the map to add the point or
   B. If you already have Lat/Long from GPS or other source …
      Click the and enter the coordinate.
   3. Enter required minimum information (the site name will be decided by HAB group) on screen:
      ** MUST HAVE HAB SAMPLE? “YES” for it to draw in the HAB web maps.
      ** Attachements can be added only after a NEW point is saved and the map Refreshed.
      ** HUC 12 and County Labels should be drawing in the map (or turn the layer on)

4. A Green box will appear in the upper right hand when the Point is added or updated. Click the Refresh button if you need to add attachements.
**Algae Database**

**Generating Data:** After performing taxonomic identifications and absolute cell counts, the algal taxonomist uses a stand alone MSExcel software spreadsheet with built in macros (described in the KDHE Lake and Wetland Monitoring Program’s Quality Assurance Management Plan; see “Form LW-5”) to calculate derived metrics such as percent bluegreens, percent greens, and biovolumes. Toxin analysis results and chlorophyll-a analysis results may also be entered into this same spreadsheet.

**Entering Data:** Once there is a header for the Sample Site, the actual data can be entered into Oracle’s Algae database; again, logon needs to be authorized by IT.

1. Logon to Oracle has to be authorized by IT:

   [http://kdhenet/KDHEoracle_apps_gallery.htm](http://kdhenet/KDHEoracle_apps_gallery.htm)

   ![Surface Water Quality Analysis](https://example.com/surface_water_quality_analysis.png)

   *(oraforms\SC\SCMAINMENU.fmx)*

2. Type in ‘Site Name’ and hit ‘Enter’

3. Click on ‘Add New’
4. This will bring up a blank page to which the new information for the site can be added.

From the lab sheets, obtain the following information to be entered:

a. Site Name (Required)

b. Collection Date (Required)

c. Time sample was collected (Required)

d. Depth of sample (Depth is 00.1 m for all algal data, required field)
<table>
<thead>
<tr>
<th>Site Name</th>
<th>Collect Date</th>
<th>Time</th>
<th>Depth</th>
<th>e. Total cell count (cells/ml)</th>
<th>f. % Greens, Blue-greens, etc.</th>
<th>g. Total biovolume (ppm)</th>
<th>h. % total biovolume in greens, blue-greens, etc.</th>
<th>i. Microcystis cell count</th>
<th>j. ELISA Microcystins</th>
<th>k. Cylindrospermopsin (if required)</th>
<th>l. Click on 'Save' when finished</th>
</tr>
</thead>
<tbody>
<tr>
<td>LM0097AA</td>
<td>20140707</td>
<td>1202</td>
<td>0.1</td>
<td>25.615</td>
<td>47.2%</td>
<td>32.139</td>
<td>14.2%</td>
<td>3.0%</td>
<td>12.3%</td>
<td>2.5%</td>
<td>42.6%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total biovolume in Chlorophytes (greens)</td>
<td></td>
<td></td>
<td>Total biovolume in Cyanophytes (blue-greens)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>% total biovolume in Diatoms/Chrysophytes</td>
<td></td>
<td></td>
<td>% total biovolume in Dinoflagellates</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>% total biovolume in Cryptophytes</td>
<td></td>
<td></td>
<td>% total biovolume in Euglenophytes</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>% total biovolume in Other</td>
<td></td>
<td></td>
<td>% total biovolume in Other</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Microcystis cell count (cells/mL)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Woronichnia cell count (cells/mL)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Coelosphaerium cell count (cells/mL)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Planktothrix cell count (cells/mL)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Cylindrospermopsis cell count (cells/mL)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Aphanizomenon cell count (cells/mL)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Anabaena cell count (cells/mL)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Anabeneopsis cell count (cells/mL)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Misc./Other blue-greens (cells/mL)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ELISA microcystins (ug/L)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>microcystin LR (ug/L)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>microcystin LA (ug/L)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>microcystin LF (ug/L)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>microcystin LW (ug/L)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>microcystin LY (ug/L)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>microcystin RR (ug/L)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>microcystin YR (ug/L)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>anatoxin-a (ug/L)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>cylindrospermopsin (ug/L)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Saxitoxins (ug/L)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Geosmin (ug/L)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Methylisoborneol (ug/L)</td>
<td></td>
</tr>
</tbody>
</table>
KDHE HARMFUL ALGAE BLOOM MANAGEMENT SYSTEM PROCEDURE
(DM-003)

Summary

The HAB Tracking System receives complaints from the public-facing, online reporting form system. If a HAB complaint arrives via email or phone call, BOW-WMPAS staff initiate the process by submitting a complaint form on behalf of the individual who called or emailed.

