Implementation of Wetland Health Assessment Monitoring Programs



Compiled by:

The Oklahoma Conservation Commission Water Quality Division

As required by: 2001 104(b)(3) CD986749-01-0, Project 4 OCC #563

> September 2006 Draft Final Report

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Task 1: Volunteer Training

- Detailed workplan
- Training materials (sent 6/3/06)
- List of attendees

WORKPLAN

Agency: Oklahoma Conservation Commission

in cooperation with

Oklahoma's 88 Conservation Districts Oklahoma Water Resources Board Oklahoma's Wetland Working Group

Title: Implementation of Wetland Health Assessment Monitoring Programs

Background:

By conservative estimates, wetland acreage in Oklahoma has decreased by approximately sixty-seven percent over the past two hundred years. Furthermore, additional ecological stresses, such as nutrient enrichment and altered hydrologic regimes, play an ever increasing role in the ecological health of existing wetlands. Since the restoration of 1.9 million wetland acres is not currently feasible, proper conservation and protection efforts of existing wetland resources is essential. Moreover, data pertaining to the ecological health of these wetland systems is equally important. Ecological health addresses issues more complex than simple chemical or biological assessments, but rather attempts to monitor the ability of the system to properly function in a sustainable manner.

In the Fiscal Year 2001 EPA Region 6 104(b)(3) wetlands grants solicitation notice, the continuation and implementation of wetland protection programs designed to assess and monitor wetland health is listed as a priority. The Wetland Health Assessment Monitoring (WHAM) program was developed by The University of Oklahoma Environmental Science program and the Oklahoma Water Resources Board, with funding from EPA. The WHAM volunteering monitoring program established protocols to evaluate and protect the ecological health of wetland ecosystems, by providing baseline environmental data on water quality, wildlife, vegetation, groundwater, surface water and soils. However, emphasis can be placed on attributes of specific wetland types (i.e., playa lakes, marshes, cypress swamps) or needs (i.e., endangered species identification).

The implementation of WHAM not only provides wetland scientists valuable data pertaining to the ecological health of critical wetland habitat, but also serves as a means to educate the public about wetland resources. One of the goals of WHAM is to promote the awareness, appreciation, knowledge and stewardship of wetlands within their community. By instilling a conservation ethic within those involved and establishing "ownership" over local wetlands, wetland conservation is broadened within the public.

Project Goals:

The goal of WHAM implementation is two-fold. First, to provide an abundance of quality environmental data assessing the health of critical wetlands in Oklahoma. Second, to encourage a wetland conservation ethic within local communities through education and volunteer monitoring efforts.

Project Objectives:

- 1. To develop and maintain a database of detailed environmental data on the ecological health of critical wetlands within Oklahoma.
- 2. Train environmentally minded citizens to monitor the ecological health of wetland habitats in their local communities.

Coordination with Oklahoma's Comprehensive Wetlands Conservation Plan Objectives:

Objective 4: To characterize the wetlands resource more completely and identify the critical functions of the major wetland types of Oklahoma wetlands.

Objective 7: To develop information/education programs on Oklahoma's wetlands resources.

Measures of Success:

- 1. Establishment of at least 5 volunteer monitoring groups within Oklahoma County.
- 2. Development of database containing data pertinent to the ecological health of wetland resources in urban areas of Oklahoma.

Workplan:

Task 1: Annual training of volunteer groups and program oversight. This will ensure that data provided by the volunteers is high quality, provide the necessary supplies to complete the monitoring procedures and allow project oversight by Commission staff. This will include the development and approval of a Quality Assurance Project Plan prior to the collection and data.

Milestone Date: August 2003

Deliverable: Pre- and post training test and a listing of attendees

Cost: \$37,177 (\$27,883 Federal)

Justification: By providing proper training of volunteers, the Conservation Commission can ensure the quality of the data collected by volunteer groups. Training should occur on an annual basis for two reasons. First, due to the dynamic nature of many volunteer groups, annual training will provide consistency in data collection procedures, methods and techniques. Second, since many of these volunteers are not fully trained scientists, annual training will provide a "refresher course" in wetland science.

Task 2: Database management by the Oklahoma Water Resources Board will ensure quality control and assess trends in wetland health. Data will be delivered from volunteer groups to the Commission via the internet, making the learning experience more interactive.

Milestone Date: October 2004

Deliverable: Raw and summarized data collected over the project duration.

Cost: \$11,421 (\$8,566 Federal)

Task 3: On-site wetland education emphasizing the need to conserve wetland ecosystems. This will accomplished by providing at least 3 WOW! (Wonders of Wetlands) workshops.

Milestone Date: January 2002 – July 2004

Deliverable: Letter report identifying agenda, curriculum, location and attendees.

Cost: \$12,054 (\$9,040 Federal)

Task 4: Final Report

Milestone Date: October 2004

Deliverable: Final report emphasizing the "how to" aspects of implementing a volunteer monitoring

program for wetlands.

Cost: \$3,720 (\$2,790 Federal)

Resource Allocation:

State \$16,093 Federal \$48,279 Total \$64,372

Budget Categories:

	Federal	State	Total
Personnel	\$26,150	\$8,717	\$34,867
Fringe Benefits	\$5,099	\$1,700	\$6,799
Equipment	\$0	\$0	\$0
Travel	\$2,200	\$733	\$2,933
Supplies	\$5,600	\$1,867	\$7,467
Contracting	\$4,000	\$1,333	\$5,333
Total Direct Charges	\$43,049	\$14,350	\$57,399
Indirect Charges @ 20%	\$5,230	\$1,743	\$6,973
Total	\$48,279	\$16,093	\$64,372

Personnel:

Personnel	Years	Cost
Executive Director	0.025	\$1,550
Assistant Director	0.025	\$1,500
District Operations Director	0.03	\$1,740
Assistant District Operation Dir.	0.035	\$1,680
Administrative Officer	0.03	\$1,440
Wetlands Program Coordinator	0.69	\$22,250
Project Wet Coordinator	0.13	\$3,900
Administrative Assistant	0.03	\$807
Total		\$34,867

Supplies:

	Cost
Office Supplies (paper, pen, etc)	\$600
Resource Materials	\$2,255
Sampling Equipment	\$3,000
Waders, boots, camera, etc.	\$1,612
Total	\$7,467

TRAINING MATERIALS

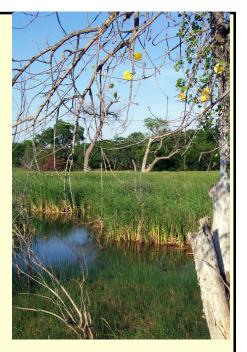
Blue Thumb Wetland Training and Volunteer Workshop

Get involved in protecting your local wetlands! This volunteer training/workshop will provide information concerning wetland:

Water chemistry monitoring
Plant inventories
Important wetland animals and their calls
Photo documentation

This training/workshop is designed for people who can make a commitment for monthly wetland monitoring for at least 12 months. This activity is perfect for: families conservation professionals 4-H groups and scouts retired people science clubs biology classes

No former monitoring experience is required. Learn what you need to know and receive a test kit at the workshop



The Wetland Volunteer Training/Workshop is sponsored by the Oklahoma Conservation Commission's Wetland Program and Blue Thumb Water Pollution Education Program.

Participants pay no workshop fees

Overnight lodging is covered through a wetlands grant

Most meals are provided

Participants leave the workshop with test kits and tools for monitoring/documentation

Wetland teams are eligible to receive a funding stipend to cover additional materials for the purpose of monitoring/learning more about wetlands

Workshop is limited to first 25 who register

For more information, please contact: Cheryl Cheadle at 918-280-1598 or Chris Dubois at 405-522-4733. News Release 8/26/04

Statewide Volunteer Wetlands Monitoring Training Offered Contact: Chris DuBois, Oklahoma Conservation Commission, 405-522-4733

Oklahoma's wetlands are a remarkable resource, and now these swamps, bogs, marshes and sloughs are the target of a new volunteer monitoring effort. A two-day course called "Wetland Training and Volunteer Workshop" is being offered through the Oklahoma Conservation Commission's Wetlands Program and Blue Thumb Water Pollution Education Program.

The course is being held at OSU Okmulgee on October 16 and 17, 2004, a Saturday and Sunday. Participating in these two days will provide volunteers with the information and tools they need to begin wetland monitoring. Wetlands Program Coordinator Chris DuBois said, "We have the funding through a grant to cover lodging and most food costs for participants. We hope to get people from across the state," DuBois added that the course will run from 10:00 a.m. until 8:00 p.m. on Saturday, and from 8:30 a.m. until 4:00 p.m. on Sunday.

"Like with current Blue Thumb stream monitoring, volunteers will receive test kits and training on how to use them. Because wetlands will be the target, additional activities will go along with chemical monitoring, like plant identification, listening to amphibian calls, and photo documentation," DuBois explained. "It may sound involved," DuBois added "but it is work that volunteers are very capable of doing."

Volunteers are being sought from an array of backgrounds. Conservation professionals, school groups, 4-H clubs, even "families with wetlands on their property" can make excellent citizen monitors, DuBois stated. In addition to receiving training and test kits, monitoring groups can apply for a stipend that will provide additional monitoring materials, like plant identification books, waders, binoculars, and other supplies.

DuBois said that groups are asked to monitor their wetland sites monthly over the course of a year. "All volunteer groups will have help their first time on site, no matter where they are from, and where their wetland area is located," DuBois assured. To learn more about the Wetland Training and Volunteer Workshop, contact Chris DuBois at 405-522-4733.

Blue Thumb Wetland Training & Volunteer Workshop

October 16 & 17, 2004 OSU Okmulgee

Agenda (Saturday):

10:00 a.m.	Arrival/registration
10:30	Introduction to Wetland Training/Welcome
11:15	Oklahoma's Wetland Program/Volunteer Training Goals
11:45	Oklahoma's Wetlands – Functions and Values
12:30	***Lunch***
1:15 p.m.	Watersheds
2:15	***Break***
2:30	Wetland Tour
	Plant ID; Sounds of Wetlands; Photo Documentation; On site Monitoring
	Introduction; Observations; Transects; Wetland Soils
6:00	***Dinner***
7:00	"The Call of the Wild" (frogs)
7:30	Wetland Plants
8:00	Discussion of Chemical Monitoring

(Sunday)

8:00 a.m.	Breakfast on the Bus
8:30	Wetland Hike & Quizzes (Look and Listen)
10:30	Chemical Testing Training
12:00	***_unch***
12:45	Monitoring Continued
3:00	Monitoring Clean up
4:00	Distribution of Test Kits/Materials & Planning of Practice Sessions
4:30	Graduation

Blue Thumb Wetland

Volunteer Responsibilities

The Blue Thumb Program is unique in that volunteers are especially well-trained and they participate in both monitoring and water pollution prevention educational activities.

As a Blue Thumb Wetland Volunteer, you will be expected to:

- Complete the Wetland Training
- Perform monthly monitoring (2 to 4 hours)
- Complete and mail data sheets in a timely manner
- Attend Quality Assurance Session at least twice a year

Optional Activities:

- > Assist with aquatic macroinvertebrate collections and subsampling
- > Attend Quality Assurance sessions* quarterly
- Visit local schools and organizations with information about your monitoring activities and water protection

*Quality Assurance sessions are held quarterly for Blue Thumb stream teams. Wetland monitors are asked to attend these sessions in your area, and an additional quality assurance session will be held with you on your site next spring. QA sessions are valuable because: you get the chance to converse with other volunteers; information pertinent to monitoring is often provided; you can check yourself for accuracy in chemical testing; and you can replenish your reagent supply.

LIST OF ATTENDEES

Blue Thumb Volunteer Wetland Monitors

	LAST				
FIRST NAME	NAME	CITY	STATE	PHONE	E-MAIL
AUSMUS	AMBER	BUTLER	OK	580-664-2205	AMBER_AUSMUS@FWS.GOV
BOGLE	CHRIS	WARR ACRES	OK		CBOG34@YAHOO.COM
BONZON	MIDGE	OKC	OK	405-596-5960	MIDGE BONZON@YAHOO.COM
DAY	STACEY	SHAWNEE	OK	405-878-6809	STACEYBDAY@YAHOO.COM
EDEN	SUSIE	PARK HILL	OK	918-453-0405	
EDEN	BETTY	PARK HILL	OK	918-453-0405	BLUEFAERIE07@STORIES.COM
EDEN	SAM	PARK HILL	OK	918-453-0405	
EDGE	CHANCE	BETHANY	OK	405-209-4727	CEDGE@MAIL.SNU.EDU
FELL	GLEN	BETHANY	OK	405-491-6640	GFELL@SNU.EDU
GOODALL	TODD	CHEYENNE	OK		
HARRIS	WILMA	SKIATOOK	OK	918-396-2145	DEWILM@OKLAHOMA.NET
HAYWOOD	SCOTT	KAW CITY	OK	580-269-2552	SHAYWOOD@KAWNATION.COM
KELLER	SHAWN	KAW CITY	OK	580-269-2552	SKELLER@KAWNATION.COM
LANDON	BETH	OKC	OK	405-787-7579	SABREI@IONET.NET
MATHEWS	CAROLYN	GLENPOOL	OK	918-322-6009	CARE2USE@AOL.COM
NAVESKY	ANDREA	EDMOND	OK	405-922-1389	
RADTKE	AMY	NOBLE	OK	405-872-7982	ARADTKE@NOMAN.KLZ
ROWELL	GARY	TULSA	OK	918-252-5896	
SANCHEZ	JEFF	VIAN	OK	918-773-5251	JEFF SANCHEZ@FWS.GOV
SCHAAL	STEVE	TULSA	OK	918-591-4391	SSCHAAL@CI.TULSA.OK.US
STALLBURG	CHAD	OKC	OK	580-497-3413	CROTALUS H@HOTMAIL.COM

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Task 2: Database Management

• Raw and summarized data collected

Since this grant was obtained through OCC and the implementation was performed by OCC staff, the database management was conducted through OCC rather than OWRB as originally stated in the workplan.

Blue Thumb Wetlands Data Sheet

Site	e Name:		
Leç	gal/County:	Date (Mo/Dy/Yr):	
Lat/Long:		Site Time (Military):	
Sa	implers:		
Wi	ildlife And Amphibian Observations:	Circle <i>all</i> that apply; discuss in comments:	-
Wil	ildlife:	Amphibians:	
1	Skins	1 See Bullfrogs	
2	Feathers	2 Hear Bullfrogs	
3	Tracks/Prints	3 See or hear any other	
4	Shells	species of frogs, toads,	
5	Dead Animals	or salamanders	
6	Burrows		

Feeding Evidence (fur, bones, scat, feathers strewn about)

7

Wildlife Name	Quantity	Dead/Alive

Site Conditions: Circle one item from each column. Data is important for future verification. Do not monitor if lightning is occurring.

WEATHER WIND SPEED WIND DIRECTION 1 Fair Skies (From which wind is blowing) Calm (<1 mph) 2 Overcast Light air; smoke drift (1-3 mph) 3 Haze 3 Light breeze; felt on face (4-NW NE 4 Fog 5 Drizzle Leaves/ twigs move (8-12mph) 6 Intermittent Rain 5 Branches move (13-18mph) W 7 Rain 6 Small trees sway (19-24 mph) 8 Heavy Rain 7 Large branches sway (25-31 Snow/Sleet/Ice SW 8 Hard to walk (32-38 mph)

breaking/roofing flying/trees

Other (branches

uprooted)

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Temperature: Always measure air tempera	ature first. Measure both for 2 minutes.
Air:°C Water:°C (Put	bulb 15 cm below surface. Read while still in water.)
Assessing Surrounding Land Use: Circle Human Impacts (land uses):	all that apply; discuss in comments: Signs Of Degradation:
1 Undisturbed natural vegetation 2 Residential housing 3 Construction site 4 Agriculture, grazing, crop cultivation 5 Commercial development (offices) 6 Industrial development 7 Railroads 8 Sewage treatment 9 Park, recreation area 10 Oil, gas drilling 11 Open fields	 Soil, gravel, vegetation Dumping Man-made materials/trash Dumping Grading (topsoil removal) Water draining <i>Out</i> of wetland Water draining <i>Into</i> wetland (pipes, parking lots, industrial type buildings) Water channeling (trenches, ditches) All terrain vehicle/tire tracks Livestock usage (look for prints) Silt, sandy, or gravel deposits (runoff) Stream bank erosion Dredging (soil removal, channel digging)
Hydrology Assessment: Staff Gauge: Staff measurementcm Crest measurementcm	Groundwater Sampler: **subtract measurement from well depth Well depth (pipe top to ground) =cm Distance from pipe top to water =cm Groundwater depth =cm
Comments:	
Dissolved Oxygen Test	

RANGE	COMMENTS	READING	CALCULATION S	mg/L D.O.
High - use this most of the time.	Count drops of sodium thiosulfate to bring about color change from yellow (or blue) to colorless. Don't go beyond.	No Blank 1 2	None. Each drop = 1 mg/L of dissolved oxygen.	1mg/L 2mg/L
Low - switch to this if reading is less than 3	Pour off contents to 30 ml. Each drop = 0.2 mg/L D.O.	No Blank 1 2	Multiply # drops by 0.2.	1mg/L 2mg/L

Note: This test is the reason you must try to monitor in the a.m. at the same time each month. Do this test before carrying remainder of sample indoors to complete other tests.

pH Test:

No Dionic	ا ام	2 51
No Blank	1 PП	∠ p⊓

Nitrate Nitrogen Test:

RANGE	COMMENTS	READING	CALCULATION	mg/L N
Low: 0-1 mg/L N read directly on wheel.	Use 5.0 ml of sample: the line just below frosted part of test tube.	Blank 1 2	None.	Blank mg/L 1 mg/L 2 mg/L
Mid: 1-5 mg/L N	Use the dropper to get a 1.0 ml sample.	Blank 1 2	Multiply by 5.	Blank mg/L 1 mg/L 2 mg/L

Note: For mid-range test, bring sample up to 5 ml level by adding deionized rinse water.

Ammonia Nitrogen Test:

	0.0 - 0.2 mg/L NH ₃ -N	0.2 - 0.4 mg/L NH ₃ -N	0.4 - 0.6 mg/L NH ₃ -N	0.6 - 0.8 mg/L NH ₃ -N	0.8 - 1.0 mg/L NH ₃ -N
Blank					
1.					
2.					

Note: Match the color of the sample to the color on the cube and check your result above.

Orthophosphate Phosphorus Test:

RANGE	COMMENTS	READING	CALCULATION	mg/L P
Low: 0 - 1 mg/L PO ₄ 0 - 0.33 mg/L P	Use mirror and no caps.	Blank 1 2	Divide by 150. (See below)	Blank mg/L 1 mg/L 2 mg/L
Mid: 0 - 5 mg/L PO ₄ 0 - 1.67 mg/L P	Read directly through the sample. Do not use the mirror.	Blank 1 2	Divide by 30.	Blank mg/L 1 mg/L 2 mg/L

Notes: Use one packet per test. Read after 8 minutes.

1/150 = 0.007	5/150 = 0.033	9/150 = 0.06	13/150 = 0.087	17/150 = 0.113
2/150 = 0.013	6/150 = 0.04	10/150 = 0.067	14/150 = 0.093	18/150 = 0.12
3/150 = 0.02	7/150 = 0.047	11/150 = 0.073	15/150 = 0.10	19/150 = 0.127
4/150 = 0.027	8/150 = 0.053	12/150 = 0.08	16/150 = 0.107	20/150 = 0.133

Rinse Procedures:

- Before blank test:
 - Rinse twice with deionized water.
- After blank test:
 - Rinse 3X with deionized water.
- B. Before 1st sample test:
 - Rinse twice with sample water
- 4. After 1st sample test:
 - Rinse twice with sample water.
 - Rinse twice with deionized water.
 - Rinse twice with sample water.
- 5. After last test:
 - Rinse twice with sample water.
 - Rinse twice with deionized water.

Rules for Monitoring:

- 1. Dissolved Oxygen is done on site.
- 2. Always run blanks using deionized water.
- 3. Use sample water in the comparator tubes.
- 4. Fill in raw data and calculated data.
- 5. Rinse, rinse, rinse. We've learned the hard way that a bit of residue left from a previous test will alter the results.
- 6. Achieve repeatability.
- 7. Deliver the data sheet to the Statewide Blue Thumb Office in Tulsa.
- Wash all equipment in the lab detergent provided. Rinse 3X in hot tap water. Rinse 3X with deionized water.
 Allow equipment to air dry. Put equipment away. Store in temperature controlled environment out of the reach of children.

For help or information call: Jean Lemmon or Cheryl Cheadle (918) 280-1598 Chris DuBois (405) 522-4733 Kim Shaw (405) 522-4738

Blue Thumb Wetlands Sketch Sheet

Site Name:	
Legal/County:	
Lat/Long:	
Artist:	
Legend:	
Estimated Wetland Size:	
1 <1 acre (the size of 1 football field is about 1 acre)	
2 acres	
NOTES:	

Blue Thumb Wetlands Photopoint Identification Sheet

Site Name:			
Legal/County:		Lat/Long:	
Site Time (Military):	Samplers:		
	numbers legible! As a s **USE A SHARPIE MAR	uggestion, write your numbers	like this: 1 2
(I) 1 1 1 1 1 1 1 C	C + C + 1	D	1: 11 1
the camera can read it clearly	.)	Put your site number above in	big black numbers so
(Put the heading of your photo heading hea	ere. For example, when fac rly.)	sing directly left, if your compass re	eads northeast 35
(Put the date above using das write clearly, you're going to		s, 2004, you should write 11-18 erence later!)	8-04 above. Be sure to

Blue Thumb Wetlands Soil Sheet

Site Name:					
_egal/County:			D	ate (Mo/Dy/Yr):	
_at/Long:	Si	te Time (Militar	y):		
Samplers:				•	
Assess soil conditions at every 100 ft.) and working toward to			GINNING with	the UPLAND st	arting point
		100 ft.	50 ft.	0 ft.	
Sulfur Smell	15 cm	Yes or No	Yes or No	Yes or No	
	30 cm	Yes or No	Yes or No	Yes or No	
	45 cm	Yes or No	Yes or No	Yes or No	
Mottles	1 <i>E</i> om	Voc or No	Voc or No	Voc or No	
Wottles	15 cm 30 cm	Yes or No Yes or No	Yes or No Yes or No	Yes or No Yes or No	
	45 cm	Yes or No	Yes or No	Yes or No	
Soil Color	15 cm				
	30 cm				
Cirale either Ves or N	45 cm				

Circle either Yes or No for sulfur smell and mottles at each site along the transect and at each depth.

	100 ft.	50 ft.	0 ft.
Muck Layer	Yes or No	Yes or No	Yes or No
**standing water depth			

When you reach STANDING WATER, skip soil assessment and record if there is a Muck Layer. **Write down depth of the standing water

Bottom of Hole:

		100 ft.	50 ft.	0 ft.
Standing Water Depth	15 cm			
	30 cm			
	45 cm			

Soil Surface to Groundwater Depth	15 cm		
	30 cm		
	45 cm		

Blue Thumb Wetlands Vegetation Sheet

Site Name:	•
Legal/County:	Date (Mo/Dy/Yr):
Lat/Long:	Site Time (Military):
Samplers:	

	Transect #1									Trans	ect #2	2				
	M	М	М	М	М	М	М	М	М	М	М	М	М	М	М	М
Tree/Forest Species:																
Green Ash																
Silver Maple																
Hackberry																
Scrub Shrub Species:																
Buttonbush																
False Indigo																
Black Willow																
Emergent Species:																
Cattail																
American Bulrush																
Spikerush																
Floating/Submergent Species:																
Duckweed																
Pondweed																
Coontail																
Invasive Species:																
Purple Loosestrife																



Blue Thumb Wetland Meeting Reminder!!!!!

I hope everyone had a nice Thanksgiving. During the holiday season work can sometimes get pushed aside, but this is to remind you of the Wetland Volunteer Meeting:

<u>Date</u>: Friday, December 16th
<u>Time</u>: 6pm to around 830pm
<u>Place</u>: Agriculture Building in OKC
(see below directions)

As I mentioned in the November Blue Thumb Newsletter I sent to you, please come prepared with your thoughts, comments, ideas on how we could improve the program, monitoring, datasheets, etc. *Make sure and bring your test kits with you because you will need them all for the quality assurance. Reagents will be restocked at this time as well. We will have a brief discussion covering the general aspects of all the wetlands being monitored and show off some of the photopoint pictures you have taken. A very important topic we will cover is using your knowledge on how to educate the public in your area about wetlands and the work you have done. So please think about different newsletters, papers, public documents, etc. in your area that the people read where an article could be posted to inform the public on wetlands. If you have any questions please contact me: office (405)522-4738 cell (405)627-3787. Otherwise I will see you on Friday, December 16th at 6pm.

The Agriculture Building: 2800 N. Lincoln Blvd., Oklahoma City

From I-40 take I-235 North. Exit onto Lincoln Blvd. and go North. Follow Lincoln Blvd. around the State Capital. At the stoplights on Lincoln Blvd. and NE 28th St. turn right and then take your immediate right into the parking lot of the Agriculture building. Park out front of the main entrance (south side of the building) and I will be there to greet you since I think they lock the doors before 6pm.



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Oklahoma Blue Thumb Quality Assurance Session December, 2005

		Name	
Wetland Site, County			
рН		NO ₂ -N	mg/L
DO		NO ₃ -N	mg/L
NH ₃ -N	mg/L	PO ₄ -P	mg/L
Air Temp.	°C	Water Temp.	$^{\circ}\!\mathrm{C}$



Blue Thumb Wetland Monitoring

Quality Control Assessment

Name:			Date:
1.	Why are bad data	worse than no data at all?	
2.	Should you rely of the monitoring sec		n data and observations as you go along through
3.	Which of the followard Hydrology Soils Transects Wildlife	owing sequences is correct? □ Wildlife Transects Soils Hydrology	□ Soils Hydrology Wildlife Transects
4.	What can the surre	ounding land use tell us abou	nt the wetland?
5.	Which of the follo □ transects □ nests	owing MUST be included who photopoints compass direction	nen sketching your wetland? (check all that apply) buffers burrows
6.	What is/are the pu	rposes for photographing the	e wetland?
7.	What does the star	ff gauge measure?	
8.	What does the gro	oundwater sampler measure?	
9.	□ put your hand in		ng should you NOT do? (check all that apply) □ note any nests or tracks □ collect butterflies

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10. Amphibian C □ 1 □ 2 □ 3 □ 4	Calls: Which call is the bullfrog?	1 450 2
11. Which picture □ A □ B □ C □ D	re is the bullfrog?	
12. Which soil De □ A □ B □ C □ D	OOES NOT exhibit hydric characteristics (mottles, oxidized rhizosph	eres, etc.)?
13. Which plant i □ A □ B □ C □ D	is the invasive purple loosestrife?	
14. Name that pla	ant	
A)		
B)		
C)		
D)		
15. Name that and	nimal	
A)		
B)		
C)		
D)		

