Drinking Water Advisory Reporting System

User Manual

This document is intended to be used only as a guide for users of the Drinking Water Advisory Reporting System

Environmental Health Programs
Public Health Division
Ministry of Health and Long-Term Care
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Ontario

Disclaimer

Medical officers of health and public health inspectors employed by local boards of health have a regulatory mandate to work with the owners, operators and operating authorities of drinking water systems.

On receipt of information about adverse drinking water quality, the medical officers of health, public health inspectors, and other engaged staff perform a risk analysis to assess the potential health impact the adverse water quality may have on users. Where necessary, the medical officer of health or public health inspector must take appropriate action to protect public health – this may include taking steps that are not discussed in this document. This document is intended to provide guidance for reporting incidents that require advisory notices to be issued to drinking water system users.

The guidance provided in this document is not and should not be taken as a substitute for the professional judgment of medical officers of health, public health inspectors and other subject matter experts. The Ministry of Health and Long-Term Care recognizes that local boards of health will record other information in the course of the performance of their duties – this document is solely intended to set out provincial guidance and recommendations for the recording of core data for issuing and rescinding drinking water advisories.

Revisions/Updates

June 2024 - Administrative Functions section updated to reflect May 2024 release changes: user management field enhancements, PHU Administrator and Provincial View roles.

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Standard Operating Procedures:
Drinking Water Advisory Reporting System

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Standard Operating Procedures: Drinking Water Advisory Reporting System

1.0   Response to Adverse Drinking Water Quality Incidents Guidance Document

The *Response to Adverse Drinking Water Quality Incidents Guidance Document (2009)* is intended to provide guidance to local boards of health (BOH) when determining requirements for issuing, implementing, communicating and ultimately rescinding an advisory notice in response to an adverse test result or observation.

1.1   Regulatory Oversight

In Ontario, the Ministry of the Environment (MOE) has primary oversight for drinking water quality and testing standards under the *Safe Drinking Water Act, 2002* (SDWA), and several regulations pursuant to this statute.

The Ministry of Health and Long-Term Care (MOHLTC) has regulatory oversight for small drinking water systems under the Health Protection and Promotion Act (HPPA), O. Reg. 318/08 (*Small Drinking Water Systems – Transitional*) and O. Reg. 319/08 (*Small Drinking Water Systems*).

These statutes and regulations set out the requirements and responsibilities of owners, operators and operating authorities of drinking water systems to protect the users from consuming water that is unsafe to drink. Under the HPPA, the MOH and PHI have statutory powers that can be used to protect community health.

Owners, operators and operating authorities of drinking water systems are legally required to notify the local MOH of adverse test results and observations and follow any advice or direction provided by the MOH or the PHI.

Under the Safe Drinking Water Act (SDWA)

O. Reg. 170/03 (*Drinking Water Systems*) regulates drinking water systems that serve designated facilities, municipal and non-municipal year-round residential water systems. O. Reg. 169/03 (*Ontario Drinking Water Quality Standards*) provides testing standards for drinking water quality, which include Microbiological Parameters (Schedule 1), Chemical Parameters (Schedule 2) and Radionuclide Parameters (Schedule 3).

- **O. Reg. 170/03**

  Regulates municipal and non-municipal year-round residential systems and those systems that serve designated facilities

- **O. Reg. 169/03**

  Regulates drinking water quality testing standards

Under the Health Protection and Promotion Act (HPPA)

O. Reg. 318/08 and O. Reg. 319/08 regulate small drinking water systems that serve public facilities other than designated facilities, including municipal and non-municipal seasonal residential water systems.

③ **O. Reg. 318/08**

This transitional Regulation establishes the basic operational requirements until a public health inspector conducts a site-specific risk assessment of the system.

③ **O. Reg. 319/08**

The legal transfer of oversight of a small drinking water system from O. Reg. 318/08 to O. Reg. 319/08 occurs once a directive is issued. Once a directive is issued by the PHI, the Regulation establishes operational requirements such as water testing frequency, treatment requirements, etc.

Under the *Ontario Public Health Standards (2008)*, it is required that local BOH has an MOH or designate available on a 24/7 basis to receive reports and respond to adverse events related to safe drinking water. Board of health staff are to refer to the most current version of the *Response to Adverse Drinking Water Quality Incidents Guidance Document* for information on the appropriate response.

1.2   Categories of Drinking Water Advisory Notices

Under this guidance document there are four general categories of notices in the reporting structure:

1. Boil Water Advisory

An advisory notice that is issued to notify users that boiling is required to render the water safe to use, (e.g., unacceptable microbiological levels of *E. coli* or total coliform).

2. Do Not Drink Advisory

An advisory notice that is issued to users when action(s) other than boiling the water is required to protect users (e.g., exceedences of lead or nitrates). This may require some type of filtration and/or chemical or non-chemical treatment; (i.e., reverse osmosis or ion exchange).

3. Do Not Use Advisory

An advisory notice that is issued to users when boiling or treatment will not render the drinking water supply safer for users; e.g. trichloroethylene. At such time, the operator or operating authority may notify users of alternate source of water or provide an alternate source for users of the affected system.

4. Health Information Advisory (new)

An advisory notice that is issued to inform specific community users of an exceedence (such as fluoride and sodium) and the recommended measures to be taken to reduce exposure and mitigate the risk to human health (i.e., local BOH staff may notify dental or medical offices)

Additional Authority under the HPPA

Irrespective of the action taken from the aforementioned categories, an MOH or PHI has authority to issue a direction or an order under **Section 13** of the HPPA, detailing what actions must be taken by the drinking water system operator or operating authority to provide water to users that is safe to drink.

1.3   Drinking Water Advisory Reporting System (DWARS)

The MOHLTC has developed and implemented a web-based data management system for local BOH to report information pertaining to the issuance of drinking water advisory notices or orders and details about corrective actions. Boards of health must report when an advisory notice is issued to users of a drinking water system, and when that advisory notice has been rescinded.

The online reporting system applies to all drinking water advisory notices issued or rescinded for drinking water systems issued by owners, operators and operating authorities or local BOH staff.

The reporting responsibilities also apply to all Section 13 orders under the HPPA issued to owners, operators or operating authorities of drinking water systems with respect to the issuance of advisories to the water users.

Local BOH can access the real-time online reporting system at the following URL: https://dwa.moh.gov.on.ca (production version) and the UAT (sand-box version) can be accessed at: https://uat.dwa.moh.gov.on.ca

1.4   When to Use the DWARS

Under the *Drinking Water Protoco*l (OPHS, 2008), a local BOH is required to report any incident where an advisory notice has been issued to reduce the risk of adverse health outcomes to users of that drinking water system. All advisories must be recorded in the DWARS within two business days to ensure current information is available about all active and rescinded advisory notices.

The *Response to Adverse Drinking Water Quality Incidents Guidance Document (2009)* is intended for use with the DWARS to capture all relevant information when advisory notices are issued to users. It should be noted that local BOH will also maintain other documentation of such incidents and investigations not required in the DWARS.

To ensure consistent data gathering among all local BOH, the following guidelines should be applied to record incidents into the DWARS.

1.4.1   Reporting for Municipal Drinking Water Systems

It is important that accurate, consistent information is available for all drinking water systems governed under O. Reg. 170/03, particularly for municipal residential drinking water systems. Advisory notices may be issued for various reasons and could apply to all users of a system or to a very small portion of a system. The advisory notices reported on DWARS by local BOH staff should represent only significant, community wide incidents that may have public health implications.

Report incidents into the DWARS where:

- There is evidence or probability of contamination of the drinking water system, <u>and</u>
  - o The contaminant could potentially lead to adverse health consequences, and
  - o An advisory notice (any of the four) has been issued to the users
- The incident that leads to the advisory notice is likely to last more than 48 hours, <u>and</u> affects more than five households, a designated facility or a public facility;
- Loss of appropriate treatment to the drinking water supply has occurred or is suspected, which may lead to adverse drinking water conditions with potential adverse health consequences;
- System breakdowns, damages, repairs, water main breaks, low pressure incidents that may have an impact on the quality of water of the larger distribution system; or
- Evidence of contamination exists, based on a risk assessment, which presents a risk to human health as determined by the MOH or PHI.

