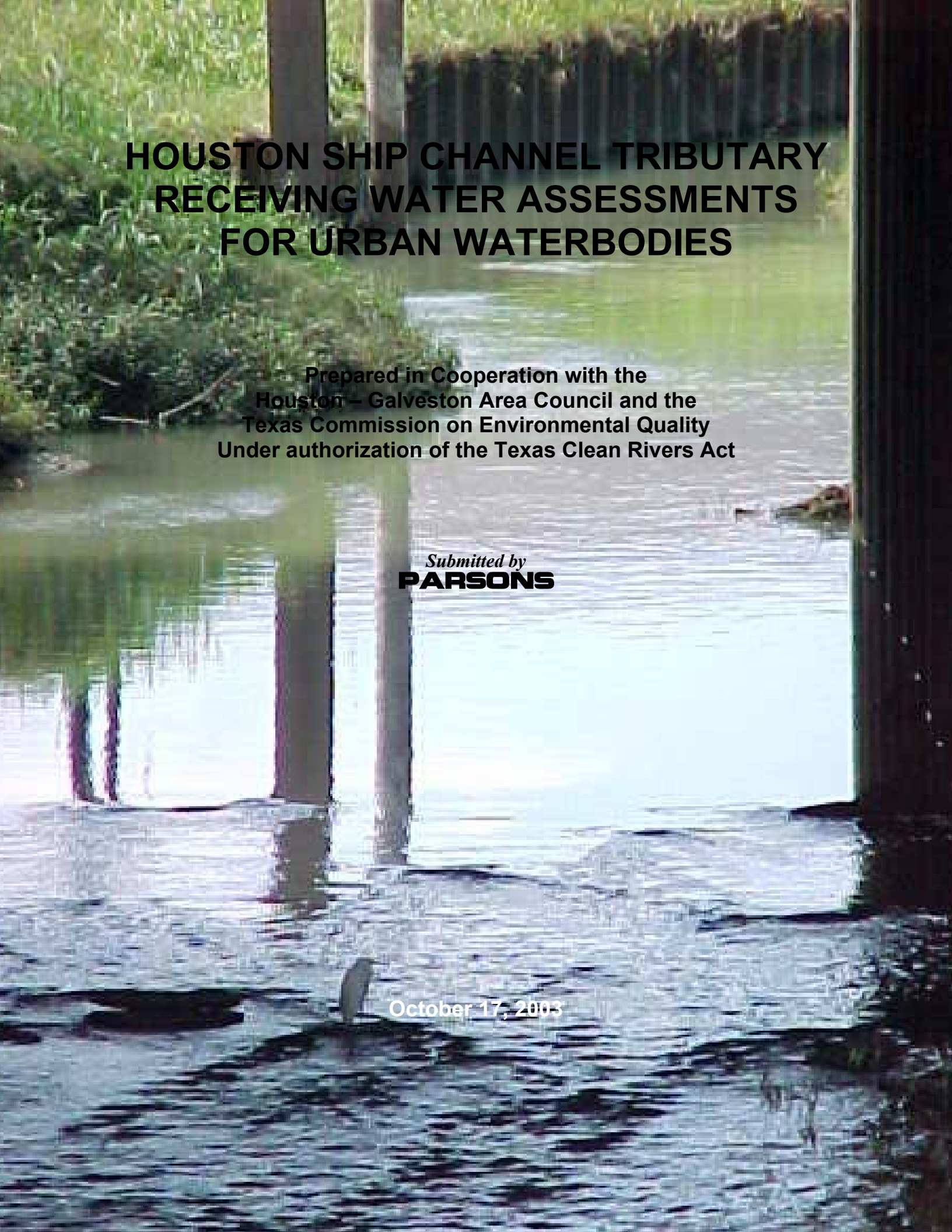

HOUSTON SHIP CHANNEL TRIBUTARY RECEIVING WATER ASSESSMENTS FOR URBAN WATERBODIES

Prepared in Cooperation with the
Houston – Galveston Area Council and the
Texas Commission on Environmental Quality
Under authorization of the Texas Clean Rivers Act

Submitted by
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SECTION 1
INTRODUCTION

1.1 SCOPE OF WORK

This report presents the characterization of aquatic resources of unclassified tributary streams to the Houston Ship Channel located in the San Jacinto River Basin. The project was prepared in the cooperation with the Houston-Galveston Area Council (H-GAC) and the Texas Commission on Environmental Quality (TCEQ) under the authorization of the Texas Clean Rivers Act. The primary goal of this project was to protect the long-term ecological integrity of small streams in the H-GAC service area. In order for this goal to be realized, the main objectives of this project were: 1) to provide baseline information on existing stream water quality, biota and habitats; 2) to better understand the aquatic environmental quality issues in urban watersheds; and 3) to make recommendations for possible inclusion of streams in the TCEQ's next triennial revision of Texas Surface Water Quality Standards (TSWQS). TCEQ has developed water quality standards for over 350 larger, classified waterbodies in the state; however, smaller streams, such as those assessed, have not been individually classified. These unclassified, perennial streams are assumed by default to support a high aquatic life use in TSWQS (TNRCC 1999). Receiving water assessments (RWA) are performed to better understand the "health" of streams so site-specific standards can be developed, as appropriate.

This project entailed performing RWAs on unclassified streams in the Houston, Texas area. RWAs are comprehensive evaluations of stream ecological attributes, including chemical, physical and biological properties, to provide a better understanding of a stream's current status and health so that site-specific water quality standards can be developed, as well as to identify areas of concern within the stream and its watershed. RWAs were conducted in two phases. The first phase involved conducting a reconnaissance (recon) characterization on all project site locations listed in the initial request. The recon included general physical data and visual observations of the steam conducted from bridge crossings (channelized, concrete lined, grass banks, natural stream channel, detectable flow, no flow but pooled, dry, *etc*.) for the length of the stream. This information was used to determine those locations that best characterize the waterbodies, which then received additional analysis in phase two of the project. In total, recon surveys were performed at twenty sites. Phase two of the project involved evaluation of physical and chemical parameters and composition of biological communities. Fish communities were used as indicators of the status of the biological communities.

1.2 STUDY AREA DESCRIPTION

The San Jacinto River Basin consists of 5,600 square miles covering all of Harris and Montgomery counties and portions of Fort Bend, Liberty, San Jacinto, Walker and Waller Counties in southeast Texas (H-GAC 2001).

The East and West Forks of the San Jacinto River merge in the headwaters of Lake Houston. The San Jacinto River flows approximately 20 miles from Lake Houston to its confluence with the Houston Ship Channel. The river flows another 10 miles to Galveston

Bay. This basin includes a portion of the Houston Ship Channel and associated tributaries. The total basin drainage area is 5,600 square miles. There are approximately 1,750 square miles in the West Fork drainage area, and 1,050 square miles in the East Fork drainage area. Buffalo Bayou, a major tributary to the Houston Ship Channel, has a drainage area of 1,034 square miles. The basin has been divided into 17 classified segments consisting of approximately 517 stream miles and two reservoirs (Lakes Houston and Conroe) covering a surface area of 51.9 square miles (TCEQ 2002).

According to the 2000 Census, the basin population is over 1.5 million, with the majority residing in Harris County. The City of Houston is the largest city in the basin. Other principal cities in the basin include Pasadena and Bellaire in Harris County and Conroe in Montgomery County. In addition to the numerous towns and cities, hundreds of wastewater treatment plants discharge into basin waterbodies. This basin also includes the most highly-urbanized and industrialized portions of the Houston metropolitan area. All major economic categories are represented including industrial/manufacturing, petrochemical, commercial, transportation, agriculture, recreation, and government (TCEQ 2002).

The Houston metropolitan area is drained almost entirely by Buffalo Bayou, which has been channelized to form the Houston Ship Channel in its lower reach. Major tributaries draining to the Buffalo Bayou/Houston Ship Channel are Brays, Greens, Sims and White Oak Bayous. In addition to a large number of municipal and industrial wastewater discharges, Houston bayous receive significant amounts of urban stormwater runoff. High fecal coliform levels are common and depressed dissolved oxygen occurs during warm summer months, especially in the smaller tributary streams (TCEQ 2002). Waterbodies and sites included in the study are presented in Table 1-1. Some of the sites and waterbodies in Table 1-1 only received reconnaissance surveys and not RWA analysis. Figure 1-1 Project Study Area shows all assessment locations and if they were evaluated for RWA or received reconnaissance only.

Section 1 of this report presents the introduction to the project, while Section 2 identifies the sites selected for the receiving water assessments (RWA). The survey methodology is discussed in Section 3 and Section 4 through 10, and contains detailed information and results about each site. A summary of the Buffalo Bayou / Houston Ship Channel subwatershed RWA is presented in Section 11.

Figure 1-1 Project Study Area

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Figure 1-2 Project Assessment Locations

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Table 1-1 All Waterbodies and Sites Included in RWA Study

WATERBODY ID	WATERBODY	SITE ID
1007 H	Pine Gully Above Tidal	16659
1007 I	Plum Creek Above Tidal	16658
1007 K	Country Club Bayou Above Tidal	16650 16651
1007 O	Unnamed Non-Tidal Tributary of Buffalo Bayou	16649 17977
1007 Q	Sims Bayou Above Tidal	11135 15875 16656 17976
1007 R	Hunting Bayou Above Tidal	11129 11128 15869 15867 15872
1007 N	Unnamed Nontidal Tributary of Sims Bayou	16655
1007 P	Brays Bayou Above Tidal	15848
1006 F	Big Gulch Above Tidal	16662
1006 I	Unnamed Tributary of Halls Bayou	16666
1006 J	Unnamed Tributary of Halls Bayou	16665

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SECTION 2
SELECTION OF SURVEY SITES

This section describes the rationale for the selection of the initial monitoring sites and methods used during the RWA to characterize water quality and biological communities of waterbodies located within the Buffalo Bayou and Houston Ship Channel watersheds.

2.1 INITIAL SITE SELECTION

The initial six waterbodies and eleven sites selected were included in the initial study design from H-GAC, whose tributary selection was based on the following criteria:

1. Located in the San Jacinto river basin;
2. listed in the State of Texas §303(d) List of waterbodies not meeting the current aquatic life use classification;
3. is an unclassified waterbody; and
4. is a tributary to Houston Ship Channel/Buffalo Bayou Above Tidal.

Additional waterbodies were selected based on the above criteria and included in the study. All 20 sites on the 11 waterbodies shown in Table 1-1 and included for this RWA study meet these requirements.

2.2 RECONNAISSANCE RESULTS AND SITE SELECTION SUMMARY

Detailed reconnaissance (recon) results are presented in documents previously submitted to H-GAC. The documents include "Houston Ship Channel Tributary Receiving Water Assessment Site Reconnaissance," Volume 1 dated November 10, 2002 and Volume 2 dated June 16, 2003.

2.2.1 September 2002 Reconnaissance Summary

In September 2002 site recon surveys were performed for eleven sites identified in the initial scope of work listed in Table 2-1 and are located in urban environments with varying levels of residential, commercial, and industrial uses.

The intent of the recon was to collect general information about the condition of the waterbody at the proposed 11 sites and determine which of the sites best represented their respective waterbodies. Most sampling locations investigated were very representative of the waterbodies in which they were located; however, some were not as representative, and some were not located on the actual waterbodies they were supposed to represent. One week prior to the recon survey, rain fell over the project locations ranging from 1.10 to 3.78 inches. Evidence of flooding was not observed and water levels appeared to have returned to their normal levels.

As a result of the September field reconnaissance effort performed on the eleven initial sites selected for this study in the RFP, six sites were selected that were thought to adequately

characterize the initial six waterbodies. Prior to the reconnaissance it was believed that the larger waterbodies, Sims and Hunting Bayous, might require more than one site to adequately characterize the waterbody. Some of the original eleven sites were determined to not adequately represent the waterbody in which they were located. In other cases, the sites surveyed on a waterbody were all very similar along the reach being considered. Table 2-1 identifies the sites surveyed and ones which were selected for a RWA.

Table 2-1 September 2002 Reconnaissance Waterbody Locations

WATERBODY ID	WATERBODY	SURVEYED SITES	SITES SELECTED FOR RWA
1007 H	Pine Gully Above Tidal	16659	16659
1007 I	Plum Creek Above Tidal	16658	16658
1007 K	Country Club Bayou Above Tidal	16650 16651	16650
1007 O	Unnamed Non-Tidal Tributary of Buffalo Bayou	16649 * 17977	*17977
1007 Q	Sims Bayou Above Tidal	11135 15875 16656 * 17976	*17976
1007 R	Hunting Bayou Above Tidal	11129 11128 15869	11129

* - Sites added after reconnaissance.

Site 11129 was selected as the most representative site on Hunting Bayou. It is located at the I-610 E. Bridge and was chosen because it was very similar to Site 11128 (at the downstream boundary of the waterbody), but with less flow. The other site on Hunting Bayou was Site 15869. It was not considered because it is considerably different from the rest of the waterbody in that it is in a concrete channel instead of a natural channel with maintained banks and was not flowing at the time of the recon.

Site 16649 at Clinton St., on the Unnamed Tributary to Buffalo Bayou, was uncharacteristic of the remaining portion of the waterbody. Site 16649 is located at the outfall of an underground storm drain that passes north under Clinton St. and then under a parking lot and railroad tracks. It appears to originate in a residential area, although the storm drain opening could not be located at the time of the recon. This site was all but inaccessible, with steep overgrown banks and was fenced to prevent access. As on Sims Bayou, a new site that best represented the waterbody was selected on the Unnamed Tributary. The new site was given the Site ID 17977 by TCEQ. It is located downstream of Site 16649 approximately 300 meters and is located under the Emile Street Bridge. Site Location Request (SLOC) forms were completed and submitted to H-GAC. Additional reconnaissance was performed on this waterbody in April 2003.

Site 16650, located at South Wayside Drive, was selected as a representative of Country Club Bayou. This site was selected because it exhibited a better mixture of cover and habitat types than Site 16651 located approximately one mile upstream of Site 16650.

Only a single site was proposed for each of Plum Creek (Site 16658, at the crossing of Old Galveston Rd.), and Pine Gully (Site 16659, also at the crossing of Old Galveston Rd.). These sites were thought to adequately represent the waterbodies and were selected for RWA analysis.

2.2.2 April 2003 Reconnaissance Summary

After completion of the initial round of sampling and analysis in 2002, it was evident that additional waterbodies and sites could be added to the investigation without increasing the level of funding to the project. This summary details eight locations not included in the first recon in September 2002. These additional sites, as well as some sites evaluated in September 2002, were considered for inclusion in the May 2003 round of RWA sampling and analysis and are presented in Table 2-2.

Table 2-2 April 2003 Reconnaissance Waterbody Locations

WATERBODY ID	WATERBODY	SURVEYED SITES	SITES SELECTED FOR RWA
1007O	Unnamed Nontidal Tributary of Buffalo Bayou	16649	
1007N	Unnamed Nontidal Tributary of Sims Bayou	16655	
1007Q	Sims Bayou Above Tidal	*	11135
1007R	Hunting Bayou Above Tidal	15867	15867
		*	15869
		15872	15872
1007K	Country Club Bayou Above Tidal	*	16651
1007P	Brays Bayou Above Tidal	15848	
1006F	Big Gulch Above Tidal	16662	
1006I	Unnamed Tributary of Halls Bayou	16666	16666
1006J	Unnamed Tributary of Halls Bayou	16665	

* Site reconnaissance previously performed

Hunting Bayou Above Tidal (1007R) was originally identified in the initial list of streams to assess; however, two additional sampling sites on 1007R were also selected because it has two branches that were not adequately addressed on the eleven mile long stream in the first round of sampling. These branches were surveyed to select a site on each of the two branches that adequately reflect the waterbody. The site located on the south branch at Cavalcade Avenue (Site 15869) and was surveyed in September 2002. The site on the west branch of Hunting Bayou Above Tidal, from Maury St. to Falls St., was at Jensen Drive and identified as Site 15867. The site selected downstream from the west/south branch confluence was Hunting Bayou Above Tidal at Wipprecht Road (Site 15872).

A reconnaissance attempt was also made to identify an upstream location for analysis on the Unnamed Nontidal Tributary of Buffalo Bayou (1007O). Two open channels were located upstream of Clinton St. (Site 16649), but they were dry and not considered viable options for further analysis.

Five waterbodies not originally included in the initial scope were surveyed as well. They were surveyed as alternate sites in the event that no appropriate sites were located on 1007R or 1007O. These sites were: 1007N, Unnamed Nontidal Tributary of Sims Bayou at Dulcimer Street (16655); 1007P, Brays Bayou Above Tidal at State Highway 6 (15848); 1006F, Big Gulch Above Tidal at Wallisville Road (16662); 1006I, Unnamed Tributary of Halls Bayou Above Tidal at Talton Street (16666) and 1006J, Unnamed Tributary of Halls Bayou Above Tidal at Langley Road (16665). Of these five waterbodies only one alternate was utilized as a replacement because no additional suitable site was identified on the Unnamed Nontidal Tributary of Buffalo Bayou (1007O) for analysis.

2.3 RECONNAISSANCE SITES SELECTED FOR RWA ANALYSIS

Site selections were made following each recon event. The sites chosen were then analyzed using the methodology detailed in the QAPP and summarized in Section 3 of this report.

The Unnamed Non-Tidal Tributary of Sims Bayou (1007N) sampling Site 11135, is located at the Hiram Clarke Rd.. It is an existing TCEQ sampling site included in the original list of sites in the scope of work, and was included in the first recon survey.

Three sites on Hunting Bayou (1007R) were selected for RWA analysis. Site 15867 was selected on Hunting Bayou's western branch from Maury St. to Falls St. It is located at the Jensen Drive bridge and was chosen because it is an existing TCEQ sampling station on that portion of the waterbody which has appropriate conditions for further analysis. Site 15872 is located on Wipprecht Street downstream of the confluence of the south and west branches of the waterbody and is an existing TCEQ sampling station. The final site is 15869 located at Cavalcade Avenue, is an existing TCEQ station and is located on a concrete lined portion of the waterbody. The RWA analysis at this site will be evaluated to confirm the presumed aquatic life use classification of concrete-lined channels in the urban settings.

Unnamed Nontidal Tributary of Buffalo Bayou (1007O) was additionally surveyed to determine the extent of the waterbody. Aerial photos of the area do not coincide with the state description of the bayou. The description states: "From confluence with Buffalo Bayou to IH-10 between Hirsch Rd. and Lockwood in Harris County". The waterbody appears to pass through Harris County storm sewers for more than 50 percent of its length. True open channel flow was only observed downstream of the stormwater outfall at Clinton Street. Two additional sections of open channel were found upstream of Clinton Street, but no water was present and they were not considered appropriate for further analysis.

Site 16651, located at Hughes St., was selected for Country Club Bayou (1007K). It is an existing TCEQ sampling site and was included in the original list of sites.

Site 16666, located at Talton Street was selected as representative of the Unnamed Tributary to Halls Bayou Above Tidal (1006I). It is an existing TCEQ sampling site approximately 100 yards upstream from the confluence with Halls Bayou and was selected as typical of the remainder of the waterbody with good access.

Table 2-3 summarizes all of the sites that were selected from both the September 2002 and April 2003 recon surveys for further RWA analysis.

Table 2-3 Waterbodies and Sites RWA Study

WATERBODY ID	WATERBODY	SITE ID
1007 H	Pine Gully Above Tidal	16659
1007 I	Plum Creek Above Tidal	16658
1007 K	Country Club Bayou Above Tidal	16650 16651
1007 O	Unnamed Non-Tidal Tributary of Buffalo Bayou	17977
1007 Q	Sims Bayou Above Tidal	11135 17976
1007 R	Hunting Bayou Above Tidal	11129 15869 15867 15872
1006 I	Unnamed Tributary of Halls Bayou	16666

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SECTION 3
SURVEY METHODOLOGY

Two separate sampling events were conducted, one in October 2002 and the second in May 2003. The first collection of chemical, physical, and biological samples at each of the sampling sites was conducted from October 15 -18, 2002, the second round of collection was conducted from May 19-23, 2003. The survey results are presented in Sections 4 through 10. Biota and stream habitat assessment criteria of the TCEQ were used to determine the habitat quality and biotic integrity of the streams surveyed. The methodology utilized integrated aspects of the TCEQ Surface Water Quality Monitoring Procedures Manual (1999), the TCEQ Receiving Water Assessment Procedures Manual (1999), and the stream channel classification developed by Rosgen (1994).

3.1 HABITAT CHARACTERIZATION

Habitat characterization was performed at each of the sampling sites to evaluate habitat quality in relationship to overall biological integrity. Appendix A includes the Receiving Water Assessment for Wastewater Permit Action Questionnaires that were developed for each site. At each site, physical characteristics were recorded on data sheets, and photographs of stream conditions were taken for future reference. Appendix B presents the stream physical characteristic worksheet, a summary of physical characteristics of the waterbody, and a habitat quality index worksheet for each site sampled.

A representative stream reach, up to 500 meters in length, or 40 times the stream width, was identified that lacked any artificially impounded areas, roadways, or bridges. Habitat information was collected from a minimum of five transects along the selected stream reach, one transect was performed on each of the three stream habitat types (pool, riffle, and run/glide) with two transects performed on the dominant stream habitat type. Transects sites were located equal distances apart using a handheld GPS unit to track river distance (Photo 3-1). The aquatic habitat was characterized at all sampling locations using the TCEQ's habitat quality rating criteria (Table 3-1). These guidelines quantify habitat characteristics based on a nine-parameter scoring system that accounts for instream cover, number of riffles, pool depth, bank stability, riparian cover, flow fluctuations, channel sinuosity, bottom substrate, and aesthetics. The total score ranges from 1 to 31 points. Total scores less than or equal to 13 are assigned a "Limited" habitat rating for aquatic communities. Total scores of 14 to 19 are assigned an "Intermediate" habitat rating. Total scores of 20 to 25 are assigned a "High" habitat rating. Total scores exceeding 25 are assigned an "Exceptional" habitat rating.

Table 3-1 Scoring Criteria for Habitat Characterization

Part III - Habitat Quality Index

HABITAT PARAMETER	SCORING CATEGORY			
Available Instream Cover	Abundant >50% of substrate favorable for colonization and fish cover; good mix of several stable (not new fall or transient) cover types such as snags, cobble, undercut banks, macrophytes	Common 30-50% of substrate supports stable habitat; adequate habitat for maintenance of populations; may be limited in the number of different habitat types	Rare 10-29.9% of substrate supports stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed	Absent <10% of substrate supports stable habitat; lack of habitat is obvious; substrate unstable or lacking
Score_____	4	3	2	1
Bottom Substrate Stability	Stable >50% gravel or larger substrate, i.e., gravel, cobble, boulders; dominant substrate type is gravel or larger	Moderately Stable 30-50% gravel or larger substrate; dominant substrate type is mix of gravel with some finer sediments	Moderately Unstable 10-29.9% gravel or larger substrate; dominant substrate type is finer than gravel, but may still be a mix of sizes	Unstable <10% gravel or larger substrate; substrate is uniform sand, silt, clay or bedrock
Score_____	4	3	2	1
Number of Riffles To be counted, riffles must extend >50% the width of the channel and be at least as long as the channel width	Abundant ≥ 5 riffles	Common 2-4 riffles	Rare 1 riffle	Absent No riffles
Score_____	4	3	2	1
Dimensions of Largest Pool	Large Pool covers more than 50% of the channel width; maximum depth is >1 meter	Moderate Pool covers approximately 50% or slightly less of the channel width; maximum depth is 0.5-1 meter	Small Pool covers approximately 25% of the channel width; maximum depth is <0.5 meter	Absent No existing pools; only shallow auxiliary pockets
Score_____	4	3	2	1
Channel Flow Status	High Water reaches the base of both lower banks; < 5% of channel substrate is exposed	ModerateWater fills >75% of the channel; or <25% of channel substrate is exposed	Low Water fills 25-75% of the available channel and/or riffle substrates are mostly exposed	No Flow Very little water in the channel and mostly present in standing pools; or stream is dry
Score_____	3	2	1	0
Bank Stability	Stable Little evidence (<10%) of erosion or bank failure; bank angles average <30□	Moderately Stable Some evidence (10-29.9%) of erosion or bank failure; small areas of erosion	Moderately Unstable Evidence of erosion or bank failure is common (30-50%); high potential of	Unstable Large and frequent evidence (>50%) of erosion or bank failure; raw areas frequent

HABITAT PARAMETER	SCORING CATEGORY			
		mostly healed over; bank angles average 30-39.9□	erosion during flooding; bank angles average 40-60□	along steep banks; bank angles average >60□
Score_____	3	2	1	0
Channel Sinuosity	High > 2 well-defined bends with deep outside areas (cut banks) and shallow inside areas (point bars) present	Moderate 1 well-defined bend or > 3 moderately-defined bends present	Low <3 moderately-defined bends or only poorly-defined bends present	None Straight channel; may be channelized
Score_____	3	2	1	0
Riparian Buffer Vegetation	Extensive Width of natural buffer is >20 meters	Wide Width of natural buffer is 10.1-20 meters	Moderate Width of natural buffer is 5-10 meters	Narrow Width of natural buffer is <5 meters
Score_____	3	2	1	0
Aesthetics of Reach	Wilderness Outstanding natural beauty; usually wooded or unpastured area; water clarity is usually exceptional	Natural Area Trees and/or native vegetation are common; some development evident (from fields, pastures, dwellings); water clarity may be slightly turbid	Common Setting Not offensive; area is developed, but uncluttered such as in an urban park; water clarity may be turbid or discolored	Offensive Stream does not enhance the aesthetics of the area; cluttered; highly developed; may be a dumping area; water clarity is usually turbid or discolored
Score_____	3	2	1	0
Total Score_____				

26 – 31	Exceptional	Creek Rating: _____
20 – 25	High	
14 – 19	Intermediate	
0 – 13	Limited	

3.2 BIOLOGICAL CHARACTERIZATION

Biological analyses were based on the collection of fish to characterize the health of aquatic communities in the stream. The following sections describe sample collection methods and the calculation of numerical indices, which characterize the health of the aquatic communities. After discussions with the TCEQ and the H-GAC, it was concluded that benthic communities would not be addressed in this assessment of biological communities (TCEQ 2002a). The biological indices provide a scoring system for stream quality based on the number and abundance of individual species, their diversity, and other indicators of community structure such as the number of feeding groups represented and the presence of clean-water indicator species. This analysis was performed on all twelve monitoring sites selected for the WA.

3.2.1 Fish Collection

Fish assemblages help in the assessment of environmental conditions because they inhabit a stream continuously and are fairly long-lived, integrating historical effects of chemical, physical and biological habitat factors. Fish were collected from the entire reach incorporating all of the different stream types, (pools, riffles, and run/glide areas) within the identified stream reach using a backpack electrofishing unit (Photo 3-2). Fish collection was standardized by electrofishing for approximately 15 minutes per site, or until no new species were encountered. Where possible, fish were identified, enumerated, and measured (total length) in the field to the species level and released alive back into the stream, those fish that could not be identified, as well as, voucher specimens were preserved in 10 percent formalin for identification later in the office using reference materials. The general health of the fish was noted including the presence of any external parasites or lesions. Representative specimens of any uncommon or questionable taxa encountered were identified (Photo 3-3) by Mr. Martin Heaney, Senior Coastal Fisheries Scientist at PBS&J. For the May 2003 sampling event, Mr. Neil Bossart, also at PBS&J, provided QA/QC on fish identification and enumeration.

The results are presented by site in the following sections. Fish communities were evaluated for each site using TCEQ's criteria for evaluating aquatic use subcategories which contain twelve metrics for evaluating fish communities. The metrics include total number of fish species, number of darter species, number of sunfish species, number of sucker species, number of intolerant species, percentage of individuals as tolerants, percentage of individuals as omnivores, percentage of individuals as insectivores, percentage of individuals as piscivores, number of individuals in sample, percentage of individuals as hybrids, and percentage of individuals with diseases/anomalies. The maximum total score is 60. Total scores of less than 34 are assigned a "Limited" rating. Total scores of 40 to 44 are assigned an "Intermediate" rating. Total scores of 48 to 52 are assigned a "High" rating. Total scores of 53 to 60 are assigned an "Exceptional" rating. Appendix E contains detailed information on fish collected at each site.

3.3 WATER QUALITY ASSESSMENT

Surface water samples were collected for chemical analysis from the study reach within an area that was not disturbed by other activities at each of the sampling locations. Six surface water grab samples were collected from a depth of approximately one foot at each site: two 500 mL samples, one preserved with sulfuric acid (H_2SO_4); two 250 mL samples, one preserved with nitric acid (HNO_3); and two 125 mL sterile samples to determine fecal coliform and on the second event, *E. coli* levels. Samples were stored on ice and returned to the North Water District Laboratory Services in the Woodlands, Texas, where analyses was performed in accordance with Standard Methods, EPA methods and the QAPP (Table 3-2). A water analysis laboratory report is presented for each site in Appendix F. Parameters selected for the water quality evaluation were:

- Parameters indicative of nutrient enrichment: nitrate/nitrite nitrogen, Kjeldahl nitrogen, ammonia nitrogen, BOD_5, $CBOD_5$, ortho phosphorus, and total phosphorus.

- Inorganic constituents including; chlorides, sulfates, total dissolved solids (TDS), volatile suspended solids (VSS) and total suspended solids (TSS).

Total alkalinity, total hardness, chlorophyll A, fecal coliform and pheophytin were also collected. After the first sampling event, *E. coli* was included as a parameter.

Field measurements (dissolved oxygen, pH, temperature, and conductivity) were collected using calibrated YSI units and standard dissolved oxygen membranes. Measurements were collected from within the study reach at depths of at least 0.5 meters, to allow probes to be completely submersed, and within an area of the reach with flow. Stream velocity was measured at each cross-section using a Marsh-McBirney Electronic Flowmeter (Photo 3-4).

Diel measurements of temperature, dissolved oxygen, pH, and specific conductance were recorded hourly over a 24-hour period using a calibrated YSI data sonde. The unit was typically deployed in a pool near the same area where the other water quality samples were collected. Measured 24-hour averages and minimum dissolved oxygen levels were compared to numerical state wide standards assigned to protect four subcategories of aquatic life use (TNRCC, 1999).

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Photo 3-1 Laying out transects for habitat characterization at Country Club Bayou.

Photo 3-2 Fish electroshocking in Pine Gully.

Photo 3-3 Fish Identification at Sims Bayou.

Photo 3-4 Flow measurement at Country Club Bayou.

Table 3-2 Analytical Parameters, Methods, and Handling Procedures for Surface Water Samples Collected at Sampling Sites

PARAMETERS	METHOD[A]	PQL IN WATER	PRESERVATIVE[B]	HOLDING TIME
$CBOD_5$	405.1	1 (mg/l)	Cool, 4 C	48 hours
BOD_5 (N-inhibited)	405.1	1 (mg/l)	Cool, 4 C	48 hours
Alkalinity, Total	EPA 310.1	2 (mg/l)	Cool, 4 C	6 months
TSS	EPA 160.2	4 (mg/l)	Cool, 4 C	7 days
VSS	EPA 160.4	10 (mg/l)	Cool, 4 C	7 days
Ammonia Nitrogen	EPA 350.2	0.0 2 (mg/l)	Cool, 4 C, H2SO4 pH<2	28 days
TKN	EPA 351.3	0.2 (mg/l)	Cool, 4 C, H2SO4 pH<2	28 days
Nitrate + Nitrite Nitrogen	EPA 300.0	0.02 (mg/l)	Cool, 4 C, H2SO4 pH<2	48 hours
Total Phosphorus	EPA 365.2	0.01 (mg/l)	Cool, 4 C, H2SO4 pH<2	28 days
Ortho Phosphorous	EPA 365.2	0.01 (mg/l)	Cool, 4 C	48 hours
Hardness, Total	EPA 130.2	1 (mg/l)	Cool, 4 C	14 days
Chloride	EPA 300.0	2 (mg/l)	None	28 days
Sulfate	EPA 375.4	0.5 (mg/l)	Cool, 4 C	28 days
Chlorophyll A	SM10200H	0.02 (cfu/100)	Cool, 4 C	7 days
TDS	EPA 160.1	1 (mg/l)	Cool, 4 C, dark	7 days
Fecal Coliforms	SM9222D[c]	1 (cfu/100)	Cool, 4 C, dark, .008%N02S2O3	6 hrs
E. Coli	SM9213D[c]	1 (cfu/100)	Cool, 4 C, dark, .008%N02S2O3	6 hrs

a EPA, 1983 unless otherwise noted.
b All samples stored in plastic sample containers, sterile containers used for bacteriological analysis.
c APHA - AWWA - WPCF, 1993.

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SECTION 4
1007Q - SIMS BAYOU ABOVE TIDAL

Sims Bayou Above Tidal is located in southern Harris County, Texas, where it extends from Hiram Clark Drive to south of West Orem Rd. in south Houston. The stream is designated by the TCEQ as Segment 1007Q, an unclassified freshwater stream approximately 2.2 miles in length. RWAs were performed at two locations on Sims Bayou Above Tidal at South Post Oak Rd., Site 17976, and at Hiram Clarke Rd., Site 11135. See Figure 4-1 for site locations.

4.1 SITE RECONNAISSANCE

Site 17976

A new site, Site 17976, on Sims Bayou at South Post Oak Rd. was chosen in September 2002 to represent the waterbody instead of one of the three sites initially proposed. This site is located at Sims Bayou on the east side of South Post Oak Rd. bridge (Photo 4-1). This location is very similar to the downstream boundary of the waterbody at the Hiram Clarke Rd., Site 11135, which has slightly more flow, (Photo 4- 2). It is also similar to the upstream boundary of the waterbody at West Orem Rd., where the bayou has slightly less flow. The general characteristics of the waterbody are similar throughout. This site was labeled 17976 because Site 15875 is also called "Sims Bayou at S. Post Oak Rd.". This is apparently labeled incorrectly, it is actually Channel C-147, (see Photo 4-3, tributary to Sims Bayou at S. Post Oak Rd.). The other site on Channel C-147 is numbered 16656, at Tiffany Drive.

According to site descriptions and information obtained from an interview with Harris County Flood Control Maintenance Supervisor Joe Buckner, the channel on which the two other project sites were located (15875 and 16656) was called C-147 by Harris County Flood Control. He drew a sketch, Figure 4-2, showing channel C-147 and several other channels that feed into Sims Bayou.

This sample reach is characterized as a channelized maintained bayou with grass banks. The average top-of-bank to top-of-bank distance for this reach is approximately 180 feet. The average toe-of-slope to toe-of-slope is approximately 10 feet. Channel depth is approximately 24 feet. At the time of the field visit, the water within the channel was an average of 1.2 feet deep with noticeable flow in an easterly direction. This stream appears to be a modified and maintained channel that provides drainage from the surrounding residential areas.

At the time of the site visit, the vegetation along the maintained slopes of this stream segment was dominated by Johnsongrass (*Sorghum halepense*), prostrate lawnflower (*Calyptocarpus vialus*), giant ragweed (*Ambrosia trifida*), morning glory (*Ipomea* sp.) southern dewberry (*Rubus trivialis*), and Bermuda grass (*Cynodon* spp.). Some small saplings of black willow (*Salix nigra*) were also present at the edge of the stream.

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Figure 4-1 Sims Bayou Above Tidal (1007Q) Site Map

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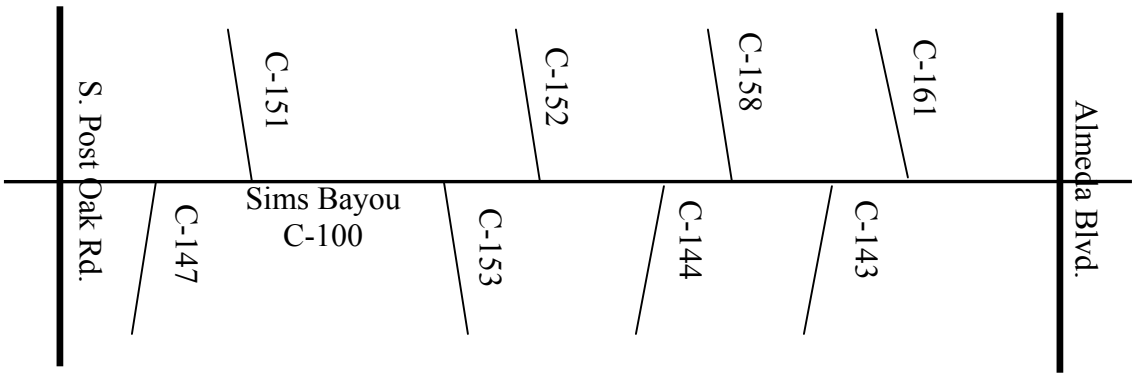
Figure 4-2 Harris County Flood Control Sims Bayou Sketch



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Site 11135

This sample reach is characterized as a channelized, maintained stream with grass banks. The average top-of-bank to top-of-bank distance for this reach is approximately 168 feet. The average toe-of-slope to toe-of-slope is approximately 90 feet. Total channel depth is approximately 24 feet. At the time of the field visit, the water within the channel was an average of approximately 3 feet deep with significant flow. The stream banks had been recently mowed by Harris County Flood Control who were at the site at the time of the recon survey.

The dominant vegetation included Johnsongrass and naked-spike ragweed (*Ambrosia psilostachya*). Dominant species at the water's edge, included giant ragweed, swamp smartweed (*Polygonum hydropiperoides*), and some saplings of black willow and box-elder (*Acer negundo*). This stream appears to be a maintained channel utilized to provide drainage to the surrounding residential areas.

4.2 RECEIVING WATER ASSESSMENT RESULTS

4.2.1 Habitat

Sims Bayou Above Tidal is a 3rd order stream and has a watershed of approximately 51.05 square kilometers.

Site 17976

Habitat quality was characterized as Intermediate. The measured flow rate was 1.79 cfs at Site 17976. The waterbody scored Intermediate habitat designations with a score of 18. Site 17976 had rare instream cover (average of 28 %), moderately unstable bottom substrate (average of 20 %) and moderately stable banks (average bank angles of 41°). The habitat includes wide riparian cover (65 m), moderate flow fluctuations, and moderate to shallow pools. Table 4-1 presents the habitat scores for Site 17976 on Sims Bayou Above Tidal (1007Q). Appendix B presents the stream physical characteristic worksheet, a summary of physical characteristics of the waterbody, and a habitat quality index worksheet.

