



Armand Bayou Greenprint Model

Model Criteria

Criteria Class	Model Criteria	Steering Committee		Partners		Data	Data Source	Notes
		Class Weight	Criteria Weight	Class Weight	Criteria Weight			
Protect Habitat		30%		30%				
	Coastal Tallgrass Prairies		26%		17%	PrairiePotholes.shp (ABWET1_83U.shp)	TX Sea Grant and TX Cooperative Extension	Ratings assigned in 8/30 meeting: PP1=5, PP2=4, PP3=3, OP=3.
	Coastal Flatwoods		20%		22%	CoastalFlatwoods.shp (ABWET1_83U.shp)	TX Sea Grant and TX Cooperative Extension	
	Unchannelized Stream Segments		21%		27%	ARMAND_STREAMS.shp, 2FTDEMdrainageLine.shp	Harris County Flood Control District	Uses 2-ft DEM (LIDAR) drainage lines with channelized segments removed. 5 < = 1/8 mi ft, 3 < = 1/4 mi, 1 < = 1/2 mi, 0 > 1/2 mi
	Sensitive and Endangered Species Hotspots		11%		5%	SensitiveandEndangeredSpecies.shp	Texas Parks and Wildlife	The original Sensitive and Endangered species data was provided by Texas Parks and Wildlife, via manual transfer onto hardcopy topo maps. TPL GIS then digitized the species locations.
	Natural Areas Along Channelized Streams		22%		30%	WoodyWetlands.shp (lc_armand raster), ARMAND_STREAMS.shp	Houston Galveston Area Council, Harris County Flood Control District	The WoodyWetland.shp was queried out (Woody and Wetland) of a land cover data set provided by HGAC.
Improve Water Quality		12%		12%				
	Nutrient Impairment		38%		26%	WQ_StationIndicatorResults.shp (Armand Analysis 05v2.xls)	Lisa Gonzolez at Houston Advanced Research Center and TCEQ	Uses Water Quality Indicator assessment methodology developed for the Galveston Bay Indicators project. Results are based on samples taken during the 5-yr period 1999-2003. A minimum of 4 samples/yr were required to assess an indicator value. Otherwise results were tagged as "insufficient data". Considered a "circle of influence" around each sample point of 0.5 mi radius. IMPORTANT NOTE: Sample data provides very sparse coverage of study area. Where data was not available or samples were "insufficient", a rank of 2 was assigned. Ranking scores based on number of samples that exceeded TCEQ water quality screening levels. (Nutrient Impairment based on Ammonia, Nitrate-Nitrite, Phosphorus)
	Chlorophyll-A Impairment		20%		26%	WQ_StationIndicatorResults.shp (Armand Analysis 05v2.xls)	Lisa Gonzolez at Houston Advanced Research Center and TCEQ	(Chlorophyll-a and Pheophytin-a -- a breakdown product of chlorophyll)
	Low Dissolved Oxygen		21%		15%	WQ_StationIndicatorResults.shp (Armand Analysis 05v2.xls)	Lisa Gonzolez at Houston Advanced Research Center and TCEQ	(Dissolved oxygen samples collected between 5:00 and 10:00 AM - to reduce bias caused by afternoon sunlight and warmer water temperatures)
	Pathogens		21%		33%	WQ_StationIndicatorResults.shp (Armand Analysis 05v2.xls)	Lisa Gonzolez at Houston Advanced Research Center and TCEQ	(Fecal Coliform, Enterococci, and E. Coli)

Reduce Flood Damages		17%		17%				
Floodplain			21%		24%	FloodwayFloodplain.shp (ARMAND_FEMA2004_PRELIM.shp)	Harris County Flood Control District	The Preliminary floodplain data set was originally provided by the Harris County Flood Control District. The Preliminary floodplain data was created from 2001 LiDAR elevation data and is currently in a one-year public appeals period before it is made official for use on the FIRMs and adopted as the effective floodplains. Ranking: 5 = 100 Year Floodplain, 3 = 500 Year Floodplain
Floodway			22%		20%	FloodwayFloodplain.shp (ARMAND_FEMA2004_PRELIM.shp)	Harris County Flood Control District	
Repetitive High Flood Loss Areas			22%		32%	NFIP_Flooded_Property_Zones.shp	Harris County Flood Control District	The NFIP Flooded_Property_Zones were derived from the fema_82 table provided by the NFIP database, this information was given to HCFCD on July 31 2003. HCFCD created buffers around parcel boundaries and merged, to provide "high flood loss areas". Ranking is based on # of flooded properties within each buffered zone. 5 = 46 - 91, 3 = 1 - 46, 0=No Flood Loss
Existing and Proposed Detention Basins			35%		24%	ExistingAndProposedDetentionBasins.shp (DetentionPonds.shp, armanrow_n83.shp)	City of Pasadena	

Provide Public Access and Recreation		18%		18%				
Neighborhood and Mini - Park Equity Analysis			21%		20%	ArmandBayouParksandOpenSpace.shp (parks.shp, parks_centroid_012903.shp, and parcels.shp, Tim Tietjens assistance)	City of Pasadena, HCPID_Engineering, HGAC, HCAD, and StreetMap	Model computes a 1/4 mi service area buffer around mini parks and a 1/2 mi service area buffer around neighborhood parks. All areas outside of this "service" area is classified as high priority park gaps. Demographic variables % kids under 18, % households with income < \$25K, % minorities, and population density are used to establish park need. This model uses a weighted overlay approach for computing park need. This approach allows for relative weighting for each demographic variable.
Water Access			22%		36%	WaterAccess.shp (Handrawn maps provided by Holli Swick)	The Trust for Public Land	Data set represents street water crossings as point locations where water access is a potential. Used 200 ft buffer at these locations.
Strategic Trails Locations			21%		21%	StrategicTrailLocations.shp (Park_Trails.shp, Bikeway_05.shp)	City of Pasadena and HGAC	
Expanding the Chain of Lakes in the Watershed			36%		23%	ChainofLakes.shp	City of Pasadena Planning	

