

## **Chapter 2**

### **Environmental Health Services**

**Environmental Health Services**

The City of Branson and Taney County Health Departments merged in February of 2008. Prior to this merger, the two departments collaborated to provide citizens and visitors of Branson and Taney County a non-duplicated set of public health services. The two departments merged in an effort to better serve the community in an effort to utilize resources more efficiently and effectively. The environmental health services offered by the City of Branson Health Department for the City of Branson and Taney County will continue as part of the Taney County Health Department. The expertise, leadership, and national recognition garnered by the City of Branson Health Department will continue as the environmental public health staff members become part of the Taney County Health Department.

The environmental services provided by the Taney County Health Department are: food, lodging, pool, tattoo/massage, and daycare inspection programs; animal control, nuisance compliance, well water testing, West Nile mosquito and bird surveillance programs, emergency preparedness, as well as handling any threat or situation that may present an imminent hazard to public health.

**Area Growth**

Taney County has an area of 651 square miles, with the majority of this land in natural forests and woodlands.

**Table 2.1**

Taney County Geographical Statistics, 2005	
Land Area (sq miles)	632
Water Area (sq miles)	19.1
Acreage	421,871
Population Density	68 people /sq mile
Percent of Lake Coverage	2.9%
Land Use for Roads and Highway	2.6%

Source: City-Data.Com; Accessed March 14, 2008.

The City of Branson has an incorporated area of 17 square miles, with 7,500 residents. However, over seven million people visit the city annually.

**Table 2.2**

City of Branson Statistics, 2005	
	Number
Incorporated Area (sq miles)	17
Resident Population	7,500
Guests Per Year (estimated)	7,500,000
Infrastructure Support for Daily Visitors	65,000

Source: City of Branson

## Environmental Health Services

Table 2.3 provides a review of the change in active establishments in Taney County from 2006 to 2007. Active establishments are those facilities that are currently in operation or capable of beginning operations.

Tables 2.4-2.8 provide a summary of inspections of Restaurants, Pools, Lodging facilities, Child Day Care facilities, and Tattoo/massage establishments that occurred in 2007. For all jurisdictions in 2007, the Health Department provided 252 routine lodging inspections, 1,210 routine food inspections, 27 routine childcare inspections and 432 routine pool inspections for all jurisdictions.

**Table 2.3**

<b>Active Facilities-City of Branson, Hollister, and Taney County</b>			
	<b>Total 2006</b>	<b>Total 2007</b>	<b>Percent Change</b>
Childcare	38	33	13.2
Food	683	674	1.3
Temporary Events	38	47	-23.7
Lodging	231	219	5.2
Pools	392	390	0.5
Tattoo Massage	20	23	-15.0

Source: Taney County Health Department

**Table 2.4**

<b>Services Provided to Lodging Facilities By Type of Service and Jurisdiction, 2007</b>			
	<b>Routine Inspections</b>	<b>Revisit Inspections</b>	<b>Total</b>
Total, All Jurisdictions (2007 Number)	252	167	419
Branson %	81.3	85.0	82.8
Hollister %	1.2	1.2	1.2
County %	17.5	13.8	16.0
Percent Change 2006-2007	11.5	19.3	14.5

Source: Taney County Health Department

**Table 2.5**

<b>Services Provided to Food Establishments by Type of Service and Jurisdiction, 2007</b>			
	<b>Routine Inspections</b>	<b>Revisit Inspections</b>	<b>Total*</b>
Total, All Jurisdictions (2007 Number)	1,210	315	1525
Branson %	72.6	72.7	72.6
Hollister %	4.8	9.5	5.8
County %	22.6	17.8	21.6
Percent Change : 2006-2007	32.2	1.9	24.6

Source: Taney County Health Department

**Table 2.6**

<b>Services Provided to Child Care Facilities by Type of Service and Jurisdiction, 2007</b>			
	<b>Routine Inspections</b>	<b>Revisit Inspections</b>	<b>Total*</b>
Total, All Jurisdictions (2007 Number)	27	14	41
Branson %	22.2	28.6	24.4
Hollister %	11.1	21.4	14.6
County %	66.7	50.0	61.0
Percent Change 2006-2007	35.0	100.0	51.9

Source: Taney County Health Department

**Table 2.7**

<b>Services Provided to Tattoo/Massage Establishments by Type of Service and Jurisdiction, 2007</b>			
	<b>Routine Inspections</b>	<b>Revisit Inspections</b>	<b>Total*</b>
Total, All Jurisdictions (2007 Number)	18	2	20
Branson %	100	100	100
Hollister %	0	0	0
County %	0	0	0
Percent Change 2006-2007	0	0	-54.5

Source: Taney County Health Department

**Table 2.8**

<b>Services Provided For Pools by Type of Service and Jurisdiction, 2007</b>			
	<b>Routine Inspections</b>	<b>Revisit Inspections</b>	<b>Total</b>
Total, All Jurisdictions (2007 Number)	432	103	535
Branson %	91.4	100.0	93.1
Hollister %	0.2	0.0	0.2
County %	8.3	0.0	6.7
Percent Change 2006-2007	-2.7	-23.1	-19.3

Source: Taney County Health Department

The Environmental Public Health Specialists with the Health Department also respond to food-borne illness complaints and outbreak investigations. Table 2.9 provides a review of the number of food illness complaints and investigations that were conducted from 2002 to 2006. From

2002 to 2006 the number of Food illness complaints increased by 36.7% (n=29), however from 2004 to 2006 the number of complaints decreased from 131 to 108 (17.6%).