Site 11135

Habitat quality was characterized as Intermediate. Measured flow rate was 66.4 cfs at 11135. The waterbody scored Intermediate habitat designations with a score of 18. 11135 had rare instream cover (average of 11 %), moderately unstable bottom substrate (average of 19 %) and moderately stable banks (heavily vegetated with an average bank angles of 44°). The habitat includes wide riparian cover (65 m), moderate flow fluctuations, and moderate to small pools. Table 4-1 presents the habitat scores for Site 11135 on Sims Bayou Above Tidal (1007Q). Appendix B presents the stream physical characteristic worksheet, a summary of physical characteristics of the waterbody, and a habitat quality index worksheet.

4.2.2 Fish

Site 17976

The IBI score was 40 for fish communities at Site 17976, which corresponds to an Intermediate aquatic life use. Sims Bayou Above Tidal possessed a total of 14 fish species. The trophic composition of fish collected at this site was predominantly insectivores and omnivores. Of the total specimens collected, 68 percent were classified as tolerant species. No individuals with signs of diseases or hybridization were collected. Table 4-2 contains the summary of the fish scoring metrics while Appendix E contains the detailed species information for both sites.

Site 11135

The IBI score was 34 for fish communities at Site 11135, which corresponds to a Limited aquatic life use. Sims Bayou Above Tidal possessed a total of nine fish species, consisting almost entirely of individuals classified as tolerant. This site lacked darter and sucker species. The trophic composition of fish collected at this site was predominantly insectivores and omnivores. No intolerant species or individuals with signs of diseases or hybridization were collected. Table 4-2 contains the summary of the fish scoring metrics while Appendix E contains the detailed species information for both sites.

4.3 WATER QUALITY

4.3.1 Diel Data

Site 17976

Diel water quality data for Sims Bayou Above Tidal for the Site 17976 is presented in Table 4-3. Average diel oxygen levels in July 2003 were 5.6 mg/l. The minimum readings never fell below 4.4 mg/l for that period. Conductivity and pH values were on average 0.45 mS/cm and 7.5, respectively, for the monitoring period, and water temperature was 27.6°C, higher during the July 2003 event. The dissolved oxygen readings recorded at Site 17976 indicate an aquatic life use category of Exceptional during this sampling period.

Site 11135

Diel water quality data for Sims Bayou Above Tidal for the two sites are presented in Table 4-3. Average diel oxygen levels were 7.7 mg/l in May 2003. The minimum readings never fell below 5.0 mg/l for that period. Conductivity and pH values were on average 1.06 mS/cm and 8.3, respectively, for the monitoring period, while water temperature was 27.6°C, during the May 2003 event. The dissolved oxygen readings recorded at Site 11135 indicate an aquatic life use category of Exceptional.

4.3.2 Chemical Analysis

Chemical analysis results are presented in Table 4-4. The two sets analytical results are from different sites and different seasons, so no direct comparisons can be made between the two sets of data. In general, the parameter results from the May 2003 event were higher than the levels found in the October 2002, except for bacteria.

Site 17976

Fecal Coliform levels were elevated at Site 17976, with levels of 3300 colonies/100ml. *E. coli* was added to the QAPP and collected after the October 2002 round of sampling, so no *E. coli* samples were collected at Site 17976.

Site 11135

Fecal Coliform levels were lower at Site 11135, 66 col/100ml, than were recorded at Site 17976 in October 2002. *E. coli* was added to the QAPP and collected after the October 2002 round of sampling. *E. coli* results at Site 11135 were 73 colonies/100ml.

4.4 SUMMARY

The dissolved oxygen content of Sims Bayou Above Tidal was high, indicative of Exceptional water quality conditions (average concentration above 6 mg/L). The habitat quality for both sites were Intermediate. The IBI Fish scores were Intermediate for 17976 and Limited for 11135.

RWA Scoring for Sims Bayou Above Tidal (1007Q) Summary Table

Parameter	Site 17976 10/2002	Site 11135 5/2003
Habitat	Intermediate	Intermediate
Fish	Intermediate	Limited
Dissolved Oxygen	Exceptional	Exceptional

Overall, Sims Bayou Above Tidal should be classified in the **Intermediate aquatic life use** category based on the scoring for habitat, oxygen levels, and fish communities.

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Photo 4-1 Site 17976, Sims Bayou at S. Post Oak Rd. from bridge facing east.

Photo 4-2 Site 11135 Sims Bayou Above Tidal at Hiram Clarke Rd. facing northeast.

Photo 4-3 *Channel C-147 tributary to Sims Bayou Site 15875. picture taken from bank* facing east.

Table 4-1 Habitat Summary for Sims Bayou Above Tidal (1007Q)

PARAMETER	SIMS BAYOU 1007Q (SITE 17976)		SIMS BAYOU 1007Q (SITE 11135)	
	RESULT	SCORE	RESULT	SCORE
Instream Cover	28%	2	11%	2
Riffles	2	3	0	1
Max Pool Dimensions*	2 m / 0.58m	3	9.1 m / 0.43 m	2
Bank Stability	50%	1	10%	2
Riparian Buffer	65 m	3	12.2 m	2
Channel Flow Status	moderate	2	moderate	2
Channel Sinuosity	1	1	0	0
Substrate Stability	20%	2	19%	2
Aesthetics	Common	1	Common	1
Habitat Quality Score		18		14
Habitat Quality Rating		Intermediate		Intermediate

Scores For Subcategory Totals: 26-31 Exceptional, 20-25 High, 14-19 Intermediate, =<13 Limited

Table 4-2 Fish Results Summary for Sims Bayou Above Tidal (1007Q)

METRIC	17976	11135
Species Richness and Composition		
1. Number of fish species	14	9
2. Number of darter species	0	0
3. Number of sunfish species	4	2
4. Number of sucker species	0	0
5. Number of intolerant species	0	0
6. Proportion of individuals as tolerants (as %)	68	97
Trophic composition		
7. Proportion of individuals as omnivores (as %)	30	34
8. Proportion of individuals as insectivores (as %)	61	64
9. Proportion of individuals as piscivores (as %)	6	0
Fish abundance and condition		
10. Number of individuals in sample	328	377
11. Proportion of individuals as hybrids (as %)	0	0
12. Proportion of individuals with diseases or other anomaly (as %)	0	0
SCORING		
Scores by Species Richness and Composition		
1. Number of fish species	5	3
2. Number of darter species	1	1
3. Number of sunfish species	5	5
4. Number of sucker species	1	1
5. Number of intolerant species	1	1
6. Proportion of individuals as tolerants	1	1
Scores by Trophic Composition		
7. Proportion of individuals as omnivores	3	3
8. Proportion of individuals as insectivores	3	3
9. Proportion of individuals as piscivores	5	1
Scores by Fish Abundance and Condition		
10. Number of individuals in sample	5	5
11. Proportion of individuals as hybrids	5	5
12. Proportion of individuals with diseases or other anomaly	5	5
Total IBI Score	**40**	**34**
Aquatic Life Use Category*	**I**	**L**

*Aquatic life use category: 0-34 Limited; 40-44 Intermediate; 48-52 High; 58-60 Exceptional.

Table 4-3 Diel Summary Data for Sims Bayou Above Tidal (1007Q)

RESULTS FOR 24 HR. WATER MEASUREMENTS				
	TEMPERATURE (°C)	SPEC. CONDUCTIVITY (MS/CM)	DISSOLVED OXYGEN CONCENTRATION (MG/L)	PH
SITE 17976 JULY 2003				
Min	26.4	0.33	4.4	7.4
Max	29.9	0.51	7.6	7.6
Mean	27.6	0.45	5.6	7.5
Count	24	24	24	24
Site 11135 May 2003				
Min	24.7	0.99	5.0	8.0
Max	30.7	1.10	10.7	8.9
Mean	27.6	1.06	7.7	8.3
Count	24	24	24	24

Table 4-4 Chemical Results Summary for Sims Bayou Above Tidal (1007Q)

PARAMETER	17976 OCT 2002	11135 MAY 2003
	MG/L	MG/L
BOD_5	< 2	< 2
$CBOD_5$	< 2	< 2
TSS	8.0	97.2
VSS	4.0	11.2
TDS	247	649
Ammonia-N	< 0.02	0.06
TKN	0.24	0.89
Alkalinity, Total	160	200
Chloride	22.6	186
Nitrate-Nitrite-N	1.81	4.70
Ortho Phosphorus	0.04	1.35
Sulfate	18.6	43.2
Total Phosphorus	< 0.06	1.40
Chlorophyll A	0.36	1.08
Pheophytin	0.12	0.64
Hardness, Total	151	239
Fecal Coliform, col/100ml	3300	66
E. Coli, col/100ml	NA	73

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SECTION 5
1007H – PINE GULLY

Pine Gully is located in southern Harris County, Texas, where it extends from the confluence with Sims Bayou to Broadway Street in southeast Houston. The stream is designated by the TCEQ as Segment 1007H, an unclassified freshwater stream approximately 1 mile in length. A RWA was performed at Station 16659 – Pine Gully at Old Galveston Rd (Figure 5-1).

5.1 SITE RECONNAISSANCE

This sample reach is characterized as an infrequently maintained, meandering stream with forested banks. The average top-of-bank to top-of-bank distance for this reach is approximately 105 feet. The average toe-of-slope to toe-of-slope is approximately 20 feet. The depth of the stream channel is approximately 16 feet from the bridge. At the time of the field recon visit, the water within the channel was an average of 2 feet deep with little to no flow. In addition, some detritus was also observed within the stream channel. This sample reach is considered representative of the entire 1007H stream segment.

Overstory vegetation of the reach was dominated by mature species of box-elder (*Acer negundo*), American elm (*Ulmus americana*), Chinese tallow-tree (*Sapium sebiferum*), sweetgum (*Liquidambar styraciflua*), and sugar hackberry (*Celtis laevigata*). This reach appears to have moderate to high canopy cover. The understory vegetation had apparently been recently cleared prior to the field visit and was dominated by young stands of Johnsongrass (*Sorghum halepense*), goose grass (*Elusine indica*), prostrate lawnflower (*Calyptocarpus vialis*), dayflower sp. (*Commelina sp.*), arrow-leaf sida (*Sida rhombifolia*), and Virginia creeper (*Parthenocissus quinquefolia*).

This stream appears to be a natural forested easement through the back yards of a residential area. Although there is some influence of the neighborhood, this site exhibits many characteristics of a relatively undisturbed stream. Photos 5-1 and 5-2 show the nature of Station 16659 and this segment.

5.2 RECEIVING WATER ASSESSMENT RESULTS

5.2.1 Habitat

Pine Gully Above Tidal is a 1st order stream and has a watershed of approximately 5.04 km^2. Habitat quality was characterized as "High", with a score of 20. There was no measurable flow. The Site was generally absent of instream cover (6 %), unstable bottom substrate (0 % gravel) and moderately unstable banks (avg. bank angles of 45.8°). The habitat includes extensive and diverse riparian cover (65 m), low to moderate flow fluctuations, and large pools. Table 5-1 presents the habitat scores at Site 16659 Pine Gully Above Tidal (1007H). Appendix B presents the stream physical characteristic worksheet, a summary of physical characteristics of the waterbody, and a habitat quality index worksheet for Site 16659.

5.2.2 Fish

The IBI score for Pine Gully was 28 for fish communities at site 16659, which corresponds to an aquatic life use of Limited. Pine Gully Above Tidal had a relatively low number of fish species (5), consisting predominately of tolerant individuals. This site lacked darter and sucker species. The trophic composition of fish collected at this site was predominantly omnivores with some insectivores. No intolerant species or individuals with signs of diseases or hybridization were collected. Table 5-2 contains the summary of the fish scoring metrics while Appendix E contains the detailed species information for the site.

5.3 WATER QUALITY

5.3.1 Diel Data

Diel water quality data for Pine Gully Above Tidal for Site 16659 are presented in Table 5-3. Mean diel oxygen level in October 2002 was 0.3 mg/l. The minimum reading was 0.2 mg/l. Mean conductivity and pH values were 0.46 mS/cm and 7.0 respectively. Water temperature varied between 18.2°C and 19.3°C in the October 2002 event. The dissolved oxygen readings recorded at Site 16659 indicate an aquatic life use category of Limited.

5.3.2 Chemical Analysis

Chemical analysis results are presented in Table 5-4. The analytical results show high bacteria levels. Up to 3.79 inches of rain fell over Harris County in the week preceding the sampling which may have contributed to elevated fecal coliform levels of 2400 col/100ml for Site 16659 sampled in October 2002. *E. Coli* was added to the QAPP and collected after this site was sampled in October 2002.

5.4 SUMMARY

The dissolved oxygen content of Pine Gully Above Tidal was very low, indicative of limited water quality conditions for aquatic life (average concentration below 3.0 mg/L). Habitat quality rating was high. Fish communities were rated limited.

RWA Scoring Summary for Pine Gully Above Tidal (1007H)

PARAMETER	SITE 16659 10/2002
Habitat	High
Fish	Limited
Dissolved Oxygen	Limited

Overall, Pine Gully Above Tidal should be classified into the **Limited aquatic life use** category based on the scoring for habitat, oxygen levels, and fish communities.

Figure 5.1 Pine Gully Above Tidal (1007H) Site Map

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Photo 5-1 Site 16659, picture taken from bank facing northeast.

Photo 5-2 Site 16659, picture taken from bank facing northwest.

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Table 5-1 Habitat Summary for Pine Gully Above Tidal (1007H)

PARAMETER	PINE GULLY 1007H (SITE 16659)	
	RESULT	SCORE
Instream Cover	6%	1
Riffles	0	1
Max Pool Dimensions*	5 m / 1.2 m	4
Bank Stability	44%	3
Riparian Buffer	65	3
Channel Flow Status	high	3
Channel Sinuosity	4	2
Substrate Stability	44%	1
Aesthetics	Natural	2
Habitat Quality Score		20
Habitat Quality Rating		High

Scores For Subcategory Totals: 26-31 Exceptional, 20-25 High, 14-19 Intermediate, =<13 Limited

Table 5-2 Fish Results Summary for Pine Gully Above Tidal (1007H)

METRIC	16659
Species Richness and Composition	
1. Number of fish species	5
2. Number of darter species	0
3. Number of sunfish species	1
4. Number of sucker species	0
5. Number of intolerant species	0
6. Proportion of individuals as tolerants (as %)	99
Trophic composition	
7. Proportion of individuals as omnivores (as %)	66
8. Proportion of individuals as insectivores (as %)	33
9. Proportion of individuals as piscivores (as %)	1
Fish abundance and condition	
10. Number of individuals in sample	531
11. Proportion of individuals as hybrids (as %)	0
12. Proportion of individuals with diseases or other anomaly (as %)	0
SCORING	
Scores by Species Richness and Composition	
1. Number of fish species	3
2. Number of darter species	1
3. Number of sunfish species	3
4. Number of sucker species	1
5. Number of intolerant species	1
6. Proportion of individuals as tolerants	1
Scores by Trophic Composition	
7. Proportion of individuals as omnivores	1
8. Proportion of individuals as insectivores	1
9. Proportion of individuals as piscivores	1
Scores by Fish Abundance and Condition	
10. Number of individuals in sample	5
11. Proportion of individuals as hybrids	5
12. Proportion of individuals with diseases or other anomaly	5
Total IBI Score	28
Aquatic Life Use Category*	L

* Aquatic life use category: 0-34 Limited; 40-44 Intermediate; 48-52 High; 58-60 Exceptional.

Table 5-3 Diel Summary Data for Pine Gully Above Tidal (1007H)

Results for 24 hr. Water Measurements October 2002				
	TEMPERATURE (°C)	**SPEC. CONDUCTIVITY (MS/CM)**	**DISSOLVED OXYGEN CONCENTRATION (MG/L)**	**PH**
Min	18.2	0.44	0.2	6.7
Max	19.1	0.47	1.0	7.0
Mean	18.7	0.46	0.3	7.0
Count	24	24	24	24

Table 5-4 Chemical Results Summary for Pine Gully Above Tidal (1007H)

PARAMETER	**16659 OCTOBER 2002**
	mg/L
BOD_5	< 2
$CBOD_5$	< 2
TSS	6.4
VSS	5.2
TDS	241
Ammonia-N	0.38
TKN	1.25
Alkalinity, Total	136
Chloride	23.9
Nitrate-Nitrite-N	2.05
Ortho Phosphorus	0.096
Sulfate	27.2
Total Phosphorus	0.18
Chlorophyll a	0.40
Pheophytin	0.20
Hardness, Total	154
Fecal Coliform, col/100ml	2400
E. Coli, col/100ml	NA

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SECTION 6
1007I – PLUM CREEK

Plum Creek is located in Harris County, Texas, where it extends from the confluence with Sims Bayou to Telephone Rd. The stream is designated by the TCEQ as Segment 1007I, an unclassified freshwater stream approximately 3.8 miles in length. RWAs were performed at Site 16658 – Plum Creek at Old Galveston Rd. The entire stream is included in the assessment area.

6.1 SITE RECONNAISSANCE

This sample reach is characterized as an infrequently maintained, meandering stream with steep banks. The average top-of-bank to top-of-bank distance for this reach is approximately 120 feet. The average toe-of-slope to toe-of-slope is approximately 25 feet. At the time of the field visit, the water within the channel was an average of 2.5 feet deep with little to no flow. Detritus was also observed within the stream channel creating sudden deep pools. Scouring of vegetation and large amounts of debris at the time of the field visit seem to indicate the channel had recently experienced high flows

This stream appears to have forested easement bordered by an industrial area to the south and a residential area to the north. Although no outfall was seen during the recon, it appeared that this waterbody might have a discharge from the adjacent Goodyear plant. This stream is heavily laden with concrete debris and urban trash making the streambed hazardous (Photos 6-1 and 6-2). This sample reach is not considered representative of the entire segment 1007I stream. However, the section of Plum Creek around Site 16658 is a heavily vegetated area with dense overstory that comprises approximately 1/8 of the waterbody length. Downstream from the sample site the waterbody becomes an open concrete-lined channel passing through a residential/industrial area. The open channel portion spans approximately 3/4 the waterbody length. The remaining 1/8 of the waterbody passes underground along US Hwy 610. Discussions with TCEQ led to a decision to perform the RWA analysis at Site 16658, and use this reach as a best case scenario for the stream (TCEQ, 2002b).

Overstory vegetation of the reach was dominated by mature specimens of box-elder (*Acer negundo*), American elm (*Ulmus americana*), Chinese tallow-tree (*Sapium sebiferum*), sweetgum (*Liquidambar styraciflua*), green ash (*Fraxinus pennsylvanica*), winged elm (*Ulmus alata*), and sugar berry (*Celtis laevigata*). This reach has a moderate to high canopy cover. The understory vegetation was dominated by young stands of Johnsongrass (*Sorghum halepense*), goose grass (*Elusine indica*), prostrate lawnflower (*Calyptocarpus vialis*), dayflower sp. (*Commelina sp.*), arrow-leaf sida (*Sida rhombifolia*), pepper-vine (*Ampelopsis arborea*), saw greenbriar (*Smilax bona-nox*), and Virginia creeper (*Parthenocissus quinquefolia*).

6.2 RECEIVING WATER ASSESSMENT RESULTS

6.2.1 Habitat

Plum Creek Above Tidal is a 1st order stream and has a watershed of approximately 10.91 km^2. Habitat quality was characterized as Intermediate, with a total score of 17. There was no measurable flow. The site had rare instream cover (11 %), moderately stable bottom substrate (38 % gravel or larger) and unstable banks (avg. bank angles of 50.1°). The habitat includes extensive riparian cover (65 m), low flow at the time of sampling, and large pools in this reach of stream characterized as offensive. Table 6-1 presents the habitat scores for Site 16658 Plum Creek Above Tidal (1007I). Appendix B presents the stream physical characteristic worksheet, a summary of physical characteristics of the waterbody, and a habitat quality index worksheet for Site 16658.

6.2.2 Fish

The IBI score for fish communities at Plum Creek was 40, which corresponds the aquatic life use category of Intermediate. Plum Creek Above Tidal had a moderately high number of fish species (7), consisting predominately of tolerant individuals. This site lacked darter and sucker species. The trophic composition of fish collected at this site was predominantly insectivores. No intolerant species or individuals with signs of diseases or hybridization were collected. Table 6-2 contains the summary of the fish scoring metrics while Appendix E contains the detailed species information for the site.

6.3 WATER QUALITY

6.3.1 Diel Data

Diel water quality data for Plum Creek Above Tidal for Site 16658 are presented in Table 6-3. The mean diel oxygen level in October 2002 was 1.0 mg/l, while the minimum reading was 0.4 mg/l. Mean conductivity and pH values were 0.65 mS/cm and 7.4, respectively. Water temperature varied between 19.4°C and 19.8°C in the October 2002 event. The limited variability in temperature lends validity to the idea of an industrial discharge to this waterbody. The dissolved oxygen readings recorded at Site 16658 indicate an aquatic life use category of Limited.

6.3.2 Chemical Analysis

Chemical analysis results are presented in Table 6-4. The analytical results show elevated bacteria levels, while most other parameters were within the range of urban streams. Up to 3.79 inches of rain fell over Harris County in the week preceding the sampling, which likely contributed to the elevated fecal coliform of 3800 col/100ml levels in October 2002. *E. Coli* was not measured at this site.

Figure 6.1 Plum Creek Above Tidal (1007I) Site Map

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6.4 SUMMARY

The dissolved oxygen content of Plum Creek Above Tidal was very low, indicative of Limited water quality conditions (average concentration below 3.0 mg/L). Habitat quality rating was Intermediate. Fish communities were rated as Intermediate. All indicators with the exception of Dissolved Oxygen reflected a Intermediate aquatic life use.

RWA Scoring Summary for Plum Creek Above Tidal (1007I)

PARAMETER	SITE 16658 10/2002
Habitat	Intermediate
Fish	Intermediate
Dissolved Oxygen	Limited

Overall, Plum Creek Above Tidal should fall into the **Intermediate aquatic life use** category, see Table 6-3, based on the scoring for habitat, oxygen levels, and fish communities.

Table 6-1 Habitat Summary for Plum Creek Above Tidal (1007I)

PARAMETER	PLUM CREEK 1007I (SITE 16658)	
	RESULT	SCORE
Instream Cover	11%	2
Riffles	1	2
Max Pool Dimensions*	3 m / 1.2 m	4
Bank Stability	61%	1
Riparian Buffer	21	3
Channel Flow Status	low	1
Channel Sinuosity	1	1
Substrate Stability	38%	3
Aesthetics	Offensive	0
Habitat Quality Score		17
Habitat Quality Rating		Intermediate

Scores For Subcategory Totals: 26-31 Exceptional, 20-25 High, 14-19 Intermediate, =<13 Limited

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Photo 6-1 *Site 16658, picture taken from bank facing northeast, heavy trash and concrete rubble in stream.*

Photo 6-2 *Site 16658, picture taken from bank facing southwest.*

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Table 6-2 Fish Results Summary for Plum Creek Above Tidal (1007I)

METRIC	16658
Species Richness and Composition	
1. Number of fish species	7
2. Number of darter species	0
3. Number of sunfish species	2
4. Number of sucker species	0
5. Number of intolerant species	0
6. Proportion of individuals as tolerants (as %)	98
Trophic composition	
7. Proportion of individuals as omnivores (as %)	17
8. Proportion of individuals as insectivores (as %)	83
9. Proportion of individuals as piscivores (as %)	0
Fish abundance and condition	
10. Number of individuals in sample	237
11. Proportion of individuals as hybrids (as %)	0
12. Proportion of individuals with diseases or other anomaly (as %)	0
Scoring	
Scores by Species Richness and Composition	
1. Number of fish species	5
2. Number of darter species	1
3. Number of sunfish species	5
4. Number of sucker species	1
5. Number of intolerant species	1
6. Proportion of individuals as tolerants	1
Scores by Trophic Composition	
7. Proportion of individuals as omnivores	5
8. Proportion of individuals as insectivores	5
9. Proportion of individuals as piscivores	1
Scores by Fish Abundance and Condition	
10. Number of individuals in sample	5
11. Proportion of individuals as hybrids	5
12. Proportion of individuals with diseases or other anomaly	5
Total IBI Score	**40**
Aquatic Life Use Category*	**I**

* Aquatic life use category: 0-34 Limited; 40-44 Intermediate; 48-52 High; 58-60 Exceptional.

Table 6-3 Diel Summary Data for Plum Creek Above Tidal (1007I)

Results for 24 hr. Water Measurements October 2002				
	TEMPERATURE (°C)	**SPEC. CONDUCTIVITY (MS/CM)**	**DISSOLVED OXYGEN CONCENTRATION (MG/L)**	**PH**
Min	19.4	0.63	0.4	7.4
Max	19.8	0.67	2.4	7.5
Mean	19.6	0.65	1.0	7.4
Count	24	24	24	24

Table 6-4 Chemical Results Summary for Plum Creek Above Tidal (1007I)

PARAMETER	**16658 OCTOBER 2002**
	mg/L
BOD5	4
CBOD5	< 2
TSS	8.8
VSS	7.2
TDS	405
Ammonia-N	1.61
TKN	1.71
Alkalinity, Total	210
Chloride	63.1
Nitrate-Nitrite-N	2.16
Ortho Phosphorus	0.146
Sulfate	41.5
Total Phosphorus	0.39
Chlorophyll a	0.36
Pheophytin	0.28
Hardness, Total	205
Fecal Coliform, (col/100ml)	3800
E. Coli, (col/100ml)	NA

SECTION 7
1006I – UNNAMED TRIBUTARY TO HALLS BAYOU ABOVE TIDAL

This Unnamed Tributary to Halls Bayou above tidal is located in Harris County, Texas, where it extends from the confluence with Halls Bayou to a point 0.13 miles upstream of Richland Dr. in northeast Houston. The stream is designated by the TCEQ as Segment 1006I, an unclassified freshwater stream approximately 0.72 mile in length. A RWA was performed at Station 16666 – Unnamed Tributary to Halls Bayou and Talton St. (Figure 7-1). The assessment portion of this stream extends from the confluence with Halls Bayou to 0.13 miles upstream of Richland Dr.

7.1 SITE RECONNAISSANCE

This sample reach is characterized as a narrow natural channel within a wide forested floodplain surrounded by a low income residential subdivision. The bayou is visually very appealing and was observed to be used recreationally by children from the neighborhood. The tributary is maintained and had steep, unmowed grass banks at the time of the survey. The average top-of-bank to top-of-bank distance for this reach is approximately 150–225 feet. The average toe-of-slope to toe-of-slope varies from approximately 2 to 8 feet. At the time of the field visit, the water within the channel was an average of 6-24 inches deep with low flow.

The bayou is a sinuous tributary within forested riparian corridor. Canopy cover is approximately 75 percent. Dominant tree species include Box Elder (*Acer negundo*), Black Willow (*Salix nigra*), Hackberry (*Celtis laevigata*), Water Oak (*Quercus nigra*), Cottonwood (*Populus deltoids*), American Elm (*Ulmus Americana*), and some Loblolly Pine (*Pinus taeda*). There is little to no midstory and the dense upper canopy appears to prohibit much understory growth. Herbaceous layer is dominated by violet, Pennywort (*Hydrocotyle* spp.), Giant Ragweed (*Ambrosia trifida*), Alligator Weed (*Alternanthera philoxeroides*), and Alium (*Alliums* spp.). The meandering channel appears to extend through clay and sand with some gravel. Substrate consists of the aforementioned including an abundance of rip rap concrete boulder, and urban trash. A riparian buffer extends approximately 100 feet to the west into a neighborhood and is much wider to the east into forested area (Photos 7-1 and 7-2).

7.2 RECEIVING WATER ASSESSMENT RESULTS

7.2.1 Habitat

This unnamed tributary to Halls Bayou is a 1st order stream and has a watershed of approximately 2.12 km^2. Habitat quality was characterized as Intermediate, with a total score of 19. The waterbody was evaluated at Site 16666 located at a footbridge extending over the channel at the dead-end of Talton St. The measured flow rate was 0.327 cfs. The site had rare instream cover (11 %), moderately unstable bottom substrate (14 % gravel) and unstable banks (avg. bank angles of 53.5°). The habitat includes wide riparian cover (20 m to over 65 m) and moderately sized pools in this natural stream. Table 7-1 presents the habitat scores for Site 16666. Appendix B presents the stream physical characteristic worksheet, a summary of

physical characteristics of the waterbody, and a habitat quality index worksheet for Site 16666.

7.2.2 Fish

The IBI scores for fish communities at Site 16666 was 42, which corresponds to the aquatic life use category of Intermediate. The unnamed tributary to Halls Bayou Above Tidal had a moderate number of fish species (7), consisting predominately of tolerant individuals. This site lacked darter and sucker species. The trophic composition of fish collected at this site was dominated by insectivores. One intolerant species was colleted along with some Sailfin molly's that appreared black in color. All fish specimens were collected using a minnow seine. Electrofishing efforts did not result in the collection of any fish specimens. Table 7-2 contains the summary of the fish scoring metrics while Appendix E contains the detailed species information for the site.

7.3 WATER QUALITY

7.3.1 Diel Data

Diel water quality data for Unnamed Tributary to Halls Bayou Above Tidal for Site 16666 are presented in Table 7-3. Mean diel oxygen level in May 2003 was 1.4 mg/l. The minimum reading was 0.0 mg/l. Mean conductivity and pH values were 2.0 mS/cm and 7.7, respectively. Water temperature varied between 23.0 °C and 24.7 °C during the May 2003 event.

7.3.2 Chemical Analysis

Chemical analysis results are presented in Table 7-4. The analytical results show high bacteria levels with fecal coliform values of 512 col/100ml and *E. Coli* values of 440 col/100ml. Although not directly comparable, Site 16666 had the highest levels of hardness, alkalinity, TDS, chloride and sulfate of any site sampled in May 2003.

7.4 SUMMARY

The dissolved oxygen content of Unnamed Tributary to Halls Bayou Above Tidal was very low, indicative of Limited water quality conditions (average concentration below 3.0 mg/L). Habitat quality rating was Intermediate. Fish communities were rated as Intermediate.

RWA Scoring Summary for Unnamed Tributary to Halls Bayou Above Tidal (1006I)

Parameter	Site 16666 5/2003
Habitat	Intermediate
Fish	Intermediate
Dissolved Oxygen	Limited

Figure 7.1 Unnamed Tributary to Halls Bayou Above Tidal (1006I) Site Map

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Dissolved oxygen levels generally fluctuate considerably, so further diel data may be useful in a decision to classify this waterbody. Unnamed Tributary to Halls Bayou Above Tidal should fall into the **Limited aquatic life use** category based on the scoring for habitat, oxygen levels, and fish communities.

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Photo 7-1 Picture taken from the Talton St. footbridge looking upstream facing south.

Photo 7-2 Picture taken from the Talton St. footbridge looking downstream facing north towards Halls Bayou, approximately 800 feet downstream.

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Table 7-1 Habitat Summary for Unnamed Tributary to Halls Bayou Above Tidal (1006I)

PARAMETER	UNNAMED TRIBUTARY TO HALLS BAYOU 1006I (SITE 16666)	
	RESULT	SCORE
Instream Cover	11%	2
Riffles	2	3
Max Pool Dimensions*	5.48 m / 1.18 m	3
Bank Stability	54%	0
Riparian Buffer	65 m	3
Channel Flow Status	low	1
Channel Sinuosity	8	3
Substrate Stability	14%	2
Aesthetics	Natural	2
Habitat Quality Score		19
Habitat Quality Rating		**Intermediate**

Scores For Subcategory Totals: 26-31 Exceptional, 20-25 High, 14-19 Intermediate, =<13 Limited

Table 7-2 Fish Results Summary for Unnamed Tributary to Halls Bayou Above Tidal (1006I)

METRIC	16666
Species Richness and Composition	
1. Number of fish species	7
2. Number of darter species	0
3. Number of sunfish species	2
4. Number of sucker species	0
5. Number of intolerant species	1
6. Proportion of individuals as tolerants (as %)	76
Trophic composition	
7. Proportion of individuals as omnivores (as %)	0
8. Proportion of individuals as insectivores (as %)	99
9. Proportion of individuals as piscivores (as %)	1
Fish abundance and condition	
10. Number of individuals in sample	320
11. Proportion of individuals as hybrids (as %)	0
12. Proportion of individuals with diseases or other anomaly (as %)	0.4
Scoring	
Scores by Species Richness and Composition	
1. Number of fish species	5
2. Number of darter species	1
3. Number of sunfish species	5
4. Number of sucker species	1
5. Number of intolerant species	3
6. Proportion of individuals as tolerants	1
Scores by Trophic Composition	
7. Proportion of individuals as omnivores	5
8. Proportion of individuals as insectivores	5
9. Proportion of individuals as piscivores	1
Scores by Fish Abundance and Condition	
10. Number of individuals in sample	5
11. Proportion of individuals as hybrids	5
12. Proportion of individuals with diseases or other anomaly	5
Total IBI Score	42
Aquatic Life Use Category*	I
* Aquatic life use category: 0-34 Limited; 40-44 Intermediate; 48-52 High; 58-60 Exceptional.	

Table 7-3 Diel Summary Data for Unnamed Tributary to Halls Bayou Above Tidal (1006I)

RESULTS FOR 24 HR. WATER MEASUREMENTS MAY 2003

	TEMPERATURE (°C)	SPEC. CONDUCTIVITY (MS/CM)	DISSOLVED OXYGEN CONCENTRATION (MG/L)	PH
Min	23.0	1.62	0.0	7.4
Max	24.7	2.07	3.1	7.9
Mean	23.8	2.0	1.4	7.7
Count	24	24	24	24

Table 7-4 Chemical Results Summary for Unnamed Tributary to Halls Bayou Above Tidal (1006I)

PARAMETER	16666 MAY 2003
	MG/L
BOD5	2
CBOD5	2
TSS	13.6
VSS	< 4.0
TDS	1108
Ammonia-N	0.04
TKN	0.53
Alkalinity, Total	350
Chloride	308
Nitrate-Nitrite-N	1.90
Ortho Phosphorus	< 0.02
Sulfate	121
Total Phosphorus	0.13
Chlorophyll a	1.44 J
Pheophytin	0.88 J
Hardness, Total	415
Fecal Coliform, (col/100ml)	510
E. Coli, (col/100ml)	440

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SECTION 8
1007K – COUNTRY CLUB ABOVE TIDAL

Country Club Bayou Above Tidal is located in southern Harris County, Texas, where it extends from the confluence with Brays Bayou to approximately 0.5 miles upstream of North Wayside Drive in east-central Houston, Texas. The stream is designated by the TCEQ as Segment 1007K, an unclassified freshwater stream approximately 1 mile in length. RWAs were performed at two locations on Country Club Bayou Above Tidal. Site 16650 is located at Country Club Bayou (tributary to Brays Bayou) and South Wayside Drive (US 90A) south of the Polk Street intersection. Site 16651 is located at Country Club Bayou (tributary to Brays Bayou) and Hughes Street. Site 16651 is approximately ½ mile upstream of Site 16650. The assessment portion of the stream spans from the headwaters to approximately ¼ mile south of North Wayside Drive.

8.1 SITE RECONNAISSANCE

Site 16650

Site 16650 is characterized as a channelized and maintained area with grass banks. The average top-of-bank to top-of-bank distance for this reach is approximately 96 feet. The average toe-of-slope to toe-of-slope is approximately 18 feet. At the time of the field visit, the water within the channel was approximately 3 feet deep with little to no flow. This stream is a maintained slightly meandering manmade channel, bordered by light commercial complexes, multiple family residences, which flows through a golf course.

Vegetation at 16650 was dominated by Johnsongrass (*Sorghum halepense*), giant reed (*Arundinaria gigantean*), and panic grass species (*Panicum spp.*). A few scattered winged elm trees (*Ulmus alata*) were observed on the bank. The forested overstory increased as you move downstream on the assessment reach. Associated species within the sample area consisted of trumpet creeper (*Campsis radicans*), Carolina coral-beads (*Cocculus carolinus*), and bermudagrass (*Cynodon* spp.).

Site 16651

Site 16651 is characterized as an infrequently maintained, meandering area with thickly forested, steep banks. The average top-of-bank to top-of-bank distance for this reach is approximately 60 feet. The average toe-of-slope to toe-of-slope is approximately 20 feet. Channel depth is approximately 12 feet. At the time of the field visit, the water within the channel was an average of 3 feet deep with no flow. In addition, an abundance of large concrete slabs occured within the channel which form deep pools and several riffles. This portion of Country Club Bayou Above Tidal passes through an industrialized area and warehouse district. Its channel is much more natural and less frequently maintained than Site 16650.

Overstory vegetation of the reach was dominated by American sycamore (*Platanus occidentalis*), green Ash (*Fraxinus pennsylvanica*), winged elm (*Ulmus alata*), and sugar hackberry (*Celtis pallida*). This reach appears to have a moderate to high canopy cover. The understory vegetation was dominated by prostrate lawnflower (*Calyptocarpus vialis*), giant ragweed (*Ambrosia trifida*), muscadine grape (*Vitis rotundifolia*), saw greenbriar (*Smilax bona-nox*), and morning glory spp. (*Ipomoea spp.*).

8.2 RECEIVING WATER ASSESSMENT RESULTS

8.2.1 Habitat

Country Club Bayou Above Tidal is a 2nd order stream and has a watershed of approximately 23.35 km^2.

Site 16650

Photos 8-1 and 8-2 depict the typical habitat for Country Club Bayou Above Tidal near the downstream assessment Site 16650. The waterbody scored Intermediate for aquatic habitat at Site 16650, with a score of 17. The measured flow rate was 0.77 cfs. Site 16650 had rare instream cover (average of 14.1 %), unstable bottom substrate (average of 1.6 % gravel) and unstable banks (average bank angles of 55.3°). The habitat has extensive (83.2 m) riparian buffer (split between turf grass and natural wooded area), no riffles, no measurable flow, and large pools. Table 8-1 presents the habitat scores for two sites on Country Club Bayou Above Tidal (1007K). Appendix B presents the stream physical characteristic worksheet, a summary of physical characteristics of the waterbody, and a habitat quality index worksheet for Site 16650.

