

## Fisheries and Wildlife Management Information System (FWMIS) Data Submission Guide

The Government of Alberta's Fish & Wildlife Management Information System (FWMIS) supports the conservation and management of Alberta's wild species and their habitat by providing a standardized data collection, storage, and retrieval system. With a central repository for fisheries and wildlife data, government staff, industry, and the public can access extensive data for fisheries and wildlife management.

### Submitting Data to FWMIS:

1. Select an appropriate FWMIS loadform based on your sampling methodology. The FWMIS Microsoft EXCEL loadforms can be downloaded from the website:
  - <https://www.alberta.ca/fisheries-loadforms.aspx>
  
2. When you've completed entering your data, email electronic copies of the loadform as an attachment to the regional Fish & Wildlife biologist according to the area in which the data was collected for submission to FWMIS:
  - <https://www.alberta.ca/fisheries-and-wildlife-management-contacts.aspx>

### Before You Begin:

The Fish & Wildlife Management Information System (FWMIS) 'reads' the EXCEL loadforms directly. Therefore, the input must conform to certain database rules:

- It is important not to manipulate these loadforms (e.g., delete columns, change headings, change formats etc.).
- It is important not to have blank rows in the loadforms. FWMIS reads the data until it encounters a blank row, then will stop. All subsequent data following a blank row will not be loaded into the database.
- Drop-down menus are indicated by a small arrow on the side of the cell. Only the available choices in the drop-down menus can be used as these are coded into the loading program.
- Help comments can be found embedded within the loadforms by rolling your cursor over the red triangles in the upper right corner of the field names.
- If there are fields that do not apply to your survey, they do not have to be filled in. Grey fields are mandatory for all submissions however.

If you have further questions regarding FWMIS, please contact Lonnie Bilyk or Chad Sherburne, Fish & Wildlife, Alberta Environment and Parks.

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## Enter Project Information In The Project & Reference Info Worksheet

The name and description of the project is entered in the "Project & Reference Info" worksheet.

**Project Name** - Brief name including type of survey, location, and a year.

**Project Description** - Brief summary of one or two sentences including the who, what, where, when, how, and why of the project.

	A	B
1	<b>Project</b>	Last Revision: February 2009
2	* Roll over red triangles in upper-right hand corner of field for more information regarding data entry for that field.	
3	<b>Project Name</b>	<b>Project Description - Who, what, why, where, when.</b>
5	XYZ Resources Company Fisheries Survey on Clear Creek (4-23-55-W4), July 2009	XYZ Resources Company conducted electrofishing and trapnetting in association with a proposed pipeline crossing on Clear Creek (4-23-55-W4), July 2009. FRL 09-1234. Samplers: Barry White, Steward Copeland.
6		
7	<b>Research Licence Number:</b>	09-1234-FR

## Enter Collected Survey Data In The Survey Worksheet

The figures below show the main headings of sections in row 1, with many of the fields pertaining to each section hidden for display purposes.

Wildlife Loadforms:

FWMIS Loadform Sections.xls						
	A	Q	AY	BO	DD	DI
1	<b>Survey Project</b>	<b>Project Location</b>	<b>Count Sample</b>	<b>Individual Sample</b>	<b>Habitat Sample</b>	<b>Feature Sample</b>
2						

Fisheries Loadforms:

FWMIS_Fisheries_Template screenshots.xls				
	A	R	AE	AQ
1	<b>Survey Project</b>	<b>Project Location</b>	<b>Count Sample</b>	<b>Individual Sample (measured fish only)</b>
2			Counts and Individuals are two separate sections and are NOT entered twice. Enter either as a count or a measured individual, not both.	
3				
4				

Only main section headings displayed - other fields hidden to demonstrate sections.

- Survey Project and Project Location sections are mandatory for all surveys.
  - Count, Individual, Habitat, and Feature Sample sections are survey type dependent.
- Count Sample - Enter counts of populations (or individuals not measured, Count = 1).
- Individual Sample - Enter individuals and their measured data.
- Habitat Sample - Enter habitat information.

Fisheries – due to the large number of habitat parameters, please enter habitat data separately on the 'HABITAT' survey sheet found in the FWMIS fisheries loadform.