<u>Do not</u> report incidents that are:

- Short-term and are highly probable to be corrected in less than 48 hours;
- Routine precautionary notices for maintenance, scheduled or emergency repairs;
- Incidents suspected to be laboratory or sampling errors, given other favourable available information about the drinking water system;
- Chronic elevated levels of substances that are routinely reported to the local MOH according to schedules under O. Reg. 170/03. (i.e. sodium);
- Isolated to individual plumbing systems (i.e., lead testing results within a school or residential building); or
- Advisory notices issued with no relevance to public health. Example: Notices to the public by municipality of impending work on water mains.

1.5   On-going Notifications

It is recognized that some advisory notices may remain in place for many months or years.

Notices that remain in place for extended periods of time that are intended to protect users from adverse health effects may include:

- o Ongoing presence of contaminant in a drinking water supply which requires longer term solutions to achieve remediation (i.e., residential community with high levels of nitrates in source water);
- o Poor infrastructure of drinking water system, leading to regular reports of adverse incidents which require longer term solution to remediate (i.e., distribution system that requires frequent repairs or replacement); or
- o Notices intended to raise awareness among specific drinking water users (e.g., where there are elevated levels of fluoride or sodium).

Where advisory notices remain active for extended periods of time, the local BOH shall report additional details about these incidents to the MOHLTC when they exist:

- Six consecutive months or longer; and

- 12 consecutive months or longer

Additional information required by the MOHLTC will include:

- Current status of condition resulting in the advisory notice being issued

- Stakeholder and compliance involvement (municipality, MOE, etc.)

- Options for resolution, including a remediation process and timing

- Other information relevant to the resolution of the incident

It is anticipated that the local BOH staff will maintain ongoing communications with the drinking water system owner, operator or operating authority to remain informed about the status of the incident and on going actions for resolution.

Getting Started: Introduction to the Drinking Water Advisory Reporting System

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Getting Started: Introduction to the Drinking Water Advisory Reporting System

2.0   How to Use this Document

Before using the DWARS, review this section introducing the DWARS and describing its background and purpose

2.1   Intended Audience

The DWARS is intended for board of health staff and Ministry of Health and Long-Term Care (MOHLTC) users. This guide describes the concepts and procedures for using the DWARS.

Note: The user guide is created in second-person narrative; 'You' refers to the person performing the task. As part of your role, you have been given access to certain menus in the DWARS.

2.2   Document Organisation

The document is divided into the following chapters:

Chapter 1: Standard Operating Procedures:
- Describes the purpose for the DWARS, and provides basic information about the appropriate use of the DWARS.

Chapter 2: Getting Started: Introduction to the DWARS:
- Describes how to use calendars, fields, and icons in the DWARS and introduces you to the basic concepts and functions within the application. To use the DWARS successfully, it is important to be familiar with the terms and concepts described in this chapter.

Chapter 3: Logging into and Navigating the DWARS:
- Describes how to log into the application and the layout of the tool

Chapter 4: Report List, Printing, Deleting and Recovering Records:
- Describes how to access a list of records and how to print, delete and recover those records.

Chapter 5: Creating a Record:
- Describes how to create a record.

Chapter 6: Rescinding a Record:
- Describes how to rescind a record.

Chapter 7: Searching for and Editing Records:
- Describes how to use the search tool to find records and how to edit records.

Chapter 8: Administration Functions:
- Describes how to use the administrative functions are used to provide management oversight for related functions for users who have been provided access to the DWARS.

Chapter 9: Producing Reports from Records:
- Describes how to produce canned (predefined criteria) from the records in the DWARS.

Chapter 10: Glossary:
- Describes acronyms and terminology used throughout this manual and the DWARS.

Chapter 11: References:
- Describes the sources (literature, web sites, etc.) used to inform the development of this manual for use with the DWARS.

Chapter 12: Appendices:
- Describes forms, reports and supporting documents available to assist users the DWARS.

2.3   User Guide Typographical Conventions

This document uses the following typographical conventions:

The greater than sign (>) shows menu selection. For example, on the DWARS left menu, click **DWAdvisory Tool>Search**. The search criteria fields appear.

Buttons and links in the step-by-step instructions appear in bold, such as **Previous** or **Next**.

2.4   The Drinking Water Advisory Reporting System Interface

The following is a description of the DWARS interface

| Interface	Description
Field	Input fields used to enter data
Menu	The menu contains items with which you have privileges to work
Check Box	When clicked, adds or removes a check box; sometimes used in conjunction with fields
Date Field	Input fields used to enter dates
Buttons	When selected, causes the application to perform a specific function

2.5   Calendar Dates and Fields
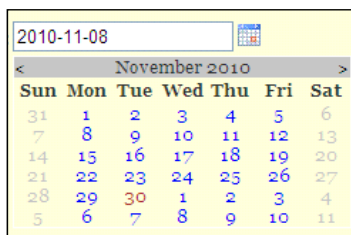
You can use the calendar icon ▦ to select the date. When you do, the calendar tool will appear.

The current date is in red. You can select different dates by clicking on them. To change months, use the navigation arrows ◀ ▶ on either side of the month title.

You can also enter the date manually in the date fields in a Month DD, YYYY format (January 30, 2009) or a Mon DD, YYYY format (Jan 30, 2009).
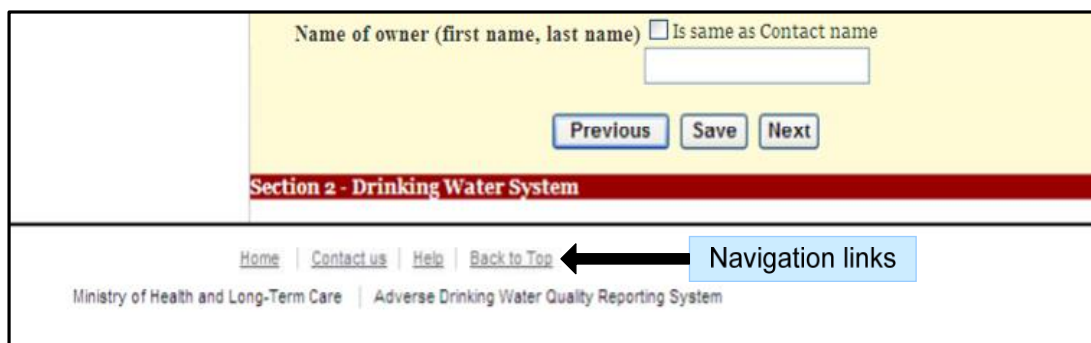
2.6   Tabs

After selecting **DWAdvisory Tool** from the home page, you can use the tabs in the upper left of the application to move between the home page, (**Report**) **List** and the (**Report**) **Search**.
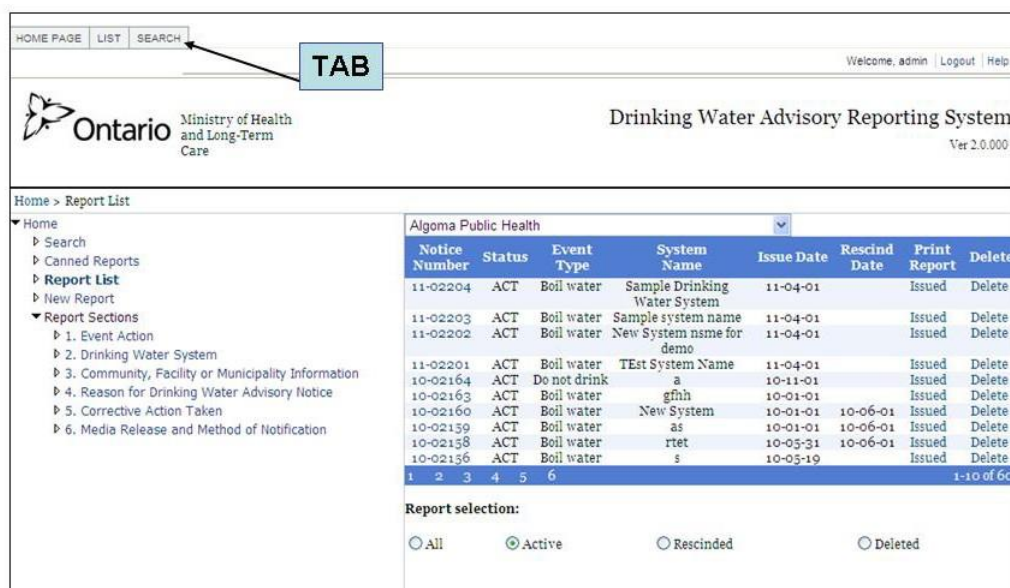
2.7   Navigation Links

Use the links at the bottom of each screen of the application to open or go to:

Home: Return to the application home page

Contact Us: Get contact information for the application

Help: To open this manual in PDF format (readable by Adobe Acrobat Reader)

Back to Top: Brings you to the top of the current screen

2.8   Introduction to the DWARS

The DWARS is a web-based application intended to be used by boards of health to record, track and upload to the MOHLTC drinking water advisory notices issued by operators or operating authorities or by BOH staff to operators or operating authorities.