**Table 2.9**

<b>Food Illness Complaints- 2002-2006</b>							
	2002	2003	2004	2005	2006	Percent Change 2005-2006	5-Year Average
Food illness complaints	79	107	131	84	108	28.6%	101.8
Food illness investigations	11	9	12	24	10	-58.3%	13.2
Norovirus Outbreaks (Laboratory Confirmed)	1	0	0	0	1	--	--

Source: Taney County Health Department

Food borne illnesses are a high concern for Taney County. The many restaurants that depend on the local tourism industry are required to have managers on duty who have attended food safety classes. Additionally, local businesses are provided the opportunity to attend training focused on the prevention of the spread of noroviruses. Noroviruses are very contagious and cause a sudden onset of vomiting and diarrhea. Oftentimes ill visitors to the area may expose others to the illness as they visit attractions, restaurants, theaters, and hotels. Because of this, the Taney County Health Department directs substantial resources to the identification of these types of illnesses and to the prevention of the spread of illnesses once identified.

Water samples are routinely analyzed by the Health Department to determine levels of Total Coliform and E.Coli that are present. The numbers of these tests are presented in Table 2.10. From 2006 to 2007, the demand for public water tests decreased by 33.9%, while private water samples increased by 29.2%.

**Table 2.10a**

<b>Water Testing Services- 2007</b>						
	2004	2005	2006	2007	Percent Change (2006-2007)	4-Year Average
Water samples collected	270	406	349	276	-20.9	325.3
Total Coliform present	--	92	63	89	41.3	81.3
E-Coli present	--	5	4	6	50.0	5.0
Public water tests performed	146	337	277	183	-33.9	235.8
Private water tests performed	124	69	72	93	29.2	89.5

Source: Taney County Health Department

**Table 2.10b**

<b>Number of Housing Units By Type of Plumbing Facilities-Taney County, 2000</b>	
	<b>Taney County, Missouri</b>
<b>Total:</b>	19,688
<b>Complete plumbing facilities</b>	19,492
<b>Lacking complete plumbing facilities</b>	196

Source: US Census Bureau

Animal control services for the City of Branson are provided in Table 2.11. Some of these services are also provided to areas outside of the City of Branson City Limits through mutual aid or other contractual agreements. During 2007, a total of 666 animal complaints were investigated and 89 animal bites were reported.

**Table 2.11**

<b>Animal Control Activities, 2007</b>			
	<b>2006</b>	<b>2007</b>	<b>Percent Change</b>
Total	738	666	-7.1
Complaints investigated (animal)	717	564	-21.3
Animal bites reported	105	89	-15.2
Enforcements	--	9	--
Correction Notices	--	4	--

Source: Taney County Health Department

**Table 2.12**

<b>Other Animal Control and Compliance Activities, 2007</b>	
	<b>Number</b>
Wild animals collected	21
Transferred to Wildlife Agencies	6
Dogs Impounded	150
Dogs Adopted Out	69
Dogs Transferred to other facilities	63
Cats Impounded	160
Cats Adopted Out	40
Cats Transferred to other facilities	79
Dead Animal	14
Facility Inspection	15
Theater Inspections Involving Animals	6
Inspections	15

Source: Taney County Health Department

From 2004 to 2007 the total number of complaints to animal control increased by 16.4%. Additionally, bite investigations averaged 90 per year. Both of these factors have resulted in increased man-hours worked by the Health Department animal control officers.(Table 2.13)

**Table 2.13**

<b>Animal Control Complaints and Bite Investigations, 2004-2007</b>						
	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>Average Per Year</b>	<b>Percent Change 2004-2007</b>
Total Complaints	572	628	738	666	651	16.4
Total Bite Case Investigations	89	77	105	89	90	0

Source: Taney County Health Department

Table 2.14 provides a summary of activities provided by the Taney County Health Department regarding emerging disease surveillance. West Nile Virus and other potential Zoonotic diseases were investigated in 2007. From 2004 to 2007 decreases were observed in Mosquito pool testing and the collection and testing of dead birds. These activities were related to West Nile Virus funding which has decreased substantially over the past few years. Further funding cuts are expected for 2008.

**Table 2.14**

<b>Emerging Disease Surveillance, 2004-2007</b>				
	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>% Change (2005-2006)</b>
<b>WNV and Mosquito Activities</b>				
Mosquito Trap Nights	--	--	104	--
Mosquito Pools (50 each) Tested	240	354	220	-8.3
Larvicide Applications	--	--	10	--
Pesticide Applications	--	--	0	--
Dead Birds Collected	67	--	17	-74.6
Dead Birds Swabbed	16	--	5	-68.8
Equine Encephalitis	0	--	0	--
<b>Avian Flu Surveillance (Ducks Swabbed)</b>	--	--	10	--
<b>Zoonotic Investigations</b>	--	--	10	--
Monkey Virus	--	--	1	--
Rabies	--	--	2	--
Specimens submitted	--	--	1	--
<b>Unknown Virus</b>	--	--	--	--
Disinfectant Applications	--	--	1	--
Coggins Tests Reviewed	--	--	65	--
Complaints investigated (Mosquito/vector)	--	--	22	--

Source: Taney County Health Department

**Table 2.15**

<b>Positive West Nile Virus Laboratory Results-Taney County 2004-2007</b>				
	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
Positive Birds	4	6	2	2
Positive Mosquitoes Pools	1	16	10	1
Positive Human	0	0	0	0
Positive Horses	0	0	1	0

Source: Missouri Department of Health and Senior Services

## Regulated Facilities

In many cases, local businesses are required to report information to the state of Missouri. However, in some cases, information is collected at the federal level. Toxics Release Inventory data are reported by individual facilities via yearly reports to federal EPA. The EPA converts these forms into an electronic database. A facility must report if the facility:

- Has 10 or more full-time employees, and
- Manufactures or processes over 25,000 pounds of the approximately 600 designated chemicals or 28 chemical categories specified in the regulations, or uses more than 10,000 pounds of any designated chemical or category, and
- Engages in certain manufacturing operations in the industry groups specified in the U.S. Government Standard Industrial Classification Codes (SIC) 20 through 39, or
- Is a federal facility which are all now required to report per the August, 1995 Executive Order signed by President Clinton.

