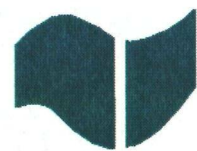
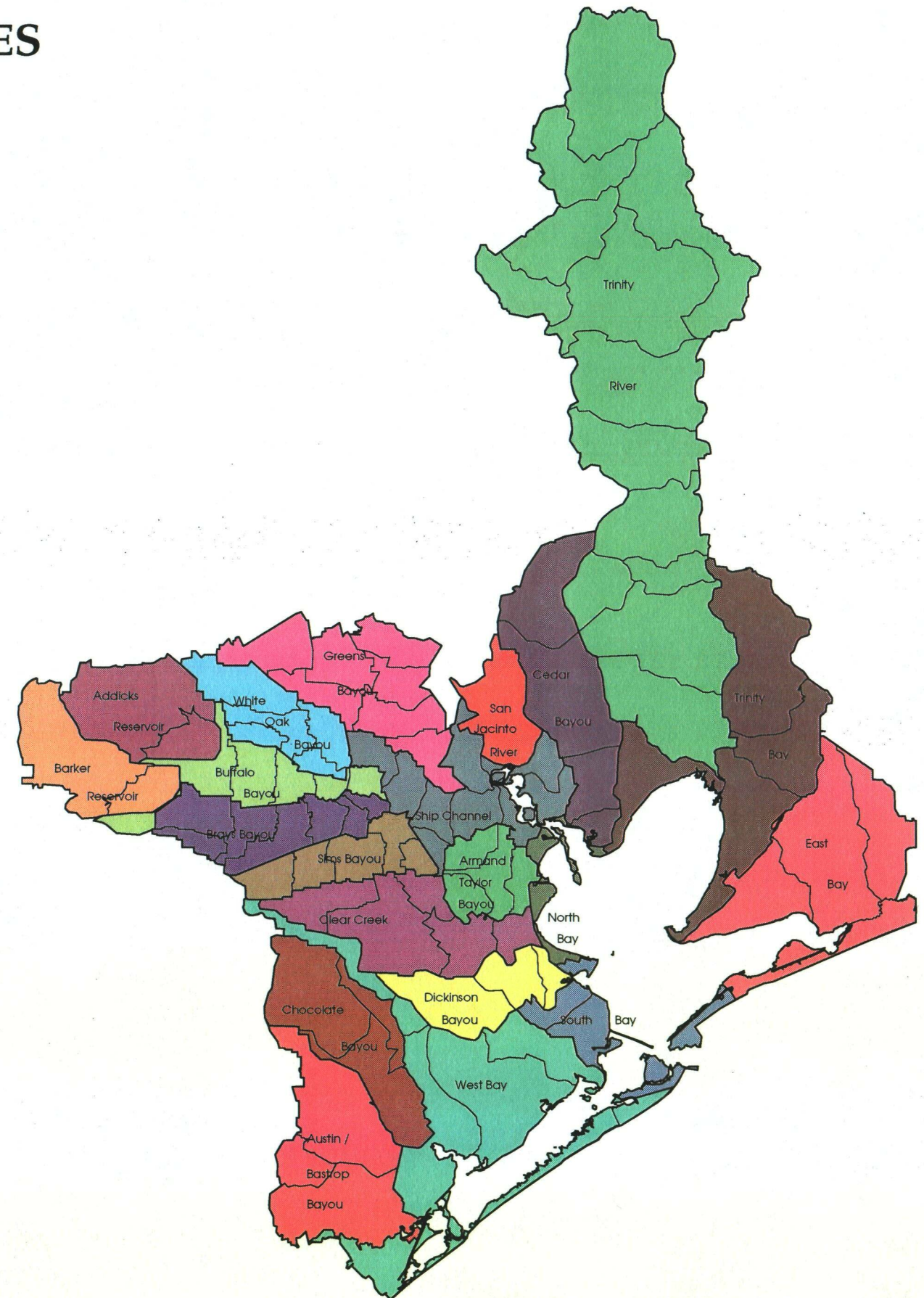


# CHARACTERIZATION OF NON-POINT SOURCES AND LOADINGS TO GALVESTON BAY

## Galveston Bay National Estuary Program

VOLUME II  
FIGURES



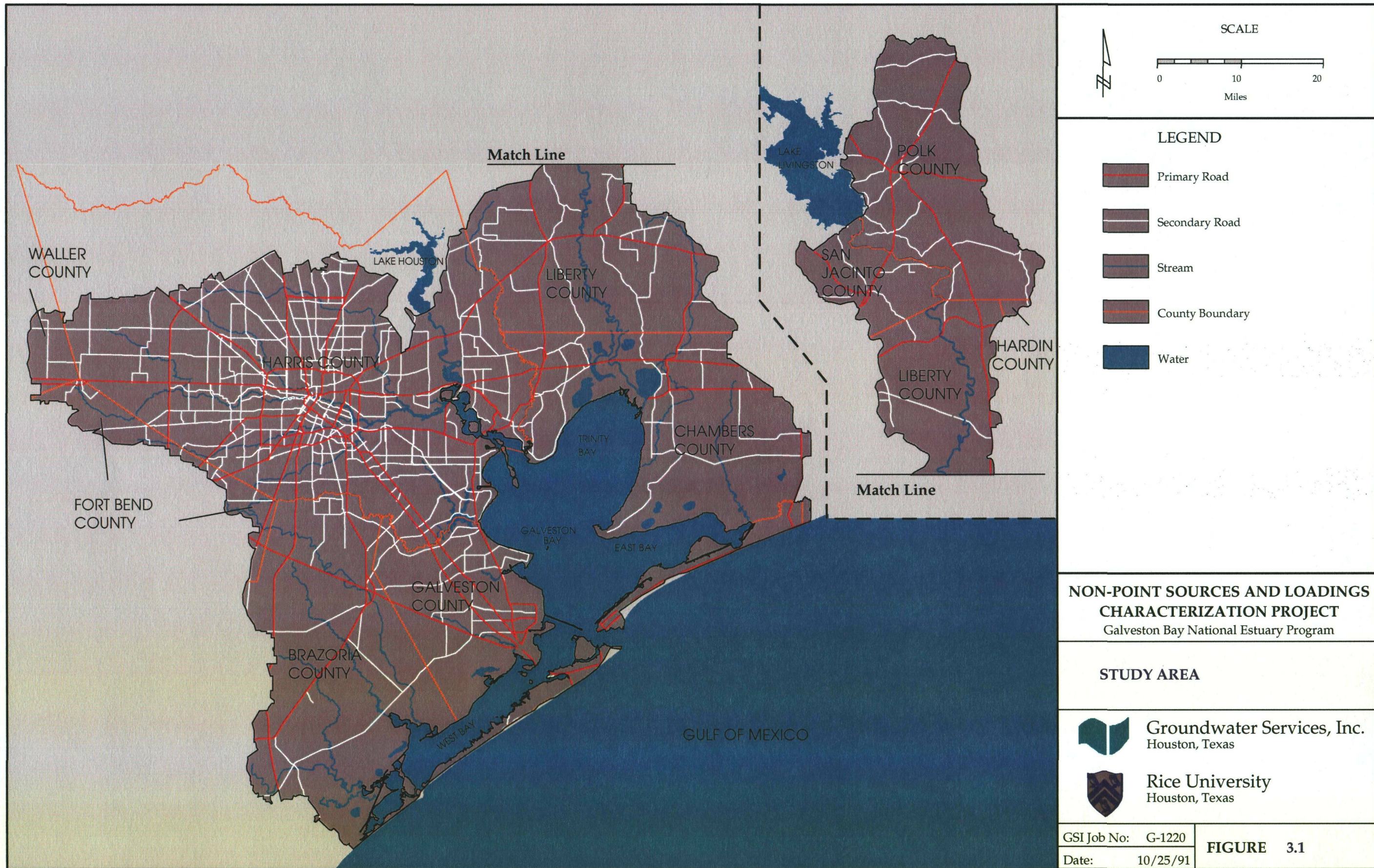
**Groundwater Services, Inc.**  
Houston, Texas



