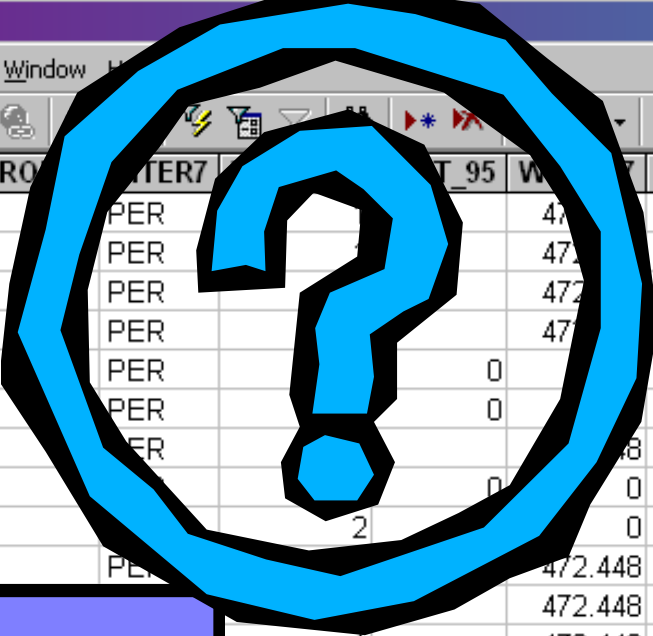


Data – You Collected it, Now What?

Microsoft Access - [kshabmet : Table]

File Edit View Insert Format Records Tools Window Help



ORDER	RCH_TYP	WGT_94	YEAR	YEARO	ENTER7	T_95	W	LON_DD	LAT_DD	STORET	STRMNAME
4	R	944.896	1994	1994	PER	47	47	98.21396	37.02776	009451	SANDY CREEK
4	R	944.896	1994	1994	PER	47	47	99.03509	37.25825	009452	MULE CREEK
5	R	944.896	1994	1994	PER	47	47	100.32942	37.09121	009453	CROOKED CRE
4	R	944.896	1994	1994	PER	47	47	102.03529	39.66573	009454	SOUTH FORK,
4	R		1995	1994	PER	0	0	102.03361	39.66694	009604	SOUTH FORK,
4	R		1995	1994	PER	0	0	102.03361	39.66667	009637	SOUTH FORK,
3	R	944.896	1994	1994	PER	8	8	101.91706	38.9293	009455	WILLOW CREE
3	R		1995	1994		0	0	101.91528	38.92944	009603	WILLOW CREE
3	R		1995	1994		2	2	101.91528	38.92944	009638	WILLOW CREE
2	R	944.896	1994	1994	PER	472.448	472.448	100.62553	38.9396	009456	SOUTH BRANC
8	R					472.448	472.448	99.94801	38.78248	009457	SMOKY HILL R
4	R					472.448	472.448	99.21479	39.74709	009458	BIG CREEK (A)
1	R					472.448	472.448	99.0417	39.29661	009459	MEDICINE CRE
4	R					472.448	472.448	99.40829	39.37187	009460	LOST CREEK
5	R					472.448	472.448	99.26576	38.81868	009461	BIG CREEK (B)
2	R					472.448	472.448	98.73764	38.93855	009462	UNNAMED TRI

Record: 14

Datasheet View

NUM



Data Management

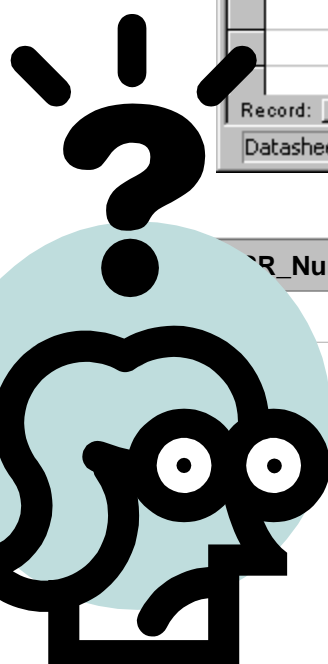
Microsoft Access - [original fishref : Table]