EPA data regarding hazardous waste and regulated facilities in Taney County is listed in Table 2.16. A total of 344 facilities were registered with the EPA in 2007. This was an increase of 22 facilities since 2005 or a 6.8% increase.

According to the environmental protection agency, the following facts for Taney County were noted:

- Facilities that produce and release air pollutants: 31
- Facilities that have reported toxic releases: 3
- Facilities that have reported hazardous waste activities: 77
  - Number of Small Quantity Generators: 14
  - Number of Transporters: 2
- Potential hazardous waste sites that are part of Superfund that exist: 1
  - Sites Not on the NPL: 1
- Facilities that generate hazardous waste from large quantity generators: 0
- Facilities issued permits to discharge to waters of the United States: 266
- Transient Non-Community Water Systems that do not consistently serve the same people (e.g. rest stops, campgrounds, gas stations): 49
- Community Water Systems that serve the same people year-round (e.g. in homes or businesses): 57
- Non-Transient Non-Community Water Systems that serve the same people, but not year-round (e.g. schools that have their own water system): 9

**Table 2.16**

<b>List of EPA-Regulated Facilities-Taney County, 2007</b>								
				<b>2007</b>				
<b>City</b>	<b>ZIP Code</b>	<b>Total Sites 2005</b>	<b>Total Sites 2007</b>	<b>Permitted Discharges to Water</b>	<b>Toxic Releases</b>	<b>Hazardous Waste Handlers</b>	<b>Active or Archived Superfund Reports</b>	<b>Air Releases Reported</b>
Branson	65616	211	236	172	1	57	1	14
Bradleyville	65614	3	4	3	0	1	0	0
Cedar Creek	65679	0	0	0	0	0	0	0
Forsyth	65653	20	21	14	0	7	0	0
Hollister	65672	46	38	25	1	10	0	3
Kirbyville	65679	8	7	6	0	0	0	1
Kissee Mills	65680	3	4	3	0	0	0	1
Merriam Woods	65740	0	2	2	0	0	0	0
Point Lookout	65726	2	3	1	0	1	0	1
Protem	65733	1	1	0	0	0	0	1
Ridgedale	65739	16	15	13	0	1	0	2
Rockaway Beach	65740	4	4	3	0	1	0	0
Taneyville	65759	5	4	2	1	0	0	1
Walnut Shade	65771	3	5	5	0	0	0	0
<b>Total</b>		<b>322</b>	<b>344</b>	<b>249</b>	<b>3</b>	<b>78</b>	<b>1</b>	<b>24</b>

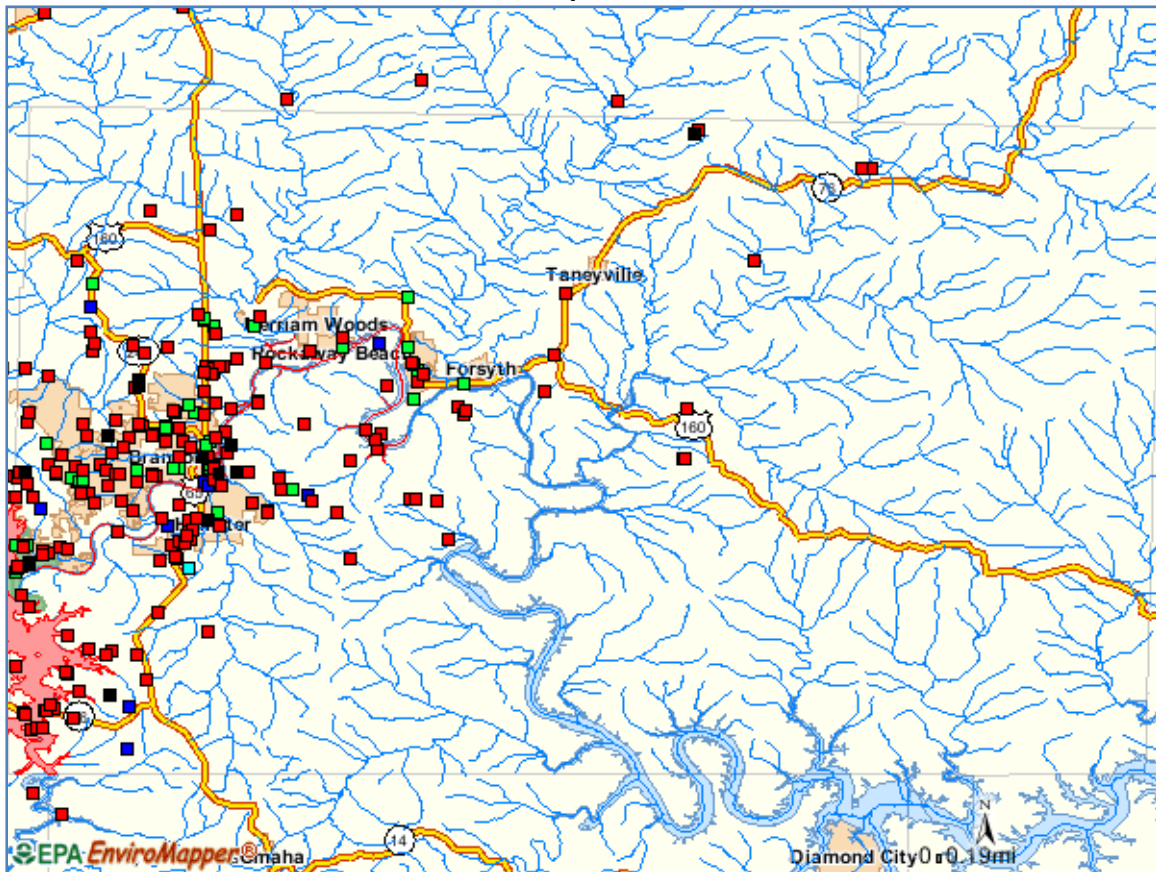
Source: EPA, EnviroFacts Online Database, 2008

In 2007 a total of 24 air releases and 3 toxic releases were reported to the Environmental Protection Agency. Additionally, a total of 78 hazardous waste handlers were located in Taney County in 2007.

