

# A Tutorial Introduction to the Beach Watch Database

## Forms

The user interface of the Beach Watch database consists of a number of windows called *forms*.

When we open the Beach Watch database, the first form we see is the *Main Navigation* form. It consists of a lovely shot of the California coastline, with a row of four buttons below it, and a fifth button to access password-protected areas. The first three buttons in the button row take us to the three major forms of the Beach Watch database, where we can run *queries*. The fourth button takes us to a set of often-used *reports*. This tutorial will address *queries* and *reports* in due course.



The three major forms that we will explore in this manual are the *Survey* form, the *Live Query* form, and the *Dead Query* form.

The *Survey* form allows us to view data from each individual Beach Watch survey. We can see, for instance, how many members were on a survey team, the number of people and dogs the survey team encountered, and an analysis of any oil they might have found on the beach or on dead birds or marine mammals. Although this form provides detailed information on each survey, it does not show

the “big picture.” The Beach Watch database provides other forms to help us discern patterns over multiple beaches, and over the years.

For most purposes, we can divide Beach Watch survey data into two broad categories: sightings of live birds and mammals, and sightings of dead vertebrates. Although these two categories comprise similar sorts of data, there are important differences between them. For instance, when a bird is found dead on the beach, we want to know whether or not oil was a factor in its death. Accordingly, the Beach Watch database provides two forms that together provide access to most available data: the *Live Query* form and the *Dead Query* form. Both are accessible from the *Main Navigation* form that appears when we open the Beach Watch database.

From the three major Beach Watch forms described above, we can access supplemental forms that assist in specific tasks. The *Beach Watch Database Controls* section of this manual describes these forms, and we will get acquainted with some of them in the course of this tutorial.

## **Queries**

In standard English, a *query* is a kind of question. In database terminology, a *query* is essentially the same thing: a request for specific information. Almost everything we do with the Beach Watch database relies on *queries*.

In this section, we will explore the basics of running *queries* in the Beach Watch database: filtering and grouping, records and fields, sorting, and saving multiple *queries*. For each of these subjects, we will run a sample *query* to provide a concrete example.

We will start with the *Live Query* form, so let’s go there now. If you have not already done so, open the Beach Watch database. Click the *Live Query* button in the left portion of the *Main Navigation* form. As we work with the *Live Query* form, keep in mind that we can perform similar queries in the *Dead Query* form.

## Filtering and Grouping

*Sample query: How many live American Coots have been sighted in all Beach Watch surveys?*

*Queries* allow us to sum raw data and examine totals. In order to do this, we need to specify *what* we want to count, and also *how* we want to count it.

The *Query Filters* in the top portion of the *Live Query* form allow us to specify what we are counting. If we run our *query* without selecting any filters, the Beach Watch database will *query* all species at all beaches, in all years. So we start by filtering the data to focus on the question at hand.

Before we begin, we should note that individual species and beaches can be selected either by name or by ID number. For the purposes of this tutorial, we will want to select by name. The species list in the top left portion of the *Query Filters* area may be labeled either *Species by Name* or *Species by ID*. If the list is labeled *Species by ID*, click once on the label so that it displays *Species by Name*. Similarly, if the beach list is labeled *Beach ID*, click once on the label so that it displays *Beach Name*. Now we're ready to go:

1. In the *Live Query* form, select “American Coot” from the *Species by Name* dropdown list. (Hint: you can type the first letter to scroll quickly through a long list.)

The *Query Groupings* in the bottom left portion of the *Live Query* form allow us to specify what sub-totals we want to see. **You must select a grouping in order to run a query from the *Live Query* and *Dead Query* forms.** Groupings are all about sub-totals, but remember: we are not totalling all the American Coots that were present on Beach Watch beaches -- just the ones sighted in surveys. When we talk about sub-totals, we mean sub-totals of Beach Watch *sightings*.

When we choose “Species Only” as the grouping, the query results will total **all** the sightings of American Coots for all beaches over all survey dates. Each of the other groupings offers a more detailed breakdown of the data. “Species / Beach” will give us the sub-totals for each beach over all dates. “Species / Date” will give us sub-totals for each survey date over all beaches. “Sps / Dt / Bch” (*i.e.* Species / Date / Beach) will give us sub-totals for each beach on each survey date (in other words, sub-totals for each survey).

For a start, we’ll keep it simple:

2. Select “Species Only” from the *Beach / Date / Taxonomic Grouping* dropdown list in *Query Groupings*.

Now we’ve done all the filtering and grouping we need to do for this simple example, so we’re ready to run the *query*.

3. Click the *Run Query* button at the top left corner of the *Live Query* form. (Hint: you can interrupt a query by pressing the “Control” key and the “Break” key.)

The screenshot shows the Microsoft Access 'Live Database Query Form' interface. The 'Live Query Form' section on the left contains 'Query Filters' and 'Advanced Filters'. The 'Query Filters' section includes dropdowns for 'Species by Name' (set to 'American Coot'), 'Beach ID', and 'Beach Group' (set to 'All Beaches'). It also has date range fields ('Date From' and 'Date To') and a 'Select by Year' dropdown. The 'Advanced Filters' section includes dropdowns for 'Stat', 'Abundance', 'Group I', 'Group II', and 'Group III'. The 'Query Groupings' section on the bottom left includes 'Taxonomic Level Grouping' (set to 'Species'), 'Beach / Date / Taxonomic Grouping' (set to 'Species Only'), and 'Seasonal / Date Grouping' (set to 'No Grouping'). The 'Run Query' button is highlighted in the 'Live Query Form' section. The main data table shows a single record for 'American Coot' with a count of 4457 and a rate of 0.292.

Species ID	Species	Species Count	Total Kms	Rate	Kms Sel Bchs	Rate Sel Bchs	Genus
AMCO	American Coot	4457	15272.20	0.292	15272.20	0.292	Fulica

Look at the *query* result in the bottom right portion of the *Live Query* form. There is only one row in the *query* result, and the *Species Sum* column displays the total number of live American Coots sighted at all the surveyed beaches over the entire history of Beach Watch surveys. The raw count can be misleading. Notice that the column to the right of *Species Sum* provides the total number of kilometers surveyed. The next column, *Rate*, provides the average number of sightings-per-kilometer. This is a more meaningful measure of the frequency of American Coot sightings.

But what if we want to know which beaches have high numbers of live American Coot sightings?

4. Select “Species Beach” from the *Beach / Date / Taxonomic Grouping* dropdown list in *Query Groupings*.

5. Click the *Run Query* button at the top left corner of the *Live Query* form.

**Live Query Form**

Surveys in Date Range: 6,879  
Km's in Date Range: 15,272.20

Go To Open Query

Species by Beach-01

<-- Prev. Query Next Query -->

Run Query

**Query Filters**

Species by Name: American Coot All Species Taxonomic Select

Beach ID:

Beach Group: All Beaches Beach Select

Date From: 9/15/1993 Date To: 12/22/2004 Select by Year: Calendar Year: October - September:

Select All Dates

**Advanced Filters**

Species Table

Stat:

Abundance:

Group I:

Group II:

Group III:

**Query Groupings**

Taxonomic Level Grouping

Species

Beach / Date / Taxonomic Grouping

Species / Beach

Seasonal / Date Grouping

Select Season or Grouping

No Grouping

Select Year Grouping

No Grouping

Species by Beach

Species	Species Sum	Beach ID	Beach	Total Kms	Rate	Species ID	Gr
American Coot	3106	106	Doran Beach	732.8	0.004	AMCO	Fulic
American Coot	37	110	Dillon Beach to Sand Point	455.4	0.081	AMCO	Fulic
American Coot	47	114	Point Reyes Beach A	1090.0	0.043	AMCO	Fulic
American Coot	3	203	Drakes Beach West	908.0	0.003	AMCO	Fulic
American Coot	12	204	Drakes Beach East	397.5	0.030	AMCO	Fulic
American Coot	13	206	Limantour Beach East	426.6	0.030	AMCO	Fulic
American Coot	6	219	Muir Beach	142.8	0.042	AMCO	Fulic
American Coot	1517	221	Tennessee Cove Beach	22.0	68.955	AMCO	Fulic
American Coot	56	223	Rodeo Beach	236.7	0.237	AMCO	Fulic
American Coot	3	304	China Beach	44.0	0.068	AMCO	Fulic
American Coot	25	306	Land's End	14.1	1.773	AMCO	Fulic
American Coot	6	309	Ocean Beach Central	537.6	0.011	AMCO	Fulic
American Coot	15	311	Thornton Beach North	432.1	0.035	AMCO	Fulic
American Coot	20	405	Half Moon Bay D (Frances E	174.0	0.115	AMCO	Fulic

Record: 1 of 23

Remove Current Query Export Current Query to Excel Create Pop Up Query Form To Reports Advanced Queries

Form View NUM

Again, look at the *query* result in the bottom right portion of the *Live Query* form. Now, there is a row for each beach where coots were sighted, and the *Species Sum* column displays totals for American Coots sighted at each beach. (Our question is easier to answer if we sort the *query* result by the *Species Sum* column. We will soon learn how to do that.)



These first two queries have only whetted our curiosity. We wonder whether sightings of American Coots have increased or decreased over the years. The grouping controls can help us answer this question, too.

