# Alaska Lake Database (ALDAT)

## Public User’s Guide

*Updated June 2014*

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Ryan Snow provided guidance and support for the database component of this project. Derek Hedstrom linked existing ADF&G internet pages to the Alaska Lake Database. Kurt Savikko and Bill Byford provided web support and guidance. Kayley Moen, Thomas Redington, and Kelly Mansfield scanned and entered hundreds of historic lake records. Resource Data Inc. worked closely with ADF&G staff to design, build, and test this database system.
System Description

The Alaska Lake Database (ALDAT) is a statewide database system designed to consolidate, archive, and improve access to lake data electronically. ALDAT is accessible to Alaska Department of Fish and Game (ADF&G) staff and the public through a map user interface. ADF&G staff and the public can view, search, and export lake data and select ADF&G staff can add and edit records via the web.

Three data types are stored in the ALDAT system: General Lake Information, Stocking Data, and Fish Data. General Lake Information includes location and access information (latitude and longitude, directions, and U.S. Geological Survey map references), improvements (boat launches, picnic areas, restrooms, etc...), size, maximum depth, survey notes, photos, contour maps, and historical documents dating back to the 1950s. Stocking Data includes automated summaries of species previously stocked (date of release, number, and size of fish) and offers detailed stocking reports based on user specified search criteria. Fish Data includes a summary of fish species captured during previous ADF&G sampling projects (minimum, maximum, and average length).

The ALDAT user interface displays water bodies on a map with colored pins. Users can click on a pin to view available data; search locations by name, area, stocking date, or fish species; manually navigate the map and overlay additional layers such as roads and trails; and perform custom data exports across multiple datasets.

ALDAT lake data, documents, and photos are stored in SQL databases located on ADF&G’s shared server in Anchorage. Two additional ADF&G website applications and one hatchery Microsoft Access application are also connected to these databases:


Information contained in this system is the best available data for many water bodies throughout Alaska. Records are updated continuously as new data becomes available. Some records are from historical surveys in excess of 50 years old and may be out of date. ADF&G makes no claims as to the accuracy of the information and documents presented.

Questions regarding the function or content of this system can be sent to april.behr@alaska.gov.

Viewing Data

Data viewing in the ALDAT application is available to all ADF&G and public users at:

Each time you enter the application a Terms Agreement will appear.
Click on **Agree** to continue to view the website.

If you select **Disagree and Exit Site** you will be redirected to the Sport Fish Fishing Information webpage.

Standard Google Maps navigation applies to this internet application. For more information on these standard controls visit: [https://developers.google.com/maps/documentation/javascript/controls](https://developers.google.com/maps/documentation/javascript/controls).

To view available information click on a colored pin on the Google map. A pop up balloon will appear with tabs. Data categories are **General Lake Information**, **Stocking Data**, and **Fish Data**. If a tab does not appear, there are no data available in that category. Click on a tab to view available records. Resulting displays are shown below.
Filter Lakes Tab
The Filter Lakes tab allows you to filter lake data by stocking records, stocking date, management area, and fish species.
Select desired filters and click on the Refresh Lakes button to view results on the Google map. Informational pop-ups containing additional field descriptions will appear when you hover over select headings. The application will retain the filters you select until they are deselected. To deselect all filters in a category click on the Select All box twice and click the Refresh Lakes button.

The Export Data button allows you to extract lake, fish, and stocking records for the water bodies displayed on the Google map. This functionality is discussed in greater detail in the Retrieving data section of this guide.

The Currently Stocked checkbox will display lakes that are in the current stocking program (green pins). These water bodies are listed in regulation as “stocked.” This is the default selection for the Google lake database application home page.

The Previously Stocked checkbox will display lakes that have stocking records but are not listed in regulation as “stocked” (yellow pins).

The Not Stocked checkbox will display lakes that do not have stocking records and are not listed in regulation as “stocked” (red pins).

The View Data in Metric Units and View Data in Standard Units radio buttons allow you to view and export data in different units. Metric is the default application setting.

The Search By Stocking Date option is only available when the Currently Stocked and/or Previously Stocked check boxes are selected. These fields allow you to view only locations that have been stocked within the dates you specify. If you leave the date fields blank all available stocking records will appear.