File Edit View Insert Format Records Tools Window Help

ID	Uniq_ID	storet	visit_no	seg_id	siter7	lon_dd	lat_dd	mdc_code	count
2	20051-02	2005	1	10240013 4185	ref	-94.896717	40.213928	431	2
3	20051-02	2005	1	10240013 4185	ref	-94.896717	40.213928	90	3
4	20051-02	2005	1	10240013 4185	ref	-94.896717	40.213928	406	7
5	20051-02	2005	1	10240013 4185	ref	-94.896717	40.213928	424	30
6	20051-02	2005	1	10240013 4185	ref	-94.896717	40.213928	240	2
7	20051-02	2005	1	10240013 4185	ref	-94.896717	40.213928	235	4
8	20051-02	2005	1	10240013 4185	ref	-94.896717	40.213928	49	6
9	20051-02	2005	1	10240013 4185	ref	-94.896717	40.213928	96	2

Record: 2 of 644

Datasheet View



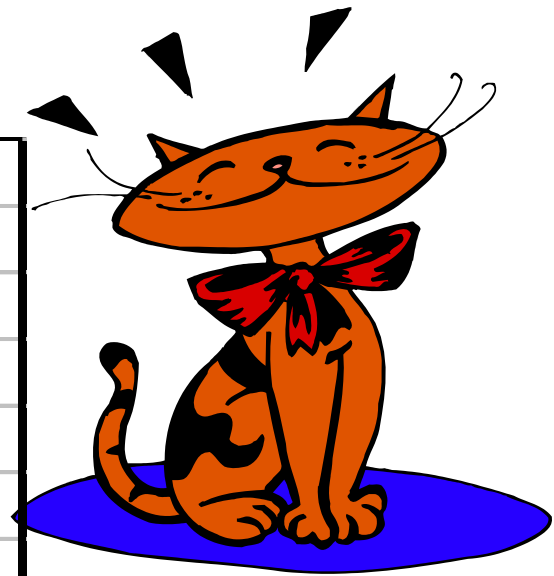
SR_Number	Sample_Number	QC_Code	Analysis_Request_No	External_Sample_Number	Start_Date
1383	892	—	1		08-Aug-2002
1383	902	—	1		08-Aug-2002
1383	912	—	1		08-Aug-2002

Site#	Date	H2O Temperature	Conductance	Turbidity
KRS-031	05-Sep-2001	23.7	380	19
KRS-030	28-Aug-2001	21.1	1172	25
KRS-029	22-Aug-2001	25.5	395	14

METADATA!

**Information describing data
content, context, quality,
structure and accessibility
(Michener 2000).**

description	Stream chemistry in Kansas
creator	Don Huggins
contact	Debbie Baker
keywords	Kansas, wadeable streams, nutrients...
dates	1999 - 2002
methods	Horiba used to measure parameters...
fields	H ₂ O temperature = water temperature
units	degrees Celsius



Software

- **Spreadsheets**
 - MS Excel
 - Simple datasets
 - Difficult to manipulate
- **Databases**
 - MS Access
 - Learning curve
 - Almost unlimited data manipulations
 - Captures metadata
 - Self check for errors

Analytical tools

- **Beware of pointing and clicking without knowing the purpose of the analysis.**
- **<http://www.statsoft.com/textbook/>**
- **MS Excel**
 - Cheap
 - Graphics
 - Basic stats
- **Statistical software**
 - \$\$\$
 - **NCSS.com**
 - **Systat.com**



Quality Assurance, Quality Control

- **Quality Assurance**

- **Are you doing the right thing?**

- **An integrated system of management activities to ensure that the service is of the type and quality needed and expected by the user.**

- **Quality Control**

- **Are you doing the thing right?**

- **The overall system of technical activities that compares performance against defined standards.**

Quality Assurance

- **Plan – Quality Assurance Project Plan**
- **Evaluate - Audits**

- **What type of chemical analysis is needed?**
- **How to ensure that the crew is collecting samples the correct way?**

Quality Control

- **Compare methods to a standard.**
- **Calibrate equipment.**



Right Thing

Right Way

First Time