6. Select “Species / Date” from the *Beach / Date / Taxonomic Grouping* dropdown list in *Query Groupings*.

7. Click the *Run Query* button at the top left corner of the *Live Query* form.

**Live Query Form**

Surveys in Date Range: 6,879  
Km's in Date Range: 15,272.20

Go To Open Query

Species by Date-01

<-- Prev. Query Next Query -->

Run Query

**Query Filters**

Species by Name: American Coot All Species Taxonomic Select

Beach ID:

Beach Group: All Beaches Beach Select

Date From: 9/15/1993 Date To: 12/22/2004 Select by Year: Calendar Year: October - September:

Select All Dates

**Advanced Filters**

Species Table

Stat:

Abundance:

Group I:

Group II:

Group III:

**Query Groupings**

Taxonomic Level Grouping

Species

Beach / Date / Taxonomic Grouping

Species / Date

Seasonal / Date Grouping

Select Season or Grouping

No Grouping

Select Year Grouping

No Grouping

Species by Date

Date	Species ID	Species	Species Count	KmsAllBeac	Rate ABs	KmsSelBea	Rate Selecte
3/20/1994	AMCO	American Coot	18	13.6	1.324	13.6	1.324
4/10/1994	AMCO	American Coot	4	4.2	0.952	4.2	0.952
4/24/1994	AMCO	American Coot	7	0.2	35.000	0.2	35.000
11/2/1994	AMCO	American Coot	3	1.8	1.667	1.8	1.667
11/28/1994	AMCO	American Coot	60	2.5	24.000	2.5	24.000
12/23/1994	AMCO	American Coot	3	1.4	2.143	1.4	2.143
12/25/1994	AMCO	American Coot	20	0.2	100.000	0.2	100.000
1/21/1995	AMCO	American Coot	7	2.5	2.800	2.5	2.800
2/4/1995	AMCO	American Coot	5	9.6	0.521	9.6	0.521
2/18/1995	AMCO	American Coot	4	5.5	0.727	5.5	0.727
3/4/1995	AMCO	American Coot	2	12.8	0.156	12.8	0.156
4/1/1995	AMCO	American Coot	2	4.3	0.465	4.3	0.465
4/16/1995	AMCO	American Coot	2	0.2	10.000	0.2	10.000
7/8/1995	AMCO	American Coot	2	1.6	1.250	1.6	1.250
7/20/1995	AMCO	American Coot	2	0.2	10.000	0.2	10.000
8/3/1995	AMCO	American Coot	4	3.4	1.176	3.4	1.176

Record: 1 of 204

Remove Current Query Export Current Query to Excel Create Pop Up Query Form To Reports Advanced Queries

The *Species Sum* column now displays totals for all the American Coots sighted on all surveyed beaches for each survey date. Though the number of sightings hasn't changed much over the years, we can see that the sightings change quite a bit with the seasons. The custom date groupings in *Query Groupings* can help us to explore such cycles further (see *Live Query Form Controls*, below).

Still hungry for fresh insights, we wonder how many American Coots are typically found by each survey team, and whether a large number of sightings may spring from just one survey.

8. Select “Sps / Dt / Bch” (i.e. Species / Date / Beach) from the *Beach / Date / Taxonomic Grouping* dropdown list in *Query Groupings*.

9. Click the *Run Query* button at the top left corner of the *Live Query* form.

Microsoft Access - [Live Database Query Form]

File Edit View Insert Format Records Tools Window Help

Type a question for help

### Live Query Form

Surveys in Date Range: 6,879  
Km's in Date Range: 15,272.20

Go To Open Query

Sps by Dt/Beach-01

<< Prev. Query Next Query >>

Run Query

### Query Filters

Species by Name: American Coot All Species Taxonomic Select

Beach ID: Beach Group: All Beaches Beach Select

Date From: 9/15/1993 Date To: 12/22/2004 Select by Year: Calendar Year: October - September: Select All Dates

### Advanced Filters

Species Table

Stat: Abundance: Group I: Group II: Group III:

### Query Groupings

Taxonomic Level Grouping: Species

Beach / Date / Taxonomic Grouping: Sps / Dt / Bch

Seasonal / Date Grouping: Select Season or Grouping: No Grouping Select Year Grouping: No Grouping

Sps by Dt/Beach

Beach ID	Date	Species ID	Species	Beach Name	Species Count	Beach Kms	Rate
106	5/16/1997	AMCO	American Coot	Doran Beach	3	3.2	0.938
110	4/14/1996	AMCO	American Coot	Dillon Beach to Sand Point	6	2.3	2.609
110	11/5/1996	AMCO	American Coot	Dillon Beach to Sand Point	1	2.3	0.435
110	1/4/1997	AMCO	American Coot	Dillon Beach to Sand Point	3	2.3	1.304
110	3/29/1997	AMCO	American Coot	Dillon Beach to Sand Point	4	2.3	1.739
110	4/18/1997	AMCO	American Coot	Dillon Beach to Sand Point	4	2.3	1.739
110	3/22/1998	AMCO	American Coot	Dillon Beach to Sand Point	12	2.3	5.217
110	11/4/1998	AMCO	American Coot	Dillon Beach to Sand Point	5	2.3	2.174
110	12/14/2002	AMCO	American Coot	Dillon Beach to Sand Point	2	2.3	0.870
114	6/27/1998	AMCO	American Coot	Point Reyes Beach A	2	5	0.400
114	4/30/1999	AMCO	American Coot	Point Reyes Beach A	4	5	0.800
114	10/3/1999	AMCO	American Coot	Point Reyes Beach A	41	5	8.200
203	9/17/2000	AMCO	American Coot	Drakes Beach West	2	4	0.500
203	6/23/2002	AMCO	American Coot	Drakes Beach West	1	4	0.250
204	8/16/1997	AMCO	American Coot	Drakes Beach East	1	2.5	0.400
204	3/26/1998	AMCO	American Coot	Drakes Beach East	11	2.5	4.400

Record: 1 of 244

Remove Current Query Export Current Query to Excel Create Pop Up Query Form To Reports Advanced Queries

Form View NUM

The *Species Sum* column now displays totals for all the American Coots sighted on each surveyed beach on each survey date. Since Beach Watch performs only one survey on a particular beach on a particular survey day, this is equivalent to the totals for each survey.

## Records and Fields

*Sample query: How many live Anna's Hummingbirds were sighted at each surveyed beach?*

For our discussion of records and fields, we will run a *query* similar to one of the *queries* we ran for the last section, *Filtering and Grouping*.

1. In the *Live Query* form, select "Anna's Hummingbird" from the *Species by Name* dropdown list.
2. Select "Species / Beach" from the *Beach / Date / Taxonomic Grouping* dropdown list in *Query Groupings*.
3. Click the *Run Query* button at the top left corner of the *Live Query* form.

Microsoft Access - [Live Database Query Form]

File Edit View Insert Format Records Tools Window Help

Type a question for help

### Live Query Form

Surveys in Date Range: 6,879  
Km's in Date Range: 15,272.20

Go To Open Query

Species by Beach-02

<-- Prev. Query Next Query -->

Run Query

### Query Filters

Species by Name: Anna's Hummingbird All Species Taxonomic Select

Beach ID: Beach Group: All Beaches Beach Select

Date From: 9/15/1993 Date To: 12/22/2004 Select by Year: Calendar Year: October - September:

Select All Dates

### Advanced Filters

Species Table

Stat: Abundance: Group I: Group II: Group III:

### Query Groupings

Taxonomic Level Grouping: Species

Beach / Date / Taxonomic Grouping: Species / Beach

Seasonal / Date Grouping: Select Season or Grouping: No Grouping Select Year Grouping: No Grouping

Species by Beach

Species	Species Sum	Beach ID	Beach	Total Kms	Rate	Species ID	Genu
▶ Anna's Hummingbird	1	114	Point Reyes Beach A	1090.0	0.001	ANHU	Calypte
Anna's Hummingbird	2	219	Muir Beach	142.8	0.014	ANHU	Calypte
Anna's Hummingbird	11	230	Kirby Cove	26.2	0.420	ANHU	Calypte
Anna's Hummingbird	36	304	China Beach	44.0	0.818	ANHU	Calypte
Anna's Hummingbird	4	331	Fitzgerald Marine Reserve (1	121.0	0.033	ANHU	Calypte
Anna's Hummingbird	1	410	Martin's Beach to Tunitas Cr	195.2	0.005	ANHU	Calypte
Anna's Hummingbird	4	503	Gazos Creek	399.6	0.010	ANHU	Calypte
Anna's Hummingbird	5	701	Brazil Beach	418.2	0.012	ANHU	Calypte
Anna's Hummingbird	21	706	Tomasini Creek Beach	633.5	0.033	ANHU	Calypte

Record: 1 of 9

Remove Current Query Export Current Query to Excel Create Pop Up Query Form To Reports Advanced Queries

Form View NUM

Notice that our new *query* result has fewer rows than our first *Species / Beach* result, even though the *queries* are similar. This is because survey teams see many American Coots, and fewer Anna's Hummingbirds.

Each row in this *query* result represents a *record* of sightings at a particular beach. On some beaches where American Coots have been sighted, no Anna's Hummingbirds have been sighted, and those beaches don't appear in our new *query* result. The number of records in our new result is equal to the number of beaches at which at least one Anna's Hummingbird was sighted over the entire history of Beach Watch surveys.

Notice that each column of the *query* result provides a specific type of information either about the species we are investigating or about the beach where the sightings occurred. The headers above each column identify the type of information provided in the column below.

- In the standard datasheet display of a *query* result, each row represents a *record*.
- In the standard datasheet display of a *query* result, each column represents a *field*.

The datasheet display makes it easy to compare multiple records, but it's hard to examine all the fields in one particular record. Some fields are off the right edge of the screen: we have to use the



scroll bar to view them. *Query* results offer an alternative *form* display that makes it easy to examine fields, but shows only one record at a time.

4. Place the mouse cursor above any column header in the *query* result, and click the right mouse button.

5. Select *Subform > Form* from the dropdown list.

The screenshot shows the Microsoft Access interface with the title bar "Microsoft Access - [Live Database Query Form]". The main window is divided into several sections:

- Live Query Form**: Contains summary statistics like "Surveys in Date Range: 6,879" and "Km's in Date Range: 15,272.20". It has buttons for "Go To Open Query", "Species by Beach-02", "<-- Prev. Query", "Next Query -->", and "Run Query".
- Query Filters**: Includes dropdowns for "Species by Name" (set to "Anna's Hummingbird"), "Beach ID", and "Beach Group". It also has date ranges "Date From" (9/15/1993) and "Date To" (12/22/2004), and a "Select by Year" dropdown.
- Advanced Filters**: A section titled "Species Table" with dropdowns for "Stat", "Abundance", "Group I", "Group II", and "Group III".
- Query Groupings**: Contains sections for "Taxonomic Level Grouping" (Species), "Beach / Date / Taxonomic Grouping" (Species / Beach), and "Seasonal / Date Grouping" (No Grouping).
- Record Data**: A large area displaying the fields of a single record for Anna's Hummingbird. Fields include Species IC (ANHU), Class (Aves), fldStatus (Resident), Species (Anna's Hummingbird), fldCounty (Marin), fldAbunda (Uncommon), Beach ID (114), fldCityStat (Marin, CA), fldGroup1 (Landbird), Beach (Point Reyes Beach A), fldSize (5), fldSpecies (08670), Species S (1), Total Kms (1090.0), fldEnviro (Dune), Rate (0.001), fldBeachS (Sandy), fldBeachG (Point Reyes National Seashore), Genus (Calypte), fldDepPot (Medium-high), Family (Trochilidae), fldFacingC (W), and Order (Apodiformes).
- Navigation**: At the bottom, there are buttons for "Remove Current Query", "Export Current Query to Excel", "Create Pop Up Query Form", "To Reports", and "Advanced Queries". A status bar at the very bottom shows "Form View" and "NUM".