Map 2.1 provides information on the geographical locations of hazardous waste, water discharges, air discharges, toxic releases, and waterways in Taney County for 2008.

These regulated facilities or documented releases can create potential negative health impacts in the county. Exposure to toxic or hazardous chemicals can cause immediate health consequences as well as possible long-term effects. Health impacts would depend on several variables including, route of exposure, amount of the substance, and length of exposure.

Map 2.1

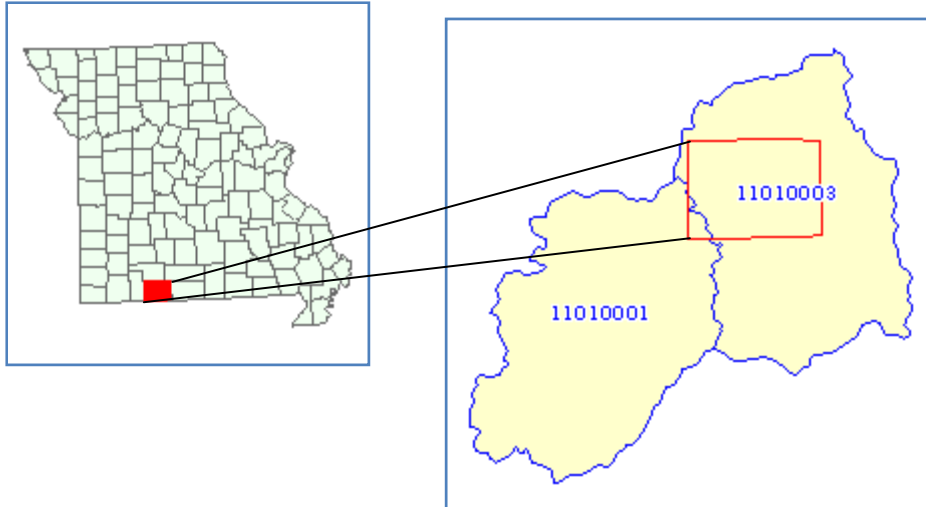


Source: EPA, EnviroMapper, 2008

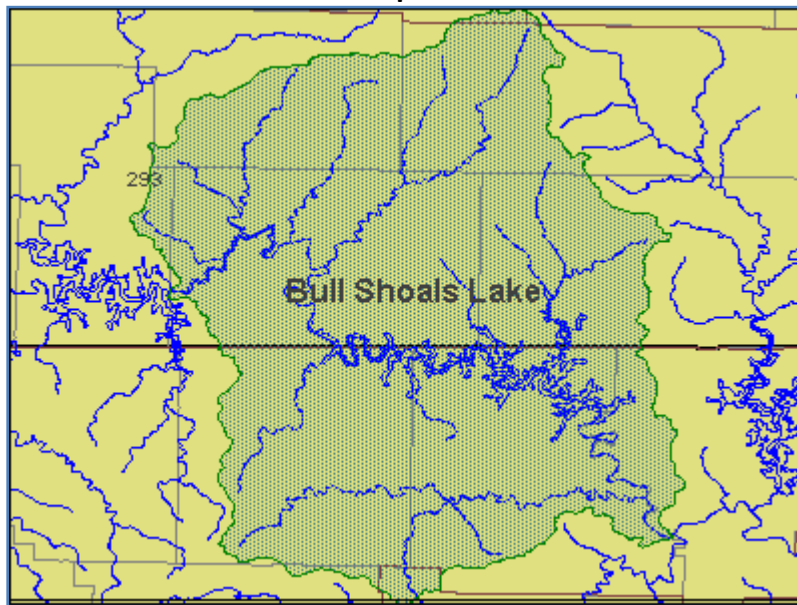


Taney County crosses two watersheds, the Beaver Reservoir and Bull Shoals Lake. Information regarding the identified impaired waterways in these two watersheds is provided in the following maps and tables.

- 11010001: Beaver Reservoir; state(s): AR, MO
- 11010003: Bull Shoals Lake; state(s): AR, MO



**Map 2.2**



Source: EPA

**Table 2.17**

**Impaired Waters Listed By Waterbody-  
Bull Shoals Watershed, 2004**

Waterbody Name	Waterbody Type	Waters on List
CROOKED CREEK	RIVER	2
WHITE RIVER	RIVER	1

Source: EPA

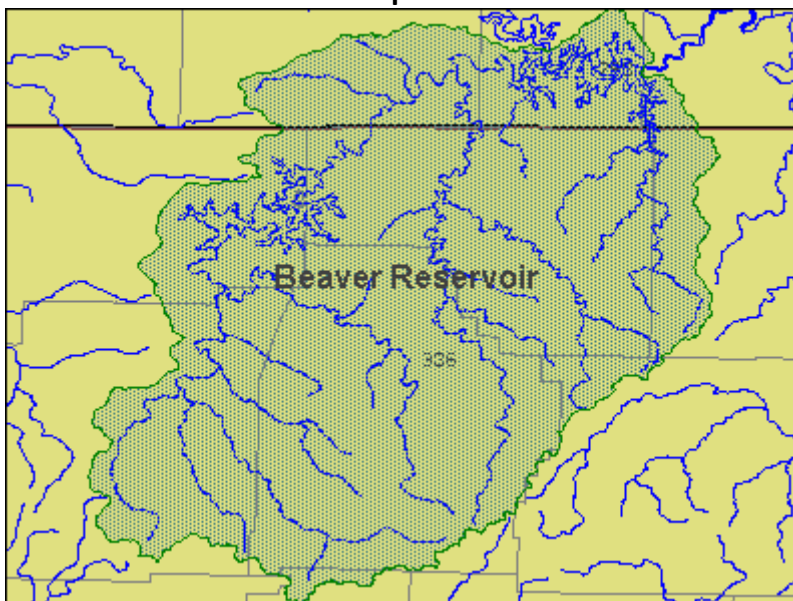
**Table 2.18**

**Causes of Impairment-Bull Shoals Watershed, 2004**

Impairment Name	Causes of Impairment Reported	Percent of Reported
TOTAL DISSOLVED SOLIDS	2	50.00
DISSOLVED OXYGEN	1	25.00
TEMPERATURE	1	25.00