Feature Sample - Enter information regarding observed features such as burrows, scat, tracks, etc.

Comment fields are available for each section.  
Add any comments that will provide context and additional information.

## Survey Project Section

The Survey Project Section contains information related to a survey.

A Survey line includes:

- Survey Type (e.g. Area search, Electrofishing, etc.)
  - Start Date and End Date of the entire survey
  - Survey Parameter fields specific to that methodology
  - Survey Comment field
  - First and last name(s) of the Surveyor(s) - The surveyors are listed as part of the survey line and are associated with all observations linked to that survey line.
- Fisheries – enter samplers on Project Description sheet or Survey Crew sheet.

Survey lines only need to be entered once for a single survey and they do not need to be repeated.

A survey line (yellow row) only needs to be entered once per survey, it is not necessary to repeat on every row if the information is identical to the row above. FWMIS associates all the data in rows following the survey line with the information in that survey line.

AREASEARCH_survey_exam - screen shots colors.xls																
	A	B	C	L	O	R	T	U	V	Z	AA	AB	AY	AZ	BB	BC
1	<b>Survey Project</b>					<b>Survey Crew</b>				<b>Project Location</b>				<b>Count Sample (record species observed)</b>		
2																
3	<b>Survey Type</b>	<b>Start Date (DD-MMM-YYYY)</b>	<b>End Date (DD-MMM-YYYY)</b>	<b>Survey Comments</b>	<b>Surveyor name(s)</b>	<b>Location Type</b>	<b>Measurement Source</b>	<b>Datum</b>	<b>Precision (m)</b>	<b>UTM Easting</b>	<b>UTM Northing</b>	<b>UTM Ref. Meridian</b>	<b>Sample #</b>	<b>Sample Start Date (DD-MMM-YYYY)</b>	<b>Species Code</b>	<b>Count</b>
5	Area Search	29-Apr-2005	30-Apr-2005	Windy	Roger Smith	Site -SITE	GPS	NAD 83	400	457213	5782225	-111 (Zone 12)	1	29-Apr-2005	STGR	8
6						Site -SITE	GPS	NAD 83	400	457332	5782212	-111 (Zone 12)	2	29-Apr-2005	CAGO	2
7						Site -SITE	GPS	NAD 83	400	457275	5782213	-111 (Zone 12)	3	29-Apr-2005	CAGO	6
8						Site -SITE	GPS	NAD 83	400	459926	5780914	-111 (Zone 12)	4	30-Apr-2005	CAGO	2
9	Area Search	07-Sep-2005	09-Sep-2005		Sue Jones	Site -SITE	GPS	NAD 83	400	459945	5780922	-111 (Zone 12)	1	07-Sep-2005	HOLA	2
10					Roger Smith	Site -SITE	GPS	NAD 83	400	459933	5780924	-111 (Zone 12)	2	08-Sep-2005	VESP	2
11						Site -SITE	GPS	NAD 83	400	459919	5780926	-111 (Zone 12)	3	08-Sep-2005	BBMA	1
12						Site -SITE	GPS	NAD 83	400	459926	5780914	-111 (Zone 12)	4	08-Sep-2005	NOPI	2
13						Site -SITE	GPS	NAD 83	400	459926	5780914	-111 (Zone 12)	5	08-Sep-2005	NOPI	7
14						Site -SITE	GPS	NAD 83	400	459926	5780914	-111 (Zone 12)	6	08-Sep-2005	AMCR	5
15						Site -SITE	GPS	NAD 83	400	459428	5781446	-111 (Zone 12)	7	09-Sep-2005	WEME	4
16																

## Project Location Section

FWMIS is “location based”, therefore accurate locations are a fundamental and mandatory element. FWMIS associates all the data in rows on the same row with that location. If no location is entered for a survey, FWMIS will associate all data with the most previously entered location on the sheet.

Location Type - Specify this location as a SITE (single point), or a BLOCK (area or township), or a TRANSECT (start and end points). Fisheries use SITE for all locations.

Measurement Source - Specify as either GPS or derived from another source such as a map or Alberta Township System (ATS).