The new display shows data for only one record. Notice that every field in the record is displayed in a read-only textbox.

- In the form display of a *query* result, the whole form comprises a *record*.
- In the form display of a *query* result, each textbox in the form represents a *field*.

We can use the navigation buttons at the bottom of the form display to move from the current record to the next or previous record in a *query* result, and to move to the first and last records in the result. Go ahead and navigate through some records, until you're ready to return to the datasheet display. Then:

6. Place the mouse cursor anywhere in the gray area of the *query* result form, and click the right mouse button.

7. Select *Subform > Datasheet* checkbox at the top of the dropdown list.

## Sorting

*Sample query: How many live sightings of gulls and terns were there at Stinson Beach on each survey date for the years 2002 through 2004?*

Sorting is a final step that we may sometimes perform after running a *query*. Sorting doesn't change the data or the grouping of a *query* result. It changes only the order in which we see the data. To see why we might want to sort, we will run the *query* above.

Before we start, we must acknowledge a new challenge. Gulls and terns constitute a taxonomic *family*: we can't use the *Species by Name* dropdown list. We will have to go to the *Taxonomic Selection* form to select the family of gulls and terns, the scientific name for which is *Laridae*.

1. In the *Live Query* form, select "Stinson Beach" from the *Beach Name* dropdown list. (Hint: type in the first letter, "S," to scroll quickly through the long list.)
2. Click the *Taxonomic Select* button in the *Filters* area.
3. In the *Taxonomic Selection* form, click the *Clear Taxonomic Levels* button in the bottom right portion of the form.
4. Click in the textbox under the *Family* heading near the top of the form. When a dropdown list appears, select *Laridae* from the list. (Hint: type in the first letter, "L," to scroll quickly through the long list.)
5. Select the *Laridae* checkbox in the *Family* column in the body of the *Taxonomic Selection* form. This selects every genus and species to the right.
6. Click the *Save and Close* button in the bottom right corner of the *Taxonomic Select* form, which returns us to the *Live Query* form.
7. Type "01/01/2002" in the *Date From* text box.
8. Type "12/31/2004" in the *Date To* text box.
9. Select "Species / Date" from the *Beach / Date / Taxonomic Grouping* dropdown list in *Query Groupings*.
10. Select "Zeroes" from the dropdown list at the bottom of *Query Groupings* (the two choices are "Standard" and "Zeroes").
11. Click the *Run Query* button near the top left corner of the *Live Query* form. (Hint: you can interrupt a query by pressing the "Control" key and the "Break" key.)

Microsoft Access - [Live Database Query Form]

File Edit View Insert Format Records Tools Window Help

Type a question for help

### Live Query Form

Surveys in Date Range: 1,883  
Km's in Date Range: 4,302.90

Go To Open Query

Species by Date-02  
 <-- Prev. Query   Next Query -->

Run Query

### Query Filters

Species by Name:  All Species Taxonomic Select

Beach Name:  Stinson Beach

Beach Group:  All Beaches Beach Select

Date From:  1/1/2002 Date To:  12/31/2004 Select by Year:  Calendar Year:  October - September:

Select All Dates

### Advanced Filters

Species Table

Stat:

Abundance:

Group I:

Group II:

Group III:

### Query Groupings

Taxonomic Level Grouping

Species:

Beach / Date / Taxonomic Grouping

Species / Date:

Seasonal / Date Grouping

Select Season or Grouping

No Grouping:

Select Year Grouping

No Grouping:

Species by Date:

Date	Species ID	Species	Species Count	KmsAllBea	Rate ABs	KmsSelBea	Rate Selecte
5/16/2003	BOGU	Bonaparte's Gull	2	5.1	0.392	4.6	0.43
9/8/2002	HEEG	Heermann's Gull	18	15.4	1.169	4.6	3.91
10/13/2002	HEEG	Heermann's Gull	11	16.5	0.667	4.6	2.39
6/22/2003	HEEG	Heermann's Gull	3	8.4	0.357	4.6	0.65
8/1/2003	HEEG	Heermann's Gull	13	4.6	2.826	4.6	2.82
8/31/2003	HEEG	Heermann's Gull	88	8.8	10.000	4.6	19.13
10/5/2003	HEEG	Heermann's Gull	104	11.0	9.455	4.6	22.60
11/16/2003	HEEG	Heermann's Gull	4	14.4	0.278	4.6	0.87
7/18/2004	HEEG	Heermann's Gull	25	15.7	1.592	4.6	5.43
7/25/2004	HEEG	Heermann's Gull	63	15.4	4.091	4.6	13.69
8/8/2004	HEEG	Heermann's Gull	30	14.2	2.113	4.6	6.52
9/2/2004	HEEG	Heermann's Gull	2	4.6	0.435	4.6	0.43
9/30/2004	HEEG	Heermann's Gull	10	5.1	1.961	4.6	2.17
11/24/2002	RBGU	Ring-billed Gull	1	17.4	0.057	4.6	0.21
9/8/2002	HERG	Herring Gull	9	15.4	0.584	4.6	1.95
9/8/2002	WEGU	Western Gull	2	15.4	0.130	4.6	0.43

Record: 1 of 53

Remove Current Query   Export Current Query to Excel   Create Pop Up Query Form   To Reports   Advanced Queries

Form View   NUM

By selecting “Zeroes” (step 10), we include all records, even those with a count of zero. In this case, we get a row for every survey date, even if no gulls or terns were sighted at Stinson Beach on that date. Note that including zero-count records can dramatically increase a *query*’s execution time. Remember: we can interrupt any *query* by pressing the “Control” key and the “Break” key.

What if we are hoping to see how sightings at Stinson Beach vary over time? When we examine the results of this *query*, we will be disappointed. Our *query* result is not sorted by date. If we use the small scroll bar below the *query* result to scroll all the way to the right, we see that the *query* result is sorted by species code number, which is not what we want in this case.

Let’s sort the *query* result to better serve our purpose, using the *Date* field.

**12. Place the mouse cursor above the gray *Date* column header (the first column in our *query* result) and click the right mouse button.**

**13. From the dropdown menu, select “Sort Descending.”**

Microsoft Access - [Live Database Query Form]

File Edit View Insert Format Records Tools Window Help

Type a question for help

### Live Query Form

Surveys in Date Range: 1,883  
Km's in Date Range: 4,302.90

Go To Open Query

Species by Date-02  
<-- Prev. Query Next Query -->

Run Query

### Query Filters

Species by Name: [All Species] [Taxonomic Select]

Beach Name: [Stinson Beach]

Beach Group: [All Beaches] [Beach Select]

Date From: [1/1/2002] Date To: [12/31/2004] Select by Year: [Calendar Year: ]

Select All Dates [October - September: ]

### Advanced Filters

Species Table

Stat: [ ]

Abundance: [ ]

Group I: [ ]

Group II: [ ]

Group III: [ ]

### Query Groupings

Taxonomic Level Grouping

Species [ ]

Beach / Date / Taxonomic Grouping

Species / Date [ ]

Seasonal / Date Grouping

Select Season or Grouping

No Grouping [ ]

Select Year Grouping

No Grouping [ ]

Species by Date [ ]

Date	Species ID	Species	Species Count	KmsAllBeach	Rate ABs	KmsSelBeach	Rate Selecte
9/30/2004	HEEG	Heermann's Gull	10	5.1	1.961	4.6	2.174
9/30/2004	WEGU	Western Gull	2	5.1	0.392	4.6	0.435
9/2/2004	WEGU	Western Gull	2	4.6	0.435	4.6	0.435
9/2/2004	HEEG	Heermann's Gull	2	4.6	0.435	4.6	0.435
9/2/2004	GULL	Gull (unidentified)	18	4.6	3.913	4.6	3.913
8/8/2004	WEGU	Western Gull	2	14.2	0.141	4.6	0.435
8/8/2004	HEEG	Heermann's Gull	30	14.2	2.113	4.6	6.522
8/8/2004	CATE	Caspian Tern	21	14.2	1.479	4.6	4.565
7/25/2004	WEGU	Western Gull	5	15.4	0.325	4.6	1.087
7/25/2004	HEEG	Heermann's Gull	63	15.4	4.091	4.6	13.696
7/25/2004	GULL	Gull (unidentified)	4	15.4	0.260	4.6	0.870
7/25/2004	CATE	Caspian Tern	21	15.4	1.364	4.6	4.565
7/18/2004	WEGU	Western Gull	4	15.7	0.255	4.6	0.870
7/18/2004	CATE	Caspian Tern	4	15.7	0.255	4.6	0.870
7/18/2004	HEEG	Heermann's Gull	25	15.7	1.592	4.6	5.435
7/18/2004	GULL	Gull (unidentified)	1	15.7	0.064	4.6	0.217

Record: 1 of 53

Remove Current Query Export Current Query to Excel Create Pop Up Query Form To Reports Advanced Queries

Form View NUM

We can sort by any field (*i.e.* column) in any *query* result by right mouse clicking the column header and selecting a sort order (ascending or descending) from the dropdown menu.

We can also sort by any combination of multiple fields. To sort two or more fields at once, their columns must be adjacent, so we have to first move the sort fields next to each other. To illustrate, we will sort by date and by species name:

14. Place the mouse cursor above the gray *Species* column header (the third column in our *query* result) and click the left mouse button. The *Species* column should now be highlighted.

15. With the mouse cursor still above the *Species* column header, hold down the left mouse button and drag the column to the left until a thin black highlight appears between the first two columns of the *query* result.

16. Lift the left mouse button to insert the *Species* field. It will now be in the second column, next to the *Date* field in the first column.

17. Hold down the shift key, place the mouse cursor over the *Date* heading, and click the left mouse button so that both the *Date* field and the *Species* field are highlighted.