**Rice University**  
Houston, Texas

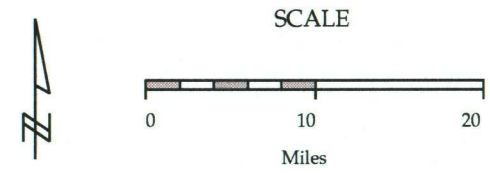
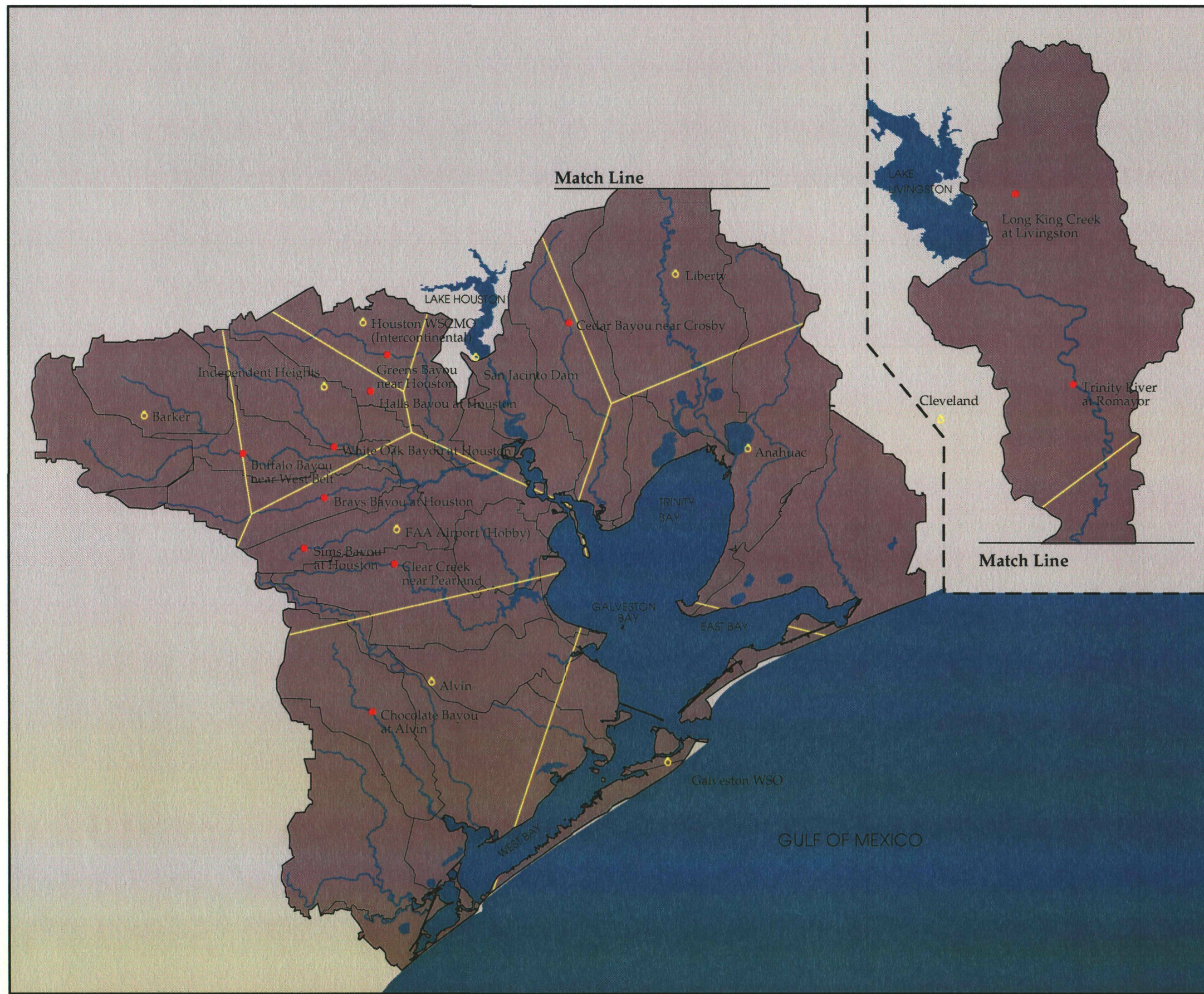
**Final Report**  
**October 1991**











SOURCE: Digitized 1:100,000 USGS maps.





**LEGEND**

-  Raingage
-  Streamgage
-  Thiessen Polygons
-  Stream
-  Watershed Boundary
-  Water