Management Area, Stocked Species, and Native Species are expandable headings. Click on a heading to view additional filter selections. Hold down the control key to make multiple selections from each list. Management areas listed are Sport Fish Management Areas with additional designations for the Tanana River and Kenai Peninsula.

**Go To Location Tab**

The Go To Location tab allows you to go to a specific water body or latitude and longitude.

Zoom To Lake box allows you to go directly to a specific water body. Begin typing the name of the location you wish to see, a drop down menu will appear, select your water body from the list provided and hit enter. The Google Earth map will zoom to the selected location.
NOTE: If you do not see the water body you are looking for, check to make sure that **Currently Stocked**, **Previously Stocked**, and **Not Stocked** are all selected on the Filter Lakes Tab. Also make sure there are no filters selected under **Management Category**, **Stocked Species**, or **Other Species**. Don’t forget to click on the **Refresh Lakes** button to update the Google map after changing your filter selections.

You can also zoom to a specific **Latitude** and **Longitude** by typing coordinates into the provided boxes and clicking on the **Go to Lat/Long** button. Coordinates must be entered in decimal degrees (dd.dddd, -ddd.dddd) and in WGS84 or NAD83.

The **Go to Alaska** button will adjust the view of the Google map to the Alaska extent.

**Options Tab**

The **Options** tab allows you to overlay various shape files, tools, and references. The following is an explanation of each option available for display.

- **SF Trails**
  - Sport Fish access trails.

- **Pan Control**
  - This is a standard Google Maps option.

- **Map Type Control**
  - This is a standard Google Maps option.

- **Street View Control**
  - This is a standard Google Maps option.

- **SF Management Areas**
  - Sport Fish management areas in Alaska.

- **Zoom Control**
  - This is a standard Google Maps option.

- **Scale Control**
  - This is a standard Google Maps option.

- **Overview Control**
  - This is a standard Google Maps option.

**Retrieving data**

Data can be exported from the **Fish Data** and **Stocking Data** views discussed in the **Viewing Data** section of this guide and from the **Filter Lakes Tab**. Users can export data in standard or metric units by selecting the corresponding radio button on the **Filter Lakes** tab. Metric is the default setting.

The **Export Data** button on the **Fish Data** view will return data for the **Sampling Event** selected in the drop down box. All fields listed under **Fish Sampling Data** are included in this export. The **Export Data** button on the **Stocking Data** view will return stocking records for the years selected in the drop down
boxes. Fields included in this data export include *Stock Date, Species, Length*, and *Number Stocked* (described in *Stocking Data*). Resulting files exported from these views will automatically open in Microsoft Excel.
Clicking on the *Export Data* button on the *Filter Lakes Tab* will open a new browser tab with advanced data export options.

Resulting files can be opened in multiple file formats (see *Export Format*).

Each field available for export is described in the following sections.

**Lake Data**

**Name**

*Lake Name*  
Common water body name.

*Alternate Lake Name*  
Other commonly used/local names for a location or previously used names.

**Site Code**  
Site code used in the Statewide Harvest Survey (SWHS) database. This field is not updated automatically. These codes often change over time and may become out of date.

**Location Information**

*Latitude (WGS84)*  
Coordinates in decimal degrees (WGS84) for the center of a lake.

*Longitude (WGS84)*  
Meridian, Township, Range, and Section pulled from a geospatial file for the specified latitude and longitude listed above. Meridians in Alaska include: Copper River (C), Kateel River (K), Fairbanks (F), Seward (S), and Umiat (U).

*Elevation (m,ft)*  
Elevation of the water body.

*Sport Fish Region*  
Sport Fish Region pulled from a geospatial file for the specified latitude and longitude listed above.

*Management Area*  
Sport Fish Management Areas (with additional designations for the Upper and Lower Tanana River and Upper and Lower Kenai Peninsula areas) pulled from a geospatial file for the specified latitude and longitude listed above.

*Sub Area*  
Another grouping of water bodies by area or road (ex. Steese Hwy, Parks Hwy, Coal Mine Road, etc...). These areas are designated by local staff.

*Drainage*  
Drainage as specified by staff or historic documents.

*USGS Map*  
United States Geological Survey map name/number pulled from a geospatial file for the specified latitude and longitude listed above.