The categories of advisory notices are:

- Boil Water Advisory

- Do Not Drink Advisory

- Do Not Use Advisory

- Health Information Advisory

The MOHLTC will use the DWARS to track and produce reports on the above advisory notices.

The DWARS is accessible from any computer with an internet connection and has Internet Explorer installed.

Logging into and Navigation of the Drinking Water Advisory Reporting System

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Logging into and Navigation of the Drinking Water Advisory Reporting System

3.0   Logging into and Navigation of the Drinking Water Advisory Reporting System

3.1   Logging In

1. Go to https://dwa.moh.gov.on.ca for the production site (PROD or 'live') or https://uat.dwa.moh.gov.on.ca for the user acceptance testing site (UAT or sandbox).
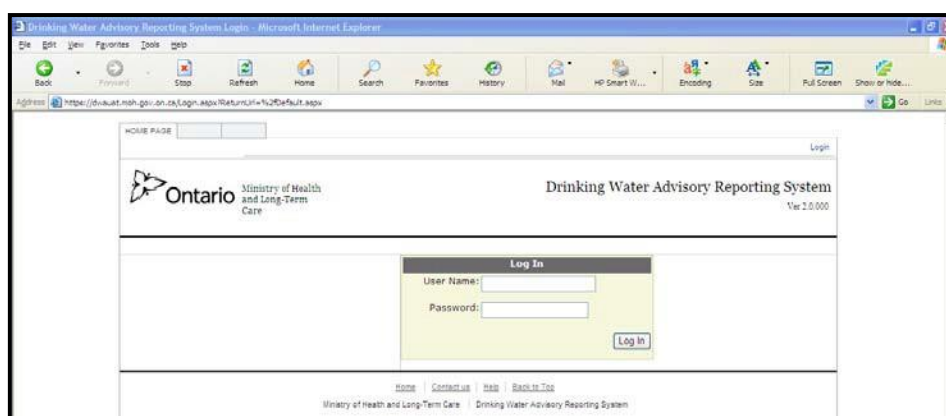
2. Enter your user name in the User Name field.

3. Enter your password in the Password field. A password must be at least seven characters long and contain one non-alphanumeric character (e.g., **J37&92p**).

4. Click on the Log In button.

3.2   Logging Out

To log out of the DWARS, click Logout in the top right-hand corner of the page.

Note: The DWARS will automatically log out after a period of inactivity. To access the application, you must log back in.

3.3   Navigating the Drinking Water Advisory Reporting System

The menu of the DWARS changes depending on what functions you are using.

When you first log in, the menu provides choices for:

- Changing your password
- Accessing the *DWAdvisory Tool*
- Accessing a PDF Version of the DWARS user manual
- Accessing a printable hard copy of the DWARS *Issue* or *Rescind* forms
- Accessing provincial and federal drinking water notice supporting documents
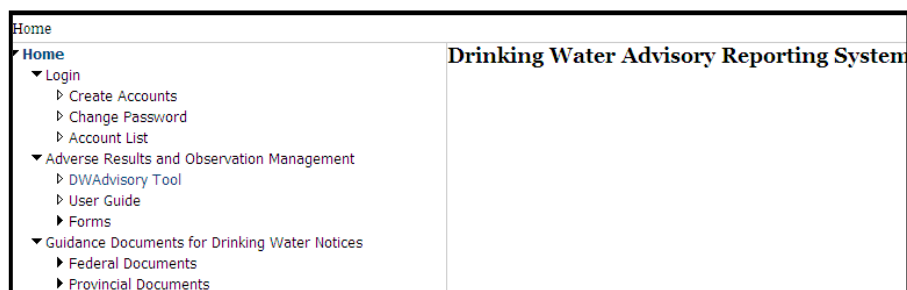
When you access the *DWAdvisory Tool*, the menu provides choices for:

- Searching for advisory notice records
- Listing of advisory notice records
- Creating a new record
- Navigating record pages

You can return to the first menu by clicking on the *HOME PAGE* tab or the **Home** link in the bottom navigation.

3.4   Changing Your Password

To change your password:

1. Click on *Change Password* in the menu. You will be taken to a screen where you can change your password.

2. Enter your old password in the **Password** field.

3. Enter your new password in the **New Password** field. Remember that a password must be at least seven characters long and contain one non-alphanumeric character (e.g., **J37&92p).**

4. Enter your password into the **Confirm New Password** field.

5. Click on the **Change Password** button.

Report List, Printing, Deleting and Recovering Records

4

Report List, Printing, Deleting and Recovering Records

4.0   Report List

After logging into the DWARS, select **DWAdvisory Tool**.

You will be taken to the **Report List**. The **Report List** contains entries for all adverse water quality records you have created.

Table Heading	Description
Notice Number	The number generated by the DWARS and assigned to the record.
Status	Whether the advisory is active or has been rescinded.
Name	The name of the system affected by the advisory notice.
Issue Date	The date the advisory notice was issued.
Rescind Date	The date the advisory notice was rescinded.
Print Report	Clicking on either *Issued* or *Rescinded* will allow you to print a hard copy of that record.
Delete	This will allow you to delete the record from the **Report List**.

4.1   Printing Reports

The **Report List** can only show 10 records at a time. In the example above, records 1-10 are displayed. To view records 11-20, you would need to click on the 2 in the blue bar at the bottom of the list.

The name of your board of health should be above the list. In the example below, the name of the board of health is Algoma.

Clicking on any of the white column headings, such as **Notice Number, Status, Event Type** or **System Name**, will allow you to sort your records by their classifications under those columns.

## 4.2   Deleted Report List

To access a record, click on the notice number (in the example above, the top two notice numbers are 09-02158 and 09-02156).

Under the **Print Report** column, clicking on either Issued or Rescinded will open a version of the record formatted for printing.

Clicking on "Delete" in the **Delete** column will remove the selected record from the **Report List**. An entry for the record will be maintained by the system and will be accessible by using the filters at the bottom of the record list.

By default, when you first view the **Report List**, the records shown will be active.

Using the radio buttons at the bottom of the **Report List**, you can view all of the records, the active records, the rescinded records or the deleted records.
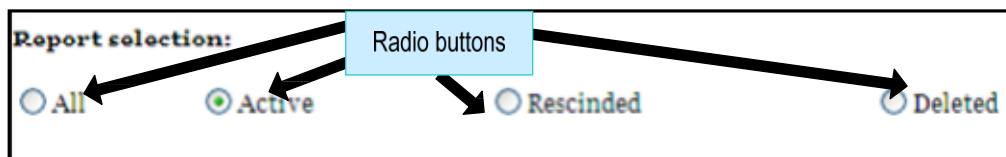
You can only select one radio button at time.

4.3   Printing Records

To print a record, select the type of activity for the adverse water incident you want to print (*Issued* or *Rescinded*).

4.4   Restoring Deleted Records

To restore a deleted record, click on the **Deleted** radio button at the bottom of the **Report List**. This will provide you with a list of all deleted records. Under the **Delete** column, click on *Undelete*.