**NON-POINT SOURCES AND LOADINGS  
CHARACTERIZATION PROJECT**  
Galveston Bay National Estuary Program

**LOCATION OF RAINGAGES, STREAM-  
GAGES, AND THIESSEN POLYGONS**

 Groundwater Services, Inc.  
Houston, Texas

 Rice University  
Houston, Texas

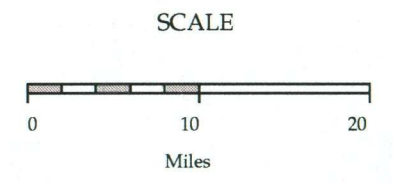
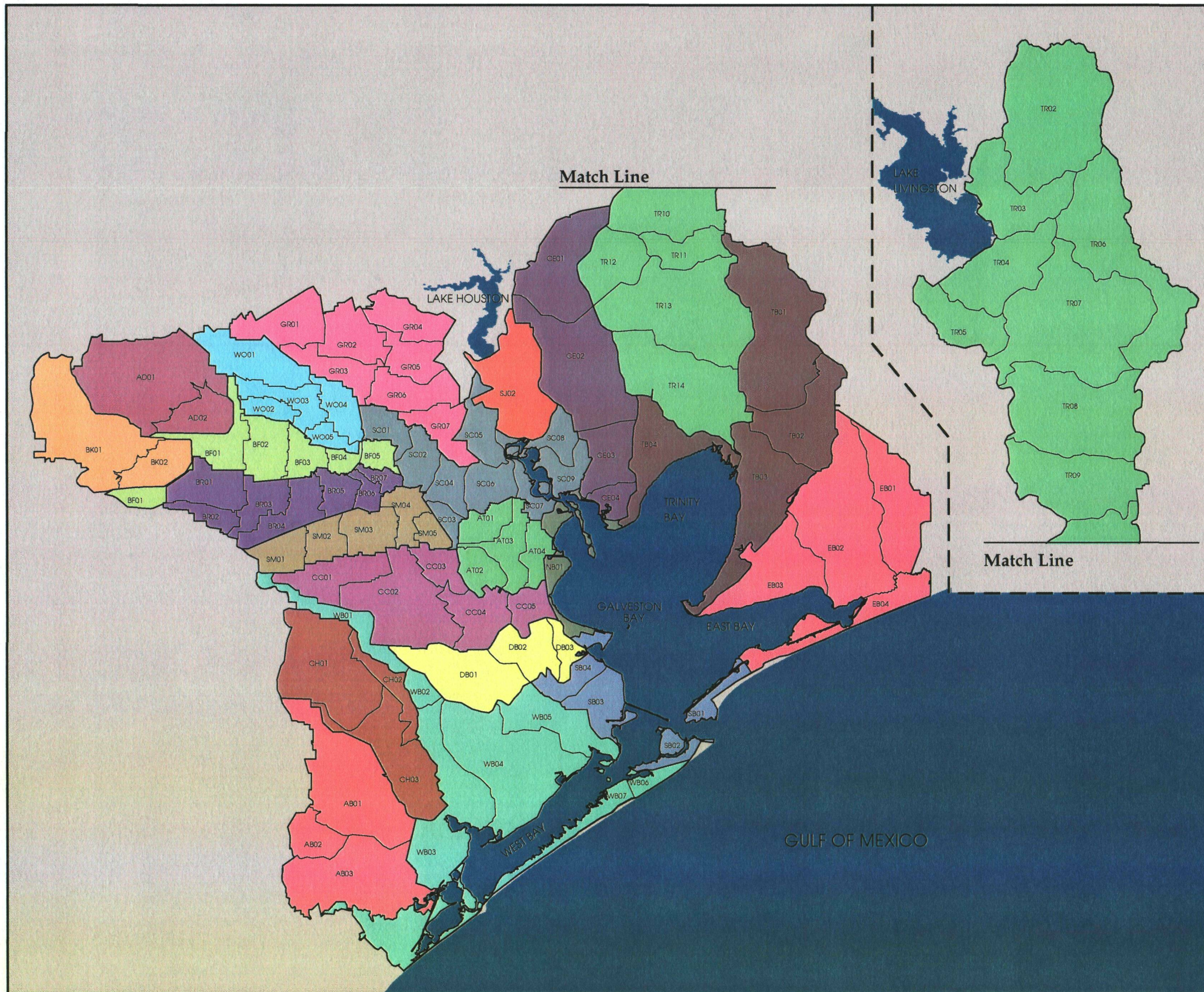
GSI Job No: G-1220  
Date: 10/25/91

**FIGURE 5.1**









**LEGEND**

- AB Austin/Bastrop Bayou
- AD Addicks Reservoir
- AT Armand/Taylor Bayou
- BF Buffalo Bayou
- BK Barker Reservoir
- BR Brays Bayou
- CC Clear Creek
- CE Cedar Bayou
- CH Chocolate Bayou
- DB Dickinson Bayou
- EB East Bay
- GR Greens Bayou
- NB North Bay
- SB South Bay
- SC Ship Channel
- SJ San Jacinto River
- SM Sims Bayou
- TB Trinity Bay
- TR Trinity River
- WB West Bay
- WO White Oak Bayou

