

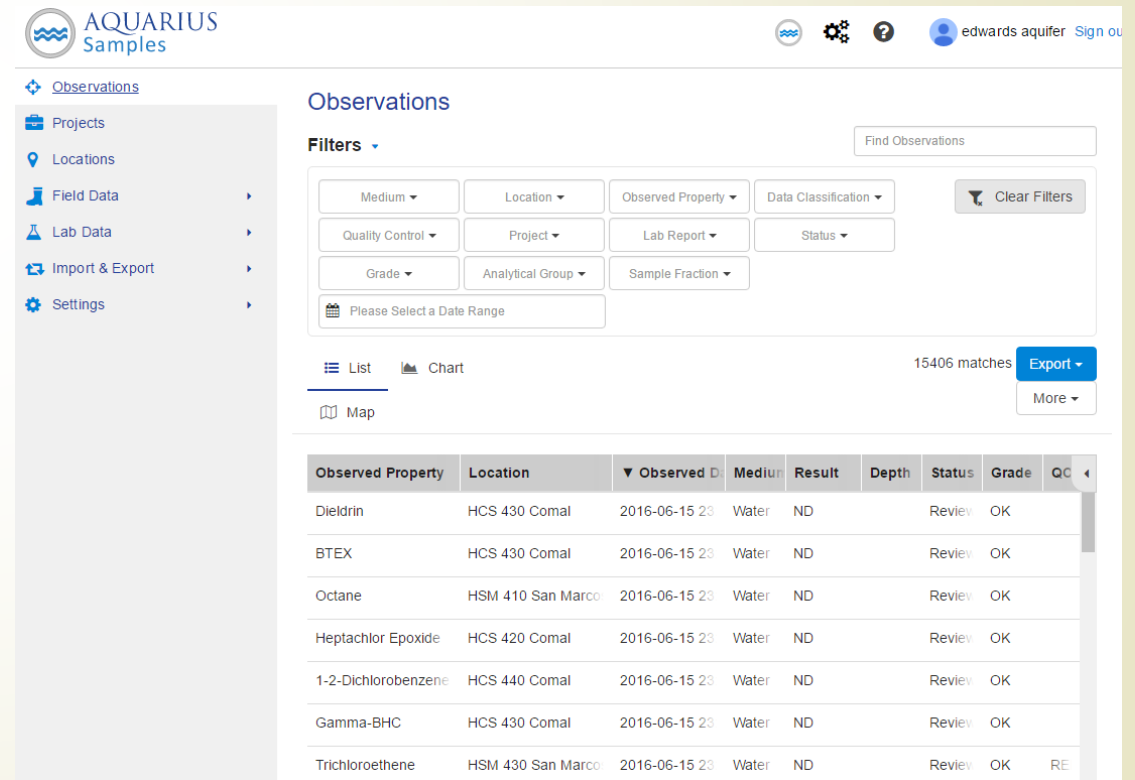


EAHCP Database Overview

Chad Furl Ph.D., Chief Science Officer
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EAHCP Database


- 2016 Applied Research project
- Backbone of 2017 Applied Research Projects
- AQUARIUS SAMPLES database
- AQUATIC Informatics is performing data migration



The screenshot displays the AQUARIUS Samples database interface. The top navigation bar includes the logo, user profile (edwards aquifer), and utility icons. A left sidebar lists navigation options: Observations, Projects, Locations, Field Data, Lab Data, Import & Export, and Settings. The main content area is titled 'Observations' and features a search bar and a 'Filters' section with dropdown menus for Medium, Location, Observed Property, Data Classification, Quality Control, Project, Lab Report, Status, Grade, Analytical Group, and Sample Fraction. Below the filters, there are view options for List, Chart, and Map, and a 'Please Select a Date Range' input. The interface shows 15406 matches and an 'Export' button. A table of observations is displayed below, with columns for Observed Property, Location, Observed Date, Medium, Result, Depth, Status, Grade, and QC.

