

# 2011 Annual Drinking Water Quality Report

## Consumer Confidence Report (CCR)

PWS IS Number: TX1810175  
PWS Name: City of Bridge City  
Waterwood Estates

The source of drinking water used by the  
City of Bridge City Waterwood Estates is Ground Water

### Special Notice

#### **Information on Sources of Water:**

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of contaminants that may be present in source

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

#### **Required Language for ALL Community Public Water Systems**

Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

#### **Annual Water Quality Report for the period of January 1 to December 31, 2011**

This report is intended to provide you with important information about your drinking water and the efforts made by the water system to provide safe drinking water.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPAs Safe Drinking Water Hotline at (800) 426-4791.

For more information regarding this report contact:

Name: Mike Lund,  
Assistant Utility Superintendent  
Phone: 409-735-6801

Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcalo ó hable con alguien que lo entienda bien.

### **Information about Secondary Contaminants:**

Many constituents (such as calcium, sodium, or iron) which are often found in drinking water can cause taste, color, and odor problems. The taste and odor constituents are called secondary constituents and are regulated by the State of Texas, not the EPA. These constituents are not causes for health concern. Therefore, secondaries are not required to be reported in this document but they may greatly affect the appearance and taste of your water.

### **Information about Source Water Assessments:**

A Source Water Susceptibility Assessment for your drinking water sources(s) is currently being updated by the Texas Commission on Environmental Quality. This information describes the susceptibility and types of constituents that may come into contact with your drinking water source based on human activities and natural conditions. The information contained in the assessment allows us to focus source water protection strategies.

For more information about your sources of water, please refer to the Source Water Assessment Viewer available at the following URL:  
<http://gis3.tceq.state.tx.us/swav/Controller/index.jsp?wtsrc=>

Further details about sources and source water assessments are available in Drinking Water Watch at the following URL:  
<http://dww.tceq.texas.gov/DWW/>

### **Water Quality Test Results Definitions and Abbreviations:**

Maximum Contaminant Level Goal or	The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
Maximum Contaminant Level or MCL:	The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
Maximum residual disinfectant level goal or MRDLG:	The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
Maximum residual disinfectant level	The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
Avg:	Regulatory compliance with some MCLs are based on running annual average of monthly samples.
ppm:	milligrams per liter or parts per million - or one ounce in 7,350 gallons of water.
ppb:	micrograms per liter or parts per billion - or one ounce in 7,350,000 gallons of water.
na:	not applicable.
Definitions:	The following tables contain scientific terms and measures, some of which may require explanation.

## 2011 Regulated Contaminants Detected

### Coliform Bacteria

Maximum Contaminant Level Goal	Total Coli form Maximum Contaminant Level	Highest No. of Positive	Fecal Coliform or E. Coli Maximum Contaminant Level	Total No. of Positive E. Coli or Fecal Coliform Samples	Violation	Likely Source of Contamination
0	1 positive monthly sample	There were no TCR detections for this system in this CCR period		0	N	Naturally present in the environment

### Lead and Copper

Definitions:

Action Level Goal (ALG):

The level of a contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety.

Action Level:

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90 <sup>th</sup> Percentile	# Sites Over AL		Likely Source of Contamination
					Units	Violation	
Copper	2010	1.3	1.3	0.129	0	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems
Lead	2010	0	15	1.08	0	N	Corrosion of household plumbing systems; Erosion of natural deposits

### Regulated Contaminants

Disinfectants and Disinfection By-Products (HAA5)*	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Total Trihalomethanes (THM)*	2010	68	68.2 – 68.2	No goal for the total	80	ppb	N	By-product of drinking water chlorination

Not all samples results may have been used for calculation the Highest Level Detected because some results may be part of an evaluation to determine where compliance sampling should occur in the future.

Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Antimony	2010	Levels lower than detect level	0 – 0	6	6	ppb	N	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder; test addition.
Arsenic	2010	Levels lower than detect level	0 – 0	0	10	ppb	N	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium	2010	0.073	0.073 – 0.073	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Beryllium	2010	Levels lower than detect level	0 – 0	4	4	ppb	N	Discharge from metal refineries and coal burning factories; Discharge from electrical, aerospace, and defense
Cadmium	2010	Levels lower than detect level	0 – 0	5	5	ppb	N	Corrosion of galvanized pipes; Erosion of natural deposits; Discharge from metal refineries; runoff from waste batteries

Chromium	2010	Levels lower than detect level	0 - 0	100	100	ppb	N	Discharge from steel and pulp mills; Erosion of natural deposits.
Fluoride	04 / 14 / 2010	0.34	0.34 - 0.34	4	4.0	ppm	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum
Mercury	2010	Levels lower than detect level	0 - 0	2	2	ppb	N	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills; Runoff from cropland.
Nitrate (measured as Nitrogen)	2010	0.01	0.01 - 0.01	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

Nitrate Advisory - Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.

Selenium	2010	3.3	3.3 - 3.3	50	50	ppb	N	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.
Thallium	2010	Levels lower than detect level	0 - 0	0.5	2	ppb	N	Discharge from electronics, glass, and Leaching from ore-processing sites; drug factories.

Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Beta / photon emitters	08 / 25 / 2009	Levels lower than detect level	0 - 0	0	4	mem / yr	N	Decay of natural and man-made deposits
Gross alpha excluding radon and uranium	08 / 25 / 2009	Levels lower than detect level	0 - 0	0	15	pCi / L	N	Erosion of natural deposits

Synthetic organic contaminants including pesticides	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Alachlor	2010	Levels lower than detect level	0 - 0	0	2	ppb	N	Runoff from herbicide used on row crops.
Atrazine	2010	Levels lower than detect level	0 - 0	3	3	ppb	N	Runoff from herbicide used on row crops
Benzo (a) pyrene	2010	Levels lower than detect level	0 - 0	0	200	ppt	N	Leaching from linings of water storage tanks and distribution lines.
Carbofuran	2010	Levels lower than detect level	0 - 0	40	40	ppb	N	Leaching of soil fumigant used on rice and alfalfa.
Chlordane	2010	Levels lower than detect level	0 - 0	0	2	ppb	N	Residue of banned termiticide.
Dalapon	2010	Levels lower than detect level	0 - 0	200	200	ppb	N	Runoff from herbicide used on rights of way.
Di (2-ethylhexyl) adipate	2010	Levels lower than detect level	0 - 0	400	400	ppb	N	Discharge from chemical factories.
Di (2-ethylhexyl) phthalate	2010	Levels lower than detect level	0 - 0	0	6	ppb	N	Discharge from rubber and chemical factories.

Endrin	2010	Levels lower than detect level	0-0	2	2	ppb	N	Residue of banned insecticide.
Heptachlor	2010	Levels lower than detect level	0-0	0	400	ppt	N	Residue of banned termiticide.
Heptachlor epoxide	2010	Levels lower than detect level	0-0	0	200	ppt	N	Breakdown of heptachlor.
Hexachlorobenzene	2010	Levels lower than detect level	0-0	0	1	ppb	N	Discharge from metal refineries and agricultural chemical factories.
Hexachlorocyclopentadiene	2010	Levels lower than detect level	0-0	50	50	ppb	N	Discharge from chemical factories.
Lindane	2010	Levels lower than detect level	0-0	200	200	ppt	N	Runoff/leaching from insecticide used on cattle, lumber, gardens.
Methoxychlor	2010	Levels lower than detect level	0-0	40	40	ppb	N	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock.
Pentachlorophenol	2010	Levels lower than detect level	0-0	0	1	ppb	N	Discharge from wood preserving factories.
Simazine	2010	Levels lower than detect level	0-0	4	4	ppb	N	Herbicide runoff.
Toxaphene	2010	Levels lower than detect level	0-0	0	3	ppb	N	Runoff/leaching from insecticide used on cotton and cattle.