**Access**

When the *export only one access point for each location* radio button is selected the application will return only one access point for each water body. This allows users to export access data with other information such as *Lake Survey Data* by date, *Fish Data*, and *Stocking Data*.

When the *export all access points* radio button is selected the application will return multiple access points for a water body (if available). If this is selected you cannot export access data along with *Lake Survey Data* by date, *Fish Sampling Data*, or *Detailed Stocking Information*. 
Latitude (WGS84) Coordinates in decimal degrees (dd.dddd, -ddd.dddd WGS84) for an access point.

Longitude (WGS84) Description of how to access the water body at this location.

Directions to Lake List of improvements available at the location specified above.

Improvements Miscellaneous comments pertaining to the location specified above.

Access Notes Land status as designated by ADF&G staff.

Land Status

**Lake Survey Data**

When the *export most recent survey data* radio button is selected the application will populate fields using the most recent survey information. This allows you to export lake survey data along with Access data, Fish Data, and/or Stocking Data.

When *export data for all lake surveys* is selected you can access individual survey information and the corresponding date. If this is selected you cannot export lake survey data along with Access data, Fish Sampling Data, or Detailed Stocking Information.

**Size and Area**

- **Maximum Depth (m, ft)** Maximum depth observed.
- **Surface Area (h, ac)** Lake surface area.
- **Volume (m3, million gal)** Lake volume.
- **Mean Depth (m, ft)** Mean depth observed.
- **Shoreline Length (km, miles)** Length of shoreline.
- **Littoral Volume (%)** Volume of water from the lake surface to 4 meters (~13 feet) divided by the volume of the lake.
- **Survey Notes** *Comments pertaining to a lake survey.*

**Inlets and Outlets**

Due to the variability of these data, inlet and outlet fields are stored as text and both numbers and text may be present in exported data. Consequently, these fields can only be exported in the units they were entered (cubic feet per second, cfs).

- **Number of Inlets** The number of inlets observed or identified at the time of sampling or from aerial photos/satellite imagery.
- **Inlet Discharge (cfs)** Inlet flow measured in cubic feet per second.
- **Number of Outlets** The number of outlets observed or identified at the time of sampling or from aerial photos/satellite imagery.
- **Outlet Discharge (cfs)** Outlet flow measured in cubic feet per second.
- **Lake Category** Landlocked, weired or barriered, intermittent outlet, flood prone, or open outlet.
Attached Documents
- **Attached Documents**
  Returns a column with yes/no indicating if there are documents stored in the database for each location.

**Bathymetric Maps**
- Returns a column with yes/no indicating if there are bathymetric maps stored in the database for each location.

**Number of Photos**
- The number of photos available for the water body.

**Fish Data**

**Species Present**
- **Other Species Present**
  Returns a concatenated list of fish species found in sampling records that are not found in stocking records.

**Projects**
- Returns a concatenated list of fish sampling Project Titles (defined below) for data entered into the database.

**Fish Sampling Data**
- The **Date From** and **Date To** fields allow users to retrieve fish sampling data that was collected during a specified timeframe.

**Project Title**
- This field can be used to identify unique sampling events from a large data set. It contains the **Project Type** (defined below) and date of sampling.

**Project Type**
- Angler report, creel survey, mark recapture event 1, mark recapture event 2, native species on survey, observation, or single sample evaluation.

**Project Notes**
- Fish sampling project notes.

**Gear**
- Fish sampling gear used: angling, backpack electrofisher, boat-mounted electrofisher, fyke net, hoop trap, minnow trap, not recorded, other, seine, tangle net, tangle net floater, tangle net sinker, or unknown.

**Set Date**
- Set date and time for fish sampling gear.

**Pull Date**
- Pull date and time for fish sampling gear.

**Soak Time (min)**
- Duration gear was deployed calculated from the set and pull dates/times.

**Latitude (WGS84)**
**Longitude (WGS84)**
- Coordinates in decimal degrees (WGS84) where fish sampling gear was deployed.

**Set Depth Min (m, ft)**
**Set Depth Max (m, ft)**
- Minimum set depth for fish sampling gear.
- Maximum set depth for fish sampling gear.