SITE INFORMATION

SAMPLEID WBID	Site Name	Latitude	Longitude	Legal Description	County	State	Date	Time
31673 Wetland-001	Marsh-O-Muck Wetland Area		N	E¼ NE¼ NW¼ Section 17 13N 22W	Roger Mills	OK	25-Jan-05	10:15:00 AM
31674 Wetland-002	Turkey Flats Wetland: Washita Nature Wildlife Reserve	35.63266667	-99.27280556 S	W1/4 SW1/4 NW1/4 Section 1 13N 20W	Custer	OK	11-Jan-05	9:00:00 AM
31675 Wetland-003	Midwest City Wetland	35.50408333	-97.40133333 N	W¼ NE¼ NW¼ Section 22 12N 2W	Oklahoma	OK	21-Jan-05	11:00:00 AM
31676 Wetland-004	4-Corners Pond Wetland	35.66583333	-95.06388889 S	E¼ SW¼ SE¼ Section 8 11N 22E	Sequoyah	OK	27-Jan-05	9:33:00 AM
31677 Wetland-005	Beaver Pond Wetland: Washita Nature Wildlife Refuge	35.63052778	-99.27936111 N	E¼ NE¼ SW¼ Section 1 13N 20W	Custer	OK	11-Jan-05	9:40:00 AM
32175 Wetland-008	Heather Ridge Wetland	36.02677778	-95.89761111 N	W1/4 Section 23 13E 18N	Tulsa	OK	21-Jan-05	3:00:00 PM
32176 Wetland-009	Durrett Outdoor Classroom Wetland		S	E¼ SE¼ SW¼ Section 9 16N 22E	Cherokee	OK	21-Jan-05	3:35:00 PM
32177 Wetland-007	Stinchcomb Wildlife Refuge Wetland	35.52291667	-97.66386111 N	E¼ SE¼ SW¼ Section 7 12N 4W	Oklahoma	OK	29-Jan-05	9:00:00 AM
32178 Wetland-010	Beaver Creek Wetland	36.84732778	-96.75916389 S	W1/4 Section 3 27N 5E	Kay	OK	31-Jan-05	10:45:00 AM
32608 Wetland-002	Turkey Flats Wetland: Washita Nature Wildlife Reserve	35.63266667	-99.27280556 S	W1/4 SW1/4 NW1/4 Section 1 13N 20W	Custer	OK	14-Feb-05	11:45:00 AM
32609 Wetland-010	Beaver Creek Wetland	36.84732778	-96.75916389 S	W1/4 Section 3 27N 5E	Kay	OK	14-Feb-05	1:30:00 PM
32610 Wetland-005	Beaver Pond Wetland: Washita Nature Wildlife Refuge	35.63052778	-99.27936111 N	E¼ NE¼ SW¼ Section 1 13N 20W	Custer	OK	15-Feb-05	9:00:00 AM
32611 Wetland-009	Durrett Outdoor Classroom Wetland		s	E¼ SE¼ SW¼ Section 9 16N 22E	Cherokee	OK	19-Feb-05	8:00:00 AM
32612 Wetland-004	4-Corners Pond Wetland	35.66583333	-95.06388889 S	E1/4 SW1/4 SE1/4 Section 8 11N 22E	Sequoyah	OK	25-Feb-05	9:47:00 AM
32613 Wetland-007	Stinchcomb Wildlife Refuge Wetland	35.52291667	-97.66386111 N	E¼ SE¼ SW¼ Section 7 12N 4W	Oklahoma	OK	26-Feb-05	9:15:00 AM
32614 Wetland-003	Midwest City Wetland	35.50408333	-97.40133333 N	W¼ NE¼ NW¼ Section 22 12N 2W	Oklahoma	OK	28-Feb-05	3:00:00 PM
32615 Wetland-002	Turkey Flats Wetland: Washita Nature Wildlife Reserve	35.63266667	-99.27280556 S	W1/4 SW1/4 NW1/4 Section 1 13N 20W	Custer	OK	16-Mar-05	10:15:00 AM
32616 Wetland-005	Beaver Pond Wetland: Washita Nature Wildlife Refuge	35.63052778	-99.27936111 N	E¼ NE¼ SW¼ Section 1 13N 20W	Custer	OK	17-Mar-05	10:00:00 AM
32617 Wetland-003	Midwest City Wetland	35.50408333	-97.40133333 N	W¼ NE¼ NW¼ Section 22 12N 2W	Oklahoma	OK	27-Mar-05	9:00:00 AM
32618 Wetland-004	4-Corners Pond Wetland	35.66583333	-95.06388889 S	E¼ SW¼ SE¼ Section 8 11N 22E	Sequoyah	OK	27-Mar-05	10:20:00 AM
32619 Wetland-007	Stinchcomb Wildlife Refuge Wetland	35.52291667	-97.66386111 N	E¼ SE¼ SW¼ Section 7 12N 4W	Oklahoma	OK	27-Mar-05	12:00:00 PM
32620 Wetland-009	Durrett Outdoor Classroom Wetland		S	E¼ SE¼ SW¼ Section 9 16N 22E	Cherokee	OK	29-Mar-05	8:00:00 AM
32621 Wetland-001	Marsh-O-Muck Wetland Area		N	E¼ NE¼ NW¼ Section 17 13N 22W	Roger Mills	OK	31-Mar-05	8:36:00 AM
32622 Wetland-005	Beaver Pond Wetland: Washita Nature Wildlife Refuge	35.63052778	-99.27936111 N	E¼ NE¼ SW¼ Section 1 13N 20W	Custer	OK	18-Apr-05	8:45:00 AM
32623 Wetland-002	Turkey Flats Wetland: Washita Nature Wildlife Reserve	35.63266667	-99.27280556 S	W1/4 SW1/4 NW1/4 Section 1 13N 20W	Custer	OK	18-Apr-05	10:20:00 AM
32624 Wetland-004	4-Corners Pond Wetland	35.66583333	-95.06388889 S	E1/4 SW1/4 SE1/4 Section 8 11N 22E	Sequoyah	OK	19-Apr-05	8:00:00 AM
32625 Wetland-009	Durrett Outdoor Classroom Wetland		s	E¼ SE¼ SW¼ Section 9 16N 22E	Cherokee	OK	22-Apr-05	8:00:00 AM
32626 Wetland-007	Stinchcomb Wildlife Refuge Wetland	35.52291667	-97.66386111 N	E¼ SE¼ SW¼ Section 7 12N 4W	Oklahoma	OK	28-Apr-05	8:00:00 AM
32627 Wetland-001	Marsh-O-Muck Wetland Area		N	E¼ NE¼ NW¼ Section 17 13N 22W	Roger Mills	OK	28-Apr-05	1:45:00 PM
32628 Wetland-003	Midwest City Wetland	35.50408333	-97.40133333 N	W¼ NE¼ NW¼ Section 22 12N 2W	Oklahoma	OK	30-Apr-05	1:50:00 PM
32780 Wetland-008	Heather Ridge Wetland	36.02677778	-95.89761111 N	W¼ Section 23 13E 18N	Tulsa	OK	31-Mar-05	4:57:00 PM
32781 Wetland-008	Heather Ridge Wetland	36.02677778	-95.89761111 N	W1/4 Section 23 13E 18N	Tulsa	OK	20-Dec-04	2:56:00 PM
32905 Wetland-003	Midwest City Wetland	35.50408333	-97.40133333 N	W¼ NE¼ NW¼ Section 22 12N 2W	Oklahoma	OK	26-May-05	4:00:00 PM
32906 Wetland-005	Beaver Pond Wetland: Washita Nature Wildlife Refuge	35.63052778	-99.27936111 N	E¼ NE¼ SW¼ Section 1 13N 20W	Custer	OK	17-May-05	9:00:00 AM
32907 Wetland-007	Stinchcomb Wildlife Refuge Wetland	35.52291667	-97.66386111 N	E¼ SE¼ SW¼ Section 7 12N 4W	Oklahoma	OK	19-May-05	10:24:00 AM
32908 Wetland-004	4-Corners Pond Wetland	35.66583333	-95.06388889 S	E¼ SW¼ SE¼ Section 8 11N 22E	Sequoyah	OK	23-May-05	8:15:00 AM
32909 Wetland-009	Durrett Outdoor Classroom Wetland		s	E¼ SE¼ SW¼ Section 9 16N 22E	Cherokee	OK	25-May-05	8:00:00 AM
32910 Wetland-001	Marsh-O-Muck Wetland Area		N	E¼ NE¼ NW¼ Section 17 13N 22W	Roger Mills	OK	31-May-05	11:03:00 AM
32911 Wetland-002	Turkey Flats Wetland: Washita Nature Wildlife Reserve	35.63266667	-99.27280556 S	W1/4 SW1/4 NW1/4 Section 1 13N 20W	Custer	OK	18-May-05	9:15:00 AM
32990 Wetland-002	Turkey Flats Wetland: Washita Nature Wildlife Reserve	35.63266667	-99.27280556 S	W1/4 SW1/4 NW1/4 Section 1 13N 20W	Custer	OK	14-Jun-05	9:30:00 AM
32991 Wetland-005	Beaver Pond Wetland: Washita Nature Wildlife Refuge	35.63052778	-99.27936111 N	E¼ NE¼ SW¼ Section 1 13N 20W	Custer	OK	15-Jun-05	9:55:00 AM
32992 Wetland-004	4-Corners Pond Wetland	35.66583333	-95.06388889 S	E¼ SW¼ SE¼ Section 8 11N 22E	Sequoyah	OK	27-Jun-05	8:30:00 AM
32993 Wetland-003	Midwest City Wetland	35.50408333	-97.40133333 N	W1/4 NE1/4 NW1/4 Section 22 12N 2W	Oklahoma	OK	28-Jun-05	8:40:00 AM
32994 Wetland-008	Heather Ridge Wetland	36.02677778	-95.89761111 N	W¼ Section 23 13E 18N	Tulsa	OK	29-Jun-05	4:00:00 PM
32995 Wetland-007	Stinchcomb Wildlife Refuge Wetland	35.52291667	-97.66386111 N	E¼ SE¼ SW¼ Section 7 12N 4W	Oklahoma	OK	30-Jun-05	9:45:00 AM
32996 Wetland-001	Marsh-O-Muck Wetland Area		N	E¼ NE¼ NW¼ Section 17 13N 22W	Roger Mills	OK	30-Jun-05	11:00:00 AM
33397 Wetland-002	Turkey Flats Wetland: Washita Nature Wildlife Reserve	35.63266667	-99.27280556 S	W1/4 SW1/4 NW1/4 Section 1 13N 20W	Custer	OK	13-Jul-05	9:00:00 AM
33398 Wetland-005	Beaver Pond Wetland: Washita Nature Wildlife Refuge	35.63052778	-99.27936111 N	E¼ NE¼ SW¼ Section 1 13N 20W	Custer	OK	13-Jul-05	10:00:00 AM
33399 Wetland-003	Midwest City Wetland	35.50408333	-97.40133333 N	W1/4 NE1/4 NW1/4 Section 22 12N 2W	Oklahoma	OK	26-Jul-05	9:20:00 AM
33400 Wetland-004	4-Corners Pond Wetland	35.66583333	-95.06388889 S	E1/4 SW1/4 SE1/4 Section 8 11N 22E	Sequoyah	OK	27-Jul-05	10:00:00 AM
33401 Wetland-008	Heather Ridge Wetland	36.02677778	-95.89761111 N	W1/4 Section 23 13E 18N	Tulsa	OK	29-Jul-05	2:00:00 PM
33402 Wetland-007	Stinchcomb Wildlife Refuge Wetland	35.52291667	-97.66386111 N	E¼ SE¼ SW¼ Section 7 12N 4W	Oklahoma	OK	30-Jul-05	12:55:00 PM

33876 Wetland-001	Marsh-O-Muck Wetland Area		NE¼ NE¼ NW¼ Section 17 13N 22W	Roger Mills	OK	23-Feb-05	8:45:00 AM
33877 Wetland-001	Marsh-O-Muck Wetland Area		NE¼ NE¼ NW¼ Section 17 13N 22W	Roger Mills	OK	29-Jul-05	10:23:00 AM
33878 Wetland-005	Beaver Pond Wetland: Washita Nature Wildlife Refuge	35.63052778	-99.27936111 NE¼ NE¼ SW¼ Section 1 13N 20W	Custer	OK	01-Aug-05	9:10:00 AM
33879 Wetland-002	Turkey Flats Wetland: Washita Nature Wildlife Reserve	35.63266667	-99.27280556 SW1/4 SW1/4 NW1/4 Section 1 13N 20W	Custer	OK	19-Aug-05	9:10:00 AM
33880 Wetland-003	Midwest City Wetland	35.50408333	-97.40133333 NW1/4 NE1/4 NW1/4 Section 22 12N 2W	Oklahoma	OK	23-Aug-05	8:45:00 AM
33881 Wetland-004	4-Corners Pond Wetland	35.66583333	-95.06388889 SE¼ SW¼ SE¼ Section 8 11N 22E	Sequoyah	OK	29-Aug-05	8:30:00 AM
33882 Wetland-001	Marsh-O-Muck Wetland Area		NE¼ NE¼ NW¼ Section 17 13N 22W	Roger Mills	OK	31-Aug-05	9:00:00 AM
33883 Wetland-007	Stinchcomb Wildlife Refuge Wetland	35.52291667	-97.66386111 NE¼ SE¼ SW¼ Section 7 12N 4W	Oklahoma	OK	31-Aug-05	1:00:00 PM
33884 Wetland-008	Heather Ridge Wetland	36.02677778	-95.89761111 NW1/4 Section 23 13E 18N	Tulsa	OK	31-Aug-05	5:55:00 AM
33885 Wetland-002	Turkey Flats Wetland: Washita Nature Wildlife Reserve	35.63266667	-99.27280556 SW1/4 SW1/4 NW1/4 Section 1 13N 20W	Custer	OK	20-Sep-05	9:00:00 AM
33886 Wetland-003	Midwest City Wetland	35.50408333	-97.40133333 NW1/4 NE1/4 NW1/4 Section 22 12N 2W	Oklahoma	OK	21-Sep-05	8:10:00 AM
33887 Wetland-005	Beaver Pond Wetland: Washita Nature Wildlife Refuge	35.63052778	-99.27936111 NE¼ NE¼ SW¼ Section 1 13N 20W	Custer	OK	22-Sep-05	9:00:00 AM
33888 Wetland-004	4-Corners Pond Wetland	35.66583333	-95.06388889 SE¼ SW¼ SE¼ Section 8 11N 22E	Sequoyah	OK	23-Sep-05	8:00:00 AM
33889 Wetland-007	Stinchcomb Wildlife Refuge Wetland	35.52291667	-97.66386111 NE¼ SE¼ SW¼ Section 7 12N 4W	Oklahoma	OK	30-Sep-05	8:35:00 AM
33890 Wetland-008	Heather Ridge Wetland	36.02677778	-95.89761111 NW1/4 Section 23 13E 18N	Tulsa	OK	30-Sep-05	9:30:00 AM
34310 Wetland-002	Turkey Flats Wetland: Washita Nature Wildlife Reserve	35.63266667	-99.27280556 SW1/4 SW1/4 NW1/4 Section 1 13N 20W	Custer	OK	17-Oct-05	9:00:00 AM
34311 Wetland-005	Beaver Pond Wetland: Washita Nature Wildlife Refuge	35.63052778	-99.27936111 NE¼ NE¼ SW¼ Section 1 13N 20W	Custer	OK	17-Oct-05	9:45:00 AM
34312 Wetland-003	Midwest City Wetland	35.50408333	-97.40133333 NW1/4 NE1/4 NW1/4 Section 22 12N 2W	Oklahoma	OK	20-Oct-05	9:55:00 AM
34313 Wetland-004	4-Corners Pond Wetland	35.66583333	-95.06388889 SE¼ SW¼ SE¼ Section 8 11N 22E	Sequoyah	OK	26-Oct-05	2:35:00 PM
34314 Wetland-007	Stinchcomb Wildlife Refuge Wetland	35.52291667	-97.66386111 NE¼ SE¼ SW¼ Section 7 12N 4W	Oklahoma	OK	29-Oct-05	3:15:00 PM
34315 Wetland-002	Turkey Flats Wetland: Washita Nature Wildlife Reserve	35.63266667	-99.27280556 SW1/4 SW1/4 NW1/4 Section 1 13N 20W	Custer	OK	18-Nov-05	10:00:00 AM
34316 Wetland-005	Beaver Pond Wetland: Washita Nature Wildlife Refuge	35.63052778	-99.27936111 NE¼ NE¼ SW¼ Section 1 13N 20W	Custer	OK	18-Nov-05	9:00:00 AM
34317 Wetland-003	Midwest City Wetland	35.50408333	-97.40133333 NW1/4 NE1/4 NW1/4 Section 22 12N 2W	Oklahoma	OK	30-Nov-05	8:00:00 AM
34318 Wetland-005	Beaver Pond Wetland: Washita Nature Wildlife Refuge	35.63052778	-99.27936111 NE¼ NE¼ SW¼ Section 1 13N 20W	Custer	OK	21-Dec-05	8:15:00 AM
34319 Wetland-002	Turkey Flats Wetland: Washita Nature Wildlife Reserve	35.63266667	-99.27280556 SW1/4 SW1/4 NW1/4 Section 1 13N 20W	Custer	OK	22-Dec-05	9:00:00 AM
34320 Wetland-003	Midwest City Wetland	35.50408333	-97.40133333 NW1/4 NE1/4 NW1/4 Section 22 12N 2W	Oklahoma	OK	22-Dec-05	9:55:00 AM
34321 Wetland-005	Beaver Pond Wetland: Washita Nature Wildlife Refuge	35.63052778	-99.27936111 NE¼ NE¼ SW¼ Section 1 13N 20W	Custer	OK	18-Jan-06	8:30:00 AM
34322 Wetland-002	Turkey Flats Wetland: Washita Nature Wildlife Reserve	35.63266667	-99.27280556 SW1/4 SW1/4 NW1/4 Section 1 13N 20W	Custer	OK	18-Jan-06	9:15:00 AM
34323 Wetland-003	Midwest City Wetland	35.50408333	-97.40133333 NW1/4 NE1/4 NW1/4 Section 22 12N 2W	Oklahoma	OK	23-Feb-06	10:28:00 AM
34978 Wetland-003	Midwest City Wetland	35.50408333	-97.40133333 NW1/4 NE1/4 NW1/4 Section 22 12N 2W	Oklahoma	OK	31-Jan-06	8:00:00 AM
34979 Wetland-005	Beaver Pond Wetland: Washita Nature Wildlife Refuge	35.63052778	-99.27936111 NE¼ NE¼ SW¼ Section 1 13N 20W	Custer	OK	15-Feb-06	8:10:00 AM
34980 Wetland-002	Turkey Flats Wetland: Washita Nature Wildlife Reserve	35.63266667	-99.27280556 SW1/4 SW1/4 NW1/4 Section 1 13N 20W	Custer	OK	15-Feb-06	9:00:00 AM
34981 Wetland-005	Beaver Pond Wetland: Washita Nature Wildlife Refuge	35.63052778	-99.27936111 NE¼ NE¼ SW¼ Section 1 13N 20W	Custer	OK	22-Mar-06	9:15:00 AM
34982 Wetland-002	Turkey Flats Wetland: Washita Nature Wildlife Reserve	35.63266667	-99.27280556 SW1/4 SW1/4 NW1/4 Section 1 13N 20W	Custer	OK	22-Mar-06	10:00:00 AM
34983 Wetland-003	Midwest City Wetland	35.50408333	-97.40133333 NW1/4 NE1/4 NW1/4 Section 22 12N 2W	Oklahoma	OK	30-Mar-06	9:05:00 AM

SITE OBSERVATIONS

311	L ODSI	-NVA	IIOI	<u> </u>														
SAMPLEID	SiteName	Date	Time	Weather	Wind Direction	Wind Speed	Air Temp (°C)	Water Temp (°C)	Skins	Feathers	Tracks/Prints	Shells	Dead Animals	Burrows	Feeding Evidence (fur,	bones, etc) See Bulffrogs?	Hear Bullfrogs?	See/Hear Other Amphibiams?
	Marsh-O-Muck Marsh-O-Muck	1/25/2005 2/23/2005	10:15 AM 8:45 AM	Fair Skies Fair Skies	NE Calm/None	Slight; Smoke Drift 1-3 mph Calm <1 mph	27 10	11 11			Y Y			Υ	Y Y			
	Marsh-O-Muck	3/31/2005	8:36 AM	Fair Skies	NE NE	Slight; Smoke Drift 1-3 mph	18	14							'			
32627	Marsh-O-Muck	4/28/2005	1:45 PM	Overcast	NE	Small Trees Sway 19-24 mph	26	18			Υ				Υ			Υ
	Marsh-O-Muck	5/31/2005	11:03 AM	Fair Skies	SW	Small Trees Sway 19-24 mph	27	20				١	1		Υ			
	Marsh-O-Muck Marsh-O-Muck	6/30/2005 7/29/2005	11:00 AM 10:23 AM	Rain	S	Calm <1 mph	23 25	21 23							Υ			
	Marsh-O-Muck	8/31/2005	9:00 AM	Fair Skies		Slight; Smoke Drift 1-3 mph	26	17							'			
	Turkey Flats Turkey Flats	1/11/2005 2/14/2005	9:00 AM 11:45 AM	Fair Skies	NE SE	Slight; Smoke Drift 1-3 mph Light; Felt on Face 4-7 mph	2				Υ				Υ			
	Turkey Flats	3/16/2005	10:15 AM	Fair Skies	NW	Light; Felt on Face 4-7 mph	10	9			Ϋ́				'			
	Turkey Flats	4/18/2005	10:20 AM	Fair Skies	S	Branches Move 13-18 mph	17				Υ							
	Turkey Flats	5/18/2005	9:15 AM	Fair Skies	S	Leaves/Twigs Move 8-12 mph	22.5	20			Υ							
	Turkey Flats	6/14/2005 7/13/2005	9:30 AM 9:00 AM	Fair Skies Fair Skies	NW SE	Leaves/Twigs Move 8-12 mph Slight; Smoke Drift 1-3 mph	24	21			Y Y				Υ			Υ
	Turkey Flats Turkey Flats	8/19/2005	9:10 AM	Fair Skies	S	Light; Felt on Face 4-7 mph					Ϋ́				'			
	Turkey Flats	9/20/2005	9:00 AM	Fair Skies	NW	Slight; Smoke Drift 1-3 mph					Y			Υ	Υ			
	Turkey Flats	10/17/2005	9:00 AM	Fair Skies	SW	Slight; Smoke Drift 1-3 mph					Υ							
	Turkey Flats	11/18/2005	10:00 AM	Fair Skies	NW	Light; Felt on Face 4-7 mph					Y							
	Turkey Flats Turkey Flats	12/22/2005 1/18/2006	9:00 AM 9:15 AM	Fair Skies Fair Skies	N S	Slight; Smoke Drift 1-3 mph Slight; Smoke Drift 1-3 mph	-1				Y							
	Turkey Flats	2/15/2006	9:00 AM	Tuli Onioo		ongri, omore brit i ompri												
	Turkey Flats	3/22/2006	10:00 AM															
31675	Midwest City	1/21/2005	11:00 AM	Fair Skies	SE	Slight; Smoke Drift 1-3 mph	18	5			Υ				Υ			
	Midwest City Midwest City	2/28/2005	3:00 PM	Overcast	W	Light; Felt on Face 4-7 mph	8	11			Ϋ́Υ				Ϋ́Υ			
	Midwest City	3/27/2005	9:00 AM	Fair Skies	NW	Light; Felt on Face 4-7 mph	16	10			•				•			
32628	Midwest City	4/30/2005	1:50 PM	Overcast	N	Branches Move 13-18 mph	24	20		Υ					Υ			Υ
	Midwest City	5/26/2005	4:00 PM	Fair Skies	NNW	Leaves/Twigs Move 8-12 mph	21	25			Y						Υ	Y
	Midwest City Midwest City	6/28/2005 7/26/2005	8:40 AM 9:20 AM	Fair Skies Fair Skies	S W	Light; Felt on Face 4-7 mph Branches Move 13-18 mph	29 28	25 26			Y Y				Υ			Y V
	Midwest City	8/23/2005	8:45 AM	Overcast		Calm <1 mph	24	23										
33886	Midwest City	9/21/2005	8:10 AM	Fair Skies		Calm <1 mph	22	22										
	Midwest City	10/20/2005	9:55 AM	Fair Skies	NW	Branches Move 13-18 mph	14	15										
	Midwest City	11/30/2005	8:00 AM	Fair Skies Fair Skies	S SE	Light; Felt on Face 4-7 mph	0 8	0 12										
	Midwest City Midwest City	12/22/2005 1/31/2006	9:55 AM 8:00 AM	Fair Skies	S	Branches Move 13-18 mph Slight; Smoke Drift 1-3 mph	3	6										
	Midwest City	2/23/2006	10:28 AM	Overcast	w	Slight; Smoke Drift 1-3 mph	14	4										
34983	Midwest City	3/30/2006	9:05 AM															
31676	4-Corners Pond	1/27/2005	9:33 AM	Overcast	NE	Branches Move 13-18 mph	8	8										
	4-Corners Pond	2/25/2005	9:47 AM	Fair Skies	SE	Leaves/Twigs Move 8-12 mph	9	10										
	4-Corners Pond	3/27/2005	10:20 AM	Fair Skies	SSE	Slight; Smoke Drift 1-3 mph	15	13								Υ		
	4-Corners Pond 4-Corners Pond	4/19/2005 5/23/2005	8:00 AM 8:15 AM	Overcast	ESE E	Leaves/Twigs Move 8-12 mph Branches Move 13-18 mph	18 22	20 27							Υ		Υ	
	4-Corners Pond	6/27/2005	8:30 AM	Fair Skies	SSW	Slight; Smoke Drift 1-3 mph	31	30									Υ	
	4-Corners Pond	7/27/2005	10:00 AM	Overcast	ESE	Branches Move 13-18 mph	22	27										
	4-Corners Pond	8/29/2005	8:30 AM	Fair Skies		Slight; Smoke Drift 1-3 mph	26	28			Υ							
	4-Corners Pond 4-Corners Pond	9/23/2005 10/26/2005	8:00 AM 2:35 PM	Fair Skies Fair Skies	E	Calm <1 mph Leaves/Twigs Move 8-12 mph	20 18											
34313	4-00111013 1 0110	10/20/2003	2.00 T W	T dii Okies		Leaves/Twigs Move 0-12 IIIpii	10											
	Beaver Pond	1/11/2005	9:40 AM	F-:- 01:	NE	Slight; Smoke Drift 1-3 mph	2	4		.,	.,		,		.,			
	Beaver Pond Beaver Pond	2/15/2005 3/17/2005	9:00 AM 10:00 AM	Fair Skies Fair Skies	NW S	Branches Move 13-18 mph Small Trees Sway 19-24 mph	7.5 12	9		Y Y	Y	١			Υ			
	Beaver Pond	4/18/2005	8:45 AM	Fair Skies	S	Branches Move 13-18 mph	17	18		Y	Y							Υ
	Beaver Pond	5/17/2005	9:00 AM	Fair Skies	S	Branches Move 13-18 mph	20	19		Υ	Υ	١	1			Υ		Υ
	Beaver Pond	6/15/2005	9:55 AM	=	NW	Calm <1 mph	26	22			Y						Υ	
	Beaver Pond Beaver Pond	7/13/2005 8/1/2005	10:00 AM 9:10 AM	Fair Skies Fair Skies	SE SE	Slight; Smoke Drift 1-3 mph Light; Felt on Face 4-7 mph	29 27	28 25		Y Y	Υ			Υ	Υ			1
	Beaver Pond	9/22/2005	9:00 AM	Fair Skies	S	Light; Felt on Face 4-7 mph	22	21		Y				Υ				
	Beaver Pond	10/17/2005		Fair Skies	SW	Light; Felt on Face 4-7 mph	19	16	Υ		Υ	١	1	Υ	Υ			
	Beaver Pond	11/18/2005		Fair Skies	NW N	Light; Felt on Face 4-7 mph	7	4		Υ	Y			v				
	Beaver Pond Beaver Pond	12/21/2005 1/18/2006	8:15 AM 8:30 AM	Fair Skies Fair Skies	N S	Slight; Smoke Drift 1-3 mph Slight; Smoke Drift 1-3 mph	-1 5	2	Υ		Y Y			ı				
34979	Beaver Pond	2/15/2006	8:10 AM				-			Υ	Y			Υ	Υ			
34981	Beaver Pond	3/22/2006	9:15 AM															
32177	Stinchcomb	1/29/2005	9:00 AM	Overcast	SE	Slight; Smoke Drift 1-3 mph	3	4										
32613	Stinchcomb	2/26/2005	9:15 AM	Overcast	S	Light; Felt on Face 4-7 mph	12.5	10										
	Stinchcomb	3/27/2005		Fair Skies	N	Branches Move 13-18 mph	13.89				Y							
	Stinchcomb Stinchcomb	4/28/2005 5/19/2005	8:00 AM 10:24 AM	Fair Skies Fair Skies	N S	Branches Move 13-18 mph Leaves/Twigs Move 8-12 mph	20 25	14 23			Υ							
	Stinchcomb	6/30/2005	9:45 AM	Fair Skies	SW	Branches Move 13-18 mph	29	27										
33402	Stinchcomb	7/30/2005	12:55 PM	Fair Skies	SW	Slight; Smoke Drift 1-3 mph	31	29										
	Stinchcomb	8/31/2005	1:00 PM	Fair Skies	SW	Slight; Smoke Drift 1-3 mph	30	31			Υ							
	Stinchcomb Stinchcomb	9/30/2005 10/29/2005	8:35 AM 3:15 PM	Overcast Fair Skies	S S	Branches Move 13-18 mph Branches Move 13-18 mph	17 23	17 19			Y				Υ			
37314	Canonodino	1012312005	J. 13 F W	. dii Okioa	3	Stationed Work 13*10 Hipil	23	פו										
	Heather Ridge	12/20/2004	2:56 PM	Fair China	Colm (t)	Colm of mak	20	_		· ·	v -				~			
	Heather Ridge Heather Ridge	1/21/2005 3/31/2005	3:00 PM 4:57 PM	Fair Skies Overcast	Calm/None NE	Calm <1 mph Small Trees Sway 19-24 mph	22 15	9 15		Y Y	Y Y				Υ			
	Heather Ridge	6/29/2005	4:00 PM	Fair Skies	SE	Branches Move 13-18 mph	32	27			Y				Υ		Υ	
33401	Heather Ridge	7/29/2005	2:00 PM	Fair Skies	S	Slight; Smoke Drift 1-3 mph	30	31		Υ							Υ	
33890	Heather Ridge	9/30/2005	9:30 AM	Fair Skies	SW	Small Trees Sway 19-24 mph	19	16			Y				Y			
	Durrett	1/21/2005	3:35 PM	Fair, Overcast Skies	SW	Light; Felt on Face 4-7 mph	22	11		Υ		Y		Υ				
	Durrett	2/19/2005	8:00 AM	Fair Skies	SW	Lancard Today No. 2015	25	16		Y	Υ		,					
	Durrett Durrett	3/29/2005 4/22/2005	8:00 AM 8:00 AM	Fair, Overcast Skies	SW SW	Leaves/Twigs Move 8-12 mph Light; Felt on Face 4-7 mph	25 23	17 18		Y Y		١	1	Y	Υ			Y
	Durrett	5/25/2005	8:00 AM 8:00 AM		SE	Light; Felt on Face 4-7 mph	30	25			Υ	١	_	Ϋ́				Y
	Beaver Creek Beaver Creek	1/31/2005 2/14/2005	10:45 AM 1:30 PM	Fair Skies	NE N	Calm <1 mph Leaves/Twigs Move 8-12 mph	6 20	5 18									Υ	
52503	_ 30.0. Sieek	_,, 2003	1.00 I W	. 311 011100		IIIIIII	-5										Ė	
									_	_								