Volatile Organic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
1, 1, 1 - Trichloroethane	04 / 14 / 2010	Levels lower than detect level	0-0	200	200	ppb	N	Discharge from metal degreasing sites and other factories.
1, 1, 2 - Trichloroethane	04 / 14 / 2010	Levels lower than detect level	0-0	3	5	ppb	N	Discharge from industrial chemical factories.
1, 1 - Dichloroethylene	04 / 14 / 2010	Levels lower than detect level	0-0	7	7	ppb	N	Discharge from industrial chemical factories
1, 2, 4 - Trichlorobenzene	04 / 14 / 2010	Levels lower than detect level	0-0	70	70	ppb	N	Discharge from textile-finishing factories.
1, 2 - Dichloroethane	04 / 14 / 2010	Levels lower than detect level	0-0	0	5	ppb	N	Discharge from industrial chemical factories.
1, 2 - Dichloropropane	04 / 14 / 2010	Levels lower than detect level	0-0	0	5	ppb	N	Discharge from industrial chemical factories.
Benzene	04 / 14 / 2010	Levels lower than detect level	0-0	0	5	ppb	N	Discharge from factories; Leaching from gas storage tanks and landfills.
Carbon Tetrachloride	04 / 14 / 2010	Levels lower than detect level	0-0	0	5	ppb	N	Discharge from chemical plants and other industrial activities.
Chlorobenzene	04 / 14 / 2010	Levels lower than detect level	0-0	100	100	ppb	N	Discharge from chemical and agricultural chemical factories.
Dichloromethane	04 / 14 / 2010	Levels lower than detect level	0-0	0	5	ppb	N	Discharge from pharmaceutical and chemical factories.
Ethylbenzene	04 / 14 / 2010	Levels lower than detect level	0-0	700	700	ppb	N	Discharge from petroleum refineries.
Styrene	04 / 14 / 2010	Levels lower than detect level	0-0	100	100	ppb	N	Discharge from rubber and plastic factories; Leaching from landfills.
Tetrachloroethylene	04 / 14 / 2010	Levels lower than detect level	0-0	0	5	ppb	N	Discharge from factories and dry cleaners.
Toluene	04 / 14 / 2010	Levels lower than detect level	0-0	1	1	ppm	N	Discharge from petroleum factories.
Trichloroethylene	04 / 14 / 2010	Levels lower than detect level	0-0	0	5	ppb	N	Discharge from metal degreasing sites and other factories.

Vinyl Chloride	2010	Levels lower than detect level	0 - 0	0	2	ppb	N	Leaching from PVC piping; Discharge from plastics factories.
Xylenes	04 / 14/ 2010	Levels lower than detect level	0 - 0	10	10	ppm	N	Discharge from petroleum factories; Discharge from chemical factories.
cis-1,2-Dichloroethylene	04 / 14/ 2010	Levels lower than detect level	0 - 0	70	70	ppb	N	Discharge from industrial chemical factories.
o-Dichlorobenzene	04 / 14/ 2010	Levels lower than detect level	0 - 0	600	600	ppb	N	Discharge from industrial chemical factories.
p-Dichlorobenzene	04 / 14/ 2010	Levels lower than detect level	0 - 0	75	75	ppb	N	Discharge from industrial chemical factories.
trans-1,2-Dichloroethylene	04 / 14/ 2010	Levels lower than detect level	0 - 0	100	100	ppb	N	Discharge from industrial chemical factories.

**Fair Housing Public Service Announcement**  
**Public Service Announcement:**  
**Fair Housing, It's the Law**

To promote fair housing practices, the City of Bridge City encourages potential homeowners and renters to be aware of their rights under the National Fair Housing Law.

Title VIII of the Civil Rights Act of 1968, as amended, prohibits discrimination against any person on the basis of race, color, religion, sex, handicap, familial status or national origin in the sale or rental of units in the housing market.

For more information on fair housing or to report possible fair housing discrimination, call the U.S. Department of Housing and Urban Development's toll-free hotline at 1-800-669-9777.

**CITY COUNCIL MEETINGS ARE HELD ON 1<sup>ST</sup> AND 3<sup>RD</sup> TUESDAY EACH MONTH**  
**AT 6:00 PM AT CITY HALL IN THE COUNCIL CHAMBERS**

Evacuations and Special Health Care Needs: *Dial 2-1-1 to register for a ride*

**HELPFUL GUIDE TO INDOOR AND OUTDOOR WATER USE**

**START SAVING WATER AND MONEY TODAY**

**\*\*\*\*\*A leaky toilet can waste more than 20,000 gallons of water a year! \*\*\*\*\***

**Try the toilet leak test: Take the lid off your toilet tank and drop a couple of food coloring drops into the tank. Wait ten minutes. If you have a leak, the bowl water will change colors. It may be a bad flapper, it can be replaced inexpensively!**

**Use a high-efficiency showerhead to save water!**

The last time you took a shower, you used about 42 gallons of water. A high-efficiency showerhead installed can save a family of four nearly 34,500 gallons of water each year.