Microsoft Access - [Live Database Query Form]

File Edit View Insert Format Records Tools Window Help

Type a question for help

### Live Query Form

Surveys in Date Range: 1,883  
Km's in Date Range: 4,302.90

Go To Open Query

Species by Date-02  
 <-- Prev. Query   Next Query -->

Run Query

### Query Filters

Species by Name:  All Species Taxonomic Select

Beach Name:  Stinson Beach

Beach Group:  All Beaches Beach Select

Date From:  1/1/2002 Date To:  12/31/2004 Select by Year:  Calendar Year:  October - September:

Select All Dates

### Advanced Filters

Species Table

Stat:

Abundance:

Group I:

Group II:

Group III:

### Query Groupings

Taxonomic Level Grouping

Species

Beach / Date / Taxonomic Grouping

Species / Date

Seasonal / Date Grouping

Select Season or Grouping

No Grouping

Select Year Grouping

No Grouping

Species by Date

Date	Species	Species ID	Species Count	KmsAllBeach	Rate ABs	KmsSelBeach	Rate Selecte
9/30/2004	Heermann's Gull	HEEG	10	5.1	1.961	4.6	2.174
9/30/2004	Western Gull	WEGU	2	5.1	0.392	4.6	0.436
9/2/2004	Western Gull	WEGU	2	4.6	0.435	4.6	0.435
9/2/2004	Heermann's Gull	HEEG	2	4.6	0.435	4.6	0.435
9/2/2004	Gull (unidentified)	GULL	18	4.6	3.913	4.6	3.913
8/8/2004	Western Gull	WEGU	2	14.2	0.141	4.6	0.435
8/8/2004	Heermann's Gull	HEEG	30	14.2	2.113	4.6	6.522
8/8/2004	Caspian Tern	CATE	21	14.2	1.479	4.6	4.566
7/25/2004	Western Gull	WEGU	5	15.4	0.325	4.6	1.087
7/25/2004	Heermann's Gull	HEEG	63	15.4	4.091	4.6	13.696
7/25/2004	Gull (unidentified)	GULL	4	15.4	0.260	4.6	0.870
7/25/2004	Caspian Tern	CATE	21	15.4	1.364	4.6	4.566
7/18/2004	Western Gull	WEGU	4	15.7	0.255	4.6	0.870
7/18/2004	Caspian Tern	CATE	4	15.7	0.255	4.6	0.870
7/18/2004	Heermann's Gull	HEEG	25	15.7	1.592	4.6	5.436
7/18/2004	Gull (unidentified)	GULL	1	15.7	0.064	4.6	0.217

Record: 1 of 53

Remove Current Query   Export Current Query to Excel   Create Pop Up Query Form   To Reports   Advanced Queries

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18. Keep holding the shift key down, and right mouse-click the header of either highlighted field.

19. Select "Sort Descending" from the dropdown list.

20. To clean up, select "Standard" from the dropdown list at the bottom of *Query Groupings*.



Microsoft Access - [Live Database Query Form]

File Edit View Insert Format Records Tools Window Help

Type a question for help

### Live Query Form

Surveys in Date Range: 1,883  
Km's in Date Range: 4,302.90

Go To Open Query

Species by Date-02

<-- Prev. Query   Next Query -->

Run Query

### Query Filters

Species by Name:  All Species Taxonomic Select

Beach Name:  Stinson Beach

Beach Group:  All Beaches Beach Select

Date From:  1/1/2002 Date To:  12/31/2004 Select by Year:  Calendar Year:  October - September:

Select All Dates

### Advanced Filters

Species Table

Stat:

Abundance:

Group I:

Group II:

Group III:

### Query Groupings

Taxonomic Level Grouping

Species

Beach / Date / Taxonomic Grouping

Species / Date

Seasonal / Date Grouping

Select Season or Grouping

No Grouping

Select Year Grouping

No Grouping

Species by Date

Date	Species	Species ID	Species Count	KmsAllBea	Rate ABs	KmsSelBea	Rate Selecte
9/30/2004	Western Gull	WEGU	2	5.1	0.392	4.6	0.43
9/30/2004	Heermann's Gull	HEEG	10	5.1	1.961	4.6	2.17
9/2/2004	Western Gull	WEGU	2	4.6	0.435	4.6	0.43
9/2/2004	Heermann's Gull	HEEG	2	4.6	0.435	4.6	0.43
9/2/2004	Gull (unidentified)	GULL	18	4.6	3.913	4.6	3.91
8/8/2004	Western Gull	WEGU	2	14.2	0.141	4.6	0.43
8/8/2004	Heermann's Gull	HEEG	30	14.2	2.113	4.6	6.52
8/8/2004	Caspian Tern	CATE	21	14.2	1.479	4.6	4.56
7/25/2004	Western Gull	WEGU	5	15.4	0.325	4.6	1.08
7/25/2004	Heermann's Gull	HEEG	63	15.4	4.091	4.6	13.69
7/25/2004	Gull (unidentified)	GULL	4	15.4	0.260	4.6	0.87
7/25/2004	Caspian Tern	CATE	21	15.4	1.364	4.6	4.56
7/18/2004	Western Gull	WEGU	4	15.7	0.255	4.6	0.87
7/18/2004	Heermann's Gull	HEEG	25	15.7	1.592	4.6	5.43
7/18/2004	Gull (unidentified)	GULL	1	15.7	0.064	4.6	0.21
7/18/2004	Caspian Tern	CATE	4	15.7	0.255	4.6	0.87

Record: 1 of 53

Remove Current Query   Export Current Query to Excel   Create Pop Up Query Form   To Reports   Advanced Queries

Form View   NUM

Notice that the *query* result is still sorted by date. But now, among records with the same date, the *query* result is further sorted by species.

## Storing and Viewing Multiple Queries

What if, after running the sample queries we've explored so far, you want to go back and compare the data for American Coots and Anna's Hummingbird at all surveyed beaches? You could run a fresh query, selecting both of those species from the *Taxonomic Selection* form, but that seems a waste of time: we've already run two queries that organized data for this comparison. It is more convenient to review those results.

As you progressed through this tutorial, you may have noticed that the controls in the upper left portion of the *Live Query* form indicated that you could return to your previous *query* results. For instance, after you ran the second query, the <--Prev. button was enabled.

1. **Select “Species By Beach-01” from the *Go To Open Query* dropdown list in the top left portion of the *Live Query* form. (This is the second item on the list, if you have done all the sample queries in this tutorial in order.)**

We’re now back to our second *query* result showing live American Coot sightings at all surveyed beaches.

2. **Select “Species By Beach-02” from the *Go To Open Query* dropdown list. (This is the fifth item on the list, if you have done all the sample queries in this tutorial in order.)**

Here is our similar *query* result for Anna’s Hummingbird.

**The *Go To Open Query* dropdown list shows *queries* in the order in which they were run, and allows you to select any previous *query* result.**

Notice that when you select a saved *query* result, all the filter and grouping controls on the *Live Query* form revert to the configuration that produced the *query* result. If you change any filter or grouping, the *Run Query* button is enabled, indicating you can run a new *query*.

The *Live Query* form and the *Dead Query* form can each save up to ten *query* results. If you keep running *queries* after ten are saved, each new *query* result will replace the oldest saved *query* result. Thus, if you don’t deliberately remove any *queries*, you always have the ten most recent *queries* saved.

Let’s get the two queries we are reviewing right next to each other in the list, so we can go back and forth between them with the *Next Query-->* and <--Prev. *Query* buttons, without any intervening *query* results. To do this, we will remove *query* results two through four.

3. **Select “Sps by Dt/Beach-01” from the *Go To Open Query* dropdown list. (This is the fourth item on the list, if you have done all the sample queries in this tutorial in order.)**
4. **Click the *Remove Current Query* button in the top left portion of the *Live Query* form.**

Notice that the *Live Query* form now displays our third sample *query* result, American Coots by date.

5. **Again, click the *Remove Current Query* button in the top left portion of the *Live Query* form.**

We are back to our second *query* result, American Coots by beach. The two *query* results we want to compare are now the second and third results in the list.

6. Use the *Next Query-->* and *<--Prev. Query* buttons to toggle back and forth between the *query results for American Coots by beach and Anna's Hummingbird by beach.*

The *Next Query-->* and *<--Prev. Query* buttons navigate through saved *query* results in the order in which the *queries* were run.

The *Remove Current Query* button removes the currently displayed *query* result, and displays the previous *query* result, if there is one. If there is no previous *query* result, the next *query* result is displayed, and if there is neither a previous nor a next *query* result (in other words, when you delete the last *query* result), the *Query Result* area goes blank, and the *Live Query* form reverts to it's default settings: no filters or grouping selected.

## Queries from the *Dead Query* form

*Sample query: How many sightings of dead, oiled gulls and terns were there on each survey date for the years 2002 through 2004?*

The *Dead Query* form is similar to the *Live Query* form. The main difference in the interface is the addition of advanced *Dead Filters*. In the *Dead Query* form, the *Advanced Filters* area in the top right portion of the form consists of a tab control with two tabs. The first tab contains the same advanced species filters found in the *Live Query* form. The second tab contains the additional *Dead Filters*: *Oiled*, *Age*, and *Sex*. This is data that Beach Watch surveys collect only for dead specimens.

The sample query above is similar to one of the live queries we ran, but this time, we're querying dead sightings, and filtering for oiled specimens rather than filtering for a specific beach. We will use the *Taxonomic Selection* form to select the entire family of gulls and terns (*Laridae*).

1. Bring up the *Main Navigation* form. You may select it from the *Windows* toolbar at the bottom of your screen, or return to it by closing the *Live Query* form.
2. From the *Main Navigation* form, open the *Dead Query* form.
3. Click the *Taxonomic Select* button in the *Filters* area.
4. In the *Taxonomic Selection* form, click the *Clear Taxonomic Levels* button in the bottom right portion of the form.
5. Click in the textbox under the *Family* heading near the top of the form. When a dropdown list appears, select *Laridae* from the list. (Hint: type in the first letter, “L,” to scroll quickly through the long list.)
6. Select the *Laridae* checkbox in the *Family* column in the body of the *Taxonomic Selection* form.
7. Click the *Save and Close* button in the bottom right corner of the *Taxonomic Select* form, which returns us to the *Dead Query* form.
8. Type “01/01/2002” in the *Date From* text box.
9. Type “12/31/2004” in the *Date To* text box.
10. In the second tab of the Advanced Queries tab control, select “Yes” from the *Oiled* dropdown list.
11. Select “*Species / Date*” from the *Beach / Date / Taxonomic Grouping* dropdown list in *Query Groupings*.
12. Click the *Run Query* button near the top left corner of the *Dead Query* form.