SAMPLEID	SiteName	Date	∧ildlife 1	Midlife 2	Mildlife3
31673	Marsh-O-Muck	1/25/2005	Armadillo, 2, Alive Dove, 1, Alive	Quail, 10, Alive	Morning Dove, 2, Alive
32621	Marsh-O-Muck Marsh-O-Muck	2/23/2005 3/31/2005	Red-wing blackbird, 3, Alive	Meadowlark, 1, Alive	Robin, 1, Alive
	Marsh-O-Muck Marsh-O-Muck	4/28/2005 5/31/2005	Cardinal, 1, Alive Bullsnake, 1, Dead	Dove, 2, Alive	Red-winged blackbirds, 8, Alive
32996	Marsh-O-Muck	6/30/2005	Cottontails, 2, Alive		
	Marsh-O-Muck Marsh-O-Muck	7/29/2005 8/31/2005	Robin, 3, Alive		
	Turkey Flats	1/11/2005			
	Turkey Flats Turkey Flats	2/14/2005 3/16/2005	American robin, Many, Heard/Saw Sanhill crane, 20, Alive	American crow, Many, Heard/Saw American robin, 100, Alive	Eastern meadowlarks, Many, Heard/Seen Tiger beetles, 2, Alive
	Turkey Flats	4/18/2005 5/18/2005	Brown-headed cowbird, 1, Heard Only Killdeer, 10, Heard Only	American robin, 10, Heard Only Red-bellied woodpecker, 5, Heard Only	Northern cardinal, 10, Heard Only Mallard, 1, Alive
32990	Turkey Flats Turkey Flats	6/14/2005	Plains leopard frog, 6, Alive	Mississippi kite, 21, Alive	Northern cardinal Heard Only
	Turkey Flats Turkey Flats	7/13/2005 8/19/2005	Dickcissel (sp?), 5, Heard Only Mississippi kite, 5, Alive	Bobwhite, 10, Alive Northern cardinal, 2, Heard Only	Blue-gray gnatcatcher, 1, Alive Mourning dove, 20, Alive
3885	Turkey Flats	9/20/2005	White-tailed deer, 1, Alive	Northern cardinal, 3, Heard Only	American crow, 5, Heard Only
	Turkey Flats Turkey Flats	11/18/2005	Northern cardinal, 5, Heard Only Sparrow, 10, Alive	Red-tailed hawk, 2, Heard Only Meadowlark, 3, Alive	Northern flicker, 5, Heard Only Northern flicker, 2, Alive
	Turkey Flats Turkey Flats	12/22/2005 1/18/2006	Northern flicker, 2, Alive Red-winged blackbirds, 50, Alive	Sparrow spp., 10, Alive White-crowned sparrow, 10, Alive	Meadowlark, 10, Alive American crow, 3, Alive
4980	Turkey Flats	2/15/2006	Neu-winger blackbilds, 30, Alive	Write-clowned sparlow, 10, Alive	American crow, 3, Anve
4982	Turkey Flats	3/22/2006			
	Midwest City Midwest City	1/21/2005 2/28/2005	Canadian Geese flying overhead, approx 30, Alive Great blue heron, 1, Alive	Mallards in water, 8, Alive Ducks, 6, Alive	Widgeons in water, 4, Alive Canada geese, 10, Alive
2617	Midwest City	3/27/2005	Ducks, Approx 20, Alive	Canada geese, 4, Alive	Frog, 1, Alive
	Midwest City Midwest City	4/30/2005 5/26/2005	Juvenile Little blue herons, 3, Alive Hawk, 1, Alive	Red-winged blackbirds, 4, Alive Redwing blackbird, 4, Alive	Canada geese, 2, Alive Egret, 3, Alive
2993	Midwest City Midwest City	6/28/2005 7/26/2005	Egrets, 6, Alive Egret, 2, Alive	Hawk, 1, Alive Duck, 1, Alive	Great Blue Heron, 1, Alive Turtles, 6, Alive
3880	Midwest City	8/23/2005	Chickadees Heard Only	Canada geese Heard Only	Frogs, possibly Leopard, lots, Alive
	Midwest City Midwest City	9/21/2005 10/20/2005	Crows, 3, Alive Ducks, 12, Alive	Little blue heron, 1, Alive Bluebirds, 4, Alive	Ducks, 5, Alive Frogs, 2, Alive
4317	Midwest City	11/30/2005	Ducks, Approx 50, Alive	Hawk, 1, Alive	Crow, 1, Alive
	Midwest City Midwest City	12/22/2005 1/31/2006	Ducks, Approx 30, Alive Ducks (mallards & others), 30, Alive	Crow, Approx 3, Heard Only Muskrat, 1, Alive	Canada geese, Approx 3, Heard Only Canada gees flying over and around, 100, Alive
	Midwest City Midwest City	2/23/2006 3/30/2006	Birds: chickadees, mockingbird, blue jays, etc., Lots, Alive	Ducks Alive	Canada geese, Approx 20, Alive
			Died billed scales & Alice	Mallanda O Aliva	Dad win and blooklyinda a CO. Aliva
	4-Corners Pond 4-Corners Pond	1/27/2005 2/25/2005	Pied-billed grebe, 1, Alive Barred owl, 1, Alive	Mallards, 8, Alive Gadwall, 16, Alive	Red-winged blackbirds, >20, Alive Ring-necked duck, 3, Alive
	4-Corners Pond 4-Corners Pond	3/27/2005 4/19/2005	Ring-necked ducks, 13, Alive Pied-billed grebe, 4, Alive	Redhead duck, 1, Alive Red-winged blackbirds, >30, Alive	Amerian coots, 3, Alive Northern cardinals, 2, Heard Only
2908	4-Corners Pond	5/23/2005	Red-winged blackbirds, >20, Alive	Common yellow throat (?), 3, Alive	Blue jay, 2, Alive
	4-Corners Pond 4-Corners Pond		Northern mockingbird, 1, Alive Wood ducks, 3, Alive	Pileated woodpecker, 2, Alive Great egrets, 10, Alive	Blue jay, 7, Alive Northern cardinal, >6, Alive
3881	4-Corners Pond 4-Corners Pond	8/29/2005 9/23/2005	Great egret, 7, Alive American crow, 7, Alive	Blue jay, 4, Alive Blue jay, >10, Alive	Raccoon, 1, Alive Raccoon, 1, Alive
	4-Corners Pond	10/26/2005	White-tailed deer, 5, Alive	Armadillo, 1, Alive	Red-tailed hawk, 1, Alive
	Beaver Pond	1/11/2005			
	Beaver Pond Beaver Pond	2/15/2005 3/17/2005	Doe skeleton, 1, Dead Mallards, 6, Alive	American wigeon, 3, Alive Red-winged blackbird, 100, Alive	Rat (under water), 1, Dead Eastern pheobe Heard Only
2622	Beaver Pond	4/18/2005	Red-bellied woodpecker, 1, Heard Only	Red-winged blackbird, 10, Heard Only	Heard Northern cardinal, 10, Heard Only
	Beaver Pond Beaver Pond	5/17/2005 6/15/2005	Unknown, Viero maybe, 5, Alive Belted kinfisher, 2, Alive	Unknown sparrow, 5, Alive Warbling vireo (?) Heard Only	Morning dove, 5, Heard Only Redwinged blackbirds Heard Only
	Beaver Pond Beaver Pond	7/13/2005 8/1/2005	Northern cardinal, 2, Alive Carolina wren, 4, Alive	Great blue heron, 1, Heard Only Northern cardinal, 2, Alive	Great egret, 1, Alive
3887	Beaver Pond	9/22/2005	Northern cardinal, 15, Heard Only	Plains leopard frogs, 20, Alive	Mouring dove, 3, Heard Only Red-billed woodpecker, 3, Heard Only
	Beaver Pond Beaver Pond		Northern cardinal, 5, Heard Only Carolina chickadee, 10, Heard Only	Grackle, 1, Heard Only Crow, 3, Alive	Carolina chickadee, 10, Heard Only Red shouldered hawk, 1, Alive
4318	Beaver Pond	12/21/2005	C. bluebird, 20, Alive	Belted kingfisher, 1, Alive	Canada geese, 200, Alive
	Beaver Pond Beaver Pond	1/18/2006 2/15/2006	Mallard, 2, Alive American, 1, Alive	American coot, 2, Alive Mallard, 2, Alive	American crow, 5, Alive Northern harrier, 1, Alive
	Beaver Pond	3/22/2006			
	Stinchcomb Stinchcomb	1/29/2005 2/26/2005	Carolina wren, 2, Alive Mallards, 6, Alive	Mockingbird, 2, Alive Red-winged blackbirds, 20-25, Alive	Common crow, 1, Alive
2619	Stinchcomb	3/27/2005	Double-crested cormorant, 50, Alive	Northern cardinal, 1, Alive	Ringbilled gull, 1, Alive Red-bellied woodpecker, 1, Alive
		4/28/2005	Red-winged blackbirds, many, Heard Only		
	Stinchcomb Stinchcomb		Cardinal, 2, Alive		
2907 2995	Stinchcomb Stinchcomb	5/19/2005 6/30/2005	Cardinal, 2, Alive Mallard drakes, 2, Alive		
2907 2995 3402 3883	Stinchcomb Stinchcomb Stinchcomb	5/19/2005 6/30/2005 7/30/2005 8/31/2005	Mallard drakes, 2, Alive Cattle egret, 1, Alive Duck, many, Alive		
2907 2995 3402 3883 3889	Stinchcomb Stinchcomb Stinchcomb	5/19/2005 6/30/2005 7/30/2005	Mallard drakes, 2, Alive Cattle egret, 1, Alive		
2907 2995 3402 3883 3889 4314	Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb	5/19/2005 6/30/2005 7/30/2005 8/31/2005 9/30/2005	Mallard drakes, 2, Alive Cattle egret, 1, Alive Duck, many, Alive		
2907 2995 3402 3883 3889 4314 2781 2175	Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Heather Ridge Heather Ridge	5/19/2005 6/30/2005 7/30/2005 8/31/2005 9/30/2005 10/29/2005 12/20/2004 1/21/2005	Mallard drakes, 2, Alive Cattle egret, 1, Alive Duck, many, Alive Crow, 1, Alive Ducks, >20, Alive	Crawfish, 1, Alive	Minnows, Many, Alive Rertwinn black birds, >20. Alive
2907 2995 3402 3883 3889 4314 2781 2175 2780 2994	Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Heather Ridge Heather Ridge Heather Ridge	5/19/2005 6/30/2005 7/30/2005 8/31/2005 9/30/2005 10/29/2005 12/20/2004 1/21/2005 3/31/2005 6/29/2005	Mallard drakes, 2, Alive Cattle egret, 1, Alive Duck, many, Alive Crow, 1, Alive Ducks, >20, Alive Ducks, >20, Alive Ducks	Geese, >20, Alive Black birds with red wings, >10, Alive	Redwing black birds, >20, Alive Minnows, >5, Alive
2907 2995 3402 3883 3889 4314 2781 2175 2780 2994 3401	Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Heather Ridge Heather Ridge	5/19/2005 6/30/2005 7/30/2005 8/31/2005 9/30/2005 10/29/2005 12/20/2004 1/21/2005 3/31/2005	Mallard drakes, 2, Alive Cattle egret, 1, Alive Duck, many, Alive Crow, 1, Alive Ducks, >20, Alive Ducks, >20, Alive	Geese, >20, Alive	Redwing black birds, >20, Alive
2907 2995 3402 3883 3889 4314 2781 2175 2780 2994 3401 3890	Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Heather Ridge Heather Ridge Heather Ridge Heather Ridge Heather Ridge	5/19/2005 6/30/2005 7/30/2005 8/31/2005 9/30/2005 10/29/2005 12/20/2004 1/21/2005 3/31/2005 6/29/2005 7/29/2005 9/30/2005	Mallard drakes, 2, Alive Cattle egret, 1, Alive Duck, many, Alive Crow, 1, Alive Ducks, >20, Alive Ducks, >20, Alive Ducks, >20, Alive Ducks, >20, Alive	Geese, >20, Alive Black birds with red wings, >10, Alive Ducks, some, Alive Killideer, 8,	Redwing black birds, >20, Alive Minnows, >5, Alive Minnows, many, Alive
2907 2995 3402 3883 3889 4314 2781 2175 2780 2994 3401 3890 2176 2611	Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Heather Ridge Heather Ridge Heather Ridge Heather Ridge Heather Ridge Heather Ridge Durrett Durrett	5/19/2005 6/30/2005 7/30/2005 8/31/2005 9/30/2005 10/29/2005 12/20/2004 1/21/2005 3/31/2005 6/29/2005 7/29/2005 1/21/2005 2/19/2005	Mallard drakes, 2, Alive Cattle egret, 1, Alive Duck, many, Alive Crow, 1, Alive Ducks, >20, Alive Fish, Several, Alive Birds, 5, Alive	Geese, >20, Alive Black birds with red wings, >10, Alive Ducks, some, Alive Killideer, 8, Raccoon, 1, Alive Canada geese, 4, Alive	Redwing black birds, >20, Alive Minnows, >5, Alive Minnows, many, Alive Turtle, 1,
22907 22995 33402 33883 33889 44314 22781 22780 22780 33401 33890 22176 22621 22625	Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Heather Ridge Heather Ridge Heather Ridge Heather Ridge Heather Ridge Durrett Durrett Durrett Durrett	5/19/2005 6/30/2005 7/30/2005 8/31/2005 9/30/2005 10/29/2005 12/20/2004 1/21/2005 3/31/2005 6/29/2005 7/29/2005 1/21/2005 2/19/2005 4/22/2005 4/22/2005	Mallard drakes, 2, Alive Cattle egret, 1, Alive Duck, many, Alive Crow, 1, Alive Ducks, >20, Alive Ducks, >20, Alive Ducks, >20, Alive Ducks, >20, Alive Ducks, >20, Alive Fish, Several, Alive Birds, 5, Alive Songbirds, several, Alive Crawdad, 12, Alive	Geese, >20, Alive Black birds with red wings, >10, Alive Ducks, some, Alive Killideer, 8, Raccoon, 1, Alive Canada geese, 4, Alive Insects, lots, Alive Fish, several, Alive	Redwing black birds, >20, Alive Minnows, >5, Alive Minnows, many, Alive Turtle, 1, Crayfish, 1, Dead Frogs, 8, Alive
2907 2995 3402 3883 3889 4314 2781 2175 2780 2994 3401 3890 2176 2611 2620 2625	Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Heather Ridge Heather Ridge	5/19/2005 6/30/2005 6/30/2005 8/31/2005 9/30/2005 10/29/2005 12/20/2004 1/21/2005 3/31/2005 6/29/2005 9/30/2005 1/21/2005 2/19/2005 3/29/2005	Mallard drakes, 2, Alive Cattle egret, 1, Alive Duck, many, Alive Crow, 1, Alive Ducks, >20, Alive Ducks, >20, Alive Ducks Turtle, 1, Dead Ducks, >20, Alive Fish, Several, Alive Birds, 5, Alive Songbirds, several, Alive	Geese, >20, Alive Black birds with red wings, >10, Alive Ducks, some, Alive Killideer, 8, Raccoon, 1, Alive Canada geese, 4, Alive Insects, lots, Alive	Redwing black birds, >20, Alive Minnows, >5, Alive Minnows, many, Alive Turtle, 1, Crayfish, 1, Dead

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SAMPLEID	Ø	Date	Wildlife	Wildlife2	Wildlife3
	Marsh-O-Muck Marsh-O-Muck	1/25/2005 2/23/2005	Armadillo, 2, Alive Dove, 1, Alive	Quail, 10, Alive Meadowlark, 1, Alive	Morning Dove, 2, Alive Robin, 1, Alive
	Marsh-O-Muck Marsh-O-Muck	3/31/2005 4/28/2005	Red-wing blackbird, 3, Alive Cardinal, 1, Alive	Dove, 2, Alive	Red-winged blackbirds, 8, Alive
910	Marsh-O-Muck	5/31/2005	Bullsnake, 1, Dead	504C, 2, All4C	red-winged blackbilds, 6, Alive
	Marsh-O-Muck Marsh-O-Muck	6/30/2005 7/29/2005	Cottontails, 2, Alive Robin, 3, Alive		
	Marsh-O-Muck	8/31/2005	TOOLI, O, AIVE		
	Turkey Flats Turkey Flats	1/11/2005 2/14/2005	American robin, Many, Heard/Saw	American crow, Many, Heard/Saw	Eastern meadowlarks, Many, Heard/Seen
2615	Turkey Flats	3/16/2005	Sanhill crane, 20, Alive	American robin, 100, Alive	Tiger beetles, 2, Alive
	Turkey Flats Turkey Flats	4/18/2005 5/18/2005	Brown-headed cowbird, 1, Heard Only Killdeer, 10, Heard Only	American robin, 10, Heard Only Red-bellied woodpecker, 5, Heard Only	Northern cardinal, 10, Heard Only Mallard, 1, Alive
2990	Turkey Flats	6/14/2005	Plains leopard frog, 6, Alive	Mississippi kite, 21, Alive	Northern cardinal Heard Only
	Turkey Flats Turkey Flats	7/13/2005 8/19/2005	Dickcissel (sp?), 5, Heard Only Mississippi kite, 5, Alive	Bobwhite, 10, Alive Northern cardinal, 2, Heard Only	Blue-gray gnatcatcher, 1, Alive Mourning dove, 20, Alive
3885	Turkey Flats	9/20/2005	White-tailed deer, 1, Alive	Northern cardinal, 3, Heard Only	American crow, 5, Heard Only
	Turkey Flats Turkey Flats	10/17/2005 11/18/2005		Red-tailed hawk, 2, Heard Only Meadowlark, 3, Alive	Northern flicker, 5, Heard Only Northern flicker, 2, Alive
1319	Turkey Flats	12/22/2005	Northern flicker, 2, Alive	Sparrow spp., 10, Alive	Meadowlark, 10, Alive
	Turkey Flats Turkey Flats	1/18/2006 2/15/2006	Red-winged blackbirds, 50, Alive	White-crowned sparrow, 10, Alive	American crow, 3, Alive
	Turkey Flats	3/22/2006			
	Midwest City Midwest City	1/21/2005 2/28/2005	Canadian Geese flying overhead, approx 30, Alive Great blue heron, 1, Alive	Mallards in water, 8, Alive Ducks, 6, Alive	Widgeons in water, 4, Alive Canada geese, 10, Alive
2617	Midwest City	3/27/2005	Ducks, Approx 20, Alive	Canada geese, 4, Alive	Frog, 1, Alive
	Midwest City Midwest City	4/30/2005 5/26/2005	Juvenile Little blue herons, 3, Alive Hawk, 1, Alive	Red-winged blackbirds, 4, Alive Redwing blackbird, 4, Alive	Canada geese, 2, Alive Egret, 3, Alive
2993	Midwest City	6/28/2005	Egrets, 6, Alive	Hawk, 1, Alive	Great Blue Heron, 1, Alive
	Midwest City Midwest City	7/26/2005 8/23/2005	Egret, 2, Alive Chickadees Heard Only	Duck, 1, Alive Canada geese Heard Only	Turtles, 6, Alive Frogs, possibly Leopard, lots, Alive
3886	Midwest City	9/21/2005	Crows, 3, Alive	Little blue heron, 1, Alive	Ducks, 5, Alive
	Midwest City Midwest City		Ducks, 12, Alive Ducks, Approx 50, Alive	Bluebirds, 4, Alive Hawk, 1, Alive	Frogs, 2, Alive Crow, 1, Alive
4320	Midwest City	12/22/2005	Ducks, Approx 30, Alive	Crow, Approx 3, Heard Only	Canada geese, Approx 3, Heard Only
	Midwest City Midwest City	1/31/2006 2/23/2006	Ducks (mallards & others), 30, Alive Birds: chickadees, mockingbird, blue jays, etc., Lots, Alive	Muskrat, 1, Alive Ducks Alive	Canada gees flying over and around, 100, Alive Canada geese, Approx 20, Alive
	Midwest City	3/30/2006	Birds. Gilloradees, mockingolia, bide jays, etc., 2013, Alive	Bucks Alive	Odnada geese, Approx 20, Anve
	4-Corners Pond 4-Corners Pond	1/27/2005 2/25/2005	Pied-billed grebe, 1, Alive Barred owl, 1, Alive	Mallards, 8, Alive Gadwall, 16, Alive	Red-winged blackbirds, >20, Alive
	4-Corners Pond	3/27/2005	Ring-necked ducks, 13, Alive	Redhead duck, 1, Alive	Ring-necked duck, 3, Alive Amerian coots, 3, Alive
	4-Corners Pond 4-Corners Pond	4/19/2005 5/23/2005	Pied-billed grebe, 4, Alive Red-winged blackbirds, >20, Alive	Red-winged blackbirds, >30, Alive Common yellow throat (?), 3, Alive	Northern cardinals, 2, Heard Only Blue jay, 2, Alive
	4-Corners Pond	6/27/2005	Northern mockingbird, 1, Alive	Pileated woodpecker, 2, Alive	Blue jay, 7, Alive
	4-Corners Pond 4-Corners Pond	7/27/2005 8/29/2005	Wood ducks, 3, Alive Great egret, 7, Alive	Great egrets, 10, Alive Blue jay, 4, Alive	Northern cardinal, >6, Alive Racoon, 1, Alive
3888	4-Corners Pond	9/23/2005	American crow, 7, Alive	Blue jay, >10, Alive	Raccoon, 1, Alive
4313	4-Corners Pond	10/26/2005	White-tailed deer, 5, Alive	Armadillo, 1, Alive	Red-tailed hawk, 1, Alive
	Beaver Pond Beaver Pond	1/11/2005 2/15/2005	Doe skeleton, 1, Dead	American wigeon, 3, Alive	Rat (under water), 1, Dead
	Beaver Pond Beaver Pond	3/17/2005	Mallards, 6, Alive	Red-winged blackbird, 100, Alive	Eastern pheobe Heard Only
	Beaver Pond Beaver Pond	4/18/2005 5/17/2005	Red-bellied woodpecker, 1, Heard Only Unknown, Viero maybe, 5, Alive	Red-winged blackbird, 10, Heard Only Unknown sparrow, 5, Alive	Heard Northern cardinal, 10, Heard Only Morning dove, 5, Heard Only
	Beaver Pond	6/15/2005	Belted kinfisher, 2, Alive	Warbling vireo (?) Heard Only	Redwinged blackbirds Heard Only
	Beaver Pond Beaver Pond	7/13/2005 8/1/2005	Northern cardinal, 2, Alive Carolina wren, 4, Alive	Great blue heron, 1, Heard Only Northern cardinal, 2, Alive	Great egret, 1, Alive Mouring dove, 3, Heard Only
	Beaver Pond Beaver Pond	9/22/2005	Northern cardinal, 15, Heard Only	Plains leopard frogs, 20, Alive	Red-billed woodpecker, 3, Heard Only
	Beaver Pond Beaver Pond		Northern cardinal, 5, Heard Only Carolina chickadee, 10, Heard Only	Grackle, 1, Heard Only Crow, 3, Alive	Carolina chickadee, 10, Heard Only Red shouldered hawk, 1, Alive
	Beaver Pond	12/21/2005	C. bluebird, 20, Alive	Belted kingfisher, 1, Alive	Canada geese, 200, Alive
4979	Beaver Pond Beaver Pond	2/15/2006	Mallard, 2, Alive American, 1, Alive	American coot, 2, Alive Mallard, 2, Alive	American crow, 5, Alive Northern harrier, 1, Alive
4981	Beaver Pond	3/22/2006			
	Stinchcomb	1/29/2005	Carolina wren, 2, Alive	Mockingbird, 2, Alive	Common crow, 1, Alive
2619	Stinchcomb Stinchcomb	2/26/2005 3/27/2005	Mallards, 6, Alive Double-crested cormorant, 50, Alive	Red-winged blackbirds, 20-25, Alive Northern cardinal, 1, Alive	Ringbilled gull, 1, Alive Red-bellied woodpecker, 1, Alive
	Stinchcomb Stinchcomb	4/28/2005	Red-winged blackbirds, many, Heard Only Cardinal, 2, Alive		
2995	Stinchcomb	5/19/2005 6/30/2005	Mallard drakes, 2, Alive		
	Stinchcomb Stinchcomb	7/30/2005 8/31/2005	Cattle egret, 1, Alive Duck, many, Alive		
3889	Stinchcomb	9/30/2005	Crow, 1, Alive		
4314	Stinchcomb	10/29/2005			
	Heather Ridge Heather Ridge	12/20/2004 1/21/2005	Ducks, >20, Alive	Crawfish, 1, Alive	Minnows, Many, Alive
2780	Heather Ridge Heather Ridge	3/31/2005	Ducks, >20, Alive	Geese, >20, Alive	Redwing black birds, >20, Alive
	Heather Ridge Heather Ridge	6/29/2005 7/29/2005	Ducks Turtle, 1, Dead	Black birds with red wings, >10, Alive Ducks, some, Alive	Minnows, >5, Alive Minnows, many, Alive
	Heather Ridge	9/30/2005	Ducks, >20, Alive	Killideer, 8,	Turtle, 1,
	Durrett Durrett	1/21/2005 2/19/2005	Fish, Several, Alive Birds, 5, Alive	Raccoon, 1, Alive Canada geese, 4, Alive	
	Durrett	3/29/2005	Songbirds, several, Alive	Insects, lots, Alive	Crayfish, 1, Dead
2620				Fish, several, Alive	Frage Q Alive
2620 2625	Durrett Durrett	4/22/2005 5/25/2005	Crawdad, 12, Alive Beaver, 1, Alive	Fish, 2, Alive	Frogs, 8, Alive Songbirds, 5, Alive

SAMPLEID	Site Name Site Name Marsh-O-Muck	9 to C	Wildlife4	Wildlife5	Wildlife
33876 32621 32627 32910 32996 33877	Marsh-O-Muck Marsh-O-Muck Marsh-O-Muck Marsh-O-Muck Marsh-O-Muck Marsh-O-Muck Marsh-O-Muck	2/23/2005 3/31/2005 4/28/2005 5/31/2005 6/30/2005 7/29/2005 8/31/2005	Red-wing blackbirt, 10, Alive Robin, 2, Alive	Leopard toads, 2, Alive	
32608 32615 32623 32911 32990 33397 33879 33885 34310 34315 34319 34322 34980	Turkey Flats	1/11/2005 2/14/2005 3/16/2005 4/18/2005 5/18/2005 6/14/2005 7/13/2005 8/19/2005 9/20/2005 10/17/2005 11/18/2005 12/22/2005 1/18/2006 2/15/2006 3/22/2006	Western meadowlarks, Many, Heard/Seen Carolina chickadee Heard Only Mourning dove, 10, Heard Only Unknown species of sparrow, 10, Heard Only Northern bobwhite Heard Only Mississippi Kite, 1, Alive Turkey, 2 hens, 9 poults 1/2 grown, 11, Alive Sparrow species, 5, Alive Carolina chickadee, 3, Heard Only Canada geese, 54, Alive Canada geese, 54, Alive Canada geese, 54, Alive Geese flew overhead, 50, Alive	Dark-eyed junco, Many, Heard/Seen Sandhill crane Heard Only Northern bobwhite, 1, Heard Only Sweat bees, 100's, Alive Carolina chickadee, 1, Heard Only Northern flicker, 4, Alive Carolina chickadee, 2, Alive Canada geese, 100's, Heard Only American crow, 5, Alive Northern flicker, 2, Alive	Sparrows Heard Only Brown-headed cowbird, 2, Heard Only Unidentified lizard, 1, Alive Northern cardinal, 2, Heard Only Carolina chickadee, 1, Alive Meadowlark, 5, Alive
32614 32617 32628 32905 32993 33890 33886 34312 34317 34320 34978 34323	Midwest City	1/21/2005 2/28/2005 3/27/2005 4/30/2005 5/26/2005 6/28/2005 7/26/2005 8/23/2005 9/21/2005 10/20/2005 11/30/2005 12/22/2005 1/31/2006 2/23/2006 3/30/2006	Robins Alive Small fish, Many, Alive Dragonfly, 4, Alive Dragonflies, lots, Alive Frogs, 8, Alive Dragonflies, lots, Alive Hawk, 1, Alive Vulture, 2, Alive Vulture, 2, Alive Various songbirds Heard Only Songbirds, Approx 5, Heard Only Red-winged blackbird, 1, Alive Hawk, 1, Heard Only	Hawk, 1, Alive Blue-winged teals, 3, Alive Canada geese, 8, Alive Songbirds Heard Only Red-winged blackbird Heard Only Butterflies, lots, Alive Chickadees Heard Only Hawk, 1, Alive Robin Heard Only	Woodpecker Heard Only Grebes (?), 2, Alive Turkey vulture, 1, Alive Woodpecker Heard Only Small frogs Heard Only Hawk Heard Only
32612 32618 32624 32908 32992 33400 33881 33888	4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond	1/27/2005 2/25/2005 3/27/2005 4/19/2005 5/23/2005 6/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005	Blue jay, 2, Alive Pied-bill grebe, 1, Alive Gadwall, 19, Alive Carolina wren, 2, Heard Only Yellow brushed chart (?), 2, Alive Wood ducks, 4, Alive Northern mocking bird, 1, Alive Virginia opossum, 1, Alive Mourning dove, 3, Alive Sharp-shinned hawk, 1, Alive	Mallard, 2, Alive Pied-billed grebe, 1, Alive Prothonetary warbles, 3, Heard Only Northern cardinal, 1, Alive Redwinged blackbird, 8, Alive Beaver, 1, Alive Rough-winged swallow, >40, Alive Great Egrets, 6, Alive	Eastern tufted titmouse, 1, Alive American robin, 4, Alive Osprey, 1, Alive Sharp shinned hawk, 1, Alive Northern cardinal, 2, Alive White ibis, 1, Alive Great blue herons, 3, Alive
32610 32616 32622 32906 32991 33398 33878 33813 34311 34316 34318 34321 34979	Beaver Pond Beaver Pond	1/11/2005 2/15/2005 3/17/2005 4/18/2005 5/17/2005 6/15/2005 7/13/2005 8/1/2005 9/22/2005 10/17/2005	American robin, Many, Heard/Seen Carolina chickadee Heard Only Sparrow spp., 20, Heard/Saw Carolina chickadee, 5, Heard Only Bluegray gnatcatcher Heard Only Red-bellied woodpecker, 2, Heard Only Great egret, 1, Alive Unknown frog species, 30, Alive Crow, 5, Heard Only Canada geese, 100's, Alive Red-bellied woopecker, 3, Alive Belted kingfisher, 1, Alive Carolina checkadee, 5, Heard Only	Red-bellied woodpecker, Many, Heard/Seen Carolina chickadee, 20, Heard Only Blue-gray gnatcatcher, 5, Heard Only Yellowbilled cuckoo Heard Only Little blue heron, 5, Alive Plainbelly watersnake, 1, Alive Bluejay, 2, Heard Only Red-winged blackbird, 150, Alive Greater white-fronted goose, 35, Heard/Saw Sparrow spp., 20, Alive Red-bellied woodpecker, 2, Alive	Dark-eye junco, Many, Heard/Seen Mourning dove, 10, Heard Only Red-bellied woodpecker, 5, Heard Only Sparrow, spp unknown Heard Only Mourning dove, 1, Heard Only Red-bellied woodpecker Heard Only American crow, 5, Heard Only Belted kingfisher, 1, Heard Only Belted kingfisher, 1, Alive White-crowned sparrow, 1, Alive
32613 32619 32626 32907 32995 33402 33883 33889	Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb	1/29/2005 2/26/2005 3/27/2005 4/28/2005 5/19/2005 6/30/2005 7/30/2005 8/31/2005 9/30/2005 10/29/2005	Ducks, 5, Alive Canada geese, 20, Alive	Northern cardinal, 2, Alive	
32175 32780 32994 33401 33890 32176 32611 32620	Heather Ridge Heather Ridge Heather Ridge Heather Ridge Heather Ridge Heather Ridge Durrett Durrett Durrett Durrett	12/20/2004 1/21/2005 3/31/2005 6/29/2005 7/29/2005 9/30/2005 1/21/2005 2/19/2005 4/22/2005	Frog. 1, Alive Heron, 1, Alive		
32909 32178	Durrett Beaver Creek Beaver Creek	5/25/2005 5/25/2005 1/31/2005 2/14/2005	Frog. 1, Alive	Snake, 1, Dead	