<b>The Source</b>	<b>Water Wasted</b>
<b>Leaking Toilet</b>	<b>90 Gallons per Day 2,738 Gallons per Month 32,850 Gallons per Year</b>
<b>10 Minute Shower with Inefficient Shower Head 2 People in Household</b>	<b>30 Gallons per Shower 420 Gallons per Week 21,840 Gallons per Year</b>
<b>Dripping Faucet (2 drips per second)</b>	<b>A Slow Steady Drip (.72 Gallons per Hour): 17 Gallons per Day 526 Gallons per Month 6,307 Gallons per Year</b>

**When to water my lawn and outside plants?**

Most landscapes get more water than they need. You can keep landscaping alive even during the worst summer heat with these practical tips:

- ▶ Water lawns only when needed. Putting 1.5 inches of water on your lawn every 5 to 7 days will encourage deep root systems and make for healthier grass.
- ▶ Use native or adapted plants that do well on little water.
- ▶ Mulch plants to hold in moisture and limit weed growth.
- ▶ Install efficient irrigation systems. Avoid sprinklers with fine sprays, which lose much of their water to wind and evaporation.
- ▶ Use drip irrigation systems for bedded plants, trees, and shrubs.
- ▶ Adjust automatic sprinkler heads so that they water your landscaping, not the pavement or the sidewalks.
- ▶ Water lawns during the early morning or evening hours to prevent evaporation.
- ▶ Never water on windy days.

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**ADOPT A PET TODAY – VISIT YOUR LOCAL SHELTER OR HUMANE SOCIETY  
SAVE LIVES - SPAY OR NEUTER YOUR PETS**

**CITY WEBSITE: [WWW.BRIDGECITYTEX.COM](http://WWW.BRIDGECITYTEX.COM) You can pay your water bill or court fine online.**

Water bills are due and payable upon receipt. If payment is not **received** at the City on or before the 18<sup>th</sup> of each month, the bill will be considered delinquent and a fee added. **PLEASE ALLOW AT LEAST 10 DAYS IF MAILING OR PAYING WITH A BILL PAY SERVICE.** If the balance is not **received** at the City on or before the 28<sup>th</sup> of the subsequent month, your service will be disconnected and an additional fee will be added. You may request no more than 4 extensions to pay per calendar year – an additional 14 days can be granted without additional fees. A drive-thru depository is available for your convenience 24 hours a day. Direct withdrawal from your bank account on the 13<sup>th</sup> of each month is also available. All utility bills from the City are mailed by the 4<sup>th</sup> of each month. **Failure to receive a bill does not entitle payment without penalty.**

Credit and Debit cards are accepted at City Hall – phone payments can not be accepted.

You must call to cancel services to avoid any charges to your account. Minimum charges may apply even with no usage.

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## **SOLID WASTE**

The City of Bridge City has contracted with Republic Services, Inc. for automated trash collection services.

### Garbage Procedures:

1. Bagged household garbage must be placed inside the 96 gallon wheeled trash cart (Each City services customer is provided 1 cart at no additional charge).
2. No garbage will be picked up outside of this container.
3. **Cart must be place at the curbside or edge of road by 7:00 am on scheduled collection day.** Call 409-735-6801 to find out your pick up day. Arrows on the cart lid indicate which side of the cart should face the street, but in general, the handle of the cart should face away from the street. Residents should make certain that the cart is placed between the sidewalk and the street or on the street side of the ditch for ease of collection.
4. Cart must have 24 to 36 inches distance between it and a 2nd cart, pole or structure to allow room for the automated arm on the truck.
5. One (1) extra cart may be requested at a cost of \$5.00 per month – call 409-735-6801 for extra cart. No more than 2 carts per household.
6. If you live on a dead end street – the truck must back down the street to pick up carts. Place carts on the appropriate side of the street (traveling toward the dead end, all carts will need to be on the left side of street). Call 409-735-6801 if you have any questions.
7. Bulk waste routes will run on a twice monthly basis by request only. Call 409- 735-6801 no later than the 1<sup>st</sup> and 3<sup>rd</sup> Mondays of the month to request this pickup.