Site 16651

Photos 8-3 and 8-4 depict the habitat for Country Club Bayou Above Tidal at the upstream assessment Site 16651. The waterbody scored an Intermediate habitat designation at the site evaluated, with a score of 19. The measured flow rate was 0.68 cfs. Site 16651 was absent instream cover (average of 8 %), moderately stable bottom substrate (average of 43 %) and moderately stable banks (average bank angles of 37.9°). The habitat has moderate (10.7 m) riparian cover, 3 riffles, low flow, and moderate to large pools. Table 8-1 presents the habitat scores for two sites on Country Club Bayou Above Tidal (1007K). Appendix B presents the stream physical characteristic worksheet, a summary of physical characteristics of the waterbody, and a habitat quality index worksheet for Site 16651.

Figure 8.1 Country Club Bayou Above Tidal (1007K) Site Map

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8.2.2 Fish

Site 16650

The IBI score was 30 for fish communities at Site 16650, which corresponds to an aquatic life use of Limited. Country Club Bayou Above Tidal had a moderate number of fish species (7), although few in number (24 total fish), only 25 percent of the individuals collected were classified as tolerant. This site lacked darter and sucker species. The trophic composition of fish collected at this site was predominantly omnivores. One intolerant species was collected but no individuals with signs of diseases or hybridization were collected. Table 8-2 contains the summary of the fish scoring metrics while Appendix E contains the detailed species information for Site 16650.

Site 16651

The IBI score was 40 for fish communities at Site 16651, which corresponds to an aquatic life use of Intermediate. Country Club Bayou Above Tidal had a moderate number of fish species (6), but had a high number of fish collected (564). 99 percent of the individuals collected were classified as tolerant. This site lacked darter and sucker species. The trophic composition of fish collected at this site was predominantly insectivores. One intolerant species was collected, and no individuals with signs of diseases or hybridization were collected. Table 8-2 contains the summary of the fish scoring metrics while Appendix E contains the detailed species information for Site 16651.

8.3 WATER QUALITY

8.3.1 Diel Data

Site 16650

Diel water quality data for Country Club Bayou Above Tidal Site 16650 are presented in Table 8-3. Mean diel oxygen levels in July 2003 were 1.0 mg/l. The minimum readings were 0.3 mg/l for that period. Mean conductivity and pH values were 0.7 mS/cm and 7.5 respectively. Mean water temperature was approximately 19.6°C during the July 2003 event. The dissolved oxygen readings recorded at 16650 indicate an aquatic life use category of Limited.

Site 16651

Diel water quality data for Country Club Bayou Above Tidal Site 16651 are presented in Table 8-3. Mean diel oxygen levels in were 1.1 mg/l in May 2003. Average conductivity and pH values were 0.76 mS/cm and 7.7, respectively. Mean water temperature was 22.8°C during the May 2003 event. The dissolved oxygen readings recorded at Site 16651 indicate an aquatic life use category of Limited.

8.3.2 Chemical Analysis

Chemical analysis results for both 16650 and 16651 are presented in Table 8-4. The two sets of analytical results are from different sites and different seasons, so no direct comparisons can be made between the two sets of data. Fecal coliform levels were higher in the October 2002 event (1200 col/100ml), then in the May 2003 sample (800 col/100ml). *E. Coli* was added to the QAPP and collected after the October 2002 round of sampling. *E. Coli* results at site 16651 were 180 col/100ml.

8.4 SUMMARY

The minimum dissolved oxygen content of Country Club Bayou Above Tidal was low to very low, indicative of Limited water quality conditions (minimum concentration below 3 mg/L). Both sites had readings below 3.0 mg/l. Habitat quality rating was scored as Intermediate. Biological indicators were split between the two sites and reflected an Intermediate or Limited aquatic life use.

RWA Scoring for Country Club Bayou Above Tidal (1007K) Summary Table

PARAMETER	SITE 16650 10/2002	SITE 16651 5/2003
Habitat	Intermediate	Intermediate
Fish	Limited	Intermediate
Dissolved Oxygen	Limited	Limited

Overall, Country Club Bayou Above Tidal should fall into the **Limited aquatic life use** category based on the scoring for habitat, oxygen levels, and fish communities.

Photo 8-1 Site 16650, picture taken from bank facing north.

Photo 8-2 Site 16650, picture taken from bank facing southwest.

Photo 8-3 Site 16651, picture taken from bank facing east.

Photo 8-4 Site 16651, picture taken from bank facing west.

Table 8-1 Habitat Summary for Country Club Bayou Above Tidal (1007K)

PARAMETER	COUNTRY CLUB BAYOU 1007K (SITE 16650)		COUNTRY CLUB BAYOU 1007K (SITE 16651)	
	RESULT	SCORE	RESULT	SCORE
Instream Cover	14%	2	8%	1
Riffles	0	1	0	1
Max Pool Dimensions*	8.2 m / 1.9 m	4	7.9 m / 1.6 m	3
Bank Stability	55%	1	27%	2
Riparian Buffer	83.2	3	10.7	2
Channel Flow Status	high	3	low	1
Channel Sinuosity	2	2	5	3
Substrate Stability	2%	1	43%	3
Aesthetics	Natural	2	Common	1
Habitat Quality Score		19		17
Habitat Quality Rating		Intermediate		Intermediate

Scores For Subcategory Totals: 26-31 Exceptional, 20-25 High, 14-19 Intermediate, =<13 Limited

Table 8-2 Fish Results Summary for Country Club Bayou Above Tidal (1007K)

METRIC	16650	16651
Species Richness and Composition		
1. Number of fish species	7	6
2. Number of darter species	0	0
3. Number of sunfish species	2	2
4. Number of sucker species	0	0
5. Number of intolerant species	1	1
6. Proportion of individuals as tolerants (as %)	25	99
Trophic composition		
7. Proportion of individuals as omnivores (as %)	62	0
8. Proportion of individuals as insectivores (as %)	38	99
9. Proportion of individuals as piscivores (as %)	0	1
Fish abundance and condition		
10. Number of individuals in sample	24	564
11. Proportion of individuals as hybrids (as %)	0	0
12. Proportion of individuals with diseases or other anomaly (as %)	0	0
Scoring		
Scores by Species Richness and Composition		
1. Number of fish species	5	3
2. Number of darter species	1	1
3. Number of sunfish species	5	5
4. Number of sucker species	1	1
5. Number of intolerant species	3	3
6. Proportion of individuals as tolerants	1	1
Scores by Trophic Composition		
7. Proportion of individuals as omnivores	1	5
8. Proportion of individuals as insectivores	1	5
9. Proportion of individuals as piscivores	1	1
Scores by Fish Abundance and Condition		
10. Number of individuals in sample	1	5
11. Proportion of individuals as hybrids	5	5
12. Proportion of individuals with diseases or other anomaly	5	5
Total IBI Score	30	40
Aquatic Life Use Category*	L	I

* Aquatic life use category: 0-34 Limited; 40-44 Intermediate; 48-52 High; 58-60 Exceptional.

Table 8-3 Diel Summary Data for Country Club Bayou Above Tidal (1007K)

RESULTS FOR 24 HR. WATER MEASUREMENTS				
	TEMPERATURE (°C)	SPEC. CONDUCTIVITY (MS/CM)	DISSOLVED OXYGEN CONCENTRATION (MG/L)	PH
16650 JULY 2003				
Min	26.0	0.70	2.5	7.4
Max	30.0	0.80	11.0	7.8
Mean	27.4	0.76	5.9	7.5
Count	24	24	24	24
16651 May 2003				
Min	22.0	0.75	0.2	7.6
Max	23.8	0.77	2.1	7.8
Mean	22.8	0.76	1.1	7.7
Count	24	24	24	24

Table 8-4 Chemical Results Summary for Country Club Bayou Above Tidal (1007K)

PARAMETER	16650 Oct. 2002	16651 May 2003
	mg/L	mg/L
BOD5	2	< 2
CBOD5	< 2	< 2
TSS	28.8	5.6
VSS	6.4	4.0
TDS	303	469
Ammonia-N	1.25	0.56
TKN	2.10	1.20
Alkalinity, Total	134	210
Chloride	40.4	71.8
Nitrate-Nitrite-N	2.24	2.75
Ortho Phosphorus	0.067	0.20
Sulfate	47.4	55.4
Total Phosphorus	0.18	0.24
Chlorophyll a	0.84	0.68
Pheophytin	0.64	0.52
Hardness, Total	162	233
Fecal Coliform, col/100ml	1200	800
E. Coli, col/100ml	NA	180

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SECTION 9
1007R – HUNTING BAYOU ABOVE TIDAL

Hunting Bayou Above Tidal is located in Harris County, Texas, where it extends from the tidal boundary of Hunting Bayou Tidal at IH-10 to Maury Street on the north fork and Bain Street on the south fork in northeast Houston. The stream is designated by the TCEQ as Segment 1007R, an unclassified freshwater stream approximately 11 miles in length. RWAs were performed at four sites as noted below.

9.1 SITE RECONNAISSANCE

Site 11129

Site 11129 is located at Hunting Bayou Above Tidal and Hwy 610 on the east side of Houston. This sample reach is characterized as a channelized and maintained stream with grass banks. The bayou reach mildly meanders through the existing channel from Hwy 610 and into a residential subdivision (Photo 9-1). Parts of the bayou have concrete obstructions. The average top-of-bank to top-of-bank distance for this reach is approximately 114 feet. The average toe-of-slope to toe-of-slope is approximately 20 feet. The depth of the entire stream channel is 24 feet. At the time of the field visit, the water within the channel was an average of approximately 3 feet deep with minimal flow. Figure 9-1 shows the location of Site 11129 on the eastern portion of Segment 1007R.

The area surrounding the site consists of adjacent commercial frontage road businesses and residential communities. The southwest side of the bayou (upstream of Hwy 610) is protected by sheet pilings and is bordered by light industry and warehouses (Photo 9-2). A USGS gauging station is located at the Hwy 610 bridge. However, the majority of this sample reach exhibits characteristics of a relatively undisturbed stream.

Dominant vegetation on the slope of the channel consisted of Johnsongrass (*Sorghum halapense*), West-Indian drop seed (*Sporobolus indicus*), and bermudagrass (*Cynodon* spp.). Vegetation along the water's edge consisted of sparse stands of swamp smartweed (*Polygonum hydropiperoides*).

Site 15869

Site 15869 is located on the south branch of Hunting Bayou Above Tidal at Cavalcade Avenue. The assessment portion of this stream spans from Bains Street to Sayers Street.

This stream appears to be a modified and maintained concrete drainage channel. The area surrounding the site consists of Mickey Leland Park and residential areas. At the time of the site visit it was noted that the City of Houston was pumping water from a water main leak downstream over a concrete barrier in the channel. After conversing with city workers, it was revealed that the city is currently in the process of dredging the bayou with a "Bobcat" and shovels to remove all siltation from the concrete bottom. The dredging extends to Hwy 610 and will be continue for approximately 2 weeks (Photo 9-3). Due to the lack of flow and

maintenance to the channel, this site was not considered representative of the entire 1007R stream segment.

This sample reach is characterized as a channelized concrete-lined and maintained bayou with grass banks. Concrete vertical lining extended to approximately 4 feet on each side of the main channel. The average top-of-bank to top-of-bank distance for this reach is approximately 60 feet. The average toe-of-slope to toe-of-slope is approximately 6 feet. At the time of the field visit, the water within the channel was an average of 3 inches deep with no flow. Figure 9-2 shows the location of Site 15869 on the western portion of Segment 1007R.

The dominant vegetation within this steam segment includes Johnsongrass (*Sorghum halapense*) and St. Augustine grass (*Stenotaphrum Secundatum*) along the channel slopes. Some tree species of sycamore (*Plantanus occidentalis*), and box elder (*Acer negundo*) occur in adjacent areas on top of the slopes.

Site 15867

Site 15867 is located on the west branch of Hunting Bayou Above Tidal west of US-59 at Jensen Dr. West of US-59 the channel alternates from an open channel to Jensen St. then goes underground through pipes, under railroad tracks, and back to open channel to Maury St. where the waterbody turns north and runs to an end at Hwy 610. The average top-of-bank to top-of-bank distance for this reach is approximately 115 feet. The average toe-of-slope to toe-of-slope is approximately 20 feet. At the time of the field visit, the water within the channel was an average of approximately 3 feet deep with minimal flow. Figure 9-2 shows the location of Site 15867 on the western portion of Segment 1007R.

The west branch of Hunting Bayou Above Tidal east of US-59 is characterized as a maintained drainage channel dominated by herbaceous vegetation. Herbaceous plants include Johnsongrass (*Sorghum halapense*), White Clover (*Trifolium* spp.), Spatter Doc (*Rumex crispus*), Evening Primrose (*Camissonia* spp.), Straggler Daisy (*Calyptocarpus vialis*), and Bahiagrass (*Paspalum notatum*). Aquatic fringe species include Alligator weed (*Alternanthera philoxeroides*) and Ludwiggia (*Ludwigia peploides*). Some woody vegetation occurs adjacent to drainage on top of banks. These include Pecan (*Canya illioinensis*), Red Mulberry (*Morus rubra*), Hackberry (*Celtis laevigata*), Cottonwood (*Populus* spp.), American Elm (*Ulmus Americana*), Chinaberry (*Melia azedaract*), and Box Elder (*Acer negundo*).

Figure 9.1 Hunting Bayou Above Tidal, Eastern Portion (1007R) Site Map

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Figure 9.2 Hunting Bayou Above Tidal, Western Portion (1007R) Site Map

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Site 15872

Site 15872 is located on Hunting Bayou Above Tidal at Wipprecht Rd., east of the confluence of the north and south fork, and is characterized as a channelized maintained stream with grass banks. The bayou mildly meanders through the existing channel all the way from the culvert at US-59 to Hwy 610. The channel passes through residential areas for approximately 10 blocks and then through Hutchinson Park before passing under Hwy 610N. The bayou varies in width from 10 to 30 feet wide and 6 to 36 inches deep. The channel has a variety of artificial instream cover such as car tires, shopping carts, 55-gallon drums and overgrown banks, with few trees. Figure 9-2 shows the location of Site 15872 on the western portion of Segment 1007R.

This portion of Hunting Bayou Above Tidal is characterized as a maintained drainage channel dominated by herbaceous vegetation. Herbaceous plants include Johnsongrass (*Sorghum halapense*), White Clover (*Trifolium* spp.), Spatter Doc (*Rumex crispus*), Evening Primrose (*Camissonia* spp.), Straggler Daisy (*Calyptocarpus vialis*), and Bahigrass (*Paspalum notatum*). Aquatic fringe species include Alligator *Alternanthera philoxeroides*) weed and Ludwiggia (*Ludwigia peploides*). Some woody vegetation occurs adjacent to the drainage on top of banks. These include Pecan (*Canya illioinensis*), Red Mulberry (*Morus rubra*), Hackberry (*Celtis laevigata*), Cottonwood (*Populus* spp.), American Elm (*Ulmus Americana*), Chinaberry (*Melia azedaract*), and Box Elder (*Acer negundo*).

9.2 RECEIVING WATER ASSESSMENT RESULTS

9.2.1 Habitat

Hunting Bayou Above Tidal is a 1st order stream and has a watershed of approximately 62.83 km^2.

Site 11129

The waterbody scored Intermediate habitat designation at Hunting Bayou Above Tidal at Hwy 610, with a score of 15. The measured flow rate was 6.06 cfs. Site 11129 had rare instream cover (average of 6 %), moderately unstable bottom substrate (average of 19 % gravel) and moderately unstable banks (average bank angles of 49°). The habitat has extensive (49 m) riparian cover, mostly Bermuda grass, common riffles (3), high flow status, and absent pools. Table 9-1 presents the habitat scores for all four sites on Hunting Bayou Above Tidal (1007R). Appendix B presents the stream physical characteristic worksheet, a summary of physical characteristics of the waterbody, and a habitat quality index worksheet for Site 11129.

Site 15869

The waterbody scored Limited habitat designation at Hunting Bayou Above Tidal at Cavalcade Ave., with a score of 11. The measured flow rate was 2.06 cfs. Site 15869 had rare instream cover (average of 1 %), stable bottom substrate (0 % gravel, all concrete) and

stable banks (concrete bank angles of 90°). The riparian buffer was narrow (7.3 m), which was mostly Bermuda grass. The stream had low flow status, was absent riffles and absent pools. Table 9-1 presents the habitat scores for all four sites on Hunting Bayou Above Tidal (1007R). Appendix B presents the stream physical characteristic worksheet, a summary of physical characteristics of the waterbody, and a habitat quality index worksheet for Site 15869. The samplers could clearly smell raw sewage while sampling and electro-shocking this reach, although no determination of the source could be found. An obvious discharge from a leaking water main was also noted both during the recon in October 2002 and during the sampling in May 2003.

Site 15867

The waterbody scored an Intermediate habitat designation at Hunting Bayou Above Tidal at Jensen Dr., with a score of 16. The measured flow rate was 0.0 cfs. Site 15867 had abundant instream cover (average of 62.2 %), unstable bottom substrate (0 % gravel) and stable banks (average bank angles of 28.8°). The riparian buffer was narrow (4.5 m). The stream had low flow status, was absent riffles and had large pools. Table 9-1 presents the habitat scores for all four sites on Hunting Bayou Above Tidal (1007R). Appendix B presents the stream physical characteristic worksheet, a summary of physical characteristics of the waterbody, and a habitat quality index worksheet for Site 15867.

Site 15872

The waterbody at Site 15872 scored Limited habitat designations at Hunting Bayou Above Tidal at Wipprecht Rd., with a score of 10. The measured flow rate was 2.74 cfs. Site 15872 had rare instream cover (average of 19.6 %), unstable bottom substrate (0 % gravel) and moderately stable banks (average bank angles of 38.1°). The riparian habitat was wide (15 m) and composed mostly of Bermuda grass, rare riffles (1), low flow status and absent pools. Table 9-1 presents the habitat scores for all four sites on Hunting Bayou Above Tidal (1007R). Appendix B presents the stream physical characteristic worksheet, a summary of physical characteristics of the waterbody, and a habitat quality index worksheet for Site 15872.

9.2.2 Fish

Site 11129

The IBI score was 40 for fish communities at Site 11129, which corresponds to an aquatic life use of Intermediate. Hunting Bayou Above Tidal at Hwy 610 had a High number of fish species (14), consisting predominately of individuals classified as tolerant. This site lacked darter and sucker species. The trophic composition of fish collected at this site was predominantly insectivores and omnivores. No intolerant species or individuals or hybridized specimens were collected, but one spotted sunfish with a deformed tail was collected. Table 9-2 contains the summary of the fish scoring metrics while Appendix E contains the detailed species information for Site 11129.

Site 15869

The IBI score was 28 for fish communities at Site 15869, which corresponds to an aquatic life use of Limited. Hunting Bayou Above Tidal at Cavalcade had a Low number of fish species (2), consisting entirely of individuals classified as tolerant. This site lacked darter, sunfish, and sucker species. The trophic composition of fish collected at this site was predominantly insectivores. No intolerant species or individuals with signs of diseases or hybridization were collected. Due to large amounts of urban trash and debris within this stream, seining was not possible and was aborted. Table 9-2 contains the summary of the fish scoring metrics while Appendix E contains the detailed species information for Site 15869.

Site 15867

The IBI score was 38 for fish communities at Site 15867, which corresponds to an aquatic life above the upper boundary of Limited but below the lower boundary of Intermediate. Hunting Bayou Above Tidal at Jensen Dr. had a moderate number of fish species (6), consisting predominately of individuals classified as tolerant. This site lacked darter and sucker species. The trophic composition of fish collected at this site was predominantly insectivores. No intolerant species or individuals with signs of diseases or hybridization were collected. This site possessed large amounts of urban trash and debris and seining was not possible. Table 9-2 contains the summary of the fish scoring metrics while Appendix E contains the detailed species information for Site 15867.

Site 15872

The IBI score was 28 for fish communities at Site 15872, which corresponds to an aquatic life use of Limited. Hunting Bayou Above Tidal at Wipprecht Rd. had a limited number of fish species (2), also few in number (22 total fish), consisting of individuals classified as tolerant. This site lacked darter, sunfish, and sucker species. The trophic composition of fish collected at this site was predominantly insectivores. No intolerant species or individuals with signs of diseases or hybridization were collected. Due to extremely soft sediment along with urban trash and debris within the stream minnow seining efforts were aborted. Table 9-2 contains the summary of the fish scoring metrics while Appendix E contains the detailed species information for Site 15872.

9.3 WATER QUALITY

9.3.1 Diel Data

Site 11129

Diel water quality data for Hunting Bayou Above Tidal at Hwy 610, Site 11129 are presented in Table 9-3. Mean diel oxygen levels in July 2003 were 0.3 mg/l. The maximum readings did not rise above 0.6 mg/l for the 24 hour period. Mean conductivity and pH values were 0.98 mS/cm and 7.8 respectively. Mean water temperature was approximately 30.2°C during the July 2003 event. The dissolved oxygen readings recorded at 11129 indicate an aquatic life use category of Limited.

Site 15869

Diel water quality data for Hunting Bayou Above Tidal at Cavalcade Ave., Site 15869 are presented in Table 9-3. Mean diel oxygen levels in May 2003 were 3.9 mg/l. The minimum readings were 0.3 mg/l for the 24 hour period. Mean conductivity and pH values were 0.69 mS/cm and 7.8 respectively. Mean water temperature was approximately 27.6°C during the May 2003 event. The dissolved oxygen readings recorded at 15869 indicate an aquatic life use category of Limited.

Site 15867

Diel water quality data for Hunting Bayou Above Tidal at Jensen Dr., Site 15867 are presented in Table 9-3. Mean diel oxygen levels in June 2003 were 2.4 mg/l. The minimum readings were 0.6 mg/l for the 24 hour period. Mean conductivity and pH values were 0.49 mS/cm and 7.5, respectively. Mean water temperature was approximately 28.4°C during the June 2003 event. The dissolved oxygen readings recorded at 15867 indicate an aquatic life use category of Limited.

Site 15872

Diel water quality data for Hunting Bayou Above Tidal at Wipprecht St., Site 15872 are presented in Table 9-3. Mean diel oxygen levels in May 2003 were 4.1 mg/l. The minimum readings were 0.3 mg/l for the 24 hour period. Mean conductivity and pH values were 0.60 mS/cm and 7.8, respectively. Mean water temperature was approximately 29.3°C during the May 2003 event. The dissolved oxygen readings recorded at 15872 indicate an aquatic life use category of Limited.

9.3.2 Chemical Analysis

Chemical analysis results for the four Hunting Bayou sites 11129, 15869, 15867 and 15872 are presented in Table 9-4. The data results from three sites (15869, 15867 and 15872) were collected on the same day in May 2003, so direct comparisons can be made between these sets of data. The data set of analytical results from 11129 is from October 2002, so no direct comparisons can be made between 11129 and the other three sites on Hunting Bayou Above Tidal.

The analytical results from Site 15867, at Jensen Dr. is much different than the results found at 15869, at Cavalcade Ave. and 15872, at Wipprecht Rd. The water at 15867 is nearly a mile further upstream and must pass through underground tunnels to reach the 15869 and 15872. The results at 15869 and 15872, separated by only a few hundred meters, and are nearly identical with the exception of bacteria levels. Bacteria results are very high at Site 15869 at Cavalcade Ave., with fecal coliform at 6000 col/100ml and *E. coli* at 5800 col/100ml. The odor of raw sewage was clearly detected at the time of sampling Site 15869.

9.4 SUMMARY

The minimum dissolved oxygen content of Country Club Bayou Above Tidal was low to very low, indicative of Limited water quality conditions (minimum concentration below 3 mg/L). Habitat quality rating was determined to be Intermediate. Biological indicators were split between the two sites and reflected an Intermediate and a Limited aquatic life use.

RWA Scoring for Hunting Bayou Above Tidal (1007R) Summary Table

PARAMETER	SITE 11129 10/2002	SITE 15867 5/2003	SITE 15869 5/2003	SITE 15872 5/2003
Habitat	Intermediate	Intermediate	Limited	Limited
Fish	Intermediate	Limited	Limited	Limited
Dissolved Oxygen	Limited*	Limited	Limited	Limited

* Dissolved Oxygen readings taken in July 2003

Overall, Country Club Bayou Above Tidal is recommended for the **Limited aquatic life use** category based on the scoring for habitat, oxygen levels, and fish communities.

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Photo 9-1 Site 11129, picture taken from bridge facing northeast.

Photo 9-2 Site 11129, picture taken from bank facing southwest.

Photo 9-2 Site 15869, picture taken from bank facing north.

Photo 9-3 Site 15869, picture taken from bank facing south.

Photo 9-4 Hunting Bayou Site 15869, looking upstream from Cavalcade Blvd. and Mickey Leland Park.

Photo 9-5 Site 15867, North fork of Hunting Bayou east of US-59, looking west of Jensen Dr. upstream of the confluence with south fork. The far end of channel passes into a culvert and under railroad tracks.

Photo 9-6 *Site 15872, Hunting Bayou east of Wipprecht Rd. passing through Hutchinson Park with Hwy 610 in background.*

Table 9-1 Habitat Summary for Hunting Bayou Above Tidal (1007R)

PARAMETER	HUNTING BAYOU 1007R (SITE 11129)		HUNTING BAYOU 1007R (SITE 15867)		HUNTING BAYOU 1007R (SITE 15869)		HUNTING BAYOU 1007R (SITE 15872)	
	RESULT	SCORE	RESULT	SCORE	RESULT	SCORE	RESULT	SCORE
Instream Cover	6%	1	62%	4	1%	1	20%	2
Riffles	3	3	0	1	0	1	0	1
Max Pool Dimensions*	1.0 m / .88 m	1	4.5 m / 0.13 m	4	3.05 m / 0.2 m	1	6.38 m / 0.30 m	1
Bank Stability	49%	1	5%	3	0%	3	24%	2
Riparian Buffer	49	3	4.5	0	7.3	1	4.6	0
Channel Flow Status	moderate	2	no flow	0	low	1	low	1
Channel Sinuosity	3	1	5	2	1	1	1	1
Substrate Stability	19%	2	0%	1	0%	1	0%	1
Aesthetics	Common	1	Common	1	Common	1	Common	1
Habitat Quality Score		15		16		11		10
Habitat Quality Rating		Inter.		Inter.		Limited		Limited

Inter. – Intermediate
Scores For Subcategory Totals: 26-31 Exceptional, 20-25 High, 14-19 Intermediate, =<13 Limited

Table 9-2 Fish Results Summary for Hunting Bayou Above Tidal (1007R)

METRIC	11129	15869	15867	15872
Species Richness and Composition				
1. Number of fish species	14	2	6	2
2. Number of darter species	0	0	0	0
3. Number of sunfish species	3	0	2	0
4. Number of sucker species	0	0	0	0
5. Number of intolerant species	0	0	0	0
6. Proportion of individuals as tolerants (as %)	87	100	98	100
Trophic composition				
7. Proportion of individuals as omnivores (as %)	29	25	15	9
8. Proportion of individuals as insectivores (as %)	58	75	84	91
9. Proportion of individuals as piscivores (as %)	12	0	1	0
Fish abundance and condition				
10. Number of individuals in sample	296	800	499	22
11. Proportion of individuals as hybrids (as %)	0	0	0	0
12. Proportion of individuals with diseases or other anomaly (as %)	0.3	0	0	0
Scoring				
Scores by Species Richness and Composition				
1. Number of fish species	5	1	3	1
2. Number of darter species	1	1	1	1
3. Number of sunfish species	5	1	5	1
4. Number of sucker species	1	1	1	1
5. Number of intolerant species	1	1	1	1
6. Proportion of individuals as tolerants	1	1	1	1
Scores by Trophic Composition				
7. Proportion of individuals as omnivores	3	3	5	5
8. Proportion of individuals as insectivores	3	3	5	5
9. Proportion of individuals as piscivores	5	1	1	1
Scores by Fish Abundance and Condition				
10. Number of individuals in sample	5	5	5	1
11. Proportion of individuals as hybrids	5	5	5	5
12. Proportion of individuals with diseases or other anomaly	5	5	5	5
Total IBI Score	**40**	**28**	**38**	**28**
Aquatic Life Use Category*	**I**	**L**	**L/I**	**L**

* Aquatic life use category: 0-34 Limited; 40-44 Intermediate; 48-52 High; 58-60 Exceptional.

Table 9-3 Diel Summary Data for Hunting Bayou Above Tidal (1007R)

Results for 24 hr. Water Measurements				
	TEMPERATURE (°C)	SPEC. CONDUCTIVITY (MS/CM)	DISSOLVED OXYGEN CONCENTRATION (MG/L)	PH
11129 July 2003				
Min	28.4	0.87	0.2	7.7
Max	33.5	1.04	0.6	7.9
Mean	30.2	0.98	0.3	7.8
Count	24	24	24	24
15869 May 2003				
Min	24.2	0.0	0.3	7.5
Max	31.8	0.87	12.9	8.5
Mean	27.6	0.69	3.9	7.8
Count	24	24	24	24
15867 June 2003				
Min	24.8	0.19	0.6	7.3
Max	31.4	0.63	5.1	8.3
Mean	28.4	0.49	2.4	7.5
Count	24	24	24	24
15872 May 2003				
Min	25.6	0.49	0.3	7.4
Max	33.7	0.64	9.0	8.5
Mean	29.3	0.60	4.1	7.8
Count	24	24	24	24

Table 9-4 Chemical Results Summary for Hunting Bayou Above Tidal (1007R)

PARAMETER	11129 OCT 2002	15867 MAY 2003	15869 MAY 2003	15872 MAY 2003
	MG/L	MG/L	MG/L	MG/L
BOD_5	< 2	< 2	18	10
$CBOD_5$	< 2	< 2	17	11
TSS	25.2	7.2	26.0	26.8
VSS	7.6	5.6	15.2	13.2
TDS	386	340	490	490
Ammonia-N	0.16	< 0.02	4.07	< 0.02
TKN	0.87	0.62	5.27	0.82
Alkalinity, Total	164	200	280	260
Chloride	44.9	29.5	58.0	54.6
Nitrate-Nitrite-N	4.12	< 0.04	2.32	2.14
Ortho Phosphorus	0.208	< 0.02	0.46	0.25
Sulfate	60.0	34.8	60.9	53.2
Total Phosphorus	0.31	0.15	0.80	0.41
Chlorophyll a	0.56	1.28	4.00	14.3
Pheophytin	0.40	0.84	2.64	8.84
Hardness, Total	194	203	242	217
Fecal Coliform, col/100ml	8600	50	6000	42
E. Coli, col/100ml	NA	46	5800	38

SECTION 10
1007O – UNNAMED TRIBUTARY TO HOUSTON SHIP CHANNEL/BUFFALO BAYOU ABOVE TIDAL

This unnamed tributary to Buffalo Bayou Above Tidal, locally known as Japhet Gully, is located in Harris County, Texas, where it extends from the confluence with Buffalo Bayou to IH-10 between Hirsch Rd. and Lockwood in central Houston. The stream is designated by the TCEQ as Segment 1007O, an unclassified freshwater stream approximately 1 mile in length.

10.1 SITE RECONNAISSANCE

10.1.1 First Reconnaissance

Site 16649

Site 16649 is located on Segment 1007O at Clinton Street. This sample reach was assessed in October 2002 and is characterized as an unmaintained, meandering stream with thickly overgrown banks. The average top-of-bank to top-of-bank distance for this reach is approximately 60 feet. The average toe-of-slope to toe-of-slope is approximately 10 feet. The total channel depth is approximately 12 feet. At the time of the field visit, the water within the channel was an average 3 feet deep with noticeable flow coming from an outfall pipe on the south side of Clinton St.

Areas adjacent to the site consist of commercial buildings and warehouses. Upstream of Clinton St. the stream flows in an underground network of concrete pipes. Attempts were made to identify where the stream entered the underground structures upstream. Due to limited access and locked gates of surrounding businesses, the stream entrance area was not identified.

Woody vegetation encompassed the entire bayou and was dominated by black willow (*Salix nigra*), green ash (*Fraximus Pennsylvania*), and box-elder (*Acer negundo*). Vine species of poison ivy (*Toxicodendron radicans*) and muscadine grape (*Vitis rotundifolia*) completely covered the canopy and forested edge. The understory vegetation was dominated by giant ragweed (*Ambrosia*), annual sumpweed (*Iva annua*), Johnsongrass (*Sorghum halapense*), and sesbania hemp (*Sesbania exaltata*). The vegetation was so thick and access so poor, the site had to be abandoned.

Site 17977

Station 17977 is located on Segment 1007O at Emile Street. This sample reach was assessed in October 2002 and is characterized as an unmaintained, meandering stream with forested banks. The average top-of-bank to top-of-bank distance for this reach was approximately 60 feet. The average toe-of-slope to toe-of-slope was approximately 10 feet. Channel depth was approximately 14-16 feet. At the time of the field visit, the water within the channel was an average 1 feet deep with noticeable flow.

This stream appears to be a forested easement with an urban influence of trash and debris. Areas adjacent to the site consist of warehouses and residential homes. This is an added site selected because site 16649 was inaccessible due to overgrown vegetation and 16649 was in reality a pool located at a City of Houston (CoH) storm sewer outfall. This site occurs downstream of site 16649 and allows easier access at the Emile St. bridge.

Woody vegetation surrounds this stream and was dominated by black willow (*Salix nigra*), green ash (*Fraximus Pennsylvania*), and box-elder (*Acer negundo*). Vine species of poison ivy (*Toxicodendron radicans*) and muscadine grape (*Vitis rotundifolia*) completely covered the canopy and forested edge. The understory vegetation was dominated by giant ragweed (*Ambrosia*), annual sumpweed (*Iva annua*), Johnsongrass (*Sorghum halapense*), and sesbania hemp (*Sesbania exaltata*).

10.1.2 Second Reconnaissance

In April 2003 a second reconnaissance survey was performed on the portion of the waterbody upstream from the stormwater outfall, Station 16649 at Clinton St. The purpose of the April 2003 reconnaissance was to identify and inspect the segment upstream of Clinton St. to its described headwaters at IH 10 and, if possible, locate an additional site suitable for RWA sampling and analysis.

The previous September 2002 survey and subsequent October 2002 sampling event occurred at Site 17977 located at the Emile St. bridge crossing of 1007O, downstream of Clinton St.

The April 2003 reconnaissance began at IH 10 where 1007O begins its route to the Buffalo Bayou. No open channel was found along IH 10 where the TCEQ segment description states the waterbody begins. It is believed that the waterbody begins underground in the City of Houston stormwater system at some point near IH 10. A windshield survey of the surrounding neighborhoods was conducted until an open channel was found some seven blocks south of IH 10 between a row of houses and an industrial piping supply facility starting at Sonora St. and running south, approximately 300 yards parallel to the east side of Finnigan Park, see Figure 10-1 for open channel locations. There was no apparent inlet to the channel. The channel terminates in a four foot diameter pipe and manhole passing underground into the CoH stormwater collection system. This Sonora St. reach is characterized as a frequently maintained, straight channel with steep grassy banks. The average top-of-bank to top-of-bank distance for this reach was approximately 20-25 feet. The average toe-of-slope to toe-of-slope was approximately 4-6 feet. Channel depth was approximately 6-8 feet. At the time of the field visit, no water was within the channel. Several pipes were seen issuing from the industrial complex into the channel, although no discharge was noted.

The Sonora St. channel was maintained and has such vegetation as Johnson grass (*Sorghum halapense*), Lyre-leaf sage (*Salria lyrata*), Southern Dewberry (*Rubus trivialis*), Spatter Doc (*Rumex crispus*), Alium (*Alium* spp.) and Lance-Leaf Plantain (*Alisma lanceolatum*), Woody species adjacent to drainage would include Pecan (*Canya illinoinensis*), Red Mulberry (*Morus rubra*), Live Oak (*Quercus virginiana*), and Hackberry

(*Celtis laevigata*), while other associated species include Evening Primrose (*Casnissonia* spp.), Bed Straw (*Cruciata* spp.), Straggler Daisy (*Calyptocarpus*), Elderberry (*Sambucus* spp.), and St. Augustine grass (*Stenotaphrum* spp.).

It is believed that the waterbody passes from the Sonora St. channel downstream around south of Finnigan Park passing underground through the stormwater system. The waterbody appears to pass through the stormwater system through an apartment complex located near the southwest corner of Finnegan Park before resurfacing again into an open channel. It meanders through a deep, heavily vegetated channel and passes behind a used oil recycling center and again goes back underground into storm drains at Schweikhart St. before finally discharging to the outfall at Station 16649 just south of Clinton St. The area behind the waste oil recycling center was characterized as a non-maintained forested easement, meandering channel with very steep heavily wooded banks with an urban influence of heavy trash and debris. Areas adjacent to the site consist of some warehouses, residential homes and are bounded to the south by railroad tracks. The average top-of-bank to top-of-bank distance for this reach was approximately 60 feet. The average toe-of-slope to toe-of-slope was approximately 20-25 feet. Channel depth was approximately 12-18 feet. At the time of the field visit, no water was within the channel, although extremely heavy urban trash and debris were noted (Photo 10-4).

The open channel behind the waste oil center shows heavily wooded vegetation surrounding this stream and was dominated by black willow (*Salix nigra*), green ash (*Fraximus Pennsylvania*), and box-elder (*Acer negundo*).). Vine species of poison ivy (*Toxicodendron radicans*) and muscadine grape (*Vitis rotundifolia*) completely covered the canopy and forested edge. The understory vegetation was dominated by giant ragweed (*Ambrosia*), annual sumpweed (*Iva annua*), Johnsongrass (*Sorghum halapense*), and sesbania hemp (*Sesbania exaltata*). Photos of the open channels are presented at the end of this section.

10.2 RECEIVING WATER ASSESSMENT RESULTS

10.2.1 Habitat

Site 17977

The Unnamed Tributary to Buffalo Bayou is a 1st order stream and has a watershed of approximately 7.06 km^2. Habitat quality was characterized in October 2002 as Intermediate, with a score of 17. The waterbody was evaluated at site 17977 located at Unnamed Tributary to Buffalo Bayou and Emile St. The measured flow rate was 0.063 cfs. The site was absent instream cover (5 %), moderately stable bottom substrate (41 % gravel) and had moderately unstable banks (avg. bank angles of 31°). The habitat includes a wide riparian cover (30.5 m), low flow status at the time of sampling, and moderately sized pools in this stream characterized as offensive. Table 10-1 presents the habitat scores for Site 17977 Unnamed Tributary to Buffalo Bayou Above Tidal (1007O). Appendix B presents the stream physical characteristic worksheet, a summary of physical characteristics of the waterbody, and a habitat quality index worksheet for Site 17977.