Source: EPA

**Map 2.3**



Source: EPA

**Table 2.19**

Impaired Waters Listed By Waterbody- Beaver Reservoir, 2004		
Waterbody Name	Waterbody Type	Waters on List
HOLMAN CREEK	RIVER	1
KINGS RIVER	RIVER	1
OSAGE CREEK	RIVER	1
WAR EAGLE CREEK	RIVER	1
WEST FORK	RIVER	1
WHITE RIVER	RIVER	2

Source: EPA

**Table 2.20**

Causes of Impairment-Beaver Reservoir Watershed, 2004		
Impairment Name	Causes of Impairment Reported	Percent of Reported
TOTAL DISSOLVED SOLIDS	5	41.67
SULFATES	2	16.67
SILTATION/TURBIDITY	2	16.67
CHLORIDES	1	8.33
TOTAL PHOSPHORUS	1	8.33
DISSOLVED OXYGEN	1	8.33
Total Number of Causes of Impairment Reported: 12		

Source: EPA

Water systems in Taney County are shown below in Tables 2.21-2.23. These tables show the water system name and primary water source.

Community water systems are those water systems that serve the same people year-round, e.g. in homes or businesses. A total of 38,818 people are served by these types of water systems in Taney County.

**Table 2.21**

Community Water Systems-Taney County, 2008					
Water System Name	County(s) Served	Population Served	Primary Water Source Type	System Status	Water System ID
BEAR CREEK WATER & SEWER	TANEY	54	Groundwater	Active	MO5031241
BRANSON	TANEY	9500	Surface water	Active	MO5010096
BRANSON CREEK DEVELOPMENT LLC	TANEY	60	Groundwater	Active	MO5031223
BRANSON EAST APARTMENTS	TANEY	36	Groundwater	Active	MO5070611
BRANSON VIEW ESTATES	TANEY	90	Groundwater	Active	MO5041212
BULL CREEK VILLAGE	TANEY	100	Groundwater	Active	MO5048161
CEDAR SHORES RANCH ESTATES	TANEY	28	Groundwater	Active	MO5031398
CLEAR WATER ACRES SUBD	TANEY	70	Groundwater	Active	MO5036191
COLLEGE OF THE OZARKS	TANEY	1200	Surface water	Active	MO5069033
COUNTRY FARM ESTATES HOA INC	TANEY	52	Groundwater	Active	MO5031294
DEER RUN APTS	TANEY	32	Groundwater	Active	MO5070683
EMERALD POINTE SUBD	TANEY	313	Groundwater	Active	MO5031148
FALL CREEK HEIGHTS SUBD	TANEY	28	Groundwater	Active	MO5031149
FORSYTH	TANEY	1400	Groundwater	Active	MO5010285
GOBBLERS KNOB MOBILE HOME PARK	TANEY	192	Groundwater	Active	MO5048286
HIDDEN RIDGE ESTATES MHP	TANEY	38	Groundwater	Active	MO5041129
HIDEAWAY MHP	TANEY	40	Groundwater	Active	MO5041419
HIGHLANDS SEWER & WATER ASSN INC	TANEY	75	Groundwater	Active	MO5030690
HOLIDAY HILLS RESORT	TANEY	2065	Groundwater	Active	MO5190947
HOLLISTER	TANEY	3867	Groundwater	Active	MO5010374
LAKE TANEYCOMO ACRES SUBD	TANEY	215	Groundwater	Active	MO5036198
LAKE TANEYCOMO WOODS	TANEY	87	Groundwater	Active	MO5036012
LAKESIDE MOUNTAIN MANOR	TANEY	40	Groundwater	Active	MO5069068
LAKEVIEW SUBD BLOCK C	TANEY	90	Groundwater	Active	MO5036268
LONG CREEK CONDOMINIUMS	TANEY	45	Groundwater	Active	MO5031498
LOOKOUT ACRES	TANEY	165	Groundwater	Active	MO5036114
MEADOW RIDGE SUBDIVISION	TANEY	25	Groundwater	Active	MO5030915
MEADOWOOD ESTATES SUBD	TANEY	30	Groundwater	Active	MO5031126
MERRIAM WOODS VILLAGE OF	TANEY	1500	Groundwater	Active	MO5036152
MOORE BEND SUBD	TANEY	28	Groundwater	Active	MO5036117
OAK BROOK ESTATES SUBD	TANEY	25	Groundwater	Active	MO5031481
OAK GROVE TRAILER PARK	TANEY	77	Groundwater	Active	MO5048178
OAKVIEW APARTMENTS	TANEY	25	Groundwater	Active	MO5071460
OZARK PARK ESTATES	TANEY	130	Groundwater	Active	MO5048271
PARADISE POINT RESORT LLC	TANEY	132	Groundwater	Active	MO5071269
PERSIMMON RIDGE HOME OWNERS ASSN	TANEY	45	Groundwater	Active	MO5036275
RIVERSIDE ESTATES	TANEY	400	Groundwater	Active	MO5036210
ROCKAWAY BEACH	TANEY	720	Groundwater	Active	MO5010697
ROLLING MEADOWS	TANEY	125	Groundwater	Active	MO5048344
SAVANNAH PLACE THIRD ADDITION	TANEY	25	Groundwater	Active	MO5021379
SPRING CREEK 2ND ADD	TANEY	35	Groundwater	Active	MO5030391
SUMMIT RIDGE MOBIL HOME PARK	TANEY	150	Groundwater	Active	MO5048030
SYCAMORE RIDGE SUBDIVISION	TANEY	25	Groundwater	Active	MO5031437
TABLE ROCK HEIGHTS HOME OWNERS ASSN	TANEY	40	Groundwater	Active	MO5030442
TANEY CO PWSD #1	TANEY	1650	Groundwater	Active	MO5024599
TANEY CO PWSD #2	TANEY	3210	Groundwater	Active	MO5024600
TANEY CO PWSD #2 WHITE RIVER VALLEY	TANEY	300	Groundwater	Active	MO5036019
TANEY CO PWSD #3	TANEY	1167	Groundwater	Active	MO5024602
TANEY CO UTILITIES CORP #1	TANEY	1500	Groundwater	Active	MO5036180
TANEY CO UTILITIES CORP #2	TANEY	137	Groundwater	Active	MO5036223
TANEYCOMO HIGHLANDS SUBD INC	TANEY	25	Groundwater	Active	MO5031159
TRI STATE UTILITY CO	TANEY	7113	Groundwater	Active	MO5024601
TWILITE HOME SITES	TANEY	34	Groundwater	Active	MO5031277
VALLEY VIEW VILLAGE SOUTH SUBD	TANEY	57	Groundwater	Active	MO5036227
WALKER MOBILE HOME PARK	TANEY	52	Groundwater	Active	MO5048992
WALL EYE HAVEN MHP	TANEY	54	Groundwater	Active	MO5048214
WILDERNESS CLUB INC	TANEY	100	Groundwater	Active	MO5031102