### Recycling Procedures:

A recycling center for residential recycling has been established at the City Public Works Yard located at 220 Nitsche and will be open on Tuesday and Saturday from 9:00 am and 5:00 pm. Closed on Holiday weekends. The recycling center allows residents to recycle larger quantities of materials than the curbside collection.

### Materials Collected at Recycling Center:

1. Cans – clean aluminum, tin/steel containers
2. Paper – clean, dry, unsoiled newspaper, magazines and phone books
3. Plastic – clean *PETE & HDPE* containers (Milk jugs and soft drink containers)
4. Cardboard

### Dumpsters

Dumpsters are available for non-household trash and non-hazardous waste. Dumpsters are located at the City Public Works Yard located at 220 Nitsche and will be open on Tuesday and Saturday from 9:00 am and 5:00 pm. Closed on Holiday weekends. You will need to bring proof of residency (water bill and drivers license). Charges apply (depending on the size of load) and will be billed to your water account.

### Trash Off - Days

The City of Bridge City has two community clean- ups a year. These are usually held in April and November each year. At these, depending on the availability, you can dispose of any unwanted items that can not normally be collected in regular service.



## **Hurricane Preparedness Tips**

This fact sheet contains health and safety tips for families preparing for a hurricane from the U.S. Department of Health and Human Services and its agencies, including the Centers for Disease Control and Prevention and Food and Drug Administration.

### **Hurricanes and Your Health and Safety**

- The great majority of injuries during a hurricane are cuts caused by flying glass or other debris. Other injuries include puncture wounds resulting from exposed nails, metal, or glass, and bone fractures.
- State and local health departments may issue health advisories or recommendations particular to local conditions. If in doubt, contact your local or state health department.
- Make sure to include all essential medications -- both prescription and over the counter -- in your family's emergency disaster kit.

### **Water Quality**

- Hurricanes, especially if accompanied by a tidal surge or flooding, can contaminate the public water supply. Drinking contaminated water may cause illness. You cannot assume that the water in the hurricane-affected area is safe to drink.
- In the area hit by a hurricane, water treatment plants may not be operating; even if they are, storm damage and flooding can contaminate water lines. Listen for public announcements about the safety of the municipal water supply.
- If your well has been flooded, it needs to be tested and disinfected after the storm passes and the floodwaters recede. Questions about testing should be directed to your local or state health department.

### **Water Safety**

- Use bottled water that has not been exposed to flood waters if it is available.
- If you don't have bottled water, you should boil water to make it safe. Boiling water will kill most types of disease-causing organisms that may be present. If the water is cloudy, filter it through clean cloths or allow it to settle, and draw off the clear water for boiling. Boil the water for one minute, let it cool, and store it in clean containers with covers.
- If you can't boil water, you can disinfect it using household bleach. Bleach will kill some, but not all, types of disease-causing organisms that may be in the water. If the water is cloudy, filter it through clean cloths or allow it to settle, and draw off the clear water for disinfection. Add 1/8 teaspoon (or 8 drops) of regular, unscented, liquid household bleach for each gallon of water, stir it well and let it stand for 30 minutes before you use it. Store disinfected water in clean containers with covers.
- If you have a well that has been flooded, the water should be tested and disinfected after flood waters recede. If you suspect that your well may be contaminated, contact your local or state health department or agriculture extension agent for specific advice.

### **Food Safety**

- Do not eat any food that may have come into contact with flood water.
- Discard any food that is not in a waterproof container if there is any chance that it has come into contact with flood water. Food containers that are not waterproof include those with screw-caps, snap lids, pull tops, and crimped caps. Also, discard cardboard juice/milk/baby formula boxes and home canned foods if they have come in contact with flood water, because they cannot be effectively cleaned and sanitized.