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SAMPLEID	iteName	Date	Wildlife?	Wildlife8	Wildlife9
31673 33876 32621 32627 32910 32996 33877	Marsh-O-Muck Marsh-O-Muck Marsh-O-Muck Marsh-O-Muck Marsh-O-Muck Marsh-O-Muck Marsh-O-Muck Marsh-O-Muck	1/25/2005 2/23/2005 3/31/2005 4/28/2005 5/31/2005 6/30/2005 7/29/2005 8/31/2005	*	*	3
32608 32615 32623 32911 32990 33397 33885 34310 34315 34319 34322 34980	Turkey Flats	1/11/2005 2/14/2005 2/14/2005 4/18/2005 6/14/2005 6/14/2005 7/13/2005 8/19/2005 10/17/2005 11/18/2005 11/18/2005 1/18/2006 2/15/2006 3/22/2006	Red-bellied woodpecker Heard Only Spotted sandpiper, 1, Alive White-tail deer (does), 2, Alive Western kingbird, 5, Alive Carolina chickadee, 10, Heard Only	Killideer Heard Only Unidentified calling frogs (PL?) Heard Only Cottontail, 2, Alive	
32614 32617 32628 32905 32993 33399 33886 34312 34317 34320 34978 34323	Midwest City	1/21/2005 2/28/2005 4/30/2005 6/28/2005 6/28/2005 6/28/2005 8/23/2005 9/21/2005 11/30/2005 11/30/2005 11/30/2006 2/23/2006 3/30/2006	Frogs Heard Only Saw & heard lots of frogs, lots, Alive Mississippi kites, 3, Alive Dragonflies Alive Chickadee Heard Only	Bullfrog Heard Only Dansel flies Alive Field lark, not sure Heard Only	Butterflies, sulphur, 1000's, Alive
32612 32618 32624 32908 32992 33400 33881 33888	4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond	1/27/2005 2/25/2005 3/27/2005 4/19/2005 5/23/2005 6/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005	Blue Jay, 2, Alive Red-winged blackbird, >10, Alive Blue-winges teal, 56, Alive Cedar waxwing, 6, Alive Prokoontary(?) warbler, 1, Alive Great blue heron, 3, Alive Shad spp., >100, Dead	Carolina wren, 1, Alive Great-blue heron, 1, Alive Wood ducks, 2, Alive Bobwhite quall, 1, Alive Flea beetles in smartweed Alive Alligator/spotted gar, 12, Dead	Northern cardinal, 1, Alive Blue-winged teal, 5, Alive Blue jay, 3, Alive Bald eagle, 1, Alive Bullfrog calling, 1, Alive
31677	Beaver Pond	1/11/2005			
32616 32622 32906 32991 33398 33877 34311 34316 34318 34321 34979	Beaver Pond Beaver Pond	2/15/2005 3/17/2005 4/18/2005 6/15/2005 7/13/2005 8/1/2005 8/1/2005 10/17/2005 10/17/2005 11/18/2005 12/21/2005 1/18/2006 3/22/2006	Eastern meadowlark, Many, Heard/Seen Killideer, 1, Heard Only Yellow-billed cuckoo, 2, Heard Only Carp spp. Alive Mississippi kite, 1, Alive Mississippit kite, 1, Alive Fox squirrel, 1, Dead American crow, 2, Alive	Western meadowlark, Many, Heard/Seen Eastern pheobe, 1, Heard Only Northern cardinals, 10, Alive Redwing blackbird, 1, Heard Only Carolina chickadee, 2, Heard Only Redtailed hawk, 1,	r-t hawk, Many, Heard/Seen Belted kingfisher, 2, Heard/Saw Red-winged blackbirds, 2, Alive Yellow-billed cuckoo, 2, Heard Only Woodpecker, downy or hairy, 1, Alive Bobwhite, 9, Alive
32177 32613 32619 32626 32907 32995 33402 33883 33889	Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb	1/29/2005 2/26/2005 3/27/2005 4/28/2005 5/19/2005 6/30/2005 7/30/2005 8/31/2005 9/30/2005 10/29/2005			
32175 32780 32994 33401 33890 32176 32611 32620	Heather Ridge Heather Ridge Heather Ridge Heather Ridge Heather Ridge Heather Ridge Durrett Durrett	12/20/2004 1/21/2005 3/31/2005 6/29/2005 7/29/2005 9/30/2005 1/21/2005 2/19/2005 3/29/2005			
32909 32178	Durrett Durrett Beaver Creek Beaver Creek	4/22/2005 5/25/2005 1/31/2005 2/14/2005			

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SAMPLEID	ae		010	£	25
₽	SiteName	ę	Wildlife10	Wildlife11	Wildlife 12
		Date	M.	N N	N N
	Marsh-O-Muck Marsh-O-Muck	1/25/2005 2/23/2005			
32621		3/31/2005			
	Marsh-O-Muck	4/28/2005			
	Marsh-O-Muck	5/31/2005			
	Marsh-O-Muck	6/30/2005			
33877	Marsh-O-Muck Marsh-O-Muck	7/29/2005 8/31/2005			
33002	Marsh-O-Muck	0/31/2005			
31674	Turkey Flats	1/11/2005			
	Turkey Flats	2/14/2005			
	Turkey Flats	3/16/2005			
	Turkey Flats Turkey Flats	4/18/2005 5/18/2005			
	Turkey Flats	6/14/2005			
	Turkey Flats	7/13/2005			
	Turkey Flats	8/19/2005			
	Turkey Flats	9/20/2005			
	Turkey Flats Turkey Flats	10/17/2005 11/18/2005			
	Turkey Flats	12/22/2005			
	Turkey Flats	1/18/2006			
	Turkey Flats	2/15/2006			
34982	Turkey Flats	3/22/2006			
31675	Midwest City	1/21/2005			
	Midwest City	2/28/2005			
32617		3/27/2005			
32628		4/30/2005			
	Midwest City Midwest City	5/26/2005 6/28/2005			
	Midwest City	7/26/2005			
33880	Midwest City	8/23/2005			
	Midwest City	9/21/2005			
	Midwest City	10/20/2005			
34317	Midwest City Midwest City	11/30/2005 12/22/2005			
	Midwest City	1/31/2006			
	Midwest City	2/23/2006			
34983	Midwest City	3/30/2006			
21676	4-Corners Pond	1/27/2005			
	4-Corners Pond	2/25/2005	Brownheaded cowbird, 1, Alive		
	4-Corners Pond	3/27/2005	Browningaded combine, 1,7 mvc		
32624	4-Corners Pond	4/19/2005	Great blue heron, 1, Alive	Bullfrogs, 2, Heard Only	Spotted gars, >10, Alive
32908	4-Corners Pond	5/23/2005	Spotted gar, >15, Alive	Brown thrasher, 1, Alive	
32908 32992	4-Corners Pond	6/27/2005	Spotted gar, >15, Alive	Brown thrasher, 1, Alive	
32908 32992 33400	4-Corners Pond 4-Corners Pond	6/27/2005 7/27/2005	Spotted gar, >15, Alive	Brown thrasher, 1, Alive	
32908 32992 33400 33881	4-Corners Pond	6/27/2005	Spotted gar, >15, Alive	Brown thrasher, 1, Alive	
32908 32992 33400 33881 33888	4-Corners Pond 4-Corners Pond 4-Corners Pond	6/27/2005 7/27/2005 8/29/2005	Spotted gar, >15, Alive	Brown thrasher, 1, Alive	
32908 32992 33400 33881 33888 34313	4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond	6/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005	Spotted gar, >15, Alive	Brown thrasher, 1, Alive	
32908 32992 33400 33881 33888 34313	4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond Beaver Pond	6/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005 1/11/2005			
32908 32992 33400 33881 33888 34313 31677 32610	4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond Beaver Pond Beaver Pond	6/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005 1/11/2005 2/15/2005	Spotted gar, >15, Alive Sparrows, Many, Heard/Seen	Brown thrasher, 1, Alive Carolina chickadee, Many, Heard/Seen	
32908 32992 33400 33881 33888 34313 31677 32610 32616 32622	4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond Beaver Pond Beaver Pond Beaver Pond Beaver Pond	6/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005 1/11/2005 2/15/2005 3/17/2005 4/18/2005	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive	
32908 32992 33400 33881 33888 34313 31677 32610 32616 32622 32906	4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond Beaver Pond Beaver Pond Beaver Pond Beaver Pond Beaver Pond	6/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005 1/11/2005 2/15/2005 3/17/2005 4/18/2005 5/17/2005	Sparrows, Many, Heard/Seen	Carolina chickadee, Many, Heard/Seen	
32908 32992 33400 33881 33888 34313 31677 32610 32616 32622 32906 32991	4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond Beaver Pond	6/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005 1/11/2005 2/15/2005 3/17/2005 5/17/2005 6/15/2005	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive Mississippi kite, 2, Alive	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive Crawfish, 10, Dead	Durk snn haard nossikly k w tod 4 Moord Onto
32908 32992 33400 33881 33888 34313 31677 32610 32616 32622 32906 32991 33398	4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond Beaver Pond	6/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005 1/11/2005 2/15/2005 3/17/2005 4/18/2005 5/17/2005 6/15/2005 7/13/2005	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive Mississippi kite, 2, Alive Unknown vireo, 1, Heard Only	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive Crawfish, 10, Dead Blue-green gnatcatcher, 1, Alive	Duck spp., heard possibly b-w teal, 1, Heard Only
32908 32992 33400 33881 33888 34313 31677 32610 32616 32622 32906 32991 33398 33878	4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond Beaver Pond	6/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005 1/11/2005 2/15/2005 3/17/2005 5/17/2005 6/15/2005	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive Mississippi kite, 2, Alive	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive Crawfish, 10, Dead	Duck spp., heard possibly b-w teal, 1, Heard Only
32908 32992 33400 33881 33888 34313 31677 32610 32616 32622 32906 32991 33398 33878 33878 33887	4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond Beaver Pond	6/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005 1/11/2005 2/15/2005 3/17/2005 4/18/2005 5/17/2005 8/1/2005 8/1/2005 10/17/2005 10/17/2005	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive Mississippi kite, 2, Alive Unknown vireo, 1, Heard Only	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive Crawfish, 10, Dead Blue-green gnatcatcher, 1, Alive	Duck spp., heard possibly b-w teal, 1, Heard Only
32908 32992 33400 33881 33888 34313 31677 32610 32616 32622 32906 32991 33398 33878 33878 34311 34316	4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond Beaver Pond	6/27/2005 7/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005 1/11/2005 2/15/2005 4/18/2005 6/15/2005 6/15/2005 8/1/2005 9/22/2005 10/17/2005 11/18/2005	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive Mississippi kite, 2, Alive Unknown vireo, 1, Heard Only	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive Crawfish, 10, Dead Blue-green gnatcatcher, 1, Alive	Duck spp., heard possibly b-w teal, 1, Heard Only
32908 32992 33400 33881 33888 34313 31677 32610 32612 32906 32991 33398 33878 33878 33887 34311 34316	4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond Beaver Pond	6/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005 11/1/2005 2/15/2005 3/17/2005 4/18/2005 5/17/2005 6/15/2005 9/22/2005 10/17/2005 10/17/2005 10/17/2005 10/17/2005	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive Mississippi kite, 2, Alive Unknown vireo, 1, Heard Only	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive Crawfish, 10, Dead Blue-green gnatcatcher, 1, Alive	Duck spp., heard possibly b-w teal, 1, Heard Only
32908 32992 33400 33881 33888 34313 31677 32610 32612 32906 32991 33398 33878 33878 34311 34316 34318 34321	4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond Beaver Pond	6/27/2005 7/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005 1/11/2005 2/15/2005 4/18/2005 6/15/2005 6/15/2005 8/1/2005 9/22/2005 10/17/2005 11/18/2005	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive Mississippi kite, 2, Alive Unknown vireo, 1, Heard Only	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive Crawfish, 10, Dead Blue-green gnatcatcher, 1, Alive	Duck spp., heard possibly b-w teal, 1, Heard Only
32908 32992 33400 33881 33888 34313 31677 32610 32616 32622 32906 32991 33398 33878 33878 33878 34311 34316 34318 34321 34979	4-Corners Pond Beaver Pond	6/27/2005 7/27/2005 7/27/2005 9/23/2005 9/23/2005 10/26/2005 1/11/2005 4/18/2005 5/17/2005 6/15/2005 7/13/2005 9/22/2005 10/17/2005 10/17/2005 11/18/2005 11/18/2005 11/18/2005	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive Mississippi kite, 2, Alive Unknown vireo, 1, Heard Only	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive Crawfish, 10, Dead Blue-green gnatcatcher, 1, Alive	Duck spp., heard possibly b-w teal, 1, Heard Only
32908 32992 33400 33881 33888 34313 31677 32610 32616 32622 32906 32991 33398 33878 33887 34311 34316 34318 34321 34979 34981	4-Corners Pond Beaver Pond	6/27/2005 7/27/2005 8/29/2005 8/29/2005 9/23/2005 10/26/2005 11/1/2005 3/17/2005 4/16/2005 5/17/2005 6/15/2005 7/13/2005 9/22/2005 11/18/2005 12/21/2005 11/18/2006 2/15/2006	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive Mississippi kite, 2, Alive Unknown vireo, 1, Heard Only	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive Crawfish, 10, Dead Blue-green gnatcatcher, 1, Alive	Duck spp., heard possibly b-w teal, 1, Heard Only
32908 32992 33400 33881 33888 34313 31677 32610 32612 32922 32906 32991 33398 33878 33878 34311 34316 34318 34321 34979 34981	4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond Beaver Pond Seaver Pond Seaver Pond Seaver Pond Seaver Pond Stinchcomb	6/27/2005 7/27/2005 8/29/2005 8/29/2005 9/23/2005 10/26/2005 1/14/2005 3/17/2005 6/15/2005 9/22/2005 10/17/2005 10/17/2005 10/17/2005 12/21/2005 12/21/2006 1/15/2006 2/25/2006	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive Mississippi kite, 2, Alive Unknown vireo, 1, Heard Only	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive Crawfish, 10, Dead Blue-green gnatcatcher, 1, Alive	Duck spp., heard possibly b-w teal, 1, Heard Only
32908 32992 33400 33881 33888 34313 31677 32610 32616 32622 32906 32991 33887 33887 33887 34311 34316 34318 34321 34979 34981	4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond Beaver Pond	6/27/2005 6/27/2005 8/29/2005 9/23/2005 10/26/2005 11/1/2005 3/17/2005 4/18/2005 5/17/2005 8/1/2005 9/22/2005 11/18/2005 11/18/2005 11/18/2005 11/18/2005 11/18/2005 11/18/2005 11/18/2005 11/18/2005 11/18/2005 11/18/2005 11/18/2006 21/5/2006	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive Mississippi kite, 2, Alive Unknown vireo, 1, Heard Only	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive Crawfish, 10, Dead Blue-green gnatcatcher, 1, Alive	Duck spp., heard possibly b-w teal, 1, Heard Only
32908 32992 33400 33881 33888 34313 31677 32610 32622 32906 32991 33878 33878 33878 34311 34311 34321 34921 32177 32613 32613	4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond Beaver Pond Seaver Pond Seaver Pond Seaver Pond Seaver Pond Stinchcomb	6/27/2005 7/27/2005 8/29/2005 8/29/2005 9/23/2005 10/26/2005 1/14/2005 3/17/2005 6/15/2005 9/22/2005 10/17/2005 10/17/2005 10/17/2005 12/21/2005 12/21/2006 1/15/2006 2/25/2006	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive Mississippi kite, 2, Alive Unknown vireo, 1, Heard Only	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive Crawfish, 10, Dead Blue-green gnatcatcher, 1, Alive	Duck spp., heard possibly b-w teal, 1, Heard Only
32908 32992 33400 33881 33888 34313 31677 32610 32616 32622 32906 33988 33878 33878 34311 34316 34318 34311 34319 34991 32177 32613 32616 32177 32613 32616 32616 32616 32617 32617 32613 32619	4-Corners Pond Beaver Po	6/27/2005 7/27/2005 8/29/2005 8/29/2005 9/23/2005 10/26/2005 11/1/2005 3/17/2005 4/18/2005 9/22/2005 11/18/2005 9/22/2005 11/18/2005 12/18/2005	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive Mississippi kite, 2, Alive Unknown vireo, 1, Heard Only	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive Crawfish, 10, Dead Blue-green gnatcatcher, 1, Alive	Duck spp., heard possibly b-w teal, 1, Heard Only
32908 32992 33400 33881 33888 34313 32610 32616 32622 3296 33878 34313 4316 34318 34321 34316 32619 32616 3297 32619 32626 3297 3295 3295 3295	4-Corners Pond Beaver Dond Beaver Bond Beaver Dond Beaver Do	6/27/2005 7/27/2005 8/29/2005 8/29/2005 8/29/2005 10/26/2005 1/11/2005 2/15/2005 3/17/2005 6/15/2005 7/13/2005 1/12/2005 1/12/2005 1/15/2006 2/15/2006 2/15/2006 2/15/2006 3/22/2006 1/15/2006 3/22/2006 1/19/2005	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive Mississippi kite, 2, Alive Unknown vireo, 1, Heard Only	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive Crawfish, 10, Dead Blue-green gnatcatcher, 1, Alive	Duck spp., heard possibly b-w teal, 1, Heard Only
32902 33400 33881 33888 31677 32616 32616 32692 32991 3398 3387 43311 34316 34318 34319 3491 32177 32613 32616 3291 3292 3293 3292 3293 3293 3293 3293	4-Corners Pond Beaver Pond Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb	6/27/2005 6/27/2005 8/29/2005 9/23/2005 10/26/2005 1/11/2005 2/15/2005 5/17/2005 6/15/2005 7/13/2005 8/1/2005 9/22/2005 1/18/2005 1/18/2006 1/15/2006 1/16/2005 1/18/2006 2/26/2005 3/27/2005 1/18/2006 2/26/2005 3/27/2005 1/26/2005 3/27/2005 5/19/2005 5/19/2005 5/19/2005 5/19/2005 5/19/2005 5/19/2005 5/19/2005 5/19/2005 5/19/2005 5/19/2005 5/19/2005	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive Mississippi kite, 2, Alive Unknown vireo, 1, Heard Only	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive Crawfish, 10, Dead Blue-green gnatcatcher, 1, Alive	Duck spp., heard possibly b-w teal, 1, Heard Only
32908 33400 33881 33888 33610 32616 32961 32906 32991 338788 338788 338788 338788 33878 33878 33878 33878 33878 33878 33878 33878 33878 33878 33978 33978 33978 33978 33978 33978 33978 33978 33978 33978 33978 33978 34	4-Corners Pond Beaver Dond Beaver Bond Beaver Dond Beaver Do	6/27/2005 7/27/2005 8/29/2005 8/29/2005 8/23/2005 10/26/2005 1/11/2005 3/17/2005 3/17/2005 6/15/2005 7/13/2005 1/12/2005 1/12/2005 1/15/2006 2/15/2006 2/15/2006 2/15/2006 3/22/2006 1/15/2006 3/22/2006 1/15/2006 3/22/2006 1/15/2006 3/22/2006 1/15/2006 3/27/2005 4/28/2005 4/28/2005 5/19/2005 6/3/0/2005 6/3/0/2005 6/3/0/2005	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive Mississippi kite, 2, Alive Unknown vireo, 1, Heard Only	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive Crawfish, 10, Dead Blue-green gnatcatcher, 1, Alive	Duck spp., heard possibly b-w teal, 1, Heard Only
32908 33400 33881 33888 33677 32610 32616 32991 32626 32991 33881 338787	4-Corners Pond Beaver Dond Beaver Do	6/27/2005 6/27/2005 8/29/2005 8/29/2005 8/29/2005 10/26/2005 11/1/2005 11/1/2005 11/1/2005 11/1/2005 11/1/2005 11/1/2005 11/1/2005 11/1/2005 11/1/2005 11/1/2006 11/1/2005 11/1/2006	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive Mississippi kite, 2, Alive Unknown vireo, 1, Heard Only	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive Crawfish, 10, Dead Blue-green gnatcatcher, 1, Alive	Duck spp., heard possibly b-w teal, 1, Heard Only
32908 33400 33881 31677 32610 32622 32906 33883 34811 32617 32619 32629 3291 33988 33887 34311 32617 32619 32626 33402 32619 32626 33402 32619 32626 33402 32619 32626 33402 32619 32626 33402 32619 3	4-Corners Pond Beaver Dond Beaver Do	6/27/2005 6/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005 11/1/2005 2/15/2005 5/17/2005 5/17/2005 5/17/2005 5/17/2005 11/18/2005 12/21/2005	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive Mississippi kite, 2, Alive Unknown vireo, 1, Heard Only	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive Crawfish, 10, Dead Blue-green gnatcatcher, 1, Alive	Duck spp., heard possibly b-w teal, 1, Heard Only
32908 3491 33881 34313 34314 34314 3291 33888 34313 34313 34314 34316 34318 34311 34316 34318 34314 34318 34314 34318 34314 34318 34314 34318 34314 34318 34	4-Corners Pond Beaver Pond Stinchcomb	6/27/2005 6/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005 1/11/2005 2/15/2005 3/17/2005 6/15/2005 7/13/2005 8/1/2005 9/22/2005 8/1/2005 9/22/2005 1/18/2006 1/2/2005	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive Mississippi kite, 2, Alive Unknown vireo, 1, Heard Only	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive Crawfish, 10, Dead Blue-green gnatcatcher, 1, Alive	Duck spp., heard possibly b-w teal, 1, Heard Only
32908 33808 34913 32612 32902 32906 32991 32612 32906 32991 32612 32906 32991 32612 32906 32991 32612 32626 32907 32995 33878 34314 32613 32619 32626 32907 32995 32626 32907 32955 32907 32955 32957 32955 32957	4-Corners Pond Beaver Dond Beaver Do	6/27/2005 6/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005 11/1/2005 3/17/2005 4/18/2005 5/17/2005 6/15/2005 7/13/2005 9/22/2005 12/12/2005 12/12/2005 12/21/2005	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive Mississippi kite, 2, Alive Unknown vireo, 1, Heard Only	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive Crawfish, 10, Dead Blue-green gnatcatcher, 1, Alive	Duck spp., heard possibly b-w teal, 1, Heard Only
32908 33400 33881 31677 32610 32825 32906 33882 32991 33988 34313 31677 32610 32616 32616 32616 32616 32616 32616 32617 32613 32619 32626 32907 334314 32175 32613 33883 34314 32751 32615 32905 33402 32905 33402 32905 33402 32905 33402 32905 33402 32905 33402 32905 33402 32781	4-Corners Pond Beaver Pond Stinchcomb	6/27/2005 6/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005 1/11/2005 2/15/2005 3/17/2005 6/15/2005 7/13/2005 8/1/2005 9/22/2005 8/1/2005 9/22/2005 1/18/2006 1/2/2005	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive Mississippi kite, 2, Alive Unknown vireo, 1, Heard Only	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive Crawfish, 10, Dead Blue-green gnatcatcher, 1, Alive	Duck spp., heard possibly b-w teal, 1, Heard Only
32908 33401 31677 32610 32924 32926 33402 32926 3200 32926 32926 32926 32926 32926 32926 32926 32926 32926 32926 3	4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond Beaver Pond	6/27/2005 6/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005 11/1/2005 2/15/2005 3/17/2005 4/18/2005 5/17/2005 8/1/2005 11/18/2005 11/18/2005 11/18/2006 2/15/2006 2/15/2006 1/19/2005 2/26/2005 1/29/2005	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive Mississippi kite, 2, Alive Unknown vireo, 1, Heard Only	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive Crawfish, 10, Dead Blue-green gnatcatcher, 1, Alive	Duck spp., heard possibly b-w teal, 1, Heard Only
32908 33401 31677 32610 32924 32926 33402 32926 3200 32926 32926 32926 32926 32926 32926 32926 32926 32926 32926 3	4-Corners Pond Beaver Dond Beaver Do	6/27/2005 6/27/2005 8/29/2005 9/23/2005 10/26/2005 11/1/2005 3/17/2005 3/17/2005 3/17/2005 6/15/2005 7/13/2005 9/22/2005 11/18/2005 9/22/2005 11/18/2006 2/15/2006 3/27/2005	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive Mississippi kite, 2, Alive Unknown vireo, 1, Heard Only	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive Crawfish, 10, Dead Blue-green gnatcatcher, 1, Alive	Duck spp., heard possibly b-w teal, 1, Heard Only
32908 33803 3401 32610 3	4-Corners Pond Beaver Po	6/27/2005 6/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005 11/1/2005 3/17/2005 4/18/2005 5/17/2005 6/15/2005 7/13/2005 9/22/2005 11/18/2005 9/22/2005 11/18/2006 2/15/2006 3/27/2005 5/19/2005 8/19/2005 8/19/2005 8/19/2005 8/19/2005 8/19/2005 8/19/2005 8/19/2005 8/19/2005 8/19/2005 8/19/2005 8/19/2005 8/19/2005 8/19/2005 8/19/2005 8/19/2005 8/19/2005 8/19/2005 8/19/2005 9/19/2005 9/19/2005 9/19/2005 9/19/2005	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive Mississippi kite, 2, Alive Unknown vireo, 1, Heard Only	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive Crawfish, 10, Dead Blue-green gnatcatcher, 1, Alive	Duck spp., heard possibly b-w teal, 1, Heard Only
32908 33400 33881 31677 32610 32925 32906 33882 33878 33878 33878 33878 33878 33431 32177 32613 33982 3291 3292 3292 3292 3292 3292 3292 329	4-Corners Pond Beaver Dond Beaver Pond Beaver Rond Beaver Rond Beaver Ridge Heather Ridge Heather Ridge Heather Ridge Heather Ridge Heather Ridge	6/27/2005 6/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005 11/1/2005 3/17/2005 3/17/2005 3/17/2005 6/15/2005 7/13/2005 11/18/2005 12/21/2005 11/18/2006 2/25/2006 2/25/2005 3/27/2005 12/21/2005 12/21/2005 12/21/2005 12/21/2005 12/21/2005 12/21/2005 3/27/2005 4/28/2005 5/30/2005 6/30/2005 6/30/2005 6/30/2005 7/30/2005 10/29/2005 3/31/2005 9/30/2005 3/31/2005 9/30/2005 9/30/2005 9/30/2005 9/30/2005 9/30/2005 9/30/2005 9/30/2005	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive Mississippi kite, 2, Alive Unknown vireo, 1, Heard Only	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive Crawfish, 10, Dead Blue-green gnatcatcher, 1, Alive	Duck spp., heard possibly b-w teal, 1, Heard Only
32908 33808 34313 31677 32610 32902 33887 34311 34316 32901 33888 34313 34321 34316 32612 32906 32907 34311 34316 32612 32907 34381 32612 32927 32925 33882 33883 34314 32750 32925 33883 34314 32750 32925	4-Corners Pond Beaver Po	6/27/2005 6/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005 11/1/2005 3/17/2005 4/18/2005 5/17/2005 6/15/2005 7/13/2005 9/22/2005 11/18/2005 9/22/2005 11/18/2006 2/15/2006 3/27/2005 5/19/2005 8/19/2005 8/19/2005 8/19/2005 8/19/2005 8/19/2005 8/19/2005 8/19/2005 8/19/2005 8/19/2005 8/19/2005 8/19/2005 8/19/2005 8/19/2005 8/19/2005 8/19/2005 8/19/2005 8/19/2005 8/19/2005 9/19/2005 9/19/2005 9/19/2005 9/19/2005	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive Mississippi kite, 2, Alive Unknown vireo, 1, Heard Only	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive Crawfish, 10, Dead Blue-green gnatcatcher, 1, Alive	Duck spp., heard possibly b-w teal, 1, Heard Only
32908 33400 33881 31677 32610 32626 32907 33882 34313 32616 32626 32901 33988 34318 34321 32619 32626 32907 33401 32619 32626 32907 33401 32619 32626 32907 32905 33402 32905 33402 32905 33402 32905 33402 32905	4-Corners Pond Beaver Po	6/27/2005 6/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005 2/15/2005 3/17/2005 5/17/2005 6/15/2005 7/13/2005 8/1/2005 9/22/2005 8/1/2005 9/22/2005 11/18/2005	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive Mississippi kite, 2, Alive Unknown vireo, 1, Heard Only	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive Crawfish, 10, Dead Blue-green gnatcatcher, 1, Alive	Duck spp., heard possibly b-w teal, 1, Heard Only
32908 33400 33881 31677 32610 32626 32907 33882 34313 32616 32626 32901 33988 34318 34321 32619 32626 32907 33401 32619 32626 32907 33401 32619 32626 32907 32905 33402 32905 33402 32905 33402 32905 33402 32905	4-Corners Pond Beaver Po	6/27/2005 6/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005 11/1/2005 3/17/2005 4/18/2005 5/17/2005 6/15/2005 7/13/2005 9/22/2005 11/18/2006 12/12/2005 12/12/2005 12/12/2005 12/21/2005	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive Mississippi kite, 2, Alive Unknown vireo, 1, Heard Only	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive Crawfish, 10, Dead Blue-green gnatcatcher, 1, Alive	Duck spp., heard possibly b-w teal, 1, Heard Only
32908 33400 33881 31677 32610 32622 32906 32991 33988 34313 31677 32610 32616 32622 32906 32911 33988 34311 34321 32617 32619 32626 32907 32626 32907 32626 32907 32626 32907 32626 32907 32626 32907 32626 32907 32626 32907 32626 32907 32626 32907 32626 32909 32626 32909	4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond Beaver Pond	6/27/2005 7/27/2005 7/27/2005 9/23/2005 9/23/2005 10/26/2005 11/1/2005 3/17/2005 4/18/2005 9/22/2005 11/18/2005 11/18/2005 11/18/2005 11/18/2006 2/15/2006 3/27/2005 3/27/2005 3/27/2005 3/27/2005 3/27/2005 3/27/2005 3/27/2005 3/27/2005 3/27/2005 3/27/2005 1/29/2005 9/30/2005 1/29/2005	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive Mississippi kite, 2, Alive Unknown vireo, 1, Heard Only	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive Crawfish, 10, Dead Blue-green gnatcatcher, 1, Alive	Duck spp., heard possibly b-w teal, 1, Heard Only
32908 33808 34313 31677 32610 32626 32907 33881 33808 34313 31677 32610 32626 32907 32925 33402 32927 32925 33402 32927 32925 33402 32927 32925 32929	4-Corners Pond Beaver Po	6/27/2005 6/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005 2/15/2005 3/17/2005 5/17/2005 6/15/2005 7/13/2005 8/1/2005 9/22/2005 8/1/2005 9/22/2005 11/18/2005	Sparrows, Many, Heard/Seen Domestic dog, 1, Alive Mississippi kite, 2, Alive Unknown vireo, 1, Heard Only	Carolina chickadee, Many, Heard/Seen Garter snake, 1, Alive Crawfish, 10, Dead Blue-green gnatcatcher, 1, Alive	Duck spp., heard possibly b-w teal, 1, Heard Only