Datum (NAD83) - A datum defines how a coordinate system is positioned over the Earth. The origin of the NAD83 system is different than the older NAD27 system, resulting in the same coordinates representing different locations. FWMIS will only accept NAD83.

Precision - Precision is a qualifier of the correctness, estimate of error of the location. For example, heavy tree canopy caused GPS reading to be poor and therefore location precision is +/- 150 m.

For FWMIS purposes, Datum WGS84 can be used interchangeably. Specify NAD83 if using WGS84.

Latitude/Longitude - Latitude and longitude should be in decimal degrees to 6 decimal places.

Data collected in degrees-minutes-seconds should be converted as follows:

degrees + (minutes/60) + (seconds/3600) = decimal degrees

Example: 57° 12' 35.2" → 57 + (12/60) + (35.2/3600) = 57.209778

Longitude is always negative in Alberta.

UTM/TTM Easting/Northing - Please use the NAD83 coordinate system when specifying TM coordinates.

UTM/TTM Reference (Central) Meridian - For UTM coordinates, select '-111' for Zone 12 (east half of Alberta) or '-117' for Zone 11 (west half of Alberta). Please refer to the following page. For TTM coordinates, select '-115', which covers the entire extent of Alberta.

ATS fields - Alberta Township System (ATS) for wildlife surveys only

- <https://www.alberta.ca/recreation-on-public-land.aspx>

Location Type	Measurement Source	Datum	Precision (m)	Latitude	Longitude	UTM Easting	UTM Northing	UTM Ref. Meridian	ATS LSD	ATS Quarter	ATS Section	ATS Township	ATS Range	ATS Meridian
5	Site - GPS	NAD 83	400			457213	5782225	-111						
6	Site - GPS	NAD 83	400			460576	5780371	-111						
7	Site - Derived -			52.345123	-113.987654									
8	Site - Derived -			52.345123	-113.987654									
9	Block - Derived -									SW	23	37	12	4
10	Block - Derived -									SW	23	37	12	4

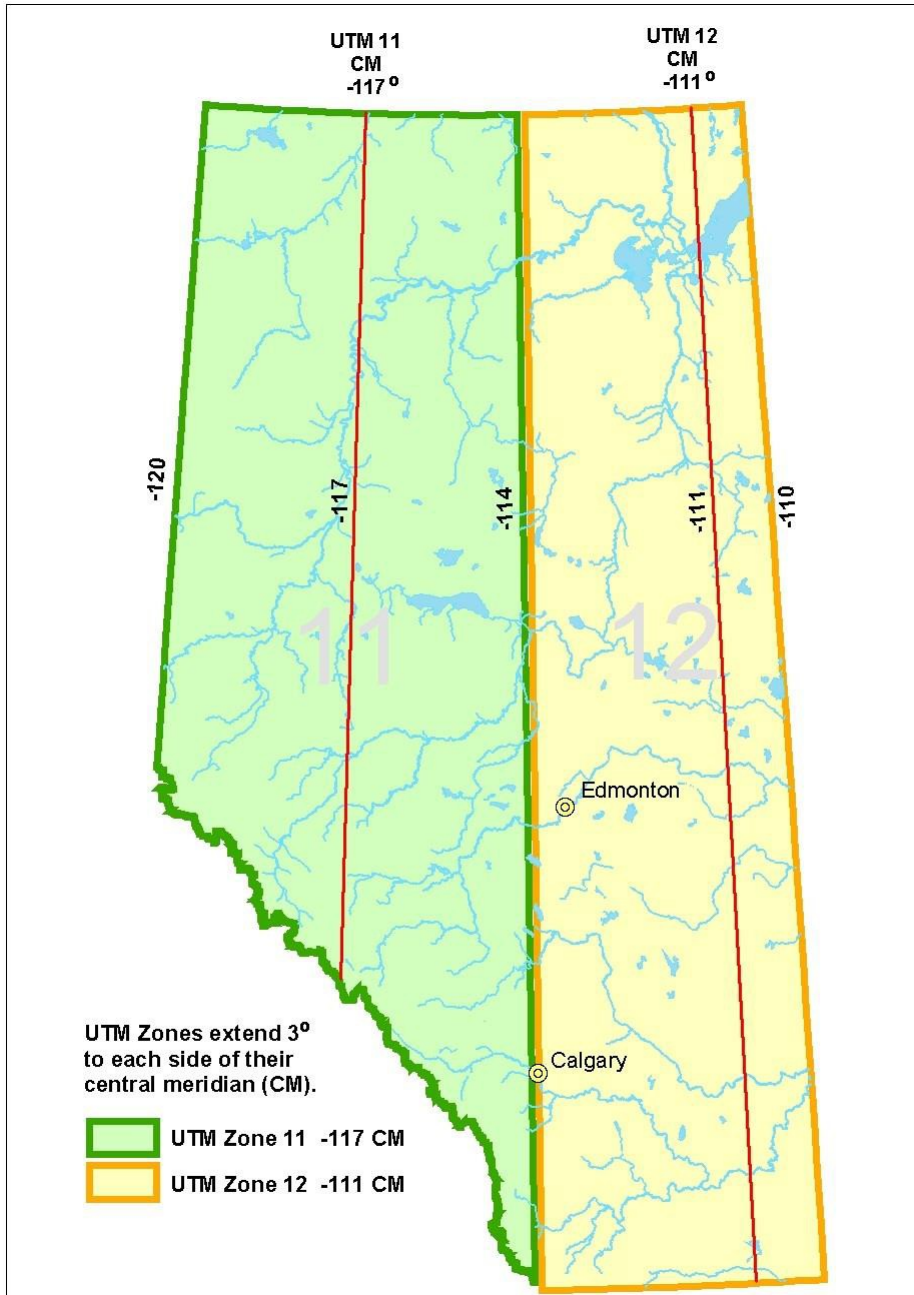
Only one of three location types is required for a survey. ATS is not used for fisheries inventory locations.