Protect Water Quality		23%		23%				
	Water Quality Protection Areas		100%		100%	PrairiePotholes.shp (ABWET1_83U.shp), CoastalFlatwoods.shp (ABWET1_83U.shp), ChannelizedStreamSegments.shp (ARMAND_STREAMS.shp), 2FTDEMDrainageLine.shp, WoodyWetlands.shp (lc_armand.shp), ChannelizedStreamSegments.shp (lc_armand raster, ARMAND_STREAMS.shp), Landcover (lc_armand.shp) Parcels clipped to Watershed (parcel.shp)	TX Sea Grant and TX Cooperative Extension, Harris County Flood Control District, Houston Galveston Area Council, Harris County Appraisal District	Model uses the following ranking 0-5 scheme to represent areas with best potential for natural water quality protection, where highest rank 5=undeveloped areas that also prairie pothole areas OR coastal flatwood areas OR unchannelized stream buffers OR natural channelized stream buffers, 3=all other undeveloped land, and 0=developed land. This model definition was determined at the Partnership meeting on 1/5/06.

Preempt Development Threats (Overlay)		N/A		N/A				
	2025 Population Projections		18%		17%	HHpop2000.shp and HHpop2025.shp	Houston Galveston Area Council	Determines areas of highst projected growth based on # of households between census year 2000 and projected year 2025.
	Large Undeveloped Land Holdings		36%		50%	LargeUndevelopedLandHoldings.shp , (HabitatALL.shp, parcel.shp, ABWET1_83U.shp)	Harris County Appraisal District , TX Sea Grant and TX Cooperative Extension	Hand extracted parcels based on description: Exxon Mobil, University of Houston Clear Lake, Kinder-Morgan, NASA, and a large parcel on Bay Area Blvd. (near UH Clear Lake) that used to be owned by IBM , Friendswood Development , Harris Co. Youth Village, Land surrounding Clear Lake Park, and San Jacinto College Intersect above with habitat areas (suggested at 8/30 meeting).
	Development Proposals		17%		14%	HighRiskDevelopmentAreas.shp (Handrawn maps from Tim Tietjens)	City of Pasadena Planning	This data set was created by TPL GIS on November 9th, 2005 using data provided by Tim Tietjens with the City of Pasadena Planning. Tim Tietjens requested that we send him a map of Large Undeveloped Land Holdings overlaid with floodplains. He then marked the areas within the Armand Bayou watershed that represent additional high-risk development areas. TPL GIS transferred Tim's high-risk development areas into the digital arena.
	Golf Course Conversion		29%		20%	BaywoodClearLakeGolfCourses.shp (parcel.shp)	Harris County Appraisal District	This model identifies Baywood golf course and Clear Lake golf course as high risk for development.

Overlay Layers								
	Parks and Open Space					ArmandBayouParksandOpenSpace.shp	City of Pasadena, HCPID_Engineering, HGAC, and StreetMap	<p>This data set was created by TPL GIS on June 21, 2005 using parks data provided by the City of Pasadena, HCPID_Engineering, HGAC, and StreetMap. TPL GIS also used parcel information provided by HCAD. The process involved using point data provided by the City of Pasadena and HGAC to locate and select the actual parcel/park polygon. During this process TPL GIS also used aerial imagery to compliment park/parcel selection. Once a majority of the parcels were selected from the park-point data sets, a union of data sets was created using StreetMap Parks, "parkpoly_revised_1_05" from HCPID_Engineering, and the parcel/polys created by TPL GIS. All data was clipped to the Armand Bayou watershed polygon provided by the HCFCD. TPL GIS also created a Park Class for this parks data set. For the parks data set that was provided by HCPID_Engineering we used the existing park class, for all other parks TPL GIS used the Pasadena Park and Rec. Master plan from 1998. Park class is based on park size and amenities. Data set updated on 12/9 based on discussions with Tim Tietgens.</p>
	Protected Lands					ArmandBayouProtectedLands.shp	City of Pasadena, HCPID_Engineering, HGAC, StreetMap, HCFCD	<p>This data set was created by unioning Parks, Easements, Buyout Properties, and Existing Detension Basins.</p> <p>PARKS data was updated on December 27, 2005 by TPL GIS based on discussions with Tim Tietjens (Planning Director) with the City of Pasadena City Planning.</p> <p>EASEMENT data was provided on December 27, 2005 to TPL GIS based on discussions with Tim Tietjens (Planning Director) with the City of Pasadena City Planning.</p> <p>DETENSION BASIN data is a union of two data sets created by TPL GIS from the City of Pasadena (DetentionPonds) and HCFCD (armanrow_n83.shp). Only existing and "under construction" detension basins are included, based on information received on 12/16/05 from Sarah Metzger at City of Pasadena concerning existing and "under construction" basins.</p> <p>BUYOUT data was sent to TPL GIS via Tim Tietjens (Planning Director) with the City of Pasadena City Planning on October 7, 2005.</p>
	Undeveloped Lands					parcel.shp, lc_armand raster	Harris County Appraisal District, Houston Galveston Area Council	<p>Undeveloped is determined using a selection query on the landcover dataset where Descrip <> "Hi Density Residential" AND Descrip <> "Low Density Residential". Note that landcover is not up-to-date, so Undeveloped was further refined by querying out all parcels that were > 1.5 acres in size and intersecting it with the undeveloped portions identified from the landcover dataset.</p>