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SAMPLE	iteName	Φ	Wildlife13	Wildlife14
	Ø	Dat	W	Wiik
	Marsh-O-Muck Marsh-O-Muck	1/25/2005 2/23/2005		
32621	Marsh-O-Muck	3/31/2005		
	Marsh-O-Muck Marsh-O-Muck	4/28/2005 5/31/2005		
	Marsh-O-Muck	6/30/2005		
	Marsh-O-Muck	7/29/2005		
33882	Marsh-O-Muck	8/31/2005		
	Turkey Flats	1/11/2005		
	Turkey Flats Turkey Flats	2/14/2005 3/16/2005		
	Turkey Flats	4/18/2005		
	Turkey Flats Turkey Flats	5/18/2005		
	Turkey Flats Turkey Flats	6/14/2005 7/13/2005		
33879	Turkey Flats	8/19/2005		
	Turkey Flats Turkey Flats	9/20/2005 10/17/2005		
34315	Turkey Flats	11/18/2005		
	Turkey Flats Turkey Flats	12/22/2005 1/18/2006		
34980	Turkey Flats	2/15/2006		
34982	Turkey Flats	3/22/2006		
	Midwest City	1/21/2005		
32614	Midwest City	2/28/2005		
	Midwest City Midwest City	3/27/2005 4/30/2005		
	Midwest City	5/26/2005		
	Midwest City Midwest City	6/28/2005		
	Midwest City	7/26/2005 8/23/2005		
33886	Midwest City	9/21/2005		
	Midwest City Midwest City	10/20/2005 11/30/2005		
	Midwest City	12/22/2005		
	Midwest City	1/31/2006		
	Midwest City Midwest City	2/23/2006 3/30/2006		
	4-Corners Pond 4-Corners Pond			
32618	4-Corners Pond	3/27/2005		
	4-Corners Pond		Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908	4-Corners Pond 4-Corners Pond 4-Corners Pond		Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 32992 33400	4-Corners Pond 4-Corners Pond 4-Corners Pond	5/23/2005 6/27/2005 7/27/2005	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 32992 33400 33881	4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond	5/23/2005 6/27/2005	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 32992 33400 33881 33888	4-Corners Pond 4-Corners Pond 4-Corners Pond	5/23/2005 6/27/2005 7/27/2005 8/29/2005	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 32992 33400 33881 33888 34313	4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond	5/23/2005 6/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 32992 33400 33881 33888 34313 31677	4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond	5/23/2005 6/27/2005 7/27/2005 8/29/2005 9/23/2005	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 32992 33400 33881 33888 34313 31677 32610 32616	4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond Beaver Pond Beaver Pond Beaver Pond	5/23/2005 6/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005 1/11/2005 2/15/2005 3/17/2005	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 32992 33400 33881 33888 34313 31677 32610 32616 32622	4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond Beaver Pond Beaver Pond Beaver Pond Beaver Pond	5/23/2005 6/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005 1/11/2005 2/15/2005	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 32992 33400 33881 33888 34313 31677 32610 32616 32622 32906 32991	4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond 4-Corners Pond Beaver Pond	5/23/2005 6/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005 1/11/2005 2/15/2005 4/18/2005 5/17/2005 6/15/2005	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 32992 33400 33881 33888 34313 31677 32610 32616 32622 32906 32991 33398	4-Corners Pond Beaver Pond	5/23/2005 6/27/2005 6/27/2005 8/29/2005 9/23/2005 10/26/2005 1/11/2005 2/15/2005 3/17/2005 4/18/2005 6/15/2005 7/13/2005	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 32992 33400 33881 33888 34313 31677 32610 32616 32622 32906 32991 33398 33878 33887	4-Corners Pond Beaver Pond	5/23/2005 6/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005 1/11/2005 2/15/2005 4/18/2005 5/17/2005 6/15/2005	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 32992 33400 33881 33888 34313 31677 32610 32616 32622 32906 32991 33398 33878 33877 34311	4-Corners Pond Beaver Pond	5/23/2005 6/27/2005 6/27/2005 8/29/2005 9/23/2005 10/26/2005 11/11/2005 3/17/2005 4/18/2005 5/17/2005 6/15/2005 8/1/2005 8/1/2005 10/17/2005	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 32992 33400 33881 33888 34313 31677 32610 32616 32622 32906 32991 33398 33878 33878 33878 34311 34316	4-Corners Pond Beaver Pond	5/23/2005 6/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005 1/11/2005 2/15/2005 3/17/2005 6/15/2005 8/1/2005 9/22/2005 11/18/2005 9/22/2005 11/18/2005	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 32992 33400 33881 33888 34313 31677 32610 32616 32622 32906 32991 33398 33878 33877 34316 34316 34318 34321	4-Corners Pond Beaver Pond	5/23/2005 6/27/2005 6/27/2005 8/29/2005 9/23/2005 9/23/2005 1/11/2005 2/15/2005 3/17/2005 6/15/2005 7/13/2005 8/1/2005 9/22/2005 11/18/2005 11/18/2005 11/18/2005	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 32992 33400 33888 33888 34313 31677 32610 32616 32926 32991 33398 33878 33887 34311 34316 34318 34321 34979	4-Corners Pond Beaver Pond	5/23/2005 6/27/2005 6/27/2005 8/29/2005 9/23/2005 9/23/2005 1/11/2005 2/15/2005 3/17/2005 6/15/2005 7/13/2005 8/1/2005 9/22/2005 10/17/2005 11/18/2005 12/21/2005 11/18/2005 2/15/2006	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 32992 33400 33881 33881 34313 31677 32610 32616 32622 32906 32991 33398 33878 33878 34311 34316 34318 34329 34981	4-Corners Pond Beaver Pond	5/23/2005 6/27/2005 6/27/2005 8/29/2005 9/23/2005 9/23/2005 1/11/2005 2/15/2005 3/17/2005 6/15/2005 7/13/2005 9/22/2005 11/18/2005 11/18/2005 11/18/2005 11/18/2006 2/15/2006 3/22/2006	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 32992 33400 33881 33881 33881 34313 31677 32610 32616 32622 32906 33878 33878 33878 33878 33878 34311 34919 34919 34919 34919	4-Corners Pond Beaver Pond	5/23/2005 6/27/2005 6/27/2005 8/29/2005 9/23/2005 9/23/2005 10/26/2005 11/12/005 11/12/005 11/12/005 11/12/005 11/12/005 11/12/005 11/12/005 11/12/005 11/12/005	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 32992 33400 33881 33888 34313 31677 32610 32616 32991 33398 33887 34311 34316 34318 34321 34979 34981	4-Corners Pond Beaver Pond	5/23/2005 6/27/2005 6/27/2005 8/29/2005 9/23/2005 9/23/2005 1/11/2005 2/15/2005 3/17/2005 6/15/2005 7/13/2005 9/22/2005 11/18/2005 11/18/2005 11/18/2005 11/18/2006 2/15/2006 3/22/2006	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 32992 33400 33881 33888 34313 31677 32610 32622 32906 32991 33887 34311 34316 34318 34321 3499 3217 3217 3217 3213 3217 3213 3217 3213 3217 3213 3217 3213 3217 3213 3217 3213 3213	4-Corners Pond Beaver Sond Beaver So	5/23/2005 6/27/2005 8/29/2005 9/23/2005 9/23/2005 10/26/2005 11/12/05 2/15/2005 3/17/2005 5/17/2005 6/15/2005 9/22/2005 10/17/2005 10/17/2005 11/18/2006 9/22/2005 2/26/2005 3/22/2006	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 32992 32992 33400 33881 33888 34313 31677 32610 32616 32991 33398 33878 33878 34311 34316 34318	4-Corners Pond Beaver Dond Beaver Do	5/23/2005 6/27/2005 8/29/2005 9/23/2005 9/23/2005 9/23/2005 9/23/2005 3/17/2005 4/18/2005 9/25/2005 8/1/2005 9/22/2005 1/18/2005 1/18/2005 1/18/2005 1/18/2006 1/18/2005 1/18/2006 1/18/2006 1/18/2006 1/18/2006 1/18/2006 1/18/2006 1/18/2006 1/18/2006 1/18/2006 1/18/2006 1/18/2006 1/18/2006 1/18/2006 1/18/2006 1/18/2006 1/18/2006 1/18/2006 1/18/2005 1/18/2005 1/18/2005 1/18/2005 1/18/2005 1/18/2005 1/18/2005 1/18/2005 1/18/2005	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 32992 33400 33881 33888 34313 31677 32610 32610 32991 3398 33978 34311 34316 34318 34411 34177 32613 32619 3	4-Corners Pond Beaver Pond Seaver Pond Beaver Pond Seaver Pond Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb	5/23/2005 6/27/2005 8/29/2005 9/23/2005 9/23/2005 10/26/2005 10/26/2005 11/12/2005 3/17/2005 5/17/2005 6/15/2005 9/22/2005 10/17/2005 11/18/2005	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 32992 33400 33881 33888 34313 31677 32610 32616 32921 33398 33878 33878 34311 34316 34318 34311 34979 34981 32177 32633 32676 32907 32995 32907 32995 32907 32935 32937	4-Corners Pond Beaver Dond Beaver Do	5/23/2005 6/27/2005 8/29/2005 9/23/2005 9/23/2005 9/23/2005 1/11/2005 2/15/2005 3/17/2005 4/18/2005 9/22/2005 9/22/2005 1/18/2005 1/18/2005 1/18/2005 1/18/2005 1/18/2005 1/18/2006 1/18/2006 1/18/2006 1/18/2006 1/18/2006 1/18/2006 1/18/2006 1/18/2006 1/18/2006 1/18/2006 1/18/2006 1/18/2005 1/18/2006 1/18/2005	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 32992 33400 33881 33888 33887 32610 32616 32991 33398 33887 34311 3416 3418 3421 32619 32626 3491 32619 32626 3291 3398 33887 3491 3297 3297 3298 33483 32619 3261	4-Corners Pond Beaver Pond Seaver Pond Beaver Pond Seaver Pond Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb	5/23/2005 6/27/2005 8/29/2005 9/23/2005 9/23/2005 10/26/2005 10/26/2005 11/12/2005 3/17/2005 5/17/2005 6/15/2005 9/22/2005 10/17/2005 11/18/2005	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 32992 33400 33881 33888 33887 32610 32616 32991 33398 33878 34311 34316 34318 34321 34318 34321 32619 3296 3397 34981 3297 3297 3297 3297 3297 3297 3297 3297	4-Corners Pond Beaver Dond Beaver Do	5/23/2005 6/27/2005 6/27/2005 8/29/2005 9/23/2005 9/23/2005 10/26/2005 11/12/2005 3/17/2005 6/15/2005 3/17/2005 6/15/2005 10/17/2005 10/17/2005 11/18/2005 12/21/2005 11/18/2006 3/22/2006 1/29/2005 1/29/2005 6/30/2005 6/30/2005 9/30/2005 9/30/2005 9/30/2005 9/30/2005 9/30/2005	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 33400 33881 34314 32781 33888 34313 33878	4-Corners Pond Beaver Dond Beaver Do	5/23/2005 6/27/2005 6/27/2005 8/29/2005 9/23/2005 9/23/2005 10/26/2005 11/12/2005 3/17/2005 6/15/2005 3/17/2005 6/15/2005 10/17/2005 10/17/2005 11/18/2005 12/21/2005 11/18/2006 3/22/2006 1/29/2005 1/29/2005 6/30/2005 6/30/2005 9/30/2005 9/30/2005 9/30/2005 9/30/2005 9/30/2005	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 33400 33881 31677 32610 32912 32906 32991 32622 32906 32991 34912 32912 32906 32991 32926 32991 32926 32991 32926 32921 32927 32926 32927 32926 32927 3297 329	4-Corners Pond Beaver Dond Beaver Do	5/23/2005 6/27/2005 6/27/2005 8/29/2005 9/23/2005 9/23/2005 10/26/2005 10/26/2005 11/12/2005 4/18/2005 5/17/2005 6/15/2005 10/17/2005 10/17/2005 11/18/2005 12/21/2005 12/21/2005 4/28/2005 3/27/2005 6/30/2005 9/30/2005 9/30/2005 9/30/2005 10/29/2005 10/29/2005 10/29/2005 10/29/2005 10/29/2005 10/29/2005 10/29/2005 10/29/2005 10/29/2005 10/29/2005 10/29/2005 10/29/2005 10/29/2005 10/29/2005 10/29/2005 10/29/2005	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32902 33400 33881 34314 32175 32780 34294 32294 32991 32991 33988 34313 34314 34316	4-Corners Pond Beaver Pond Stinchcomb Heather Ridge Heather Ridge	5/23/2005 6/27/2005 8/29/2005 9/23/2005 9/23/2005 9/23/2005 10/26/2005 10/26/2005 11/11/2005 3/17/2005 6/15/2005 10/17/2005 10/17/2005 10/17/2005 10/17/2005 11/18/2005 9/22/2005 11/18/2006 11/18/2006 11/18/2006 11/18/2006 11/18/2006 11/18/2006 11/18/2006 11/18/2006 11/18/2006 11/18/2006 11/18/2006 11/18/2006 11/18/2006 11/18/2006 11/18/2006 11/18/2006 11/18/2005	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 33400 33881 31677 32610 32992 32906 32991 33988 34313 31677 32610 32616 32622 32906 32991 33988 33878 3291 32920 32920 32995 33402 3291 32920 33401 32715 32780 32994 33940 32914 32781 32	4-Corners Pond Beaver Dond Beaver Do	5/23/2005 6/27/2005 6/27/2005 8/29/2005 9/23/2005 9/23/2005 10/26/2005 10/26/2005 11/12/2005 4/18/2005 5/17/2005 6/15/2005 10/17/2005 10/17/2005 11/18/2005 12/21/2005 12/21/2005 4/28/2005 3/27/2005 6/30/2005 9/30/2005 9/30/2005 9/30/2005 10/29/2005 10/29/2005 10/29/2005 10/29/2005 10/29/2005 10/29/2005 10/29/2005 10/29/2005 10/29/2005 10/29/2005 10/29/2005 10/29/2005 10/29/2005 10/29/2005 10/29/2005 10/29/2005	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 33883 3401 32175 32780 32994 33401 338890 33888 34313 3500 3500 3500 3500 3500 3500 3500 3	4-Corners Pond Beaver Pond Binchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Stinchcomb Heather Ridge Heather Ridge Heather Ridge Heather Ridge	5/23/2005 6/27/2005 8/29/2005 9/23/2005 9/23/2005 9/23/2005 10/26/2005 11/11/2005 3/17/2005 4/18/2005 9/15/2005 9/17/2005 9/17/2005 10/17/2005 11/18/2005 9/22/2005 11/18/2006 9/22/2005 11/18/2006 9/22/2005 9/22/2005 9/30/2005 9/30/2005 11/2005 9/30/2005 9/30/2005 11/2005 9/30/2005 9/30/2005 9/30/2005 9/30/2005 9/30/2005 9/30/2005 9/30/2005 9/30/2005	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 33400 33881 31677 32610 32992 32906 32991 33988 34313 31677 32610 32616 32622 32906 32991 33398 33878 33878 33877 32613 32619 32626	4-Corners Pond Beaver Dond Beaver Do	5/23/2005 6/27/2005 8/29/2005 9/23/2005 9/23/2005 9/23/2005 10/26/2005 10/12/2005 4/18/2005 5/17/2005 6/15/2005 10/17/2005 10/17/2005 10/17/2005 12/21/2005 12/21/2005 12/21/2005 12/21/2005 12/21/2005 12/21/2005 12/21/2005 12/21/2005 12/21/2005 12/21/2005 12/21/2005 12/21/2005 12/21/2005 12/21/2005 12/21/2005 12/21/2005 12/21/2005 9/31/2005	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 33400 33881 31677 32610 32992 32906 32992 32906 32991 33988 34313 3291 3291 32926 32991 33988 33887 34311 34319 32626 3291 32926 33402 3291 32926 33402 3291 32926 33402 3291 32926 33402 3291 32926 33402 3291 32926 3291 32926 3291 32926 3291 32926 32927 32995 33402 3291 32926 3291 32926 3291 32926 3291 32926 329	4-Corners Pond Beaver Po	5/23/2005 6/27/2005 8/29/2005 9/23/2005 9/23/2005 9/23/2005 10/26/2005 10/26/2005 11/1/2005 4/18/2005 5/17/2005 6/15/2005 10/17/2005 10/17/2005 10/17/2005 12/21/2005 12/21/2005 12/21/2005 12/21/2005 12/21/2005 12/21/2005 12/21/2005 12/21/2005 12/21/2005 12/21/2005 12/21/2005 12/21/2005 12/21/2005 12/21/2005 12/21/2005 9/30/2005 9/30/2005 9/30/2005 9/30/2005 9/30/2005 1/21/2005 9/30/2005 1/21/2005 9/30/2005 1/21/2005 9/30/2005 1/21/2005 9/30/2005 1/21/2005 9/30/2005 1/21/2005 9/30/2005	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 33400 33881 31677 32610 32625 33402 33888 34313 31677 32610 32616 32622 32906 33887 34311 32617 32613 33887 34314 32715 32619 32626 32907 32995 33402 33889 34344 32781 32780 32995 33402 32818 32995 33402 32995	4-Corners Pond Beaver Rond Beaver Rond Beaver Rond Beaver Rond Binchcomb Stinchcomb Stinch	5/23/2005 6/27/2005 8/29/2005 9/23/2005 9/23/2005 9/23/2005 10/26/2005 10/26/2005 11/12/2005	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 33400 33881 31677 32610 32925 32906 32925 32909 32909 32995 32995 32909 32909 32909 32909 32909 32909 32909	4-Corners Pond Beaver Rond Beaver Ro	5/23/2005 6/27/2005 8/29/2005 9/23/2005 9/23/2005 10/26/2005 10/12/2005	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive
32908 33400 33881 34313 34321 34321 34314 34314 32175 33888 34313 32626 32901 33388 34313 32626 32901 33388 34314 34316 32626 32907 32995 33402 33883 34314 32626 32907 32995 33402 33883 32909 32909 32178	4-Corners Pond Beaver Rond Beaver Rond Beaver Rond Beaver Rond Binchcomb Stinchcomb Stinch	5/23/2005 6/27/2005 8/29/2005 9/23/2005 9/23/2005 9/23/2005 10/26/2005 10/26/2005 11/12/2005	Swamp sparrow, Alive	Aquatic intertebrate spp., Alive

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SAMPLEID	a me		Wildlife
AMA	iteName	Date	omn
	Marsh-O-Muck	1/25/2005	S Ğ Dog prints, coyote scat.
33876	Marsh-O-Muck	2/23/2005	Coon tracks.
	Marsh-O-Muck Marsh-O-Muck	3/31/2005 4/28/2005	
	Marsh-O-Muck	5/31/2005	
	Marsh-O-Muck	6/30/2005	
	Marsh-O-Muck Marsh-O-Muck	7/29/2005 8/31/2005	Scat from cottontail. Not sure if wind is from SW or NE.
	Turkey Flats Turkey Flats	1/11/2005 2/14/2005	No signs of wildlife, amphibians etc. recorded. Tracks from deer, quail, cottontail, skunk, unknown small bird. Owl pellet by staff gauge.
	Turkey Flats	3/16/2005	Observed tracks of deer, medium sized wading bird, bobcat, and armadillo.
	Turkey Flats Turkey Flats	4/18/2005 5/18/2005	Many white deer and armadillo tracks. Saw tracks for white-tail deer and armadillos.
	Turkey Flats	6/14/2005	Tracks from deer, armadillo, beaver, opossum, raccoon and bobcat. Also two sets of turtle/tortoise tracks.
	Turkey Flats	7/13/2005	Armadillo tracks, deer tracks, raccoon tracks and raccoon scat (droppings).
	Turkey Flats Turkey Flats	8/19/2005 9/20/2005	Armadillo, deer and bobcat tracks. Coyote scat, white-tailed deer tracks and wild turkey tracks.
	Turkey Flats	10/17/2005	Tracks from whitetail deer, armadilio and turkey
	Turkey Flats	11/18/2005	No water. Tracks from deer and armadillo.
	Turkey Flats Turkey Flats	12/22/2005 1/18/2006	Tracks from white-tailed deer and armadillo. No water. Tracks from white-tailed deer, turkey and armadillo.
	Turkey Flats	2/15/2006	No signs of wildlife, amphibians etc. recorded.
34982	Turkey Flats	3/22/2006	No signs of wildlife, amphibians etc. recorded.
	Midwest City	1/21/2005	Beaver tracks and cut vegetation.
	Midwest City Midwest City	2/28/2005 3/27/2005	Lots of geese tracks and scat seen. Raccoon tracks and tracks from a big dog or cat.
32628	Midwest City	4/30/2005	Lots of aquatic vegetation now. Found two large owl pellets. Heard frogs but not sure what kind.
	Midwest City	5/26/2005	
	Midwest City Midwest City	6/28/2005 7/26/2005	Raccoon tracks, wading bird prints and scat.
33880	Midwest City	8/23/2005	
	Midwest City Midwest City	9/21/2005 10/20/2005	
	Midwest City	11/30/2005	
34320	Midwest City	12/22/2005	
	Midwest City Midwest City	1/31/2006 2/23/2006	
	Midwest City	3/30/2006	No signs of wildlife, amphibians etc. recorded.
31676	4-Corners Pond	1/27/2005	No signs of wildlife, amphibians etc. recorded.
	4-Corners Pond	2/25/2005	No signs of wildlife, amphibians etc. recorded.
	4-Corners Pond	3/27/2005	Manus rein early last week. Deer deposing absenced as treil
	4-Corners Pond 4-Corners Pond	4/19/2005 5/23/2005	Heavy rain early last week. Deer droppings observed on trail.
	4-Corners Pond	6/27/2005	
	4-Corners Pond 4-Corners Pond	7/27/2005 8/29/2005	Tracks from armadillo, raccoon, white-tailed deer, and river otter.
	4-Corners Pond	9/23/2005	Metland is completely dry.
34313	4-Corners Pond	10/26/2005	
31677	Beaver Pond	1/11/2005	No signs of wildlife, amphibians etc. recorded.
	Beaver Pond Beaver Pond	2/15/2005 3/17/2005	Feathers from water fowl and owl. Raccoon, deer and coyote tracks. Heard and saw many birds. Many armadillo holes and waterfowl feathers. White deer and bobcat tracks.
	Beaver Pond	4/18/2005	wany annauini ulube anu waterlow tearines. White user and boucat tracks. Beaver tracks & slides. Armadillo holes & tracks.
	Beaver Pond	5/17/2005	Saw tracks of white-tailed deer, armadillo, and opossum.
	Beaver Pond Beaver Pond	6/15/2005 7/13/2005	Coyote droppings, armadillo tracks, white-tail deer tracks, beaver signs, raccoon tracks, crawfish burrow, turtle tracks, unknown species of frog, Plains leopard fro
	Beaver Pond	8/1/2005	Raccoon, dog and deer tracks.
	Beaver Pond	9/22/2005	Coyote scat. Tracks from white-tailed deer, dogs, and bobcat.
	Beaver Pond Beaver Pond	10/17/2005	Tracks from white-tail deer, armadillo and beaver. Tracks from armadillo and deer.
34318	Beaver Pond	12/21/2005	One turkey feather frozen in ice. Armadillo burrow. Tracks from bobcat, coyete, white-tailed deer, dog, beaver, racoon, cottontail, armadillo.
	Beaver Pond	1/18/2006 2/15/2006	Tracks from white-tailed deer, dog, bobcat, small bird. Five armadillo burrows with foraging and digging.
	Beaver Pond Beaver Pond	3/22/2006	No signs of wildlife, amphibians etc. recorded.
32177	Stinchcomb	1/29/2005	No signs of wildlife, amphibians etc. recorded.
32613	Stinchcomb	2/26/2005	
	Stinchcomb Stinchcomb	3/27/2005 4/28/2005	Deer tracks. Many whitetail deer tracks and raccoon tracks.
	Stinchcomb	5/19/2005	many minician door dawns difu idooduli tidons.
32995	Stinchcomb	6/30/2005	
	Stinchcomb Stinchcomb	7/30/2005 8/31/2005	Racoon tracks.
33889	Stinchcomb	9/30/2005	
34314	Stinchcomb	10/29/2005	
32781	Heather Ridge	12/20/2004	Wetland monitoring training, no data.
	Heather Ridge Heather Ridge	1/21/2005	Scat.
	Heather Ridge Heather Ridge	3/31/2005 6/29/2005	
33401	Heather Ridge	7/29/2005	Pictures taken at outmost stake at all transects save HR4 where it was the third in first shot taken, and compass reading, facing 90 deg left of straight down transects.
	Heather Ridge	9/30/2005	
	Durrett Durrett	1/21/2005 2/19/2005	Lots of deer tracks. Signs of beaver, stripped sticks, etc. Evidence of beavers, stripped branches.
	Durrett	3/29/2005	Observed beaver lodge, crayfish burrow.
32625	Durrett	4/22/2005	Several feathers. Four crayfish burrows.
32909	Durrett	5/25/2005	Observed several deer and raccoon tracks.
	Beaver Creek Beaver Creek	1/31/2005 2/14/2005	No signs of wildlife, amphibians etc. recorded.
52009	Scarci Cicck	2 17/2000	

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SAMPLEID	SiteName	Date	Undisturbed Natural Vegetation?	Residential Housing?	Construction Site? Agriculture/Grazi ng/Crops?	Commercial Development?	Industrial Development?	Railroads?	Sewage Treatment Plant?	Park, Recreational Area?	Oil/Gas Drilling?	Soil/Gravel/Veget	Man-Made Trash Dumping?	Grading/Top Soil Removal?	Water Draining Out of Wetland?	Water Draining Into Wetland?	Water Channeling/Tren ches/Ditches?	Tire Tracks/ATV?	Livestock Usage?	Silt/Sand/Gravel Deposits?	Stream Bank Erosion?	Dredging/Soil Removal?
31673	Marsh-O-Muck Marsh-O-Muck	1/25/2005	Υ													Υ						
	Marsh-O-Muck Marsh-O-Muck	2/23/2005 3/31/2005								Υ						Υ						
	Marsh-O-Muck	4/28/2005																				
	Marsh-O-Muck	5/31/2005	Υ																			
	Marsh-O-Muck Marsh-O-Muck	6/30/2005 7/29/2005																				
	Marsh-O-Muck	8/31/2005																				
	Turkey Flats	1/11/2005												Υ			Υ					Υ
	Turkey Flats Turkey Flats	2/14/2005 3/16/2005													Υ							Υ
	Turkey Flats	4/18/2005													1							Y
32911	Turkey Flats	5/18/2005																				
	Turkey Flats Turkey Flats	6/14/2005 7/13/2005																				Υ
	Turkey Flats	8/19/2005																				
	Turkey Flats	9/20/2005																				
	Turkey Flats Turkey Flats	10/17/2005 11/18/2005																				
	Turkey Flats	12/22/2005																				
	Turkey Flats	1/18/2006																				
	Turkey Flats Turkey Flats	2/15/2006 3/22/2006																				
	Midwest City Midwest City	1/21/2005 2/28/2005			Y Y				Y Y							Y Y						
32617	Midwest City	3/27/2005																				
	Midwest City	4/30/2005 5/26/2005			Y				Y		Y					Y						
	Midwest City Midwest City	5/26/2005 6/28/2005			Y Y				Y Y		Y Y					Y Y						
33399	Midwest City	7/26/2005			Υ				Υ							Υ						
	Midwest City	8/23/2005			Y				Y							Y						
	Midwest City Midwest City	9/21/2005 10/20/2005			Y Y				Y Y							Y Y						
	Midwest City	11/30/2005			Υ				Υ							Υ						
	Midwest City Midwest City	12/22/2005 1/31/2006			Υ				Y Y		Υ					Y Y						
	Midwest City	2/23/2006			Y				Ϋ́							Y						
	Midwest City	3/30/2006																				
31676	4-Corners Pond	1/27/2005	Υ		Υ						Υ											
	4-Corners Pond 4-Corners Pond	2/25/2005 3/27/2005	Y Y		Y Y						Y Y											
	4-Corners Pond	4/19/2005	Ϋ́		Y						Ý											
32908	4-Corners Pond	5/23/2005	Υ		Υ						Υ											
	4-Corners Pond 4-Corners Pond	6/27/2005 7/27/2005	Y Y		Y Y						Y Y											
	4-Corners Pond	8/29/2005	Ϋ́		Y						Ý											
	4-Corners Pond	9/23/2005																				
34313	4-Corners Pond	10/26/2005																				
	Beaver Pond	1/11/2005	Y												Y	.,						
	Beaver Pond Beaver Pond	2/15/2005 3/17/2005	Υ												Y Y	Y Y						
32622	Beaver Pond	4/18/2005													Y	Y						
	Beaver Pond Beaver Pond	5/17/2005																				
	Beaver Pond	6/15/2005 7/13/2005																				
33878	Beaver Pond	8/1/2005	Υ												Υ	Υ						
	Beaver Pond Beaver Pond	9/22/2005 10/17/2005	~												Υ	Υ						
	Beaver Pond	11/18/2005	'												'	'						
	Beaver Pond	12/21/2005													Υ	Υ						
	Beaver Pond Beaver Pond	1/18/2006 2/15/2006	Y																			
	Beaver Pond	3/22/2006																				
	Stinchcomb	1/29/2005								Υ		Υ	Υ									
	Stinchcomb	2/26/2005								Y		Υ	Υ		Υ	Υ			Υ			
	Stinchcomb Stinchcomb	3/27/2005 4/28/2005	Υ							Y		Υ										
32907	Stinchcomb	5/19/2005	-									Ϋ́	Υ									
32995	Stinchcomb	6/30/2005	v							Υ			Y									
	Stinchcomb Stinchcomb	7/30/2005 8/31/2005	Y							Υ		Υ	Y Y									
33889	Stinchcomb	9/30/2005								Υ			Υ									
34314	Stinchcomb	10/29/2005								Y			Y									
	Heather Ridge	12/20/2004																				
	Heather Ridge Heather Ridge	1/21/2005 3/31/2005			Y Y					Y Y												
	Heather Ridge	6/29/2005			Ϋ́Υ																	
33401	Heather Ridge	7/29/2005		.,						.,						.,		.,				
33890	Heather Ridge	9/30/2005		Y						Y						Υ		Υ				
	Durrett	1/21/2005	Y			v				Y	Y		Y			V						
	Durrett Durrett	2/19/2005 3/29/2005	Υ			Υ				Υ	Υ		Υ			Υ						
32625	Durrett	4/22/2005	Y	Y		Y				Y	Y		Y			Y	Y	Υ				
32909	Durrett	5/25/2005	Y	Y		Y				Y	Y		Y			Y	Υ	Υ				
	Beaver Creek	1/31/2005	Y																			
32609	Beaver Creek	2/14/2005	Y																			