UTM Reference (Central) Meridian -111 (UTM Zone 12) or -117 (UTM Zone 11)

The UTM system divides the earth into 60 zones of 6 degrees longitude each.

Alberta is divided into 2 zones with locations to the east in Zone 12 and locations in the west in Zone 11.  
The UTM reference meridians central to these zones are -111 for Zone 12 and -117 for Zone 11.

TTM Reference (Central) Meridian. There is only one TTM zone covering the entire province, the central meridian will always be -115.



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## Location Sheet (Optional)

The Location sheet can be used to minimize and streamline data entry when locations are referenced multiple times.

For example, for a project where numerous surveys are conducted at a single location (i.e. Testnet), that location need only be entered once on the Location sheet. Locations on the Location sheet are provided arbitrary Location numbers (Column A), then referenced by this Location number on all the other survey sheets as many times as required. Locations do not have to be duplicated on the survey sheets. Refer to the Location and Testnet Survey sheets on the FWMIS Fisheries Loadform with Example Data.

## Count Sample Section and Individual Sample Section

The Count Sample section is used when doing counts of populations. The Individual Sample section is used when detailing measurement information related to individuals. Most of the fields for these two sections are similar. To avoid repetition, only the Count Sample section fields will be described.

**Sample #** - Optional field for surveyor assigned sample numbers, i.e., envelope numbers, etc.

**Sample Start Date (Wildlife)** - Observation date, must be between the Survey Start Date and the Survey End Date.

**Species Code** - Designate the species by the 4-letter Species Code in the drop down menu. Refer to the Species Codes reference sheet within the loadform.

**Count (Wildlife)** - The number of species captured, observed, or heard, numeric field. Please place estimated ranges in the Abundance Code field.

**Count (Fisheries)** - The number of fish captured which are not recorded as individuals. Please place estimated ranges in the Abundance Code field.