Observed Property	Location	Observed Date	Medium	Result	Depth	Status	Grade	QC
Dieldrin	HCS 430 Comal	2016-06-15 23	Water	ND		Review	OK	
BTEX	HCS 430 Comal	2016-06-15 23	Water	ND		Review	OK	
Octane	HSM 410 San Marco	2016-06-15 23	Water	ND		Review	OK	
Heptachlor Epoxide	HCS 420 Comal	2016-06-15 23	Water	ND		Review	OK	
1-2-Dichlorobenzene	HCS 440 Comal	2016-06-15 23	Water	ND		Review	OK	
Gamma-BHC	HCS 430 Comal	2016-06-15 23	Water	ND		Review	OK	
Trichloroethene	HSM 430 San Marco	2016-06-15 23	Water	ND		Review	OK	RE

EAHCP Database

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- **Sources:** Biowest (~70%), SWCA, TSU, MCWE, TPWD, USGS, Texas Master Naturalists, and EAA
 - **Data Types:** Hydrological, Chemical, Biological, & Vegetation
 - **File Types:** GIS, LIMS, JPEG, Excel, PDF, and Access Databases

- a_AquaticVegetation
- b_Texas wild-rice mapping
- c_Texas wild-rice physical observations
- d_Fixed station photography
- e_FountainDarter_Dropnet
- f_Fountain Darter dip net
- g_Fountain Darter Visual Observations
- h_Fish Community
- i_Macroinvertebrates
- j_salamanders
- k_Comal invertebrate drift nets
- l_CSRB lure
- m_ComalRiffleBeetle_Quadrat
- n_Predation_Gill Nets
- o_water quality grab samples
- p_Thermistors
- q_Landa Lake flow partitioning
- r_Comal Springs discharge measurements
- s_TexasMasterNaturalist_recreation
- X_SWCA_water_quality
- Y_tabular_aquatic_veg
- Z_Discharge

EAHCP Database

▶ GOALS

- ▶ House Data in AQUARIUS SAMPLES
- ▶ Eliminate as much data processing by outside researchers as possible
- ▶ Organize data enabling relational analyses
- ▶ Organize data for rapid internal desktop analyses



EAHCP Database



▶ PROBLEMS

- ▶ Data consistency - file formats, file naming conventions, value naming conventions, time stamps, units, etc.
- ▶ Data quality – data gaps, different collection/analysis methods, different collection entities, etc.
- ▶ Locations – reach vs point, proximity, coordinates not attached

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a_Aquatic Vegetation > Comal > Old Channel > 2013

- OCR_Crit2013_Veg.shp
- OCR_Crit2013_Veg.shp
- OCR_Crit2013_Veg.shx
- OCR_Fall2013_Bry.dbf
- OCR_Fall2013_Bry.prj
- OCR_Fall2013_Bry.sbn

a_Aquatic Vegetation > Comal > Old Channel > 2011

- OCR_spr11_veg.dbf
- OCR_spr11_veg.prj
- OCR_spr11_veg.sbn
- OCR_spr11_veg.sbx
- OCR_spr11_veg.shp
- OCR_spr11_veg.shp
- OCR_spr11_veg.shx

a_AquaticVegetation > Comal

- OCR_2002_May_ROU_veg
- OCR_2002_Oct_ROU_veg
- OCR_2003_Apr_ROU_veg
- OCR_2003_Aug_ROU_veg
- OCR_2003_Nov_ROU_veg
- OCR_2004_Apr_ROU_veg
- OCR_2004_Oct_ROU_veg
- OCR_2005_Apr_ROU_veg
- OCR_2005_Oct_ROU_veg
- OCR_2006_Apr_ROU_veg
- OCR_2006_Nov_ROU_veg
- OCR_2007_Apr_ROU_veg
- OCR_2007_Oct_ROU_veg
- OCR_2008_Apr_ROU_veg
- OCR_2008_Oct_ROU_veg
- OCR_2009_Apr_ROU_veg
- OCR_2009_Jun_LFL_veg
- OCR_2009_Oct_ROU_veg
- OCR_2010_Apr_ROU_veg
- OCR_2010_Jun_HFL_veg
- OCR_2010_Oct_ROU_veg

