



Frequently Asked Questions About Water

Can I go swimming?

Yes, in most places. However, other areas require caution due to bacteria, especially after it rains. Use the Texas Beach Watch for up-to-date advisories for Gulf beaches in Jefferson County: <http://texasbeachwatch.com/>.

Can I eat the fish?

Yes, fish caught from most water bodies around Port Arthur can be eaten. There is a fish advisory for eating fish from the Gulf of Mexico due to mercury and an advisory for eating Gafftopsail catfish from Sabine Lake and its contiguous waters in Texas due to PCBs. In the Gulf, this is a concern primarily with the largest fish at the top of the food chain – such as King Mackerel.

Can I harvest and eat oysters?

No, harvesting shellfish is prohibited from the areas indicated. Reasons vary and conditions change subject to rainfall, extreme weather events, etc. Visit the Texas Department of State Health Services for more information: <http://www.dshs.state.tx.us/seafood/survey.shtm#Bans>.

Is the water good for aquatic life?

The water bodies indicated in yellow are considered to have some ecological risk. Low dissolved oxygen (O₂) makes supporting life for fish and sediment dwellers more difficult. Chlorophyll-a indicates that nutrients may contribute to unhealthy algae growth and similar conditions.

Water FAQs				
Water Body (Segment ID)	Can I go swimming?	Can I eat the fish?	Can I harvest & eat oysters?	Is it good for aquatic life?
Sabine River Tidal (0501)	Concern – Enterococcus	Caution – PCBs	No	Yes
Neches River Tidal (0601)	Concern – Enterococcus	Caution – PCBs	No	Yes
Taylor Bayou (0701)	Yes	Yes	NA	Concern – Low O ₂ and C-a
Shallow Prong Lake (0701D)	Yes	Yes	NA	Concern – O ₂ and arsenic
Intracoastal Waterway (0702)	Concern – Enterococcus	Caution – PCBs	NA	Concern – C-a
Alligator Bayou, Main Canals A, B, C, & D (0702A)	Yes	Yes	NA	Concern – Toxic substance in sediment and C-a
Sabine-Neches Canal Tidal (0703)	Yes	Caution – PCBs	No	Yes
Hillebrandt Bayou (0704)	Caution – E. Coli	Yes	NA	Concern – Low O ₂ , ammonia, C-a
Sabine Pass (2411)	Yes	Caution – PCBs	No	Yes
Sabine Lake (2412)	Yes	Caution – PCBs	No	Yes
Gulf of Mexico (2501)	Yes	Caution - Mercury	NA	Yes
Adams Bayou Tidal (0508)	Caution – E. Coli	Caution – PCBs	No	Concern – Low O ₂ , pH
Cow Bayou Tidal (0511)	Caution – E. Coli	Caution – PCBs	No	Concern – Low O ₂ , pH
Coon Bayou (0511B)	Caution – E. Coli	Caution – PCBs	No	Concern – Low O ₂
Cole Creek (0511C)	Caution – E. Coli	Caution – PCBs	No	Concern – Low O ₂
Star Lake Canal (0601A)	Yes	Caution – PCBs	No	Concern – Low O ₂

C-a: Chlorophyll-a NA: Not applicable O₂: Dissolved oxygen

WATER

For More Information

For more information please visit the EPA website at: http://www.epa.gov/region6/6dra/oejta/ej/environmental_profile/profileindex.html or contact the EPA Region 6, Office of Environmental Justice and Tribal Affairs.

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Port Arthur, Texas Westside Community Environmental Profile



Port Arthur, Texas Westside Community

Port Arthur is at the center of the largest oil refinery network in the world. The Westside community is located in the southwest end of the City of Port Arthur and is adjacent to refineries, chemical plants, a hazardous waste incinerator, and next to a blighted downtown and an under used waterfront.