**Or Abundance Code** - Either the Count or the Abundance Code is completed but not both.

	AY	AZ	BB	BC	BD	BE	BF	BH	BI	BJ	BK	BM	BS
1	Count Sample (record species observed or heard)												Individual Sample #
2													
3	Sample #	Sample Start Date (DD-MMM-YYYY)	Species Code	Count	Or Abundance Code	Age Code	Gender Code	Health Code	Cause Of Death Code	Confidence Level Code	Evidence of Sample Code	Count Sample Comments	Sample #
5	1	29-Apr-2005	HOLA	2		After	M			CONFIRMED	Observed -		
6	2	29-Apr-2005	WEME	2		After	F			CONFIRMED	Observed -		
7	3	29-Apr-2005	BCFR		1-20 -		U			CONFIRMED	Heard -		
8	4	29-Apr-2005	EUST	5		Egg /	U			CONFIRMED	Observed -		

Age Code/Life Stage - The age category of the species, select from drop-down menu.

Sex Code - Specify 'M' for male, 'F' for female, or 'U' for Unknown, select from drop-down menu.

Health Code - Will default to 'Alive and Well' if left blank.

Cause of Death Code - If the Health Code is 'Dead', specify cause of death. Select 'Legal Harvest' for most sampling, unless another code is more applicable.

Confidence Level (Wildlife) - Characterizes the quality of the observation.

Evidence of Sample (Wildlife) - Identify if species was 'Heard' or 'Observed'.

Tagging data (hardware only) – Tagging fields are hidden at the end of the Individual Sample section.

To unhide fields in Excel - Highlight the surrounding columns, right click and select Unhide to display hidden fields.

	AH	AI	AK	AL	AM	AN	AR	AU	AV	AW	
1	Count Sample (record counts only, not measured individuals)						Individual Sample (record measured individuals only)				
2	red here, only fish that are NOT measured are entered into this section.						Unlike FWMIS loadforms, the counts and individuals are in two s				
3	Species Code	Captured Count	Life Stage	Gender	Health Code	Cause Of Death Code	Sample #	Species Code	Life Stage	Gender	M
5	WALLEYE -WALL	1	Adult/Mature -A	U	Alive and Well -ALIVE		3	WALLEYE -WALL	Adult/Mature -A	F	
6							4	WALLEYE -WALL	Juvenile/Immature -J	U	
7	3 WALL captured, 2 WALL measured, 1 WALL escaped net.										
8											

### Habitat Sample Section

Habitat parameters collected in association with any other survey methodology or specifically for a habitat assessment are recorded in this section and are in association with the location which is on the same row. Habitat parameters do NOT have to be associated with the species entered on the same row in the Count or Individual Sections, but is associated with the survey and location.

\*Fisheries – enter habitat data separately on the 'HABITAT' survey sheet.

### Feature Sample Section

Features are stationary signs representing a species use or existence, i.e. tracks, nests, leks, redd, etc. These are not species observations, although all features are associated with a species.

Features can be entered into the loadform and are in association with the location which is on the same row. Features do NOT have to be associated with species entered on the same row in the Count or Individual Sections. Features could be observed on a different date than the species recorded at this location therefore have their own date field.

## Submit to FWMIS by Email

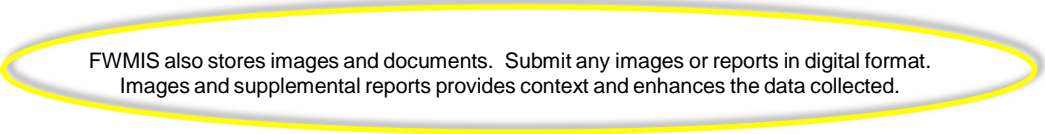
Email the loadform as an attachment to the regional Fish & Wildlife biologist according to the area in which the data was collected or the collection/research license was issued.

View Fish & Wildlife contacts map at:

- <https://www.alberta.ca/fisheries-and-wildlife-management-contacts.aspx>

The standard Government of Alberta email address format is 'FirstName.LastName@gov.ab.ca'.

The Fish & Wildlife Management division of Alberta Environment and Parks maintains the FWMIS database and will complete the 'load' of the Excel worksheet loadforms into FWMIS.



FWMIS also stores images and documents. Submit any images or reports in digital format. Images and supplemental reports provides context and enhances the data collected.

## Contact:

If you have further questions regarding FWMIS, please contact Lonnie Bilyk or Chad Sherburne, Alberta Environment and Parks.

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