Creating (Issuing) a Record

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Creating (Issuing) a Record

5.0   Creating (Issuing) a Record

To create a record from the home page, click on *DWAdvisory Tool>New Report*.

The record is broken down into six sections:

1. Event Action
2. Drinking Water System
3. Community, Facility or Municipality Information
4. Reason for Drinking Water Advisory Notice
5. Corrective Actions Taken
6. Media Release and Method of Notification

Your position in the record is reflected in the menu in bold. If you need to go back to a previous step, you can use the buttons at the bottom of the screen or click on the menu item for the section you wish to go back to (or jump forward to).

Before hitting the back button or clicking on any of the menu items, be sure to save your work! If you do not do this, any changes you make will be lost.

5.1   Event Action

After selecting **Event Action**, the **Event Action: Issue** (Section 1) screen will appear.

Note the title of the screen in the brown bar across the top of the **Event Action** fields. In this case, it reads *Event Action: Issue*. This is because you are creating a new record (in response to a notice that has been issued for an adverse event).

Field	Description
Notice Number	This number will be generated by the DWARS and assigned to the record after you have saved the entries on this screen.
System Name	You will have the opportunity to enter the DWS name in the next screen; the name will then appear below the **Notice Number**
Date event occurred	The date the event you are recording occurred.
Date notice issued to users	The date the notice about this event was issued to the owners or operators of the DWS.
Type of notice	The kind of advisory notice that is being issued.
Notice Issued By	The person who issued this advisory notice; board of health staff (PHI or MOH) or employee of DWS (owner or operator).
Local board of health office	The name of your board of health office; this field will be filled in automatically.

When you have completed the fields, click on the **Insert** button. If you return to this page after clicking on the **Insert** button it will be replaced by a **Save** button. Clicking on the **Cancel** button will cancel the notice.

5.2   Drinking Water System

After clicking on the Insert button, the **Drinking Water System** (Section 2) screen will appear. The name of the screen is included in the red bar at the top of the fields and at the bottom of the fields.

The **Notice Number** will be auto filled by the system and will not be editable.

The **System Name** at the top of the screen will be blank. When you enter the system name in the **Drinking Water System Name** field on this screen and then save your work, it will be filled in automatically by the system here in the future.

To go back to **Event Action** page, click on the **Previous** button on the bottom of the page.

Field	Description
Regulation	The Regulation the drinking water system (DWS) falls under.
Type of system	What kind of DWS the advisory notice was issued for.
Other type	If the type of DWS is not included in the drop down menu for the above field, the person creating or recording the notice may include it here.
Source of water supply	Where does the water supply to the DWS come from.
Surface water name	If the water supply comes from a surface source, enter the name of the source here (Shaggy Bear Lake, Eels Creek).
GPS coordinates of intake pipe or well	Capture the global positioning DWS (GPS) north and west coordinates for the location of the intake pipe or the well in decimal degrees. Enter the north (Latitude) coordinates first followed by the west coordinates; i.e., Latitude = **38.898648** Longitude = **-77.037692**. **Note:** Enter a minus (-) sign before the longitude or you will get an error message.
Drinking Water System Name	The name of the DWS (Grassy Hill Water System).
Drinking Water System Number	The number assigned to the DWS by DWIS (under O. Reg.170/03) or RCAT (under O. Reg. 318/08 and O. Reg. 319/08).
Address - number, street name	The address of the physical location of the DWS. Please enter as number and then street name, such as 33 Halliburton Avenue.
City/Town/Rural Route	The city or town or rural route where the DWS is located.
Postal Code	The postal code of the DWS. Must be entered with no spaces.
Emergency locator address (fire number)	If the water supply is located in an area without a specific postal address, you may enter the emergency locator number (fire number) here
Name of owner (first name, last name)	The name of the owner of the water supply
Telephone number	The telephone number (and extension if applicable) of the owner for the DWS. Please enter as a 10 digit number: 123-456-7890.
Cell number	The mobile telephone number of the owner for the DWS. Please enter as a 10 digit number: 123-456-7890.
Contact name – Operator or responsible person (first name, last name) □ same as owner	The name of the primary contact for the water DWS. Please enter as first name, last name – Bev, Smith. If this is the same as the owner entered above, please select the check box next to "same as owner."
Telephone number	The telephone number of the primary contact for the water DWS. Please enter as a 10 digit number: 123-456-7890.
Alternate telephone number	An alternate telephone number of the primary contact for the water DWS. Please enter as a 10 digit number: 123-456-7890.
Fax number	The facsimile number of the primary contact for the water DWS. Please enter as a 10 digit number: 123-456-7890.
Cell number	The cell number of the primary contact for the water DWS. Please enter as a 10 digit number: 123-456-7890.
Email address	The e-mail address of the primary contact for the water DWS.

5.3   Community, Facility, or Municipality Information

After clicking on the **Next** button, the **Community, Facility or Municipality Information** (Section 3) screen will appear.

The name of the screen is included in the brown bar at the top of the fields and at the bottom of the fields.

The **Notice Number** and **System Name** will be auto filled by the system and will not be editable on this page. Remember that while the **Notice Number** is not editable, you can edit the **System Name** on the previous screen – **Section 2: Drinking Water System**.

After selecting some of the check boxes on this page, the screen will refresh and you will be able to select items from a corresponding drop-down list

Field	Description
Institutional	Select this if there is a designated facility on the DWS. Once you have selected the check box, you will be able to choose the type of designated facility associated from a drop-down list.
Food Establishment	Select this if there is food establishment on the DWS. Once you have selected the check box, you will be able to choose the type of food premise associated from a drop-down list.
Campgrounds	Select this if there is a campground on the DWS. Once you have selected the check box, you will be able to choose the type of campground associated from a drop-down list.
Residential	Select this if there are residences on the DWS. Once you have selected the check box, you will be able to choose the type of residence associated from a drop-down list.
Lodgings	Select this if there is lodging on the DWS. Once you have selected the check box, you will be able to choose the type of resort associated from a drop-down list.
First Nation	Select this if there are First Nation communities using the DWS.
Other	If any of the drop-down items in the above list do not contain the entry you need, it may be entered here.
Dates Sample Was Taken	The date the water sample was taken.
Approximate number of	The number of facilities or homes that have been affected by this advisory notice.

Field	Description
facilities or homes affected	MOHLTC would like to know if there are more than 50 homes affected.
Approximate number of users affected	Approximate number of users that are affected by this advisory notice. MOHLTC would like to know if there are more than 100 residents affected.
Are there existing notices on this DWS?	If notices already exist for this drinking water system, check the Yes box.
If yes, provide date when last notice was issued (yyyy/mm/dd)	If you checked Yes on the last field, enter the issue date of the last notice.
State reason for previous notice **and** any actions taken (or enter Notice # if known)	Give explanation that describes the details of the adverse event

When you have completed this screen, click on the *Next* button.

5.4   Reason for Drinking Water Advisory Notice

After clicking on the *Next* button, the **Reason for Drinking Water Advisory Notice** (Section 4) screen will appear. You can edit the system name on **Section 2: Drinking Water System** page.

The title of the page is in the brown bar at the top and bottom of the page.

Field	Description
Microbiological	Select this if there are microbiological reasons for the advisory or order. Once you have selected the check box, you will be able to choose the type of microbiological reason from a drop-down list.
Mechanical or physical	Select this if there are mechanical or physical reasons for the advisory or order. Once you have selected the check box, you will be able to choose the type of mechanical or physical reason from a drop down list.
Other Test	If the test preformed was not a microbiological test or mechanical or physical test, enter the test name.
Test Results	If the test preformed was not a microbiological test or mechanical or physical test, enter the test results here.
Chemical	Select this if there are chemical reasons for the advisory or order. Once you have selected the check box, you will be able to choose the type of radiological reason from a drop down list.
Radiological	Select this if there are radiological reasons for the advisory or order. Once you have selected the check box, you will be able to choose the type of radiological reason from a drop down list.
Other Test	If the test preformed was not a chemical or radiological test, enter the test name.
Water-related Incident or Outbreak	If there are any water-related outbreaks or incidents that are connected with this advisory or order, select this check box.
Are 2 or more cases associated with this notice	Click this box if there are two or more cases associated with this notice.
If above yes is checked, what is the iPHIS outbreak number:	If there is an iPHIS outbreak number associated with the order or advisory and it meets the criteria above, enter it here.
Laboratory sample test results	If the advisory notice is being issued as a result of an adverse test result, this is where you will enter the information
Was the system sampled?	Select "Yes" or "No" based on what action led to this advisory notice being issued
Date samples were taken *(yyyy/mm/dd)*	If the DWS was sampled, enter the dates here, and the corresponding sample test results

When you have completed this screen, click on the *Next* button, the information will be saved and the DWARS will move to the next screen.