SAMPLEID	SiteName	Date	Staff Gauge (cm)	Crest(cm)	Well Depth, pipe top to ground (cm)	Distance from Pipe Top to Water (cm)	Groundwater Depth (cm)	Sketch Sheet(s) Available?	Soil Assessment Performed?	Vegetation Assessment Performed?	Photographs Available?
31673 33876	Marsh-O-Muck Marsh-O-Muck	1/25/2005 2/23/2005	30 52	31 3	0	0	0	Υ			Υ
32621 32627	Marsh-O-Muck Marsh-O-Muck	3/31/2005 4/28/2005	30 30	32 32			0				Υ
32910 32996	Marsh-O-Muck Marsh-O-Muck	5/31/2005 6/30/2005	30 28	32 30	0	0	0			Y Y	
33877 33882	Marsh-O-Muck Marsh-O-Muck	7/29/2005 8/31/2005	2.8	3 3.1	0	0	0		Υ	Y Y	
31674 32608	Turkey Flats Turkey Flats	1/11/2005 2/14/2005	0	0	30		>45 >30	Υ	Y		Υ
32615 32623	Turkey Flats Turkey Flats	3/16/2005 4/18/2005	22 0	27.5 0	13 14	22 >46.5	9 >32				Υ
32911	Turkey Flats Turkey Flats	5/18/2005 6/14/2005	18	27 20	13 13	39 41	26 28	Υ		Y Y	
33397	Turkey Flats	7/13/2005	0	0	13.5	>47	>33.5			Υ	Υ
33879 33885	Turkey Flats Turkey Flats	8/19/2005 9/20/2005	0	2	12 13	>45.5 >46	>33.5 >33		Υ	Y Y	
	Turkey Flats Turkey Flats	10/17/2005 11/18/2005	0	3	13	>46	>53				
34319	Turkey Flats	12/22/2005	0	0	13	>46	>33				
34322 34980	Turkey Flats Turkey Flats	1/18/2006 2/15/2006									
34982	Turkey Flats	3/22/2006									
31675 32614	Midwest City Midwest City	1/21/2005	47 49	48 52	20 16.5	60 58.5	41 42		Y		
32617	Midwest City	3/27/2005	46	50	18	64	0	Υ	•		
32628 32905	Midwest City Midwest City	4/30/2005 5/26/2005	47 47	48 51	18	>61	0			Υ	
32993 33399	Midwest City Midwest City	6/28/2005 7/26/2005	40 33	40 40			0			Y Y	Υ
33880	Midwest City	8/23/2005	36	47			0		Υ	Y	
33886 34312	Midwest City Midwest City	9/21/2005 10/20/2005	46 47	50 48	17.5	44	16.5 0			Y	Υ
34317 34320	Midwest City Midwest City	11/30/2005 12/22/2005	46 47	49 52			0				
34978 34323	Midwest City Midwest City	1/31/2006	50	51	61	19	42		Υ		Υ
34323	Midwest City Midwest City	2/23/2006 3/30/2006	49	53					Ť		
31676	4-Corners Pond	1/27/2005	89	92				Υ		Υ	Υ
32612 32618	4-Corners Pond 4-Corners Pond	2/25/2005 3/27/2005	83 81	100 90	15.8	2.7	13.1			Υ	
32624	4-Corners Pond	4/19/2005	82	94	15.5	1.7	13.8	Υ			Υ
	4-Corners Pond 4-Corners Pond	5/23/2005 6/27/2005	71 62	81 94	15.5 12.8	10.2 22	15.3 -9.2			Y Y	
33400 33881	4-Corners Pond 4-Corners Pond	7/27/2005 8/29/2005	25 5	28 35	14 14	0			Y Y	Y Y	Υ
33888	4-Corners Pond	9/23/2005	J	55	1-7	•				Y	
	4-Corners Pond	10/26/2005									
31677 32610	Beaver Pond Beaver Pond	1/11/2005 2/15/2005	75 80	75 85	15	8	+7		Υ		
32616 32622	Beaver Pond Beaver Pond	3/17/2005 4/18/2005	70 65	78 75	16 15	15 16.5	1 7.5				Υ
32906	Beaver Pond	5/17/2005	62	115	16	19	3	Υ		Y	
	Beaver Pond Beaver Pond	6/15/2005 7/13/2005	75 55	86 103	14 13	5 49	+5 36			Y Y	Υ
33878	Beaver Pond Beaver Pond	8/1/2005 9/22/2005	6 27	11 103	13 17	>55 >54	>42 >37		Υ	Y Y	
34311	Beaver Pond	10/17/2005	53	55	14	39	25				
34318	Beaver Pond Beaver Pond	11/18/2005 12/21/2005	71	100	17	21 14	4				
34321	Beaver Pond Beaver Pond	1/18/2006 2/15/2006	75	78	15.5	8	7.5				
	Beaver Pond	3/22/2006									
	Stinchcomb	1/29/2005	200	75	E4	E4	^		v		V
32619	Stinchcomb Stinchcomb	2/26/2005 3/27/2005		75	54	54	0		Υ		Y Y
	Stinchcomb Stinchcomb	4/28/2005 5/19/2005	21 40	61 60	55.5 55	0	0			Υ	Υ
32995	Stinchcomb	6/30/2005	50	137	46	0	0			Υ	v
33883	Stinchcomb Stinchcomb	7/30/2005 8/31/2005	69 60	50 80	59 60	59 54	0 6		Υ	Y Y	Υ
	Stinchcomb Stinchcomb	9/30/2005 10/29/2005	35 29	100 93	60 60	60 60	0			Υ	Υ
	Heather Ridge	12/20/2004						Y			
32175	Heather Ridge	1/21/2005	50		21	46	25		v		
32994	Heather Ridge Heather Ridge	3/31/2005 6/29/2005	31 4.4	52 6.8	23	61	25		Υ	Υ	
33401 33890	Heather Ridge Heather Ridge	7/29/2005 9/30/2005	2.8 40	4.3 60	22	>60	n/a	Υ		Y Y	Υ
											Y
32611	Durrett Durrett	1/21/2005							Υ		
	Durrett Durrett	3/29/2005 4/22/2005								Υ	
	Durrett	5/25/2005								Υ	
	Beaver Creek	1/31/2005	42	42	16	15	31	Υ	٧,		
32609	Beaver Creek	2/14/2005	46	46	51	13	30		Υ		

₽	a)		<u>v</u>
SAMPLEID	iteName	0	OO
SAN	Sitel	Date	O O
	Marsh-O-Muck Marsh-O-Muck	1/25/2005 2/23/2005	
32621	Marsh-O-Muck	3/31/2005	
	Marsh-O-Muck Marsh-O-Muck	4/28/2005 5/31/2005	
32996	Marsh-O-Muck	6/30/2005	
	Marsh-O-Muck Marsh-O-Muck	7/29/2005 8/31/2005	
	Turkey Flats Turkey Flats	1/11/2005 2/14/2005	This is a newly constructed, man-made wetland. It is not yet holding water therefore no water testing was possible this time. Newly constructed wetland, not currently flooded. No water present in wetland or recorded in groundwater gauge.
32615	Turkey Flats	3/16/2005	Stopped pumping at 4pm yesterday. Dyke work with backhoe on east side today so took water sample from west side, near inlet pipe.
	Turkey Flats Turkey Flats	4/18/2005 5/18/2005	No water since last sampling event. Water pumped in yesterday.
32990	Turkey Flats	6/14/2005	Source of water is recent rains, no recent pumping. Water sampled from a puddle approx 12cm deep near outlet (<1 acre).
	Turkey Flats Turkey Flats	7/13/2005 8/19/2005	No water this month. Johnson grass has been mowed along inside of dikes in preparation for transplanting smartweek. Bentonite clay has been added along the south side to help with
33885	Turkey Flats	9/20/2005	No water
	Turkey Flats Turkey Flats	10/17/2005 11/18/2005	No water.
34319	Turkey Flats	12/22/2005	No water.
	Turkey Flats Turkey Flats	1/18/2006 2/15/2006	No water.
	Turkey Flats	3/22/2006	
31675	Midwest City	1/21/2005	Fair skies with a few clouds. Site is next to a water treatment plant and periodically receives water from the plant via a pipe. Orthophosphate results invalidated d
32614	Midwest City	2/28/2005	
	Midwest City Midwest City	3/27/2005 4/30/2005	There was no water inside the groundwater pipe, so the "distance from pipe top to water" indicates where we hit the ground within the pipe (it was moist though). Not water in pipe so distance from pipe top to dirt is >61cm. April sampling run!
	Midwest City	5/26/2005	No water in pipe.
	Midwest City Midwest City	6/28/2005	No water in pipe.
	Midwest City	7/26/2005 8/23/2005	No water in pipe.
	Midwest City	9/21/2005	Pour la black control (control control
	Midwest City Midwest City	10/20/2005 11/30/2005	Due to high water levels, unable to conduct soil test. Iced over. Kim called the wastewater treatment plant (David Price) due to high results.
34320	Midwest City	12/22/2005	
	Midwest City Midwest City	1/31/2006 2/23/2006	Pipe flow from water treatment plant. Couldn't complete hydrology assessment because groundwater sampler iced over. Sheet of ice covering entire body of water. Oxygen saturation exceeds testing
	Midwest City	3/30/2006	Total in the input of yarding y accessment because great and in call plan local of the control of the beat of the control of t
31676	4-Corners Pond	1/27/2005	Water level extremely high so unable to check groundwater sampler. Water level is 3 cm above top of well head. Excessively high water levels. There is no indic
32612	4-Corners Pond	2/25/2005	Extremely high water levels again. Approx 7 cm above top of well head. There is no indication of coontail or cattail within wetland. Algal bloom occurred since last
	4-Corners Pond 4-Corners Pond	3/27/2005 4/19/2005	Water level finally low enough to measure well depth. Historically, levels should continued to drop off as summer proceeds.
	4-Corners Pond	5/23/2005	There is no indication of Cattail or False Indigo on wetland at this time. The most common species are Smartweed and Cutgrass.
	4-Corners Pond	6/27/2005	There is no indication of Cattail or False Indigo on wetland at this time. The most common species are Smartweed and Cutgrass.
	4-Corners Pond 4-Corners Pond	7/27/2005 8/29/2005	Water level down, nothing detected in well. Water level too low for well reading.
	4-Corners Pond 4-Corners Pond	9/23/2005 10/26/2005	Wetland is still dry, no water testing.
		10/20/2003	Treating is sail uty, no water testing.
	Beaver Pond Beaver Pond	1/11/2005 2/15/2005	Water above ground. Water is 4cm above ground. Greenish-brown scum on surface of water (not seen in past)
	Beaver Pond	3/17/2005	No film on water this month.
	Beaver Pond Beaver Pond	4/18/2005 5/17/2005	
	Beaver Pond	6/15/2005	Only had enough reagent to re-do the Phosphorus blank, second blank result 0.0 mg/L.
	Beaver Pond	7/13/2005	
	Beaver Pond Beaver Pond	8/1/2005 9/22/2005	
	Beaver Pond	10/17/2005	Scum on water. Lots of leaves floating. Installed duck nest boxes 10-1-05 (photos taken).
	Beaver Pond Beaver Pond	11/18/2005 12/21/2005	
34321	Beaver Pond	1/18/2006	, 1.0,
	Beaver Pond Beaver Pond	2/15/2006 3/22/2006	
	Stinchcomb Stinchcomb	1/29/2005 2/26/2005	Dissolved Oxygen results invalidated by Kim Shaw.
32619	Stinchcomb	3/27/2005	No water at plot site.
	Stinchcomb Stinchcomb	4/28/2005 5/19/2005	No water in pipe. No water. There was Bulrush there but I believe it was Scirpus validus not Scirpus pungens. It was in all three transects about 4ft tall.
32995	Stinchcomb	6/30/2005	Had trouble getting the lid off but could tell there was no water.
	Stinchcomb Stinchcomb	7/30/2005 8/31/2005	Got the lid off for the ground water this time. I will send PHOTOPOINTS soon. Water much more brown in color, floc is not settling as well. First time well had water.
	Stinchcomb	9/30/2005	THE THIRD TOTAL TOTAL TRACE.
34314	Stinchcomb	10/29/2005	
	Heather Ridge	12/20/2004	
	Heather Ridge Heather Ridge	1/21/2005 3/31/2005	Walking trail. Insufficient reagent to complete Nitrate testing. Secchi deoth >0.3
	Heather Ridge	6/29/2005	The field person did not provide distance for the Vegetation Data Sheet, so I just made it up, mb.
	Heather Ridge	7/29/2005 9/30/2005	DO Saturation is off our scale, >140%. Water draining into wetland is on the NE comer from apparent storm drain from subdivision on East. Mower tracks that avoid an area where the turf and soil is sli
	Heather Ridge		
	Durrett Durrett	1/21/2005 2/19/2005	Flooded, unable to determine hydrology. Wetland flooded, unable to determine hydrology. Wetland near highway.
	Durrett	3/29/2005	Wetland flooded.
	Durrett	4/22/2005	Unable to determine hydrology as site is flooded.
	Durrett	5/25/2005	Very flooded.
	Beaver Creek Beaver Creek	1/31/2005 2/14/2005	Turbidity 9.38 NTU. Photographs were printed out by the samplers.
52009	Scarci Cieek	£ 1 1 12000	

WATER CHEMISTRY

AAWII	EK CHEIVIIS I	IX I							
SAMPLEID	SiteName	Date	Time	Dissolved Oxygen- Sample (mg/L)	% Oxygen Saturation	pH-Sample(SU)	Nitrate Nitrogen- Sample (mg/L)	Ammonia Nitrogen- Sample (mg/L)	Orthophosphate Phosphorus-Sample (mg/L)
31673 33876 32621 32627 32910 32996 33877 33882	Marsh-O-Muck Marsh-O-Muck Marsh-O-Muck Marsh-O-Muck Marsh-O-Muck Marsh-O-Muck Marsh-O-Muck Marsh-O-Muck	1/25/2005 2/23/2005 3/31/2005 4/28/2005 5/31/2005 6/30/2005 7/29/2005 8/31/2005	10:15 AM 8:45 AM 8:36 AM 1:45 PM 11:03 AM 11:00 AM 10:23 AM 9:00 AM	11 15 8 11 8 8 8	100	7.7 7.5 7.5 7.7 7.5 7.5	0.5 0.21 0.1 4.2 0.1 0.42 0.44	0.0 - 0.2 mg/L 0.0 - 0.2 mg/L	0.027 0.033
33002	IVIAISII-O-IVIUCK	6/31/2003	9.00 AIVI	0		7.5		0.0 - 0.2 mg/L	0.033
31674 32608 32615 32623 32911 32990 33397 33879 33885 34310 34315	Turkey Flats	1/11/2005 2/14/2005 3/16/2005 4/18/2005 5/18/2005 6/14/2005 7/13/2005 8/19/2005 9/20/2005 10/17/2005 11/18/2005	9:00 AM 11:45 AM 10:15 AM 10:20 AM 9:15 AM 9:30 AM 9:00 AM 9:00 AM 9:00 AM 10:00 AM	15 14 10	90 135 115	8 8 7.75	0.08 0.06 0.02	0.0 - 0.2 mg/L 0.0 - 0.2 mg/L 0.0 - 0.2 mg/L	0.02 0.027 0.033
34319 34322 34980 34982	Turkey Flats Turkey Flats Turkey Flats Turkey Flats	12/22/2005 1/18/2006 2/15/2006 3/22/2006	9:00 AM 9:15 AM 9:00 AM 10:00 AM						
31675 32614 32617 32628 32905 32993 33899 33880 33886 34312 34317 34320 34978 34923 34983	Midwest City	1/21/2005 2/28/2005 3/27/2005 4/30/2005 5/26/2005 6/28/2005 7/26/2005 8/23/2005 9/21/2005 10/20/2005 11/30/2005 12/22/2005 1/31/2006 2/23/2006	11:00 AM 3:00 PM 9:00 AM 1:50 PM 4:00 PM 8:40 AM 9:20 AM 8:45 AM 8:10 AM 9:55 AM 8:00 AM 9:55 AM 8:00 AM 9:05 AM	22 16 13 22 10 0.4 0.2 0.2 0.2 0.2 8 6 16 26	140 115 190 115 5 18 3 5 55 57 122 9999	8.5 8.7 8.5 9.5 8 7.6 7.6 7.2 7.5 7.4 7.75 8.85 10	0.04 0 0 0.02 0	0.2 - 0.4 mg/L 0.0 - 0.2 mg/L 0.4 1.5 0.2 - 0.4 mg/L 0.0 - 0.2 mg/L 0.0 - 0.2 mg/L 0.0 - 0.2 mg/L 0.0 - 0.2 mg/L >1.0 mg/L >1.0 mg/L 0.0 - 0.2 mg/L	0.2 0.26 0.6 1.13 0.8 0.57 0.8 1 1.033 1.5 5.33 0.23 0.067
31676 32612 32618 32624 32908 32992 33400 33881 33888 34313	4-Corners Pond	1/27/2005 2/25/2005 3/27/2005 4/19/2005 5/23/2005 6/27/2005 7/27/2005 8/29/2005 9/23/2005 10/26/2005	9:33 AM 9:47 AM 10:20 AM 8:00 AM 8:15 AM 8:30 AM 10:00 AM 8:30 AM 8:30 AM 8:00 AM	14 12 12 6 4 8 8 5	106 105 104 75 55 100 105 70	7.4 7.8 7.3 7.2 7.2 7.6 7.5	0.05 0.01 0.01 0 0.01 0.01	0.0 - 0.2 mg/L 0.0 - 0.2 mg/L	0.047 0.043 0.047 0.04 0.027 0.04 0.04 0.166

31677	Beaver Pond	1/11/2005	9:40 AM	7	55	7.75	0.015	0.2 - 0.4 mg/L	0.133
32610	Beaver Pond	2/15/2005	9:00 AM	11	95	8	0.01	0.0 - 0.2 mg/L	0.067
32616	Beaver Pond	3/17/2005	10:00 AM	9	70	8	0.02	0.0 - 0.2 mg/L	0.053
32622	Beaver Pond	4/18/2005	8:45 AM	8	80	7.75	0.01	0.0 - 0.2 mg/L	0.013
32906	Beaver Pond	5/17/2005	9:00 AM	3	35	7.75	0.01	0.0 - 0.2 mg/L	0.127
32991	Beaver Pond	6/15/2005	9:55 AM	5	60	7.75	0.06	0.2 - 0.4 mg/L	0.173
33398	Beaver Pond	7/13/2005	10:00 AM	7	95	8	0.02	0.0 - 0.2 mg/L	0.33
33878	Beaver Pond	8/1/2005	9:10 AM	6	75	8		0.0 - 0.2 mg/L	0.04
33887		9/22/2005	9:00 AM	4	47	7.75	0	0.0 - 0.2 mg/L	0.107
34311	Beaver Pond	10/17/2005	9:45 AM	6	62	8		0.0 - 0.2 mg/L	0.093
34316	Beaver Pond	11/18/2005	9:00 AM	1.2	9	7.75		0.0 - 0.2 mg/L	0.2
34318	Beaver Pond	12/21/2005	8:15 AM	4	30	7.75		0.0 - 0.2 mg/L	0.1
34321	Beaver Pond	1/18/2006	8:30 AM	7	50	8		0.0 - 0.2 mg/L	0.06
34979	Beaver Pond	2/15/2006	8:10 AM						
34981	Beaver Pond	3/22/2006	9:15 AM						
32177	Stinchcomb	1/29/2005	9:00 AM			7.5	0		0.0066
32613	Stinchcomb	2/26/2005	9:15 AM	25		7.4	0	0.2 - 0.4 mg/L	0.11
32619	Stinchcomb	3/27/2005	12:00 PM						
32626	Stinchcomb	4/28/2005	8:00 AM	3		7.75	0	0.0 - 0.2 mg/L	0.07
32907	Stinchcomb	5/19/2005	10:24 AM	3		8	0	0.0 - 0.2 mg/L	0.2
32995	Stinchcomb	6/30/2005	9:45 AM	3		7.7	0.1	0.0 - 0.2 mg/L	0.23
	Stinchcomb	7/30/2005	12:55 PM	11		8.2	1	0.0 - 0.2 mg/L	0.27
33883	Stinchcomb	8/31/2005	1:00 PM	8		8	0	0.0 - 0.2 mg/L	0.08
33889	Stinchcomb	9/30/2005	8:35 AM	4		8	0	0.0 - 0.2 mg/L	0.19
34314	Stinchcomb	10/29/2005	3:15 PM	4		7.5	0	0.0 - 0.2 mg/L	0.18
32781	Heather Ridge	12/20/2004	2:56 PM			_			_
32175	Heather Ridge	1/21/2005	3:00 PM	13	120	8	0.24	0.2 - 0.4 mg/L	0
32780	Heather Ridge	3/31/2005	4:57 PM	12	119	9.25	0	0.0 - 0.2 mg/L	0.047
32994	Heather Ridge	6/29/2005	4:00 PM	12	12	9.25	0	0.0 - 0.2 mg/L	0.073
33401	Heather Ridge	7/29/2005	2:00 PM	17	9999	9.5	0	0.0 - 0.2 mg/L	0.053
33890	Heather Ridge	9/30/2005	9:30 AM	6	6.5	7.5		0.0 - 0.2 mg/L	0
00470	Downsti	4/04/0005	0.05.01	40		7.5	0.05	0.0.00	4.0
32176	Durrett	1/21/2005	3:35 PM	16		7.5	0.05	0.0 - 0.2 mg/L	1.6
32611	Durrett	2/19/2005	8:00 AM	11		8	0	0.0 - 0.2 mg/L	0.3
32620	Durrett	3/29/2005	8:00 AM	15		8	0	0.0 - 0.2 mg/L	0.04
32625	Durrett	4/22/2005	8:00 AM	8		7.5	0	0.0 - 0.2 mg/L	0.7
32909	Durrett	5/25/2005	8:00 AM	7		8	0	0.0 - 0.2 mg/L	0.07
20470	Danier Orienti	4/04/0005	40.45 444	4.5	400	7 -	0	0.0.00	0.00
32178	Beaver Creek	1/31/2005	10:45 AM	15	100	7.5	0	0.0 - 0.2 mg/L	0.06
32609	Beaver Creek	2/14/2005	1:30 PM	13	135	7.5	0	0.0 - 0.2 mg/L	0.047

SOILS

301	LJ														
SAMPLEID	o Gite Value Turkey Flats	## D 2/14/2005	₩ ₩ H 11:45 AM	Transect transfer to the second transfer to the second transfer to the second transfer transf	o Distance	Sulfur Smell @ 15cm?	Sulfur Smell @ 30cm?	Sulfur Smell @ 45cm?	Mottles @ 15cm?	Mottles @ 30cm?	Mottles @ 45cm?	a Standing Water Depth (cm)	Soil Surface to Groundwater Depth (cm)	Muck Layer?	Standing Water at Muck Layer (cm)
02000	runcy riato	2/14/2000	11.407111	Outside wetland	10							none			
32609	Beaver Creek	2/14/2005	1:30 PM	1A 1B 1C 1D	0 66 133 200	Y			Y	Υ	Υ	33 0 0 0	12 0 0	Y	16 cm
				2A 2B 2C 3A 3B	0 15 30 0 15				Y	Y	Y	6 0	39 0 30	Y	8 cm
				3C 4A 4B 4C 4D	30 0 20 40 60							0 21 0 0	0 24 0 0	Υ	16 cm
32610	Beaver Pond	2/15/2005	9:00 AM	1 2 3 Upland	33 15.5 0 33							0		Y Y Y	4 cm 18.5 cm 56 cm
32611	Durrett	2/19/2005	8:00 AM	1 2 3	100 50 0									Υ	Filled hole
32613	Stinchcomb	2/26/2005	9:15 AM	1 2	50 0									Υ	4.5 cm
32614	Midwest City	2/28/2005	3:00 PM	1	0					Υ		none none			
				1 1 1	14 22 30.7							none		Y Y	5 cm 14.5 cm
32780	Heather Ridge	3/31/2005	4:57 PM	1 2 3 4	0 0 0 0					Υ	Y Y Y			Y	5.8 cm
33400	4-Corners Pond	7/27/2005	10:00 AM	1 2 3 4 5	0 0 0 0	Y Y			Υ			0 17	17		
33878	Beaver Pond	8/1/2005	9:10 AM	1 1 1	0 15 31				Y Y	Y	Y Y	16cm 0 0	29cm		
33879	Turkey Flats	8/19/2005	9:10 AM	1 1 1	0 11 22				Y	Υ	Υ	0 0 0			
33880	Midwest City	8/23/2005	8:45 AM	1 2 3 4 Standing water	0 0 0 0						Υ	none none none		Y	4.5 cm
33881	4-Corners Pond	8/29/2005	8:30 AM	1 1 1	0 50 100	Y			Υ			Yes Yes 0	1" - 2" 0.4318 m		
33882	Marsh-O-Muck	8/31/2005	9:00 AM	1 1 1	0 50 100				Y Y	Y Y		0 0 0	0 0 0		
33883	Stinchcomb	8/31/2005	1:00 PM	1 1 1	0 50 100							0	0	Y Y	5 cm 2 cm
34323	Midwest City	2/23/2006	10:28 AM	1 2 3 4	1 1 1 1							0 0 0 0			
				5	1									Y	

VEGETATION

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믋	e e				· n	Ę	rsh Sp	ap ed 5	5,5	ust Sps	dig Sp	∯ &	ğ G	- p	sh ed?	ed 3d 2	9 G	_ ç	rife 3d ?
귙	a			sec	ē	õ		Z 2	erke de	윤	- S	× × ×	ails	rica Ish	ere ere	S. We	N N	ata i	est
SAMPLEID	SiteName	Date	Time	Transect	Distance	DistanceType	Green Ash Observed?	Silver Maple Observed?	Hackberry Observed?	Buttonbush Observed?	False Indigo Observed?	Black Willow Observed?	Cattails Observed?	American Bulrush Observed?	Spikerush Observed?	Duckweed Observed?	Pondweed Observed?	Coontail Observed?	Purple Loosestrife Observed?
							00	ν Ο	I O	шΟ	шО	m O	00	< m O	O O		ď O	00	0 7 0
31676	4-Comers Pond	1/27/2005	9:33 AM	1	0 10	Meters Meters			1 unit 1 unit			2 units			1 unit	1 unit			
									i unit										
				1	20	Meters										1 unit			
				1	30	Meters													
				1	40	Meters													
				1	50	Meters													
				2	0	Meters									1 unit	2 units			
				2	11	Meters									2 units				
				2	22	Meters									2 units				
				2	33	Meters													
				2	44	Meters													
				2	55	Meters													
				3	0	Meters			2 units			4 units							
				3	12	Meters										2 units			
				3	24	Meters													
				3	36	Meters													
				3	48	Meters													
				3	60	Meters													
				4	0	Meters			6 units								2 units		
				4	10	Meters						1 unit				2 unit			
				4	20	Meters													
				4	30	Meters													
				4	40	Meters													
				4	50	Meters													
32612	4-Corners Pond	2/25/2005	9:47 AM	1	0	Meters						3 units		10%					
				1	10	Meters										Trace			
				1	20	Meters													
				1	30	Meters													
				1	40	Meters													
				1	50	Meters													
				2	0	Meters				1 unit				5%		1-2%			
				2	11	Meters								19%		1-2%			
				2	22	Meters													
				2	33	Meters													
				2	44	Meters													
				2	55	Meters													
				3	0		10 units							1 unit					
				3	12	Meters	10 011110												
				3	24	Meters													
				3	36	Meters													
				3	48	Meters													
				3	60	Meters													
				4	0	Meters										2%			
				4	10	Meters						1 unit				2%			
				4	30	Meters						· uiiii				∠ /0			
				4	40	Meters													
				4	50	Meters													
				4	50	weters													
32625	Durrett	4/22/2005	8:00 AM	1	0	Feet	Present							Present	Present				Present
02020 1			3.55 / tivi	1	50	Feet	. 1000111							Present					. 1000111
				1	100	Feet	Present			Present				. 1000111	Present				
				2	0		Present			. 1036111					i icacill		Present		Present
				2	50	Feet	i resent					Present		Present			i icaelii		i icocill
				2	100	Feet			Present			, rescill	Present	, resent					
				3	0	Feet			, rescrit			Present	, icacill				Present		Present
				3	50	Feet				Present		i ieselli		Present			rieselli		ı ieseill
				3	100	Feet				FIESEII				rieselli					
				4								Drocont.	Drocont				Drocent	Drocort	
					0	Feet			Drocest	Drocant		riesent	Present				riesent	Present	
				4	50	Feet	Dree t		riesent	Present		Dec '	Present						
				4	100	Feet	Present					resent	Present						

					_								
32905	Midwest City	5/26/2005	4:00 PM	1	0	Meters							
				1	4.8 9.7	Meters					65 units		50%
				1	9.7	Meters Meters					oo uniis		50%
				2	9.9	Meters					90%	5%	45%
				2	17.4	Meters					30%	370	60%
				3	0	Meters					0070		00 /0
				3	8.2	Meters							
				3	17	Meters					2 units		
				3	25.6	Meters							
				3	34.5	Meters							50%
				4	0	Meters							
				4	9.4	Meters					60%	30%	
				4	18.8	Meters							
32906	Beaver Pond	5/17/2005	9:00 AM	1	0	Meters							
				1	15	Meters			Present				
				1	31	Meters							
				2	0	Meters							
				2	17.5	Meters			Present				
				2	35	Meters			Present	Present			
				2	52.5	Meters			Present				
				2	55	Meters			Present				
					70	Meters			Present				
				3	0 17.5	Meters Meters			Present				
				3	35	Meters			Present				
				4	0	Meters			rieseni				
				4	15	Meters			Present				
				4	33	Meters							
32907	Stinchcomb	5/19/2005	10:24 AM	1	0	Feet		Present	Present	Present	Present		
				1	50	Feet		Present					
				1	100	Feet							
				2	0	Feet		Present	Present	Present	Present		
				2	50	Feet		Present					
				2	100	Feet							
				3	0	Feet		Present		Present	Present		
				3	50	Feet		Present		Present			
				3	100	Meters							
32008	4-Corners Pond	5/23/2005	8·15 AM	1	0	Meters				4 units		10%	
32900	4-Comers Fond	3/23/2003	0.13 AW	1	10	Meters				4 units		10 /6	
				1	20	Meters							
				1	30	Meters							
				1	40	Meters							
				1	50	Meters							
				2	0	Meters			1 unit			5%	
				2	11	Meters							
				2	22	Meters							
				2	33	Meters							
				2	44	Meters							
				2	55	Meters							
				3	0	Meters	5 units		5 units		6 units		
				3	12	Meters							
				3	24	Meters							
				3	36	Meters							
				3	48	Meters							
				3	60	Meters							
				4	0	Meters				4 "			
				4	10	Meters				1 unit			
				4	20 30	Meters							
				4	40	Meters Meters							
				4	50	Meters							
				4	50	weters							