Source: EPA, Missouri Department of Natural Resources

Transient Non-Community Water Systems are water systems that do not consistently serve the same people, such as those systems that supply rest stops, campgrounds, and gas stations.

Table 2.23

Transient Non-Community Water Systems-Taney Count, 2008					
Water System Name	County(s) Served	Population Served	Primary Water Source Type	System Status	Water System ID
AMERICAS BEST CMPGRND	TANEY	450	Groundwater	Active	MO5201414
ANDREWS LANDING & RV PARK	TANEY	80	Groundwater	Active	MO5191687
BLUE HAVEN RESORT	TANEY	96	Groundwater	Active	MO5191016
BRANSON AT EASE RV PARK	TANEY	20	Groundwater	Active	MO5241250
BRANSON LOG HOMES	TANEY	25	Groundwater	Active	MO5282768
BRANSON REC PLEX	TANEY	350	Groundwater	Active	MO5202738
BRANSON STAGECOACH	TANEY	46	Groundwater	Active	MO5240231
BRANSON VIEW CAMPGROUND	TANEY	75	Groundwater	Active	MO5242442
CASA DE LUZ	TANEY	25	Groundwater	Active	MO5072790
CEDAR JUNCTION GENERAL STORE	TANEY	25	Groundwater	Active	MO5292355
CLEVENGER BRANCH MEMBERS CORP	TANEY	410	Groundwater	Active	MO5240145
COOPER CREEK RESORT	TANEY	200	Groundwater	Active	MO5191022
D MONACO LUXURY RESORT AND RESTAURANT	TANEY	25	Groundwater	Active	MO5212783
EDGEWATER BEACH RESORT	TANEY	30	Groundwater	Active	MO5191004
EMPIRE DIST ELEC OZARK BEACH	TANEY	25	Groundwater	Active	MO5280562
GATEWAY TO BRANSON	TANEY	25	Groundwater	Active	MO5292590
HAPPY HOLLOW RESORT	TANEY	25	Groundwater	Active	MO5191013
HITCH N POST GENERAL STORE	TANEY	40	Groundwater	Active	MO5211978
KANAKUK KOUNTRY	TANEY	260	Groundwater	Active	MO5248292
LAKE SHORE RESORT	TANEY	65	Groundwater	Active	MO5191757
LAKE SHORE RESORT II	TANEY	45	Groundwater	Active	MO5191015
LAZY VALLEY RESORT	TANEY	51	Groundwater	Active	MO5191029
LILLEYS LANDING RESORT	TANEY	65	Groundwater under infl of Surface water	Active	MO5191989
MEADOWS OF EDEN	TANEY	25	Groundwater	Active	MO5282700
PARKVIEW LODGE	TANEY	25	Groundwater	Active	MO5191005
PINE VALLEY RESORT	TANEY	88	Groundwater	Active	MO5191610
PIZZAS AND CREAM	TANEY	25	Groundwater	Active	MO5212787
RAPID ROBERTS #104	TANEY	800	Groundwater	Active	MO5258138
RAPID ROBERTS #121	TANEY	25	Groundwater	Active	MO5292575
ROCK VIEW RESORT	TANEY	35	Groundwater	Active	MO5191535
SCOOPS & MORE	TANEY	150	Groundwater	Active	MO5211245
SENIOR FRIENDSHIP SITE	TANEY	148	Groundwater	Active	MO5218056
SHEPHERD OF THE HILLS HATCHERY	TANEY	25	Groundwater	Active	MO5142186
STONECROFT CONFERENCE CENTER	TANEY	45	Groundwater	Active	MO5271012
TABLE ROCK LONG CREEK PARK 110	TANEY	135	Groundwater	Active	MO5111998
TABLE ROCK POWER HOUSE 132	TANEY	75	Groundwater	Active	MO5111973
TABLE ROCK RESIDENT OFFICE 133	TANEY	175	Groundwater	Active	MO5110030
TABLE ROCK STATE PARK	TANEY	500	Groundwater	Active	MO5120169
TABLEROCK INN	TANEY	185	Groundwater	Active	MO5211609
TANEY CO PWSD # 2 SHOALS BEND	TANEY	188	Groundwater	Active	MO5031177
TANEY COUNTY MEMORIAL POST #5168	TANEY	26	Groundwater	Active	MO5218299
TANEYCOMO LAKEFRONT RESORT	TANEY	75	Groundwater	Active	MO5191032
TANGLEWOOD LODGE	TANEY	55	Groundwater	Active	MO5191030
THE DINNER BELL	TANEY	25	Groundwater	Active	MO5212699
TRI LAKES MOOSE LODGE	TANEY	30	Groundwater	Active	MO5242466
TROUT HOLLOW LODGE	TANEY	75	Groundwater	Active	MO5191018
TWIN ISLAND RESORT	TANEY	30	Groundwater	Active	MO5191062
VICKERY RESORT MOTEL	TANEY	36	Groundwater	Active	MO5191008
WILD BILLS TRAVEL CENTER	TANEY	25	Groundwater	Active	MO5292494