Next, we determine whether the HAB complaint is valid. For example, if a member of the public enters a complaint for a private pond, we will mark the complaint as “invalid” and may contact the individual to redirect them elsewhere for assistance. Or, the complaint may not contain convincing evidence that a full scale analysis is warranted (e.g., there is a photograph of slightly green water, but it’s difficult to tell whether it represents a HAB event). In the latter case, BOW-WPMAS staff may request additional evidence (in the form of a jar test) from the complainant or the lake manager.

If the complaint is considered valid, the HAB sampling procedure will be initiated. The event nomenclature for the HAB Tracking Application is for an individual waterbody to receive a “Request,” which is then followed by a “Task” for each sampling event. As long as a lake is in an active bloom, only one “Request” is required. Once a sampling task has been initiated, it must go through the whole process (from issuing the sampling task to changing the status of the “Request” based on the sampled data) before another sampling task can be issued. The “Request” will disappear only when the advisory status for that waterbody is updated to “Below Watch.” In general, the user must keep in mind that the HAB Tracking Application has minimal error trapping and is not equipped to deal with typos or discrepancies between records. For example, if sample stations are labeled incorrectly in the Algal Database, or if times/dates do not match, then the record won’t be imported into the HAB Tracking Application. Make sure that dates and times are entered in the correct format, etc.

Most operations will occur in the “Business Processes” Menu, in the upper right-hand corner of the main screen.
After a HAB complaint is received:

**Step 1: Check to see if the lake has an assigned number**

Before starting the process, it is helpful to make sure that the lake in question has a lake number and HAB sample locations- this can be verified directly in Oracle ENVI, or through the *Sample Site/Lake Management* screen. (*NOTE* if the “Sample Site / Lake Management screen is blank, computer support staff will need to give permissions for access). All lakes with a number assigned in Oracle will appear in the dropdown menu, even if they've never been sampled for HABs. All zoned lakes will have the nomenclature “LM(zone letter)(lake number without leading 0).” For example, Perry Lake Zone A is: LMA290. If the given lake does not appear in the dropdown list, proceed to the next step to add a lake to the HAB tracking system.
Step 1.1 Adding a lake to the system

Before assigning a number to a lake, it is important to check with the Lake and Wetland Monitoring Program Staff, who are responsible for assigning them. This ensures that numbers are neither skipped nor duplicated.

Once a new lake number is established, open the Sample Site/Lake Management screen. Underneath “Add New Lake and Sample Site,” click on the “Open BGA Map Editor” button.
Navigate to the lake location with the search bar and select “Add Polygon Feature.” Outline the lake’s shape, then fill in the fields below “Edit Attributes.”
Select the “Add” button. The words “Feature added!” will appear on the map if everything worked correctly.

**Step 1.2 Adding a centroid to the lake**

After creating the lake outline, add a “centroid” to the lake. Select “HAB Lake Centroid” in the same “Add Polygon Feature” screen. The centroid needs to be placed somewhere in the middle of the lake polygon, but it does not have to be the exact center. The coordinates are used for lake location mapping.
Step 2: Check to see if there are HAB sample sites

If a new lake number was required, it has not been sampled for HABs before. However, if the lake was already in the system, check to see whether it has been sampled for HABs before. As soon as the lake has a number in Oracle, it will be visible in the **Sample Site/Lake Management** (under the “Business Processes” menu). Select the lake, click on “Open BGA Map Editor,” and wait for the map to appear; it may take a few seconds. The map will have all sample locations marked. All HAB recreation sample sites are designated by the convention “AA,” “AB,” “AC,” and so on. All HAB PWS sample sites are designated by the convention “BA,” “BB,” and so on. If the lake has a site designated, go on to Step 3: Validate visual description of complaint.
Step 2.1: Adding a HAB sample site

Open a map of the lake in the **Sample Site/Lake Management** screen. Click on “Monitoring Site” under “1. Select a Template” on the left-hand side.
The menu will change. Select “Add Point Feature,” unless measured coordinates (latitude and longitude) are available.

Select the sample site location on the map (based on primary contact locations, e.g., a swim beach – discuss with HAB group first).
Be sure to include the site letters - No spaces before or after!
Fill out the attributes for that specific location. The HUC 12 label can be found on the “Monitor Background” dropdown, under the “Layers” dropdown, located at the very bottom of the editor toolbar.