32909 Durrett	5/25/2005	8:00 AM	1	0	Feet	Present						Present	Present			Present
			1	50	Feet							Present				
			1	100	Feet	Present			Present				Present			
			2	0	Feet	Present									Present	Present
			2	50 100	Feet Feet			Present		Present	Present		Present			
			3	0	Feet			Present		Present	Present				Drocont	Present
			3	50	Feet				Present	rieseiii		Present			rieseiii	rieseiii
			3	100	Feet				i resent			i iesein				
			4	0	Feet					Present	Present			Present		Present
			4	50	Feet			Present	Present		Present					
			4	100	Feet	Present				Present	Present					
				_	_		_				_					
32910 Marsh-O-Muck	5/31/2005	11:03 AM		0	Feet		Present				Present					
			1	50 100	Feet Feet											
			2	0	Feet						Present					
			2	50	Feet		Present				i iesein					
			2	100	Feet		. 1000/10									
			3	0	Feet		Present				Present					
			3	50	Feet		Present									
			3	100	Feet											
			4	0	Feet											
			4	50	Feet											
			4	100	Feet											
32911 Turkey Flats	5/18/2005	9·15 AM	1	11	Meters											
52011 Turkey Flats	0/10/2000	0.107tivi	1	22	Meters											
			2	5	Meters											
			2	10	Meters											
			3	13	Meters											
			3	26	Meters											
			4	11	Meters											
			4	22	Meters											
32990 Turkey Flats	6/14/2005	9:30 AM	1	0	Meters											
ozooo Tuntoy Flato	0/ 1 // 2000	0.007	1	11	Meters											
			1	22	Meters											
			2	0	Meters											
			2	5	Meters											
			2	10	Meters											
			3	0	Meters											
			3	13	Meters											
			3	26	Meters											
			4	0	Meters											
			4	11 22	Meters				2 units	1 unit						
			4	22	Meters				∠ units	ı unıt						
32991 Beaver Pond	6/15/2005	9:55 AM	1	0	Meters											
			1	15	Meters				7 units							
			1	31	Meters			1 unit								
			2	0	Meters											
			2	17.5	Meters				10 units							
			2	35	Meters				16 units							
			2	52.5	Meters				11 units							
			2	70	Meters				1 unit							
			3	0 17.5	Meters Meters				12 units							
			3	35	Meters				7 units							
			3	55	Meters				1 unit							
			4	0	Meters				1 driit							
			4	15	Meters				6 units							
			4	31	Meters			1 unit								

2992 4-Corners Pon	4 6/27/2005	8:30 AM	1	0	Meters			4 units			10%			
2992 4-Comers Pon	u 6/2//2005	0.30 AIVI	1	10	Meters			4 units			10%			
			1	20	Meters									
			1	30										
					Meters									
			1	40	Meters									
			1	50	Meters						=0/			
			2	0	Meters		1 unit				5%			
			2	11	Meters									
			2	22	Meters									
			2	33	Meters									
			2	44	Meters									
			2	55	Meters									
			3	0	Meters	5 unit	5 units				6 units			
			3	12	Meters									
			3	24	Meters									
			3	36	Meters									
			3	48	Meters									
			3	60	Meters									
			4	0	Meters									
			4	10	Meters									
			4	20	Meters			1 unit						
			4	30	Meters									
			4	40	Meters									
			4	50	Meters									
2993 Midwest City	6/28/2005	8:40 AM	1	0	Meters									
-			1	4.8	Meters									
			1	9.7	Meters				35 units			40%		
			2	0	Meters									
			2	9.9	Meters				20 units			40%		
			2	17.4	Meters				35%			55%		
			3	0	Meters				0070			0070		
			3	8.2	Meters									
			3	17	Meters				3 units					
			3	25.6	Meters				o urino					
			3									50%		
			4	34.5	Meters							50%		
				0	Meters				E00/		F00/			
			4	9.4	Meters				50%		50%			
			4	18.8	Meters									
2994 Heather Ridge	6/20/2005	4:00 PM	1	0	Meters									Prese
2004 Heather Mage	0/23/2003	7.001 W	1	10	Meters									Prese
			1	20				1 unit						Prese
					Meters							000/	75	Piese
			1	30	Meters			1 unit				30%	75 units	
			1	40	Meters			1 unit				1%	20%	_
			2	0	Meters									Prese
			2	10	Meters									Prese
			2	20	Meters			1 unit						Prese
			2	30	Meters			1 unit				1%		
			3	0	Meters									Prese
			3	10	Meters									Prese
			3	20	Meters			1 unit						Prese
			3	30	Meters			1 unit						
			3	40	Meters			1 unit		1 unit		Trace	10%	Prese
			4	0	Meters									
			4	10	Meters			1 unit						
			4	20	Meters			1 unit	1 unit	1 unit				
			4	30	Meters			1 unit	1 unit	1 unit		10%	90%	
			-	00	.4101013			1 dille	· uiiii	· unit		. 5 /0	00 /0	

32995	Stinchcomb	6/30/2005	9:45 AM	1	0	Feet		Present				
				1	50	Feet				Present		Present?
				1	100	Feet					Present	
				2	0	Feet		Present				
				2	50	Feet		Present		Present		
				2	100	Feet					Present	
				3	0	Feet		Present				
				3				1 TOSCIII		Drocont		
					50	Feet				Present		
				3	100	Feet					Present	
					_							
32996	Marsh-O-Muck	6/30/2005	11:00 AM		0	Feet	1 unit				1 unit	
				1	50	Feet						
				1	100	Feet						
				2	0	Feet					1 unit	
				2	50	Feet	1 unit					
				2	100	Feet						
				3	0	Feet	1 unit				1 unit	
				3	50	Feet	1 unit					
				3	100	Feet	1 unit					
				3	100	1 661						
00007	Tuelani Elete	7/40/0005	0.00 444	_	_	Mataur						
33397	Turkey Flats	7/13/2005	9:00 AW	1	0	Meters						
				1	11	Meters						
				1	22	Meters						
				2	0	Meters						
				2	5	Meters						
				2	10	Meters						
				3	0	Meters						
				3	13	Meters						
				3	26	Meters						
				4	0	Meters				6 units		
					11	Meters				o uriito		
				4					Qumito	Quaita		
				4	22	Meters			2 units	2 units		
22200	Danier Dand	7/42/2005	10:00 AM	4	22	Meters			2 units	2 units		
33398	Beaver Pond	7/13/2005	10:00 AM	1	0	Meters				2 units		
33398	Beaver Pond	7/13/2005	10:00 AM	1 1	0 15	Meters Meters Meters			2 units	2 units		
33398	Beaver Pond	7/13/2005	10:00 AM	1 1 1	0 15 31	Meters Meters Meters Meters		1 unit		2 units		
33398	Beaver Pond	7/13/2005	10:00 AM	1 1 1 2	0 15 31 0	Meters Meters Meters Meters Meters		1 unit	2 units	2 units		
33398	Beaver Pond	7/13/2005	10:00 AM	1 1 1 2 2	0 15 31 0 17.5	Meters Meters Meters Meters Meters Meters Meters Meters		1 unit	2 units 7 units	2 units		
33398	Beaver Pond	7/13/2005	10:00 AM	1 1 1 2	0 15 31 0	Meters Meters Meters Meters Meters		1 unit	2 units	2 units		
33398	Beaver Pond	7/13/2005	10:00 AM	1 1 1 2 2	0 15 31 0 17.5	Meters Meters Meters Meters Meters Meters Meters Meters		1 unit	2 units 7 units	2 units		
33398	Beaver Pond	7/13/2005	10:00 AM	1 1 1 2 2 2 2	0 15 31 0 17.5 35 52.5	Meters		1 unit	2 units 7 units 8 units 8 units	2 units		
33398	Beaver Pond	7/13/2005	10:00 AM	1 1 1 2 2 2 2 2	0 15 31 0 17.5 35 52.5 70	Meters		1 unit	2 units 7 units 8 units	2 units		
33398	Beaver Pond	7/13/2005	10:00 AM	1 1 1 2 2 2 2 2 2 3	0 15 31 0 17.5 35 52.5 70 0	Meters		1 unit	2 units 7 units 8 units 8 units 1 unit	2 units		
33398	Beaver Pond	7/13/2005	10:00 AM	1 1 1 2 2 2 2 2 3 3	0 15 31 0 17.5 35 52.5 70 0 17.5	Meters		1 unit	2 units 7 units 8 units 8 units 1 unit	2 units		
33398	Beaver Pond	7/13/2005	10:00 AM	1 1 1 2 2 2 2 2 2 3 3 3	0 15 31 0 17.5 35 52.5 70 0 17.5 35	Meters		1 unit	2 units 7 units 8 units 8 units 1 unit	2 units		
33398	Beaver Pond	7/13/2005	10:00 AM	1 1 1 2 2 2 2 2 2 3 3 3	0 15 31 0 17.5 35 52.5 70 0 17.5 35 55	Meters		1 unit	2 units 7 units 8 units 8 units 1 unit	2 units		
33398	Beaver Pond	7/13/2005	10:00 AM	1 1 1 2 2 2 2 2 2 2 3 3 3 3 4	0 15 31 0 17.5 35 52.5 70 0 17.5 35 55 0	Meters		1 unit	2 units 7 units 8 units 8 units 1 unit 11 units 2 units	2 units		
33398	Beaver Pond	7/13/2005	10:00 AM	1 1 1 2 2 2 2 2 2 2 3 3 3 4 4	0 15 31 0 17.5 35 52.5 70 0 17.5 35 55 0	Meters		1 unit	2 units 7 units 8 units 8 units 1 unit	2 units		
33398	Beaver Pond	7/13/2005	10:00 AM	1 1 1 2 2 2 2 2 2 2 3 3 3 3 4	0 15 31 0 17.5 35 52.5 70 0 17.5 35 55 0	Meters		1 unit	2 units 7 units 8 units 8 units 1 unit 11 units 2 units	2 units		
				1 1 1 2 2 2 2 2 2 2 3 3 3 3 4 4 4	0 15 31 0 17.5 35 52.5 70 0 17.5 35 55 0 15 31	Meters		1 unit	2 units 7 units 8 units 8 units 1 unit 11 units 2 units	2 units		
	Beaver Pond Midwest City	7/13/2005		1 1 1 1 2 2 2 2 2 2 2 2 3 3 3 3 4 4 4	0 15 31 0 17.5 35 52.5 70 0 17.5 35 55 0 15 31	Meters		1 unit	2 units 7 units 8 units 8 units 1 unit 11 units 2 units	2 units		
				1 1 1 1 2 2 2 2 2 2 2 2 2 3 3 3 3 4 4 4 4 1 1	0 15 31 0 17.5 35 52.5 70 0 17.5 35 55 0 15 31	Meters		1 unit	2 units 7 units 8 units 8 units 1 unit 11 units 2 units	2 units		
				1 1 1 1 2 2 2 2 2 2 2 3 3 3 4 4 4 4	0 15 31 0 17.5 35 52.5 70 0 17.5 35 55 0 15 31	Meters		1 unit	2 units 7 units 8 units 8 units 1 unit 11 units 2 units	2 units	12 units	20%
				1 1 1 1 2 2 2 2 2 2 2 2 2 3 3 3 3 4 4 4 4 1 1	0 15 31 0 17.5 35 52.5 70 0 17.5 35 55 0 15 31	Meters		1 unit	2 units 7 units 8 units 8 units 1 unit 11 units 2 units	2 units	12 units	20%
				1 1 1 1 2 2 2 2 2 2 2 3 3 3 4 4 4 4 4 1 1 1 1 1 2	22 0 15 31 0 17.5 35 52.5 70 0 17.5 55 0 15 31 0 0 17.5 0 17.5 0 17.5 0 17.5 0 17.5 0 0 17.5 0 0 0 0 0 0 0 0 0 0 0 0 0	Meters		1 unit	2 units 7 units 8 units 8 units 1 unit 11 units 2 units			
				1 1 1 2 2 2 2 2 2 2 3 3 3 3 4 4 4 4 1 1 1 1 1 2 2	22 0 15 31 0 17.5 35 52.5 70 0 17.5 555 0 15 31 0 4.8 9.7 0 11	Meters		1 unit	2 units 7 units 8 units 8 units 1 unit 11 units 2 units	2 units	25%	19%
				1 1 1 2 2 2 2 2 2 2 3 3 3 3 4 4 4 4 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2	22 0 15 31 0 17.5 35 52.5 70 0 17.5 55 0 17.5 35 50 0 17.5 1	Meters	_	1 unit	2 units 7 units 8 units 8 units 1 unit 11 units 2 units			
				1 1 1 2 2 2 2 2 2 2 2 3 3 3 3 4 4 4 4 4 1 1 1 1 2 2 2 3 3	22 0 15 31 0 17.5 35 52.5 70 0 17.5 35 55 0 17.5 35 50 17.5 35 50 17.5 35 50 17.5 35 50 17.5 35 50 17.5 35 50 17.5 35 50 17.5 17.5	Meters	_	1 unit	2 units 7 units 8 units 8 units 1 unit 11 units 2 units		25%	19%
				1 1 1 2 2 2 2 2 2 2 2 2 3 3 3 3 4 4 4 4 4 1 1 1 1 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3	22 0 15 31 0 17.5 35 70 0 17.5 35 50 15 31 0 4.8 9.7 0 11 18.7 0 8.2	Meters Meters		1 unit	2 units 7 units 8 units 8 units 1 unit 11 units 2 units		25% 35%	19%
				1 1 1 1 2 2 2 2 2 2 2 2 2 3 3 3 3 4 4 4 4 4 4 1 1 1 1 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3	22 0 15 31 0 17.5 52.5 70 0 17.5 55 0 15 36 55 55 0 15 36 50 17.5 0 18.7 0 19.7 0 19.7	Meters		1 unit	2 units 7 units 8 units 8 units 1 unit 11 units 2 units		25%	19%
				1 1 1 1 2 2 2 2 2 2 2 2 2 2 3 3 3 3 4 4 4 4 4 4	22 0 15 31 0 17.5 52.5 70 0 17.5 55 0 15 35 52.5 70 0 17.5 35 55 0 18.7 0 19.7 0 19.7 19	Meters		1 unit	2 units 7 units 8 units 8 units 1 unit 11 units 2 units		25% 35%	19% 40%
				1 1 1 1 2 2 2 2 2 2 2 2 2 2 3 3 3 3 4 4 4 4 4 4	22 0 15 31 0 17.5 35 52.5 70 0 17.5 35 55 0 0 18.7 0 18.7 0 8.2 17.8 18.7 0 19.7 0 11.8	Meters		1 unit	2 units 7 units 8 units 8 units 1 unit 11 units 2 units		25% 35%	19%
				1 1 1 1 2 2 2 2 2 2 3 3 3 3 4 4 4 4 4 1 1 1 1 2 2 2 3 3 3 3 3 3 3 3 3 4 4 4 4 4 4 4 4	22 0 15 31 0 17.5 35 52.5 70 0 17.5 36 0 17.5 37 0 18.7 0 11.1 18.7 0 11.1 18.7 0 19.7 19	Meters		1 unit	2 units 7 units 8 units 8 units 1 unit 11 units 2 units	3 ybuts	25% 35% 3 units	19% 40% 35%
				1 1 1 1 2 2 2 2 2 2 2 2 2 2 3 3 3 3 4 4 4 4 4 4	22 0 15 31 0 17.5 35 52.5 70 0 17.5 35 55 0 0 18.7 0 18.7 0 8.2 17.8 18.7 0 19.7 0 11.8	Meters		1 unit	2 units 7 units 8 units 8 units 1 unit 11 units 2 units		25% 35% 3 units	19% 40%

33400 4-Corners Pond	7/27/2005	10:00 AM	1	0	Meters				4 units			10%		
33400 4-Comers Fond	112112005	10.00 AW	1	10	Meters				4 011113			10 /6		
			1	20	Meters									
			1	30	Meters									
			1	40	Meters									
			1	50	Meters									
			2	0	Meters			1 unit				5%		
			2	11	Meters									
			2	22	Meters									
			2	33	Meters									
			2	44	Meters									
			2	55	Meters									
			3	0		5 units		5 units				6 units		
			3	12	Meters									
			3	24	Meters									
			3	36	Meters									
			3	48	Meters									
			3	60 0	Meters									
			4 4	10	Meters									
			4	20	Meters Meters									
			4	30	Meters									
			4	40	Meters									
			4	50	Meters									
					,,,,,									
33401 Heather Ridge	7/29/2005	2:00 PM	1	2	Meters		2 units		1 unit					
			1	3	Meters				1 unit	10 units	1%			
			1	4	Meters				1 unit	1 unit			5%	80%
			1	5	Meters				1 unit					
			2	1	Meters									
			2	2	Meters									
			2	3	Meters				3 units					
			2	4	Meters				4 units	1 unit			10%	50%
			3	1 2	Meters				1 unit					
			3	3	Meters									
			3	4	Meters Meters				4 units 2 units				5%	30%
			4	1	Meters				2 units				370	30 /6
			4	2	Meters									
			4	3	Meters				2 units					
			4	4	Meters				2 units		1 unit			
			4	5	Meters									30%
33402 Stinchcomb	7/30/2005	12:55 PM		0	Meters									
			1	50	Meters		12 units							
			1	100	Meters					100%				
			2	0	Meters		5 units							
			2	50	Meters					40001				
			2	100	Meters		4			100%				
			3	0	Meters		4 units		4					
			3	50	Meters				1 unit	100%				
			4	100 0	Meters Meters					100%				
			4	50	Meters									
			4	100	Meters									
			_	100	METELS									
33877 Marsh-O-Muck	7/29/2005	10:23 AM	1	0	Feet	1 unit				1 unit				
			1	50	Feet									
			1	100	Feet									
			2	0	Feet					1 unit				
			2	50	Feet	1 unit								
			2	100	Feet									
			3	0	Feet	1 unit				1 unit				
			3	50	Feet	1 unit								
			3	100	Feet									
			4	0	Feet									
			4	50	Feet									
			4	100	Feet									

33878	Beaver Pond	8/1/2005	9:10 AM	1	0	Meters								
33070	beaver Foriu	6/1/2005	9.10 AW	1	15	Meters				5 units				
				1	31	Meters		1	unit	o armo				
				2	0	Meters								
				2	17.5	Meters				3 units				
				2	35	Meters				5 units				
				2	52.5	Meters				2 units				
				2	70	Meters				1 unit				
				3	0	Meters				0				
				3	17.5 35	Meters Meters				3 units				
				3	55	Meters								
				4	0	Meters				5 units				
				4	15	Meters				5 units				
				4	31	Meters								
33879	Turkey Flats	8/19/2005	9:10 AM	1	0	Meters								
				1	11 22	Meters Meters					1 unit			
				2	0	Meters					1 dille			
				2	5	Meters								
				2	10	Meters								
				3	0	Meters								
				3	13	Meters								
				3	26	Meters								
				4	0	Meters					2 units			
				4 4	11 22	Meters								
				4	22	Meters								
33880	Midwest City	8/23/2005	8:45 AM	1	0	Meters								
	,			1	4.8	Meters								
				1	9.7	Meters					5 units	8 unit		20%
				2	0	Meters								
				2	11	Meters					5 units	20%		0.5%
				2	18	Meters						55%		20%
				3	0 8.2	Meters								
				3	0.2 17	Meters Meters						2 units		
				3	25.6	Meters						Z dilits		
				3	34.5	Meters						1 unit		50%
				4	0	Meters								
				4	9.4	Meters					3 units	45%	60%	1%
						Meters Meters					3 units	45%	60%	1%
33881	A-Corners Pond	8/20/2005	8·30 AM	4	9.4 18.8	Meters						45%		1%
33881	4-Corners Pond	8/29/2005	8:30 AM	1	9.4 18.8	Meters Meters					3 units	45%	10%	1%
33881	4-Comers Pond	8/29/2005	8:30 AM	1 1	9.4 18.8	Meters Meters Meters				_		45%		1%
33881	4-Comers Pond	8/29/2005	8:30 AM	1	9.4 18.8 0 10	Meters Meters		_	_			45%		1%
33881	4-Corners Pond	8/29/2005	8:30 AM	4 4 1 1 1	9.4 18.8 0 10 20	Meters Meters Meters		_	_			45%		1%
33881 4	4-Comers Pond	8/29/2005	8:30 AM	1 1 1 1 1 1	9.4 18.8 0 10 20 30 40 50	Meters Meters Meters Meters Meters Meters Meters						45%	10%	1%
33881	4-Comers Pond	8/29/2005	8:30 AM	1 1 1 1 1 1 2	9.4 18.8 0 10 20 30 40 50 0	Meters Meters Meters Meters Meters Meters Meters Meters				1 unit		45%		1%
33881 4	4-Corners Pond	8/29/2005	8:30 AM	1 1 1 1 1 1 2 2	9.4 18.8 0 10 20 30 40 50 0	Meters Meters Meters Meters Meters Meters Meters Meters Meters				1 unit		45%	10%	1%
33881 4	4-Comers Pond	8/29/2005	8:30 AM	1 1 1 1 1 2 2	9.4 18.8 0 10 20 30 40 50 0 11 22	Meters				1 unit		45%	10%	1%
33881	4-Corners Pond	8/29/2005	8:30 AM	1 1 1 1 1 2 2 2	9.4 18.8 0 10 20 30 40 50 0 11 22 33	Meters				1 unit		45%	10%	1%
33881	4-Corners Pond	8/29/2005	8:30 AM	1 1 1 1 1 2 2 2 2	9.4 18.8 0 10 20 30 40 50 0 11 22 33 44	Meters				1 unit		45%	10%	1%
33881 4	4-Corners Pond	8/29/2005	8:30 AM	1 1 1 1 1 2 2 2	9.4 18.8 0 10 20 30 40 50 0 11 22 33	Meters	5 units			1 unit 5 units		45%	10%	1%
33881 4	4-Comers Pond	8/29/2005	8:30 AM	1 1 1 1 1 1 1 2 2 2 2 2 2 2 3 3 3	9.4 18.8 0 10 20 30 40 50 0 11 22 33 44 55	Meters	5 units					45%	10%	1%
33881 4	4-Corners Pond	8/29/2005	8:30 AM	1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 3 3 3 3	9.4 18.8 0 10 20 30 40 50 0 11 22 33 44 55 0 12 24	Meters	5 units					45%	10%	1%
33881	4-Corners Pond	8/29/2005	8:30 AM	1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 3 3 3 3 3	9.4 18.8 0 10 20 30 40 50 0 11 22 33 44 55 0 12 24 36	Meters	5 units					45%	10%	1%
33881	4-Corners Pond	8/29/2005	8:30 AM	1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 3 3 3 3	9.4 18.8 0 10 20 30 40 50 0 11 22 33 44 55 0 12 24 36 48	Meters	5 units					45%	10%	1%
33881 4	4-Comers Pond	8/29/2005	8:30 AM	1 1 1 1 1 1 1 2 2 2 2 2 2 2 3 3 3 3 3 3	9.4 18.8 0 10 20 30 40 50 0 11 22 33 44 55 0 11 22 43 64 48 60	Meters	5 units					45%	10%	1%
33881 -	4-Corners Pond	8/29/2005	8:30 AM	1 1 1 1 1 1 1 2 2 2 2 2 2 2 3 3 3 3 3 4	9.4 18.8 0 10 20 30 40 50 0 11 22 23 34 44 55 0 12 24 48 60 0	Meters	5 units					45%	10%	1%
33881	4-Corners Pond	8/29/2005	8:30 AM	1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 3 3 3 3	9.4 18.8 0 10 20 30 40 50 0 11 22 33 44 55 0 12 24 36 48 48 60 0 10	Meters	5 units					45%	10%	1%
33881 -	4-Corners Pond	8/29/2005	8:30 AM	1 1 1 1 1 1 1 2 2 2 2 2 2 2 3 3 3 3 3 4	9.4 18.8 0 10 20 30 40 50 0 11 22 23 34 44 55 0 12 24 48 60 0	Meters	5 units					45%	10%	1%
33881 -	4-Corners Pond	8/29/2005	8:30 AM	1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 3 3 3 3	9.4 18.8 0 10 20 30 40 0 11 22 33 44 55 0 12 24 48 60 0 0 10 20 30 40 40 40 40 40 40 40 40 40 40 40 40 40	Meters	5 units					45%	10%	1%
33881 4	4-Comers Pond	8/29/2005	8:30 AM	1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 3 3 3 3	9.4 18.8 0 10 20 30 40 50 0 11 22 24 36 48 60 0 10 20 33 33 44 55 0 12 24 36 48 60 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Meters	5 units					45%	10%	1%
				1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 3 3 3 3	9.4 18.8 0 10 20 30 40 50 0 11 22 33 44 55 50 0 12 24 48 60 0 0 30 40 0 10 20 30 40 40 40 40 40 40 40 40 40 40 40 40 40	Meters	5 units	Auril					10%	1%
	4-Corners Pond 4-Corners Pond Marsh-O-Muck	8/29/2005		1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 3 3 3 3	9.4 18.8 0 10 20 30 40 50 0 11 22 33 44 55 0 12 24 36 60 0 0 10 20 20 20 30 40 50 0 10 10 20 0 0 10 10 10 10 10 10 10 10 10 10 10 1	Meters	5 units	1 unit				1 unit	10%	1%
				1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2 3 3 3 3	9.4 18.8 0 10 20 30 40 50 0 11 22 33 44 455 0 12 24 36 48 60 0 10 20 30 40 50 0 11 20 30 40 50 0 10 10 10 10 10 10 10 10 10 10 10 10	Meters Feet	5 units	1 unit					10%	1%
				1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 3 3 3 3	9.4 18.8 0 10 20 30 40 50 0 111 22 24 33 344 55 0 12 24 36 60 0 0 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Meters Feet Feet	5 units	1 unit				1 unit	10%	1%
				1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2 3 3 3 3	9.4 18.8 0 10 20 30 40 50 0 11 22 33 44 455 0 12 24 36 48 60 0 10 20 30 40 50 0 11 20 30 40 50 0 10 10 10 10 10 10 10 10 10 10 10 10	Meters Feet	5 units	1 unit					10%	1%
				4 4 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 3 3 3 3	9.4 18.8 0 10 20 30 40 50 0 111 22 24 33 344 55 0 0 10 20 33 40 50 0 0 11 22 24 36 60 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Meters	5 units					1 unit	10%	1%
				4 4 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2	9.4 18.8 0 10 20 30 40 50 0 111 22 24 33 344 455 0 0 10 20 30 40 50 0 0 11 12 22 24 36 60 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Meters Me	5 units	1 unit				1 unit	10%	1%
				4 4 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2 3 3 3 3	9.4 18.8 0 10 20 30 40 0 50 0 11 22 24 48 60 0 10 20 33 44 45 55 0 11 22 24 40 50 0 0 10 10 10 10 10 10 10 10 10 10 10 1	Meters	5 units	1 unit				1 unit	10%	1%
				4 4 1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2	9.4 18.8 0 10 20 30 40 50 0 111 22 24 33 44 55 0 12 24 30 40 50 0 11 20 30 40 50 0 11 20 30 40 50 0 11 20 0 0 0 10 10 10 10 10 10 10 10 10 10 10	Meters Me	5 units	1 unit				1 unit	10%	1%
				4 4 1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2	9.4 18.8 0 10 20 30 40 55 0 111 22 24 33 344 455 0 12 24 36 60 0 0 10 10 50 0 0 11 10 0 0 0 11 10 10 10 10 10 10 1	Meters Me	5 units	1 unit				1 unit	10%	1%
				4 4 1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2	9.4 18.8 0 10 20 30 40 50 0 111 22 24 33 44 55 0 12 24 30 40 50 0 11 20 30 40 50 0 11 20 30 40 50 0 11 20 0 0 0 10 10 10 10 10 10 10 10 10 10 10	Meters Me	5 units	1 unit				1 unit	10%	1%