**NON-POINT SOURCES AND LOADINGS  
CHARACTERIZATION PROJECT**  
Galveston Bay National Estuary Program

**SUBWATERSHED DELINEATION**



Groundwater Services, Inc.  
Houston, Texas

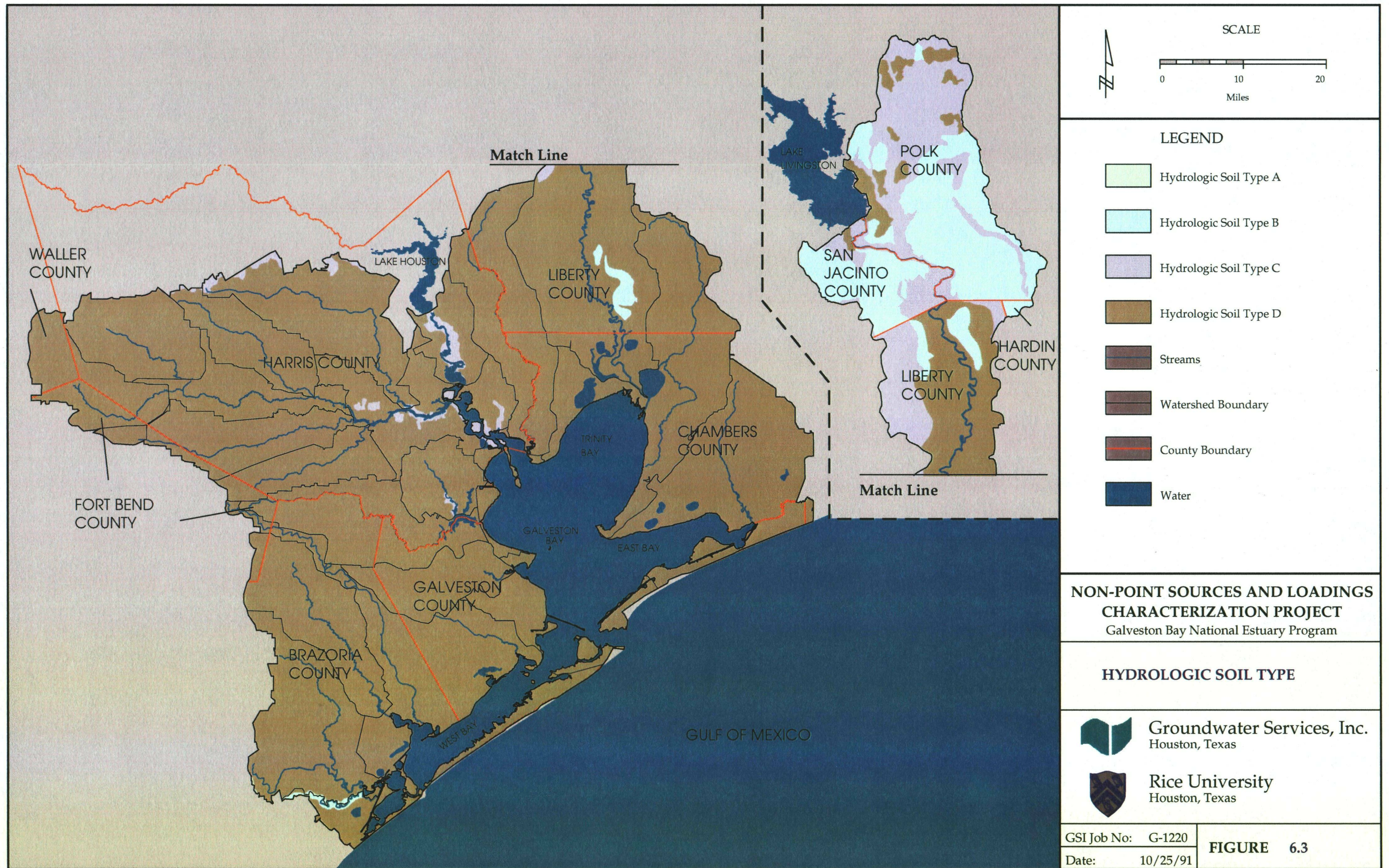


Rice University  
Houston, Texas

GSI Job No: G-1220  
Date: 10/25/91

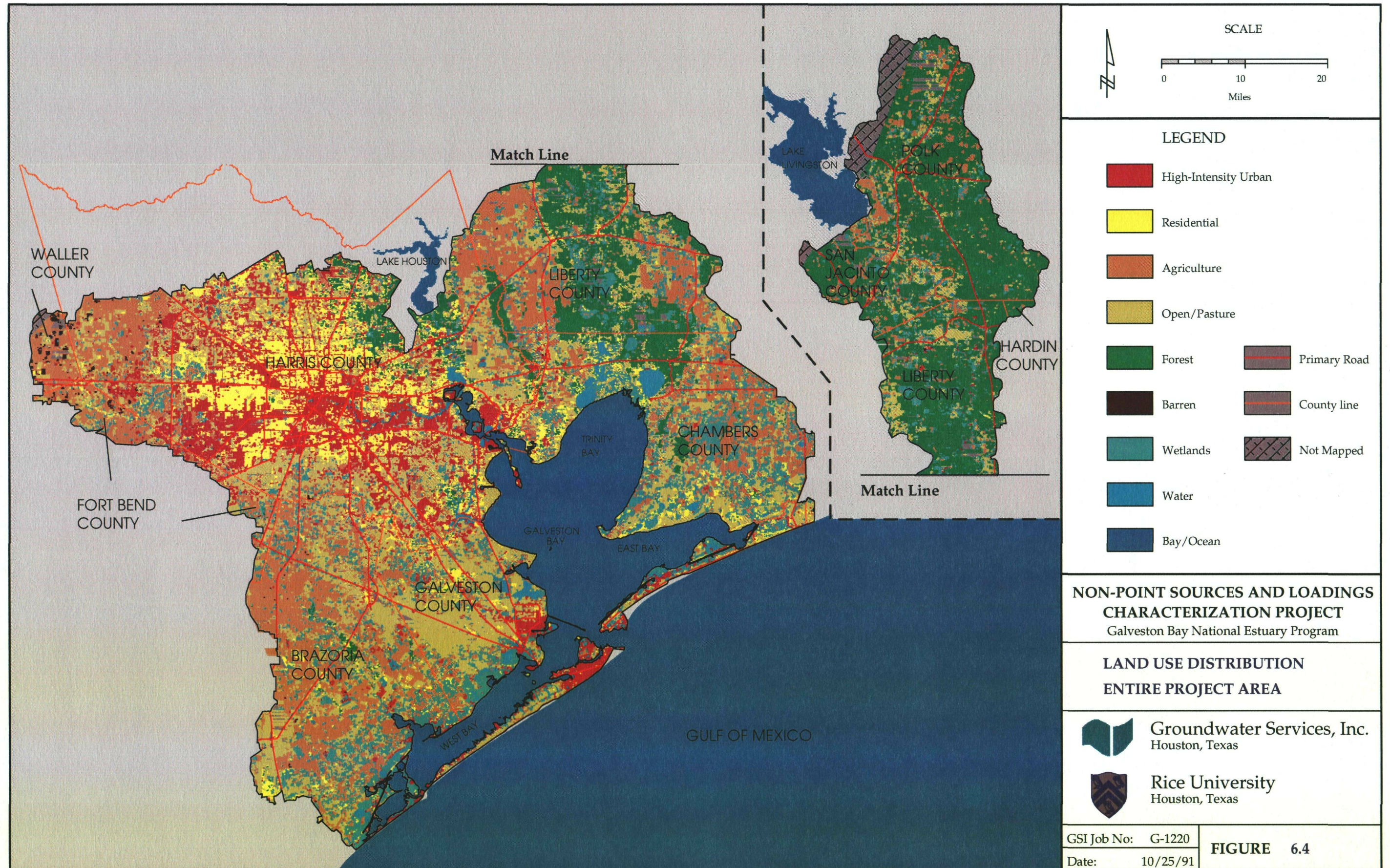
**FIGURE 6.2**





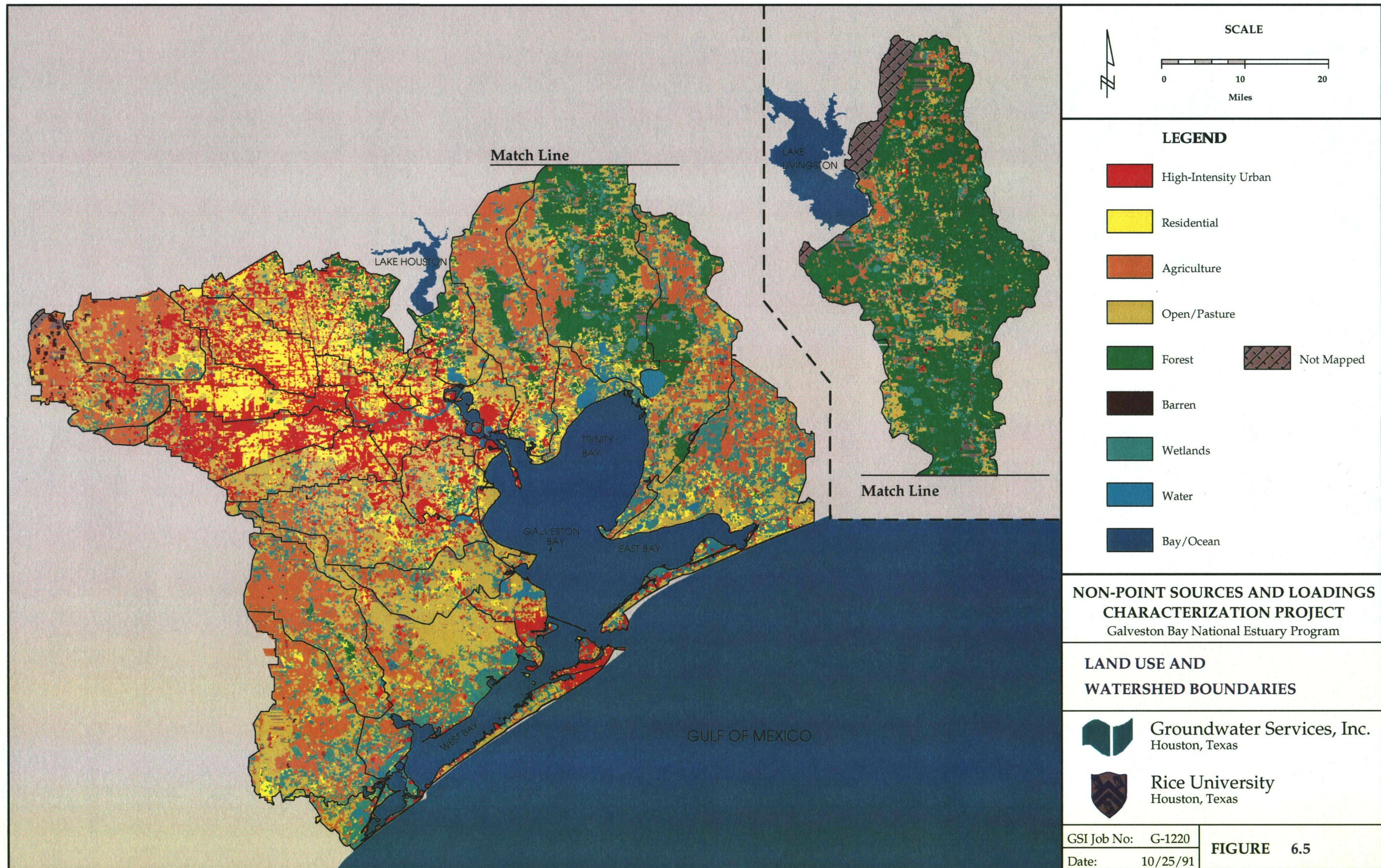
SOURCE: Soil Conservation Service General Soil Maps for each county.