- Inspect canned foods and discard any food in damaged cans. Can damage is shown by swelling; leakage; punctures; holes; fractures; extensive deep rusting; or crushing/denting severe enough to prevent normal stacking or opening with a manual, wheel-type can opener.
- Thoroughly wash metal pans, ceramic dishes, and utensils (including can openers) with soap and water, using hot water if available. Rinse, and then sanitize them by boiling in clean water or immersing them for 15 minutes in a solution of 1 tablespoon of unscented, liquid chlorine bleach per gallon of drinking water (or the cleanest, clearest water available).
- Thoroughly wash countertops with soap and water, using hot water if available. Rinse, and then sanitize by applying a solution of 1 tablespoon of unscented, liquid chlorine bleach per gallon of drinking water (or the cleanest, clearest water available). Allow to air dry.

### **Frozen and Refrigerated Foods**

- If you will be without power for a long period:
  - ask friends to store your frozen foods in their freezers if they have electricity; or
  - use dry ice, if available. Twenty-five pounds of dry ice will keep a ten-cubic-foot freezer below freezing for 3-4 days. Use care when handling dry ice, and wear dry, heavy gloves to avoid injury.
- Your refrigerator will keep foods cool for about four hours without power if it is unopened. Add block or dry ice to your refrigerator if the electricity will be off longer than four hours.
- Thawed food can usually be eaten if it is still "refrigerator cold," or re-frozen if it still contains ice crystals.
- To be safe, remember, "When in doubt, throw it out." Discard any food that has been at room temperature for two hours or more, and any food that has an unusual odor, color, or texture.

### **Sanitation and Hygiene**

It is critical for you to remember to practice basic hygiene during the emergency period. Always wash your hands with soap and water that has been boiled or disinfected:

- before preparing or eating
- after toilet use
- after participating in cleanup activities; and
- after handling articles contaminated with floodwater or sewage.

If there is flooding along with a hurricane, the waters may contain fecal material from overflowing sewage systems and agricultural and industrial waste. Although skin contact with floodwater does not, by itself, pose a serious health risk, there is risk of disease from eating or drinking anything contaminated with floodwater.

If you have any open cuts or sores that will be exposed to floodwater, keep them as clean as possible by washing them with soap and applying an antibiotic ointment to discourage infection. If a wound develops redness, swelling, or drainage, seek immediate medical attention.

Do not allow children to play in floodwater areas. Wash children's hands frequently (always before meals), and do not allow children to play with floodwater-contaminated toys that have not been disinfected. You can disinfect toys using a solution of one cup of bleach in five gallons of water.

## **Immunizations**

Outbreaks of communicable diseases after hurricanes are unusual. However, the rates of diseases that were present before a hurricane may increase because of a lack of sanitation or overcrowding in shelters. Increases in infectious diseases that were not present before the hurricane are not a problem, so mass vaccination programs are unnecessary.

If you have wounds, you should be evaluated for a tetanus immunization, just as you would at any other time of injury. If you receive a puncture wound or a wound contaminated with feces, soil, or saliva, have a doctor or health department determine whether a tetanus booster is necessary based on individual records.

Specific recommendations for vaccinations should be made on a case-by-case basis, or as determined by local and state health departments.

## **Mosquitoes**

Rain and flooding in a hurricane area may lead to an increase in mosquitoes. Mosquitoes are most active at sunrise and sunset. In most cases, the mosquitoes will be pests but will not carry communicable diseases. It is unlikely that diseases which were not present in the area prior to the hurricane would be of concern. Local, state, and federal public health authorities will be actively working to control the spread of any mosquito-borne diseases.

To protect yourself from mosquitoes, use screens on dwellings, and wear clothes with long sleeves and long pants..

To control mosquito populations, drain all standing water left in open containers outside your home.

## **Mental Health**

The days and weeks after a hurricane are going to be rough. In addition to your physical health, you need to take some time to consider your mental health as well. Remember that some sleeplessness, anxiety, anger, hyperactivity, mild depression, or lethargy are normal, and may go away with time. If you feel any of these symptoms acutely, seek counseling. Remember that children need extra care and attention before, during, and after the storm. Be sure to locate a favorite toy or game for your child before the storm arrives to help maintain his/her sense of security. Your state and local health departments will help you find the local resources, including hospitals or health care providers, that you may need.

**ENCLOSED IS VERY IMPORTANT INFORMATION  
REGARDING YOUR CITY SERVICES**

**PLEASE READ CAREFULLY**

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