When all the attributes are entered, click on the “Add” button at the bottom of the attributes box. When a sample site is successfully added, it will appear on the map with the words “Feature Added!”

**Step 3.1: Validate visual description of complaint.**

There are two components to validation of a complaint. The first component is based on narrative description or a visual, and the second component is if further validation is required using the jar test method. If a complaint is received by a lake manager or other professional who have a good working knowledge of HAB, it is often advanced in the system without a request for further data. The jar test validation is most often used in cases where the
reliability of the complainant is unknown or it is difficult to tell, from field photographs, if a cyanobacterial bloom is present. Both components must be completed in the HAB Tracking Application to fully validate a complaint.

For the first validation, select **Validate Complaints** under the Business Processes Menu. Select “Edit” for the complaint in question.

This will bring up the following menu:

First, select “Waterbody Id” from the dropdown menu. This will change the “Complaint Validation” section to say “Yes,” and the “Jar Test Requested” dropdown will then be active. Select “Yes” or “No” for the Jar Test Requested, depending on whether one is required. This will send out an email to the HAB Team listserv that there has or has not been a jar test requested, so it is helpful to add comments here - (Example: If a jar test has already come in, the user can say “Yes” for the request, but add a comment to specify that the test has actually been completed already, and results were already submitted.)

**Step 3.2: Invalidate Complaint**
Alternatively, if the complaint is not valid, select “Save Validation” and do not fill out any other information. This will mark the complaint as invalid, and it will not appear again.

Step 4: Validate Jar Test

After the initial visual validation is saved, the complaint will now appear under **Determine Complaint Validity**, on the Business Processes menu. Again, select “Edit” for the complaint in question.
First, select the date using the calendar icon to the right of “Jar Test Received.” Select a date, even if no actual jar test was done (for example, if the complaint was submitted by an experienced professional, and/or convincing photographic documentation was provided).

IMPORTANT: In order for the “Confirm validation” button to become active, the jar test results must be marked as “Positive.” If no jar test was conducted, just enter an explanation under “Validation Comments.”

Change the “Y” to “Yes” under “Create New Request for Sampling.” Then select “Confirm Validation.”

**Step 5: Use validated complaint to create a new request, or attach validated complaint to existing request**

Once it has been determined that at least one sample will be needed from a given lake, the first task is to set up the “Request.” This can be thought of as the way the application tracks the status of the whole lake. Once a Request has been opened, then “Tasks” can be assigned to sample. The waterbody-specific “Request” only needs to be initiated once for each active bloom, and that Request will then be updated with the waterbody’s advisory status (i.e., Watch, Warning, Below Watch) each time a sample is submitted.

To initiate the request, click on Issue **New Request** under the “Business Processes” menu. After the complaint has been validated for the jar test, it will appear under the “Validated Complaints” screen.

**Step 5.1 (for a new request)**

If this is the first Request for a lake, select the lake from the “Lake ID” dropdown menu (otherwise, please refer to Step 5.B for an existing request). After the lake is selected, click on the “Save New Request and Associate Complaints” button. All validated complaints will appear on the menu.
Select the “Add” button on the complaint that matches the given lake. This will populate the “Complaints related to a Request” column, and a “Save” button will appear.

Click “Save.” This will send an email to the HAB Team listserv that a new sampling request has been issued.
Then a new screen will appear, with a button for “Home” and a button for “Warning Status Update.” The “Warning Status Update” is for instances in which the HAB Team knows, based on professional reports or convincing photographic evidence, that the lake in question is already in the midst of an extreme bloom, and they wish to change the status without first sampling. This screen may also be used to “Create Another Request” for complaints for other lakes, or to “Associate Complaints with Existing Request” if there are multiple complaints for the same lake.

In most instances, just select the “Home” button, and move on to issuing a sampling task.

![Request Summary](image)

**Step 5.2 (for an existing request)**

If there is already an active request for a lake, it will not appear on the dropdown menu. Instead, select the “Associate Complaints with Existing Requests” button. This screen can also be accessed using the “Update Request Complaints” link on the Business Processes menu. Select the “Edit” button next to the lake with the complaint. This screen should have all of the available validated complaints to add to the request, but this may not be updated immediately. (Ask a coworker to login to double check this task under his/her login, if known complaints do not appear on this screen as expected.)