SOURCE: LANDSAT imagery taken November, 1990. Interpretation performed by Intera Aero Service.





**NON-POINT SOURCES AND LOADINGS  
CHARACTERIZATION PROJECT**  
Galveston Bay National Estuary Program

**LAND USE AND  
WATERSHED BOUNDARIES**

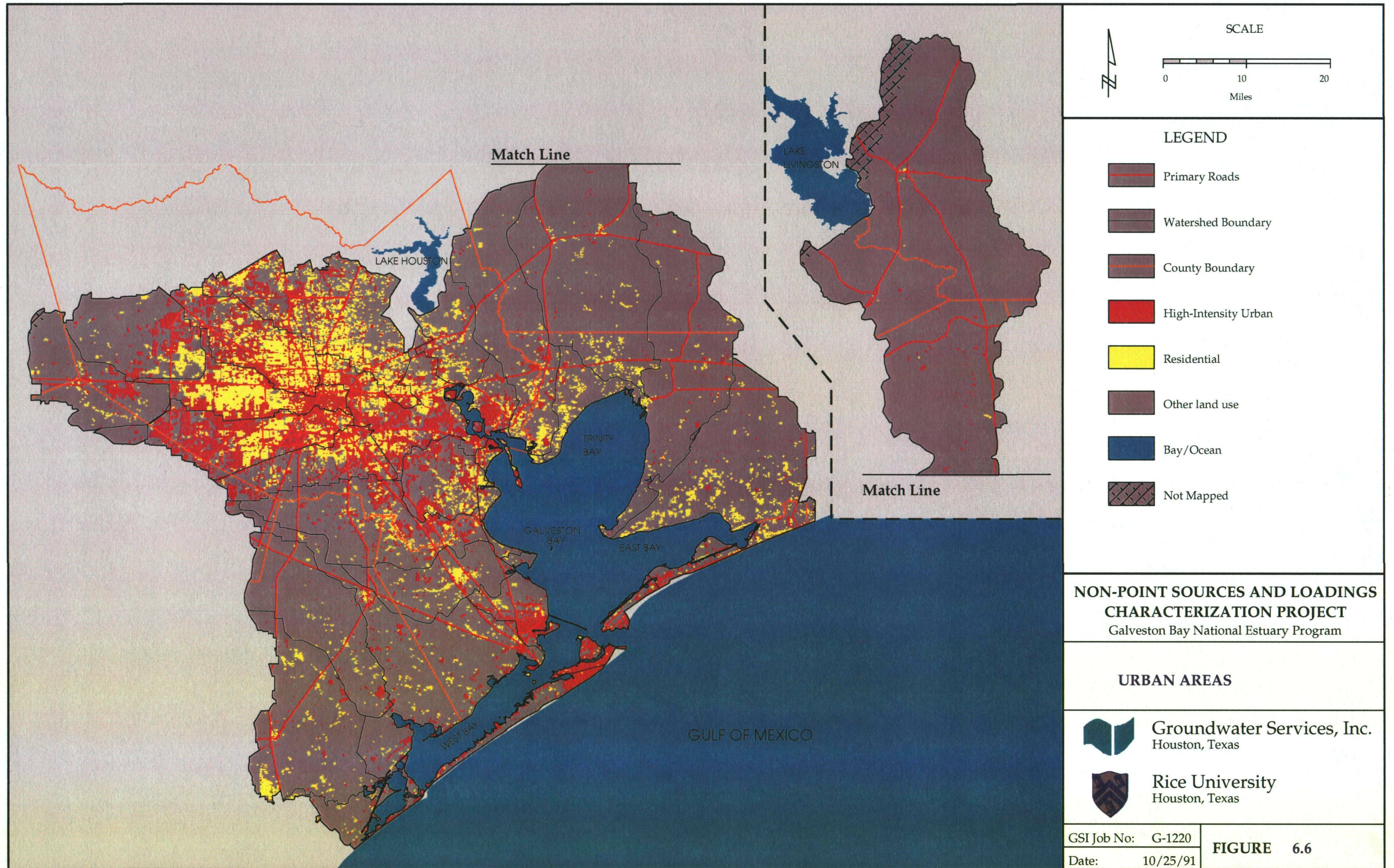
 Groundwater Services, Inc.  
Houston, Texas  
 Rice University  
Houston, Texas

GSI Job No: G-1220  
Date: 10/25/91

**FIGURE 6.5**

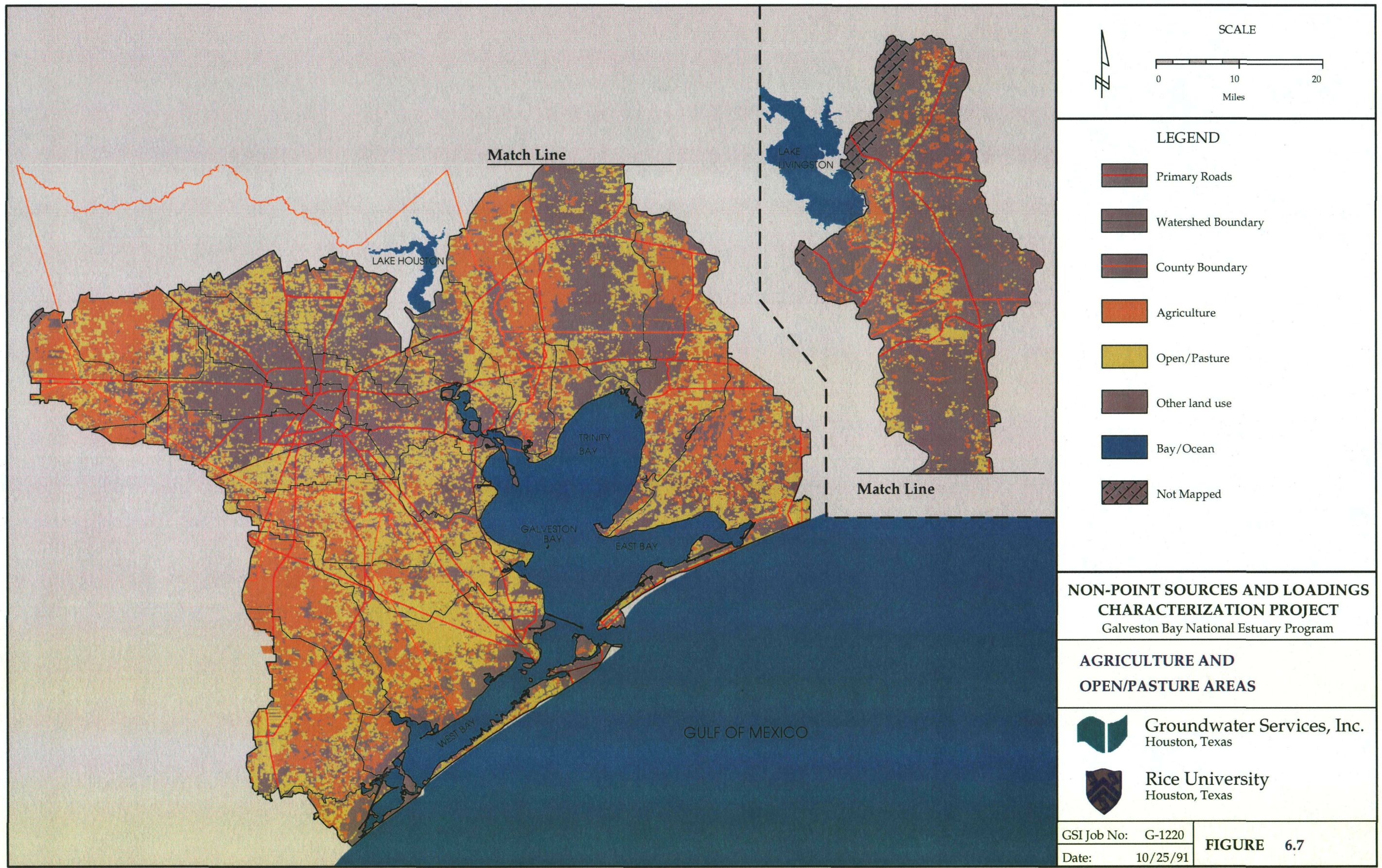
SOURCE: LANDSAT imagery taken November, 1990. Interpretation performed by Intera Aero Service.