10.2.2 Fish

Site 17977

The IBI scores for fish communities at Unnamed Tributary to Buffalo Bayou is 34, which corresponds to the aquatic life use category of Limited. Unnamed Tributary to Buffalo Bayou Above Tidal had a moderate number of fish species (5), although few in number (35 total fish) individuals consisting predominately of tolerant classified specimens were collected. Due to limited amounts of open water and large amounts of urban trash and debris minnow seining efforts were aborted. Table 10-2 contains the summary of the fish scoring metrics while Appendix E contains the detailed species information for the site.

10.3 WATER QUALITY

10.3.1 Diel Data

Site 17977

Diel water quality data for Unnamed Tributary to Buffalo Bayou Above Tidal for site 17977 are presented in Table 10-3. Mean diel oxygen level in October 2002 was 7.7 mg/l. The minimum reading was 6.9 mg/l, indicative of Exceptional aquatic life use. Mean conductivity and pH values were 0.46 mS/cm and 8.0 respectively. Water temperature varied between 20.5°C and 24.3°C during the October 2002 event.

10.3.2 Chemical Analysis

Site 17977

Chemical analysis results are presented in Table 10-4. The analytical results show high Fecal coliform levels (6800 col/100ml). Although not directly comparable, Site 17977 had relatively good water quality, aside from Fecal coliform, when compared to the other sites sampled in the October 2002 sampling event.

10.4 SUMMARY

The dissolved oxygen content of Unnamed Tributary to Buffalo Bayou Above Tidal was very high, indicative of Exceptional water quality conditions (minimum concentration above 6.9 mg/L). Habitat quality rating was Intermediate. Fish communities were rated as Limited.

It is recommended the waterbody segment description should be changed to only include the waterbody downstream of Clinton St. due to the dry nature of the waterbody upstream of that point to IH 10.

Figure 10.1 Unnamed Tributary to Buffalo Bayou Above Tidal (1007O) Site Map

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RWA Scoring Summary for Unnamed Tributary to Buffalo Bayou Above Tidal (1007O)

PARAMETER	SITE 17977 10/2002
Habitat	Intermediate
Fish	Limited
Dissolved Oxygen	Exceptional

Unnamed Tributary to Buffalo Bayou Above Tidal at Site 17977 will likely fall into the **Intermediate aquatic life use** category based on the scoring for habitat, oxygen levels, and fish communities.

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Photo 10-1 Site 16649, picture taken from bridge facing northeast. Heavy vegetation and fences blocked access to stream bank at Clinton St.

Photo 10-2 Site 17977, picture taken from bank under Emile St. facing southwest.

Photo 10-3 First open channel found on 1007O south of IH 10 looking South from Sonora St. to channel. Industrial complex on left, residences on right. Finnigan Park is located beyond houses, approx. 200 feet to the right of this photo.

Photo 10-4 Second open channel found on Segment 1007O downstream of IH 10 was heavily wooded with trash and debris behind waste oil center, upstream of railroad tracks.

Table 10-1 Habitat Summary for Unnamed Tributary to Buffalo Bayou Above Tidal (1007O)

PARAMETER	UNNAMED TRIBUTARY TO BUFFALO BAYOU 1007O (SITE 17977)	
	RESULT	SCORE
Instream Cover	5%	1
Riffles	2	3
Max Pool Dimensions*	4.75 m / 0.533 m	3
Bank Stability	31%	1
Riparian Buffer	30.5	3
Channel Flow Status	low	1
Channel Sinuosity	2	2
Substrate Stability	41%	3
Aesthetics	Offensive	0
Habitat Quality Score		17
Habitat Quality Rating		**Intermediate**

Scores For Subcategory Totals: 26-31 Exceptional, 20-25 High, 14-19 Intermediate, =<13 Limited

Table 10-2 Fish Results Summary for Unnamed Tributary to Buffalo Bayou Above Tidal (1007O)

METRIC	17977
Species Richness and Composition	
1. Number of fish species	5
2. Number of darter species	0
3. Number of sunfish species	3
4. Number of sucker species	0
5. Number of intolerant species	0
6. Proportion of individuals as tolerants (as %)	80
Trophic composition	
7. Proportion of individuals as omnivores (as %)	23
8. Proportion of individuals as insectivores (as %)	40
9. Proportion of individuals as piscivores (as %)	37
Fish abundance and condition	
10. Number of individuals in sample	35
11. Proportion of individuals as hybrids (as %)	0
12. Proportion of individuals with diseases or other anomaly (as %_	0
Scoring	
Scores by Species Richness and Composition	
1. Number of fish species	3
2. Number of darter species	1
3. Number of sunfish species	5
4. Number of sucker species	1
5. Number of intolerant species	1
6. Proportion of individuals as tolerants	1
Scores by Trophic Composition	
7. Proportion of individuals as omnivores	3
8. Proportion of individuals as insectivores	3
9. Proportion of individuals as piscivores	5
Scores by Fish Abundance and Condition	
10. Number of individuals in sample	1
11. Proportion of individuals as hybrids	5
12. Proportion of individuals with diseases or other anomaly	5
Total IBI Score	34
Aquatic Life Use Category*	L
* Aquatic life use category: 0-34 Limited; 40-44 Intermediate; 48-52 High; 58-60 Exceptional.	

Table 10-3 Diel Summary Data for Unnamed Tributary to Buffalo Bayou Above Tidal (1007O)

RESULTS FOR 24 HR. WATER MEASUREMENTS AT SITE 17977 OCT. 2002				
	TEMPERATURE (°C)	SPEC. CONDUCTIVITY (MS/CM)	DISSOLVED OXYGEN CONCENTRATION (MG/L)	PH
Min	20.5	0.44	6.9	7.9
Max	24.3	0.53	9.3	8.1
Mean	22.2	0.46	7.7	8.0
Count	24	24	24	24

Table 10-4 Chemical Results Summary for Unnamed Tributary to Buffalo Bayou Above Tidal (1007O)

PARAMETER	17977 OCT. 2002
	MG/L
BOD5	< 2
CBOD5	< 2
TSS	6.0
VSS	5.6
TDS	232
Ammonia-N	< 0.02
TKN	0.29
Alkalinity, Total	128
Chloride	18.5
Nitrate-Nitrite-N	1.90
Ortho Phosphorus	0.051
Sulfate	29.6
Total Phosphorus	< 0.06
Chlorophyll a	0.20
Pheophytin	0.12
Hardness, Total	137
Fecal Coliform, (col/100ml)	6800
E. Coli, (col/100ml)	N/A

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SECTION 11
CONCLUSIONS

Based on the RWA analysis performed on the twelve sampling locations, Table 11-1 summarizes the aquatic life use scores and ratings for the project sites assessed. Combining the overall scores for each of the seven waterbodies, a final recommendation for aquatic life use category is shown in Table 11-2.

The recommended aquatic life use subcategory is Intermediate for two waterbodies: Sims Bayou Above Tidal (1007Q) and Unnamed Tributary to Halls Bayou Above Tidal (1006I). The other five sites have a recommended aquatic life use subcategory of Limited. Those sites are: Hunting Bayou Above Tidal (1007R); Plum Creek Above Tidal (1007I); Pine Gully Above Tidal (1007H); Unnamed Tributary to Buffalo Bayou Above Tidal (1007O) and Country Club Bayou Above Tidal (1007K).

Additionally it is recommended that the waterbody description for Unnamed Tributary to Buffalo Bayou Above Tidal (1007O) be ammended to only include the portion beginning at Clinton Street and downstream from there to its confluence with Buffalo Bayou. This is recommended due to the fact that the waterbody passes underground, and the absence of water, in any open channel portion of the waterbody upstream of Clinton Street.

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Table 11-1 Scoring Summary for H-GAC Receiving Water Assessment for Each Site

OCTOBER 2002 RWA EVENT	SITES					
	SIMS BAYOU 1007Q (SITE 17976)	HUNTING BAYOU 1007R (SITE 11129)	COUNTRY CLUB BAYOU 1007K (SITE 16650)	UNNAMED TRIB. TO BUFFALO BAYOU 1007O (SITE 17977)	PLUM CREEK 1007I (SITE 16658)	PINE GULLY 1007H (SITE 16659)
Habitat Quality Score	18	15	19	17	17	20
Habitat Quality Rating	**I**	**I**	**I**	**I**	**I**	**H**
Total Fish IBI Score	40	40	30	34	40	28
Fish IBI Rating	**I**	**I**	**L**	**L**	**I**	**L**
Dissolved Oxygen Mean/Min.	5.6 / 4.4	0.3 / 0.2	5.9 / 2.5	7.7 / 6.9	1.0 / 0.4	0.3 / 0.2
Dissolved Oxygen Rating	**H**	**L**	**I**	**E**	**L**	**L**
Recommended ALU Subcategory	**I**	**I**	**L**	**L**	**L**	**L**

Habitat Score and Ratings: 26-31 Exceptional (E), 20-25 High (H), 14-19 Intermediate (I), =<13 Limited (L)
Fish IBI Score and Ratings: 58-60 Exceptional (E); 48-52 High (H); 40-44 Intermediate (I); 0-34 Limited (L)
Dissolved Oxygen Criteria and Subcategory :
6.0/4.0 Exceptional (E), 5.0/3.0 High (H), 4.0/3.0 Intermediate (I), 3.0/2.0 Limited (L)
(Spring Mean/Min.) 6.0/5.0 Exceptional (E), 5.5/4.5 High (H), 5.0/4.0 Intermediate (I), 4.0/3.0 Limited (L)

Table 11-1 Continued

MAY 2003 RWA EVENT	SITES					
	SIMS BAYOU 1007Q (SITE 11135)	HUNTING BAYOU 1007R (SITE 15872)	HUNTING BAYOU 1007R (SITE 15867)	HUNTING BAYOU 1007R (SITE 15869)	UNNAMED TRIB TO HALLS BAYOU 1006 I (SITE 16666)	COUNTRY CLUB BAYOU 1007K (SITE 16651)
Habitat Quality Score	14	10	16	11	19	19
Habitat Quality Rating	**I**	**L**	**I**	**L**	**I**	**I**
Total Fish IBI Score	34	28	38	28	42	40
Fish IBI Rating	**L**	**L**	**L/I**	**L**	**I**	**I**
Dissolved Oxygen Mean/Min.	7.7 / 5.0	4.1 / 0.3	2.4 / 0.6	3.9 / 0.3	1.4/ 0.0	1.1 / 0.2
Dissolved Oxygen Rating	**E**	**L**	**L**	**L**	**L**	**L**
Recommended ALU Subcategory	**I**	**L**	**L**	**L**	**I**	**L**

Habitat Score and Ratings: 26-31 Exceptional (E), 20-25 High (H), 14-19 Intermediate (I), =<13 Limited (L)
Fish IBI Score and Ratings: 58-60 Exceptional (E); 48-52 High (H); 40-44 Intermediate (I); 0-34 Limited (L)
Dissolved Oxygen Criteria and Subcategory :
6.0/4.0 Exceptional (E), 5.0/3.0 High (H), 4.0/3.0 Intermediate (I), 3.0/2.0 Limited (L)
(Spring Mean/Min.) 6.0/5.0 Exceptional (E), 5.5/4.5 High (H), 5.0/4.0 Intermediate (I), 4.0/3.0 Limited (L)

Table 11-2 Recommended Aquatic Life Use Categories for Assessed Waterbodies

RECEIVING WATER ASSESSMENT WATERBODY	WATERBODY						
	SIMS BAYOU 1007Q	HUNTING BAYOU 1007R	PLUM CREEK 1007I	PINE GULLY 1007H	UNNAMED TRIB TO HALLS BAYOU 1006 I	COUNTRY CLUB BAYOU 1007K	UNNAMED TRIB TO BUFFALO BAYOU 1007O
Recommended ALU Subcategory	I	L	L	L	I	L	L

Habitat Score and Ratings: 26-31 Exceptional (E), 20-25 High (H), 14-19 Intermediate (I), =<13 Limited (L)
Fish IBI Score and Ratings: 58-60 Exceptional (E); 48-52 High (H); 40-44 Intermediate (I); 0-34 Limited (L)
Dissolved Oxygen Criteria and Subcategory :
6.0/4.0 Exceptional (E), 5.0/3.0 High (H), 4.0/3.0 Intermediate (I), 3.0/2.0 Limited (L)
(Spring Mean/Min.) 6.0/5.0 Exceptional (E), 5.5/4.5 High (H), 5.0/4.0 Intermediate (I), 4.0/3.0 Limited (L)

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SECTION 12
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TCEQ 2002a. Phone conversation with Ms. Christine Kolbe concerning benthic invertebrate sampling and the decision not to collect them in these urban bayous, September 2002.

TCEQ 2002b. Phone conversation with Mr. Charles Bayer discussing use of Site 16658 on Plum Creek as a representative location to sample on waterbody 1007I, October 17, 2002.

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APPENDIX A
RECEIVING WATER ASSESSMENT FOR WASTEWATER PERMIT ACTION QUESTIONNAIRES

APPENDIX B
STREAM PHYSICAL CHARACTERISTIC WORKSHEET, PART II - SUMMARY OF PHYSICAL CHARACTERISTICS OF WATERBODY AND PART III - HABITAT QUALITY INDEX FORMS

APPENDIX C
STREAM FLOW MEASUREMENTS

APPENDIX D
DIEL WATER DATA

Appendix E
Fish Collection Data

Raw Field Collection Notes on Fish collected for FALL 2002 Sampling Event

16650 Country Club 10/16/02 11:00 1785 seconds electroshock

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Achirus lineatus	Lined sole					IF
Adinia xenica	Diamond killifish				T	O
Agonostomus monticola	Mountain mullet					O
Alosa chrysochloris	Skipjack herring					P
Ambloplites rupestris	Rock bass				I	P
Ameiurus melas	Black bullhead				T	O
Ameiurus natalis	Yellow bullhead					O
Amia calva	Bowfin				T	P
Ammocrypta clara	Western sand darter					IF
Ammocrypta vivax	Scaly sand darter					IF
Anchoa hepsetus	Striped anchovy					IF
Anchoa mitchilli	Bay anchovy					IF
Anguilla rostrata	American eel					P
Aphredoderus sayanus	Pirate perch			0		IF
Aplodinotus grunniens	Freshwater drum				T	IF
Archosargus probatocephalus	Sheepshead					O
Arius felis	Hardhead catfish				T	IF
Astyanax mexicanus	Mexican tetra					IF
Awaous tajasica	River goby					O
Bagre marinus	Gafftopsail catfish				T	P
Bairdiella chrysoura	Silver perch					IF
Bathygobius soporator	Frillfin goby				T	IF
Brevoortia gunteri	Finescale menhaden					O
Campostoma anomalum	Central stoneroller					H
Campostoma ornatum	Mexican stoneroller					H
Caranx hippos	Crevalle jack				I	P
Carassius auratus	Goldfish				T	O

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Carcharhinus isodon	Fine tooth shark					P
Carcharhinus leucas	Bull shark					P
Carpiodes carpio	River carpsucker				T	O
Centrarchus macropterus	Flier					IF
Centropomus parallelus	Fat snook					P
Centropomus undecimalis	Common snook				I	P
Cichlasoma cyanoguttatum	Rio Grande cichlid					IF
Citharichthys spilopterus	Bay whiff					IF
Conodon nobilis	Barred grunt					IF
Ctenopharyngodon idella	Grass carp				T	H
Cycleptus elongatus	Blue sucker				I	IF
Cynoscion arenarius	Sand seatrout				I	P
Cynoscion nebulosus	Spotted seatrout				I	P
Cyprinella lepida	Plateau shiner					IF
Cyprinella lutrensis	Red shiner				T	IF
Cyprinella proserpina	Proserpine shiner					IF
Cyprinella venusta	Blacktail shiner					IF
Cyprinodon bovinus	Leon Springs pupfish					O
Cyprinodon elegans	Comanche Springs pupfish					O
Cyprinodon eximius	Conchos pupfish					O
Cyprinodon pecosensis	Pecos River pupfish				T	O
Cyprinodon rubrofluviatilis	Red River pupfish				T	O
Cyprinodon variegatus	Sheepshead minnow				T	O
Cyprinus carpio	Common carp	1	0	0	T	O
Dasyatis sabina	Atlantic stingray					IF
Diapterus auratus	Irish pompano					IF
Dionda diaboli	Devils River minnow				I	IF
Dionda episcopa	Roundnose minnow				I	O
Dormitator maculatus	Fat sleeper					O
Dorosoma cepedianum	Gizzard shad	1	0	0	T	O
Dorosoma petenense	Threadfin shad					O
Elassoma zonatum	Banded pygmy sunfish					IF
Eleotris pisonis	Spinycheek sleeper					O

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Elops saurus	Ladyfish					P
Erimyzon oblongus	Creek chub sucker					O
Erimyzon sucetta	Lake chubsucker					O
Erotelis smaragdus	Emerald sleeper					IF
Esox americanus vermiculatus	Grass pickerel					P
Esox lucius	Northern pike				I	P
Esox niger	Chain pickerel					P
Etheostoma asprigene	Mud darter					IF
Etheostoma chlorosomum	Bluntnose darter					IF
Etheostoma fonticola	Fountain darter				I	IF
Etheostoma fusiforme	Swamp darter					IF
Etheostoma gracile	Slough darter					IF
Etheostoma grahami	Rio Grande darter					IF
Etheostoma histrio	Harlequin darter					IF
Etheostoma lepidum	Greenthroat darter				I	IF
Etheostoma parvipinne	Goldstripe darter				I	IF
Etheostoma proeliare	Cypress darter				I	IF
Etheostoma radiosum	Orangebelly darter				I	IF
Etheostoma spectabile	Orangethroat darter					IF
Etheostoma whipplei	Redfin darter					IF
Etropus crossotus	Fringed flounder					IF
Eucinostomus argenteus	Spotfin mojarra					IF
Eucinostomus melanopterus	Flagfin mojarra					IF
Evorthodus lyricus	Lyre goby					H
Fundulus chrysotus	Golden topminnow					IF
Fundulus dispar	Starhead topminnow					IF
Fundulus grandis	Gulf killifish					O
Fundulus jenkinsi	Saltmarsh topminnow					IF
Fundulus notatus	Blackstripe topminnow					IF
Fundulus olivaceus	Blackspotted topminnow				I	IF
Fundulus pulvereus	Bayou killifish					IF
Fundulus similis	Longnose killifish				I	O
Fundulus zebrinus	Plains killifish				T	IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Gambusia affinis	Western mosquitofish	1	0	0	T	IF
Gambusia gaigei	Big Bend gambusia					IF
Gambusia geiseri	Largespring gambusia					IF
Gambusia heterochir	Clear Creek gambusia					IF
Gambusia nobilis	Pecos gambusia					IF
Gila pandora	Rio Grande chub				I	IF
Gobioides broussonneti	Violet goby					O
Gobiomorus dormitor	Bigmouth sleeper					IF
Gobionellus atripinnis	Blackfin goby					O
Gobionellus boleosoma	Darter goby					O
Gobionellus oceanicus	Highfin goby					O
Gobionellus shufeldti	Freshwater goby					IF
Gobionellus stigmaticus	Marked goby					O
Gobiosoma bosc	Naked goby				T	IF
Gobiosoma robustum	Code goby					IF
Harengula jaguana	Scaled sardine					IF
Heterandria formosa	Least killifish					IF
Hiodon alosoides	Goldeye					IF
Hybognathus hayi	Cypress minnow					O
Hybognathus nuchalis	Mississippi silvery minnow				T	O
Hybognathus placitus	Plains minnow				T	O
Hypostomus plecostomus	Suckermouth catfish					H
Ichthyomyzon castaneus	Chesnut lamprey				I	P
Ichthyomyzon gagei	Southern brook lamprey				I	NONE
Ictalurus furcatus	Blue catfish					P
Ictalurus lupus	Headwater catfish					O
Ictalurus punctatus	Channel catfish				T	O
Ictiobus bubalus	Smallmouth buffalo					O
Ictiobus cyprinellus	Bigmouth buffalo				T	IF
Ictiobus niger	Black buffalo					O
Labidesthes sicculus	Brook silverside	4	0	0	I	IF
Lagodon rhomboides	Pinfish					O
Leiostomus xanthurus	Spot					O

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Lepisosteus oculatus	Spotted gar				T	P
Lepisosteus osseus	Longnose gar				T	P
Lepisosteus platostomus	Shortnose gar				T	P
Lepisosteus spatula	Alligator gar				T	P
Lepomis auritus	Redbreast sunfish					IF
Lepomis cyanellus	Green sunfish				T	P
Lepomis gulosus	Warmouth				T	P
Lepomis humilus	Orangespotted sunfish					IF
Lepomis macrochirus	Bluegill	3	0	0	T	IF
Lepomis marginatus	Dollar sunfish					IF
Lepomis megalotis	Long ear sunfish	1	0	0		IF
Lepomis microlophus	Redear sunfish					IF
Lepomis punctatus	Spotted sunfish					IF
Lepomis symmetricus	Bantam sunfish					IF
Lucania parva	Rainwater killifish					IF
Luxilus chrysocephalus	Striped shiner					IF
Lythrurus fumeus	Ribbon shiner					IF
Lythrurus umbratilis	Redfin shiner					IF
Macrhybopsis aestivalis	Speckled chub					IF
Macrhybopsis storeriana	Silver chub					IF
Megalops atlanticus	Tarpon				T	P
Membras martinica	Rough silverside					IF
Menidia beryllina	Inland silverside					IF
Menidia clarkhubbsi	Texas silverside					IF
Menidia peninsulae	Tidewater silverside					IF
Microgobius gulosus	Clown goby					IF
Microphis brachyurus	Opposum pipefish					IF
Micropogonias undulatus	Atlantic croaker				I	IF
Micropterus dolomieu	Smallmouth bass				I	P
Micropterus punctulatus	Spotted bass					P
Micropterus salmoides	Largemouth bass					P
Micropterus treculi	Guadalupe bass				I	P
Minytrema melanops	Spotted sucker					IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Morone chrysops	White bass					P
Morone mississippiensis	Yellow bass					P
Morone saxatilis	Striped bass					P
Moxostoma austrinum	West Mexican redhorse					IF
Moxostoma congestum	Gray redhorse					IF
Moxostoma erythrurum	Golden redhorse					IF
Moxostoma poecilurum	Blacktail redhorse					IF
Mugil cephalus	Striped mullet	13	0	0		O

16650 Country Club 10/16/02 no seining due to trash and debris

16659 Pine Gully 10/17/02 0805 550 seconds electroshock

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Achirus lineatus	Lined sole					IF
Adinia xenica	Diamond killifish				T	O
Agonostomus monticola	Mountain mullet					O
Alosa chrysochloris	Skipjack herring					P
Ambloplites rupestris	Rock bass				I	P
Ameiurus melas	Black bullhead				T	O
Ameiurus natalis	Yellow bullhead					O
Amia calva	Bowfin				T	P
Ammocrypta clara	Western sand darter					IF
Ammocrypta vivax	Scaly sand darter					IF
Anchoa hepsetus	Striped anchovy					IF
Anchoa mitchilli	Bay anchovy					IF
Anguilla rostrata	American eel					P
Aphredoderus sayanus	Pirate perch	4		0		IF
Aplodinotus grunniens	Freshwater drum				T	IF
Archosargus probatocephalus	Sheepshead					O
Arius felis	Hardhead catfish				T	IF
Astyanax mexicanus	Mexican tetra					IF
Awaous tajasica	River goby					O
Bagre marinus	Gafftopsail catfish				T	P
Bairdiella chrysoura	Silver perch					IF
Bathygobius soporator	Frillfin goby				T	IF
Brevoortia gunteri	Finescale menhaden					O
Campostoma anomalum	Central stoneroller					H
Campostoma ornatum	Mexican stoneroller					H
Caranx hippos	Crevalle jack				I	P
Carassius auratus	Goldfish				T	O
Carcharhinus isodon	Fine tooth shark					P
Carcharhinus leucas	Bull shark					P
Carpiodes carpio	River carpsucker				T	O
Centrarchus macropterus	Flier					IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Centropomus parallelus	Fat snook					P
Centropomus undecimalis	Common snook				I	P
Cichlasoma cyanoguttatum	Rio Grande cichlid					IF
Citharichthys spilopterus	Bay whiff					IF
Conodon nobilis	Barred grunt					IF
Ctenopharyngodon idella	Grass carp				T	H
Cycleptus elongatus	Blue sucker				I	IF
Cynoscion arenarius	Sand seatrout				I	P
Cynoscion nebulosus	Spotted seatrout				I	P
Cyprinella lepida	Plateau shiner					IF
Cyprinella proserpina	Proserpine shiner					IF
Cyprinella venusta	Blacktail shiner					IF
Cyprinodon bovinus	Leon Springs pupfish					O
Cyprinodon elegans	Comanche Springs pupfish					O
Cyprinodon eximius	Conchos pupfish					O
Cyprinodon pecosensis	Pecos River pupfish				T	O
Cyprinodon rubrofluviatilis	Red River pupfish				T	O
Cyprinodon variegatus	Sheepshead minnow				T	O
Cyprinus carpio	Common carp				T	O
Dasyatis sabina	Atlantic stingray					IF
Diapterus auratus	Irish pompano					IF
Dionda diaboli	Devils River minnow				I	IF
Dionda episcopa	Roundnose minnow				I	O
Dormitator maculatus	Fat sleeper					O
Dorosoma cepedianum	Gizzard shad				T	O
Dorosoma petenense	Threadfin shad					O
Elassoma zonatum	Banded pygmy sunfish					IF
Eleotris pisonis	Spinycheek sleeper					O
Elops saurus	Ladyfish					P
Erimyzon oblongus	Creek chub sucker					O
Erimyzon sucetta	Lake chubsucker					O
Erotelis smaragdus	Emerald sleeper					IF
Esox americanus vermiculatus	Grass pickerel					P

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Esox lucius	Northern pike				I	P
Esox niger	Chain pickerel					P
Etheostoma asprigene	Mud darter					IF
Etheostoma chlorosomum	Bluntnose darter					IF
Etheostoma fonticola	Fountain darter				I	IF
Etheostoma fusiforme	Swamp darter					IF
Etheostoma gracile	Slough darter					IF
Etheostoma grahami	Rio Grande darter					IF
Etheostoma histrio	Harlequin darter					IF
Etheostoma lepidum	Greenthroat darter				I	IF
Etheostoma parvipinne	Goldstripe darter				I	IF
Etheostoma proeliare	Cypress darter				I	IF
Etheostoma radiosum	Orangebelly darter				I	IF
Etheostoma spectabile	Orangethroat darter					IF
Etheostoma whipplei	Redfin darter					IF
Etropus crossotus	Fringed flounder					IF
Eucinostomus argenteus	Spotfin mojarra					IF
Eucinostomus melanopterus	Flagfin mojarra					IF
Evorthodus lyricus	Lyre goby					H
Fundulus chrysotus	Golden topminnow					IF
Fundulus dispar	Starhead topminnow					IF
Fundulus grandis	Gulf killifish					O
Fundulus jenkinsi	Saltmarsh topminnow					IF
Fundulus notatus	Blackstripe topminnow					IF
Fundulus olivaceus	Blackspotted topminnow				I	IF
Fundulus pulvereus	Bayou killifish					IF
Fundulus similis	Longnose killifish				I	O
Fundulus zebrinus	Plains killifish				T	IF
Gambusia affinis	Western mosquitofish	98		0	T	IF
Gambusia gaigei	Big Bend gambusia					IF
Gambusia geiseri	Largespring gambusia					IF
Gambusia heterochir	Clear Creek gambusia					IF
Gambusia nobilis	Pecos gambusia					IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Gila pandora	Rio Grande chub				I	IF
Gobioides broussonneti	Violet goby					O
Gobiomorus dormitor	Bigmouth sleeper					IF
Gobionellus atripinnis	Blackfin goby					O
Gobionellus boleosoma	Darter goby					O
Gobionellus oceanicus	Highfin goby					O
Gobionellus shufeldti	Freshwater goby					IF
Gobionellus stigmaticus	Marked goby					O
Gobiosoma bosc	Naked goby				T	IF
Gobiosoma robustum	Code goby					IF
Harengula jaguana	Scaled sardine					IF
Heterandria formosa	Least killifish					IF
Hiodon alosoides	Goldeye					IF
Hybognathus hayi	Cypress minnow					O
Hybognathus nuchalis	Mississippi silvery minnow				T	O
Hybognathus placitus	Plains minnow				T	O
Hypostomus plecostomus	Suckermouth catfish					H
Ichthyomyzon castaneus	Chesnut lamprey				I	P
Ichthyomyzon gagei	Southern brook lamprey				I	NONE
Ictalurus furcatus	Blue catfish					P
Ictalurus lupus	Headwater catfish					O
Ictalurus punctatus	Channel catfish				T	O
Ictiobus bubalus	Smallmouth buffalo					O
Ictiobus cyprinellus	Bigmouth buffalo				T	IF
Ictiobus niger	Black buffalo					O
Labidesthes sicculus	Brook silverside				I	IF
Lagodon rhomboides	Pinfish					O
Leiostomus xanthurus	Spot					O
Lepisosteus oculatus	Spotted gar				T	P
Lepisosteus osseus	Longnose gar				T	P
Lepisosteus platostomus	Shortnose gar				T	P
Lepisosteus spatula	Alligator gar				T	P
Lepomis auritus	Redbreast sunfish					IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Lepomis cyanellus	Green sunfish	3		0	T	P
Lepomis gulosus	Warmouth				T	P
Lepomis humilus	Orangespotted sunfish					IF
Lepomis macrochirus	Bluegill				T	IF
Lepomis marginatus	Dollar sunfish					IF
Lepomis megalotis	Longear sunfish					IF
Lepomis microlophus	Redear sunfish					IF
Lepomis punctatus	Spotted sunfish					IF
Lepomis symmetricus	Bantam sunfish					IF
Lucania parva	Rainwater killifish					IF
Luxilus chrysocephalus	Striped shiner					IF
Lythrurus fumeus	Ribbon shiner					IF
Lythrurus umbratilis	Redfin shiner					IF
Macrhybopsis aestivalis	Speckled chub					IF
Macrhybopsis storeriana	Silver chub					IF
Megalops atlanticus	Tarpon				T	P
Membras martinica	Rough silverside					IF
Menidia beryllina	Inland silverside					IF
Menidia clarkhubbsi	Texas silverside					IF
Menidia peninsulae	Tidewater silverside					IF
Microgobius gulosus	Clown goby					IF
Microphis brachyurus	Opposum pipefish					IF
Micropogonias undulatus	Atlantic croaker				I	IF
Micropterus dolomieu	Smallmouth bass				I	P
Micropterus punctulatus	Spotted bass					P
Micropterus salmoides	Largemouth bass					P
Micropterus treculi	Guadalupe bass				I	P
Minytrema melanops	Spotted sucker					IF
Morone chrysops	White bass					P
Morone mississippiensis	Yellow bass					P
Morone saxatilis	Striped bass					P
Moxostoma austrinum	West Mexican redhorse					IF
Moxostoma congestum	Gray redhorse					IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Moxostoma erythrurum	Golden redhorse					IF
Moxostoma poecilurum	Blacktail redhorse					IF
Mugil cephalus	Striped mullet					O
Mugil curema	White mullet					O
Myrophis punctatus	Speckled worm eel					P
Notemigonus crysoleucas	Golden shiner				T	IF
Notropis amabilis	Texas shiner					IF
Notropis amnis	Pallid shiner					IF
Notropis atherinoides	Emerald shiner					IF
Notropis atrocaudalis	Blackspot shiner					IF
Notropis bairdi	Red River shiner					IF
Notropis blennius	River shiner					IF
Notropis braytoni	Tamaulipas shiner					IF
Notropis buccula	Smalleye shiner					IF
Notropis buchanani	Ghost shiner					IF
Notropis chalybaeus	Ironcolor shiner				I	IF
Notropis chihuahua	Chihuahua shiner					IF
Notropis girardi	Arkansas River shiner					IF
Notropis hubbsi	Bluehead shiner					IF
Notropis jemezanus	Rio Grande shiner					IF
Notropis maculatus	Taillight shiner					IF
Notropis oxyrhynchus	Sharpnose shiner					IF
Notropis potteri	Chub shiner					IF
Notropis sabinae	Sabine shiner					IF
Notropis shumardi	Silverband shiner					IF
Notropis stramineus	Sand shiner					IF
Notropis texanus	Weed shiner					IF
Notropis volucellus	Mimic shiner				I	IF
Noturus gyrinus	Tadpole madtom				I	IF
Noturus nocturnus	Freckled madtom				I	IF
Oncorhynchus mykiss	Rainbow trout				I	IF
Opsopoeodus emiliae	Pugnose minnow					IF
Paralichthys lethostigma	Southern flounder					P

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Perca flavescens	Yellow perch					P
Percina caprodes	Logperch				I	IF
Percina carbonaria	Texas logperch				I	IF
Percina macrolepida	Bigscale logperch				I	IF
Percina maculata	Blackside darter				I	IF
Percina sciera	Dusky darter				I	IF
Percina shumardi	River darter					IF
Phenacobius mirabilis	Suckermouth minnow					IF
Pimephales promelas	Fathead minnow				T	O
Pimephales vigilax	Bullhead minnow					IF
Platygobio gracilis	Flathead chub					IF
Poecilia formosa	Amazon molly					O
Poecilia latipinna	Sailfin molly	172		0	T	O

16659 Pine Gully 10/17/02 0805 6 seine hauls for 60 yards

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Achirus lineatus	Lined sole					IF
Adinia xenica	Diamond killifish				T	O
Agonostomus monticola	Mountain mullet					O
Alosa chrysochloris	Skipjack herring					P
Ambloplites rupestris	Rock bass				I	P
Ameiurus melas	Black bullhead				T	O
Ameiurus natalis	Yellow bullhead					O
Amia calva	Bowfin				T	P
Ammocrypta clara	Western sand darter					IF
Ammocrypta vivax	Scaly sand darter					IF
Anchoa hepsetus	Striped anchovy					IF
Anchoa mitchilli	Bay anchovy					IF
Anguilla rostrata	American eel					P
Aplodinotus grunniens	Freshwater drum				T	IF
Archosargus probatocephalus	Sheepshead					O
Arius felis	Hardhead catfish				T	IF
Astyanax mexicanus	Mexican tetra					IF
Awaous tajasica	River goby					O
Bagre marinus	Gafftopsail catfish				T	P
Bairdiella chrysoura	Silver perch					IF
Bathygobius soporator	Frillfin goby				T	IF
Brevoortia gunteri	Finescale menhaden					O
Campostoma anomalum	Central stoneroller					H
Campostoma ornatum	Mexican stoneroller					H
Caranx hippos	Crevalle jack				I	P
Carassius auratus	Goldfish				T	O
Carcharhinus isodon	Fine tooth shark					P
Carcharhinus leucas	Bull shark					P
Carpiodes carpio	River carpsucker				T	O
Centrarchus macropterus	Flier					IF
Centropomus parallelus	Fat snook					P

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Centropomus undecimalis	Common snook				I	P
Cichlasoma cyanoguttatum	Rio Grande cichlid					IF
Citharichthys spilopterus	Bay whiff					IF
Conodon nobilis	Barred grunt					IF
Ctenopharyngodon idella	Grass carp				T	H
Cycleptus elongatus	Blue sucker				I	IF
Cynoscion arenarius	Sand seatrout				I	P
Cynoscion nebulosus	Spotted seatrout				I	P
Cyprinella lepida	Plateau shiner					IF
Cyprinella lutrensis	Red shiner	2		0	T	IF
Cyprinella proserpina	Proserpine shiner					IF
Cyprinella venusta	Blacktail shiner					IF
Cyprinodon bovinus	Leon Springs pupfish					O
Cyprinodon elegans	Comanche Springs pupfish					O
Cyprinodon eximius	Conchos pupfish					O
Cyprinodon pecosensis	Pecos River pupfish				T	O
Cyprinodon rubrofluviatilis	Red River pupfish				T	O
Cyprinodon variegatus	Sheepshead minnow				T	O
Cyprinus carpio	Common carp				T	O
Dasyatis sabina	Atlantic stingray					IF
Diapterus auratus	Irish pompano					IF
Dionda diaboli	Devils River minnow				I	IF
Dionda episcopa	Roundnose minnow				I	O
Dormitator maculatus	Fat sleeper					O
Dorosoma cepedianum	Gizzard shad				T	O
Dorosoma petenense	Threadfin shad					O
Elassoma zonatum	Banded pygmy sunfish					IF
Eleotris pisonis	Spinycheek sleeper					O
Elops saurus	Ladyfish					P
Erimyzon oblongus	Creek chub sucker					O
Erimyzon sucetta	Lake chubsucker					O
Erotelis smaragdus	Emerald sleeper					IF
Esox americanus vermiculatus	Grass pickerel					P