5.5　Corrective Action(s) Taken

The **Corrective Action Taken** (Section 5) screen will appear. The title of the page is in the brown bar at the top and bottom of the screen. You can edit the system name in **Section 2: Drinking Water System** page.

Field	Description
Operator response okay *(action taken meets regulation, no additional requirements given)*	The response the operator has taken means no additional corrective action needs to be considered.
Notify users of proposed corrective measures	Select this if users of the system are notified of what corrective measure will be taken to resolve the incident.
Provide additional FAC readings	Select this if additional free available chlorine readings are required using *Diethyl-p-phenylendiamine (DPD)* test kit.
Provide bactericidal treatment	Select this if bactericidal treatment is to be used.
Raise chlorine level and flush	Select this if the chlorinate level is to be raised and the system flushed.
Resample in addition to regulated samples	Select this if the operator must resample in addition to the already mandated samples are required.
Repair or replace failing equipment	Select this if repairing or replacing failing equipment is required.
Shock chlorinate and flush	Select this if the system needs to be 'shock chlorinated' and flushed before it ready to resume service.
Municipal or regional emergency response plan activated	Select if the local or regional municipality has activated the municipal plan as a result of an adverse test result or observation.
No data available	No information is yet available about this event.
Other (specify)	If the corrective action taken is not included, please enter it under the Other selection. Be sure to select the check box beside Other.

Hit the *Next* button to move to the next page.

5.6   Media Release and Method of Notification

The **Media Release and Method of Notification** (Section 6) screen will appear.

Section 6 - Media Release And Method Of Notification

Notice Number: 11-02206
System Name: Mephistopheles Spa

User Notification:
Media release issued \<Select one\>

Method of public notification - select all that apply
☐ Direct Mail
☐ Door to door
☐ Door hangers
☐ Electronic Mail
☐ Newspaper
☐ Postings
☐ Telephone Automatic Dialing
☐ Telephone Reverse 911
☐ Television
☐ Radio
☐ Other:

Notification of Official Agencies:

	Issued
Date MOHLTC notified:	2000-02-15
Date MOE District Office notified:	2000-02-15
Date Health Canada - FNIHB notified:	
Other Agencies:	\<Select one\>
Date Other Agencies Notified:	

Health Unit Contact first name:
Health Unit Contact last name:
Health Unit Contact Telephone number:
Health Unit Contact Cell number:

[Previous] [Save]

Section 6 - Media Release And Method Of Notification

You can edit the system name on the **Drinking Water system** page. The title of the page is in the brown bar at the top and bottom of the screen.

The Media Release and Method of Notification page is used to record how and when notification to the public and/or other public health bodies or stakeholders took place.

Field	Description
Media release issued	Use this drop down to indicate whether a media release related to the adverse notice has been issued. Future versions of this application will allow the media release to be uploaded and attached directly to the report.
Direct Mail	Select this check box if a notice was sent out by direct mail.
Door to door	Select this check box if people were notified by door-to-door action.
Door hangers	Select this check box if the notice was distributed via door hangers.
Electronic Mail	Select this check box if the notice was distributed via e-mail.
Newspaper	Select this check box if the notice was published in a newspaper.
Postings	Select this check box if a sign was posted at the tap where the users get their water or in a location where users can see that the water from the DWS is not safe to drink.
Telephone Automatic Dialling	Select this check box if people were notified via an automated telephone dialling application.
Telephone Reverse 911	Select this check box if telephone reverse 911 was used to distribute information about the notice.
Television	Select this check box if the notice was publicized through a television news story.
Radio	Select this check box if the notice was publicized through a radio news story.
Other	Select this check box if the notice was publicised through a method not covered in the above check boxes. Be sure to fill out the text field describing the distribution method.
Notification of Official Agencies	Use these fields to enter the date other government bodies were notified of the issuance of the advisory notice and the rescission date.
Date MOHLTC notified	The date you enter this report is when the MOHLTC will receive notification. The field will auto-populate.
Date MOE District Office notified	Use the calendar fields to enter the date the Ministry of the Environment district office was notified of the issue of the advisory and date the advisory was rescinded.
Date Health Canada – FNIHB notified	Use the calendar fields to enter the date Health Canada's First Nations and Inuit Health Branch was notified of the issue of the advisory notice and date the advisory notice was rescinded.
Other Agencies	If there are other agencies that should be made aware of this advisory notice, select from the drop down list
Date Other Agencies notified	Enter the date the other agencies were notified
Board of health contact first name	Enter the first name of the primary board of health contact.
Board of health contact last name	Enter the last name of the primary board of health contact.
Board of health contact telephone number	Enter the phone number of the primary board of health contact.
Board of health contact cell number	Enter the cell phone number of the primary board of health contact.

Rescinding Records

6

Rescinding Records

6.0   Rescinding Records

6.1   Mark a Record Rescinded

To rescind a record, go to the **Report List** and click on the **Notice Number** of the record you want to rescind. This will bring you to the **Event Action: Issue** screen. Once there, click on the *Rescind* button. You should now be in the **Event Action: Rescind** screen.

Note that the record will be not actually be rescinded until you click on the **Save** or **Rescinded** buttons at the bottom of the page. The page will refresh and you will be able to fill in the fields regarding the rescission of the record.

Note that the title of the page has changed to **Event Action: Rescind**. The title of the page is in the brown bar at the top and bottom of the screen.

The uppermost section of the screen (below the **System Name**) is partially filled in with some information from the **Event Action: Issue** screen. These are mandatory fields which you cannot edit.

Basically, the **Event Action: Rescind** screen is divided into three sections. The uppermost section provides important information from the **Event Action: Issue** page about the advisory notice. The middle section of the screen provides information about the re-sampling history of the DWS. The bottom section of the screen provides information about any "*Other Corrective Actions Taken*" by the operator or that were given by the PHI to the operator.

Section 1 - Event Action: Rescind

Notice Number: 11-02206
System Name: Mephistopheles Spa

Date event occurred: 2000-01-01 📅 *

Date notice issued to users: 2000-02-15 📅 *

Type of notice: Do not drink ▼ *
Notice issued by: MOH or PHI ▼ *

Local board of health office: Toronto Public Health

Date rescinded: _____ 📅 *

Was the system re-sampled? ○ Yes ◉ No

Date Resampled: _____ 📅

E. coli: _____
T. coliform: _____
Other Test Name: _____   Other Test Result: _____

E. coli: _____
T. coliform: _____
Other Test Name: _____   Other Test Result: _____

Date Resampled: _____ 📅

E. coli: _____
T. coliform: _____
Other Test Name: _____   Other Test Result: _____

Other Corrective Action Taken:

Select all that apply

☐ Operator response acceptable *(action taken meets regulation, no additional requirements given)*
☐ Notify users of proposed corrective measures
☐ Provide additional FAC readings
☐ Provide bactericidal treatment
☐ Raise chlorine level and flush
☐ Resample in addition to regulated samples
☐ Repair or replace failing equipment
☐ Shock chlorinate and flush
☐ Municipal or regional emergency response plan activated
☐ No data available
☐ Other (specify): _____

Contact Name: _____
Contact Phone #: _____

[Save] [Next]
[Cancel Rescind]