**Fish Species**
- Fish species captured.

**Fork Length (mm, in)**
**Weight (g, oz)**
- Length of captured fish.
- Weight of captured fish.

**Sampling Sex**
- Sex of captured fish.
<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mark</td>
<td>Mark type observed on captured fish.</td>
</tr>
<tr>
<td>Fish Specific Notes</td>
<td>Miscellaneous notes for captured fish.</td>
</tr>
<tr>
<td>Recapture</td>
<td>Returns a column with yes/no indicating if a fish was recaptured from a</td>
</tr>
<tr>
<td></td>
<td>previous sampling event or gear set.</td>
</tr>
<tr>
<td><strong>Stocking Data</strong></td>
<td></td>
</tr>
<tr>
<td><strong>General Stocking Information</strong></td>
<td>Returns a column with yes/no indicating if a water body is listed as</td>
</tr>
<tr>
<td></td>
<td>stocked in regulation. This field is updated manually by ADF&amp;G staff</td>
</tr>
<tr>
<td>Stocked by Regulation</td>
<td>and may become out of date if it is not maintained.</td>
</tr>
<tr>
<td>Management Category</td>
<td>Regional management, conservative management, or special management as</td>
</tr>
<tr>
<td></td>
<td>designated by the Stocked Waters Management Plan adopted by the Board of</td>
</tr>
<tr>
<td></td>
<td>Fisheries (BOF) in 2004 (5 AAC 70.065, 5 AAC 52.065).</td>
</tr>
<tr>
<td>Species Previously</td>
<td>Returns a concatenated list (generated from stocking records) of fish</td>
</tr>
<tr>
<td>Stocked</td>
<td>species previously stocked into a water body.</td>
</tr>
<tr>
<td>Management Subcategory</td>
<td>Large, urban, rural, or remote.</td>
</tr>
<tr>
<td>Stocking Access</td>
<td>Contains stocking specific access information (i.e. aerial transport,</td>
</tr>
<tr>
<td></td>
<td>bucket, walk in, same as public, etc...)</td>
</tr>
<tr>
<td>Stocking Notes</td>
<td>Contains stocking specific notes.</td>
</tr>
<tr>
<td><strong>Detailed Stocking Information</strong></td>
<td>The Date From and Date To fields allow you to retrieve stocking records for a specified timeframe.</td>
</tr>
<tr>
<td>Hatchery</td>
<td>Hatchery from which fish were stocked.</td>
</tr>
<tr>
<td>Broodstock</td>
<td>Origin of parent fish.</td>
</tr>
<tr>
<td>Stock Date</td>
<td>Date of stocking.</td>
</tr>
<tr>
<td>Lifestage</td>
<td>Lifestage of fish at stocking (adult, broodstock, catchable, emergent fry,</td>
</tr>
<tr>
<td></td>
<td>eyed eggs, fed fry, fingerling, fry, smolt, subcatchable, unknown.)</td>
</tr>
<tr>
<td>Stocking Sex</td>
<td>All female or mixed sex.</td>
</tr>
<tr>
<td>Number Stocked</td>
<td>Number of fish released.</td>
</tr>
<tr>
<td>Species</td>
<td>Species of fish released.</td>
</tr>
<tr>
<td>Ploidy</td>
<td>Ploidy of fish released (2N or 3N)</td>
</tr>
<tr>
<td>Average Weight (g, oz)</td>
<td>Average weight of fish released.</td>
</tr>
<tr>
<td>Total Weight (kg, lbs)</td>
<td>Total weight of fish released.</td>
</tr>
<tr>
<td>Length (mm, in)</td>
<td>Approximated length of fish released calculated from the average weight</td>
</tr>
<tr>
<td></td>
<td>using the following equation: length(mm) = e^{0.307*LN(wt g)+3.892}.</td>
</tr>
<tr>
<td>Brood Year</td>
<td>Year of egg take for parent fish.</td>
</tr>
</tbody>
</table>
Notes

Miscellaneous stocking specific notes.

Export Format

Excel

Exports data in an .xlsx format. This format will truncate long fields (i.e. directions and potentially some note fields).

XML

Exports data in .xml format. This is a larger file format and will not truncate fields containing long strings of text. This format may take longer to open if you are trying to export large datasets. You will also receive several warnings before the file will open, accept these.

CSV

Exports data in .csv format. This file format is very compact and will export quickly; however, formatting may be off if the dataset you are exporting has commas in it.