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Esox lucius	Northern pike				I	P
Esox niger	Chain pickerel					P
Etheostoma asprigene	Mud darter					IF
Etheostoma chlorosomum	Bluntnose darter					IF
Etheostoma fonticola	Fountain darter				I	IF
Etheostoma fusiforme	Swamp darter					IF
Etheostoma gracile	Slough darter					IF
Etheostoma grahami	Rio Grande darter					IF
Etheostoma histrio	Harlequin darter					IF
Etheostoma lepidum	Greenthroat darter				I	IF
Etheostoma parvipinne	Goldstripe darter				I	IF
Etheostoma proeliare	Cypress darter				I	IF
Etheostoma radiosum	Orangebelly darter				I	IF
Etheostoma spectabile	Orangethroat darter					IF
Etheostoma whipplei	Redfin darter					IF
Etropus crossotus	Fringed flounder					IF
Eucinostomus argenteus	Spotfin mojarra					IF
Eucinostomus melanopterus	Flagfin mojarra					IF
Evorthodus lyricus	Lyre goby					H
Fundulus chrysotus	Golden topminnow					IF
Fundulus dispar	Starhead topminnow					IF
Fundulus grandis	Gulf killifish					O
Fundulus jenkinsi	Saltmarsh topminnow					IF
Fundulus notatus	Blackstripe topminnow					IF
Fundulus olivaceus	Blackspotted topminnow				I	IF
Fundulus pulvereus	Bayou killifish					IF
Fundulus similis	Longnose killifish				I	O
Fundulus zebrinus	Plains killifish				T	IF
Gambusia affinis	Western mosquitofish	74		0	T	IF
Gambusia gaigei	Big Bend gambusia					IF
Gambusia geiseri	Largespring gambusia					IF
Gambusia heterochir	Clear Creek gambusia					IF
Gambusia nobilis	Pecos gambusia					IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Gila pandora	Rio Grande chub				I	IF
Gobioides broussonneti	Violet goby					O
Gobiomorus dormitor	Bigmouth sleeper					IF
Gobionellus atripinnis	Blackfin goby					O
Gobionellus boleosoma	Darter goby					O
Gobionellus oceanicus	Highfin goby					O
Gobionellus shufeldti	Freshwater goby					IF
Gobionellus stigmaticus	Marked goby					O
Gobiosoma bosc	Naked goby				T	IF
Gobiosoma robustum	Code goby					IF
Harengula jaguana	Scaled sardine					IF
Heterandria formosa	Least killifish					IF
Hiodon alosoides	Goldeye					IF
Hybognathus hayi	Cypress minnow					O
Hybognathus nuchalis	Mississippi silvery minnow				T	O
Hybognathus placitus	Plains minnow				T	O
Hypostomus plecostomus	Suckermouth catfish					H
Ichthyomyzon castaneus	Chesnut lamprey				I	P
Ichthyomyzon gagei	Southern brook lamprey				I	NONE
Ictalurus furcatus	Blue catfish					P
Ictalurus lupus	Headwater catfish					O
Ictalurus punctatus	Channel catfish				T	O
Ictiobus bubalus	Smallmouth buffalo					O
Ictiobus cyprinellus	Bigmouth buffalo				T	IF
Ictiobus niger	Black buffalo					O
Labidesthes sicculus	Brook silverside				I	IF
Lagodon rhomboides	Pinfish					O
Leiostomus xanthurus	Spot					O
Lepisosteus oculatus	Spotted gar				T	P
Lepisosteus osseus	Longnose gar				T	P
Lepisosteus platostomus	Shortnose gar				T	P
Lepisosteus spatula	Alligator gar				T	P
Lepomis auritus	Redbreast sunfish					IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Lepomis cyanellus	Green sunfish	1		0	T	P
Lepomis gulosus	Warmouth				T	P
Lepomis humilus	Orangespotted sunfish					IF
Lepomis macrochirus	Bluegill				T	IF
Lepomis marginatus	Dollar sunfish					IF
Lepomis megalotis	Longear sunfish					IF
Lepomis microlophus	Redear sunfish					IF
Lepomis punctatus	Spotted sunfish					IF
Lepomis symmetricus	Bantam sunfish					IF
Lucania parva	Rainwater killifish					IF
Luxilus chrysocephalus	Striped shiner					IF
Lythrurus fumeus	Ribbon shiner					IF
Lythrurus umbratilis	Redfin shiner					IF
Macrhybopsis aestivalis	Speckled chub					IF
Macrhybopsis storeriana	Silver chub					IF
Megalops atlanticus	Tarpon				T	P
Membras martinica	Rough silverside					IF
Menidia beryllina	Inland silverside					IF
Menidia clarkhubbsi	Texas silverside					IF
Menidia peninsulae	Tidewater silverside					IF
Microgobius gulosus	Clown goby					IF
Microphis brachyurus	Opposum pipefish					IF
Micropogonias undulatus	Atlantic croaker				I	IF
Micropterus dolomieu	Smallmouth bass				I	P
Micropterus punctulatus	Spotted bass					P
Micropterus salmoides	Largemouth bass					P
Micropterus treculi	Guadalupe bass				I	P
Minytrema melanops	Spotted sucker					IF
Morone chrysops	White bass					P
Morone mississippiensis	Yellow bass					P
Morone saxatilis	Striped bass					P
Moxostoma austrinum	West Mexican redhorse					IF
Moxostoma congestum	Gray redhorse					IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Moxostoma erythrurum	Golden redhorse					IF
Moxostoma poecilurum	Blacktail redhorse					IF
Mugil cephalus	Striped mullet					O
Mugil curema	White mullet					O
Myrophis punctatus	Speckled worm eel					P
Notemigonus crysoleucas	Golden shiner				T	IF
Notropis amabilis	Texas shiner					IF
Notropis amnis	Pallid shiner					IF
Notropis atherinoides	Emerald shiner					IF
Notropis atrocaudalis	Blackspot shiner					IF
Notropis bairdi	Red River shiner					IF
Notropis blennius	River shiner					IF
Notropis braytoni	Tamaulipas shiner					IF
Notropis buccula	Smalleye shiner					IF
Notropis buchanani	Ghost shiner					IF
Notropis chalybaeus	Ironcolor shiner				I	IF
Notropis chihuahua	Chihuahua shiner					IF
Notropis girardi	Arkansas River shiner					IF
Notropis hubbsi	Bluehead shiner					IF
Notropis jemezanus	Rio Grande shiner					IF
Notropis maculatus	Taillight shiner					IF
Notropis oxyrhynchus	Sharpnose shiner					IF
Notropis potteri	Chub shiner					IF
Notropis sabinae	Sabine shiner					IF
Notropis shumardi	Silverband shiner					IF
Notropis stramineus	Sand shiner					IF
Notropis texanus	Weed shiner					IF
Notropis volucellus	Mimic shiner				I	IF
Noturus gyrinus	Tadpole madtom				I	IF
Noturus nocturnus	Freckled madtom				I	IF
Oncorhynchus mykiss	Rainbow trout				I	IF
Opsopoeodus emiliae	Pugnose minnow					IF
Paralichthys lethostigma	Southern flounder					P

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Perca flavescens	Yellow perch					P
Percina caprodes	Logperch				I	IF
Percina carbonaria	Texas logperch				I	IF
Percina macrolepida	Bigscale logperch				I	IF
Percina maculata	Blackside darter				I	IF
Percina sciera	Dusky darter				I	IF
Percina shumardi	River darter					IF
Phenacobius mirabilis	Suckermouth minnow					IF
Pimephales promelas	Fathead minnow				T	O
Pimephales vigilax	Bullhead minnow					IF
Platygobio gracilis	Flathead chub					IF
Poecilia formosa	Amazon molly					O
Poecilia latipinna	Sailfin molly	177		0	T	O

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SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Achirus lineatus	Lined sole					IF
Adinia xenica	Diamond killifish				T	O
Agonostomus monticola	Mountain mullet					O
Alosa chrysochloris	Skipjack herring					P
Ambloplites rupestris	Rock bass				I	P
Ameiurus melas	Black bullhead				T	O
Ameiurus natalis	Yellow bullhead					O
Amia calva	Bowfin				T	P
Ammocrypta clara	Western sand darter					IF
Ammocrypta vivax	Scaly sand darter					IF
Anchoa hepsetus	Striped anchovy					IF
Anchoa mitchilli	Bay anchovy					IF
Anguilla rostrata	American eel					P
Aphredoderus sayanus	Pirate perch	1		0		IF
Aplodinotus grunniens	Freshwater drum				T	IF
Archosargus probatocephalus	Sheepshead					O
Arius felis	Hardhead catfish				T	IF
Astyanax mexicanus	Mexican tetra					IF
Awaous tajasica	River goby					O
Bagre marinus	Gafftopsail catfish				T	P
Bairdiella chrysoura	Silver perch					IF
Bathygobius soporator	Frillfin goby				T	IF
Brevoortia gunteri	Finescale menhaden					O
Campostoma anomalum	Central stoneroller					H
Campostoma ornatum	Mexican stoneroller					H
Caranx hippos	Crevalle jack				I	P
Carassius auratus	Goldfish				T	O
Carcharhinus isodon	Fine tooth shark					P
Carcharhinus leucas	Bull shark					P
Carpiodes carpio	River carpsucker				T	O
Centrarchus macropterus	Flier					IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Centropomus parallelus	Fat snook					P
Centropomus undecimalis	Common snook				I	P
Cichlasoma cyanoguttatum	Rio Grande cichlid					IF
Citharichthys spilopterus	Bay whiff					IF
Conodon nobilis	Barred grunt					IF
Ctenopharyngodon idella	Grass carp				T	H
Cycleptus elongatus	Blue sucker				I	IF
Cynoscion arenarius	Sand seatrout				I	P
Cynoscion nebulosus	Spotted seatrout				I	P
Cyprinella lepida	Plateau shiner					IF
Cyprinella lutrensis	Red shiner				T	IF
Cyprinella proserpina	Proserpine shiner					IF
Cyprinella venusta	Blacktail shiner					IF
Cyprinodon bovinus	Leon Springs pupfish					O
Cyprinodon elegans	Comanche Springs pupfish					O
Cyprinodon eximius	Conchos pupfish					O
Cyprinodon pecosensis	Pecos River pupfish				T	O
Cyprinodon rubrofluviatilis	Red River pupfish				T	O
Cyprinodon variegatus	Sheepshead minnow	2		0	T	O
Cyprinus carpio	Common carp				T	O
Dasyatis sabina	Atlantic stingray					IF
Diapterus auratus	Irish pompano					IF
Dionda diaboli	Devils River minnow				I	IF
Dionda episcopa	Roundnose minnow				I	O
Dormitator maculatus	Fat sleeper					O
Dorosoma cepedianum	Gizzard shad				T	O
Dorosoma petenense	Threadfin shad					O
Elassoma zonatum	Banded pygmy sunfish					IF
Eleotris pisonis	Spinycheek sleeper					O
Elops saurus	Ladyfish					P
Erimyzon oblongus	Creek chub sucker					O
Erimyzon sucetta	Lake chubsucker					O
Erotelis smaragdus	Emerald sleeper					IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Esox americanus vermiculatus	Grass pickerel					P
Esox lucius	Northern pike				I	P
Esox niger	Chain pickerel					P
Etheostoma asprigene	Mud darter					IF
Etheostoma chlorosomum	Bluntnose darter					IF
Etheostoma fonticola	Fountain darter				I	IF
Etheostoma fusiforme	Swamp darter					IF
Etheostoma gracile	Slough darter					IF
Etheostoma grahami	Rio Grande darter					IF
Etheostoma histrio	Harlequin darter					IF
Etheostoma lepidum	Greenthroat darter				I	IF
Etheostoma parvipinne	Goldstripe darter				I	IF
Etheostoma proeliare	Cypress darter				I	IF
Etheostoma radiosum	Orangebelly darter				I	IF
Etheostoma spectabile	Orangethroat darter					IF
Etheostoma whipplei	Redfin darter					IF
Etropus crossotus	Fringed flounder					IF
Eucinostomus argenteus	Spotfin mojarra					IF
Eucinostomus melanopterus	Flagfin mojarra					IF
Evorthodus lyricus	Lyre goby					H
Fundulus chrysotus	Golden topminnow					IF
Fundulus dispar	Starhead topminnow					IF
Fundulus grandis	Gulf killifish					O
Fundulus jenkinsi	Saltmarsh topminnow					IF
Fundulus notatus	Blackstripe topminnow					IF
Fundulus olivaceus	Blackspotted topminnow				I	IF
Fundulus pulvereus	Bayou killifish					IF
Fundulus similis	Longnose killifish				I	O
Fundulus zebrinus	Plains killifish				T	IF
Gambusia affinis	Western mosquitofish	75		0	T	IF
Gambusia gaigei	Big Bend gambusia					IF
Gambusia geiseri	Largespring gambusia					IF
Gambusia heterochir	Clear Creek gambusia					IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Gambusia nobilis	Pecos gambusia					IF
Gila pandora	Rio Grande chub				I	IF
Gobioides broussonneti	Violet goby					O
Gobiomorus dormitor	Bigmouth sleeper					IF
Gobionellus atripinnis	Blackfin goby					O
Gobionellus boleosoma	Darter goby					O
Gobionellus oceanicus	Highfin goby					O
Gobionellus shufeldti	Freshwater goby					IF
Gobionellus stigmaticus	Marked goby					O
Gobiosoma bosc	Naked goby				T	IF
Gobiosoma robustum	Code goby					IF
Harengula jaguana	Scaled sardine					IF
Heterandria formosa	Least killifish					IF
Hiodon alosoides	Goldeye					IF
Hybognathus hayi	Cypress minnow					O
Hybognathus nuchalis	Mississippi silvery minnow				T	O
Hybognathus placitus	Plains minnow				T	O
Hypostomus plecostomus	Suckermouth catfish					H
Ichthyomyzon castaneus	Chesnut lamprey				I	P
Ichthyomyzon gagei	Southern brook lamprey				I	NONE
Ictalurus furcatus	Blue catfish					P
Ictalurus lupus	Headwater catfish					O
Ictalurus punctatus	Channel catfish				T	O
Ictiobus bubalus	Smallmouth buffalo					O
Ictiobus cyprinellus	Bigmouth buffalo				T	IF
Ictiobus niger	Black buffalo					O
Labidesthes sicculus	Brook silverside				I	IF
Lagodon rhomboides	Pinfish					O
Leiostomus xanthurus	Spot					O
Lepisosteus oculatus	Spotted gar				T	P
Lepisosteus osseus	Longnose gar				T	P
Lepisosteus platostomus	Shortnose gar				T	P
Lepisosteus spatula	Alligator gar				T	P

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Lepomis auritus	Redbreast sunfish					IF
Lepomis cyanellus	Green sunfish				T	P
Lepomis gulosus	Warmouth				T	P
Lepomis humilus	Orangespotted sunfish					IF
Lepomis macrochirus	Bluegill	1		0	T	IF
Lepomis marginatus	Dollar sunfish					IF
Lepomis megalotis	Longear sunfish					IF
Lepomis microlophus	Redear sunfish					IF
Lepomis punctatus	Spotted sunfish	4		0		IF
Lepomis symmetricus	Bantam sunfish					IF
Lucania parva	Rainwater killifish					IF
Luxilus chrysocephalus	Striped shiner					IF
Lythrurus fumeus	Ribbon shiner					IF
Lythrurus umbratilis	Redfin shiner					IF
Macrhybopsis aestivalis	Speckled chub					IF
Macrhybopsis storeriana	Silver chub					IF
Megalops atlanticus	Tarpon				T	P
Membras martinica	Rough silverside					IF
Menidia beryllina	Inland silverside					IF
Menidia clarkhubbsi	Texas silverside					IF
Menidia peninsulae	Tidewater silverside					IF
Microgobius gulosus	Clown goby					IF
Microphis brachyurus	Opposum pipefish					IF
Micropogonias undulatus	Atlantic croaker				I	IF
Micropterus dolomieu	Smallmouth bass				I	P
Micropterus punctulatus	Spotted bass					P
Micropterus salmoides	Largemouth bass					P
Micropterus treculi	Guadalupe bass				I	P
Minytrema melanops	Spotted sucker					IF
Morone chrysops	White bass					P
Morone mississippiensis	Yellow bass					P
Morone saxatilis	Striped bass					P
Moxostoma austrinum	West Mexican redhorse					IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Moxostoma congestum	Gray redhorse					IF
Moxostoma erythrurum	Golden redhorse					IF
Moxostoma poecilurum	Blacktail redhorse					IF
Mugil cephalus	Striped mullet					O
Mugil curema	White mullet					O
Myrophis punctatus	Speckled worm eel					P
Notemigonus crysoleucas	Golden shiner				T	IF
Notropis amabilis	Texas shiner					IF
Notropis amnis	Pallid shiner					IF
Notropis atherinoides	Emerald shiner					IF
Notropis atrocaudalis	Blackspot shiner					IF
Notropis bairdi	Red River shiner					IF
Notropis blennius	River shiner					IF
Notropis braytoni	Tamaulipas shiner					IF
Notropis buccula	Smalleye shiner					IF
Notropis buchanani	Ghost shiner					IF
Notropis chalybaeus	Ironcolor shiner				I	IF
Notropis chihuahua	Chihuahua shiner					IF
Notropis girardi	Arkansas River shiner					IF
Notropis hubbsi	Bluehead shiner					IF
Notropis jemezanus	Rio Grande shiner					IF
Notropis maculatus	Taillight shiner					IF
Notropis oxyrhynchus	Sharpnose shiner					IF
Notropis potteri	Chub shiner					IF
Notropis sabinae	Sabine shiner					IF
Notropis shumardi	Silverband shiner					IF
Notropis stramineus	Sand shiner					IF
Notropis texanus	Weed shiner					IF
Notropis volucellus	Mimic shiner				I	IF
Noturus gyrinus	Tadpole madtom				I	IF
Noturus nocturnus	Freckled madtom				I	IF
Oncorhynchus mykiss	Rainbow trout				I	IF
Opsopoeodus emiliae	Pugnose minnow					IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Paralichthys lethostigma	Southern flounder					P
Perca flavescens	Yellow perch					P
Percina caprodes	Logperch				I	IF
Percina carbonaria	Texas logperch				I	IF
Percina macrolepida	Bigscale logperch				I	IF
Percina maculata	Blackside darter				I	IF
Percina sciera	Dusky darter				I	IF
Percina shumardi	River darter					IF
Phenacobius mirabilis	Suckermouth minnow					IF
Pimephales promelas	Fathead minnow				T	O
Pimephales vigilax	Bullhead minnow					IF
Platygobio gracilis	Flathead chub					IF
Poecilia formosa	Amazon molly					O
Poecilia latipinna	Sailfin molly	37		0	T	O
Poecilia reticulata	Guppy				T	IF
Pogonias cromis	Black drum					IF
Polydactylus octonemus	Atlantic threadfin					IF
Polyodon spathula	Paddlefish				I	O
Pomodasys crocro	Burro grunt					IF
Pomoxis annularis	White crappie					P
Pomoxis nigromaculatus	Black crappie					P
Pristis pectinata	Smalltooth sawfish					P
Pylodictis olivaris	Flathead catfish					P
Rhinichthys cataractae	Longnose dace					IF
Satan eurystomus	Widemouth blindcat					IF
Scaphirynchus platorynchus	Shovelnose sturgeon					IF
Scardinius erythrophthalmus	Rudd				T	O
Sciaenops ocellatus	Red drum					P
Semotilus atromaculatus	Creek chub					P
Sphoeroides parvus	Least puffer					IF
Stizostedion canadense	Sauger				I	P
Stizostedion vitreum	Walleye					P
Strongylura marina	Atlantic needlefish					P

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Syngnathus louisianae	Chain pipefish					IF
Syngnathus scovelli	Gulf pipefish					IF
Tilapia aurea	Blue tilapia	1		0	T	O

16658 Plum Creek 10/12/02 13:10 2 seine hauls for 20 yards

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Achirus lineatus	Lined sole					IF
Adinia xenica	Diamond killifish				T	O
Agonostomus monticola	Mountain mullet					O
Alosa chrysochloris	Skipjack herring					P
Ambloplites rupestris	Rock bass				I	P
Ameiurus melas	Black bullhead				T	O
Ameiurus natalis	Yellow bullhead					O
Amia calva	Bowfin				T	P
Ammocrypta clara	Western sand darter					IF
Ammocrypta vivax	Scaly sand darter					IF
Anchoa hepsetus	Striped anchovy					IF
Anchoa mitchilli	Bay anchovy					IF
Anguilla rostrata	American eel					P
Aplodinotus grunniens	Freshwater drum				T	IF
Archosargus probatocephalus	Sheepshead					O
Arius felis	Hardhead catfish				T	IF
Astyanax mexicanus	Mexican tetra					IF
Awaous tajasica	River goby					O
Bagre marinus	Gafftopsail catfish				T	P
Bairdiella chrysoura	Silver perch					IF
Bathygobius soporator	Frillfin goby				T	IF
Brevoortia gunteri	Finescale menhaden					O
Campostoma anomalum	Central stoneroller					H
Campostoma ornatum	Mexican stoneroller					H
Caranx hippos	Crevalle jack				I	P
Carassius auratus	Goldfish				T	O
Carcharhinus isodon	Fine tooth shark					P
Carcharhinus leucas	Bull shark					P
Carpiodes carpio	River carpsucker				T	O
Centrarchus macropterus	Flier					IF
Centropomus parallelus	Fat snook					P

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Centropomus undecimalis	Common snook				I	P
Cichlasoma cyanoguttatum	Rio Grande cichlid					IF
Citharichthys spilopterus	Bay whiff					IF
Conodon nobilis	Barred grunt					IF
Ctenopharyngodon idella	Grass carp				T	H
Cycleptus elongatus	Blue sucker				I	IF
Cynoscion arenarius	Sand seatrout				I	P
Cynoscion nebulosus	Spotted seatrout				I	P
Cyprinella lepida	Plateau shiner					IF
Cyprinella lutrensis	Red shiner				T	IF
Cyprinella proserpina	Proserpine shiner					IF
Cyprinella venusta	Blacktail shiner					IF
Cyprinodon bovinus	Leon Springs pupfish					O
Cyprinodon elegans	Comanche Springs pupfish					O
Cyprinodon eximius	Conchos pupfish					O
Cyprinodon pecosensis	Pecos River pupfish				T	O
Cyprinodon rubrofluviatilis	Red River pupfish				T	O
Cyprinus carpio	Common carp				T	O
Dasyatis sabina	Atlantic stingray					IF
Diapterus auratus	Irish pompano					IF
Dionda diaboli	Devils River minnow				I	IF
Dionda episcopa	Roundnose minnow				I	O
Dormitator maculatus	Fat sleeper					O
Dorosoma cepedianum	Gizzard shad				T	O
Dorosoma petenense	Threadfin shad					O
Elassoma zonatum	Banded pygmy sunfish					IF
Eleotris pisonis	Spinycheek sleeper					O
Elops saurus	Ladyfish					P
Erimyzon oblongus	Creek chub sucker					O
Erimyzon sucetta	Lake chubsucker					O
Erotelis smaragdus	Emerald sleeper					IF
Esox americanus vermiculatus	Grass pickerel					P
Esox lucius	Northern pike				I	P

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Esox niger	Chain pickerel					P
Etheostoma asprigene	Mud darter					IF
Etheostoma chlorosomum	Bluntnose darter					IF
Etheostoma fonticola	Fountain darter				I	IF
Etheostoma fusiforme	Swamp darter					IF
Etheostoma gracile	Slough darter					IF
Etheostoma grahami	Rio Grande darter					IF
Etheostoma histrio	Harlequin darter					IF
Etheostoma lepidum	Greenthroat darter				I	IF
Etheostoma parvipinne	Goldstripe darter				I	IF
Etheostoma proeliare	Cypress darter				I	IF
Etheostoma radiosum	Orangebelly darter				I	IF
Etheostoma spectabile	Orangethroat darter					IF
Etheostoma whipplei	Redfin darter					IF
Etropus crossotus	Fringed flounder					IF
Eucinostomus argenteus	Spotfin mojarra					IF
Eucinostomus melanopterus	Flagfin mojarra					IF
Evorthodus lyricus	Lyre goby					H
Fundulus chrysotus	Golden topminnow					IF
Fundulus dispar	Starhead topminnow					IF
Fundulus grandis	Gulf killifish					O
Fundulus jenkinsi	Saltmarsh topminnow					IF
Fundulus notatus	Blackstripe topminnow					IF
Fundulus olivaceus	Blackspotted topminnow				I	IF
Fundulus pulvereus	Bayou killifish					IF
Fundulus similis	Longnose killifish				I	O
Fundulus zebrinus	Plains killifish				T	IF
Gambusia affinis	Western mosquitofish	116		0	T	IF
Gambusia gaigei	Big Bend gambusia					IF
Gambusia geiseri	Largespring gambusia					IF
Gambusia heterochir	Clear Creek gambusia					IF
Gambusia nobilis	Pecos gambusia					IF
Gila pandora	Rio Grande chub				I	IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Gobioides broussonneti	Violet goby					O
Gobiomorus dormitor	Bigmouth sleeper					IF
Gobionellus atripinnis	Blackfin goby					O
Gobionellus boleosoma	Darter goby					O
Gobionellus oceanicus	Highfin goby					O
Gobionellus shufeldti	Freshwater goby					IF
Gobionellus stigmaticus	Marked goby					O
Gobiosoma bosc	Naked goby				T	IF
Gobiosoma robustum	Code goby					IF
Harengula jaguana	Scaled sardine					IF
Heterandria formosa	Least killifish					IF
Hiodon alosoides	Goldeye					IF
Hybognathus hayi	Cypress minnow					O
Hybognathus nuchalis	Mississippi silvery minnow				T	O
Hybognathus placitus	Plains minnow				T	O
Hypostomus plecostomus	Suckermouth catfish					H
Ichthyomyzon castaneus	Chesnut lamprey				I	P
Ichthyomyzon gagei	Southern brook lamprey				I	NONE
Ictalurus furcatus	Blue catfish					P
Ictalurus lupus	Headwater catfish					O
Ictalurus punctatus	Channel catfish				T	O
Ictiobus bubalus	Smallmouth buffalo					O
Ictiobus cyprinellus	Bigmouth buffalo				T	IF
Ictiobus niger	Black buffalo					O
Labidesthes sicculus	Brook silverside				I	IF
Lagodon rhomboides	Pinfish					O
Leiostomus xanthurus	Spot					O
Lepisosteus oculatus	Spotted gar				T	P
Lepisosteus osseus	Longnose gar				T	P
Lepisosteus platostomus	Shortnose gar				T	P
Lepisosteus spatula	Alligator gar				T	P
Lepomis auritus	Redbreast sunfish					IF
Lepomis cyanellus	Green sunfish				T	P

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Lepomis gulosus	Warmouth				T	P
Lepomis humilus	Orangespotted sunfish					IF

11129 Hunting Bayou 11/12/02 17:45 1326 seconds electroshock

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Achirus lineatus	*Lined sole*					*IF*
Adinia xenica	*Diamond killifish*				*T*	*O*
Agonostomus monticola	*Mountain mullet*					*O*
Alosa chrysochloris	*Skipjack herring*					*P*
Ambloplites rupestris	*Rock bass*				*I*	*P*
Ameiurus melas	*Black bullhead*				*T*	*O*
Ameiurus natalis	*Yellow bullhead*	*3*		*0*		*O*
Amia calva	*Bowfin*				*T*	*P*
Ammocrypta clara	*Western sand darter*					*IF*
Ammocrypta vivax	*Scaly sand darter*					*IF*
Anchoa hepsetus	*Striped anchovy*					*IF*
Anchoa mitchilli	*Bay anchovy*					*IF*
Anguilla rostrata	*American eel*					*P*
Aphredoderus sayanus	*Pirate perch*					*IF*
Aplodinotus grunniens	*Freshwater drum*				*T*	*IF*
Archosargus probatocephalus	*Sheepshead*					*O*
Arius felis	*Hardhead catfish*				*T*	*IF*
Astyanax mexicanus	*Mexican tetra*					*IF*
Awaous tajasica	*River goby*					*O*
Bagre marinus	*Gafftopsail catfish*				*T*	*P*
Bairdiella chrysoura	*Silver perch*					*IF*
Bathygobius soporator	*Frillfin goby*				*T*	*IF*
Brevoortia gunteri	*Finescale menhaden*					*O*
Campostoma anomalum	*Central stoneroller*					*H*
Campostoma ornatum	*Mexican stoneroller*					*H*
Caranx hippos	*Crevalle jack*				*I*	*P*
Carassius auratus	*Goldfish*				*T*	*O*
Carcharhinus isodon	*Fine tooth shark*					*P*
Carcharhinus leucas	*Bull shark*					*P*
Carpiodes carpio	*River carpsucker*				*T*	*O*
Centrarchus macropterus	*Flier*					*IF*

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Centropomus parallelus	*Fat snook*					*P*
Centropomus undecimalis	*Common snook*				*I*	*P*
Cichlasoma cyanoguttatum	*Rio Grande cichlid*	*1*		*0*		*IF*
Citharichthys spilopterus	*Bay whiff*					*IF*
Conodon nobilis	*Barred grunt*					*IF*
Ctenopharyngodon idella	*Grass carp*	*1*		*0*	*T*	*H*
Cycleptus elongatus	*Blue sucker*				*I*	*IF*
Cynoscion arenarius	*Sand seatrout*				*I*	*P*
Cynoscion nebulosus	*Spotted seatrout*				*I*	*P*
Cyprinella lepida	*Plateau shiner*					*IF*
Cyprinella lutrensis	*Red shiner*	*3*		*0*	*T*	*IF*
Cyprinella proserpina	*Proserpine shiner*					*IF*
Cyprinella venusta	*Blacktail shiner*					*IF*
Cyprinodon bovinus	*Leon Springs pupfish*					*O*
Cyprinodon elegans	*Comanche Springs pupfish*					*O*
Cyprinodon eximius	*Conchos pupfish*					*O*
Cyprinodon pecosensis	*Pecos River pupfish*				*T*	*O*
Cyprinodon rubrofluviatilis	*Red River pupfish*				*T*	*O*
Cyprinodon variegatus	*Sheepshead minnow*				*T*	*O*
Cyprinus carpio	*Common carp*	*3*		*0*	*T*	*O*
Dasyatis sabina	*Atlantic stingray*					*IF*
Diapterus auratus	*Irish pompano*					*IF*
Dionda diaboli	*Devils River minnow*				*I*	*IF*
Dionda episcopa	*Roundnose minnow*				*I*	*O*
Dormitator maculatus	*Fat sleeper*					*O*
Dorosoma cepedianum	*Gizzard shad*	*1*		*0*	*T*	*O*
Dorosoma petenense	*Threadfin shad*					*O*
Elassoma zonatum	*Banded pygmy sunfish*					*IF*
Eleotris pisonis	*Spinycheek sleeper*					*O*
Elops saurus	*Ladyfish*					*P*
Erimyzon oblongus	*Creek chub sucker*					*O*
Erimyzon sucetta	*Lake chubsucker*					*O*

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Erotelis smaragdus	*Emerald sleeper*					*IF*
Esox americanus vermiculatus	*Grass pickerel*					*P*
Esox lucius	*Northern pike*				*I*	*P*
Esox niger	*Chain pickerel*					*P*
Etheostoma asprigene	*Mud darter*					*IF*
Etheostoma chlorosomum	*Bluntnose darter*					*IF*
Etheostoma fonticola	*Fountain darter*				*I*	*IF*
Etheostoma fusiforme	*Swamp darter*					*IF*
Etheostoma gracile	*Slough darter*					*IF*
Etheostoma grahami	*Rio Grande darter*					*IF*
Etheostoma histrio	*Harlequin darter*					*IF*
Etheostoma lepidum	*Greenthroat darter*				*I*	*IF*
Etheostoma parvipinne	*Goldstripe darter*				*I*	*IF*
Etheostoma proeliare	*Cypress darter*				*I*	*IF*
Etheostoma radiosum	*Orangebelly darter*				*I*	*IF*
Etheostoma spectabile	*Orangethroat darter*					*IF*
Etheostoma whipplei	*Redfin darter*					*IF*
Etropus crossotus	*Fringed flounder*					*IF*
Eucinostomus argenteus	*Spotfin mojarra*					*IF*
Eucinostomus melanopterus	*Flagfin mojarra*					*IF*
Evorthodus lyricus	*Lyre goby*					*H*
Fundulus chrysotus	*Golden topminnow*					*IF*
Fundulus dispar	*Starhead topminnow*					*IF*
Fundulus grandis	*Gulf killifish*					*O*
Fundulus jenkinsi	*Saltmarsh topminnow*					*IF*
Fundulus notatus	*Blackstripe topminnow*					*IF*
Fundulus olivaceus	*Blackspotted topminnow*				*I*	*IF*
Fundulus pulvereus	*Bayou killifish*					*IF*
Fundulus similis	*Longnose killifish*				*I*	*O*
Fundulus zebrinus	*Plains killifish*				*T*	*IF*
Gambusia gaigei	*Big Bend gambusia*					*IF*
Gambusia geiseri	*Largespring gambusia*					*IF*
Gambusia heterochir	*Clear Creek gambusia*					*IF*

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Gambusia nobilis	*Pecos gambusia*					*IF*
Gila pandora	*Rio Grande chub*				*I*	*IF*
Gobioides broussonneti	*Violet goby*					*O*
Gobiomorus dormitor	*Bigmouth sleeper*					*IF*
Gobionellus atripinnis	*Blackfin goby*					*O*
Gobionellus boleosoma	*Darter goby*					*O*
Gobionellus oceanicus	*Highfin goby*					*O*
Gobionellus shufeldti	*Freshwater goby*					*IF*
Gobionellus stigmaticus	*Marked goby*					*O*
Gobiosoma bosc	*Naked goby*				*T*	*IF*
Gobiosoma robustum	*Code goby*					*IF*
Harengula jaguana	*Scaled sardine*					*IF*
Heterandria formosa	*Least killifish*					*IF*
Hiodon alosoides	*Goldeye*					*IF*
Hybognathus hayi	*Cypress minnow*					*O*
Hybognathus nuchalis	*Mississippi silvery minnow*				*T*	*O*
Hybognathus placitus	*Plains minnow*				*T*	*O*
Hypostomus plecostomus	*Suckermouth catfish*					*H*
Ichthyomyzon castaneus	*Chesnut lamprey*				*I*	*P*
Ichthyomyzon gagei	*Southern brook lamprey*				*I*	*NONE*
Ictalurus furcatus	*Blue catfish*					*P*
Ictalurus lupus	*Headwater catfish*					*O*
Ictalurus punctatus	*Channel catfish*				*T*	*O*
Ictiobus bubalus	*Smallmouth buffalo*					*O*
Ictiobus cyprinellus	*Bigmouth buffalo*				*T*	*IF*
Ictiobus niger	*Black buffalo*					*O*
Labidesthes sicculus	*Brook silverside*				*I*	*IF*
Lagodon rhomboides	*Pinfish*					*O*
Leiostomus xanthurus	*Spot*					*O*
Lepisosteus oculatus	*Spotted gar*				*T*	*P*
Lepisosteus osseus	*Longnose gar*				*T*	*P*
Lepisosteus platostomus	*Shortnose gar*				*T*	*P*
Lepisosteus spatula	*Alligator gar*				*T*	*P*

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Lepomis auritus	*Redbreast sunfish*					*IF*
Lepomis cyanellus	*Green sunfish*	*34*		*0*	*T*	*P*
Lepomis gulosus	*Warmouth*				*T*	*P*
Lepomis humilus	*Orangespotted sunfish*					*IF*
Lepomis macrochirus	*Bluegill*	*3*		*0*	*T*	*IF*
Lepomis marginatus	*Dollar sunfish*					*IF*
Lepomis megalotis	*Longear sunfish*					*IF*
Lepomis microlophus	*Redear sunfish*					*IF*
Lepomis punctatus	*Spotted sunfish*	*10*		*1*		*IF*
Lepomis symmetricus	*Bantam sunfish*					*IF*
Lucania parva	*Rainwater killifish*					*IF*
Luxilus chrysocephalus	*Striped shiner*					*IF*
Lythrurus fumeus	*Ribbon shiner*					*IF*
Lythrurus umbratilis	*Redfin shiner*					*IF*
Macrhybopsis aestivalis	*Speckled chub*					*IF*
Macrhybopsis storeriana	*Silver chub*					*IF*
Megalops atlanticus	*Tarpon*				*T*	*P*
Membras martinica	*Rough silverside*					*IF*
Menidia beryllina	*Inland silverside*					*IF*
Menidia clarkhubbsi	*Texas silverside*					*IF*
Menidia peninsulae	*Tidewater silverside*					*IF*
Microgobius gulosus	*Clown goby*					*IF*
Microphis brachyurus	*Opposum pipefish*					*IF*
Micropogonias undulatus	*Atlantic croaker*				*I*	*IF*
Micropterus dolomieu	*Smallmouth bass*				*I*	*P*
Micropterus punctulatus	*Spotted bass*					*P*
Micropterus salmoides	*Largemouth bass*	*1*		*0*		*P*
Micropterus treculi	*Guadalupe bass*				*I*	*P*
Minytrema melanops	*Spotted sucker*					*IF*
Morone chrysops	*White bass*					*P*
Morone mississippiensis	*Yellow bass*					*P*
Morone saxatilis	*Striped bass*					*P*

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Moxostoma austrinum	*West Mexican redhorse*					*IF*
Moxostoma congestum	*Gray redhorse*					*IF*
Moxostoma erythrurum	*Golden redhorse*					*IF*
Moxostoma poecilurum	*Blacktail redhorse*					*IF*
Mugil cephalus	*Striped mullet*	*14*		*0*		*O*
Mugil curema	*White mullet*					*O*
Myrophis punctatus	*Speckled worm eel*					*P*
Notemigonus crysoleucas	*Golden shiner*				*T*	*IF*
Notropis amabilis	*Texas shiner*					*IF*
Notropis amnis	*Pallid shiner*	*8*		*0*		*IF*
Notropis atherinoides	*Emerald shiner*					*IF*
Notropis atrocaudalis	*Blackspot shiner*					*IF*
Notropis bairdi	*Red River shiner*					*IF*
Notropis blennius	*River shiner*					*IF*
Notropis braytoni	*Tamaulipas shiner*					*IF*
Notropis buccula	*Smalleye shiner*					*IF*
Notropis buchanani	*Ghost shiner*					*IF*
Notropis chalybaeus	*Ironcolor shiner*				*I*	*IF*
Notropis chihuahua	*Chihuahua shiner*					*IF*
Notropis girardi	*Arkansas River shiner*					*IF*
Notropis hubbsi	*Bluehead shiner*					*IF*
Notropis jemezanus	*Rio Grande shiner*					*IF*
Notropis maculatus	*Taillight shiner*					*IF*
Notropis oxyrhynchus	*Sharpnose shiner*					*IF*
Notropis potteri	*Chub shiner*					*IF*
Notropis sabinae	*Sabine shiner*					*IF*
Notropis shumardi	*Silverband shiner*					*IF*
Notropis stramineus	*Sand shiner*					*IF*
Notropis texanus	*Weed shiner*					*IF*
Notropis volucellus	*Mimic shiner*				*I*	*IF*
Noturus gyrinus	*Tadpole madtom*				*I*	*IF*
Noturus nocturnus	*Freckled madtom*				*I*	*IF*
Oncorhynchus mykiss	*Rainbow trout*				*I*	*IF*

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Opsopoeodus emiliae	*Pugnose minnow*					*IF*
Paralichthys lethostigma	*Southern flounder*					*P*
Perca flavescens	*Yellow perch*					*P*
Percina caprodes	*Logperch*				*I*	*IF*
Percina carbonaria	*Texas logperch*				*I*	*IF*
Percina macrolepida	*Bigscale logperch*				*I*	*IF*
Percina maculata	*Blackside darter*				*I*	*IF*
Percina sciera	*Dusky darter*				*I*	*IF*
Percina shumardi	*River darter*					*IF*
Phenacobius mirabilis	*Suckermouth minnow*					*IF*
Pimephales promelas	*Fathead minnow*				*T*	*O*
Pimephales vigilax	*Bullhead minnow*					*IF*
Platygobio gracilis	*Flathead chub*					*IF*
Poecilia formosa	*Amazon molly*					*O*
Poecilia latipinna	*Sailfin molly*	*53*		*0*	*T*	*O*