**Step 6: Issue a sampling task**
For all of the steps dealing with an individual sampling task, the user will keep returning to the *Task Management* link on the “Business Processes” screen. The menu will be separated into two sections – “Request with no task” and “Request with assigned tasks.”

The new request will fall under the first section, “Request with no task.” Note that if there are more than 15 records, the user may have to select the Next arrow at the bottom of the section to see more requests. They are not necessarily in alphabetical order.

Select the “Edit” button next to the lake where sampling is needed. Before completing this step, **make sure that all of expected sampling locations exist in the “Sampling Site/Lake Management” map and are correctly labeled.**

Selecting “Edit” will pull up the following screen.

First, select from the dropdown menu which Field Unit will collect the sample. Field Unit can be determined using the District map located at: [http://www.kdheks.gov/befs/dist_office.html](http://www.kdheks.gov/befs/dist_office.html). Most lakes fall within one district’s jurisdiction; however, some lakes require special treatment; consult the HAB Team manager if there is any question. Other monitoring crews
may sample when it falls into their regular sampling schedule, but for the most part, it will go to the District Office.

Next, select the calendar next to the “Fieldwork Due Date,” and select the date (usually the Monday of the new sampling week).

In the “Sampling Instructions” box, it is helpful to fill out any info for PWS sampling information, or to let District Offices know of any special information.

After this screen is complete, select the “Save Task” button.

This will pull up a new screen, which is only accessible after the “Save Task” button has been hit. This is why it’s important to have the sampling site locations correct before this point. If they are incorrectly labeled or nonexistent, they will not be selectable at this time, and the sampling task will be irretrievable by the user; it cannot be advanced, deleted, or overwritten. If this happens, the user must contact computer support staff to delete the record, fix the sampling site error, and then resubmit the sampling task.

To add sampling sites, select the button for “Add Row for Sample Site.”
This will bring up a drop down menu, where one sampling site can be selected. Select sites from the dropdown menu. In smaller lakes, often only one sample is required, typically the “AA” site. If samples are needed from more than one location, add a row for each site using the “Add Row for Sample Site” button, and populate each row with a different site location.

When all of the sample site locations are selected, click on the “Save Sample Entries” button. The “Save Sample Entries” button will then be replaced with an “Email” button. Click on the Email button, which will automatically populate with the email addresses of the selected Field Unit*, as well as any special instructions you’ve already filled out.

*The email addresses can be updated/edited through the “Manage Sampling Crews” button under the “Application Administration” menu on the lower right of the main screen.
Click “Send.” Now, wait until samples are received from the District Office or other sampling crew.

**Step 6.1 Update Request Status without Data**
Occasionally after a sampling task has been submitted, we will need to update the status to a “Warning” level based on visual. Updating the status of the lake on the HAB tracking application will update the map of advisories to match our posted advisories listed on the website.

To update a request with a Warning after tasks have been assigned, select **Task Management** on the Business Processes menu.

Select “Edit” by the lake needing updated.
A new screen will appear with the “Warning Status Update” button available.

Step 6.2 Correcting Sampling Sites After a Task Has Been Issued

If a correction to sampling sites needs to be made (i.e. site AA was flooded, so samples were retrieved at site AB instead), corrections can be made as follows:

First, select **Task Management** on the Business Processes menu.

Select “Edit” by the lake needing updated.
Select “Update Task” without entering any other information.

Here, sites can be selected for deletion, while others can be added. Make any changes, then select “Save Sample Entries.” You may need to exit the application or refresh the sampling task to see changes.
Step 7: Update task with completion of fieldwork

Once the sample/s are received, click on **Task Management** under the Businesses Processes menu. The lake will appear on the lower menu entitled “Request with assigned tasks.”

Once the sample results have been entered into the Algae Database by the analytical staff, select “Edit” next to the lake in question. It is possible to do this step before the sample results have been entered, but it is better to wait and double check the data entry with the entries in the Oracle Algae database. The data will be pulled in to the HAB Tracking Application as soon as a sample with the same sample name and time is entered into the Oracle database.

This will bring up the following screen:
Select the calendar next to “Fieldwork Completed (Date),” and select the date that fieldwork was completed. Then select “Update Task.” (This is another location where the user can skip data, and simply select “Warning Status Update.” This is rare, but useful to know in cases where the HAB Team staff are certain that the lake is in very bad condition, but haven’t been able to test it yet.)