00000	0	0/04/0005	4 00 514							4000/	=0/		
33883	Stinchcomb	8/31/2005	1:00 PM	1	0	Feet				100%	5%		
				1	50	Feet	1 unit						
				1 2	100	Feet	5 units			1000/	20/		
					0	Feet				100%	2%		
				2	50 100	Feet Feet	8 units						
				3	0	Feet	o units						
				3	50	Feet	3 units						
				3	100	Feet	1 unit						
				4	0	Feet	i unit						
				4	50	Feet							
				4	100	Feet							
					100	1 661							
33885	Turkey Flats	9/20/2005	9:00 AM	1	0	Meters							
33003	ruikey riats	3/20/2003	3.00 AW	1	11	Meters							
				1	22	Meters							
				2	0	Meters						3 units	
				2	5	Meters						o unito	
				2	10	Meters							
				3	0	Meters							
				3	13	Meters							
				3	26	Meters							
				4	0	Meters			2 units			20%	
				4	11	Meters							
				4	22	Meters			1 unit				
				ė									
33886	Midwest City	9/21/2005	8:10 AM	1	0	Meters							
				1	4.8	Meters							
				1	9.7	Meters			8 units	10 units			20%
				2	0	Meters							
				2	11	Meters			3 units	20%			1%
				2	18	Meters				55%			15%
				3	0	Meters							
				3	8.2	Meters							
				3	17	Meters				2 units			
				3	25.6	Meters							
				3	34.5	Meters							55%
				4	0	Meters							
				4	9.4	Meters			4 units	45%		50%	
				4	18.8	Meters							25%
33887					0	Meters							
	Beaver Pond	9/22/2005	9:00 AM	1									
	Beaver Pond	9/22/2005	9:00 AM	1	15	Meters		5 units					
	Beaver Pond	9/22/2005	9:00 AM	1 1	15 31	Meters Meters		5 units					
	Beaver Pond	9/22/2005	9:00 AM	1 1 2	15 31 0	Meters Meters Meters							
	Beaver Pond	9/22/2005	9:00 AM	1 1 2 2	15 31 0 17.5	Meters Meters Meters Meters		4 units					
	Beaver Pond	9/22/2005	9:00 AM	1 1 2 2 2	15 31 0 17.5 35	Meters Meters Meters Meters Meters		4 units 5 units				50%	
	Beaver Pond	9/22/2005	9:00 AM	1 1 2 2 2 2	15 31 0 17.5 35 52.5	Meters Meters Meters Meters Meters Meters		4 units 5 units 2 units				50% 60%	
	Beaver Pond	9/22/2005	9:00 AM	1 1 2 2 2 2 2 2	15 31 0 17.5 35 52.5 70	Meters Meters Meters Meters Meters Meters Meters		4 units 5 units				60%	
	Beaver Pond	9/22/2005	9:00 AM	1 1 2 2 2 2 2 2 3	15 31 0 17.5 35 52.5 70	Meters Meters Meters Meters Meters Meters Meters Meters		4 units 5 units 2 units 1 unit					
	Beaver Pond	9/22/2005	9:00 AM	1 1 2 2 2 2 2 2 2 3 3	15 31 0 17.5 35 52.5 70 0 17.5	Meters Meters Meters Meters Meters Meters Meters Meters Meters		4 units 5 units 2 units 1 unit				60%	
	Beaver Pond	9/22/2005	9:00 AM	1 1 2 2 2 2 2 2 3 3 3	15 31 0 17.5 35 52.5 70 0 17.5 35	Meters Meters Meters Meters Meters Meters Meters Meters Meters Meters		4 units 5 units 2 units 1 unit				60%	
	Beaver Pond	9/22/2005	9:00 AM	1 1 2 2 2 2 2 2 3 3 3	15 31 0 17.5 35 52.5 70 0 17.5 35 55	Meters Meters Meters Meters Meters Meters Meters Meters Meters Meters Meters Meters		4 units 5 units 2 units 1 unit 4 units 1 unit				60%	
	Beaver Pond	9/22/2005	9:00 AM	1 1 2 2 2 2 2 2 3 3 3 3	15 31 0 17.5 35 52.5 70 0 17.5 35 55 0	Meters		4 units 5 units 2 units 1 unit 4 units 1 unit 5 units				60%	
	Beaver Pond	9/22/2005	9:00 AM	1 1 2 2 2 2 2 3 3 3 4 4	15 31 0 17.5 35 52.5 70 0 17.5 35 55 0	Meters		4 units 5 units 2 units 1 unit 4 units 1 unit				60%	
	Beaver Pond	9/22/2005	9:00 AM	1 1 2 2 2 2 2 2 3 3 3 3	15 31 0 17.5 35 52.5 70 0 17.5 35 55 0	Meters		4 units 5 units 2 units 1 unit 4 units 1 unit 5 units				60%	
				1 1 2 2 2 2 2 3 3 3 4 4 4	15 31 0 17.5 35 52.5 70 0 17.5 35 55 0 15 31	Meters Meters Meters Meters Meters Meters Meters Meters Meters Meters Meters Meters Meters Meters Meters Meters Meters	5 units	4 units 5 units 2 units 1 unit 4 units 1 unit 5 units 4 units				60%	
	4-Comers Pond	9/23/2005		1 1 2 2 2 2 2 2 2 2 2 3 3 3 3 4 4 4 4	15 31 0 17.5 35 52.5 70 0 17.5 35 55 0 15 31	Meters	5 units	4 units 5 units 2 units 1 unit 4 units 1 unit 5 units				60%	
				1 1 2 2 2 2 2 2 2 3 3 3 3 4 4 4 1	15 31 0 17.5 35 52.5 70 0 17.5 35 55 0 15 31	Meters	5 units	4 units 5 units 2 units 1 unit 4 units 1 unit 5 units 4 units				60%	
				1 1 2 2 2 2 2 2 2 3 3 3 3 4 4 4 4	15 31 0 17.5 35 52.5 70 0 17.5 35 55 0 15 31	Meters	5 units	4 units 5 units 2 units 1 unit 4 units 1 unit 5 units 4 units				60%	
				1 1 2 2 2 2 2 2 2 3 3 3 3 4 4 4 4 4 1 1 1 1 1 1 1 1 1 1 1	15 31 0 17.5 35 52.5 70 0 17.5 35 55 0 15 31	Meters	5 units	4 units 5 units 2 units 1 unit 4 units 1 unit 5 units 4 units				60%	
				1 1 2 2 2 2 2 2 2 3 3 3 3 4 4 4 4 1 1 1 1 1 1 1 1 1 1 1 1	15 31 0 17.5 35 52.5 70 0 17.5 35 55 0 15 31	Meters	5 units	4 units 5 units 2 units 1 unit 4 units 1 unit 5 units 4 units				60%	
				1 1 2 2 2 2 2 2 2 3 3 3 3 4 4 4 4 1 1 1 1 1 1 1 1 1 1 1 1	15 31 0 17.5 35 52.5 70 0 17.5 35 55 0 15 31	Meters	5 units	4 units 5 units 2 units 1 unit 4 units 1 unit 5 units 4 units				60%	
				1 1 2 2 2 2 2 2 2 3 3 3 3 4 4 4 4 1 1 1 1 1 1 1 1 1 1 1 1	15 31 0 17.5 35 52.5 70 0 17.5 35 55 0 115 31 0 12 24 48 60 0	Meters	5 units	4 units 5 units 2 units 1 unit 4 units 1 unit 5 units 4 units				60%	
				1 1 2 2 2 2 2 2 3 3 3 3 4 4 4 4 1 1 1 1 1 1 1 1 1 1 1 1	15 31 0 17.5 35 52.5 70 0 17.5 35 55 0 15 31	Meters	5 units	4 units 5 units 2 units 1 unit 4 units 1 unit 5 units 4 units				60%	
				1 1 2 2 2 2 2 2 2 3 3 3 3 4 4 4 4 1 1 1 1 1 1 1 1 1 1 1 1	15 31 0 17.5 35 52.5 70 0 17.5 55 0 15 31 0 12 24 36 48 60 0 10	Meters	5 units	4 units 5 units 2 units 1 unit 4 units 1 unit 5 units 4 units				60%	
				1 1 2 2 2 2 2 2 3 3 3 3 4 4 4 4 1 1 1 1 1 1 1 1 1 1 1 1	15 31 0 17.5 35 52.5 70 0 17.5 35 55 31 0 12 24 36 48 60 0 10 20	Meters	5 units	4 units 5 units 2 units 1 unit 4 units 1 unit 5 units 4 units				60%	
				1 1 2 2 2 2 2 2 3 3 3 3 4 4 4 4 1 1 1 1 1 1 1 1 1 1 1 1	15 31 0 17.5 52.5 70 0 117.5 35 55.5 0 15 31 0 12 24 48 60 0 10 20 30	Meters	5 units	4 units 5 units 2 units 1 unit 4 units 1 unit 5 units 4 units				60%	
				1 1 2 2 2 2 2 2 3 3 3 3 4 4 4 4 1 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2	15 31 0 17.5 52.5 70 0 17.5 55 55 0 15 31 0 12 24 48 60 0 10 20 30 40	Meters	5 units	4 units 5 units 2 units 1 unit 4 units 1 unit 5 units 5 units 5 units	5 units			60%	
				1 1 2 2 2 2 2 2 2 3 3 3 3 4 4 4 4 1 1 1 1 1 1 1 1 1 1 1 1	15 31 0 17.5 35 52.5 70 0 17.5 35 55 0 17.5 35 31 0 0 12 24 36 48 60 0 10 20 0 0 0 10 10 10 10 10 10 10 10 10 10 10	Meters	5 units	4 units 5 units 2 units 1 unit 4 units 1 unit 5 units 5 units 5 units	5 units			20% 20m 2 units	
				1 1 2 2 2 2 2 2 2 3 3 3 3 4 4 4 4 4 1 1 1 1 1 1 1 1 1 1 1	15 31 0 17.5 35 52.5 70 0 17.5 35 55 0 0 11.5 31 0 12.2 44 36 48 60 0 10 20 30 40 40 40 40 40 40 40 40 40 40 40 40 40	Meters	5 units	4 units 5 units 2 units 1 unit 4 units 1 unit 5 units 5 units 5 units	5 units			20% 20m 2 units	
				1 1 2 2 2 2 2 2 2 3 3 3 3 4 4 4 4 1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2	15 31 0 17.5 35 52.5 70 0 17.5 55 50 0 15 31 0 12 24 36 60 0 10 20 30 40 50 0 10	Meters	5 units	4 units 5 units 2 units 1 unit 4 units 1 unit 5 units 5 units 5 units	5 units			20% 20m 2 units	
				1 1 2 2 2 2 2 2 2 3 3 3 3 4 4 4 4 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2	15 31 0 17.5 35 52.5 0 0 17.5 35 55 0 15 35 35 0 12 24 36 48 60 0 10 20 0 0 0 10 20 10 20 10 20 10 20 20 20 20 20 20 20 20 20 20 20 20 20	Meters	5 units	4 units 5 units 2 units 1 unit 4 units 1 unit 5 units 5 units 5 units	5 units			20% 20m 2 units	
				1 1 2 2 2 2 2 3 3 3 3 3 4 4 4 4 4 4 4 4 4 4	15 31 0 17.5 35 52.5 7 0 17.5 35 0 15 55 0 15 31 0 12 24 48 60 0 10 20 30 0 0 0 10 10 10 10 10 10 10 10 10 10 10	Meters	5 units	4 units 5 units 2 units 1 unit 4 units 1 unit 5 units 5 units 5 units	5 units			20% 20m 2 units	
				1 1 2 2 2 2 2 3 3 3 3 3 4 4 4 4 4 4 4 4 4 4	15 31 0 17.5 35 52.5 7 0 17.5 55 55 0 15 33 10 0 12 24 36 48 60 0 10 20 30 40 50 10 10 10 10 10 10 10 10 10 10 10 10 10	Meters	5 units	4 units 5 units 2 units 1 unit 4 units 1 unit 5 units 5 units 5 units	5 units			20% 20m 2 units	
				1 1 2 2 2 2 2 2 3 3 3 3 3 4 4 4 4 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2 2	15 31 0 17.5 35 52.5 70 0 17.5 55 55 0 12 24 48 60 0 10 20 30 40 50 0 40 40 40 40 40 40 40 40 40 40 40 40	Meters	5 units	4 units 5 units 2 units 1 unit 4 units 1 unit 5 units 5 units 5 units	5 units			20% 20m 2 units	
				1 1 2 2 2 2 2 2 3 3 3 3 4 4 4 4 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2	15 31 0 17.5 35 52.5 70 0 17.5 55 55 0 117.5 35 55 31 0 12 24 43 60 0 0 10 20 30 40 40 40 40 40 40 40 40 40 40 40 40 40	Meters	5 units	4 units 5 units 2 units 1 unit 4 units 1 unit 5 units 5 units 5 units	5 units			20% 20m 2 units	
				1 1 2 2 2 2 2 2 3 3 3 3 4 4 4 4 4 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2	15 31 0 17.5 35 52.5 70 0 17.5 55 0 15 33 10 0 10 20 30 40 50 0 10 20 30 40 40 50 10 10 10 10 10 10 10 10 10 10 10 10 10	Meters	5 units	4 units 5 units 2 units 1 unit 4 units 1 unit 5 units 5 units 5 units	5 units			20% 20m 2 units	
				1 1 2 2 2 2 2 3 3 3 3 4 4 4 4 4 4 4 4	15 31 0 17.5 35 52.5 70 0 17.5 35 55 0 117.5 31 0 12 24 48 60 0 10 20 30 40 50 0 0 0 10 10 10 10 10 10 10 10 10 10 10	Meters	5 units	4 units 5 units 2 units 1 unit 4 units 1 unit 5 units 5 units 5 units	5 units			20% 20m 2 units	
				1 1 2 2 2 2 2 3 3 3 3 4 4 4 4 4 4 4 4	15 31 0 17.5 35 52.5 70 0 17.5 55 55 0 11.7 24 48 60 0 0 10 20 30 40 40 50 0 0 11.0 20 30 40 40 40 40 40 40 40 40 40 40 40 40 40	Meters	5 units	4 units 5 units 2 units 1 unit 4 units 1 unit 5 units 5 units 5 units	5 units			20% 20m 2 units	

33889	Stinchcomb	9/30/2005	8:35 AM	1	0	Feet			100%	5%			
				1	50	Feet	1 unit						
				1	100	Feet	5 units						
				2	0	Feet			100%	2%			
				2	50	Feet							
				2	100	Feet	8 units						
				3	0	Feet							
				3	50	Feet	3 units						
				3	100	Feet	1 unit						
				4	0	Feet							
				4	50	Feet							
				4	100	Feet							
33890	Heather Ridge	9/30/2005	9:30 AM	1	1	Meters							
				1	2	Meters							
				1	3	Meters		1 unit					
				1	4	Meters			3 units	2 units			
				1	5	Meters		1 unit	1 unit		7 units	70%	
				2	1	Meters							Present
				2	2	Meters							Present
				2	3	Meters		2 units					
				2	4	Meters		6 units			2%	20%	
				3	1	Meters							Present
				3	2	Meters							Present
				3	3	Meters		2 units					Present
				3	4	Meters		1 unit			5%	20%	D
				4	1	Meters							Present
				4	2	Meters		4					Present
				4	3	Meters		1 unit		4			
				4	4	Meters				1 unit			

SUMMARY

The intent of this project was to implement a pilot volunteer wetlands monitoring program. However, there were a wide range of wetlands sites that were monitored and unfortunately reference sites were not available. At this time only general observations can be made about the condition of the wetlands.

Water Chemistry

The water chemistry of a wetland can tell you about the surrounding area by showing what is contained in the water. Generally the water chemistry data for the wetland sites was very good (see raw data above). Nearly every sample had adequate dissolved oxygen and very low nutrients. The ammonia nitrogen was usually below detection limits for the kits. However, there was one exception, the Midwest City Wetland. This wetland is adjacent to a wastewater treatment plant and is hydraulically fed by treated effluent. This wetland is understandably higher in nutrients than the other sites. These high nutrient levels make the system overly productive and causing very low dissolved oxygen levels over the warmer months. This low level of dissolved oxygen is not conducive for aquatic organisms.

Water	chemistry	data for	Midwest	City	Wetland

SAMPLEID	SiteName	Date	Time	Dissolved Oxygen- Sample (mg/L)	% Oxygen Saturation	pH-Sample(SU)	Nitrate Nitrogen-Sample (mg/L)	Ammonia Nitrogen- Sample (mg/L)	Orthophosphate Phosphorus-Sample (mg/L)
31675	Midwest City	1/21/2005	11:00 AM	22		8.5	0.04	0.2 - 0.4 mg/L	
32614	Midwest City	2/28/2005	3:00 PM	16	140	8.7	0	0.0 - 0.2 mg/L	0.2
32617	Midwest City	3/27/2005	9:00 AM	13	115	8.5	0	0.4	0.26
32628	Midwest City	4/30/2005	1:50 PM	22	190	9.5	0.02	1.5	0.6
32905	Midwest City	5/26/2005	4:00 PM	10	115	8	0	0.2 - 0.4 mg/L	1.13
32993	Midwest City	6/28/2005	8:40 AM	0.4	5	7.6		0.0 - 0.2 mg/L	8.0
33399	Midwest City	7/26/2005	9:20 AM	0.4	18	7.6		0.0 - 0.2 mg/L	0.57
33880	Midwest City	8/23/2005	8:45 AM	0.2	3	7.2		0.2 - 0.4 mg/L	8.0
33886	Midwest City	9/21/2005	8:10 AM	0.2	3	7.5		0.0 - 0.2 mg/L	1
34312	Midwest City	10/20/2005	9:55 AM	0.2	5	7.4		0.0 - 0.2 mg/L	1.033
34317	Midwest City	11/30/2005	8:00 AM	8	55	7.4		>1.0 mg/L	1.5
34320	Midwest City	12/22/2005	9:55 AM	6	57	7.75		>1.0 mg/L	5.33
34978	Midwest City	1/31/2006	8:00 AM	16	122	8.85		0.0 - 0.2 mg/L	0.23
34323	Midwest City	2/23/2006	10:28 AM	26	9999	10		0.2 - 0.4 mg/L	0.067

Soils

Soils are a key characteristic that are used to legally define a wetland and its boundary. Soils and features contained within them can be difficult to decipher, even for soil experts. That makes this category of data collection hard to implement with volunteers. However, soils are an important component of wetlands and the volunteers should be exposed to that by making observations about the soil at their wetland sites. While the wetland sites did not contain all of the soil features, many of them were present. The majority

of the sites contained a muck layer indicating those wetlands are have productive vegetation and enough water present to keep the vegetation from completely decomposing, indicating saturated soil conditions. However, very few of the wetland sites had a sulfur smell. The lack of the sulfur smell could indicate that those systems have lower bacterial and microbial activity.

Soil features present at wetland sites

	Sulfur Smell @ 15cm?	Sulfur Smell @ 30cm?	Sulfur Smell @ 45cm?	Mottles @ 15cm?	Mottles @ 30cm?	Mottles @ 45cm?	Standing Water?	Muck Layer?			
sites present	2	0	0	5	6	5	3	6			
% presence	22%	0%	0%	56%	67%	56%	33%	67%			

Vegetation

The condition, composition, and location of a wetland's vegetation are important to understanding the wetlands condition. The plant list contained in the WHAM methodology contains species that would be commonly found in Oklahoma's wetlands. The list of species is short, which makes it manageable for volunteers to learn, but many other plant species will be missed during monitoring that may play just as an important role. It appears from the table below that a majority of the sites are emergent marsh systems, based on the percent of emergent vegetation present. None of the sites contained false indigo, which may indicate that it is not appropriate for the list. Also, only two sites contained the invasive purple loosestrife.

Species present at wetland sites

Species prese	110 000 110	tiuiiu 5i	tes										
	Green Ash Observed?	Silver Maple Observed?	Hackberry Observed?	Buttonbush Observed?	False Indigo Observed?	Black Willow Observed?	Cattails Observed?	American Bulrush Observed?	Spikerush Observed?	Duckweed Observed?	Pondweed Observed?	Coontail Observed?	Purple Loosestrife Observed?
sites present	2	1	5	5	0	7	6	4	5	4	2	2	2
% presence	25%	13%	63%	63%	0%	88%	75%	50%	63%	50%	25%	25%	25%

With additional analysis and an added staff member, a volunteer wetlands monitoring could be fully and successfully implemented in the State of Oklahoma. Although the WHAM methodology has some shortcomings (e.g. limited plant list) it generally provides good general information about a wetland site. By conducting more monitoring and developing reference sites for the different types of wetlands, the methodology could be fine-tuned to give a more accurate picture of the monitoring sites. The results from the reference sits could then be used to determine the condition of the monitoring sites.

Most importantly volunteer wetland monitoring gets the public involved and educated about the importance of wetlands. Volunteer monitoring has been done for years on streams, and many more people are educated and familiar with functions of streams. By implementing a volunteer program for wetlands steps would be taken to better educate the public about the important functions that wetlands perform and the values they provide.

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Task 3: Wetland Education

- Agendas
- Curricula
- Locations
- Attendees



for EPA Wetlands Grant: Implementation of Wetland Health Assessment Monitoring Programs (WHAM)

Schedule

Four educator workshops were conducted between June 2005 and December 2005 (see Table 1).

Table 1. Workshop Schedule

DATE	LOCATION	TIME		
6/25/05	NE State University, Broken Arrow Campus	9:00 am to 3:00 pm		
8/6/05	Great Salt Plains National Wildlife Refuge, Jet	9:00 am to 3:00 pm		
10/29/05	NE State University, Broken Arrow Campus	9:00 am to 3:00 pm		
11/12/05 & 11/13/05	Cameron University, Lawton	8:00 am to 4:00 pm & 8:00 am to 4:00 pm		

Participation

A total of 49 educators attended the trainings (see Table 2). Workshop participant lists for each workshop are attached.

Table 2. Breakdown of workshop participants.

DATE	# HOURS	CURR	TOTAL	ELEM	SECOND	NON- FORMAL	AGENCY	OTHER
6/25/05	6	wow	9	9 preservice				
8/6/05	6	wow	8	3 inservice	3 inservice		2	
10/29/05	6	wow	20	20 preservice				
11/12/05	16	wow	12	1 preservice	2 preservice	2		7

Curriculum

The agendas for these workshops were based on WOW! the Wonders of Wetlands Educator's Guide published by Project WET and Environmental Concern. Agenda items included several activities from the WOW guide in addition to field experiences. Activities were led by a certified workshop facilitator. Some of the activities presented at the workshops included:

- Wetland Habitats a flowchart key to types of wetlands
 Wetland Metaphors wetland values and functions
- . Soak It Up how do wetlands get wet
- Do You Dig Wetland Soils? physical features of wetlands soils
 This Plant Key is All Wet key to wetland plants

WOW! the Wonders of Wetlands Workshop Participants June 25, 2005 @ NE State University, BA Campus

FIRST NAME	LAST NAME	ADDRESS	CITY	STATE	ZIP CODE
CHRIS	BYCROFT	532 N RRSOEDALE	TULSA	OK	74127
MEGAN	CHADDICK	3126 S 214 E AVE	BROKEN ARROW	OK	74014
TAMMY	HALLUM	5638 S 89TH E AVE	TULSA	OK	74145
APRIL	MCMILLAN	28455 E 118TH ST S	COMETA	OK	74429
IMAL	ROBINSON	PO BOX 602	WYNONA	OK	74084
PRESTON	ROGERS	1301 N 48TH	MUSKOGEE	OK	74401
BILLYH	SMITH	11356 N 510 RD	TAHLEQUAH	OK	74464
JOANNES.	SMITH	11356 N 510 RD	TAHLEQUAH	OK	74464
CODI	YANDELL	209 N HUGHES	MORRIS	OK	74445

WOW! the Wonders of Wetlands Workshop Participants August 6, 2005 @ Great Salt Plains Wildlife Refuge

FIRST NAME	LAST NAME	ADDRESS	CITY	STATE	ZIP CODE
CAROLYN	ROBERTS	BOX 278	DRUMMOND	OK	73736
JANEL M.	POWELL	RT 2 BOX 37A	MENO	OK	78760
CAROLE	STAKE	3223 ROBIN RIDGE RD	WOODWARD	OK	73801
JULIE	ANGLE	RR 1 BOX 130	MEDFORD	OK	73759
TAMARA	GOEKEN	RR 2 BOX 85	CHEROKEE	OK	73728
DON	BEADLES	817 NOBLE ST	ALVA	OK	73717
RON	PRICE	PO BOX 816	CKMULGEE	OK	74449
EMILY	HILE	RR 1 BOX 76	JET	OK	73749

WOW! the Wonders of Wetlands Workshop Participants October 29, 2005 @ NE State University, BA Campus

FIRST NAME	LAST NAME	ADDRESS	CITY	STATE	ZIP CODE
DANIEL	BROW	6523 S 98TH E AVE	TULSA	OK	74133
AMBER	BRANNAN	1601 S 293RD E AVE	BROKEN ARROW	OK	74014
OREG	NEWMAN	2707 S 119TH E AVE	TULSA	OK	74109
SONYA	JOBE	9102 N 50 W AVE	SPERRY	OK	74073
SUSAN	BAUGHER	PO POX 174	PRUE	OK	74060
MICHELE	FLOWERS	2328 W GARY ST	BROKEN ARROW	OK	74012
JENNIFER	ROZELL	10130 E ADMIRAL BLVD	TULSA	OK	74116
SHONNA	BURNS	8920 E 134TH ST 8	BIXBY	OK	74008
ILA	FRANKLIN	6940 E LATIMER PL	TULSA	OK	74115
LAURA	YOST	3717 E 211ST ST S	MOUNDS	OK	74047
AMY	POTEETE	404 E 12TH ST #6	TULSA	OK	74120
CIND	COLLIN	41574 8 559 RD	EUCHA	OK	74342
MELINDA	TEAGUE	PO BQX 1138	JAY	OK	74348
TANYA	HORTON	4524 BARLOW DR	BARTLESVILLE	OK	74006
HEATHER	HANKINS	314 WRALEIGH CT	BROKEN ARROW	OK	74011
DONNA	EMBERTON	PO BOX 944	COLENPOOL	OK	74033
RANDI	FOUST	24800 S 630 RD LOT 15	GROVE	OK	74344
TRICIA	GRUENWALD	15832 S LEWIS	BOXBY	OK	74008
BONNE	JACKSON	PO BOX 38157	TULSA	OK	74153

WOW! the Wonders of Wetlands Workshop Participants November 12, 2005 @ Cameron University

FIRST NAME	LAST NAME	ADDRESS	CITY	STATE	ZIP CODE
JEREMY	PLUMLEY	1710 W PLATO APT 905	DUNCAN	ок	79683
ADRIAN	HEARNS	220 HEATHER UN	LAWTON	OK	79507
ALISON	TURNER	1618 NW LINCOLN AVE	LAWTON	OK	73607
MARY L.	GOSSETT	608 1ST	CHATTANOOGA	OK	73628
RYAN	MOCAULEY	7808 SWILAKE UNITY DR	LAWTON	OK	73606
LAIH G.	cox	907 SW 16TH ST	LAWTON	OK.	73601
XIOMARYS	RODRIGUEZ	10805-B SNOWRD	FT SILL	OK	73503
BAYLEE	BOYDSTUN	PO BOX 28	APACHE	OK	73000
ALICIA	MONUTT	509 N 2ND ST	DUNCAN	OK	73633
APRIL	LAWSON	1821 NW 82ND ST #704	LAWTON	OK	79505
VICKY	FLORES	2317 NW 76TH ST	LAWTON	OK	78606
ELANE S.	BARBER	2214 CHISHOLM DR	DUNCAN	OK	73633

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Task 4: Final Report

 "How to" aspects of implementing a volunteer monitoring program for wetlands The Wetland Health Assessment Monitoring (WHAM) program was developed by The University of Oklahoma Environmental Science program and the Oklahoma Water Resources Board, with funding from EPA. The WHAM volunteering monitoring program established protocols to evaluate and protect the ecological health of wetland ecosystems, by providing baseline environmental data on water quality, wildlife, vegetation, groundwater, surface water and soils. The intent of this grant was to implement this methodology in the State of Oklahoma.

The goal of WHAM implementation is two-fold 1) to provide an abundance of quality environmental data assessing the health of critical wetlands in Oklahoma and 2) to encourage a wetland conservation ethic within local communities through education and volunteer monitoring efforts.

Both of these goals were met through the process of implementing this project. Over 20 volunteers were trained for wetland monitoring at 9 sites across the state. In addition, a database was created to store all data collected by the volunteer monitors. Although this project was a one-year success, an additional staff member would be required to implement the program on a full-time basis. This is how it was done.

1. Form planning committee

This committee will be invaluable as you try to implement a volunteer wetland monitoring program. By including individuals with diverse backgrounds it will broaden the knowledge base of the group. For instance by including individuals specializing in wetlands, water quality, education, and wildlife many different areas can be addressed thoroughly. This group should meet regularly to discuss ideas and make decisions about the monitoring program. Tasks should be assigned to each member to help spread out the work load of developing the program.

In this case the monitoring program was combined with an existing stream volunteer monitoring program "Blue Thumb". The expertise of the Blue Thumb staff greatly aided the implementation of the wetland volunteer monitoring program.

2. Develop training materials

The planning committee met to discuss an appropriate agenda and to assign tasks for the development of the training workshop. Various subjects needed to be covered to give our volunteers the tools necessary to perform the monitoring activities that we needed. As seen in the workshop agenda topics included wetlands functions and value, on-site observations, wetland plant identification, running transects, observing soil properties, identifying amphibian calls, and conducting water quality chemical monitoring. It was decided that the workshop needed to be a two-day event on the weekend in order to cover all of the materials and to reach our target audience

3. Develop data sheets

Data sheets were based on the Blue Thumb volunteer stream monitoring format with additions to account for the WHAM methodology, which can be seen under Task 2. It is important to compile these data sheets into a user-friendly format with a logical sequence. This helps to allow as much accurate data as possible to be captured during the field visit. For example, you will want to make wildlife observations and collect water samples before walking about and disturbing the site, which should be reflected in the order on the data sheet.

4. Build monitoring kits

Supplies for the monitoring kits were ordered and compiled as outlined in the WHAM Addendum. It is important to include everything in the kit that the volunteer monitors will need while on a site visit. Omitted items could lead to inaccurate or less data collected, making for a

less efficient site visit. In addition, staff gauges and groundwater samplers will need to be assembled for installation at the wetland sites.

5. Find suitable training location

A training location should have indoor accommodations that are appropriate for wetland training, but also have a wetland nearby for field training purposes. The indoor facilities should have large tables and enough space for the volunteers and the equipment associated with the monitoring kits. In addition, sinks should be available for use with the chemical monitoring activities. Be sure that the facility approves of working with water and soils because spills may occur.

6. Advertise for volunteers

Reaching your target audience is a key component of implementing a successful volunteer monitoring program. Without volunteers there would be no program. In this case the foundation was already set up through the Blue Thumb stream monitoring program. Press releases were sent out to area newspapers, a statewide education journal, and the Blue Thumb monthly newsletter. In addition, flyers were sent out through all 88 conservation districts in the state and existing Blue Thumb volunteers were solicited. The training was also advertised on public radio calendar of event.

7. Conduct training

At the outset of the training an icebreaker exercise should be conducted to loosen up the group and get everyone familiar with each other. This will make everyone more comfortable and will be conducive to their learning experience. Next, the volunteers should be asked to complete a pre-training test to determine what was learned from the workshop. The goals of the training and the important role that the volunteers will play should then be conveyed. The importance of wetlands functions and values should be communicated so that the volunteers can see that actions will help to promote and protect a vital resource.

All aspects of the WHAM methodology will need to be covered in detail so that volunteers will know what they will be expected to do while monitoring their wetland site. The volunteers should also be instructed on the contents of their monitoring kits and how to care for the equipment to keep in working order.

It is important to have a hands-on demonstration of the monitoring techniques by visiting a nearby wetland. This on-site training will help reinforce the concepts that were presented in the classroom. This will allow the volunteers to get a true sense of what they will be doing at their own monitoring location.

8. Choose monitoring sites

Monitoring sites should be chosen in close proximity to the residences of volunteers. This will increase the odds of the volunteers being able to make it to their wetland site on a monthly basis. Volunteers will also more likely relate to wetlands near their community. By having a stake in the protection of a wetland, volunteers will take pride in their monitoring efforts. These monitoring efforts will empower the volunteers to educate their communities about the importance of wetlands, especially if activities are proposed that could harm these areas.

9. Visit sites

After sites are deemed appropriate by the volunteers and staff, a site visit should be made to help the volunteers get started. There are five major activities that will need to be done during this visit. 1. Photopoint locations will need to be determined. Photos will be taken from these same points at different times during the year, which will show visual changes in the wetland

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throughout the year. 2. Transects should be measured and staked. These transects will be used to monitor vegetation and soils. 3. The staff gauge should be installed in an area of the wetland that typically holds water. This will allow for the measurement of changes in water depths and ability to determine peak water levels between site visits. 4. The groundwater sample should be installed near the edge of standing water in the wetland, but not in area that is usually inundated. This will enable the volunteer to monitor the changes in groundwater depths near the wetland area. 5. During this visit a site sketch should be made so that all of these features and locations may be demarcated for future reference.

10. Monitor monthly

The volunteers are asked to monitor on a monthly basis. Monthly monitoring helps to show changes in the wetland throughout the year. By monitoring every month volunteers are kept active without leaving to much time to get out of the habit. There are many different activities required by the WHAM methodology, however not every method needs to be done every month. With this project the volunteers were provided with yearly monitoring calendars that showed the activities that needed to be conducted each month.

11. Submit data sheets and photos

Data sheets and photos should be submitted monthly (monthly for photopoints) to the QA officer. In this case it is a Blue Thumb staff member. The QA officer checks the data sheets for completeness and contacts the volunteer if there are any issues with the data. After the QA officer deems the data sheets and photos complete and correct, they are submitted to the Data Manager.

12. Enter data

The Data Manager is responsible for entering the data and photos into the database. For each sampling episode the data sheets and associated photos are assigned a Sample Identification Number (SampleID) before they are entered into the database. This SampleID keeps all of the associated data from a site visit organized. Countless quarries can then be made in the database, from pulling data on a specific site to examining a particular parameter from all of the sites. The database allows for the data to be utilized quickly and accurately.

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Wetland Photos

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Marsh-O-Muck

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July



October

Midwest City

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Heather Ridge