Section 1 - Event Action: Rescind

Field	Description
Date notice was rescinded	The date the notice was removed from the system. This date should be when the operator met the corrective action outlined in Regulations or additional steps issued by the PHI or MOH.
Date user notified notice was rescinded	The date the users were notified of the rescission that the water was now safe to drink.
Local board of health office	The name of your public health unit. This field should be filled in automatically.
Date reported to local board of health office	The date the operator reported to the PHI that the advisory notice had been rescinded.
Laboratory test results	This is where you would enter results of any samples that were required to determine if the system was safe to return to providing water to users.
Was the system re-sampled?	Use these radio buttons to indicate whether the system was re-sampled. Note that you can enter up to three different sample dates and results associated with those sample dates.
Date re-sampled	The date the DWS was re-sampled.
Results (for the samples tested)	Use this field to enter test results.
Additional instructions given to operator	Use the check box to indicate whether there were additional steps given by the PHI or MOH to correct the system. ☐ No ☐ Yes (update list below)
Operator response okay *(action taken meets regulation, no additional requirements given)*	The response the operator has taken means no additional corrective action needs to be considered.
Notify users of proposed corrective measures	Select this if users of the system are notified of what corrective measure will be taken to resolve the incident.
Provide additional FAC readings	Select this if additional free available chlorine readings from distilled de-ionized water are to be used.
Provide bactericidal treatment	Select this if bactericidal treatment is to be used.
Raise chlorine level and flush	Select this if the chlorinate level is to be raised and the system flushed.
Resample in addition to regulated samples	Select this if the operator must resample in addition to the already mandated samples are required.
Repair or replace failing equipment	Select this if repairing or replacing failing equipment is required.
Shock chlorinate and flush	Select this if the system needs to be 'shock chlorinated' and flushed before it ready to resume service..
Municipal or regional emergency response plan activated	Select if the local or regional municipality has activated the municipal plan as a result of an adverse test result or observation
Other (specify)	If the corrective action taken is not included, please enter it under the Other selection. Be sure to select the check box beside Other.
No data available	No information is currently available about the operator's actions.
Notification of Official Agencies	Use these fields to enter the date other government bodies was notified of the issuance of the advisory notice and the rescission date.

Field	Description
Date MOE District Office notified	Use the calendar fields to enter the date the Ministry of the Environment district office was notified of the issue of the advisory and date the advisory was rescinded.
Date Health Canada – FNIHB notified	Use the calendar fields to enter the date Health Canada's First Nations and Inuit Health Branch was notified of the issue of the advisory notice and date the advisory notice was rescinded.
Other Agencies	If there are other agencies that should be made aware of this advisory notice, select from the drop down list
Date Notified	Enter the date the other agencies were notified
Contact first name	Enter the first name of the primary board of health staff.
Contact last name	Enter the last name of the primary board of health staff contact.
Telephone number	Enter the phone number of the primary board of health staff contact.
Cell number	Enter the cell number of the primary board of health staff contact.

Searching for and Editing Records

7

Searching for and Editing Records

7.0   Searching for and Editing Records

7.1   Searching for Records

Log into the DWARS.

You can click on the *Search* tab. You can also select *DWAdvisory Tool>Search*.

You will be brought to the Search screen. Here, you can provide as many search criteria as you like.

Field	Description
Board of health	Select the name of your board of health if it was not automatically chosen. You will only be able to search every record for your board of health.
Status	Choose whether the record is issued or rescinded.
Event Type	Choose what kind of event it is you are looking for: Boil water Do not drink Do not use Health information
System Name	The name of the system – you can enter only a part of the name of the system if desired. For example, entering in *Ontario* will return results of *Ontario*town, *Ontario*ville or *Ontario*place. Similarly, you can enter *ville* to obtain Ontario*ville*. Entering the full name of the system you are searching for will cut down the number of results that are returned. This field is not case sensitive, so you do not need to match capitalization in the name of the system you are searching for.
Issue Date From	Use this field, in conjunction with the next field, to create a range of dates from which the tool will return issued record results for.
Issue Date To	Use this field, in conjunction with the previous field, to create a range of dates from which the tool will return issued record results for.
Rescind Date From	Use this field, in conjunction with the next field, to create a range of dates from which the tool will return rescinded record results for.
Rescind Date To	Use this field, in conjunction with the previous field, to create a range of dates from which the tool will return rescinded record results for.
Reason	Select the reason why the advisory or order was issued.
Deleted	Select to search from Active or Deleted or both kinds of records.

Search results will be returned at the bottom of the form. This list will behave roughly the same way as the **Report List** described in Chapter 3.

You can view the record by clicking on the *Notice Number*.

7.2   Editing Records

To edit a record, open the record, either by performing a search (**see section 7.1**) or by selecting the record from the **Report List**.

Once you have opened the record, you can then begin editing the information. You can navigate through the record by clicking on the *Next* or *Previous* buttons at the bottom of the pages or by using the left navigation menu and jumping to the section you wish to make changes in.

Be sure to save your changes by clicking on the *Next* or *Save* buttons at the bottom of each screen.

Administration Functions

8

Administration Functions

8.0   Administrator Functions

Administrators can use the DWARS to perform all the same functions as a normal user and have access to additional administrative tools.

There are two types of Administrators: System Administrators and PHU Administrators. System Administrators can grant access, view and manage user accounts for all users, while PHU Administrators can only grant access, view and manage user accounts for users within their assigned PHU.

8.1   Creating Accounts

To create an account, log into the DWARS and select *Create Accounts* from the left menu.

Fill out the Create Account form.

Field	Description
User Name	Create the user name of the user and enter it here. The preferred format is last name plus initial of first name; e.g., John Public's username would be **publicj**.
Password	Create the password of the user and enter it here. A password must be at least seven characters long and contain one non-alphanumeric character (e.g., @ or &).
Confirm Password	Re-enter the password of the user here (this is to ensure that the password is entered into the system without typing errors).
E-mail	Enter the e-mail address of the user here. Be sure to enter this correctly as it will be used by the system to send the user's password to them should they forget it.
Activates	Enter the activation start date for the user's account, indicating the date when user is expected to start using DWARS. The value can also be future dated.
Expires	Enter the date that the user's account should be disabled. Leave this field blank if the user is a permanent user (i.e., no planned dates to deactivate the account).
Select Role	The role of the user: System Administrator, PHU user or Provincial View*. Only the System Administrator can select the role for the new user's account. For user accounts created by a PHU Administrator the value will default to the PHU they belong to.
Assign PHU Admin	Mark this checkbox if you want the PHU user to have PHU Administrator privileges.

Provincial View role is used for Ministry reporting and audit purposes, and allows the user to:

- *search, view and print all advisory records for any PHU (no permission to create, modify, delete records)*
- *generate and print canned reports for all PHUs*

When you have finished filling out the form, click on the **Create User** button.

8.2   Account List

To review existing accounts, from the home page, click on the *Account List*. This will provide you with a list of all accounts in the DWARS that your account is authorized to see.

You can sort the columns by clicking on the *User, Role (System Admin only), Locked, Email, Activates, Expires,* and *Last Login* headings. To view the *Account Details*, click on the *Edit User* link in the appropriate row.

You may also use the search filter options at the top of the page to search for accounts based on *Username/Email, Role/PHU (System Admin only),* and *Last Login Date.* There is also an option to filter out inactive users by clicking the checkbox beside *Hide Inactive Users.*

Each screen will only display 10 accounts at a time. So in the example above, only accounts 1-10 are shown. To see accounts 11-20, you would need to click on one of the numbers in the list at the bottom of the screen.

8.3   Account Details

To view the details for a user's account, click on **Edit User** beside the user's name in the

Account List. The account details will be returned below the **Account List**.

8.4   Locking and Unlocking an Account

A user's account will be automatically locked if the password is entered incorrectly 5 times. Locked accounts will have the **Is Locked Out** flag checked ☑ in the account details section.

To unlock an account, access the account details. Click on the check box for **Is Locked Out** to remove the check mark ☐ .

Note: The **Is Locked Out** flag is a security feature only and should not be used in place of activates/expires dates to manage user access.