After “Update Task” is selected, the following screen will appear:

![Image](image.png)

It is very important to get the sample date and time correct for each sample site. As soon as a sample with the same header information is entered into Oracle, the data will be imported into the HAB Tracking Application. **Enter all times in military time, and with 4 digits (e.g., 0940 for 9:40 AM and 1340 for 1:40 PM).** (Dates and times can easily be corrected in the Oracle Algae database, but they cannot be corrected in the HAB Tracking Application. If the user makes a data entry mistake here, computer support staff will have to delete the record so that date/time can be re-entered.

When this step is complete, click on the button for “Save Sample Entries.”
A new screen appears, which automatically populates the “Samples to Lab” with the day after field work is complete. This date is not as consequential - it’s not connected to data or other key components of the HAB Tracking Application. Click on the “Save and Complete Task” button. The request will no longer appear on the Task Management menus (either “Request with no task” or “Request with assigned tasks”).

If the date, time, and sample site name match between Oracle and the HAB Tracking Application, then as soon as the data is entered in Oracle, it should be visible in the reports generated within the HAB Tracking Application.

**Step 8: View data**

This is one instance where we the desired screen is NOT accessed through the “Business Processes” menu. Instead, click on “Reports” under the Application Administration menu on the lower right of the main menu.
There are a variety of reports that are generated, but the one used to view the most recent data is the “Weekly HAB Results” at the very bottom of the HAB Reports screen.
There are many ways to see the desired data. The user can filter through the “Actions” dropdown menu, or select “Date Collected” and click on the “Sort Descending” arrow. If the HAB Tracking Application correctly pulled information from Oracle, all dashes will be replaced by data.

**Step 9: Update Request Status**

After viewing the data and conferring with the people in the weekly stakeholder meeting, update the request status. This can be done through the link to *Change Request Status* on the Business Processes menu. **This will update the HAB map online, so make sure that this occurs immediately after the weekly stakeholder meeting.**

All requests that have data will be available on this menu, along with the recommended status. Select the “Edit” button next to the lake in question. This will bring up the following screen:

Select the “Update Status” button. The following screen will appear:
The user can bypass the recommended status and select the agreed upon status under the “Status” dropdown menu. In most cases, the automatically recommended status is used. One example may be a case in which a credible report from a lake manager or District Staff member indicates that a bloom increased in severity greatly after the sampling date, so instead of the “Warning” that the data shows, the HAB Team may opt to use a visual confirmation to elevate to a “Closed” status. At any rate, all exceptions are to be discussed with stakeholders and supervisors first.

Use the calendar next to the “Status Announcement Date” field to select the date (usually the Thursday of the sampling week).

Then select the “Save Updated Status” button.

**Step 10: Close a request or resample active HAB lakes**

**Step 10.1: Closing the request when a bloom has dissipated**
If a request is changed to “Below Watch,” it will no longer be an active request.* This request is no longer considered “Active” and will not appear on the “Task Management” menus. If a bloom appears on the same waterbody later in the season, a new complaint will need to be validated, and a new request issued.

*Note on zoned lakes: The HAB Team instituted the “Zone Below Watch” status to make sure that the requests for all of the zones stay active during a bloom. When the bloom is gone, all of the zones have a “Zone Below Watch” status. This does not trigger the HAB Tracking
Application to switch the Requests to inactive. The software does not currently have a mechanism to prevent this. When advisories have been lifted on all zones of a zoned lake, ask computer support staff to change the last status of all of the zones from “Zone Below Watch” to “Below Watch.” This will switch the Request to inactive.

**Step 10.2: Send out a task to resample HAB lakes**

As soon as a Request is updated with a new advisory status, it will appear on the “Task Management > Request with no task” menu. When it is time to sample the lake again, start from “Step 6: Issue a sampling task” again, and create a sampling task. This process will repeat until the request is updated to “Below Watch” and is no longer considered active.

**Step 11: End of Season Protocol**

Requests that are active after the HAB season has ended should be closed out before the beginning of the following calendar year. The HAB tracking application resets at the beginning of the calendar year, so Requests must be updated manually in order to maintain proper record keeping.

To close a Request at the end of the HAB season:

1. Request a Sample to be done on 12-31

2. Enter in “0” for sample data on 12-31 in the Surface Water Quality Oracle Application

3. Enter in the sample data in the HAB Oracle App with the “0” sample data

4. This allows you set the Request status as “Below Watch” on 12-31.

5. If there is still an active bloom on the waterbody as of 12-31, issue a new complaint and Request for the waterbody.