Source: EPA, Missouri Department of Natural Resources

Non-Transient Non-Community Water Systems are those water systems that serve the same people, but not year-round. These types of systems would include schools that have their own water system. A total of 3,650 people are served by these types of water systems in Taney County.

**Table 2.22**

<b>Non-Transient Non-Community Water Systems-Taney County, 2008</b>					
<b>Water System Name</b>	<b>County(s) Served</b>	<b>Population Served</b>	<b>Primary Water Source Type</b>	<b>System Status</b>	<b>Water System ID</b>
BIG CEDAR LODGE RESORT	TANEY	375	Groundwater	Active	MO5191011
BRADLEYVILLE R I SCHOOL	TANEY	245	Groundwater	Active	MO5171231
KANAKUK K KAUIA	TANEY	360	Groundwater	Active	MO5242626
KANAKUK KAMP NO 1	TANEY	440	Groundwater	Active	MO5248293
MARK TWAIN R VIII ELEM SCHOOL	TANEY	80	Groundwater	Active	MO5171233
ROYAL OAK ENTERPRISES INC	TANEY	100	Groundwater	Active	MO5180639
SHELTERWOOD	TANEY	25	Groundwater	Active	MO5071109
SHEPHERD OF THE HILLS	TANEY	2000	Groundwater	Active	MO5211955
SWEET PEA DAY CARE	TANEY	25	Groundwater	Active	MO5282831

Source: EPA, Missouri Department of Natural Resources

**Waste Water and Sewage Disposal**

The Taney County Regional Sewer District was formed under Missouri Revised Statutes Chapter 204 and was approved by voters in 1986. Currently the Sewer District has 1,945 customers on the existing sewer lines. These customers are located mainly in rural areas of the county. The sewer district also inspects all new septic systems in the county and addresses complaints in the County outside of municipal areas. Currently, there are approximately 6,200 private onsite wastewater treatment systems (OWTS) in Taney County. This number is approximate because records of OWTS prior to 1998 are incomplete.

The largest municipal sewage system in the county is in the City of Branson with 7,638 customers as of July 2008. Branson has an ordinance regulating the amount of oil, grease and fat allowed into the system from food service establishments. This ordinance requires a 1,000 gallon in-ground grease interceptor for every 250 seats of a food service establishment.

The municipalities of Forsyth, Hollister, and Rockaway Beach also have sewage systems for their residents. However, there are still a few private septic tanks in each of the municipal areas. Table 2.23 provides additional information regarding wastewater treatment systems.

Improperly maintained septic systems could result in contamination of water. Possible gastrointestinal illnesses due to E. Coli or other bacteria may result if private wells become contaminated with this runoff.

As the Taney County Sewer District and municipal sewer systems expand, the number of septic tanks in the county will decrease. This will have a positive impact on the water quality in the county.

**Table 2.23**

<b>Customers on Sewer Systems-Taney County, 2008</b>	
	<b>Number</b>
Taney County Regional Sewer District	1,945
City of Branson	7,638
Forsyth	1,144
Hollister	1,530
Rockaway Beach	332
<b>Total</b>	<b>12,589</b>

Source: Taney County Regional Sewer District

**Table 2.24**

<b>Onsite Wastewater Treatment Systems-Taney County, 2007</b>	
	<b>Number</b>
Total Onsite Wasterwater Treatment Systems	6200
Malfunctioning OWTS Complaints	58
OWTS Violations	10
Systems Under Violation Notice Brought Into Compliance Without Prosecution	10
Systems Under Violation Notice Brought Into Compliance Through Prosecution	0

Source: Taney County Regional Sewer District

**Table 2.25**

<b>Number of OWTS Permits Issued-Taney County, 2007</b>				
<b>Repair Permits</b>	<b>Replacement Permits</b>	<b>New Permits</b>	<b>Total Permits</b>	<b>Multi-Family or business permits, serving 20 or more</b>
61	0	149	333	2

Source: Taney County Regional Sewer District

**Table 2.26**

<b>Number and Type of OWTS Permitted-Taney County, 2007</b>			
<b>Temporary Holding Tanks</b>	<b>Septic Tanks</b>	<b>NSF Standard 40 Aerobic treatment Tank</b>	<b>Filter Treatment Systems (Foam)</b>
5	111	69	1

Source: Taney County Regional Sewer District

Table 2.27

Number and Type of Distribution an Soil Treatment Systems Permitted- Taney County, 2007							
Conventional Lateral Trench Systems				Dilution Systems			
Gravel and Pipe	Large Diameter Pipe Without Gravel	Expanded Polystyrene Bundle	Pressure Network in Conventional Lateral Trench	D-Box	Dosed D-Box	Low Pressure Pipe in Pea Gravel Lateral Trench	Drip Irrigation Dispersal
49	39	88	1	12	2	1	2

Source: Taney County Regional Sewer District

**Housing Concerns**

Several environmental health concerns are related to housing including exposures to radon and lead.

*Radon*

Radon (Rn) is a radioactive gas that occurs from the natural breakdown of uranium in the soil and rocks. It is colorless, odorless, and tasteless. Radon is the second leading cause of lung cancer in the nation and is classified as a “Class A” carcinogen according to EPA.