Notice that the *query* result displays a field showing oiled status. This field does not exist in query results from the *Live Query* form. Since we filtered for oiled specimens, the value in this field is always “Yes” in our *query* result.

## ***Reports***

Reports are the most effective and flexible way to display data from *query* results. Typically, reports are the final step in organizing, summarizing, and presenting data. When we print out information from the Beach Watch database, we always print a report.

The Beach Watch database offers access to two kinds of reports. First, there is a small set of general interest reports accessible from the *Main Navigation* page. Second, there is a Report form accessible from both the *Live Query* form and the *Dead Query* form that allows us to view and print reports of specific *query* results.

## General Interest Reports from the *Main Navigation* form

As we noted when we first entered the Beach Watch database, there is a button in the *Main Navigation* form that brings up the *Reports* form, which provides general interest reports. These reports are based on *queries* that the Beach Watch database runs automatically when it starts up. For example, there is the *Live Birds By Taxonomic Classification* report.

1. **Bring up the *Main Navigation* form.** You may select it from the *Windows* toolbar at the bottom of your screen, or return to it by closing the *Live Query* form.
2. **Click the *Reports* button in the bottom right portion of the form.** This brings up the *Reports* form.
3. **Click the *Live Birds By Taxonomic Classification* button the portion of the *Reports* form.**

We can move through the pages of this report the same way we move through records in the form view of a *query* result. In fact, we can think of a report as a special kind of form.

Notice that the title of the report, *Live Animals By Taxonomic Classification*, is not specific to birds. This report could comprise any subset of the taxonomic hierarchy. Our pre-set general interest query specifies birds (*i.e.* animals of the class *Aves*).

Notice also the nuanced structure of the report. Each page header identifies the class, order, and family covered on the current page. No page covers more than one taxonomic family. Within each family, the report lists each genus in the body of the pages, with species listed under each genus sub-heading, in outline form. The count and the rate of sightings (per kilometer) appears for each species, and then, in sum, for each genus. Counts and rates appear also for each family and order, at the end of their portions of the report, and, finally, a count and rate appear for the entire class *Aves* at the end of the report.

All of the nuances described above could be adjusted. For instance, we could leave the taxonomic levels of order and class in the page headers, and make the family level appear in the body of the report in outline form, along with genus and species. We have seen that *query* results have some display flexibility, but nothing like this!

## *Live Query* and *Dead Query* Reports from the *Reports* form

*Sample query: How many live sightings of falcons (order Falconiformes) were there on each survey date?*

Let's explore the query-specific reports available for the *query* above.

1. **Open the *Live Query* form**



2. Click the *Taxonomic Select* button in the *Filters* area.
3. In the *Taxonomic Selection* form, click the *Clear Taxonomic Levels* button in the bottom right portion of the form.
4. Click in the textbox under the *Order* heading near the top of the form. When a dropdown list appears, select *Falconiformes* from the list. (Hint: type in the first letter, “F,” to scroll quickly through the long list.)
5. Select the *Falconiformes* checkbox in the *Order* column in the body of the *Taxonomic Selection* form.
6. Click the *Save and Close* button in the bottom right corner of the *Taxonomic Select* form, which returns us to the *Live Query* form.
7. Select “*Species / Date*” from the *Beach / Date / Taxonomic Grouping* dropdown list in *Query Groupings*.
8. Click the *Run Query* button near the top left corner of the *Live Query* form.

Once we run our *query*, we can go the *Reports* form and choose a report to display (and perhaps to print) the information in the *query* result

9. Click the *To Reports* button in the bottom portion of the *Live Query* form.

## **Conclusion**

This brief tutorial is intended to provide a basic introduction to the Beach Watch database. It is far from exhaustive. If the tutorial left you with some unanswered questions, the following form-by-form reference for Beach Watch Database controls may be helpful. For further reference, see the glossary of acronyms and terms, and the metadata section. And, of course, a little practice goes a long way!

## Beach Watch Database Controls

The *Beach Watch Database Controls* section is a form-by-form reference for all the controls in the Beach Watch database.

Microsoft Access - [Live Database Query Form]

File Edit View Insert Format Records Tools Window Help

Type a question for help

### Live Query Form

Surveys in Date Range: 6,880  
Km's in Date Range: 15,273.50

Go To Open Query

<-- Prev. Query Next Query -->

Run Query

### Query Filters

Species by Name: [dropdown] All Species Taxonomic Select

Beach ID: [dropdown]

Beach Group: [dropdown] All Beaches Beach Select

Date From: 9/15/1993 Date To: 12/12/2099 Select by Year: Calendar Year: [dropdown]  
October - September: [dropdown]

Select All Dates

### Advanced Filters

Species Table

Stat: [dropdown]

Abundance: [dropdown]

Group I: [dropdown]

Group II: [dropdown]

Group III: [dropdown]

### Query Groupings

Taxonomic Level Grouping: Species [dropdown]

Beach / Date / Taxonomic Grouping: [dropdown]

Seasonal / Date Grouping: Select Season or Grouping: No Grouping [dropdown]

Select Year Grouping: No Grouping [dropdown]

[dropdown]

Remove Current Query Export Current Query to Excel Create Pop Up Query Form To Reports Advanced Queries

### Live Query Form Controls

#### Filter Controls (top right portion of the *Live Query* form)

##### *Species by Name [Species by ID]* dropdown list

Select one specific species for the next *query*, filtering out all other species. The list includes all species ever sighted by Beach Watch survey teams. The list can display

species either by name or by ID number. To toggle the display, click on the list label. For a complete list of species, see the *Introduction* section.

### ***All Species button***

Click to remove species filters and include all species sighted in the next *query*. A golden glow around this button indicates that when you click the *Run Query* button, the *query* result will include all species. For a complete list of species, see the *Introduction* section.

### ***Taxonomic Select button***

Click to bring up the *Taxonomic Selection* form, from which you can select multiple species based on standard zoological taxonomy (for instance, all species in the order *Anseriformes* and all species in the family *Anatidae*). A golden glow around the *Taxonomic Select* button indicates that when you click the *Run Query* button, the *query* result will include a custom selection of species from the *Taxonomic Selection* form.

### ***Status dropdown list (in the Advanced Filters area)***

Select a category of species for the next *query* based on migratory patterns. The list includes *Migrant*, *Resident*, *Summer*, and *Winter* species.

### ***Abundance dropdown list (in the Advanced Filters area)***

Select a category of species for the next *query* based on frequency of sightings in the Beach Watch database. The list includes *Abundant*, *Common*, *Rare*, and *Uncommon* species.

### ***Group I dropdown list (in the Advanced Filters area)***

Select a custom category of species for the next *query*. There are many choices, such as *Marine Mammal*.

### ***Group II dropdown list (in the Advanced Filters area)***

Select a custom category of species for the next *query*. There are many choices, such as *Waterfowl*.

### ***Group III dropdown list (in the Advanced Filters area)***

Select a custom category of species for the next *query*. There are several choices, such as *Cetacean*.

### ***Beach Name [Beach ID] dropdown list***

Select one specific beach for the next *query*, filtering out all other beaches. The list can display beaches either by name or by ID number. To toggle the display, click on the list label. For a complete list of Beach Watch surveyed beaches, see the *Metadata* section.

### ***Beach Group dropdown list***

Select a defined group of beaches for the next *query*, filtering out all other beaches. *Ano Nuevo State Reserve* is an example of a beach group. It contains North Point, Cove Beach, and Bradley Beach. For a complete list of Beach Watch beach groups, see the *Glossary of Acronyms and Terms*.

### ***All Beaches button***

Click to remove beach filters and include every surveyed beach in the next *query*. A golden glow around this button indicates that when you click the *Run Query* button, the *query* result will include all surveyed beaches. For a complete list of Beach Watch surveyed beaches, see the *Metadata* section.

### ***Beach Select button***

Click to bring up the *Beach Selection* form, from which you can select multiple beaches in any combination. A golden glow around the *Beach Select* button indicates that when you click the *Run Query* button, the *query* result will include a custom selection of surveyed beaches from the *Beach Selection* form.

### ***Date From text box***

Type a date to set the start of a date range for the next *query*, filtering out all previous dates. For convenience, the ‘+’ and ‘-’ keys in the number-pad portion of the keyboard will add and subtract from the date entered, one day at a time. Hold these keys down to move quickly through successive dates.

### ***Date To text box***

Type a date to set the end of a date range for the next *query*, filtering out all subsequent dates. For convenience, the ‘+’ and ‘-’ keys in the number-pad portion of the keyboard will add and subtract from the date entered, one day at a time. Hold these keys down to move quickly through successive dates.

### ***Calendar Year dropdown list***

Select a calendar year as the date range for the next *query*, filtering out all other dates. This has the same effect as entering “01/01/[year selected]” in the *Date From* text box, and “12/31/[year selected]” in the *Date To* text box. When you select a calendar year, the date text boxes will reflect the selection.

### ***October - September dropdown list***

Select a yearlong period from October through September (a data season for Beach Watch) as the date range for the next *query*, filtering out all other dates. For instance, select “2001–2002” to set a date range of “10/1/2001” through “9/30/2002.” The date text boxes will reflect the selection.

### ***Select All Dates button***

Click to remove date filters and include every survey date in the next *query*. A golden glow around this button indicates that when you click the *Run Query* button, the *query* result will include all survey dates.

## **Grouping Controls (bottom left portion of the *Live Query* form)**

### ***Taxonomic Level Grouping dropdown list***

Select the taxonomic level for grouping in the next *query*. By default, we group by *species*, but you may also choose to group by *genus* or *family*. The choices in the other grouping controls will reflect any change in the taxonomic grouping level. For instance, if you select “genus,” the *Beach / Date / Taxonomic Grouping* dropdown list will provide choices such as “Genus / Beach” rather than “Species / Beach”

### ***Beach / Date / Taxonomic Grouping dropdown list***

Select the basic grouping for the next *query*. There is no default value, and you cannot run a *query* until you select a grouping here. Assuming the default taxonomic grouping of *species*, the choices are *Species Only*, *Species / Beach*, *Species / Date*, and *Species / Dt. / Bch* (short for “Species / Date / Beach”).

### ***Select Season or Grouping dropdown list (in the Seasonal / Date Grouping area)***

Select a custom date grouping if you are not already grouping by date. If you are grouping by “Species / Date” or “Species / Date / Beach,” you cannot select a custom date grouping. If you are grouping by “Species / Beach” or “Species Only,” you may select a custom date grouping, such as “By Quarter” or “By Breeding Seasons.”

