The Watershed Center
GRAND TRAVERSE BAY

You can help us grow and improve our knowledge of the Grand Traverse Bay Watershed. If your organization has research and results that would add to our database, please contact The Watershed Center Grand Traverse Bay at 231-935-1514 or info@gtbay.org.

>DATABASE USER GUIDE
WWW.GTBAY.ORG/WQDB.ASP

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DEQ Michigan's Nonpoint Source Program

ROTARY INTERNATIONAL

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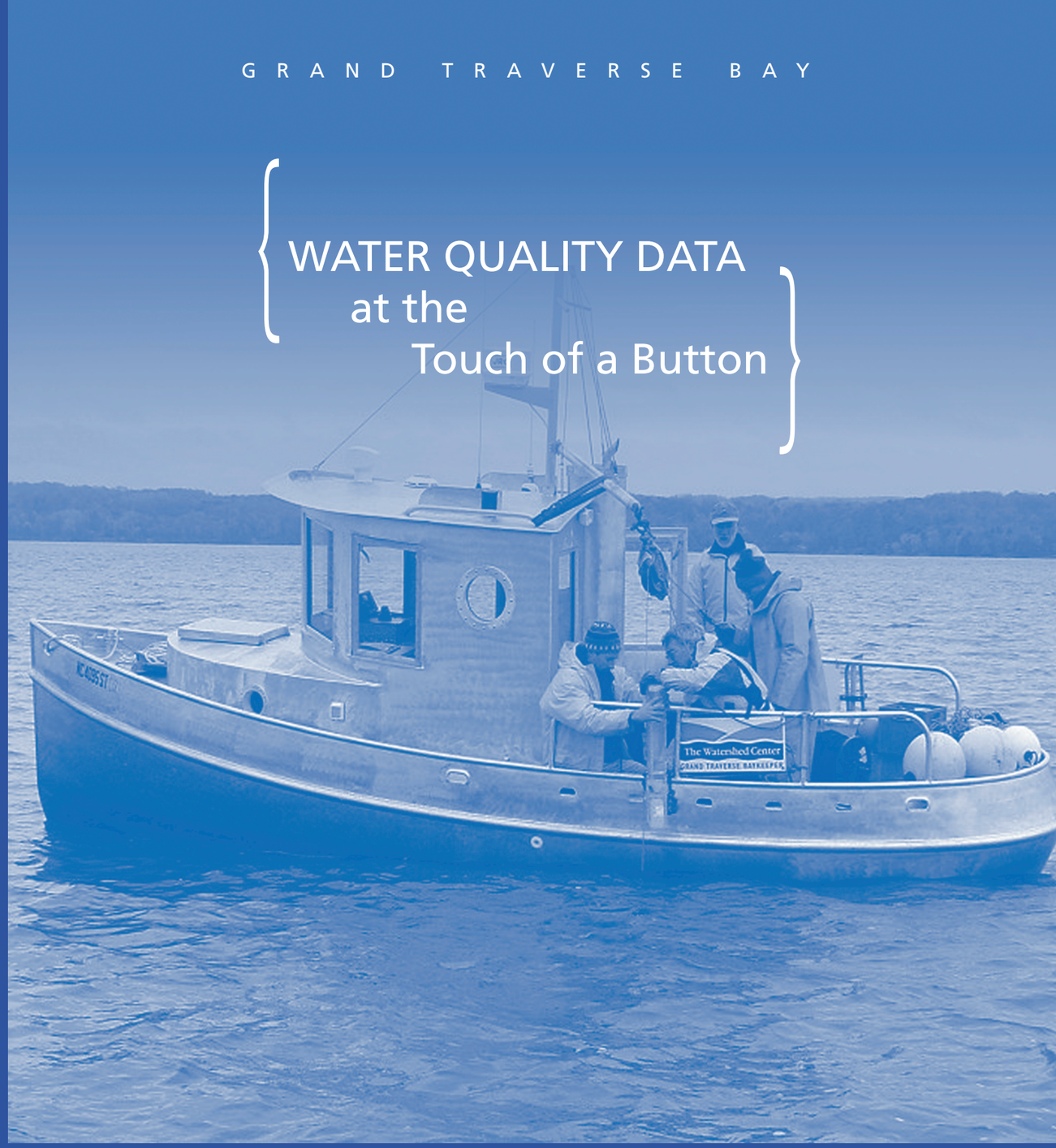
GRAND TRAVERSE BAY