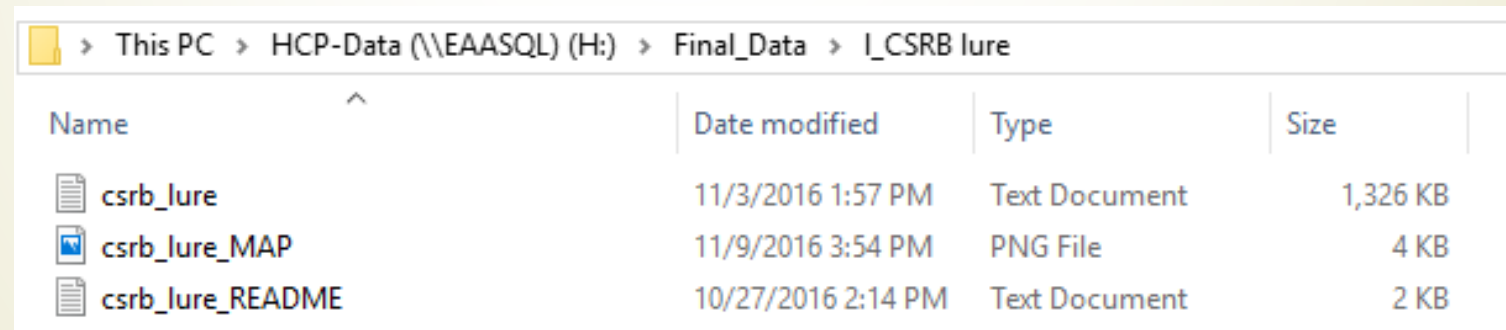
EAHCP Database

Other Veg & coverage	Water Depth (ft)	Substrate
20% Bryophytes within	3	Silt
20% Bryophytes within	1.5	Silt
20% Bryophytes within	3.5	Gravel
20% Bryophytes within	2.6	gravel
20% Bryophytes within	2.8	Silt
20% Bryophytes within	2.2	Gravel
20% Bryophytes within	2	Silt over gravel
20% Bryophytes within	1.65	Silt over gravel
20% Bryophytes within	1.9	Silt over gravel
20% Bryophytes	2.3	Gravel
20% Bryophytes	2.2	Silt over Gravel
20% Bryophytes	3	Silt
20% Bryophytes	2.75	Gravel
20% Bryophytes	2.6	Silt
20% Bryophytes	3.8	Sand
20% Bryophytes	2.55	Gravel
20% Bryophytes	2.2	Gravel
20% Bryophytes	1.1	Gravel
20% Bryophytes	2.8	Gravel
20% Bryo within	2.7	Silt
20% Bryo within	1	Silt
20% Bryo	2.7	Gravel
20% Algae within	1.7	Gravel
20% Algae within	2.7	Silt
20% Algae	3.3	silt over gravel
20% Algae	2.4	Gravel
2% Open	0.9	Silt over gravel
15% Terrestrial vegetation/ 5% Hydrilla	1	Sand
15% Open / 5% Hydrilla	1.8	Silt
15% open	3.2	Gravel
15% Open	2.4	

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► SOLUTION

- Examine each piece of data individually to produce a single consistent format across all data types.
- Retain original “sample type” separation
- GIS and JPEG files named to convey location, date, survey type.
- Access, Excel, LIMS converted to pipe delimited file
- Each “sample type” has a delimited file, README, and map.



The screenshot shows a Windows File Explorer window with the address bar displaying the path: This PC > HCP-Data (\\EAASQL) (H:) > Final_Data > I_CSRB lure. The main area shows a table of files with columns for Name, Date modified, Type, and Size.