### ***Select Year Grouping dropdown list (in the Seasonal / Date Grouping area)***

Select or de-select grouping by year. You cannot select a year grouping unless you have selected a custom date grouping in the *Select Season or Grouping* dropdown list. The two choices are “By Year” (group by year before grouping by custom date grouping) and “All Years” (do not group by year).

For example, if you select custom date grouping “By Quarter” and then select “All Years,” the date grouping will show every relevant sighting that occurred in the first quarter of any year, then every relevant sighting that occurred in the second quarter of



any year, and so on. If, instead, you select “By Year,” the date grouping will show every relevant sighting that occurred in the first quarter of 1993, then the second quarter of 1993, and so on through all subsequent years up to the most recent quarter.

### **“Standard / Zeroes” dropdown list**

This unlabeled list at the bottom of *Query Groupings* provides two options: “Standard” and “Zeroes.” When “Standard” is selected, the *query* result will display records only if at least one of the selected species was sighted. When “Zeroes” is selected, the *query* result will display every record, even if none of the selected species was sighted. This can significantly increase a *query*’s execution time.

## **Multiple Query Controls (top left portion of the *Live Query* form)**

### ***Go To Open Query* dropdown list**

Select a *query* for review after you have run multiple *queries*.

Each *query* you run is added to the dropdown list. *Query* names consist of the *query* grouping configuration and a two-digit number suffix to distinguish *queries* with identical grouping signatures but different filter sets. The *Live Query* form saves up to ten *queries*, after which it recycles: a new *query* will replace the oldest saved *query*. When you select a *query* for review, the *query* result appears in the lower right portion of the *Live Query* form, and all filters and grouping controls revert to the parameters of the selected *query*.

A golden glow around the *Go To Open Query* dropdown list indicates that all *Live Query* controls reflect the current *query* result displayed in the bottom right portion of the form. If you change any filter or grouping, this relationship no longer holds, and the glow disappears.

### **<--Prev. Query button**

Click to select the previous (that is, next oldest) *query*. This has the same effect as selecting the *query* listed above the current *query* in the *Go To Open Query* dropdown list (see discussion above). If there is no previous *query*, the button is disabled.

### **Next Query--> button**

Click to select the next (that is, next newest) *query*. This has the same effect as selecting the *query* listed below the current *query* in the *Go To Open Query* dropdown list (see discussion above). If there is no next *query*, the button is disabled.

### **Run Query button**

Click to run the *query* defined by the current setting of filters and groupings. This button is disabled until you select a grouping from the *Beach / Date / Taxonomic Grouping* dropdown list. Pressing the “Control” key and the “Break” key will interrupt a *query*.

## Special Command Buttons (bottom of the *Live Query* form)

### ***Remove Current Query* button**

Click to remove the current *query* result displayed in the bottom right portion of the *Live Query* form. If there is no current *query* result, the button is disabled.

### ***To Reports* button**

Click to bring up the *Live Report* form, from which you can produce a *report* of the current *query* in a number of formats, including an Excel-exportable format. If there is no current *query* result, the button is disabled.

### ***Advanced Queries* button**

Click to bring up the *Advanced Queries* form, from which you can run a number of pre-set custom *queries* that are beyond the scope of the *Live Query* form. For instance, one advanced *query* includes the number of people and pet dogs encountered during beach surveys.

## Dead Query Form Controls

The screenshot shows the 'Dead Database Query Form' in Microsoft Access. The form is divided into several sections:

- Dead Query Form**: Contains summary statistics (Surveys in Date Range: 6,879; Km's in Date Range: 15,273.50) and navigation buttons (Go To, Open Query, <-- Prev. Query, Next Query -->).
- Query Filters**: Includes dropdowns for Species by Name, Beach ID, and Beach Group. It also has buttons for 'All Species', 'Taxonomic Select', 'All Beaches', and 'Beach Select'. Date filters (Date From, Date To) and a 'Select by Year' section are also present.
- Advanced Filters**: A section for 'Species Filters' and 'Dead Filters' with a 'Species Table' containing filters for Stat, Abundance, Group I, Group II, and Group III.
- Query Groupings**: A section for 'Taxonomic Level Grouping' (Species), 'Beach / Date / Taxonomic Grouping', and 'Seasonal / Date Grouping' (Select Season or Grouping, No Grouping, Select Year Grouping, No Grouping).
- Bottom Bar**: Contains buttons for 'Remove Current Query', 'Export Current Query to Excel', 'Create Pop Up Query Form', 'To Reports', and 'Advanced Queries'.

### Filter Controls (top right portion of the *Dead Query* form)

#### *Species by Name* [*Species by ID*] dropdown list

Select one specific species for the next *query*, filtering out all other species. The list includes all species ever sighted by Beach Watch survey teams. The list can display species either by name or by ID number. To toggle the display, click on the list label. For a complete list of species, see the species list in the *Introduction* section.

#### *All Species* button

Click to remove species filters and include all ever species sighted in the next *query*. A golden glow around this button indicates that when you click the *Run Query* button, the *query* result will include all species.

### ***Taxonomic Select button***

Click to bring up the *Taxonomic Selection* form, from which you can select multiple species based on standard zoological taxonomy (for instance, all species in the order *Anseriformes* and all species in the family *Anatidae*). A golden glow around the *Taxonomic Select* button indicates that when you click the *Run Query* button, the *query* result will include a custom selection of species from the *Taxonomic Selection* form.

### ***Status dropdown list (in the Advanced Filters area, Species Filters tab)***

Select a category of species for the next *query* based on migratory patterns. The list includes *Migrant*, *Resident*, *Summer*, and *Winter* species.

### ***Abundance dropdown list (in the Advanced Filters area, Species Filters tab)***

Select a category of species for the next *query* based on frequency of sightings. The list includes *Abundant*, *Common*, *Rare*, and *Uncommon* species.

### ***Group I dropdown list (in the Advanced Filters area, Species Filters tab)***

Select a custom category of species for the next *query*. There are many choices, such as *Marine Mammal*.

### ***Group II dropdown list (in the Advanced Filters area, Species Filters tab)***

Select a custom category of species for the next *query*. There are many choices, such as *Waterfowl*.

### ***Group III dropdown list (in the Advanced Filters area, Species Filters tab)***

Select a custom category of species for the next *query*. There are several choices, such as *Cetacean*.

### ***Oiled dropdown list (in the Advanced Filters area, Dead Filters tab)***

Select for oiled or unoled sightings. The list includes *Yes*, *No*, and *Unknown*.

### ***Age dropdown list (in the Advanced Filters area, Dead Filters tab)***

Select for age. The list includes *Adult*, *First Year*, *Hatchling Year*, *Immature*, *Pup/Calf*, *Second Year*, *Third Year*, and *Unknown*

### ***Sex dropdown list (in the Advanced Filters area, Dead Filters tab)***

Select for sex of specimen. The current list includes *Female*, *Male*, and *Unknown*.

### ***Beach Name [Beach ID] dropdown list***

Select one specific beach for the next *query*, filtering out all other beaches. The list can display beaches either by name or by ID number. To toggle the display, click on the list label. For a complete list of Beach Watch surveyed beaches, see the *Metadata* section.

### ***Beach Group dropdown list***

Select a defined group of beaches for the next *query*, filtering out all other beaches. *Ano Nuevo State Reserve* is an example of a beach group. It contains North Point, Cove Beach, and Bradley Beach. For a complete list of Beach Watch beach groups, see the *Glossary of Acronyms and Terms*.

### ***All Beaches button***

Click to remove beach filters and include every surveyed beach in the next *query*. A golden glow around this button indicates that when you click the *Run Query* button, the *query* result will include all surveyed beaches. For a complete list of Beach Watch surveyed beaches, see the *Metadata* section.

### ***Beach Select button***

Click to bring up the *Beach Selection* form, from which you can select multiple beaches in any combination. A golden glow around the *Beach Select* button indicates that when you click the *Run Query* button, the *query* result will include a custom selection of surveyed beaches from the *Beach Selection* form.

### ***Date From text box***

Type a date to set the start of a date range for the next *query*, filtering out all previous dates. For convenience, the ‘+’ and ‘-’ keys in the number-pad portion of the keyboard will add and subtract from the date entered, one day at a time. Hold these keys down to move quickly through successive dates.

### ***Date To text box***

Type a date to set the end of a date range for the next *query*, filtering out all subsequent dates. For convenience, the ‘+’ and ‘-’ keys in the number-pad portion of the keyboard will add and subtract from the date entered, one day at a time. Hold these keys down to move quickly through successive dates.

### ***Calendar Year dropdown list***

Select a calendar year as the date range for the next *query*, filtering out all other dates. This has the same effect as entering “1/1/[year selected]” in the *Date From* text box, and



“12/31/[year selected]” in the *Date To* text box. When you select a calendar year, the date text boxes will reflect the selection.

### ***October - September dropdown list***

Select a yearlong period from October through September (a data season for GFMNS) as the date range for the next *query*, filtering out all other dates. For instance, select “2001–2002” to set a date range of “10/1/2001” through “9/30/2002.” The date text boxes will reflect the selection.

### ***Select All Dates button***

Click to remove date filters and include every survey date in the next *query*. A golden glow around this button indicates that when you click the *Run Query* button, the *query* result will include all survey dates.

## **Grouping Controls (bottom left portion of the *Dead Query* form)**

### ***Taxonomic Level Grouping dropdown list***

Select the taxonomic level for grouping in the next *query*. By default, we group by *species*, but you may also choose to group by *genus* or *family*. The choices in the other grouping controls will reflect any change in the taxonomic grouping level. For instance, if you select “genus,” the *Beach / Date / Taxonomic Grouping* dropdown list will provide choices such as “Genus / Beach” rather than “Species / Beach”

### ***Beach / Date / Taxonomic Grouping dropdown list***

Select the basic grouping for the next *query*. There is no default value, and you cannot run a *query* until you select a grouping here. Assuming the default taxonomic grouping of *species*, the choices are *Species Only*, *Species / Beach*, *Species / Date*, and *Species / Dt. / Bch* (short for “Species / Date / Beach”).

### ***Select Season or Grouping dropdown list (in the Seasonal / Date Grouping area)***

Select a custom date grouping if you are not already grouping by date. If you are grouping by “Species / Date” or “Species / Date / Beach,” you cannot select a custom date grouping. If you are grouping by “Species / Beach” or “Species Only,” you may select a custom date grouping, such as “By Quarter” or “By Breeding Seasons.”