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SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Achirus lineatus	*Lined sole*					*IF*
Adinia xenica	*Diamond killifish*				*T*	*O*
Agonostomus monticola	*Mountain mullet*					*O*
Alosa chrysochloris	*Skipjack herring*					*P*
Ambloplites rupestris	*Rock bass*				*I*	*P*
Ameiurus melas	*Black bullhead*				*T*	*O*
Cycleptus elongatus	*Blue sucker*				*I*	*IF*
Cynoscion arenarius	*Sand seatrout*				*I*	*P*
Cynoscion nebulosus	*Spotted seatrout*				*I*	*P*
Cyprinella lepida	*Plateau shiner*					*IF*
Cyprinella lutrensis	*Red shiner*	*144*		*0*	*T*	*IF*
Cyprinella proserpina	*Proserpine shiner*					*IF*
Cyprinella venusta	*Blacktail shiner*					*IF*
Cyprinodon bovinus	*Leon Springs pupfish*					*O*
Cyprinodon elegans	*Comanche Springs pupfish*					*O*
Cyprinodon eximius	*Conchos pupfish*					*O*
Cyprinodon pecosensis	*Pecos River pupfish*				*T*	*O*
Cyprinodon rubrofluviatilis	*Red River pupfish*				*T*	*O*
Cyprinodon variegatus	*Sheepshead minnow*				*T*	*O*
Dorosoma petenense	*Threadfin shad*					*O*
Elassoma zonatum	*Banded pygmy sunfish*					*IF*
Eleotris pisonis	*Spinycheek sleeper*					*O*
Elops saurus	*Ladyfish*					*P*
Erimyzon oblongus	*Creek chub sucker*					*O*
Erimyzon sucetta	*Lake chubsucker*					*O*
Erotelis smaragdus	*Emerald sleeper*					*IF*
Esox americanus vermiculatus	*Grass pickerel*					*P*
Esox lucius	*Northern pike*				*I*	*P*
Esox niger	*Chain pickerel*					*P*
Etheostoma asprigene	*Mud darter*					*IF*
Etheostoma chlorosomum	*Bluntnose darter*					*IF*

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Etheostoma fonticola	*Fountain darter*				*I*	*IF*
Etheostoma fusiforme	*Swamp darter*					*IF*
Etheostoma gracile	*Slough darter*					*IF*
Etheostoma grahami	*Rio Grande darter*					*IF*
Etheostoma histrio	*Harlequin darter*					*IF*
Etheostoma lepidum	*Greenthroat darter*				*I*	*IF*
Etheostoma parvipinne	*Goldstripe darter*				*I*	*IF*
Etheostoma proeliare	*Cypress darter*				*I*	*IF*
Etheostoma radiosum	*Orangebelly darter*				*I*	*IF*
Etheostoma spectabile	*Orangethroat darter*					*IF*
Etheostoma whipplei	*Redfin darter*					*IF*
Etropus crossotus	*Fringed flounder*					*IF*
Eucinostomus argenteus	*Spotfin mojarra*					*IF*
Eucinostomus melanopterus	*Flagfin mojarra*					*IF*
Evorthodus lyricus	*Lyre goby*					*H*
Fundulus chrysotus	*Golden topminnow*					*IF*
Fundulus dispar	*Starhead topminnow*					*IF*
Fundulus grandis	*Gulf killifish*					*O*
Fundulus jenkinsi	*Saltmarsh topminnow*					*IF*
Fundulus notatus	*Blackstripe topminnow*					*IF*
Fundulus olivaceus	*Blackspotted topminnow*				*I*	*IF*
Fundulus pulvereus	*Bayou killifish*					*IF*
Fundulus similis	*Longnose killifish*				*I*	*O*
Fundulus zebrinus	*Plains killifish*				*T*	*IF*
Gambusia affinis	*Western mosquitofish*	*3*		*0*	*T*	*IF*
Gambusia gaigei	*Big Bend gambusia*					*IF*
Gambusia geiseri	*Largespring gambusia*					*IF*
Gambusia heterochir	*Clear Creek gambusia*					*IF*
Gambusia nobilis	*Pecos gambusia*					*IF*
Gila pandora	*Rio Grande chub*				*I*	*IF*
Gobioides broussonneti	*Violet goby*					*O*
Gobiomorus dormitor	*Bigmouth sleeper*					*IF*
Gobionellus atripinnis	*Blackfin goby*					*O*

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Gobionellus boleosoma	*Darter goby*					*O*
Gobionellus oceanicus	*Highfin goby*					*O*
Gobionellus shufeldti	*Freshwater goby*					*IF*
Gobionellus stigmaticus	*Marked goby*					*O*
Gobiosoma bosc	*Naked goby*				*T*	*IF*
Gobiosoma robustum	*Code goby*					*IF*
Harengula jaguana	*Scaled sardine*					*IF*
Heterandria formosa	*Least killifish*					*IF*
Hiodon alosoides	*Goldeye*					*IF*
Hybognathus hayi	*Cypress minnow*					*O*
Hybognathus nuchalis	*Mississippi silvery minnow*				*T*	*O*
Hybognathus placitus	*Plains minnow*				*T*	*O*
Hypostomus plecostomus	*Suckermouth catfish*					*H*
Ichthyomyzon castaneus	*Chesnut lamprey*				*I*	*P*
Ichthyomyzon gagei	*Southern brook lamprey*				*I*	*NONE*
Ictalurus furcatus	*Blue catfish*					*P*
Ictalurus lupus	*Headwater catfish*					*O*
Ictalurus punctatus	*Channel catfish*				*T*	*O*
Ictiobus bubalus	*Smallmouth buffalo*					*O*
Ictiobus cyprinellus	*Bigmouth buffalo*				*T*	*IF*
Ictiobus niger	*Black buffalo*					*O*
Labidesthes sicculus	*Brook silverside*				*I*	*IF*
Lagodon rhomboides	*Pinfish*					*O*
Leiostomus xanthurus	*Spot*					*O*
Lepisosteus oculatus	*Spotted gar*				*T*	*P*
Lepisosteus osseus	*Longnose gar*				*T*	*P*
Lepisosteus platostomus	*Shortnose gar*				*T*	*P*
Lepisosteus spatula	*Alligator gar*				*T*	*P*
Lepomis auritus	*Redbreast sunfish*					*IF*
Lepomis symmetricus	*Bantam sunfish*					*IF*
Lucania parva	*Rainwater killifish*					*IF*
Luxilus chrysocephalus	*Striped shiner*					*IF*
Lythrurus fumeus	*Ribbon shiner*					*IF*

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Lythrurus umbratilis	*Redfin shiner*					*IF*
Macrhybopsis aestivalis	*Speckled chub*					*IF*
Macrhybopsis storeriana	*Silver chub*					*IF*
Megalops atlanticus	*Tarpon*				*T*	*P*
Membras martinica	*Rough silverside*					*IF*
Menidia beryllina	*Inland silverside*					*IF*
Menidia clarkhubbsi	*Texas silverside*					*IF*
Menidia peninsulae	*Tidewater silverside*					*IF*
Microgobius gulosus	*Clown goby*					*IF*
Microphis brachyurus	*Opposum pipefish*					*IF*
Micropogonias undulatus	*Atlantic croaker*				*I*	*IF*
Micropterus dolomieu	*Smallmouth bass*				*I*	*P*
Micropterus punctulatus	*Spotted bass*					*P*
Micropterus salmoides	*Largemouth bass*	*1*		*0*		*P*
Micropterus treculi	*Guadalupe bass*				*I*	*P*
Minytrema melanops	*Spotted sucker*					*IF*
Morone chrysops	*White bass*					*P*
Morone mississippiensis	*Yellow bass*					*P*
Morone saxatilis	*Striped bass*					*P*
Moxostoma austrinum	*West Mexican redhorse*					*IF*
Moxostoma congestum	*Gray redhorse*					*IF*
Moxostoma erythrurum	*Golden redhorse*					*IF*
Moxostoma poecilurum	*Blacktail redhorse*					*IF*
Mugil curema	*White mullet*					*O*
Myrophis punctatus	*Speckled worm eel*					*P*
Notemigonus crysoleucas	*Golden shiner*				*T*	*IF*
Notropis amabilis	*Texas shiner*					*IF*
Notropis amnis	*Pallid shiner*	*1*		*0*		*IF*
Notropis atherinoides	*Emerald shiner*					*IF*
Notropis atrocaudalis	*Blackspot shiner*					*IF*
Notropis bairdi	*Red River shiner*					*IF*
Notropis blennius	*River shiner*					*IF*
Notropis braytoni	*Tamaulipas shiner*					*IF*

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Notropis buccula	*Smalleye shiner*					*IF*
Notropis buchanani	*Ghost shiner*					*IF*
Notropis chalybaeus	*Ironcolor shiner*				*I*	*IF*
Notropis chihuahua	*Chihuahua shiner*					*IF*
Notropis girardi	*Arkansas River shiner*					*IF*
Notropis hubbsi	*Bluehead shiner*					*IF*
Notropis jemezanus	*Rio Grande shiner*					*IF*
Notropis maculatus	*Taillight shiner*					*IF*
Notropis oxyrhynchus	*Sharpnose shiner*					*IF*
Notropis potteri	*Chub shiner*					*IF*
Notropis sabinae	*Sabine shiner*					*IF*
Notropis shumardi	*Silverband shiner*					*IF*
Notropis stramineus	*Sand shiner*					*IF*
Notropis texanus	*Weed shiner*					*IF*
Notropis volucellus	*Mimic shiner*				*I*	*IF*
Noturus gyrinus	*Tadpole madtom*				*I*	*IF*
Noturus nocturnus	*Freckled madtom*				*I*	*IF*
Oncorhynchus mykiss	*Rainbow trout*				*I*	*IF*
Opsopoeodus emiliae	*Pugnose minnow*					*IF*
Paralichthys lethostigma	*Southern flounder*					*P*
Perca flavescens	*Yellow perch*					*P*
Percina caprodes	*Logperch*				*I*	*IF*
Percina carbonaria	*Texas logperch*				*I*	*IF*
Percina macrolepida	*Bigscale logperch*				*I*	*IF*
Percina maculata	*Blackside darter*				*I*	*IF*
Percina sciera	*Dusky darter*				*I*	*IF*
Percina shumardi	*River darter*					*IF*
Phenacobius mirabilis	*Suckermouth minnow*					*IF*
Pimephales promelas	*Fathead minnow*				*T*	*O*
Pimephales vigilax	*Bullhead minnow*					*IF*
Platygobio gracilis	*Flathead chub*					*IF*
Poecilia formosa	*Amazon molly*					*O*
Poecilia latipinna	*Sailfin molly*	*12*		*0*	*T*	*O*

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SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Achirus lineatus	*Lined sole*					*IF*
Adinia xenica	*Diamond killifish*				*T*	*O*
Agonostomus monticola	*Mountain mullet*					*O*
Alosa chrysochloris	*Skipjack herring*					*P*
Ambloplites rupestris	*Rock bass*				*I*	*P*
Ameiurus melas	*Black bullhead*				*T*	*O*
Ameiurus natalis	*Yellow bullhead*					*O*
Amia calva	*Bowfin*				*T*	*P*
Ammocrypta clara	*Western sand darter*					*IF*
Ammocrypta vivax	*Scaly sand darter*					*IF*
Anchoa hepsetus	*Striped anchovy*					*IF*
Anchoa mitchilli	*Bay anchovy*					*IF*
Anguilla rostrata	*American eel*					*P*
Aphredoderus sayanus	*Pirate perch*					*IF*
Aplodinotus grunniens	*Freshwater drum*				*T*	*IF*
Archosargus probatocephalus	*Sheepshead*					*O*
Arius felis	*Hardhead catfish*				*T*	*IF*
Astyanax mexicanus	*Mexican tetra*					*IF*
Awaous tajasica	*River goby*					*O*
Bagre marinus	*Gafftopsail catfish*				*T*	*P*
Bairdiella chrysoura	*Silver perch*					*IF*
Bathygobius soporator	*Frillfin goby*				*T*	*IF*
Brevoortia gunteri	*Finescale menhaden*					*O*
Campostoma anomalum	*Central stoneroller*					*H*
Campostoma ornatum	*Mexican stoneroller*					*H*
Caranx hippos	*Crevalle jack*				*I*	*P*
Carassius auratus	*Goldfish*				*T*	*O*
Carcharhinus isodon	*Fine tooth shark*					*P*
Carcharhinus leucas	*Bull shark*					*P*
Carpiodes carpio	*River carpsucker*				*T*	*O*
Centrarchus macropterus	*Flier*					*IF*

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Centropomus parallelus	*Fat snook*					*P*
Centropomus undecimalis	*Common snook*				*I*	*P*
Cichlasoma cyanoguttatum	*Rio Grande cichlid*	*18*		*0*		*IF*
Citharichthys spilopterus	*Bay whiff*					*IF*
Conodon nobilis	*Barred grunt*					*IF*
Ctenopharyngodon idella	*Grass carp*				*T*	*H*
Cycleptus elongatus	*Blue sucker*				*I*	*IF*
Cynoscion arenarius	*Sand seatrout*				*I*	*P*
Cynoscion nebulosus	*Spotted seatrout*				*I*	*P*
Cyprinella lepida	*Plateau shiner*					*IF*
Cyprinella lutrensis	*Red shiner*	*24*		*0*	*T*	*IF*
Cyprinella proserpina	*Proserpine shiner*					*IF*
Cyprinella venusta	*Blacktail shiner*					*IF*
Cyprinodon bovinus	*Leon Springs pupfish*					*O*
Cyprinodon elegans	*Comanche Springs pupfish*					*O*
Cyprinodon eximius	*Conchos pupfish*					*O*
Cyprinodon pecosensis	*Pecos River pupfish*				*T*	*O*
Cyprinodon rubrofluviatilis	*Red River pupfish*				*T*	*O*
Cyprinodon variegatus	*Sheepshead minnow*	*2*		*0*	*T*	*O*
Cyprinus carpio	*Common carp*	*1*		*0*	*T*	*O*
Dasyatis sabina	*Atlantic stingray*					*IF*
Diapterus auratus	*Irish pompano*					*IF*
Dionda diaboli	*Devils River minnow*				*I*	*IF*
Dionda episcopa	*Roundnose minnow*				*I*	*O*
Dormitator maculatus	*Fat sleeper*					*O*
Dorosoma cepedianum	*Gizzard shad*				*T*	*O*
Dorosoma petenense	*Threadfin shad*					*O*
Elassoma zonatum	*Banded pygmy sunfish*					*IF*
Eleotris pisonis	*Spinycheek sleeper*					*O*
Elops saurus	*Ladyfish*					*P*
Erimyzon oblongus	*Creek chub sucker*					*O*
Erimyzon sucetta	*Lake chubsucker*					*O*

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Erotelis smaragdus	*Emerald sleeper*					*IF*
Esox americanus vermiculatus	*Grass pickerel*					*P*
Esox lucius	*Northern pike*				*I*	*P*
Esox niger	*Chain pickerel*					*P*
Etheostoma asprigene	*Mud darter*					*IF*
Etheostoma chlorosomum	*Bluntnose darter*					*IF*
Etheostoma fonticola	*Fountain darter*				*I*	*IF*
Etheostoma fusiforme	*Swamp darter*					*IF*
Etheostoma gracile	*Slough darter*					*IF*
Etheostoma grahami	*Rio Grande darter*					*IF*
Etheostoma histrio	*Harlequin darter*					*IF*
Etheostoma lepidum	*Greenthroat darter*				*I*	*IF*
Etheostoma parvipinne	*Goldstripe darter*				*I*	*IF*
Etheostoma proeliare	*Cypress darter*				*I*	*IF*
Etheostoma radiosum	*Orangebelly darter*				*I*	*IF*
Etheostoma spectabile	*Orangethroat darter*					*IF*
Etheostoma whipplei	*Redfin darter*					*IF*
Etropus crossotus	*Fringed flounder*					*IF*
Eucinostomus argenteus	*Spotfin mojarra*					*IF*
Eucinostomus melanopterus	*Flagfin mojarra*					*IF*
Evorthodus lyricus	*Lyre goby*					*H*
Fundulus chrysotus	*Golden topminnow*					*IF*
Fundulus dispar	*Starhead topminnow*					*IF*
Fundulus grandis	*Gulf killifish*					*O*
Fundulus jenkinsi	*Saltmarsh topminnow*					*IF*
Fundulus notatus	*Blackstripe topminnow*					*IF*
Fundulus olivaceus	*Blackspotted topminnow*				*I*	*IF*
Fundulus pulvereus	*Bayou killifish*					*IF*
Fundulus similis	*Longnose killifish*				*I*	*O*
Fundulus zebrinus	*Plains killifish*				*T*	*IF*
Gambusia affinis	*Western mosquitofish*	*35*		*0*	*T*	*IF*
Gambusia gaigei	*Big Bend gambusia*					*IF*
Gambusia geiseri	*Largespring gambusia*					*IF*

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Gambusia heterochir	*Clear Creek gambusia*					*IF*
Gambusia nobilis	*Pecos gambusia*					*IF*
Gila pandora	*Rio Grande chub*				*I*	*IF*
Gobioides broussonneti	*Violet goby*					*O*
Gobiomorus dormitor	*Bigmouth sleeper*					*IF*
Gobionellus atripinnis	*Blackfin goby*					*O*
Gobionellus boleosoma	*Darter goby*					*O*
Gobionellus oceanicus	*Highfin goby*					*O*
Gobionellus shufeldti	*Freshwater goby*					*IF*
Gobionellus stigmaticus	*Marked goby*					*O*
Gobiosoma bosc	*Naked goby*				*T*	*IF*
Gobiosoma robustum	*Code goby*					*IF*
Harengula jaguana	*Scaled sardine*					*IF*
Heterandria formosa	*Least killifish*					*IF*
Hiodon alosoides	*Goldeye*					*IF*
Hybognathus hayi	*Cypress minnow*					*O*
Hybognathus nuchalis	*Mississippi silvery minnow*				*T*	*O*
Hybognathus placitus	*Plains minnow*				*T*	*O*
Hypostomus plecostomus	*Sucker mouth catfish*	*11*		*0*		*H*
Ichthyomyzon castaneus	*Chesnut lamprey*				*I*	*P*
Ichthyomyzon gagei	*Southern brook lamprey*				*I*	*NONE*
Ictalurus furcatus	*Blue catfish*					*P*
Ictalurus lupus	*Headwater catfish*					*O*
Ictalurus punctatus	*Channel catfish*				*T*	*O*
Ictiobus bubalus	*Smallmouth buffalo*					*O*
Ictiobus cyprinellus	*Bigmouth buffalo*				*T*	*IF*
Ictiobus niger	*Black buffalo*					*O*
Labidesthes sicculus	*Brook silverside*				*I*	*IF*
Lagodon rhomboides	*Pinfish*					*O*
Leiostomus xanthurus	*Spot*					*O*
Lepisosteus oculatus	*Spotted gar*	*3*		*0*	*T*	*P*
Lepisosteus osseus	*Longnose gar*				*T*	*P*
Lepisosteus platostomus	*Shortnose gar*				*T*	*P*

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Lepisosteus spatula	*Alligator gar*				*T*	*P*
Lepomis auritus	*Redbreast sunfish*					*IF*
Lepomis cyanellus	*Green sunfish*	*4*		*0*	*T*	*P*
Lepomis gulosus	*Warmouth*	*4*		*0*	*T*	*P*
Lepomis humilus	*Orangespotted sunfish*					*IF*
Lepomis macrochirus	*Bluegill*	*10*		*0*	*T*	*IF*
Lepomis marginatus	*Dollar sunfish*					*IF*
Lepomis megalotis	*Longear sunfish*					*IF*
Lepomis microlophus	*Redear sunfish*					*IF*
Lepomis punctatus	*Spotted sunfish*	*11*		*0*		*IF*
Lepomis symmetricus	*Bantam sunfish*					*IF*
Lucania parva	*Rainwater killifish*					*IF*
Luxilus chrysocephalus	*Striped shiner*					*IF*
Lythrurus fumeus	*Ribbon shiner*					*IF*
Lythrurus umbratilis	*Redfin shiner*					*IF*
Macrhybopsis aestivalis	*Speckled chub*					*IF*
Macrhybopsis storeriana	*Silver chub*					*IF*
Megalops atlanticus	*Tarpon*				*T*	*P*
Membras martinica	*Rough silverside*					*IF*
Menidia beryllina	*Inland silverside*					*IF*
Menidia clarkhubbsi	*Texas silverside*					*IF*
Menidia peninsulae	*Tidewater silverside*					*IF*
Microgobius gulosus	*Clown goby*					*IF*
Microphis brachyurus	*Opposum pipefish*					*IF*
Micropogonias undulatus	*Atlantic croaker*				*I*	*IF*
Micropterus dolomieu	*Smallmouth bass*				*I*	*P*
Micropterus punctulatus	*Spotted bass*					*P*
Micropterus salmoides	*Largemouth bass*					*P*
Micropterus treculi	*Guadalupe bass*				*I*	*P*
Minytrema melanops	*Spotted sucker*					*IF*
Morone chrysops	*White bass*					*P*
Morone mississippiensis	*Yellow bass*					*P*

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Morone saxatilis	*Striped bass*					*P*
Moxostoma austrinum	*West Mexican redhorse*					*IF*
Moxostoma congestum	*Gray redhorse*					*IF*
Moxostoma erythrurum	*Golden redhorse*					*IF*
Moxostoma poecilurum	*Blacktail redhorse*					*IF*
Mugil cephalus	*Striped mullet*	*7*		*0*		*O*
Mugil curema	*White mullet*					*O*
Myrophis punctatus	*Speckled worm eel*					*P*
Notemigonus crysoleucas	*Golden shiner*				*T*	*IF*
Notropis amabilis	*Texas shiner*					*IF*
Notropis amnis	*Pallid shiner*	*13*		*0*		*IF*
Notropis atherinoides	*Emerald shiner*					*IF*
Notropis atrocaudalis	*Blackspot shiner*					*IF*
Notropis bairdi	*Red River shiner*					*IF*
Notropis blennius	*River shiner*					*IF*
Notropis braytoni	*Tamaulipas shiner*					*IF*
Notropis buccula	*Smalleye shiner*					*IF*
Notropis buchanani	*Ghost shiner*					*IF*
Notropis chalybaeus	*Ironcolor shiner*				*I*	*IF*
Notropis chihuahua	*Chihuahua shiner*					*IF*
Notropis girardi	*Arkansas River shiner*					*IF*
Notropis hubbsi	*Bluehead shiner*					*IF*
Notropis jemezanus	*Rio Grande shiner*					*IF*
Notropis maculatus	*Taillight shiner*					*IF*
Notropis oxyrhynchus	*Sharpnose shiner*					*IF*
Notropis potteri	*Chub shiner*					*IF*
Notropis sabinae	*Sabine shiner*					*IF*
Notropis shumardi	*Silverband shiner*					*IF*
Notropis stramineus	*Sand shiner*					*IF*
Notropis texanus	*Weed shiner*					*IF*
Notropis volucellus	*Mimic shiner*				*I*	*IF*
Noturus gyrinus	*Tadpole madtom*				*I*	*IF*
Noturus nocturnus	*Freckled madtom*				*I*	*IF*

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Oncorhynchus mykiss	*Rainbow trout*				*I*	*IF*
Opsopoeodus emiliae	*Pugnose minnow*					*IF*
Paralichthys lethostigma	*Southern flounder*					*P*
Perca flavescens	*Yellow perch*					*P*
Percina caprodes	*Logperch*				*I*	*IF*
Percina carbonaria	*Texas logperch*				*I*	*IF*
Percina macrolepida	*Bigscale logperch*				*I*	*IF*
Percina maculata	*Blackside darter*				*I*	*IF*
Percina sciera	*Dusky darter*				*I*	*IF*
Percina shumardi	*River darter*					*IF*
Phenacobius mirabilis	*Suckermouth minnow*					*IF*
Pimephales promelas	*Fathead minnow*				*T*	*O*
Pimephales vigilax	*Bullhead minnow*					*IF*
Platygobio gracilis	*Flathead chub*					*IF*
Poecilia formosa	*Amazon molly*					*O*
Poecilia latipinna	*Sailfin molly*	*34*		*0*	*T*	*O*

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SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Achirus lineatus	*Lined sole*					*IF*
Adinia xenica	*Diamond killifish*				*T*	*O*
Agonostomus monticola	*Mountain mullet*					*O*
Alosa chrysochloris	*Skipjack herring*					*P*
Ambloplites rupestris	*Rock bass*				*I*	*P*
Ameiurus melas	*Black bullhead*				*T*	*O*
Ameiurus natalis	*Yellow bullhead*					*O*
Amia calva	*Bowfin*				*T*	*P*
Ammocrypta clara	*Western sand darter*					*IF*
Ammocrypta vivax	*Scaly sand darter*					*IF*
Anchoa hepsetus	*Striped anchovy*					*IF*
Anchoa mitchilli	*Bay anchovy*					*IF*
Anguilla rostrata	*American eel*					*P*
Aphredoderus sayanus	*Pirate perch*					*IF*
Aplodinotus grunniens	*Freshwater drum*				*T*	*IF*
Archosargus probatocephalus	*Sheepshead*					*O*
Arius felis	*Hardhead catfish*				*T*	*IF*
Astyanax mexicanus	*Mexican tetra*					*IF*
Awaous tajasica	*River goby*					*O*
Bagre marinus	*Gafftopsail catfish*				*T*	*P*
Bairdiella chrysoura	*Silver perch*					*IF*
Bathygobius soporator	*Frillfin goby*				*T*	*IF*
Brevoortia gunteri	*Finescale menhaden*					*O*
Campostoma anomalum	*Central stoneroller*					*H*
Campostoma ornatum	*Mexican stoneroller*					*H*
Caranx hippos	*Crevalle jack*				*I*	*P*
Carassius auratus	*Goldfish*				*T*	*O*
Carcharhinus isodon	*Fine tooth shark*					*P*
Carcharhinus leucas	*Bull shark*					*P*
Carpiodes carpio	*River carpsucker*				*T*	*O*
Centrarchus macropterus	*Flier*					*IF*

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Centropomus parallelus	*Fat snook*					*P*
Centropomus undecimalis	*Common snook*				*I*	*P*
Citharichthys spilopterus	*Bay whiff*					*IF*
Conodon nobilis	*Barred grunt*					*IF*
Ctenopharyngodon idella	*Grass carp*				*T*	*H*
Cycleptus elongatus	*Blue sucker*				*I*	*IF*
Cynoscion arenarius	*Sand seatrout*				*I*	*P*
Cynoscion nebulosus	*Spotted seatrout*				*I*	*P*
Cyprinella lepida	*Plateau shiner*					*IF*
Cyprinella lutrensis	*Red shiner*	*31*		*0*	*T*	*IF*
Cyprinella proserpina	*Proserpine shiner*					*IF*
Cyprinella venusta	*Blacktail shiner*					*IF*
Cyprinodon bovinus	*Leon Springs pupfish*					*O*
Cyprinodon elegans	*Comanche Springs pupfish*					*O*
Cyprinodon eximius	*Conchos pupfish*					*O*
Cyprinodon pecosensis	*Pecos River pupfish*				*T*	*O*
Cyprinodon rubrofluviatilis	*Red River pupfish*				*T*	*O*
Cyprinodon variegatus	*Sheepshead minnow*	*2*		*0*	*T*	*O*
Dasyatis sabina	*Atlantic stingray*					*IF*
Diapterus auratus	*Irish pompano*					*IF*
Dionda diaboli	*Devils River minnow*				*I*	*IF*
Dionda episcopa	*Roundnose minnow*				*I*	*O*
Dormitator maculatus	*Fat sleeper*					*O*
Dorosoma cepedianum	*Gizzard shad*				*T*	*O*
Dorosoma petenense	*Threadfin shad*					*O*
Elassoma zonatum	*Banded pygmy sunfish*					*IF*
Eleotris pisonis	*Spinycheek sleeper*					*O*
Elops saurus	*Ladyfish*					*P*
Erimyzon oblongus	*Creek chub sucker*					*O*
Erimyzon sucetta	*Lake chubsucker*					*O*
Erotelis smaragdus	*Emerald sleeper*					*IF*
Esox americanus vermiculatus	*Grass pickerel*					*P*
Esox lucius	*Northern pike*				*I*	*P*

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Esox niger	*Chain pickerel*					*P*
Etheostoma asprigene	*Mud darter*					*IF*
Etheostoma chlorosomum	*Bluntnose darter*					*IF*
Etheostoma fonticola	*Fountain darter*				*I*	*IF*
Etheostoma fusiforme	*Swamp darter*					*IF*
Etheostoma gracile	*Slough darter*					*IF*
Etheostoma grahami	*Rio Grande darter*					*IF*
Etheostoma histrio	*Harlequin darter*					*IF*
Etheostoma lepidum	*Greenthroat darter*				*I*	*IF*
Etheostoma parvipinne	*Goldstripe darter*				*I*	*IF*
Etheostoma proeliare	*Cypress darter*				*I*	*IF*
Etheostoma radiosum	*Orangebelly darter*				*I*	*IF*
Etheostoma spectabile	*Orangethroat darter*					*IF*
Etheostoma whipplei	*Redfin darter*					*IF*
Etropus crossotus	*Fringed flounder*					*IF*
Eucinostomus argenteus	*Spotfin mojarra*					*IF*
Eucinostomus melanopterus	*Flagfin mojarra*					*IF*
Evorthodus lyricus	*Lyre goby*					*H*
Fundulus chrysotus	*Golden topminnow*					*IF*
Fundulus dispar	*Starhead topminnow*					*IF*
Fundulus grandis	*Gulf killifish*					*O*
Fundulus jenkinsi	*Saltmarsh topminnow*					*IF*
Fundulus notatus	*Blackstripe topminnow*					*IF*
Fundulus olivaceus	*Blackspotted topminnow*				*I*	*IF*
Fundulus pulvereus	*Bayou killifish*					*IF*
Fundulus similis	*Longnose killifish*				*I*	*O*
Fundulus zebrinus	*Plains killifish*				*T*	*IF*
Gambusia affinis	*Western mosquitofish*	*13*		*0*	*T*	*IF*
Gambusia gaigei	*Big Bend gambusia*					*IF*
Gambusia geiseri	*Largespring gambusia*					*IF*
Gambusia heterochir	*Clear Creek gambusia*					*IF*
Gambusia nobilis	*Pecos gambusia*					*IF*
Gila pandora	*Rio Grande chub*				*I*	*IF*

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Gobioides broussonneti	*Violet goby*					*O*
Gobiomorus dormitor	*Bigmouth sleeper*					*IF*
Gobionellus atripinnis	*Blackfin goby*					*O*
Gobionellus boleosoma	*Darter goby*					*O*
Gobionellus oceanicus	*Highfin goby*					*O*
Gobionellus shufeldti	*Freshwater goby*					*IF*
Gobionellus stigmaticus	*Marked goby*					*O*
Gobiosoma bosc	*Naked goby*				*T*	*IF*
Gobiosoma robustum	*Code goby*					*IF*
Harengula jaguana	*Scaled sardine*					*IF*
Heterandria formosa	*Least killifish*					*IF*
Hiodon alosoides	*Goldeye*					*IF*
Hybognathus hayi	*Cypress minnow*					*O*
Hybognathus nuchalis	*Mississippi silvery minnow*				*T*	*O*
Hybognathus placitus	*Plains minnow*				*T*	*O*
Notropis atherinoides	*Emerald shiner*					*IF*
Notropis atrocaudalis	*Blackspot shiner*					*IF*
Notropis bairdi	*Red River shiner*					*IF*
Notropis blennius	*River shiner*					*IF*
Notropis braytoni	*Tamaulipas shiner*					*IF*
Notropis buccula	*Smalleye shiner*					*IF*
Notropis buchanani	*Ghost shiner*					*IF*
Notropis chalybaeus	*Ironcolor shiner*				*I*	*IF*
Notropis chihuahua	*Chihuahua shiner*					*IF*
Notropis girardi	*Arkansas River shiner*					*IF*
Notropis hubbsi	*Bluehead shiner*					*IF*
Notropis jemezanus	*Rio Grande shiner*					*IF*
Notropis maculatus	*Taillight shiner*					*IF*
Notropis oxyrhynchus	*Sharpnose shiner*					*IF*
Notropis potteri	*Chub shiner*					*IF*
Notropis sabinae	*Sabine shiner*					*IF*
Notropis shumardi	*Silverband shiner*					*IF*
Notropis stramineus	*Sand shiner*					*IF*

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Notropis texanus	*Weed shiner*					*IF*
Notropis volucellus	*Mimic shiner*				*I*	*IF*
Noturus gyrinus	*Tadpole madtom*				*I*	*IF*
Noturus nocturnus	*Freckled madtom*				*I*	*IF*
Oncorhynchus mykiss	*Rainbow trout*				*I*	*IF*
Opsopoeodus emiliae	*Pugnose minnow*					*IF*
Paralichthys lethostigma	*Southern flounder*					*P*
Perca flavescens	*Yellow perch*					*P*
Percina caprodes	*Logperch*				*I*	*IF*
Percina carbonaria	*Texas logperch*				*I*	*IF*
Percina macrolepida	*Bigscale logperch*				*I*	*IF*
Percina maculata	*Blackside darter*				*I*	*IF*
Percina sciera	*Dusky darter*				*I*	*IF*
Percina shumardi	*River darter*					*IF*
Phenacobius mirabilis	*Suckermouth minnow*					*IF*
Pimephales promelas	*Fathead minnow*				*T*	*O*
Pimephales vigilax	*Bullhead minnow*					*IF*
Platygobio gracilis	*Flathead chub*					*IF*
Poecilia formosa	*Amazon molly*					*O*
Poecilia latipinna	*Sailfin molly*	*51*		*0*	*T*	*O*

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SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Achirus lineatus	*Lined sole*					*IF*
Adinia xenica	*Diamond killifish*				*T*	*O*
Agonostomus monticola	*Mountain mullet*					*O*
Alosa chrysochloris	*Skipjack herring*					*P*
Ambloplites rupestris	*Rock bass*				*I*	*P*
Ameiurus melas	*Black bullhead*				*T*	*O*
Ameiurus natalis	*Yellow bullhead*					*O*
Amia calva	*Bowfin*				*T*	*P*
Ammocrypta clara	*Western sand darter*					*IF*
Ammocrypta vivax	*Scaly sand darter*					*IF*
Anchoa hepsetus	*Striped anchovy*					*IF*
Anchoa mitchilli	*Bay anchovy*					*IF*
Anguilla rostrata	*American eel*					*P*
Aphredoderus sayanus	*Pirate perch*					*IF*
Aplodinotus grunniens	*Freshwater drum*				*T*	*IF*
Archosargus probatocephalus	*Sheepshead*					*O*
Arius felis	*Hardhead catfish*				*T*	*IF*
Astyanax mexicanus	*Mexican tetra*					*IF*
Awaous tajasica	*River goby*					*O*
Bagre marinus	*Gafftopsail catfish*				*T*	*P*
Bairdiella chrysoura	*Silver perch*					*IF*
Bathygobius soporator	*Frillfin goby*				*T*	*IF*
Brevoortia gunteri	*Finescale menhaden*					*O*
Campostoma anomalum	*Central stoneroller*					*H*
Campostoma ornatum	*Mexican stoneroller*					*H*
Caranx hippos	*Crevalle jack*				*I*	*P*
Carassius auratus	*Goldfish*				*T*	*O*
Carcharhinus isodon	*Fine tooth shark*					*P*
Carcharhinus leucas	*Bull shark*					*P*
Carpiodes carpio	*River carpsucker*				*T*	*O*
Centrarchus macropterus	*Flier*					*IF*

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Centropomus parallelus	*Fat snook*					*P*
Centropomus undecimalis	*Common snook*				*I*	*P*
Cichlasoma cyanoguttatum	*Rio Grande cichlid*					*IF*
Citharichthys spilopterus	*Bay whiff*					*IF*
Conodon nobilis	*Barred grunt*					*IF*
Ctenopharyngodon idella	*Grass carp*				*T*	*H*
Cycleptus elongatus	*Blue sucker*				*I*	*IF*
Cynoscion arenarius	*Sand seatrout*				*I*	*P*
Cynoscion nebulosus	*Spotted seatrout*				*I*	*P*
Cyprinella lepida	*Plateau shiner*					*IF*
Cyprinella lutrensis	*Red shiner*				*T*	*IF*
Cyprinella proserpina	*Proserpine shiner*					*IF*
Cyprinella venusta	*Blacktail shiner*					*IF*
Cyprinodon bovinus	*Leon Springs pupfish*					*O*
Cyprinodon elegans	*Comanche Springs pupfish*					*O*
Cyprinodon eximius	*Conchos pupfish*					*O*
Cyprinodon pecosensis	*Pecos River pupfish*				*T*	*O*
Cyprinodon rubrofluviatilis	*Red River pupfish*				*T*	*O*
Cyprinodon variegatus	*Sheepshead minnow*				*T*	*O*
Cyprinus carpio	*Common carp*				*T*	*O*
Dasyatis sabina	*Atlantic stingray*					*IF*
Diapterus auratus	*Irish pompano*					*IF*
Dionda diaboli	*Devils River minnow*				*I*	*IF*
Dionda episcopa	*Roundnose minnow*				*I*	*O*
Dormitator maculatus	*Fat sleeper*					*O*
Dorosoma cepedianum	*Gizzard shad*				*T*	*O*
Dorosoma petenense	*Threadfin shad*					*O*
Elassoma zonatum	*Banded pygmy sunfish*					*IF*
Eleotris pisonis	*Spinycheek sleeper*					*O*
Elops saurus	*Ladyfish*					*P*
Erimyzon oblongus	*Creek chub sucker*					*O*
Erimyzon sucetta	*Lake chubsucker*					*O*
Erotelis smaragdus	*Emerald sleeper*					*IF*