Environmental Profile

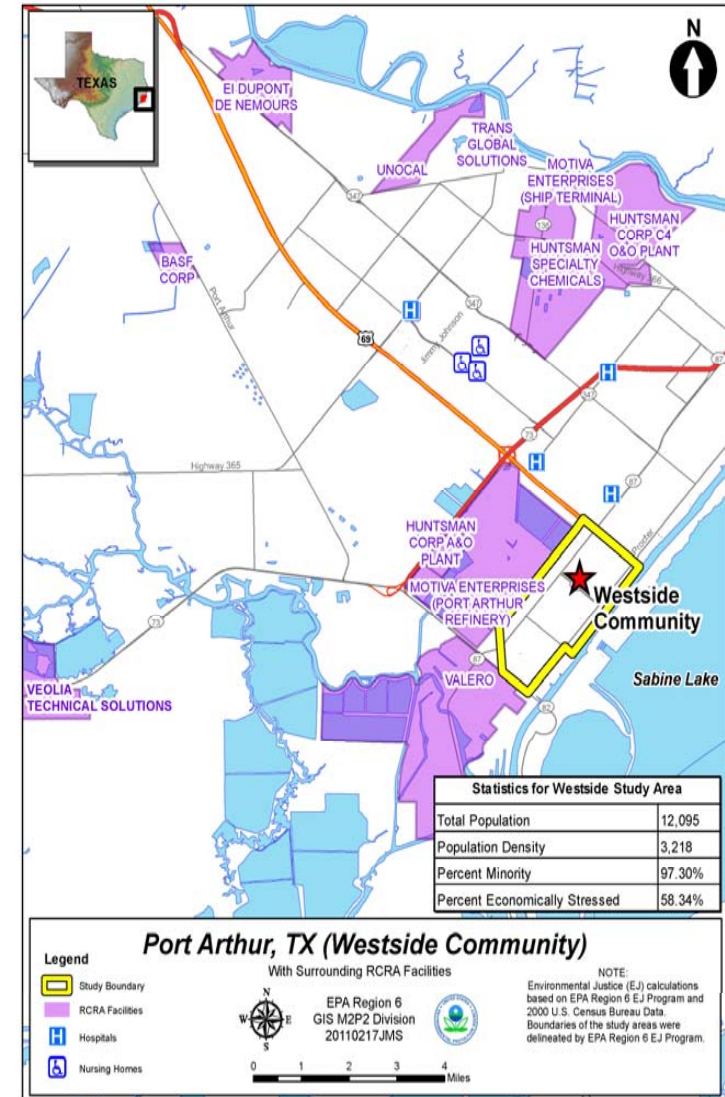
This environmental profile is a resource to help you understand important environmental factors for your area. The information in this profile is a summary of documents prepared by EPA and various state agencies. The environmental profile:

- Provides information on the current environmental conditions in your area.
- Identifies past and present sources that contribute to the environmental conditions.

The environmental profile has three sections: air, water, and land.

To quickly learn about the current condition of Port Arthur air, water, and land, EPA has created a color code rating system you will see throughout this environmental profile.

Green: OK	No known risk levels are exceeded based on existing knowledge and data
YELLOW: Limited Concern	Risk is limited or intermittent. Some uncertain risk may be present, or risk is to the ecology but not directly to human health
ORANGE: Caution is Advised	Risk is present to human health and/or the environment. However, condition may be temporary
RED: Avoid	Risk is known to exist on a consistent basis and should be avoided



AIR







Your Air: Key Findings

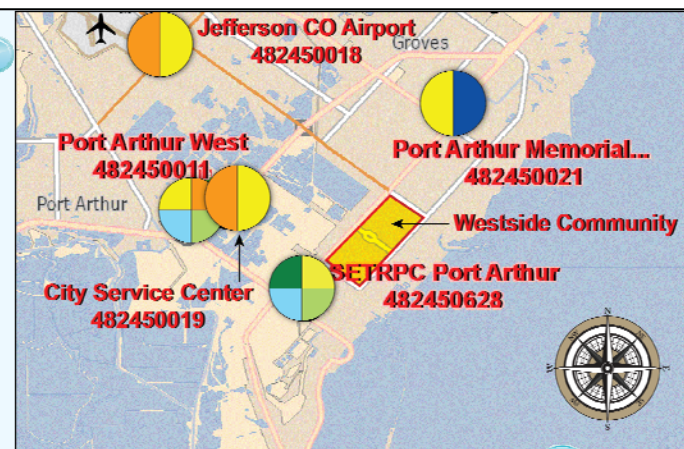
- Overall, air in the Westside community meets health-based standards because the air quality has been in attainment since 2005. EPA uses the term “attainment” when the levels of air pollution are at or below the air quality standards known as the National Ambient Air Quality Standards (NAAQS).
- Benzene has exceeded state screening levels in the past; however, it does not currently. The Texas Commission on Environmental Quality (TCEQ) is monitoring benzene in the area on a continuing basis.

Beginning in the 1970s, EPA developed the National Ambient Air Quality Standards (NAAQS) for six common air pollutants that pose serious effects to human health and the environment: carbon monoxide (CO), lead (Pb), nitrogen oxides (NO_x), ozone (O₃), airborne liquid and solid particles (known as particulate matter or PM_{2.5} and PM₁₀), and sulfur dioxide (SO₂). EPA often refers to these pollutants as “criteria pollutants” because allowed levels are set using human health or environmental criteria.

Air Monitoring

There are 5 air monitoring sites in the Port Arthur area that are designed to monitor weather conditions and collect data for air pollutants. Three of those five monitoring stations, monitor for hazardous air pollutants such as benzene (VOCs) typical of refinery emissions. The map and key show the location of various monitors and what pollutants each monitor is designed to measure.

Sampler Types (within Air Monitor Sites)	
 Ozone	 PM 2.5 Metals
 CO/ SO ₂ / H ₂ S/ TNMOC	 Air Toxics / VOCs
 Nitrogen Oxides	 Meteorological



Air Pollutants

After considering the air monitoring results, EPA has observed the following air quality conditions. Overall the air quality is in good condition. However, EPA monitoring results have indicated that one contaminant, ozone, is not within guidelines; therefore, caution is advised.