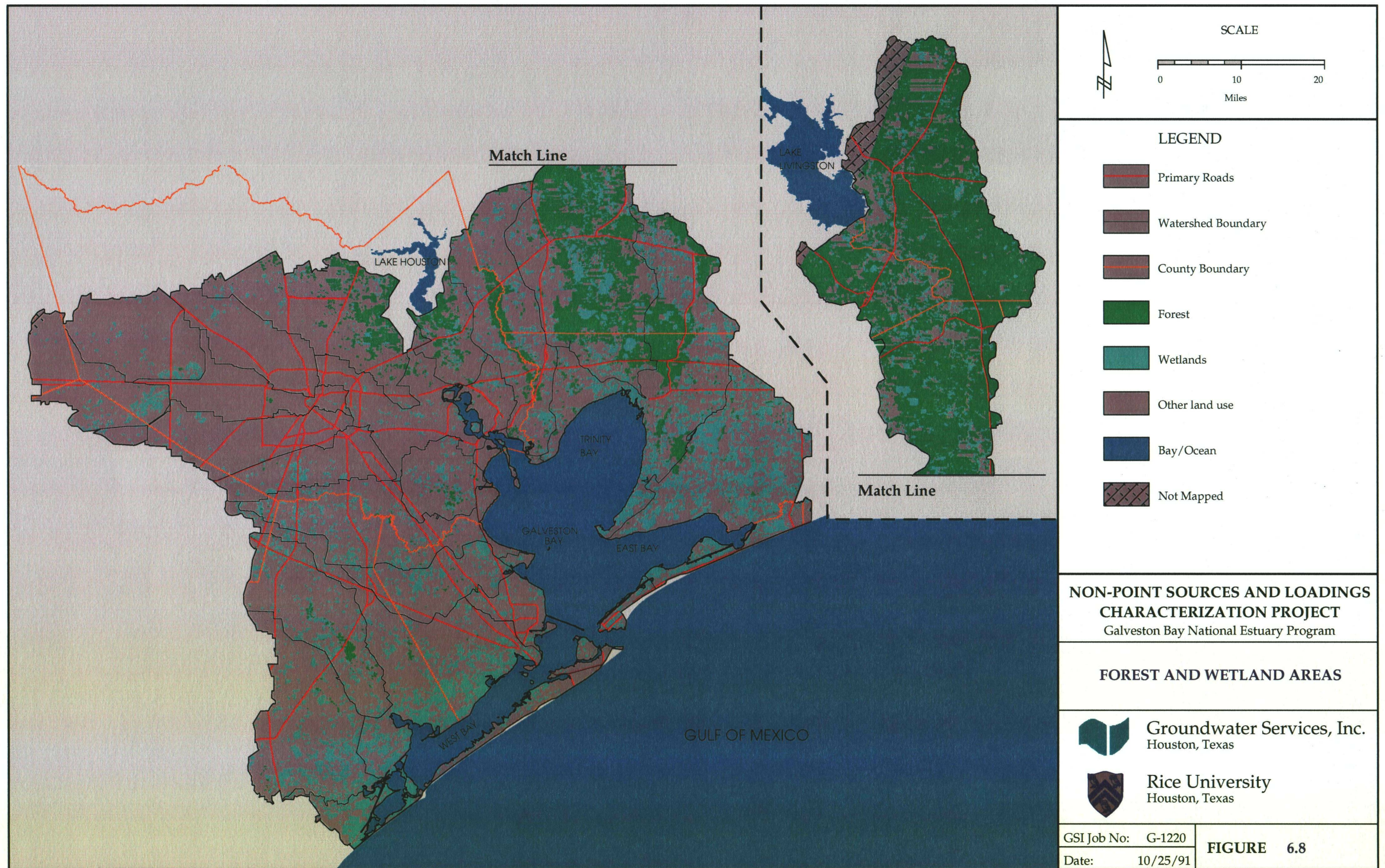
SOURCE: LANDSAT imagery taken November, 1990. Interpretation performed by Intera Aero Service.