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Esox americanus vermiculatus	*Grass pickerel*					*P*
Esox lucius	*Northern pike*				*I*	*P*
Esox niger	*Chain pickerel*					*P*
Etheostoma asprigene	*Mud darter*					*IF*
Etheostoma chlorosomum	*Bluntnose darter*					*IF*
Etheostoma fonticola	*Fountain darter*				*I*	*IF*
Etheostoma fusiforme	*Swamp darter*					*IF*
Etheostoma gracile	*Slough darter*					*IF*
Etheostoma grahami	*Rio Grande darter*					*IF*
Etheostoma histrio	*Harlequin darter*					*IF*
Etheostoma lepidum	*Greenthroat darter*				*I*	*IF*
Etheostoma parvipinne	*Goldstripe darter*				*I*	*IF*
Etheostoma proeliare	*Cypress darter*				*I*	*IF*
Etheostoma radiosum	*Orangebelly darter*				*I*	*IF*
Etheostoma spectabile	*Orangethroat darter*					*IF*
Etheostoma whipplei	*Redfin darter*					*IF*
Etropus crossotus	*Fringed flounder*					*IF*
Eucinostomus argenteus	*Spotfin mojarra*					*IF*
Eucinostomus melanopterus	*Flagfin mojarra*					*IF*
Evorthodus lyricus	*Lyre goby*					*H*
Fundulus chrysotus	*Golden topminnow*					*IF*
Fundulus dispar	*Starhead topminnow*					*IF*
Fundulus grandis	*Gulf killifish*					*O*
Fundulus jenkinsi	*Saltmarsh topminnow*					*IF*
Fundulus notatus	*Blackstripe topminnow*					*IF*
Fundulus olivaceus	*Blackspotted topminnow*				*I*	*IF*
Fundulus pulvereus	*Bayou killifish*					*IF*
Fundulus similis	*Longnose killifish*				*I*	*O*
Fundulus zebrinus	*Plains killifish*				*T*	*IF*
Gambusia affinis	*Western mosquitofish*	*7*		*0*	*T*	*IF*
Gambusia gaigei	*Big Bend gambusia*					*IF*
Gambusia geiseri	*Largespring gambusia*					*IF*
Gambusia heterochir	*Clear Creek gambusia*					*IF*

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Gambusia nobilis	*Pecos gambusia*					*IF*
Gila pandora	*Rio Grande chub*				*I*	*IF*
Gobioides broussonneti	*Violet goby*					*O*
Gobiomorus dormitor	*Bigmouth sleeper*					*IF*
Gobionellus atripinnis	*Blackfin goby*					*O*
Gobionellus boleosoma	*Darter goby*					*O*
Gobionellus oceanicus	*Highfin goby*					*O*
Gobionellus shufeldti	*Freshwater goby*					*IF*
Gobionellus stigmaticus	*Marked goby*					*O*
Gobiosoma bosc	*Naked goby*				*T*	*IF*
Gobiosoma robustum	*Code goby*					*IF*
Harengula jaguana	*Scaled sardine*					*IF*
Heterandria formosa	*Least killifish*					*IF*
Hiodon alosoides	*Goldeye*					*IF*
Hybognathus hayi	*Cypress minnow*					*O*
Hybognathus nuchalis	*Mississippi silvery minnow*				*T*	*O*
Hybognathus placitus	*Plains minnow*				*T*	*O*
Hypostomus plecostomus	*Suckermouth catfish*					*H*
Ichthyomyzon castaneus	*Chesnut lamprey*				*I*	*P*
Ichthyomyzon gagei	*Southern brook lamprey*				*I*	*NONE*
Ictalurus furcatus	*Blue catfish*					*P*
Ictalurus lupus	*Headwater catfish*					*O*
Ictalurus punctatus	*Channel catfish*				*T*	*O*
Ictiobus bubalus	*Smallmouth buffalo*					*O*
Ictiobus cyprinellus	*Bigmouth buffalo*				*T*	*IF*
Ictiobus niger	*Black buffalo*					*O*
Labidesthes sicculus	*Brook silverside*				*I*	*IF*
Lagodon rhomboides	*Pinfish*					*O*
Leiostomus xanthurus	*Spot*					*O*
Lepisosteus oculatus	*Spotted gar*				*T*	*P*
Lepisosteus osseus	*Longnose gar*				*T*	*P*
Lepisosteus platostomus	*Shortnose gar*				*T*	*P*
Lepisosteus spatula	*Alligator gar*				*T*	*P*

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Lepomis auritus	*Redbreast sunfish*					*IF*
Lepomis cyanellus	*Green sunfish*	*11*		*0*	*T*	*P*
Lepomis gulosus	*Warmouth*	*2*		*0*	*T*	*P*
Lepomis humilus	*Orangespotted sunfish*					*IF*
Lepomis macrochirus	*Bluegill*				*T*	*IF*
Lepomis marginatus	*Dollar sunfish*					*IF*
Lepomis megalotis	*Long ear sunfish*	*7*		*0*		*IF*
Lepomis microlophus	*Redear sunfish*					*IF*
Lepomis punctatus	*Spotted sunfish*					*IF*
Lepomis symmetricus	*Bantam sunfish*					*IF*
Lucania parva	*Rainwater killifish*					*IF*
Luxilus chrysocephalus	*Striped shiner*					*IF*
Lythrurus fumeus	*Ribbon shiner*					*IF*
Lythrurus umbratilis	*Redfin shiner*					*IF*
Macrhybopsis aestivalis	*Speckled chub*					*IF*
Macrhybopsis storeriana	*Silver chub*					*IF*
Megalops atlanticus	*Tarpon*				*T*	*P*
Membras martinica	*Rough silverside*					*IF*
Menidia beryllina	*Inland silverside*					*IF*
Menidia clarkhubbsi	*Texas silverside*					*IF*
Menidia peninsulae	*Tidewater silverside*					*IF*
Microgobius gulosus	*Clown goby*					*IF*
Microphis brachyurus	*Opposum pipefish*					*IF*
Micropogonias undulatus	*Atlantic croaker*				*I*	*IF*
Micropterus dolomieu	*Smallmouth bass*				*I*	*P*
Micropterus punctulatus	*Spotted bass*					*P*
Micropterus salmoides	*Largemouth bass*					*P*
Micropterus treculi	*Guadalupe bass*				*I*	*P*
Minytrema melanops	*Spotted sucker*					*IF*
Morone chrysops	*White bass*					*P*
Morone mississippiensis	*Yellow bass*					*P*
Morone saxatilis	*Striped bass*					*P*

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Moxostoma austrinum	*West Mexican redhorse*					*IF*
Moxostoma congestum	*Gray redhorse*					*IF*
Moxostoma erythrurum	*Golden redhorse*					*IF*
Moxostoma poecilurum	*Blacktail redhorse*					*IF*
Mugil cephalus	*Striped mullet*					*O*
Mugil curema	*White mullet*					*O*
Myrophis punctatus	*Speckled worm eel*					*P*
Notemigonus crysoleucas	*Golden shiner*				*T*	*IF*
Notropis amabilis	*Texas shiner*					*IF*
Notropis amnis	*Pallid shiner*					*IF*
Notropis atherinoides	*Emerald shiner*					*IF*
Notropis atrocaudalis	*Blackspot shiner*					*IF*
Notropis bairdi	*Red River shiner*					*IF*
Notropis blennius	*River shiner*					*IF*
Notropis braytoni	*Tamaulipas shiner*					*IF*
Notropis buccula	*Smalleye shiner*					*IF*
Notropis buchanani	*Ghost shiner*					*IF*
Notropis chalybaeus	*Ironcolor shiner*				*I*	*IF*
Notropis chihuahua	*Chihuahua shiner*					*IF*
Notropis girardi	*Arkansas River shiner*					*IF*
Notropis hubbsi	*Bluehead shiner*					*IF*
Notropis jemezanus	*Rio Grande shiner*					*IF*
Notropis maculatus	*Taillight shiner*					*IF*
Notropis oxyrhynchus	*Sharpnose shiner*					*IF*
Notropis potteri	*Chub shiner*					*IF*
Notropis sabinae	*Sabine shiner*					*IF*
Notropis shumardi	*Silverband shiner*					*IF*
Notropis stramineus	*Sand shiner*					*IF*
Notropis texanus	*Weed shiner*					*IF*
Notropis volucellus	*Mimic shiner*				*I*	*IF*
Noturus gyrinus	*Tadpole madtom*				*I*	*IF*
Noturus nocturnus	*Freckled madtom*				*I*	*IF*
Oncorhynchus mykiss	*Rainbow trout*				*I*	*IF*

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Opsopoeodus emiliae	*Pugnose minnow*					*IF*
Paralichthys lethostigma	*Southern flounder*					*P*
Perca flavescens	*Yellow perch*					*P*
Percina caprodes	*Logperch*				*I*	*IF*
Percina carbonaria	*Texas logperch*				*I*	*IF*
Percina macrolepida	*Bigscale logperch*				*I*	*IF*
Percina maculata	*Blackside darter*				*I*	*IF*
Percina sciera	*Dusky darter*				*I*	*IF*
Percina shumardi	*River darter*					*IF*
Phenacobius mirabilis	*Suckermouth minnow*					*IF*
Pimephales promelas	*Fathead minnow*				*T*	*O*
Pimephales vigilax	*Bullhead minnow*					*IF*
Platygobio gracilis	*Flathead chub*					*IF*
Poecilia formosa	*Amazon molly*					*O*
Poecilia latipinna	*Sailfin molly*	*8*		*0*	*T*	*O*

17977 Unnamed tributary to Buffalo Bayou 10/18/02 no seining due to trash and debris

Raw Field Collection Notes on Fish collected for Spring 2003 Sampling Event

15867 HUNTING BAYOU AT JENSEN 5/21/03 982 SECONDS ELECTROSHOCK

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Achirus lineatus	Lined sole					IF
Adinia xenica	Diamond killifish				T	O
Agonostomus monticola	Mountain mullet					O
Alosa chrysochloris	Skipjack herring					P
Ambloplites rupestris	Rock bass				I	P
Ameiurus melas	Black bullhead				T	O
Ameiurus natalis	Yellow bullhead	1		0		O
Amia calva	Bowfin				T	P
Ammocrypta clara	Western sand darter					IF
Ammocrypta vivax	Scaly sand darter					IF
Anchoa hepsetus	Striped anchovy					IF
Anchoa mitchilli	Bay anchovy					IF
Anguilla rostrata	American eel					P
Aphredoderus sayanus	Pirate perch					IF
Aplodinotus grunniens	Freshwater drum				T	IF
Archosargus probatocephalus	Sheepshead					O
Arius felis	Hardhead catfish				T	IF
Astyanax mexicanus	Mexican tetra					IF
Awaous tajasica	River goby					O
Bagre marinus	Gafftopsail catfish				T	P
Bairdiella chrysoura	Silver perch					IF
Bathygobius soporator	Frillfin goby				T	IF
Brevoortia gunteri	Finescale menhaden					O
Campostoma anomalum	Central stoneroller					H
Campostoma ornatum	Mexican stoneroller					H
Caranx hippos	Crevalle jack				I	P
Carassius auratus	Goldfish				T	O
Carcharhinus isodon	Fine tooth shark					P

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Carcharhinus leucas	Bull shark					P
Carpiodes carpio	River carpsucker				T	O
Centrarchus macropterus	Flier					IF
Centropomus parallelus	Fat snook					P
Centropomus undecimalis	Common snook				I	P
Cichlasoma cyanoguttatum	Rio Grande cichlid	4		0		IF
Citharichthys spilopterus	Bay whiff					IF
Conodon nobilis	Barred grunt					IF
Ctenopharyngodon idella	Grass carp				T	H
Cycleptus elongatus	Blue sucker				I	IF
Cynoscion arenarius	Sand seatrout				I	P
Cynoscion nebulosus	Spotted seatrout				I	P
Cyprinella lepida	Plateau shiner					IF
Cyprinella lutrensis	Red shiner				T	IF
Cyprinella proserpina	Proserpine shiner					IF
Cyprinella venusta	Blacktail shiner					IF
Cyprinodon bovinus	Leon Springs pupfish					O
Cyprinodon elegans	Comanche Springs pupfish					O
Cyprinodon eximius	Conchos pupfish					O
Cyprinodon pecosensis	Pecos River pupfish				T	O
Cyprinodon rubrofluviatilis	Red River pupfish				T	O
Cyprinodon variegatus	Sheepshead minnow				T	O
Cyprinus carpio	Common carp				T	O
Dasyatis sabina	Atlantic stingray					IF
Diapterus auratus	Irish pompano					IF
Dionda diaboli	Devils River minnow				I	IF
Dionda episcopa	Roundnose minnow				I	O
Dormitator maculatus	Fat sleeper					O
Dorosoma cepedianum	Gizzard shad				T	O
Dorosoma petenense	Threadfin shad					O
Elassoma zonatum	Banded pygmy sunfish					IF
Eleotris pisonis	Spinycheek sleeper					O
Elops saurus	Ladyfish					P

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Erimyzon oblongus	Creek chub sucker					O
Erimyzon sucetta	Lake chubsucker					O
Erotelis smaragdus	Emerald sleeper					IF
Esox americanus vermiculatus	Grass pickerel					P
Esox lucius	Northern pike				I	P
Esox niger	Chain pickerel					P
Etheostoma asprigene	Mud darter					IF
Etheostoma chlorosomum	Bluntnose darter					IF
Etheostoma fonticola	Fountain darter				I	IF
Etheostoma fusiforme	Swamp darter					IF
Etheostoma gracile	Slough darter					IF
Etheostoma grahami	Rio Grande darter					IF
Etheostoma histrio	Harlequin darter					IF
Etheostoma lepidum	Greenthroat darter				I	IF
Etheostoma parvipinne	Goldstripe darter				I	IF
Etheostoma proeliare	Cypress darter				I	IF
Etheostoma radiosum	Orangebelly darter				I	IF
Etheostoma spectabile	Orangethroat darter					IF
Etheostoma whipplei	Redfin darter					IF
Etropus crossotus	Fringed flounder					IF
Eucinostomus argenteus	Spotfin mojarra					IF
Eucinostomus melanopterus	Flagfin mojarra					IF
Evorthodus lyricus	Lyre goby					H
Fundulus chrysotus	Golden topminnow					IF
Fundulus dispar	Starhead topminnow					IF
Fundulus grandis	Gulf killifish					O
Fundulus jenkinsi	Saltmarsh topminnow					IF
Fundulus notatus	Blackstripe topminnow					IF
Fundulus olivaceus	Blackspotted topminnow				I	IF
Fundulus pulvereus	Bayou killifish					IF
Fundulus similis	Longnose killifish				I	O
Fundulus zebrinus	Plains killifish				T	IF
Gambusia affinis	Western mosquitofish	411			T	IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Gambusia gaigei	Big Bend gambusia					IF
Gambusia geiseri	Largespring gambusia					IF
Gambusia heterochir	Clear Creek gambusia					IF
Gambusia nobilis	Pecos gambusia					IF
Gila pandora	Rio Grande chub				I	IF
Gobioides broussonneti	Violet goby					O
Gobiomorus dormitor	Bigmouth sleeper					IF
Gobionellus atripinnis	Blackfin goby					O
Gobionellus boleosoma	Darter goby					O
Gobionellus oceanicus	Highfin goby					O
Gobionellus shufeldti	Freshwater goby					IF
Gobionellus stigmaticus	Marked goby					O
Gobiosoma bosc	Naked goby				T	IF
Gobiosoma robustum	Code goby					IF
Harengula jaguana	Scaled sardine					IF
Heterandria formosa	Least killifish					IF
Hiodon alosoides	Goldeye					IF
Hybognathus hayi	Cypress minnow					O
Hybognathus nuchalis	Mississippi silvery minnow				T	O
Hybognathus placitus	Plains minnow				T	O
Hypostomus plecostomus	Suckermouth catfish					H
Ichthyomyzon castaneus	Chesnut lamprey				I	P
Ichthyomyzon gagei	Southern brook lamprey				I	NONE
Ictalurus furcatus	Blue catfish					P
Ictalurus lupus	Headwater catfish					O
Ictalurus punctatus	Channel catfish				T	O
Ictiobus bubalus	Smallmouth buffalo					O
Ictiobus cyprinellus	Bigmouth buffalo				T	IF
Ictiobus niger	Black buffalo					O
Labidesthes sicculus	Brook silverside				I	IF
Lagodon rhomboides	Pinfish					O
Leiostomus xanthurus	Spot					O
Lepisosteus oculatus	Spotted gar				T	P

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Lepisosteus osseus	Longnose gar				T	P
Lepisosteus platostomus	Shortnose gar				T	P
Lepisosteus spatula	Alligator gar				T	P
Lepomis auritus	Redbreast sunfish					IF
Lepomis cyanellus	Green sunfish	4		0	T	P
Lepomis gulosus	Warmouth				T	P
Lepomis humilus	Orange spotted sunfish	6		0		IF
Lepomis macrochirus	Bluegill				T	IF
Lepomis marginatus	Dollar sunfish					IF
Lepomis megalotis	Longear sunfish					IF
Lepomis microlophus	Redear sunfish					IF
Lepomis punctatus	Spotted sunfish					IF
Lepomis symmetricus	Bantam sunfish					IF
Lucania parva	Rainwater killifish					IF
Luxilus chrysocephalus	Striped shiner					IF
Lythrurus fumeus	Ribbon shiner					IF
Lythrurus umbratilis	Redfin shiner					IF
Macrhybopsis aestivalis	Speckled chub					IF
Macrhybopsis storeriana	Silver chub					IF
Megalops atlanticus	Tarpon				T	P
Membras martinica	Rough silverside					IF
Menidia beryllina	Inland silverside					IF
Menidia clarkhubbsi	Texas silverside					IF
Menidia peninsulae	Tidewater silverside					IF
Microgobius gulosus	Clown goby					IF
Microphis brachyurus	Opposum pipefish					IF
Micropogonias undulatus	Atlantic croaker				I	IF
Micropterus dolomieu	Smallmouth bass				I	P
Micropterus punctulatus	Spotted bass					P
Micropterus salmoides	Largemouth bass					P
Micropterus treculi	Guadalupe bass				I	P
Minytrema melanops	Spotted sucker					IF
Morone chrysops	White bass					P

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Morone mississippiensis	Yellow bass					P
Morone saxatilis	Striped bass					P
Moxostoma austrinum	West Mexican redhorse					IF
Moxostoma congestum	Gray redhorse					IF
Moxostoma erythrurum	Golden redhorse					IF
Moxostoma poecilurum	Blacktail redhorse					IF
Mugil cephalus	Striped mullet					O
Mugil curema	White mullet					O
Myrophis punctatus	Speckled worm eel					P
Notemigonus crysoleucas	Golden shiner				T	IF
Notropis amabilis	Texas shiner					IF
Notropis amnis	Pallid shiner					IF
Notropis atherinoides	Emerald shiner					IF
Notropis atrocaudalis	Blackspot shiner					IF
Notropis bairdi	Red River shiner					IF
Notropis blennius	River shiner					IF
Notropis braytoni	Tamaulipas shiner					IF
Notropis buccula	Smalleye shiner					IF
Notropis buchanani	Ghost shiner					IF
Notropis chalybaeus	Ironcolor shiner				I	IF
Notropis chihuahua	Chihuahua shiner					IF
Notropis girardi	Arkansas River shiner					IF
Notropis hubbsi	Bluehead shiner					IF
Notropis jemezanus	Rio Grande shiner					IF
Notropis maculatus	Taillight shiner					IF
Notropis oxyrhynchus	Sharpnose shiner					IF
Notropis potteri	Chub shiner					IF
Notropis sabinae	Sabine shiner					IF
Notropis shumardi	Silverband shiner					IF
Notropis stramineus	Sand shiner					IF
Notropis texanus	Weed shiner					IF
Notropis volucellus	Mimic shiner				I	IF
Noturus gyrinus	Tadpole madtom				I	IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Noturus nocturnus	Freckled madtom				I	IF
Oncorhynchus mykiss	Rainbow trout				I	IF
Opsopoeodus emiliae	Pugnose minnow					IF
Paralichthys lethostigma	Southern flounder					P
Perca flavescens	Yellow perch					P
Percina caprodes	Logperch				I	IF
Percina carbonaria	Texas logperch				I	IF
Percina macrolepida	Bigscale logperch				I	IF
Percina maculata	Blackside darter				I	IF
Percina sciera	Dusky darter				I	IF
Percina shumardi	River darter					IF
Phenacobius mirabilis	Suckermouth minnow					IF
Pimephales promelas	Fathead minnow				T	O
Pimephales vigilax	Bullhead minnow					IF
Platygobio gracilis	Flathead chub					IF
Poecilia formosa	Amazon molly					O
Poecilia latipinna	Sailfin molly	73		0	T	O

15867 Hunting Bayou at Jensen 5/21/03 no seining due to trash and debris

16666 Halls Bayou 5/21/03 No specimens collected during 1500 seconds electroshock

16666 Halls Bayou 5/21/03 7 seine hauls for 96 yards

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Achirus lineatus	Lined sole					IF
Adinia xenica	Diamond killifish				T	O
Agonostomus monticola	Mountain mullet					O
Alosa chrysochloris	Skipjack herring					P
Ambloplites rupestris	Rock bass				I	P
Ameiurus melas	Black bullhead				T	O
Ameiurus natalis	Yellow bullhead					O
Amia calva	Bowfin				T	P
Ammocrypta clara	Western sand darter					IF
Ammocrypta vivax	Scaly sand darter					IF
Anchoa hepsetus	Striped anchovy					IF
Anchoa mitchilli	Bay anchovy					IF
Anguilla rostrata	American eel					P
Aphredoderus sayanus	Pirate perch					IF
Aplodinotus grunniens	Freshwater drum				T	IF
Archosargus probatocephalus	Sheepshead					O
Arius felis	Hardhead catfish				T	IF
Astyanax mexicanus	Mexican tetra					IF
Awaous tajasica	River goby					O
Bagre marinus	Gafftopsail catfish				T	P
Bairdiella chrysoura	Silver perch					IF
Bathygobius soporator	Frillfin goby				T	IF
Brevoortia gunteri	Finescale menhaden					O
Campostoma anomalum	Central stoneroller					H
Campostoma ornatum	Mexican stoneroller					H
Caranx hippos	Crevalle jack				I	P
Carassius auratus	Goldfish				T	O
Carcharhinus isodon	Fine tooth shark					P

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Carcharhinus leucas	Bull shark					P
Carpiodes carpio	River carpsucker				T	O
Centrarchus macropterus	Flier					IF
Centropomus parallelus	Fat snook					P
Centropomus undecimalis	Common snook				I	P
Cichlasoma cyanoguttatum	Rio Grande cichlid					IF
Citharichthys spilopterus	Bay whiff					IF
Conodon nobilis	Barred grunt					IF
Ctenopharyngodon idella	Grass carp				T	H
Cycleptus elongatus	Blue sucker				I	IF
Cynoscion arenarius	Sand seatrout				I	P
Cynoscion nebulosus	Spotted seatrout				I	P
Cyprinella lepida	Plateau shiner					IF
Cyprinella lutrensis	Red shiner	1		0	T	IF
Cyprinella proserpina	Proserpine shiner					IF
Cyprinella venusta	Blacktail shiner					IF
Cyprinodon bovinus	Leon Springs pupfish					O
Cyprinodon elegans	Comanche Springs pupfish					O
Cyprinodon eximius	Conchos pupfish					O
Cyprinodon pecosensis	Pecos River pupfish				T	O
Cyprinodon rubrofluviatilis	Red River pupfish				T	O
Cyprinodon variegatus	Sheepshead minnow				T	O
Cyprinus carpio	Common carp				T	O
Dasyatis sabina	Atlantic stingray					IF
Diapterus auratus	Irish pompano					IF
Dionda diaboli	Devils River minnow				I	IF
Dionda episcopa	Roundnose minnow				I	O
Dormitator maculatus	Fat sleeper					O
Dorosoma cepedianum	Gizzard shad				T	O
Dorosoma petenense	Threadfin shad					O
Elassoma zonatum	Banded pygmy sunfish					IF
Eleotris pisonis	Spinycheek sleeper					O
Elops saurus	Ladyfish					P

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Erimyzon oblongus	Creek chub sucker					O
Erimyzon sucetta	Lake chubsucker					O
Erotelis smaragdus	Emerald sleeper					IF
Esox americanus vermiculatus	Grass pickerel					P
Esox lucius	Northern pike				I	P
Esox niger	Chain pickerel					P
Etheostoma asprigene	Mud darter					IF
Etheostoma chlorosomum	Bluntnose darter					IF
Etheostoma fonticola	Fountain darter				I	IF
Etheostoma fusiforme	Swamp darter					IF
Etheostoma gracile	Slough darter					IF
Etheostoma grahami	Rio Grande darter					IF
Etheostoma histrio	Harlequin darter					IF
Etheostoma lepidum	Greenthroat darter				I	IF
Etheostoma parvipinne	Goldstripe darter				I	IF
Etheostoma proeliare	Cypress darter				I	IF
Etheostoma radiosum	Orangebelly darter				I	IF
Etheostoma spectabile	Orangethroat darter					IF
Etheostoma whipplei	Redfin darter					IF
Etropus crossotus	Fringed flounder					IF
Eucinostomus argenteus	Spotfin mojarra					IF
Eucinostomus melanopterus	Flagfin mojarra					IF
Evorthodus lyricus	Lyre goby					H
Fundulus chrysotus	Golden topminnow					IF
Fundulus dispar	Starhead topminnow					IF
Fundulus grandis	Gulf killifish	1		0		O
Fundulus jenkinsi	Saltmarsh topminnow					IF
Fundulus notatus	Blackstripe topminnow					IF
Fundulus olivaceus	Black spotted topminnow	31		0	I	IF
Fundulus pulvereus	Bayou killifish					IF
Fundulus similis	Longnose killifish				I	O
Fundulus zebrinus	Plains killifish				T	IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Gambusia affinis	Western mosquitofish	243		0	T	IF
Gambusia gaigei	Big Bend gambusia					IF
Gambusia geiseri	Largespring gambusia					IF
Gambusia heterochir	Clear Creek gambusia					IF
Gambusia nobilis	Pecos gambusia					IF
Gila pandora	Rio Grande chub				I	IF
Gobioides broussonneti	Violet goby					O
Gobiomorus dormitor	Bigmouth sleeper					IF
Gobionellus atripinnis	Blackfin goby					O
Gobionellus boleosoma	Darter goby					O
Gobionellus oceanicus	Highfin goby					O
Gobionellus shufeldti	Freshwater goby					IF
Gobionellus stigmaticus	Marked goby					O
Gobiosoma bosc	Naked goby				T	IF
Gobiosoma robustum	Code goby					IF
Harengula jaguana	Scaled sardine					IF
Heterandria formosa	Least killifish					IF
Hiodon alosoides	Goldeye					IF
Hybognathus hayi	Cypress minnow					O
Hybognathus nuchalis	Mississippi silvery minnow				T	O
Hybognathus placitus	Plains minnow				T	O
Hypostomus plecostomus	Suckermouth catfish					H
Ichthyomyzon castaneus	Chesnut lamprey				I	P
Ichthyomyzon gagei	Southern brook lamprey				I	NONE
Ictalurus furcatus	Blue catfish					P
Ictalurus lupus	Headwater catfish					O
Ictalurus punctatus	Channel catfish				T	O
Ictiobus bubalus	Smallmouth buffalo					O
Ictiobus cyprinellus	Bigmouth buffalo				T	IF
Ictiobus niger	Black buffalo					O
Labidesthes sicculus	Brook silverside				I	IF
Lagodon rhomboides	Pinfish					O
Leiostomus xanthurus	Spot					O

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Lepisosteus oculatus	Spotted gar				T	P
Lepisosteus osseus	Longnose gar				T	P
Lepisosteus platostomus	Shortnose gar				T	P
Lepisosteus spatula	Alligator gar				T	P
Lepomis auritus	Redbreast sunfish					IF
Lepomis cyanellus	Green sunfish				T	P
Lepomis gulosus	Warmouth				T	P
Lepomis humilus	Orange spotted sunfish	1		0		IF
Lepomis macrochirus	Bluegill				T	IF
Lepomis marginatus	Dollar sunfish					IF
Lepomis megalotis	Long ear sunfish	40		0		IF
Lepomis microlophus	Redear sunfish					IF
Lepomis punctatus	Spotted sunfish					IF
Lepomis symmetricus	Bantam sunfish					IF
Lucania parva	Rainwater killifish					IF
Luxilus chrysocephalus	Striped shiner					IF
Lythrurus fumeus	Ribbon shiner					IF
Lythrurus umbratilis	Redfin shiner					IF
Macrhybopsis aestivalis	Speckled chub					IF
Macrhybopsis storeriana	Silver chub					IF
Megalops atlanticus	Tarpon				T	P
Membras martinica	Rough silverside					IF
Menidia beryllina	Inland silverside					IF
Menidia clarkhubbsi	Texas silverside					IF
Menidia peninsulae	Tidewater silverside					IF
Microgobius gulosus	Clown goby					IF
Microphis brachyurus	Opposum pipefish					IF
Micropogonias undulatus	Atlantic croaker				I	IF
Micropterus dolomieu	Smallmouth bass				I	P
Micropterus punctulatus	Spotted bass					P
Micropterus salmoides	Largemouth bass	3		0		P

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SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Achirus lineatus	Lined sole					IF
Adinia xenica	Diamond killifish				T	O
Agonostomus monticola	Mountain mullet					O
Alosa chrysochloris	Skipjack herring					P
Ambloplites rupestris	Rock bass				I	P
Ameiurus melas	Black bullhead				T	O
Ameiurus natalis	Yellow bullhead					O
Amia calva	Bowfin				T	P
Ammocrypta clara	Western sand darter					IF
Ammocrypta vivax	Scaly sand darter					IF
Anchoa hepsetus	Striped anchovy					IF
Anchoa mitchilli	Bay anchovy					IF
Anguilla rostrata	American eel					P
Fundulus pulvereus	Bayou killifish					IF
Fundulus similis	Longnose killifish				I	O
Fundulus zebrinus	Plains killifish				T	IF
Gambusia affinis	Western mosquitofish	83		0	T	IF
Gambusia gaigei	Big Bend gambusia					IF
Gambusia geiseri	Largespring gambusia					IF
Gambusia heterochir	Clear Creek gambusia					IF
Gambusia nobilis	Pecos gambusia					IF
Gila pandora	Rio Grande chub				I	IF
Gobioides broussonneti	Violet goby					O
Gobiomorus dormitor	Bigmouth sleeper					IF
Gobionellus atripinnis	Blackfin goby					O
Gobionellus boleosoma	Darter goby					O
Gobionellus oceanicus	Highfin goby					O
Gobionellus shufeldti	Freshwater goby					IF
Gobionellus stigmaticus	Marked goby					O
Gobiosoma bosc	Naked goby				T	IF
Gobiosoma robustum	Code goby					IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Harengula jaguana	Scaled sardine					IF
Heterandria formosa	Least killifish					IF
Hiodon alosoides	Goldeye					IF
Hybognathus hayi	Cypress minnow					O
Hybognathus nuchalis	Mississippi silvery minnow				T	O
Hybognathus placitus	Plains minnow				T	O
Hypostomus plecostomus	Suckermouth catfish					H
Ichthyomyzon castaneus	Chesnut lamprey				I	P
Ichthyomyzon gagei	Southern brook lamprey				I	NONE
Ictalurus furcatus	Blue catfish					P
Ictalurus lupus	Headwater catfish					O
Ictalurus punctatus	Channel catfish				T	O
Ictiobus bubalus	Smallmouth buffalo					O
Ictiobus cyprinellus	Bigmouth buffalo				T	IF
Ictiobus niger	Black buffalo					O
Labidesthes sicculus	Brook silverside				I	IF
Lagodon rhomboides	Pinfish					O
Leiostomus xanthurus	Spot					O
Lepisosteus oculatus	Spotted gar				T	P
Lepisosteus osseus	Longnose gar				T	P
Lepisosteus platostomus	Shortnose gar				T	P
Lepisosteus spatula	Alligator gar				T	P
Lepomis auritus	Redbreast sunfish					IF
Lepomis cyanellus	Green sunfish	4			T	P
Lepomis gulosus	Warmouth				T	P
Lepomis humilus	Orangespotted sunfish					IF
Lepomis macrochirus	Bluegill				T	IF
Lepomis marginatus	Dollar sunfish					IF
Lepomis megalotis	Long ear sunfish	1				IF

16651 Country Club Bayou at Hughes St. 5/22/03 5 seine hauls for 50 yards

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Achirus lineatus	Lined sole					IF
Adinia xenica	Diamond killifish				T	O
Agonostomus monticola	Mountain mullet					O
Alosa chrysochloris	Skipjack herring					P
Ambloplites rupestris	Rock bass				I	P
Ameiurus melas	Black bullhead				T	O
Ameiurus natalis	Yellow bullhead					O
Amia calva	Bowfin				T	P
Ammocrypta clara	Western sand darter					IF
Ammocrypta vivax	Scaly sand darter					IF
Anchoa hepsetus	Striped anchovy					IF
Anchoa mitchilli	Bay anchovy					IF
Anguilla rostrata	American eel					P
Aphredoderus sayanus	Pirate perch	1		0		IF
Aplodinotus grunniens	Freshwater drum				T	IF
Archosargus probatocephalus	Sheepshead					O
Arius felis	Hardhead catfish				T	IF
Astyanax mexicanus	Mexican tetra					IF
Awaous tajasica	River goby					O
Bagre marinus	Gafftopsail catfish				T	P
Bairdiella chrysoura	Silver perch					IF
Bathygobius soporator	Frillfin goby				T	IF
Brevoortia gunteri	Finescale menhaden					O
Campostoma anomalum	Central stoneroller					H
Campostoma ornatum	Mexican stoneroller					H
Caranx hippos	Crevalle jack				I	P
Carassius auratus	Goldfish				T	O
Carcharhinus isodon	Fine tooth shark					P
Carcharhinus leucas	Bull shark					P
Carpiodes carpio	River carpsucker				T	O
Centrarchus macropterus	Flier					IF
Centropomus parallelus	Fat snook					P

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Centropomus undecimalis	Common snook				I	P
Cichlasoma cyanoguttatum	Rio Grande cichlid					IF
Citharichthys spilopterus	Bay whiff					IF
Conodon nobilis	Barred grunt					IF
Ctenopharyngodon idella	Grass carp				T	H
Cycleptus elongatus	Blue sucker				I	IF
Cynoscion arenarius	Sand seatrout				I	P
Cynoscion nebulosus	Spotted seatrout				I	P
Cyprinella lepida	Plateau shiner					IF
Cyprinella lutrensis	Red shiner	1		0	T	IF
Cyprinella proserpina	Proserpine shiner					IF
Cyprinella venusta	Blacktail shiner					IF
Cyprinodon bovinus	Leon Springs pupfish					O
Cyprinodon elegans	Comanche Springs pupfish					O
Cyprinodon eximius	Conchos pupfish					O
Cyprinodon pecosensis	Pecos River pupfish				T	O
Cyprinodon rubrofluviatilis	Red River pupfish				T	O
Cyprinodon variegatus	Sheepshead minnow				T	O
Cyprinus carpio	Common carp				T	O
Dasyatis sabina	Atlantic stingray					IF
Diapterus auratus	Irish pompano					IF
Dionda diaboli	Devils River minnow				I	IF
Dionda episcopa	Roundnose minnow				I	O
Dormitator maculatus	Fat sleeper					O
Dorosoma cepedianum	Gizzard shad				T	O
Dorosoma petenense	Threadfin shad					O
Elassoma zonatum	Banded pygmy sunfish					IF
Eleotris pisonis	Spinycheek sleeper					O
Elops saurus	Ladyfish					P
Erimyzon oblongus	Creek chub sucker					O
Erimyzon sucetta	Lake chubsucker					O
Erotelis smaragdus	Emerald sleeper					IF
Esox americanus vermiculatus	Grass pickerel					P
Esox lucius	Northern pike				I	P

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Esox niger	Chain pickerel					P
Etheostoma asprigene	Mud darter					IF
Etheostoma chlorosomum	Bluntnose darter					IF
Etheostoma fonticola	Fountain darter				I	IF
Etheostoma fusiforme	Swamp darter					IF
Etheostoma gracile	Slough darter					IF
Etheostoma grahami	Rio Grande darter					IF
Etheostoma histrio	Harlequin darter					IF
Etheostoma lepidum	Greenthroat darter				I	IF
Etheostoma parvipinne	Goldstripe darter				I	IF
Etheostoma proeliare	Cypress darter				I	IF
Etheostoma radiosum	Orangebelly darter				I	IF
Etheostoma spectabile	Orangethroat darter					IF
Etheostoma whipplei	Redfin darter					IF
Etropus crossotus	Fringed flounder					IF
Eucinostomus argenteus	Spotfin mojarra					IF
Eucinostomus melanopterus	Flagfin mojarra					IF
Evorthodus lyricus	Lyre goby					H
Fundulus chrysotus	Golden topminnow					IF
Fundulus dispar	Starhead topminnow					IF
Fundulus grandis	Gulf killifish					O
Fundulus jenkinsi	Saltmarsh topminnow					IF
Fundulus notatus	Blackstripe topminnow					IF
Fundulus olivaceus	Black spotted topminnow	1		0	I	IF
Fundulus pulvereus	Bayou killifish					IF
Fundulus similis	Longnose killifish				I	O
Fundulus zebrinus	Plains killifish				T	IF
Gambusia affinis	Western mosquitofish	473		0	T	IF
Gambusia gaigei	Big Bend gambusia					IF
Gambusia geiseri	Largespring gambusia					IF
Gambusia heterochir	Clear Creek gambusia					IF
Gambusia nobilis	Pecos gambusia					IF
Gila pandora	Rio Grande chub				I	IF
Gobioides broussonneti	Violet goby					O