Radon becomes a risk indoors because as it continues to break down, it emits atomic particles that enter the lungs and can alter the DNA increasing lung cancer risk. Radon can be tested and measured (in picocuries per liter (pCi/L) of air) and there are estimated risks to health from the exposure depending on the concentration. The Missouri DHSS in conjunction with EPA recommends that if the concentration of radon is 4pCi/L or greater, then remediation should be done to lower risks. Smoking in conjunction with radon exposure greatly increases the risk of cancer

It's never too late to reduce your risk of lung cancer. Don't wait to test and fix a radon problem. If you are a smoker, stop smoking.

The Following tables provide estimates on the risk of exposure to certain concentrations of radon for smokers and non-smokers.

<b>Radon Risk If You Smoke</b>			
Radon Level	If 1,000 people who smoked were exposed to this level over a lifetime...	The risk of cancer from radon exposure compares to...	WHAT TO DO: Stop smoking and...
20 pCi/L	About 260 people could get lung cancer	250 times the risk of drowning	Fix your home
10 pCi/L	About 150 people could get lung cancer	200 times the risk of dying in a home fire	Fix your home
8 pCi/L	About 120 people could get lung cancer	30 times the risk of dying in a fall	Fix your home
4 pCi/L	About 62 people could get lung cancer	5 times the risk of dying in a car crash	Fix your home
2 pCi/L	About 32 people could get lung cancer	6 times the risk of dying from poison	Consider fixing between 2 and 4 pCi/L
1.3 pCi/L	About 20 people could get lung cancer	(Average indoor radon level)	(Reducing radon levels below 2 pCi/L is difficult)
0.4 pCi/L		(Average outdoor radon level)	(Reducing radon levels below 2 pCi/L is difficult)
Note: If you are a former smoker, your risk may be lower.			

Source: MO DHSS

<b>Radon Risk If You Have Never Smoked</b>			
Radon Level	If 1,000 people who never smoked were exposed to this level over a lifetime...	The risk of cancer from radon exposure compares to...	WHAT TO DO:
20 pCi/L	About 36 people could get lung cancer	35 times the risk of drowning	Fix your home
10 pCi/L	About 18 people could get lung cancer	20 times the risk of dying in a home fire	Fix your home
8 pCi/L	About 15 people could get lung cancer	4 times the risk of dying in a fall	Fix your home
4 pCi/L	About 7 people could get lung cancer	The risk of dying in a car crash	Fix your home
2 pCi/L	About 4 people could get lung cancer	The risk of dying from poison	Consider fixing between 2 and 4 pCi/L
1.3 pCi/L	Less than 2 people could get lung cancer	(Average indoor radon level)	(Reducing radon levels below 2 pCi/L is difficult)
0.4 pCi/L		(Average outdoor radon level)	(Reducing radon levels below 2 pCi/L is difficult)
Note: If you are a former smoker, your risk may be higher.			

Source: MO DHSS

## Lead

Lead poisoning is one of the most common and preventable environmental health problems in the United States. An estimated one million children have elevated blood lead levels of at least 10 micrograms per deciliter (10 µg/dl) in the U.S. According to 2003 Missouri blood lead testing data, three thousand children under the age of six, were identified with elevated blood lead levels in the state.

Lead is a shiny silver colored metal found naturally in the earth's crust. Lead has been used in our society in a variety of ways including in paints, gasoline, and some vinyl products, such as mini-blinds. Processed or recycled lead can become a health hazard. Fine particles of processed or recycled lead and/or lead dust become a health hazard when they are taken into the body through inhalation (breathing) and/or ingestion (swallowing).

One concern for lead poisoning is with lead paint used with older houses. Houses built prior to 1950 when paint had a high lead content. According to the year 2000 Census, a total of 1,274 houses in Taney County were built prior to 1950. (Table 2.28) Additionally, those houses built prior to 1978, when lead paint was prohibited, may also have been painted with some lead paint.

Table 2.23 provides information on when houses were built in Taney County.

**Table 2.28**

<b>Number of Housing Structures by Year Built-Taney County, 2000</b>	
	<b>Taney County, Missouri</b>
<b>Total:</b>	19,688
Built 1999 to March 2000	522
Built 1995 to 1998	3,028
Built 1990 to 1994	3,824
Built 1980 to 1989	3,734
Built 1970 to 1979	4,075
Built 1960 to 1969	1,933
Built 1950 to 1959	1,298
Built 1940 to 1949	529
Built 1939 or earlier	745

Source: US Census

## Agricultural Activities

Information related to agricultural activities in Taney County is shown in Table 2.29 and 2.30. These activities are important to monitor for possible health consequences associated with runoff from these operations. Contamination of water sources used for swimming or private wells has occurred in other areas.

**Table 2.29**

<b>Cattle and Calves-Taney County, 2007-2008</b>			
<b>Year</b>	<b>Total</b>	<b>Beef Cows</b>	<b>Milk Cows</b>
2007	22,000	13,500	150
2008	20,800	13,000	550

Source: United States Department of Agriculture (USDA)

In the year 2007 a total of 753 tons of fertilizer was used in Taney County. This represents an increase of 162.4 percent as compared to the year 2000.

**Table 2.30**

<b>Fertilizer Use, Taney County</b>					
<b>Year</b>	<b>Tons Used By Year</b>			<b>Percent Change</b>	
	<b>1985</b>	<b>2000</b>	<b>2007</b>	<b>1985-2000</b>	<b>2000-2007</b>
Fertilizer	454	287	753	-36.8	162.4
Nitrogen	55	16	57	-70.9	256.3
P <sub>2</sub> O <sub>5</sub>	59	7	43	-88.1	514.3
Potash	60	--	--	-100.0	--

Source: University of Missouri Annual Fertilizer Tonnage Report