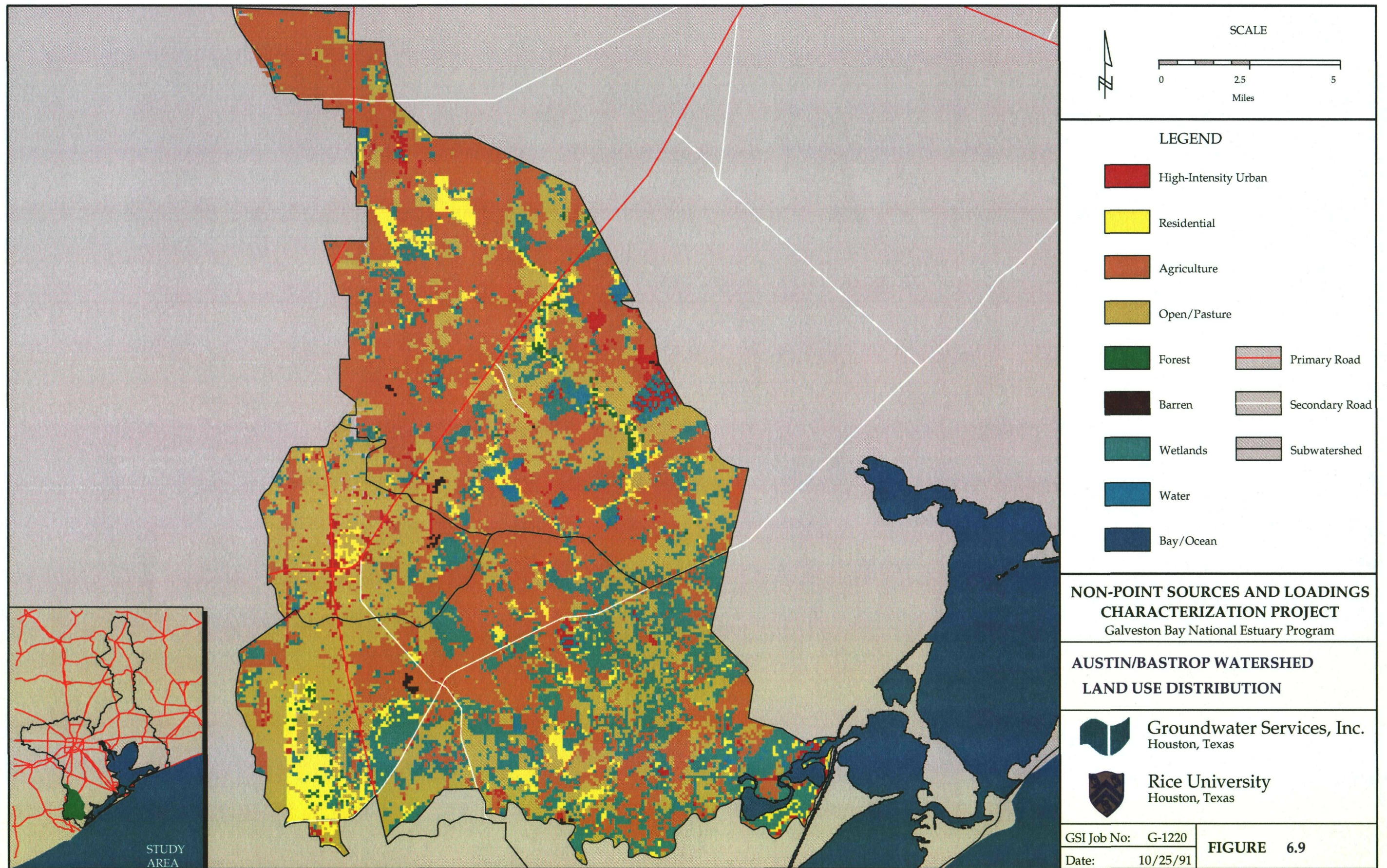
SOURCE: LANDSAT imagery taken November, 1990. Interpretation performed by Intera Aero Service.





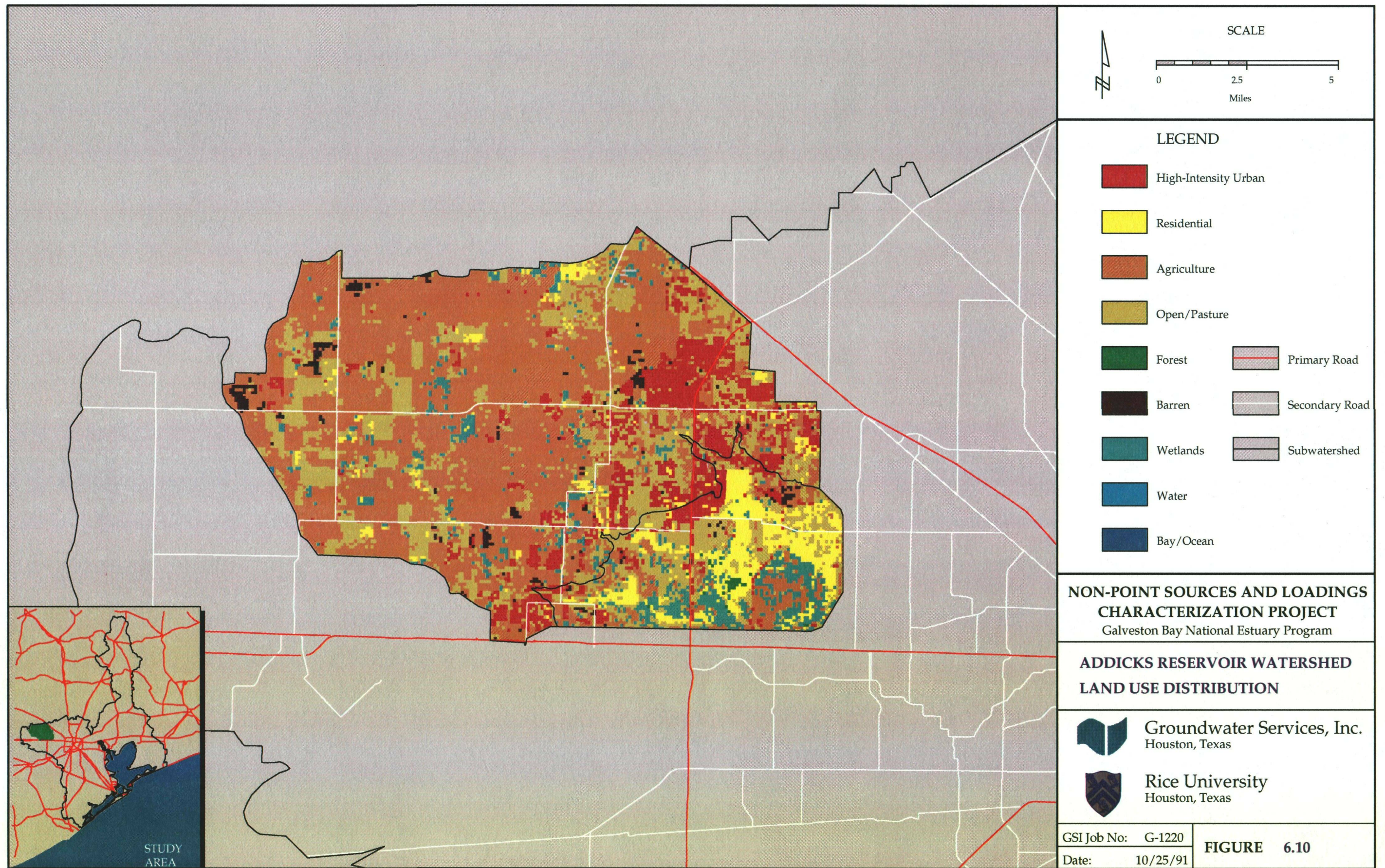
SOURCE: LANDSAT imagery taken November, 1990. Interpretation performed by Intera Aero Service.