WATER QUALITY DATA at the Touch of a Button



The Watershed Center
GRAND TRAVERSE BAY

>DATABASE USER GUIDE
WWW.GTBAY.ORG/WQDB.ASP

Are you studying trends in water quality?
Want to know about the water quality in your area?
Doing a project for school?
Just sit down at a computer and you'll find
there's plenty of data right at your fingertips:
The Grand Traverse Bay Watershed Database.

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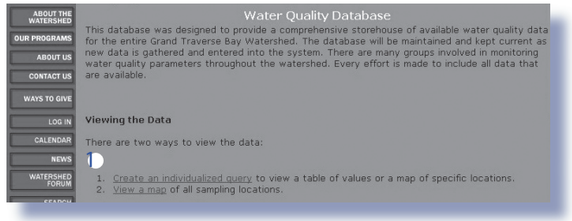
Our interactive database is a storehouse of available water quality data for the entire watershed. You can search by parameter, location, water body, jurisdiction, or specific research document. Current and historical data are gathered and entered into the system by groups involved in monitoring water quality throughout the watershed.

Over the years, university researchers, state and federal agencies, lake associations, environmental organizations and citizen volunteers have gathered data from the rivers, streams, lakes and bays that make up the nearly 1,000 square mile Grand Traverse Bay watershed. Several years ago, The Watershed Center embarked on an effort to build a user-friendly, web-based repository for this data. The goal was to make the water quality data accessible to a variety of users including local governments, agencies, researchers and students. The result was the database you are about to explore.

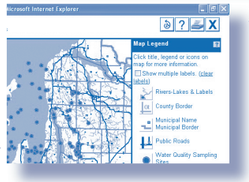
A number of organizations and volunteers contributed to the development of the database. Funding for first phase of building the interface was provided by Rotary Charities of Traverse City. Additional funding to finish the database, mapping features and enter data was provided through a Michigan Department of Environmental Quality Clean Michigan Initiative grant.

{To search using maps

Looking for data taken at a specific location? Wondering if there are any water quality data available for the stream that runs past your house? Search the database using the comprehensive map function.



Getting started: 1 Click on the link to view the data on a map of sampling locations from the database homepage. 2 Another view opens and you'll see a map showing all locations in the watershed where water quality data exist. 3 For easier viewing, you can use the zoom function to zoom in to a particular location on the map.



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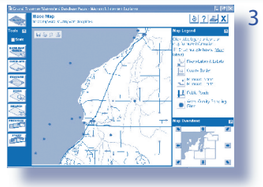
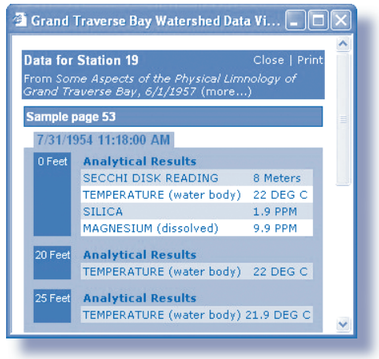


3

4 View the water quality data for a specific location by clicking on a dot. A new box will pop up with results, including what report the data is from, when it was sampled, and what the results were for every parameter measured. If samples were taken at multiple depths, the box will show results for everything.

4



PRACTICE SEARCHES

Use these practice searches to help you get more familiar with querying the database.