### ***Select Year Grouping dropdown list (in the Seasonal / Date Grouping area)***

Select or de-select grouping by year. You cannot select a year grouping unless you have selected a custom date grouping in the *Select Season or Grouping* dropdown list. The two choices are “By Year” (group by year before grouping by custom date grouping) and “All Years” (do not group by year).

For example, if you select custom date grouping “By Quarter” and then select “All Years,” the date grouping will show every relevant sighting that occurred in the first quarter of any year, then every relevant sighting that occurred in the second quarter of any year, and so on. If, instead, you select “By Year,” the date grouping will show every relevant sighting that occurred in the first quarter of 1993, then the second quarter of 1993, and so on through all subsequent years up to the most recent quarter.

### **“Standard / Zeroes” dropdown list**

This unlabeled list at the bottom of *Query Groupings* provides two options: “Standard” and “Zeroes.” When “Standard” is selected, the *query* result will display records only if at least one of the selected species was sighted. When “Zeroes” is selected, the *query* result will display every record, even if none of the selected species was sighted. This can significantly increase a *query*’s execution time.

## **Multiple Query Controls (top left portion of the *Dead Query* form)**

### ***Go To Open Query* dropdown list**

Select a *query* for review after you have run multiple *queries*.

Each *query* you run is added to the dropdown list. *Query* names consist of the *query* grouping configuration and a two-digit number suffix to distinguish *queries* with identical grouping signatures but different filter sets. The *Dead Query* form saves up to ten *queries*, after which it recycles: a new *query* will replace the oldest saved *query*. When you select a *query* for review, the *query* result appears in the lower right portion of the *Dead Query* form, and all filters and grouping controls revert to the parameters of the selected *query*.

A golden glow around the *Go To Open Query* dropdown list indicates that all *Dead Query* controls reflect the current *query* result displayed in the bottom right portion of the form. If you change any filter or grouping, this relationship no longer holds, and the glow disappears.

### **<--Prev. Query button**

Click to select the previous (that is, next oldest) *query*. This has the same effect as selecting the *query* listed above the current *query* in the *Go To Open Query* dropdown list (see discussion above). If there is no previous *query*, the button is disabled.

### **Next Query--> button**

Click to select the next (that is, next newest) *query*. This has the same effect as selecting the *query* listed below the current *query* in the *Go To Open Query* dropdown list (see discussion above). If there is no next *query*, the button is disabled.

### **Run Query button**

Click to run the *query* defined by the current setting of filters and groupings. This button is disabled until you select a grouping from the *Beach / Date / Taxonomic Grouping* dropdown list. Pressing the “Control” key and the “Break” key will interrupt a query.

## **Special Command Buttons (bottom of the *Dead Query* form)**

### ***Remove Current Query* button**

Click to remove the current *query* result displayed in the bottom right portion of the *Dead Query* form. If there is no current *query* result, the button is disabled.

### ***To Reports* button**

Click to bring up the *Dead Report* form, from which you can produce a *report* of the current *query* in a number of formats, including an Excel-exportable format. If there is no current *query* result, the button is disabled.

### ***Advanced Queries* button**

Click to bring up the *Advanced Queries* form, from which you can run a number of pre-set custom *queries* that are beyond the scope of the *Dead Query* form.

## Taxonomic Selection Form Controls

Class	Order	Family	Genus	Species
<input checked="" type="checkbox"/> Aves	<input checked="" type="checkbox"/> Charadriiformes	<input checked="" type="checkbox"/> Laridae	<input checked="" type="checkbox"/> Larus	<input checked="" type="checkbox"/> philadelphia
<input type="checkbox"/> Amphibia	<input type="checkbox"/> Anseriformes	<input type="checkbox"/> Alcidae	<input type="checkbox"/> Rissa	<input type="checkbox"/> Bonaparte's Gull
<input type="checkbox"/> Chondrichthyes	<input type="checkbox"/> Apodiformes	<input type="checkbox"/> Charadriidae	<input type="checkbox"/> Stercorarius	<input type="checkbox"/> californicus
<input type="checkbox"/> Mammalia	<input type="checkbox"/> Aves	<input type="checkbox"/> Charadriiformes	<input type="checkbox"/> Sterna	<input type="checkbox"/> pipixcan
<input type="checkbox"/> Osteichthyes	<input type="checkbox"/> Charadriiformes	<input type="checkbox"/> Haematopodidae	<input type="checkbox"/> Xema	<input type="checkbox"/> hyperboreus
<input type="checkbox"/> Reptilia	<input type="checkbox"/> Ciconiiformes	<input type="checkbox"/> Recurvirostridae		<input type="checkbox"/> (sp)
<input type="checkbox"/> Vertebrata	<input type="checkbox"/> Columbiformes	<input type="checkbox"/> Scolopacidae		<input type="checkbox"/> glaucescens
	<input type="checkbox"/> Coraciiformes	<input type="checkbox"/> Timalidae		<input type="checkbox"/> heermanni
	<input type="checkbox"/> Falconiformes			<input type="checkbox"/> argentatus
	<input type="checkbox"/> Galliformes			<input type="checkbox"/> atricilla
	<input type="checkbox"/> Gaviiformes			<input type="checkbox"/> canus
	<input type="checkbox"/> Gruiformes			<input type="checkbox"/> delawarensis
	<input type="checkbox"/> Passeriformes			<input type="checkbox"/> thayeri
	<input type="checkbox"/> Pelecaniformes			<input type="checkbox"/> occidentalis
	<input type="checkbox"/> Piciformes			<input type="checkbox"/> occid. x glauces.
	<input type="checkbox"/> Podicipediformes			
	<input type="checkbox"/> Procellariiformes			
	<input type="checkbox"/> Strigiformes			

The *Taxonomic Selection* form, accessible from the *Live Query* form and the *Dead Query* form, allows you to select multiple species based on standard zoological taxonomy (for instance, all species in the order *Anseriformes* and all species in the family *Anatidae*).

The five columns of checkboxes in the body of the *Taxonomic Selection* form correspond to the five taxonomic levels available for selection: *class*, *order*, *family*, *genus*, and *species*. You can think of these labels and checkboxes as a tree that branches from left to right. Different labels are visible at different times. In this taxonomic tree, navigation and selection are independent.

## Navigation

You can view any particular “branch” (i.e. *class*, *order*, and so on) without selecting it by clicking in the label area of the checkbox rather than in the checkbox itself. When you click on a label, blue brackets appear around the checkbox and label, indicating that its branches are currently displayed to the right, and all columns to the right adjust accordingly. For instance, brackets around the label for the class *Amphibiana* indicate that the orders of that

class are displayed to the right, brackets around the label for the order *Anura* indicate that the families of that order are displayed to the right, and so on.

The upper portion of the *Taxonomic Selection* form contains six dropdown lists. The right-most dropdown list contains the common names for species. The other five lists contain the scientific names for the corresponding taxonomic level. These lists allow you to quickly move to any category at any taxonomic level.

The dropdown lists look like textboxes until you click inside them, at which point the dropdown control appears. The name in the textbox of each dropdown list corresponds to the blue-bracketed checkbox directly below it, which is to say that it shows what branch is currently displayed from its taxonomic level. The lists are always complete. The genus list, for instance, includes all genera in the all classes included in the form, regardless of the current family, order, and class displayed below.

Selecting an item from a dropdown list sends the focus to the corresponding checkbox in the body of the form and displays the appropriate checkbox choices at all other levels in the taxonomic tree. **Selecting an item from a dropdown list, however, does *not* select the corresponding checkbox.**

## Selecting Species in Taxonomic Groups

Taxonomic checkboxes have three states: selected, de-selected, and gray. When a checkbox is selected, it means that all taxonomic branches to the right are selected. For instance, when we select the checkbox for the family *Accipitridae* (comprising eagles, hawks, and related birds) we select all species in all genera within the family. Similarly, when we de-select this checkbox, we de-select all species in all genera within the family. If we select some but not all species in the family, the *Accipitridae* family checkbox will display a gray square, as will the checkboxes for the order and the class that contain the *Accipitridae* family.

After selecting a taxonomic group of species (an entire family or order, for instance), you can navigate elsewhere in the tree and make other selections. In this manner, you can select any subset of species from the *Taxonomic Selection* form.

## Clearing, Selecting All, Saving, and Closing

In the bottom right corner of the *Taxonomic Selection* form are four buttons:

### ***Select All Species* button**

Click to select all species (and all taxonomic levels).

***Clear Taxonomic Levels button***

Click to de-select all species (and all taxonomic levels).

***Save and Close button***

Click to close the *Taxonomic Selection* form and return focus to the *Live Query* form or the *Dead Query* form (whichever one you came from). A golden glow around the *Taxonomic Select* button will indicate that a custom species selection will be in effect when you run the next *query*.

***Revert and Close button***

Click to close the *Taxonomic Selection* form, return focus to the *Live Query* form or the *Dead Query* form (whichever one you came from), and make the species filter reverts to the state it was in before you made any taxonomic selections. When you first open the *Taxonomic Selection* form, the *Revert and Close* button is a *Cancel* button. Clicking it will simply dismiss the for Beach Selection *Form Controls*

## Beach Selection Form Controls

The screenshot shows a window titled "Beach Select Form". Inside, the word "Beaches" is displayed in a large, spaced-out font. Below it is a checkbox labeled "Select All Beaches:" which is checked. There are two buttons: "Save and Close" and "Cancel". Below these is a section titled "Select Beaches" with a vertical scrollbar. This section contains a list of 20 checkboxes, each followed by a beach number. All checkboxes are checked. The numbers are: 407, 408, 410, 413, 414, 416, 417, 420, 421, 424, 503, 506, 509, 510, 601, 603, 604, 605, 701, and 706. The number 706 is highlighted with a black background.

Beach Number	Selected
407	Yes
408	Yes
410	Yes
413	Yes
414	Yes
416	Yes
417	Yes
420	Yes
421	Yes
424	Yes
503	Yes
506	Yes
509	Yes
510	Yes
601	Yes
603	Yes
604	Yes
605	Yes
701	Yes
706	Yes

The *Beach Selection* form, accessible from the *Live Query* Form and the *Dead Query* form, is a simple form that allows you to select multiple beaches in any combination. When you open the form, the individual beach checkboxes reflect the current beach selection. If all beaches are selected, the *Select All Beaches* checkbox will be selected.