Potential Impacts from Air Pollutants	
Air Pollutant	Current Status
Ozone Current Standard	OK, No known concerns
Ozone Delayed Standard	Caution is Advised (condition may be temporary)
Particulate Matter Course (PM ₁₀)	OK, No known concerns
Particulate Matter Fine (PM _{2.5}) Current & Proposed	OK, No known concerns
Nitrous Oxides (NO ₂)	OK, No known concerns
Sulfur Dioxide (SO ₂) 24 Hour Standard	OK, No known concerns
Sulfur Dioxide (SO ₂) 1 Hour Standard *	OK, No known concerns

* The Sulfur Dioxide 1 hour standard was violated for the rolling three-year period ending in 2009, and just met the standard (rounded down) in 2010.

Hazardous Air Pollutants (HAPs)

Hazardous air pollutants (HAPs) are also known as toxic air pollutants or air toxics. They are pollutants that cause or may cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental and ecological effects. EPA and TCEQ track HAPs released into the air through permits, monitoring stations, and modeling. Examples of HAPs include benzene, which is found in gasoline; perchlorethylene, which is emitted from some dry cleaning facilities; and methylene chloride, which is used as a solvent and paint stripper by a number of industries.

Air Modeling: Air modeling is a method that often uses computers to run calculations that imitate the air space over an area. The air models can be used to predict the air quality and levels of pollution in the air and the amounts that might be deposited on the ground. Air modeling results are used to focus enforcement inspections on specific equipment and specific chemicals.

Potential Impacts from Hazardous Air Pollutants	
Area of Influence	Current Status
Community Monitors – Annual Average Concentrations	Pollutants such as Benzene are below State screening levels.
Modeled Risk Past Fenceline	EPA Modeling “Regional Air Impacts Modeling Initiative” (RAIMI) indicates risk in the middle to upper end of EPA’s acceptable risk for long term effects.
Past Fenceline – Exceptional Accidents	Large episodic releases due to accidents, power outages, etc. may result in shelter-in-place events.

AIR

Your Land: Key Findings

- The residential soils of the Westside community do not have any known contamination and are considered safe for gardening.
- EPA concluded that vapor intrusion is unlikely in the Westside community. Vapor intrusion refers to pollutants moving from below the ground and groundwater into air in neighborhoods or homes.

Residential and Industrial Soils

Human activities are the cause of most soil contamination. Some activities that cause such contamination include: old homes with lead-based paint that are abandoned or torn down; industrial or commercial facilities that use or dispose of toxic and hazardous waste; the addition of chemicals (such as fertilizers) to land; and accidental spills of waste or chemicals (such as, petroleum).

Hazard Potential of Impacts from Soil	
Environmental Media	Current Status
Residential/Community Soils	There is no known contamination of soils in areas with unrestricted access that presents unacceptable risk. The potential for vapors from groundwater to rise through residential soils is considered to be negligible.
Industrial Soils	Many industries are currently undertaking corrective action for on-site soil and groundwater that is contaminated. Access is restricted to these sites.

LAND

Your Water: Key Findings

- The Port Arthur municipal water system complies with drinking water standards.
- The Safe Drinking Water Act (SDWA) limits the amount of contaminants allowed in drinking water so human health is protected.
- Some water bodies in the Port Arthur area are not fit for recreational use or fish consumption.

Maps illustrating the current status of waterways for swimming, fishing, harvesting oysters, and potential impacts to wildlife are available online at <http://www.epa.gov/region6/6dra/oejta/ej/environmentalprofile/profileindex.html>.

Drinking Water

The municipal water in Port Arthur is safe to drink. Drinking water in Port Arthur comes from surface water sources, including the Lower Neches River Canal (LNRC). Water from the LNRC is treated by the Port Arthur Water Purification Plant and is then distributed through the municipal water supply to a residential population of approximately 58,000 people.

Surface Water

Pollution from a point source or a nonpoint source can change the quality of surface water. Point source pollution comes from specific places that can be identified, such as a discharge pipe or runoff ditch from a factory. Nonpoint source pollution comes from many places that are not easily identified. For example, rainwater that runs off from an urban area can pick up various pollutants as it flows across the pavement towards a river and is considered a nonpoint source of pollution. Pollutants from either type of source can include chemicals, sediment or bacteria. These pollutants can affect the quality of the water and limit people’s use of the water body.

Groundwater

Historic research shows that 100 years of refinery activity created groundwater contamination. Groundwater sampling data from the two major refineries adjacent to the Westside community show that the shallow groundwater aquifer beneath the refineries is contaminated. The data also showed that the probability of this groundwater contamination happening in the Westside is low because there is a thick layer of clay over the shallow aquifer that acts as a barrier to restrict the movement of petroleum waste into the aquifer and also greatly obstructs contamination from traveling upward from the aquifer to the Westside community. Remediation of contaminated groundwater took place at several locations and very little of the contamination from the surrounding properties has moved into the groundwater in the community.

WATER