1. What sites had the two highest E.Coli counts in August 2003 and what/where were they?
   Answer: For the timeframe, select August 1, 2003 as start date and August 31, 2003 as end date. Click 'E.Coli' on the parameters list. Make sure to click the 'Show Parameters' box at bottom of page. Scroll down to the bottom and hit the "Submit Query" button.
   Results: Kid's Creek – 1986 col/100mL on 8/26/03 and Suttons Bay Creek – 2419 col/100mL on 8/5/03

2. How many storm drains have been sampled in Leelanau County? What about in Grand Traverse County? Where are each of these located?
   Answer: Leave timeframe and parameter section blank. Click 'Storm Drain' at the location type section. Click 'Leelanau County' as your sample area (make sure you select AND from the drop down list to the left). Scroll down to the bottom and hit the "Submit Query" button. For Grand Traverse County: enter the same selection as above, except make your sample area 'Grand Traverse County'.)
   Results: Leelanau County: 1 drain– Suttons Bay Creek. Grand Traverse County: 4 drains – 1 Boardman Lake, 2 Boardman River, 1 Bryant Park

3. Which reports measured Dissolved Oxygen levels in Grand Traverse Bay surface water?
   Answer: Leave timeframe section blank. Click 'Oxygen (Dissolved)' as your parameter. Select 'Surface Water-Grand Traverse Bay' from location type (make sure you select AND from the drop down list to the left). Scroll down to the bottom and hit the "Submit Query" button.
   Results: Final Report: Support for the Strategic Environmental Quality Monitoring Program for Michigan Surface Waters: Grand Traverse Bay and Saginaw Bay. Stormwater Sewer Study. Grand Traverse Bay Limnological Data

{To download a digital file of the data

You can save your results to a comma-delimited file for download and use in your own database programs, such as Microsoft® Excel. Select this option when you choose Query Preferences.

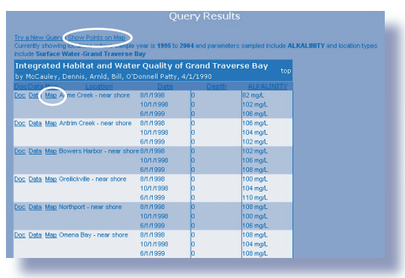
Helpful Hint: Only the columns you select will be downloaded so make sure to select the parameters column if you want to see numbers!

{To view results measured at a specific location or from an entire report

If you do not specify parameters in your query, but click on the **show parameter** column at the bottom of the query page, all parameters available for the criteria you specify will be displayed.

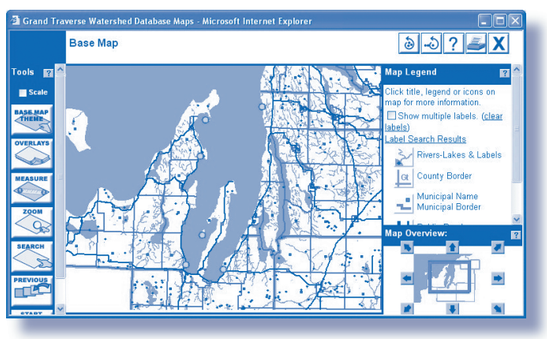
This also works if you want to see all the results from a specific report… Just leave all the categories blank, put a check next to the report you'd like to see, make sure to check the show parameters column, and submit your query.

{To map your queried location



There is a link to a map for each site found that fits your query parameters; just click on **Map** for a specific site in the Query Results page. Two new browser windows will open: one with a map and another with the sample results from that site. If the box showing the sample results does not pop up, double-click on the sample point on the map. You can use the map functions to zoom in, label features (i.e. streams, roads, etc.), change the base themes, add overlay map themes, measure distances, and much more.

You can map all your data by selecting **Show Points on Map** from the selections at the top of your Query Results. As an example, let's use our previous SAMPLE SEARCH on alkalinity in GTBay (page 4). On the results pages, click on the 'show points on map" link at the top and you will see all of the sample locations on a map (shown below). To see specific results for a location, click on the pink dot and the results will be displayed in a new browser window.



Explore the website at www.gtbay.org, and you'll find the searchable database by choosing "Our Programs," then Interactive Water Quality Database. You can also reach this page directly by typing www.gtbay.org/wqdb.asp in your browser window.

{How do I use the database?

Your search can be simple or sophisticated and the data can be downloaded into a comma delimited file for use on your own computer. You can also view your search results on a map.

Helpful Hint: Getting confused or not getting the results you need: choose the **Need Help** links to the right of each query box for assistance.

Getting started: First, click on the link to create a query from the database homepage. Now you're ready to define your search. 1 Begin your search by defining a timeline. Using the drop down menus, select start and end dates. You can preference specific days, months, or years, or select a range of dates.