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Gobiomorus dormitor	Bigmouth sleeper					IF
Gobionellus atripinnis	Blackfin goby					O
Gobionellus boleosoma	Darter goby					O
Gobionellus oceanicus	Highfin goby					O
Gobionellus shufeldti	Freshwater goby					IF
Gobionellus stigmaticus	Marked goby					O
Gobiosoma bosc	Naked goby				T	IF
Gobiosoma robustum	Code goby					IF
Harengula jaguana	Scaled sardine					IF
Heterandria formosa	Least killifish					IF
Hiodon alosoides	Goldeye					IF
Hybognathus hayi	Cypress minnow					O
Hybognathus nuchalis	Mississippi silvery minnow				T	O
Hybognathus placitus	Plains minnow				T	O
Hypostomus plecostomus	Suckermouth catfish					H
Ichthyomyzon castaneus	Chesnut lamprey				I	P
Ichthyomyzon gagei	Southern brook lamprey				I	NONE
Ictalurus furcatus	Blue catfish					P
Ictalurus lupus	Headwater catfish					O
Ictalurus punctatus	Channel catfish				T	O
Ictiobus bubalus	Smallmouth buffalo					O
Ictiobus cyprinellus	Bigmouth buffalo				T	IF
Ictiobus niger	Black buffalo					O
Labidesthes sicculus	Brook silverside				I	IF
Lagodon rhomboides	Pinfish					O
Leiostomus xanthurus	Spot					O
Lepisosteus oculatus	Spotted gar				T	P
Lepisosteus osseus	Longnose gar				T	P
Lepisosteus platostomus	Shortnose gar				T	P
Lepisosteus spatula	Alligator gar				T	P
Lepomis auritus	Redbreast sunfish					IF

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SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Achirus lineatus	Lined sole					IF
Adinia xenica	Diamond killifish				T	O
Agonostomus monticola	Mountain mullet					O
Alosa chrysochloris	Skipjack herring					P
Ambloplites rupestris	Rock bass				I	P
Ameiurus melas	Black bullhead				T	O
Amia calva	Bowfin				T	P
Ammocrypta clara	Western sand darter					IF
Ammocrypta vivax	Scaly sand darter					IF
Anchoa hepsetus	Striped anchovy					IF
Anchoa mitchilli	Bay anchovy					IF
Anguilla rostrata	American eel					P
Aphredoderus sayanus	Pirate perch					IF
Aplodinotus grunniens	Freshwater drum				T	IF
Archosargus probatocephalus	Sheepshead					O
Arius felis	Hardhead catfish				T	IF
Astyanax mexicanus	Mexican tetra					IF
Awaous tajasica	River goby					O
Bagre marinus	Gafftopsail catfish				T	P
Bairdiella chrysoura	Silver perch					IF
Bathygobius soporator	Frillfin goby				T	IF
Brevoortia gunteri	Finescale menhaden					O
Campostoma anomalum	Central stoneroller					H
Campostoma ornatum	Mexican stoneroller					H
Caranx hippos	Crevalle jack				I	P
Carassius auratus	Goldfish				T	O
Carcharhinus isodon	Fine tooth shark					P
Carcharhinus leucas	Bull shark					P
Carpiodes carpio	River carpsucker				T	O
Centrarchus macropterus	Flier					IF
Centropomus parallelus	Fat snook					P

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Centropomus undecimalis	Common snook				I	P
Cichlasoma cyanoguttatum	Rio Grande cichlid					IF
Citharichthys spilopterus	Bay whiff					IF
Conodon nobilis	Barred grunt					IF
Ctenopharyngodon idella	Grass carp				T	H
Cycleptus elongatus	Blue sucker				I	IF
Cynoscion arenarius	Sand seatrout				I	P
Cynoscion nebulosus	Spotted seatrout				I	P
Cyprinella lepida	Plateau shiner					IF
Cyprinella lutrensis	Red shiner	1		0	T	IF
Cyprinella proserpina	Proserpine shiner					IF
Cyprinella venusta	Blacktail shiner					IF
Cyprinodon bovinus	Leon Springs pupfish					O
Cyprinodon elegans	Comanche Springs pupfish					O
Cyprinodon eximius	Conchos pupfish					O
Cyprinodon pecosensis	Pecos River pupfish				T	O
Cyprinodon rubrofluviatilis	Red River pupfish				T	O
Cyprinodon variegatus	Sheepshead minnow	1		0	T	O
Cyprinus carpio	Common carp				T	O
Dasyatis sabina	Atlantic stingray					IF
Diapterus auratus	Irish pompano					IF
Dionda diaboli	Devils River minnow				I	IF
Dionda episcopa	Roundnose minnow				I	O
Dormitator maculatus	Fat sleeper					O
Dorosoma cepedianum	Gizzard shad				T	O
Dorosoma petenense	Threadfin shad					O
Elassoma zonatum	Banded pygmy sunfish					IF
Eleotris pisonis	Spinycheek sleeper					O
Elops saurus	Ladyfish					P
Erimyzon oblongus	Creek chub sucker					O
Erimyzon sucetta	Lake chubsucker					O
Erotelis smaragdus	Emerald sleeper					IF
Esox americanus vermiculatus	Grass pickerel					P

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Esox lucius	Northern pike				I	P
Esox niger	Chain pickerel					P
Etheostoma asprigene	Mud darter					IF
Etheostoma chlorosomum	Bluntnose darter					IF
Etheostoma fonticola	Fountain darter				I	IF
Etheostoma fusiforme	Swamp darter					IF
Etheostoma gracile	Slough darter					IF
Etheostoma grahami	Rio Grande darter					IF
Etheostoma histrio	Harlequin darter					IF
Etheostoma lepidum	Greenthroat darter				I	IF
Etheostoma parvipinne	Goldstripe darter				I	IF
Etheostoma proeliare	Cypress darter				I	IF
Etheostoma radiosum	Orangebelly darter				I	IF
Etheostoma spectabile	Orangethroat darter					IF
Etheostoma whipplei	Redfin darter					IF
Etropus crossotus	Fringed flounder					IF
Eucinostomus argenteus	Spotfin mojarra					IF
Eucinostomus melanopterus	Flagfin mojarra					IF
Evorthodus lyricus	Lyre goby					H
Fundulus chrysotus	Golden topminnow					IF
Fundulus dispar	Starhead topminnow					IF
Fundulus grandis	Gulf killifish					O
Fundulus jenkinsi	Saltmarsh topminnow					IF
Fundulus notatus	Blackstripe topminnow					IF
Fundulus olivaceus	Blackspotted topminnow				I	IF
Fundulus pulvereus	Bayou killifish					IF
Fundulus similis	Longnose killifish				I	O
Fundulus zebrinus	Plains killifish				T	IF
Gambusia affinis	Western mosquitofish	1		0	T	IF
Gambusia gaigei	Big Bend gambusia					IF
Gambusia geiseri	Largespring gambusia					IF
Gambusia heterochir	Clear Creek gambusia					IF
Gambusia nobilis	Pecos gambusia					IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Gila pandora	Rio Grande chub				I	IF
Gobioides broussonneti	Violet goby					O
Gobiomorus dormitor	Bigmouth sleeper					IF
Gobionellus atripinnis	Blackfin goby					O
Gobionellus boleosoma	Darter goby					O
Gobionellus oceanicus	Highfin goby					O
Gobionellus shufeldti	Freshwater goby					IF
Gobionellus stigmaticus	Marked goby					O
Gobiosoma bosc	Naked goby				T	IF
Gobiosoma robustum	Code goby					IF
Harengula jaguana	Scaled sardine					IF
Heterandria formosa	Least killifish					IF
Hiodon alosoides	Goldeye					IF
Hybognathus hayi	Cypress minnow					O
Hybognathus nuchalis	Mississippi silvery minnow				T	O
Hybognathus placitus	Plains minnow				T	O
Lepomis marginatus	Dollar sunfish					IF
Lepomis megalotis	Long ear sunfish	3		0		IF
Lepomis microlophus	Redear sunfish					IF
Lepomis punctatus	Spotted sunfish					IF
Lepomis symmetricus	Bantam sunfish					IF
Lucania parva	Rainwater killifish					IF
Luxilus chrysocephalus	Striped shiner					IF
Lythrurus fumeus	Ribbon shiner					IF
Lythrurus umbratilis	Redfin shiner					IF
Macrhybopsis aestivalis	Speckled chub					IF
Macrhybopsis storeriana	Silver chub					IF
Megalops atlanticus	Tarpon				T	P
Membras martinica	Rough silverside					IF
Menidia beryllina	Inland silverside					IF
Menidia clarkhubbsi	Texas silverside					IF
Menidia peninsulae	Tidewater silverside					IF
Microgobius gulosus	Clown goby					IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Microphis brachyurus	Opposum pipefish					IF
Micropogonias undulatus	Atlantic croaker				I	IF
Micropterus dolomieu	Smallmouth bass				I	P
Micropterus punctulatus	Spotted bass					P
Micropterus salmoides	Largemouth bass					P
Micropterus treculi	Guadalupe bass				I	P
Minytrema melanops	Spotted sucker					IF
Morone chrysops	White bass					P
Morone mississippiensis	Yellow bass					P
Morone saxatilis	Striped bass					P
Moxostoma austrinum	West Mexican redhorse					IF
Moxostoma congestum	Gray redhorse					IF
Moxostoma erythrurum	Golden redhorse					IF
Moxostoma poecilurum	Blacktail redhorse					IF
Mugil cephalus	Striped mullet					O
Mugil curema	White mullet					O
Myrophis punctatus	Speckled worm eel					P
Notemigonus crysoleucas	Golden shiner				T	IF
Notropis amabilis	Texas shiner					IF
Notropis amnis	Pallid shiner					IF
Notropis atherinoides	Emerald shiner					IF
Notropis atrocaudalis	Blackspot shiner					IF
Notropis bairdi	Red River shiner					IF
Notropis blennius	River shiner					IF
Notropis braytoni	Tamaulipas shiner					IF
Notropis buccula	Smalleye shiner					IF
Notropis buchanani	Ghost shiner					IF
Notropis chalybaeus	Ironcolor shiner				I	IF
Notropis chihuahua	Chihuahua shiner					IF
Notropis girardi	Arkansas River shiner					IF
Notropis hubbsi	Bluehead shiner					IF
Notropis jemezanus	Rio Grande shiner					IF
Notropis maculatus	Taillight shiner					IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Notropis oxyrhynchus	Sharpnose shiner					IF
Notropis potteri	Chub shiner					IF
Notropis sabinae	Sabine shiner					IF
Notropis shumardi	Silverband shiner					IF
Notropis stramineus	Sand shiner					IF
Notropis texanus	Weed shiner					IF
Notropis volucellus	Mimic shiner				I	IF
Noturus gyrinus	Tadpole madtom				I	IF
Noturus nocturnus	Freckled madtom				I	IF
Oncorhynchus mykiss	Rainbow trout				I	IF
Opsopoeodus emiliae	Pugnose minnow					IF
Paralichthys lethostigma	Southern flounder					P
Perca flavescens	Yellow perch					P
Percina caprodes	Logperch				I	IF
Percina carbonaria	Texas logperch				I	IF
Percina macrolepida	Bigscale logperch				I	IF
Percina maculata	Blackside darter				I	IF
Percina sciera	Dusky darter				I	IF
Percina shumardi	River darter					IF
Phenacobius mirabilis	Suckermouth minnow					IF
Pimephales promelas	Fathead minnow	2		0	T	O
Pimephales vigilax	Bullhead minnow					IF
Platygobio gracilis	Flathead chub					IF
Poecilia formosa	Amazon molly					O

11135 Sims Bayou at Hiram Clarke 5/23/03 7 seine hauls for 68 yards.

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Achirus lineatus	Lined sole					IF
Adinia xenica	Diamond killifish				T	O
Agonostomus monticola	Mountain mullet					O
Alosa chrysochloris	Skipjack herring					P
Ambloplites rupestris	Rock bass				I	P
Ameiurus melas	Black bullhead				T	O
Ameiurus natalis	Yellow bullhead	1		0		O
Amia calva	Bowfin				T	P
Ammocrypta clara	Western sand darter					IF
Ammocrypta vivax	Scaly sand darter					IF
Anchoa hepsetus	Striped anchovy					IF
Anchoa mitchilli	Bay anchovy					IF
Anguilla rostrata	American eel					P
Aphredoderus sayanus	Pirate perch					IF
Aplodinotus grunniens	Freshwater drum				T	IF
Archosargus probatocephalus	Sheepshead					O
Arius felis	Hardhead catfish				T	IF
Astyanax mexicanus	Mexican tetra					IF
Awaous tajasica	River goby					O
Bagre marinus	Gafftopsail catfish				T	P
Bairdiella chrysoura	Silver perch					IF
Bathygobius soporator	Frillfin goby				T	IF
Brevoortia gunteri	Finescale menhaden					O
Campostoma anomalum	Central stoneroller					H
Campostoma ornatum	Mexican stoneroller					H
Caranx hippos	Crevalle jack				I	P
Carassius auratus	Goldfish				T	O
Carcharhinus isodon	Fine tooth shark					P
Carcharhinus leucas	Bull shark					P
Carpiodes carpio	River carpsucker				T	O
Centrarchus macropterus	Flier					IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Centropomus parallelus	Fat snook					P
Centropomus undecimalis	Common snook				I	P
Cichlasoma cyanoguttatum	Rio Grande cichlid					IF
Citharichthys spilopterus	Bay whiff					IF
Conodon nobilis	Barred grunt					IF
Ctenopharyngodon idella	Grass carp				T	H
Cycleptus elongatus	Blue sucker				I	IF
Cynoscion arenarius	Sand seatrout				I	P
Cynoscion nebulosus	Spotted seatrout				I	P
Cyprinella lepida	Plateau shiner					IF
Cyprinella lutrensis	Red shiner	221		0	T	IF
Cyprinella proserpina	Proserpine shiner					IF
Cyprinella venusta	Blacktail shiner					IF
Cyprinodon bovinus	Leon Springs pupfish					O
Cyprinodon elegans	Comanche Springs pupfish					O
Cyprinodon eximius	Conchos pupfish					O
Cyprinodon pecosensis	Pecos River pupfish				T	O
Cyprinodon rubrofluviatilis	Red River pupfish				T	O
Cyprinodon variegatus	Sheepshead minnow	48		0	T	O
Cyprinus carpio	Common carp				T	O
Dasyatis sabina	Atlantic stingray					IF
Diapterus auratus	Irish pompano					IF
Dionda diaboli	Devils River minnow				I	IF
Dionda episcopa	Roundnose minnow				I	O
Dormitator maculatus	Fat sleeper					O
Dorosoma cepedianum	Gizzard shad				T	O
Dorosoma petenense	Threadfin shad					O
Elassoma zonatum	Banded pygmy sunfish					IF
Eleotris pisonis	Spinycheek sleeper					O
Elops saurus	Ladyfish					P
Erimyzon oblongus	Creek chub sucker					O
Erimyzon sucetta	Lake chubsucker					O
Erotelis smaragdus	Emerald sleeper					IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Esox americanus vermiculatus	Grass pickerel					P
Esox lucius	Northern pike				I	P
Esox niger	Chain pickerel					P
Etheostoma asprigene	Mud darter					IF
Etheostoma chlorosomum	Bluntnose darter					IF
Etheostoma fonticola	Fountain darter				I	IF
Etheostoma fusiforme	Swamp darter					IF
Etheostoma gracile	Slough darter					IF
Etheostoma grahami	Rio Grande darter					IF
Etheostoma histrio	Harlequin darter					IF
Etheostoma lepidum	Greenthroat darter				I	IF
Etheostoma parvipinne	Goldstripe darter				I	IF
Etheostoma proeliare	Cypress darter				I	IF
Etheostoma radiosum	Orangebelly darter				I	IF
Etheostoma spectabile	Orangethroat darter					IF
Etheostoma whipplei	Redfin darter					IF
Etropus crossotus	Fringed flounder					IF
Eucinostomus argenteus	Spotfin mojarra					IF
Eucinostomus melanopterus	Flagfin mojarra					IF
Evorthodus lyricus	Lyre goby					H
Fundulus chrysotus	Golden topminnow					IF
Fundulus dispar	Starhead topminnow					IF
Fundulus grandis	Gulf killifish					O
Fundulus jenkinsi	Saltmarsh topminnow					IF
Fundulus notatus	Blackstripe topminnow					IF
Fundulus olivaceus	Blackspotted topminnow				I	IF
Fundulus pulvereus	Bayou killifish					IF
Fundulus similis	Longnose killifish				I	O
Fundulus zebrinus	Plains killifish				T	IF
Gambusia affinis	Western mosquitofish	16		0	T	IF
Gambusia gaigei	Big Bend gambusia					IF
Gambusia geiseri	Largespring gambusia					IF
Gambusia heterochir	Clear Creek gambusia					IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Gambusia nobilis	Pecos gambusia					IF
Gila pandora	Rio Grande chub				I	IF
Gobioides broussonneti	Violet goby					O
Gobiomorus dormitor	Bigmouth sleeper					IF
Gobionellus atripinnis	Blackfin goby					O
Gobionellus boleosoma	Darter goby					O
Gobionellus oceanicus	Highfin goby					O
Gobionellus shufeldti	Freshwater goby					IF
Gobionellus stigmaticus	Marked goby					O
Gobiosoma bosc	Naked goby				T	IF
Gobiosoma robustum	Code goby					IF
Harengula jaguana	Scaled sardine					IF
Heterandria formosa	Least killifish					IF
Hiodon alosoides	Goldeye					IF
Hybognathus hayi	Cypress minnow					O
Hybognathus nuchalis	Mississippi silvery minnow				T	O
Hybognathus placitus	Plains minnow				T	O
Hypostomus plecostomus	Sucker mouth catfish	8		0		H
Ichthyomyzon castaneus	Chesnut lamprey				I	P
Ichthyomyzon gagei	Southern brook lamprey				I	NONE
Ictalurus furcatus	Blue catfish					P
Ictalurus lupus	Headwater catfish					O
Ictalurus punctatus	Channel catfish				T	O
Ictiobus bubalus	Smallmouth buffalo					O
Ictiobus cyprinellus	Bigmouth buffalo				T	IF
Ictiobus niger	Black buffalo					O
Labidesthes sicculus	Brook silverside				I	IF
Lagodon rhomboides	Pinfish					O
Leiostomus xanthurus	Spot					O
Lepisosteus oculatus	Spotted gar				T	P
Lepisosteus osseus	Longnose gar				T	P
Lepisosteus platostomus	Shortnose gar				T	P
Lepisosteus spatula	Alligator gar				T	P

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Lepomis auritus	Redbreast sunfish					IF
Lepomis cyanellus	Green sunfish				T	P
Lepomis gulosus	Warmouth				T	P
Lepomis humilus	Orangespotted sunfish					IF
Lepomis macrochirus	Bluegill	1		0	T	IF
Lepomis marginatus	Dollar sunfish					IF
Lepomis microlophus	Redear sunfish					IF
Lepomis punctatus	Spotted sunfish					IF
Lepomis symmetricus	Bantam sunfish					IF
Lucania parva	Rainwater killifish					IF
Luxilus chrysocephalus	Striped shiner					IF
Lythrurus fumeus	Ribbon shiner					IF
Lythrurus umbratilis	Redfin shiner					IF
Macrhybopsis aestivalis	Speckled chub					IF
Macrhybopsis storeriana	Silver chub					IF
Megalops atlanticus	Tarpon				T	P
Membras martinica	Rough silverside					IF
Menidia beryllina	Inland silverside					IF
Menidia clarkhubbsi	Texas silverside					IF
Menidia peninsulae	Tidewater silverside					IF
Microgobius gulosus	Clown goby					IF
Microphis brachyurus	Opposum pipefish					IF
Micropogonias undulatus	Atlantic croaker				I	IF
Micropterus dolomieu	Smallmouth bass				I	P
Micropterus punctulatus	Spotted bass					P
Micropterus salmoides	Largemouth bass					P
Micropterus treculi	Guadalupe bass				I	P
Minytrema melanops	Spotted sucker					IF
Morone chrysops	White bass					P
Morone mississippiensis	Yellow bass					P
Morone saxatilis	Striped bass					P
Moxostoma austrinum	West Mexican redhorse					IF
Moxostoma congestum	Gray redhorse					IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Moxostoma erythrurum	Golden redhorse					IF
Moxostoma poecilurum	Blacktail redhorse					IF
Mugil cephalus	Striped mullet					O
Mugil curema	White mullet					O
Myrophis punctatus	Speckled worm eel					P
Notemigonus crysoleucas	Golden shiner				T	IF
Notropis amabilis	Texas shiner					IF
Notropis amnis	Pallid shiner					IF
Notropis atherinoides	Emerald shiner					IF
Notropis atrocaudalis	Blackspot shiner					IF
Notropis bairdi	Red River shiner					IF
Notropis blennius	River shiner					IF
Notropis braytoni	Tamaulipas shiner					IF
Notropis buccula	Smalleye shiner					IF
Notropis buchanani	Ghost shiner					IF
Notropis chalybaeus	Ironcolor shiner				I	IF
Notropis chihuahua	Chihuahua shiner					IF
Notropis girardi	Arkansas River shiner					IF
Notropis hubbsi	Bluehead shiner					IF
Notropis jemezanus	Rio Grande shiner					IF
Notropis maculatus	Taillight shiner					IF
Notropis oxyrhynchus	Sharpnose shiner					IF
Notropis potteri	Chub shiner					IF
Notropis sabinae	Sabine shiner					IF
Notropis shumardi	Silverband shiner					IF
Notropis stramineus	Sand shiner					IF
Notropis texanus	Weed shiner					IF
Notropis volucellus	Mimic shiner				I	IF
Noturus gyrinus	Tadpole madtom				I	IF
Noturus nocturnus	Freckled madtom				I	IF
Oncorhynchus mykiss	Rainbow trout				I	IF
Opsopoeodus emiliae	Pugnose minnow					IF
Paralichthys lethostigma	Southern flounder					P

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Perca flavescens	Yellow perch					P
Percina caprodes	Logperch				I	IF
Percina carbonaria	Texas logperch				I	IF
Percina macrolepida	Bigscale logperch				I	IF
Percina maculata	Blackside darter				I	IF
Percina sciera	Dusky darter				I	IF
Percina shumardi	River darter					IF
Phenacobius mirabilis	Suckermouth minnow					IF
Pimephales promelas	Fathead minnow	73		0	T	O
Pimephales vigilax	Bullhead minnow					IF
Platygobio gracilis	Flathead chub					IF
Poecilia formosa	Amazon molly					O
Poecilia latipinna	Sailfin molly	2		0	T	O

15872 Hunting Bayou at Wipprect 5/21/03 1076 seconds electroshock

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Achirus lineatus	Lined sole					IF
Adinia xenica	Diamond killifish				T	O
Agonostomus monticola	Mountain mullet					O
Alosa chrysochloris	Skipjack herring					P
Ambloplites rupestris	Rock bass				I	P
Ameiurus melas	Black bullhead				T	O
Ameiurus natalis	Yellow bullhead					O
Amia calva	Bowfin				T	P
Ammocrypta clara	Western sand darter					IF
Ammocrypta vivax	Scaly sand darter					IF
Anchoa hepsetus	Striped anchovy					IF
Anchoa mitchilli	Bay anchovy					IF
Anguilla rostrata	American eel					P
Aphredoderus sayanus	Pirate perch					IF
Aplodinotus grunniens	Freshwater drum				T	IF
Archosargus probatocephalus	Sheepshead					O
Arius felis	Hardhead catfish				T	IF
Astyanax mexicanus	Mexican tetra					IF
Awaous tajasica	River goby					O
Bagre marinus	Gafftopsail catfish				T	P
Bairdiella chrysoura	Silver perch					IF
Bathygobius soporator	Frillfin goby				T	IF
Brevoortia gunteri	Finescale menhaden					O
Campostoma anomalum	Central stoneroller					H
Campostoma ornatum	Mexican stoneroller					H
Caranx hippos	Crevalle jack				I	P
Carassius auratus	Goldfish				T	O
Carcharhinus isodon	Fine tooth shark					P
Carcharhinus leucas	Bull shark					P
Carpiodes carpio	River carpsucker				T	O
Centrarchus macropterus	Flier					IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Centropomus parallelus	Fat snook					P
Centropomus undecimalis	Common snook				I	P
Cichlasoma cyanoguttatum	Rio Grande cichlid					IF
Citharichthys spilopterus	Bay whiff					IF
Conodon nobilis	Barred grunt					IF
Ctenopharyngodon idella	Grass carp				T	H
Cycleptus elongatus	Blue sucker				I	IF
Cynoscion arenarius	Sand seatrout				I	P
Cynoscion nebulosus	Spotted seatrout				I	P
Cyprinella lepida	Plateau shiner					IF
Cyprinella lutrensis	Red shiner				T	IF
Cyprinella proserpina	Proserpine shiner					IF
Cyprinella venusta	Blacktail shiner					IF
Cyprinodon bovinus	Leon Springs pupfish					O
Cyprinodon elegans	Comanche Springs pupfish					O
Cyprinodon eximius	Conchos pupfish					O
Cyprinodon pecosensis	Pecos River pupfish				T	O
Cyprinodon rubrofluviatilis	Red River pupfish				T	O
Cyprinodon variegatus	Sheepshead minnow	2		0	T	O
Cyprinus carpio	Common carp				T	O
Dasyatis sabina	Atlantic stingray					IF
Diapterus auratus	Irish pompano					IF
Dionda diaboli	Devils River minnow				I	IF
Dionda episcopa	Roundnose minnow				I	O
Dormitator maculatus	Fat sleeper					O
Dorosoma cepedianum	Gizzard shad				T	O
Dorosoma petenense	Threadfin shad					O
Elassoma zonatum	Banded pygmy sunfish					IF
Eleotris pisonis	Spinycheek sleeper					O
Elops saurus	Ladyfish					P
Erimyzon oblongus	Creek chub sucker					O
Erimyzon sucetta	Lake chubsucker					O
Erotelis smaragdus	Emerald sleeper					IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Esox americanus vermiculatus	Grass pickerel					P
Esox lucius	Northern pike				I	P
Esox niger	Chain pickerel					P
Etheostoma asprigene	Mud darter					IF
Etheostoma chlorosomum	Bluntnose darter					IF
Etheostoma fonticola	Fountain darter				I	IF
Etheostoma fusiforme	Swamp darter					IF
Etheostoma gracile	Slough darter					IF
Etheostoma grahami	Rio Grande darter					IF
Etheostoma histrio	Harlequin darter					IF
Etheostoma lepidum	Greenthroat darter				I	IF
Etheostoma parvipinne	Goldstripe darter				I	IF
Etheostoma proeliare	Cypress darter				I	IF
Etheostoma radiosum	Orangebelly darter				I	IF
Etheostoma spectabile	Orangethroat darter					IF
Etheostoma whipplei	Redfin darter					IF
Etropus crossotus	Fringed flounder					IF
Eucinostomus argenteus	Spotfin mojarra					IF
Eucinostomus melanopterus	Flagfin mojarra					IF
Evorthodus lyricus	Lyre goby					H
Fundulus chrysotus	Golden topminnow					IF
Fundulus dispar	Starhead topminnow					IF
Fundulus grandis	Gulf killifish					O
Fundulus jenkinsi	Saltmarsh topminnow					IF
Fundulus notatus	Blackstripe topminnow					IF
Fundulus olivaceus	Blackspotted topminnow				I	IF
Fundulus pulvereus	Bayou killifish					IF
Fundulus similis	Longnose killifish				I	O
Fundulus zebrinus	Plains killifish				T	IF
Gambusia affinis	Western mosquitofish	20		0	T	IF

15872 Hunting Bayou at Wipprect 5/21/03 no seining due to trash and debris

15869 HUNTING BAYOU AT CAVALCADE 5/21/03 1192 SECONDS ELECTROSHOCK

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Achirus lineatus	Lined sole					IF
Adinia xenica	Diamond killifish				T	O
Agonostomus monticola	Mountain mullet					O
Alosa chrysochloris	Skipjack herring					P
Ambloplites rupestris	Rock bass				I	P
Ameiurus melas	Black bullhead				T	O
Ameiurus natalis	Yellow bullhead					O
Amia calva	Bowfin				T	P
Ammocrypta clara	Western sand darter					IF
Ammocrypta vivax	Scaly sand darter					IF
Anchoa hepsetus	Striped anchovy					IF
Anchoa mitchilli	Bay anchovy					IF
Anguilla rostrata	American eel					P
Aphredoderus sayanus	Pirate perch					IF
Aplodinotus grunniens	Freshwater drum				T	IF
Archosargus probatocephalus	Sheepshead					O
Arius felis	Hardhead catfish				T	IF
Astyanax mexicanus	Mexican tetra					IF
Awaous tajasica	River goby					O
Bagre marinus	Gafftopsail catfish				T	P
Bairdiella chrysoura	Silver perch					IF
Bathygobius soporator	Frillfin goby				T	IF
Brevoortia gunteri	Finescale menhaden					O
Campostoma anomalum	Central stoneroller					H
Campostoma ornatum	Mexican stoneroller					H
Caranx hippos	Crevalle jack				I	P
Carassius auratus	Goldfish				T	O
Carcharhinus isodon	Fine tooth shark					P
Carcharhinus leucas	Bull shark					P
Carpiodes carpio	River carpsucker				T	O
Centrarchus macropterus	Flier					IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Centropomus parallelus	Fat snook					P
Centropomus undecimalis	Common snook				I	P
Cichlasoma cyanoguttatum	Rio Grande cichlid					IF
Citharichthys spilopterus	Bay whiff					IF
Conodon nobilis	Barred grunt					IF
Ctenopharyngodon idella	Grass carp				T	H
Cycleptus elongatus	Blue sucker				I	IF
Cynoscion arenarius	Sand seatrout				I	P
Cynoscion nebulosus	Spotted seatrout				I	P
Cyprinella lepida	Plateau shiner					IF
Cyprinella lutrensis	Red shiner				T	IF
Cyprinella proserpina	Proserpine shiner					IF
Cyprinella venusta	Blacktail shiner					IF
Cyprinodon bovinus	Leon Springs pupfish					O
Cyprinodon elegans	Comanche Springs pupfish					O
Cyprinodon eximius	Conchos pupfish					O
Cyprinodon pecosensis	Pecos River pupfish				T	O
Cyprinodon rubrofluviatilis	Red River pupfish				T	O
Cyprinodon variegatus	Sheepshead minnow				T	O
Cyprinus carpio	Common carp				T	O
Dasyatis sabina	Atlantic stingray					IF
Diapterus auratus	Irish pompano					IF
Dionda diaboli	Devils River minnow				I	IF
Dionda episcopa	Roundnose minnow				I	O
Dormitator maculatus	Fat sleeper					O
Dorosoma cepedianum	Gizzard shad				T	O
Dorosoma petenense	Threadfin shad					O
Elassoma zonatum	Banded pygmy sunfish					IF
Eleotris pisonis	Spinycheek sleeper					O
Elops saurus	Ladyfish					P
Erimyzon oblongus	Creek chub sucker					O
Erimyzon sucetta	Lake chubsucker					O
Erotelis smaragdus	Emerald sleeper					IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Esox americanus vermiculatus	Grass pickerel					P
Esox lucius	Northern pike				I	P
Esox niger	Chain pickerel					P
Etheostoma asprigene	Mud darter					IF
Etheostoma chlorosomum	Bluntnose darter					IF
Etheostoma fonticola	Fountain darter				I	IF
Etheostoma fusiforme	Swamp darter					IF
Etheostoma gracile	Slough darter					IF
Etheostoma grahami	Rio Grande darter					IF
Etheostoma histrio	Harlequin darter					IF
Etheostoma lepidum	Greenthroat darter				I	IF
Etheostoma parvipinne	Goldstripe darter				I	IF
Etheostoma proeliare	Cypress darter				I	IF
Etheostoma radiosum	Orangebelly darter				I	IF
Etheostoma spectabile	Orangethroat darter					IF
Etheostoma whipplei	Redfin darter					IF
Etropus crossotus	Fringed flounder					IF
Eucinostomus argenteus	Spotfin mojarra					IF
Eucinostomus melanopterus	Flagfin mojarra					IF
Evorthodus lyricus	Lyre goby					H
Fundulus chrysotus	Golden topminnow					IF
Fundulus dispar	Starhead topminnow					IF
Fundulus grandis	Gulf killifish					O
Fundulus jenkinsi	Saltmarsh topminnow					IF
Fundulus notatus	Blackstripe topminnow					IF
Fundulus olivaceus	Blackspotted topminnow				I	IF
Fundulus pulvereus	Bayou killifish					IF
Fundulus similis	Longnose killifish				I	O
Fundulus zebrinus	Plains killifish				T	IF
Gambusia affinis	Western mosquitofish	600		0	T	IF
Gambusia gaigei	Big Bend gambusia					IF
Gambusia geiseri	Largespring gambusia					IF
Gambusia heterochir	Clear Creek gambusia					IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Gambusia nobilis	Pecos gambusia					IF
Gila pandora	Rio Grande chub				I	IF
Gobioides broussonneti	Violet goby					O
Gobiomorus dormitor	Bigmouth sleeper					IF
Gobionellus atripinnis	Blackfin goby					O
Gobionellus boleosoma	Darter goby					O
Gobionellus oceanicus	Highfin goby					O
Gobionellus shufeldti	Freshwater goby					IF
Gobionellus stigmaticus	Marked goby					O
Gobiosoma bosc	Naked goby				T	IF
Gobiosoma robustum	Code goby					IF
Harengula jaguana	Scaled sardine					IF
Heterandria formosa	Least killifish					IF
Hiodon alosoides	Goldeye					IF
Hybognathus hayi	Cypress minnow					O
Hybognathus nuchalis	Mississippi silvery minnow				T	O
Hybognathus placitus	Plains minnow				T	O
Hypostomus plecostomus	Suckermouth catfish					H
Ichthyomyzon castaneus	Chesnut lamprey				I	P
Ichthyomyzon gagei	Southern brook lamprey				I	NONE
Ictalurus furcatus	Blue catfish					P
Ictalurus lupus	Headwater catfish					O
Ictalurus punctatus	Channel catfish				T	O
Ictiobus bubalus	Smallmouth buffalo					O
Ictiobus cyprinellus	Bigmouth buffalo				T	IF
Ictiobus niger	Black buffalo					O
Labidesthes sicculus	Brook silverside				I	IF
Lagodon rhomboides	Pinfish					O
Leiostomus xanthurus	Spot					O
Lepisosteus oculatus	Spotted gar				T	P
Lepisosteus osseus	Longnose gar				T	P
Lepisosteus platostomus	Shortnose gar				T	P
Lepisosteus spatula	Alligator gar				T	P

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Lepomis auritus	Redbreast sunfish					IF
Lepomis cyanellus	Green sunfish				T	P
Lepomis gulosus	Warmouth				T	P
Lepomis humilus	Orangespotted sunfish					IF
Lepomis macrochirus	Bluegill				T	IF
Lepomis marginatus	Dollar sunfish					IF
Lepomis megalotis	Longear sunfish					IF
Lepomis microlophus	Redear sunfish					IF
Lepomis punctatus	Spotted sunfish					IF
Lepomis symmetricus	Bantam sunfish					IF
Lucania parva	Rainwater killifish					IF
Luxilus chrysocephalus	Striped shiner					IF
Lythrurus fumeus	Ribbon shiner					IF
Lythrurus umbratilis	Redfin shiner					IF
Macrhybopsis aestivalis	Speckled chub					IF
Macrhybopsis storeriana	Silver chub					IF
Megalops atlanticus	Tarpon				T	P
Membras martinica	Rough silverside					IF
Menidia beryllina	Inland silverside					IF
Menidia clarkhubbsi	Texas silverside					IF
Menidia peninsulae	Tidewater silverside					IF
Microgobius gulosus	Clown goby					IF
Microphis brachyurus	Opposum pipefish					IF
Micropogonias undulatus	Atlantic croaker				I	IF
Micropterus dolomieu	Smallmouth bass				I	P
Micropterus punctulatus	Spotted bass					P
Micropterus salmoides	Largemouth bass					P
Micropterus treculi	Guadalupe bass				I	P
Minytrema melanops	Spotted sucker					IF
Morone chrysops	White bass					P
Morone mississippiensis	Yellow bass					P
Morone saxatilis	Striped bass					P
Moxostoma austrinum	West Mexican redhorse					IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Moxostoma congestum	Gray redhorse					IF
Moxostoma erythrurum	Golden redhorse					IF
Moxostoma poecilurum	Blacktail redhorse					IF
Mugil cephalus	Striped mullet					O
Mugil curema	White mullet					O
Myrophis punctatus	Speckled worm eel					P
Notemigonus crysoleucas	Golden shiner				T	IF
Notropis amabilis	Texas shiner					IF
Notropis amnis	Pallid shiner					IF
Notropis atherinoides	Emerald shiner					IF
Notropis atrocaudalis	Blackspot shiner					IF
Notropis bairdi	Red River shiner					IF
Notropis blennius	River shiner					IF
Notropis braytoni	Tamaulipas shiner					IF
Notropis buccula	Smalleye shiner					IF
Notropis buchanani	Ghost shiner					IF
Notropis chalybaeus	Ironcolor shiner				I	IF
Notropis chihuahua	Chihuahua shiner					IF
Notropis girardi	Arkansas River shiner					IF
Notropis hubbsi	Bluehead shiner					IF
Notropis jemezanus	Rio Grande shiner					IF
Notropis maculatus	Taillight shiner					IF
Notropis oxyrhynchus	Sharpnose shiner					IF
Notropis potteri	Chub shiner					IF
Notropis sabinae	Sabine shiner					IF
Notropis shumardi	Silverband shiner					IF
Notropis stramineus	Sand shiner					IF
Notropis texanus	Weed shiner					IF
Notropis volucellus	Mimic shiner				I	IF
Noturus gyrinus	Tadpole madtom				I	IF
Noturus nocturnus	Freckled madtom				I	IF
Oncorhynchus mykiss	Rainbow trout				I	IF
Opsopoeodus emiliae	Pugnose minnow					IF

SCIENTIFIC NAME	COMMON NAME	NUMBER IN SAMPLE	NUMBER OF HYBRIDS	NUM W/ DIS./ANOM.	TOLERANCE CLASS	TROPHIC CLASS
Paralichthys lethostigma	Southern flounder					P
Perca flavescens	Yellow perch					P
Percina caprodes	Logperch				I	IF
Percina carbonaria	Texas logperch				I	IF
Percina macrolepida	Bigscale logperch				I	IF
Percina maculata	Blackside darter				I	IF
Percina sciera	Dusky darter				I	IF
Percina shumardi	River darter					IF
Phenacobius mirabilis	Suckermouth minnow					IF
Pimephales promelas	Fathead minnow				T	O
Pimephales vigilax	Bullhead minnow					IF
Platygobio gracilis	Flathead chub					IF
Poecilia formosa	Amazon molly					O
Poecilia latipinna	Sailfin molly	200		0	T	O

15869 Hunting Bayou at Cavalcade 5/21/03 no seining due to trash and debris.

Appendix F
Laboratory Data, Data Validation Reports and Chains of Custody