	User	Role	Locked	Email	
Edit User	a_gullekson	Timiskaming Health Unit	☐	gulleksona@timiskaminghu.com	
Edit User	AdamsW	Middlesex-London HU	☑	wally.adams@mlhu.on.ca	
Edit User	AdasJ	Middlesex-London HU	☐	james.adas@mlhu.on.ca	
Edit User	Admin	Administrator	☐	admin@test.com	
Edit User	alandy	Hastings & Prince Edward Counties HU	☐	alandy@hpechu.on.c	
Edit User	Aldo_Franco	Waterloo (Region of) Public Health	☐	afranco@regionofwaterloo.ca	
Edit User	ALEXANDERT	Algoma Public Health	☐	talexander@algomapublichealth.com	
Edit User	Algoma_Admin	Algoma Public Health	☐	algoma.admin@on.ca	
Edit User	algomaAdmin1	Algoma Public Health	☐	algomaAdmin1@ontario.ca	
Edit User	algomaUser1	Algoma Public Health	☐	algomaUser1@ontario.ca	

1 2 3 4 5 6 7 8 9 10 …

Field	Description
User Name	The user name for the account.
Role Name	The role for the account (can only be viewed/updated by System Administrator)
Email	The e-mail address of the user of the account.
Activates	The date the account is activated.
Expires	The date the account is deactivated and the account user can no longer access the system. The user account will not expire if this field is left blank.
Is Locked Out	A check in this box indicates that the account is locked and the account user cannot access the system.
Is PHU Admin	A check in this box indicates that the account has been granted Administrative access to all users in their assigned PHU in the system.
New Password	Enter the new password for the user.
Confirm Password	Confirm the new password by entering it here.

8.5   Updating Account Details

In the Account Details, you can modify some of the information that was used to create the account, including modifying the:

- Role (by System Administrator only)
- Email
- Activates
- Expires

- Is Locked Out
- Is PHU Admin
- Password

You can do this by typing in the corresponding text fields and then clicking on the Update link at the bottom of the screen.

If you are changing the **Password**, type the new password into the **New Password** field, then confirm it by typing it in the **Confirm Password** field

User Name:	Algoma_Admin
Role Name:	Algoma Public Health
Email:	algoma.admin@on.ca
Activates:	2024-02-21
Expires:	
Is Locked Out:	☐
Is PHU Admin:	☑
New Password:	
Confirm Password:	

Cancel   Update

8.6   Deactivating an Account

Accounts cannot be physically deleted. To hide inactive users from appearing in your Account List search results please select the checkbox beside *Hide Inactive Users*.

If you wish to deactivate an account, set the account expiry date in the *Expires* field to the day the user should no longer be able to access the system. Do not use the **Is Locked Out** flag for the purpose of deactivating user accounts.

The *Expires* field may be left unpopulated if the user account does not need to be deactivated. A user can only access the system when:

- The system date is equal or greater than the *Activates* date, AND
- The system date is less than the *Expires* date (if populated), AND
- The *Is Locked Out* flag is clear/unchecked.

User Name:	Admin
Role Name:	Administrator
Email:	admin@test.com
Activates:	2011-05-31
Expires:	
Is Locked Out:	☐
New Password:	
Confirm Password:	

Cancel Update

r

Producing Reports

9

Producing Reports

9.0   Producing Reports from Records

Users can use the DWARS to produce reports from the data in the DWARS as a normal user and have access to additional administrative tools.

9.1   How to Produce Reports

To produce a report, log into the DWARS and select *Canned Reports* from the left menu.

You will be brought to the Canned Report screen. Enter the date range that you would like to produce reports for. Click on the name of the report that you want to produce from among the list of ten report names to the right of *List of Canned Reports*.

Field	Description
Health Unit	The name of your health unit should be automatically selected; if not, select the name from the drop-down menu to the right. Note that you can only produce reports from the records related to your health unit.
Issue Date From	Use this field, in conjunction with the next field, to create a range of dates from which the tool will return issued record results for.
Issue Date To	Use this field, in conjunction with the previous field, to create a range of dates from which the tool will return issued record results for.
List of Canned Reports	This is a list of 10 pre-defined reports that the DWARS will produce. There is an option to export the data collected from the advisory notices and create other types of reports as identified by local board of health staff.

The report that you selected will be produced in a separate window.

The report below is a summary about the number of advisory notices issued on various types of drinking water systems – municipal, non-municipal and other types of systems (top row).

These drinking water systems fall under the O. Regulation 170/03 under the *Safe Drinking Water Act*, the two Small Drinking Water Systems Regulations, and other non-regulations systems under the *Health Protection and Promotion Act* (left column).
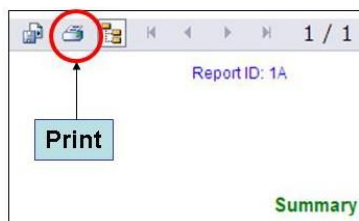
Any of the reports can be printed by clicking the *Print* (2nd) icon found at the top left hand corner of the report page.
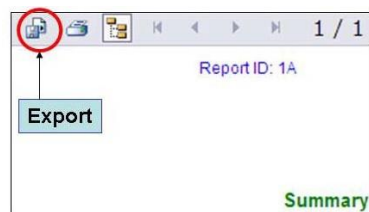
To produce other types of reports not included on the *List of Canned Reports*, you can export the data from the DWARS and create a custom report. Click on the *Export* (1st) icon at the top left hand corner of the report page.

The *Export Options* window will open. Choose from the *Formats* list how you want to export the data. The choices range from "Crystal Reports (PRT)" to "Rich Text Format." Once you select the type of Format and click OK, you will be able to see the report in a different format type or create other types of reports with the raw data.
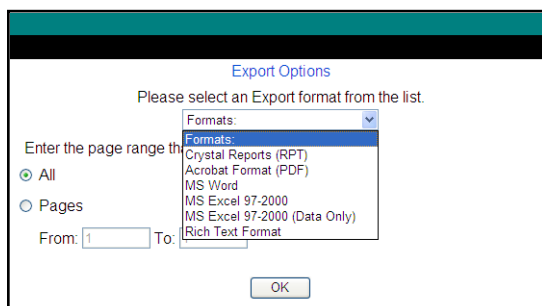
Glossary

10

Glossary

10.0 DWARS Glossary

The glossary provides definitions for acronyms and other terminology used throughout the DWARS and this user manual.

TERM	DESCRIPTION
Advisory	An advisory informs and educates the public on what precautions (if any) to take prior to using water for drinking or other purposes until the safety of the drinking-water supply is restored.
Advisory notice	An advisory notice is any notification provided to the owner, operator, operating authority or users of a water system that informs them of changes to the safety of their water supply.
Bioaccumulation	Accumulation of a substance in a living organism as a result of its intake both in its
boil water advisory	Boil water advisory informs and educates the public about how they can render their drinking water safe by boiling it for one minute.
CFUs	Colony-forming units of bacteria (E. coli or other coliform bacteria).
chloramination	Combined chlorine residual disinfection in the form of mono-chloramine (see *combined chlorine residual* below).
chlorination	The process of applying various forms of chlorine to treat drinking water to render it safe to drink. The amount of chlorine in the water can be measured as *free chlorine residual* disinfection (see below).
chlorine residual	The concentration of chlorine remaining in water at the end of a specified contact period during which it reacts chemically and biologically. It may be present as either 'combined' or 'free chlorine' or both. The absence of chlorine residual is an immediate indication of potential water quality or treatment concerns, and that the water is not protected from contamination by microbiological organisms.
Coliform bacteria	A group of bacteria whose presence in drinking water can be used as an indicator for operational monitoring. The monitoring of heat-resistant fecal coliform in drinking water has now been replaced by direct enumeration of the major type, E. coli.
combined chlorine residual	Produced by the process of chloramination, the minimum required combined chlorine residual to render drinking water safe is 1.0 mg/l. A residual of less than 0.25 mg/l is an adverse test result.