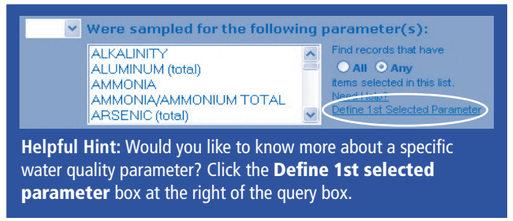
You'll then be able to select information that you want from other categories:

2 Parameters sampled, such as alkalinity, E. Coli or pH.

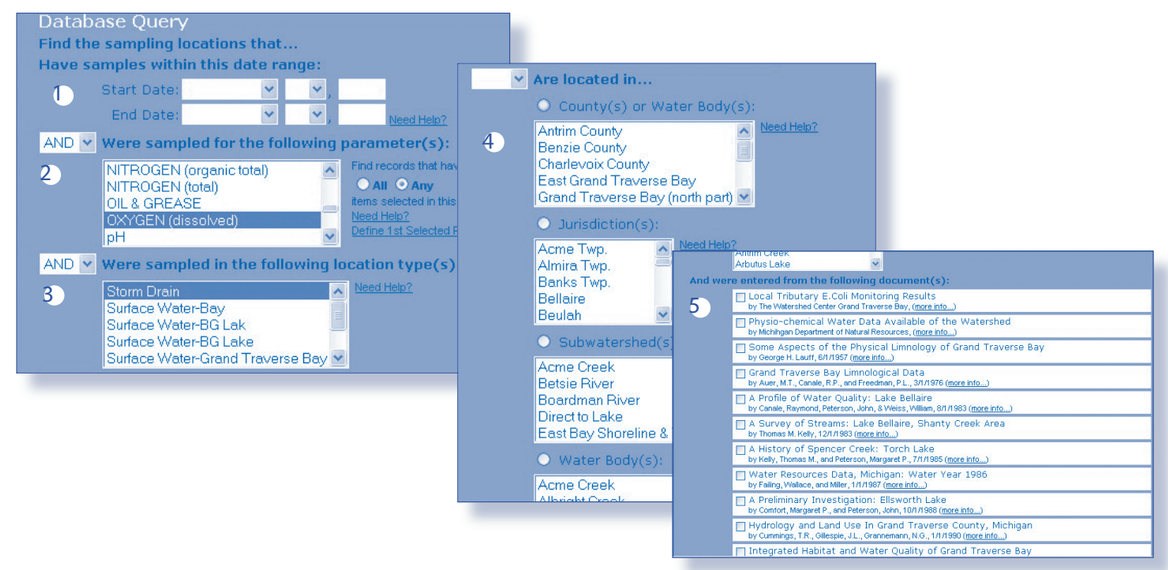
3 Type of location, such as storm drain or surface water

4 Sample area, such as county, township or subwatershed

5 You can also indicate which specific reports you'd like to search by putting a checkmark next to the report. To search the entire database, leave all boxes unchecked. All of these reports are available in hard copy and may be checked out at The Watershed Center.

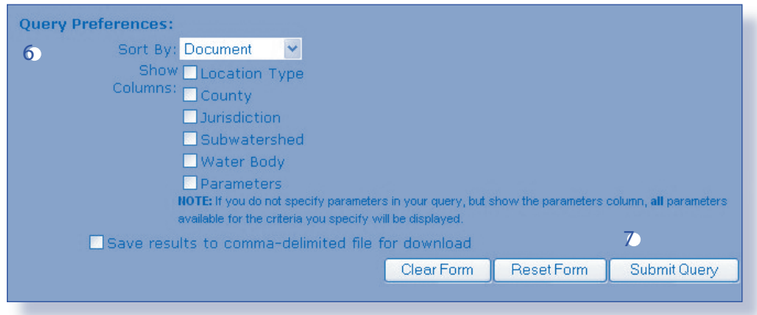


Helpful Hint: Would you like to know more about a specific water quality parameter? Click the **Define 1st selected parameter** box at the right of the query box.



6 Scroll to query preferences and select how you would like the data to be sorted, what data you would like to see (which columns to show) and if you would like a comma-delimited file of the data to download.