Name	Date modified	Type	Size
csrb_lure	11/3/2016 1:57 PM	Text Document	1,326 KB
csrb_lure_MAP	11/9/2016 3:54 PM	PNG File	4 KB
csrb_lure_README	10/27/2016 2:14 PM	Text Document	2 KB

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```
csrb_lure_README - Notepad
File Edit Format View Help

1_CRSB lure

Data are contained in two pipe delimited (|) text files: < csrb_lure >
*****
> csrb_lure.txt < contains the following column headings:

location - site description
date_set - date the lures were set in place
date_collected - date the lures were collected
LureNumber - lure number
comment - field comments
data collector - initials of collector
flow - velocity
flow units - velocity units (meters/sec)
depth set - water depth when the lure was set
depth collect - water depth when the lure was collected
depth unit - depth in units of feet
phylum - insect phylum
sphylum - insect sphylum
class - insect class
sclass - species class
order - insect order
family - insect family
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csrb_lure - Notepad
File Edit Format View Help

location|date_set|date_collected|LureNumber|comment|data_collector|flow|flow.units|depth.set|depth.collect|depth.unit|c
Spring Island|NA|05.01/2004|1|NA|RG|0.02|m/s|NA|1.05|ft|CSRB|arthropoda|crustacea|insecta|NA|coleoptera|elmidae|heterel
Spring Island|NA|05.01/2004|2|NA|RG|0.05|m/s|NA|2.35|ft|CSRB|arthropoda|crustacea|insecta|NA|coleoptera|elmidae|heterel
Spring Island|NA|05.01/2004|3|NA|RG|0.04|m/s|NA|2.65|ft|CSRB|arthropoda|crustacea|insecta|NA|coleoptera|elmidae|heterel
Spring Island|NA|05.01/2004|4|NA|RG|0.04|m/s|NA|2.7|ft|CSRB|arthropoda|crustacea|insecta|NA|coleoptera|elmidae|heterel
Spring Island|NA|05.01/2004|5|NA|RG|0.03|m/s|NA|3.05|ft|CSRB|arthropoda|crustacea|insecta|NA|coleoptera|elmidae|heterel
Spring Island|NA|05.01/2004|6|NA|RG|0.05|m/s|NA|3.2|ft|CSRB|arthropoda|crustacea|insecta|NA|coleoptera|elmidae|heterel
Spring Island|NA|05.01/2004|7|NA|RG|0.02|m/s|NA|3.9|ft|CSRB|arthropoda|crustacea|insecta|NA|coleoptera|elmidae|heterel
Spring Island|NA|05.01/2004|8|NA|RG|0.03|m/s|NA|3.5|ft|CSRB|arthropoda|crustacea|insecta|NA|coleoptera|elmidae|heterel
Spring Island|NA|05.01/2004|9|NA|RG|0.05|m/s|NA|3.1|ft|CSRB|arthropoda|crustacea|insecta|NA|coleoptera|elmidae|heterel
Spring Island|NA|05.01/2004|10|NA|RG|0.03|m/s|NA|3.15|ft|CSRB|arthropoda|crustacea|insecta|NA|coleoptera|elmidae|heterel
```

Current Status

- AI is about 30% done with migration
- Weekly meetings

Folder Name	Format Ready	QAQC PrepUpload	Upload	QAQC SAMPLES	Final Status
a_AquaticVegetation	YES	YES	10/17/2016	11/1/2016	Complete
b_Texas wild-rice mapping	YES	YES	10/17/2016	11/1/2016	Complete
c_Texas wild-rice physical observations	AS IS				
d_Fixed station photography	YES	YES	10/17/2016	11/2/2016	Complete
e_Fountain Darter Drop Net	YES	YES	11/8/2016		
f_Fountain Darter Dip Net	YES				
g_Fountain Darter Visual Observations	YES	YES	11/8/2016		
h_Fish Community					
i_Macroinvertebrates	YES				
j_Salamanders	YES				
k_Comal Invertebrate Drift Nets	YES				
l_Comal Springs riffle beetle lure	YES	YES	10/27/2116	11/3/2016 Not Available	
m_Comal Springs riffle beetle quadrat	YES				
n_Predation Gill Nets	YES				
o_Water quality grab samples	YES	YES	10/21/2016		
p_Thermistors	YES				
q_Landa Lake flow partioning	YES				
r_Comal Springs discharge measurements	YES	YES	10/17/2016	11/2/2016	Complete
s_Texas master naturalists data	YES	YES	10/17/2016	11/3/2016 Not Available	
t_Standard Operating Procedures	YES				
u_Annual reports	YES				
SWCA water quality-Sed, Storm, Surf	YES	YES	10/21/2016		