TERM	DESCRIPTION
Cryptosporidium	A parasitic protozoan, the eggs or oocysts stage of which is commonly found in lakes and rivers and are highly resistant to disinfection. Cryptosporidium has caused several large outbreaks of gastrointestinal illness, with symptoms that include diarrhea, nausea and stomach cramps. People with weakened immune systems (immuno-compromised people) are likely to have more severe and more persistent symptoms than healthy individuals.
Cyanobacteria	Cyanobacteria, commonly known as 'blue-green algae', are one of the algae that cause visible algae "blooms" in bodies of fresh water. It contains chlorophyll and phycobilins, which can be toxic in higher concentrations.
Cyanotoxins	A general term for the range of toxins produced by cyanobacteria.
designated facilities	A child and youth care facility, a children's camp, a delivery agent care facility, a health care facility, a school or private school, a social care facility, or a university, a college of applied arts and technology, or an institution with authority to grant degrees (O. Reg. 170/03 s.1(1))
drinking water advisory	A drinking water advisory informs and educates users that their drinking water cannot be corrected or rendered safe simply by boiling it for one minute or by other means of disinfection. This condition may arise because a chemical or radiological standard is exceeded and the water is judged to be hazardous.
drinking water directive or order	The Medical Officer of Health directs or orders an owner or operating authority of a drinking water system to provide a drinking water advisory to the users of the drinking water system. The directive or order may stipulate required corrective actions, provision of additional information, and other measures.
Drinking Water Quality Standards	Refers to Ontario Regulation 169/03 (Ontario Drinking Water Quality Standards) made under the *Safe Drinking Water Act*
Drinking Water Systems Regulation	Refers to Ontario Regulation 170/03 made under the *Safe Drinking Water Act*
Escherichia coli (E. coli)	Bacterium found in the gut and used as an indicator of fecal contamination of water by humans and other warm-blooded animals.
free chlorine residual	Produced by chlorination, the minimum required free chlorine residual is 0.2 mg/l. A result indicating a residual of less than 0.05 mg/l is a reportable adverse test result.
Giardia lamblia	A protozoan frequently found in rivers and lakes. If water containing the infectious cysts of *Giardia* is ingested, the protozoan can cause a severe gastrointestinal disease called Giardiasis, commonly known as "beaver fever".
GPS	The Global Positioning System (GPS) coordinates (latitude and longitude, in decimal degrees) used to specify the position of the point of reference for a drinking water source, (i.e., the actual well head or the intake pipe location). The required coordinates are latitude (north-south) and longitude (east-west), and must be provided using the North American Datum 1983 (NAD83).

TERM	DESCRIPTION
groundwater	water located in subsurface aquifers where the aquifer overburden and soil act as an effective filter that removes micro-organisms and other particles by exerting a straining and antagonistic effect to an extent that the water supply may be rendered potable, although disinfection is required as an additional health risk barrier.
HPPA	*Health Protection and Promotion Act, 1990*
IMAC	*Interim maximum acceptable concentration.*
	The IMAC is established for parameters either when there are insufficient toxicological data to establish a maximum acceptable concentration (MAC) with reasonable certainty, or, when it is not feasible for practical reasons, to establish a MAC at the desired level. O. Reg. 169/03 prescribes MACs and IMACs as standards of Ontario drinking-water quality.
lift	To annul, rescind or remove a drinking water advisory notice previously issued to the operator or operating authority of a drinking water system when it is determined that the water supply no longer poses a risk to users.
MAC	Maximum acceptable concentration (MAC) is established for various parameters which, when present above a certain concentration, have known or suspected adverse health effects. The length of time the MAC can be exceeded without health effects will depend on the nature and concentration of the parameter. O. Reg. 169/03 prescribes MACs and IMACs as standards of Ontario drinking water quality.
medical officer of health	The Medical Officer of Health for the health unit in which the system is located**.**
Micro-organism	An organism too small to be visible to the naked eye. Bacteria, viruses, protozoa, and some fungi and algae are micro-organisms.
Microcystins	Cyclic non-ribosomal peptides produced by Cyanobacteria that can be very toxic for plants and animals including humans.
MOHLTC	Ministry of Health and Long-Term Care
notice	A method of notifying users of a drinking water system that the water may not be safe to consume or use for other activities. The notice may be issued by the operator, operating authority or local board of health staff (i.e., PHI or MOH).
notify medical officer of health	Requirement for the owner or operating authority of the drinking-water system to immediately notify the medical officer of health upon receipt of an adverse test result or sight of an adverse observation.
	The notification must be made by "speaking with a person at the office of the medical officer of health or, if the office is closed, by speaking with a person at the on-call system of the health unit" as prescribed by Schedule 16 of O. Reg. 170/03.

TERM	DESCRIPTION
notify users	Requirement for the owner or operating authority of the drinking water system to immediately "notify all users that there is an adverse event associated with the system".
	Notification may direct users to use an alternate source of drinking water or to bring water to a rapid rolling boil for at least one minute before use, as prescribed by Schedule 18 of O. Reg. 170/03.
operator or operating authority	This is an abbreviation for an "accredited operating authority" of a drinking water system: the person or entity that is given responsibility by the owner for the operation, management, maintenance or alteration of the system. The Ontario Clean Water Agency is an example of an accredited operating authority.
potable	Drinking water that meets compliance with O. Reg. 169/03 (*Ontario Drinking Water Quality Standards*).
precautionary principle	The principle may be applied when precautionary measures are needed in the presence of possible threats to human health or to protect the environment in the absence of reliable scientific data.
	The precautionary principle is applied mainly where there is a danger to public health.
primary disinfection	A process or series of processes intended to remove or inactivate human pathogens such as viruses, bacteria and protozoa in water.
record	The details about the issuance and rescission of an advisory notice that are entered into the DWARS. Each entry of a notice that was issued to the operator or operating authority is referred to as a record.
Regulation	The Regulation governing a particular drinking water system.
	O. Reg. 169/03 (Ontario Drinking Water Quality Standards)
	O. Reg. 170/03 (Drinking Water Systems)
	O. Reg. 318/08 (Transitional – Small Drinking Water Systems)
	O. Reg. 319/08 (Small Drinking Water Systems)
report	This is a canned (pre-defined) document that is produced from the records entered into the DWARS. There are currently 10 canned reports that can be produced by board of health users.
resample and test	A requirement that at least 3 water samples for the parameter that caused adverse water quality must be collected and tested. The first sample must be collected from the same location that caused the adverse water quality result. The second and third samples are to be collected and tested from upstream and downstream locations, at a significant distance from the location of the adverse water test result, where reasonably possible.
rescind	The lifting of a boil water or drinking water advisory. The Medical Officer of

TERM	DESCRIPTION
	Health may revoke/annul a boil water or drinking water advisory when it has been determined that the drinking-water from the drinking-water system does not present a health or safety risk to users.
restore chlorine levels/flush mains	Directs the water system owner/operator to increase the chlorine or chloramine dosage and flush the distribution system and plumbing or water mains to ensure a minimum free chlorine residual of 0.2 mg/l for a water system using chlorination, or a minimum combined chlorine residual of at least 1.0 mg/l for a water system using chloramination, at all points in the affected part(s) of the distribution, as prescribed by Schedule 17 and 18 of O. Reg. 170/03
Risk assessment	The overall process of using available information to predict how often hazards or specified events may occur (level of likelihood) and the magnitude of their consequences (adapted from AS/NZS 4360:1999).
SDWA	The Safe Drinking Water Act, administered by the Ministry of the Environment.
surface water	Water bodies (lakes, wetlands, ponds including dug-outs), water courses (rivers, streams, water-filled drainage ditches), infiltration trenches, and areas of seasonal wetlands.
SDWS	Small Drinking Water System
source	The source of the water being supplied
Source type	The intake water source type.
Drinking water system number	The unique 9-digit number that identifies a drinking water system. These numbers can be all-numeric (systems starting with 2 or 7) or alphanumeric (systems starting with 8).
Total coliforms	Combined counts of bacteria whose presence in drinking water can be used as an indicator for operational monitoring: E. coli, and intestinal enterococci.
URL	Uniform Resource Locator: the global address indicator for documents and websites on the internet.

References

11

References

11.0 DWARS References

The references provide the sources (literature, web sites, etc.) used to inform the development of this manual for use with the DWARS.

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