7 Click the "Submit Query" button. Your results will be displayed in a new page. If the results aren't exactly what you're looking for: Click the **Try a New Query** box, make some changes, and re-submit the query.



Helpful Hint: If you make any changes to your query and decide you don't want them, the **Reset Form** button will reset any changes you have made and display your original query. To clear your query and start fresh, press the **Clear Form** button at the bottom of the page.

SAMPLE SEARCH

For example: If you want to do a simple check of the alkalinity of Grand Traverse Bay from 1995 to 2004:

1. First, set the start year for 1995 and the end year for 2004.
2. With the **AND** button engaged, select **alkalinity** from the parameters drop down menu.
3. In the location menu, select **Surface Water – Grand Traverse Bay**.
4. Scroll to the end of the database form and under Query Preferences, select **parameters**.
5. Click the **Submit Query** button at the bottom of the page and your results will be displayed in a new page *(not a new browser window)*.
6. Your results should look like this.>>>>>

Doc Data Map	Location	Date	Depth	ALKALINITY
Doc Data Map	Acme Creek - near shore	8/1/1998	0	82 mg/L
		10/1/1998	0	102 mg/L
		6/1/1999	0	106 mg/L
Doc Data Map	Antrim Creek - near shore	8/1/1998	0	106 mg/L
		10/1/1998	0	104 mg/L
		6/1/1999	0	102 mg/L
Doc Data Map	Bowers Harbor - near shore	8/1/1998	0	102 mg/L
		10/1/1998	0	106 mg/L
		6/1/1999	0	108 mg/L
Doc Data Map	Greilickville - near shore	8/1/1998	0	100 mg/L
		10/1/1998	0	104 mg/L
		6/1/1999	0	110 mg/L
Doc Data Map	Northport - near shore	8/1/1998	0	108 mg/L
		10/1/1998	0	100 mg/L
		6/1/1999	0	106 mg/L
Doc Data Map	Omena Bay - near shore	8/1/1998	0	108 mg/L
		10/1/1998	0	104 mg/L
		6/1/1999	0	108 mg/L

{To search for more than one water quality parameter at a time:

Hold down the **control key** while selecting parameters you want. You can also select more than one item in any of the other query lists as well.

When searching for multiple parameters, you can search for records containing ANY or ALL of the parameters you select. Just click on the appropriate button to the right of the query box.

For example, select **All** if you are looking for locations that were sampled for both Dissolved Oxygen *and* Nitrogen or select **Any** if you are looking for locations that were sampled for either Dissolved Oxygen *or* Nitrogen.

Helpful Hint: If you select more than one item in any other list besides the parameter one, by default, your search will look for data matching **ANY** of the selected criteria. For example, if you select both **Storm Drain** and **Surface Water Bay** from the location type query box, your search will find data sampled from storm drains or from surface water in the bay

{To include any existing data for specific parameters OR from a specific body of water

You may refine your searches to be inclusive or exclusive of any of the other categories. Using the pull down menu to the left of each query box and selecting **AND** or **OR**, you can find records that fit both or either of the items in categories that you have selected.

For example, if you select **Dissolved Oxygen** from the parameter category and **Storm Drain** from the location type category, specifying **AND** in the pull down lists, your search will show all records where dissolved oxygen was measured at storm drains. If you select **Dissolved Oxygen** from the parameter category (specifying **AND** in the box), **Storm Drain** from the location type category (specifying AND in the box), and **Leelanau County** from the location choice categories (specifying **OR** in the box), your search will show all records where dissolved oxygen was measured at storm drains as well as any results in Leelanau County.

Helpful Hint: When you select an item in a new category, by default, the drop down menu selects the **AND** choice.

{To remove a certain category from your search:

Remove your selection from the query by clearing the drop down list to the left of the query box by choosing the blank item at the top (if you had previously selected an item from the query box the drop down list will show either **AND** or **OR** in it).

{To change how the search results are displayed:

Use the query preferences section at the bottom of the database query page to change how data is to be displayed and sorted. Choose what columns you would like to see. By default, if you do not specify parameters in your query, but click on the **show parameter** column, all parameters available for the criteria you specify will be displayed.