### **Select All Beaches checkbox**

Selecting this checkbox selects all the individual beaches. De-selecting this checkbox de-selects all beaches.

### **Save and Close button**



Click to close the *Beach Selection* form and return focus to the *Live Query* form or the *Dead Query* form (whichever one you came from). A golden glow around the *Beach Select* button will indicate that a custom beach selection will be in effect when you run the next query.

### Revert and Close button

Click to close the *Beach Selection* form, return focus to the *Live Query* form or the *Dead Query* form (whichever one you came from), and make the beach filter reverts to the state it was in before you opened the form. When you first open the *Beach Selection* form, the *Revert and Close* button is a *Cancel* button. Clicking it will simply dismiss the form.

### Individual beach checkboxes

Most of the *Beach Selection* form is devoted to a column of checkboxes, one for each beach that Beach Watch surveys. Checkboxes are labeled by beach ID numbers. The scrollbar on the right provides access to all beach checkboxes. See the *Introduction* section for a complete list of beaches found in the database.

## Survey Form Controls

**VIEW SURVEYS - READ ONLY**

Beach ID: 106 Beach: Doran Beach Date: 10/19/1998

Starting Time: 5:00 Ending Time: 10:00 Survey Hours: 5:00

Beau Wind Rating: U Visibility: U Tide: 3.5

Band?: No Oil?: No Are there Dead?:

Live Complete: 100 Dead Complete: 100 Cancelled?:

Checked?: Yes Comments?: No Batch Number:

Checker: HALLJ Enterer: HALLJ

Survey Type: Regular Special Survey:

Edit Date / Time:

Effort Dead Human/Wreck Oil Info Live Banding Info Form Toggle

Item #	Species ID	Species Com.	Condition	Sex	Age	Photo	Oiled ?	Oil Extent
1	MUDE	Mule Deer	4	Unknown	Immature	Yes	No	N
2	CASL	California Sea-Lion	2	Unknown	Adult	Yes	No	N
3	WEGU	Western Gull	3	Unknown	Third Year	Yes	No	N
4	WEGU	Western Gull	3	Unknown	Third Year	Yes	No	N
5	CASL	California Sea-Lion	4	Unknown	Immature	Yes	No	N
6	CAGU	California Gull	3	Unknown	Adult	Yes	No	N
7	BIRD	Unidentified Bird (n	4	Unknown	Unknown	Yes	No	N
8	PIGU	Pigeon Guillemot	4	Unknown	Adult	Yes	No	N
9	GULL	Gull (unidentified)	4	Unknown	Second Year	Yes	No	N
10	COMU	Common Murre	3	Unknown	Adult	Yes	No	N
11	GDFF	Unidentified Gulls	4	Unknown	Unknown	Yes	No	N

Record: 1 of 11

Go To Record

Record: 1 of 6880 (Filtered)

Form View FLTR NUM

Remove Filters

Oil Yes

Oil No

Regular Surveys

Special (Oil) Samples

Regular / Oil Yes

The *Survey* form displays detailed information from a particular survey. You can navigate from one survey to another by selecting a beach and a date, or by iterating through the records with the record controls at the bottom of the form (each record corresponds to a survey).

Note that most of the controls are read-only, and that you cannot select new values from the dropdown lists. The *Survey* form is a read-only version of the data-entry form that Beach Watch uses to put survey data into the database.

Some of the fields in the *Survey* form have customized meanings that only Beach Watch staff fully understand. To explain these fields is beyond the scope of the Beach Watch Database Manual. For more information, see the section on *Metadata*.

## **General Information Display (top portion of the *Survey* form)**

### ***Beach ID* dropdown list**

Displays the beach ID number of the beach where the survey took place. The two-column dropdown list shows all beach ID numbers and the corresponding beach names.

### ***Date* Textbox**

Displays the date of the survey.

### ***Beach* Textbox**

Displays the name of the beach surveyed.

### ***Starting Time* Textbox**

Displays the time the survey started in military time. (For instance, 2:00 PM is 14:00.)

### ***Ending Time* Textbox**

Displays the time the survey ended in military time. (For instance, 2:00 PM is 14:00.)

### ***Survey Hours* Textbox**

Displays how long the survey took, in hours.

### ***Beau Wind Rating* dropdown list**

Displays a rating of wind speed and surf conditions on the Beaufort wind scale of 0 – 9 or ‘U’ if the rating is unknown. The two-column dropdown list describes wind speed and surf conditions for each rating.

### ***Visibility* dropdown list**

Displays a visibility rating on a scale of 1 – 3 or ‘U’ if the rating is unknown. The two-column dropdown list provides visibility range for each rating (see *Metadata*).

***Tide Textbox***

Displays the tide level at the start of the survey, in feet above or below sea level.

***Band dropdown list***

Displays whether any banded live or dead birds or mammals were found during the survey. “Yes” and “No” are the only choices.

***Are There Dead? dropdown list***

Displays whether the survey found dead vertebrates. The display is blank if the survey found any dead vertebrates. If it found none, the display reads “NODEAD.”

***Live Complete dropdown list***

Displays the percentage of the survey that was successfully completed for live birds and mammals (survey teams sometimes divide the tasks of live and dead sightings). The dropdown list contains percentages in increments of five percent.

***Dead Complete dropdown list***

Displays the percentage of the survey that was successfully completed for dead vertebrates (survey teams sometimes divide the tasks of live and dead sighting). The dropdown list contains percentages in increments of five percent.

***Cancelled dropdown list***

Displays whether a survey was cancelled or not. The dropdown list contains options “Yes” and “No”.

***Checked? dropdown list***

Displays whether the data has been checked. The dropdown list contains options “Yes” and “No.”

***Checker dropdown list***

Displays the name of the person who checked the survey results.

***Survey Type dropdown list***

Displays the type of survey. The dropdown list contains four options: “Regular,” “UK/Special,” “RegNoMatch,” and “WasBlank.”

***Comments dropdown list***

Displays whether any special comments are associated with this survey. The dropdown list contains options “Yes” and “No.”

**Special Filters (far right portion of the *Survey form*)**

Although there are many survey records, there are relatively few that contain certain types of information, such as dead sightings of oiled and banded vertebrates. The command buttons in the right portion of the survey form provide filters so that special sub-sets of records may be selected.

***Remove Filters button***

Removes all special filters and returns the Survey form to the default setting in which all records are shown.

***Oil Yes button***

Shows only records with at least one oiled sighting, and filters out the rest.

***Oil No button***

Shows only records without any oiled sightings, and filters out the rest.

***Regular Surveys button***

Shows only records of surveys categorized and “Regular” surveys.

***Special (Oil) Samples button***

Shows only records in which an oil sample was sent in and oil information was supplied.

***Regular / Oil Yes button***

Shows only records of surveys categorized and “Regular” in which at least one oiled sighting occurred.

## Detailed Tabbed Information (bottom portion of the *Survey* form)

The Survey form contains a tab control that provides details on each survey. Here we explain the contents of each tab.

### ***Surveyors tab***

Displays the surveyor ID for each surveyor on the team, along with the number of hours the surveyor donated, and the number of miles driven to and from the survey. At the bottom of the tab, there is a cumulative total for the volunteer hours and number of miles driven by all the surveyors on the team.

### ***Dead tab***

Displays detailed information on each sighting of a dead vertebrate. Each sighting constitutes a record. The initial display is a *datasheet* view, in which each record appears as a row, with fields of information that scroll off to the right. When this tab is selected, the button to the right of the tabs acts as a toggle between datasheet view and form view. In form view, each record takes up the entire tab, and all the fields of information are visible at once.

See *Metadata* for more on these fields. The fields included in each record are:

Species ID  
Species Com (for common name)  
Age  
Sex  
Condition  
Cause Of Death  
Scavenged (yes or no)  
Oiled  
Oil Extent  
Oil Where (on what part of the animal)  
Photo (yes, or no)  
Photo ID (yes or no),  
Specimen (yes or no)  
Tag? (yes or no)  
Comments.

“Unknown” may be entered in several fields.

### ***Human / Wrack tab***

Displays sightings outside the usual categories of live and dead sightings, such as people on the beach, pet dogs (leashed and unleashed), and fisherman. It also contains data on beach wrack and invertebrates found on the beach, such as wood and jellyfish. The *Type* field indicates whether data is an exact count or an abundance code. Each type of sighting appears as a record in a datasheet view, with a count (5 people on the beach, for instance), a code and a type.

There is also a field for general comments relating to any or all of these sightings in the bottom portion of the tab.

### ***Oil Info* tab**

Displays detailed information on any oil found on the beach or on dead or live vertebrates. When this tab is selected, the button to the right of the tabs toggles the display between the *Oil Survey* fields and the *Oil Sample* fields.

The *Oil Survey* fields are:

Estimated Number of Tarballs  
Estimated Minimum Size of Tarballs  
Estimated Maximum Size of Tarballs  
Number of Tarballs Collected  
Number of Dead / Oiled Vertebrates  
Number of Samples from Dead / Oiled Vertebrates  
Was Oil Analyzed? (Yes or No)  
Number of Live Oiled Birds and Mammals  
Number of Different Species Oiled  
Estimated Percent of Oil Covering Beach (on a supplied scale of 0 to 6)  
Average Width of Oil Depositions (on a supplied scale of 0 to 6,  
or 9 for unknown)  
Total Length of Oil Depositions (on a supplied scale of 0 to 5,  
or 9 for unknown)  
Average Distribution of Oil Within Depositions (seven choices supplied)  
Average Oil Thickness (seven choices supplied)  
Average Oil Type (six choices supplied)  
Degree of Oil Observed (six choices supplied)  
Comments

The *Oil Sample* fields are:

OSPR Number  
Survey  
Time  
Collector (the surveyor who collected the oil)  
Type (of the sample – tarball, feather, etc.)  
Species Item Number  
Tarball Sample Number

Species ID  
Analysis  
Comments  
Date Sample Received from Volunteer  
FMSA Verified  
Date Sent to OSPR  
Date Sample Received from OSPR  
Location

***Live tab***

Displays information on sightings of live birds and mammals in a datasheet view. Each species sighted constitutes a record in the datasheet.

The fields included in each record are:

Species ID  
Count  
Species Common Name  
Comments

***Band tab***

Displays information on any dead or live birds or mammals found with bands.

The fields included are:

Species ID  
Species  
Surveyor  
Color / Number Left  
Color / Number Right  
Notes