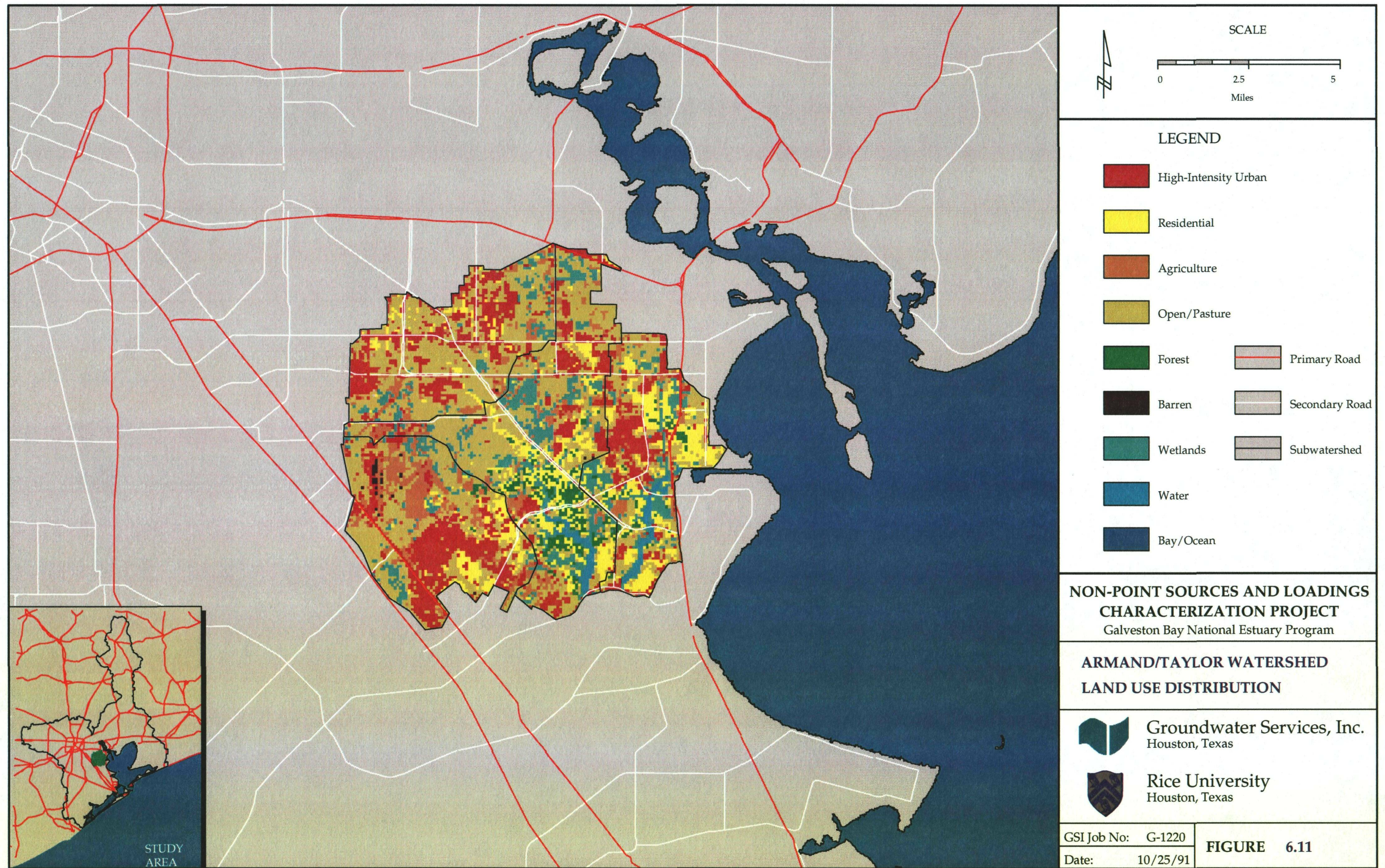
SOURCE: LANDSAT imagery taken November, 1990. Interpretation performed by Intera Aero Service.





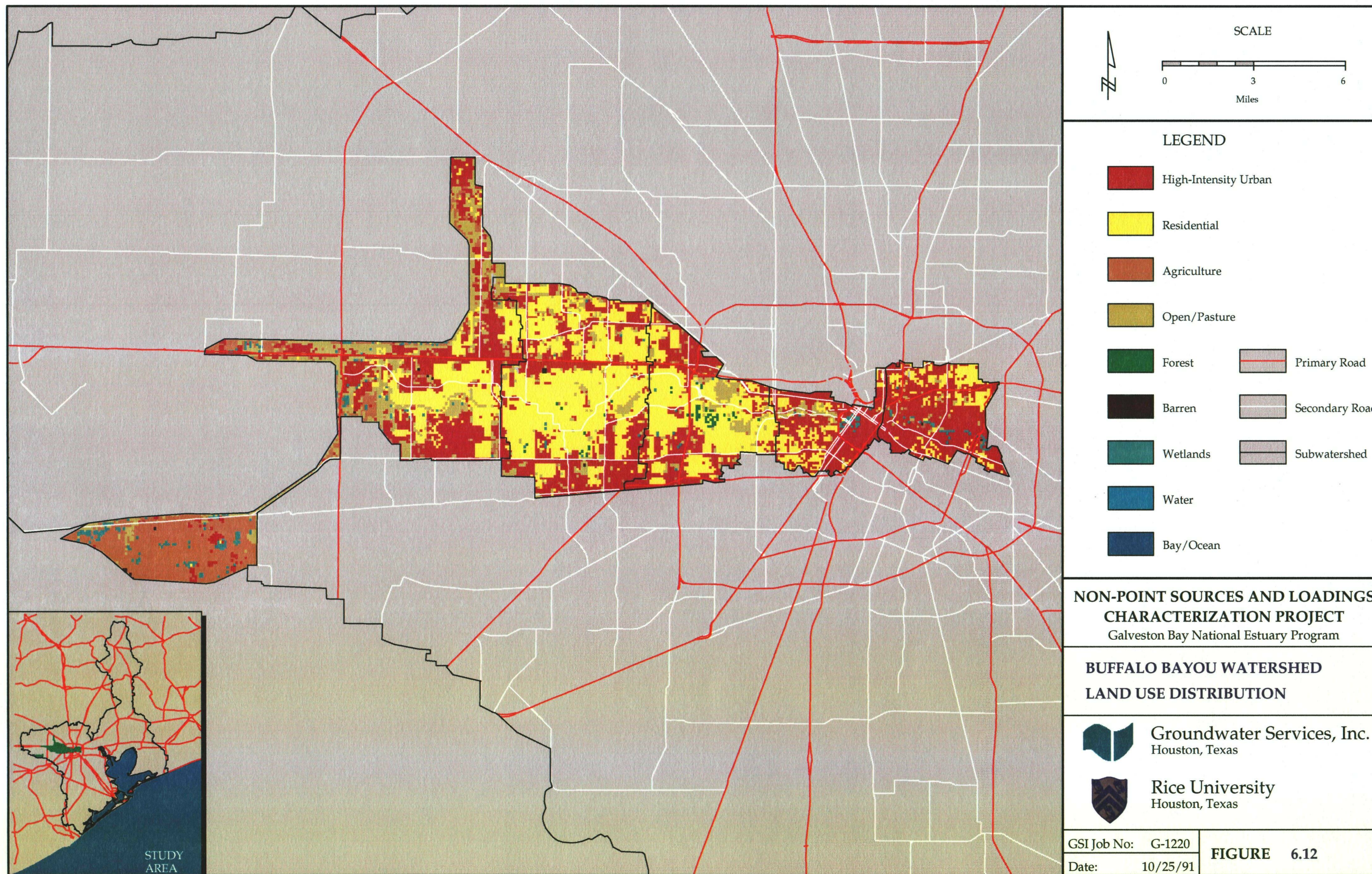
SOURCE: LANDSAT imagery taken November, 1990. Interpretation performed by Intera Aero Service.





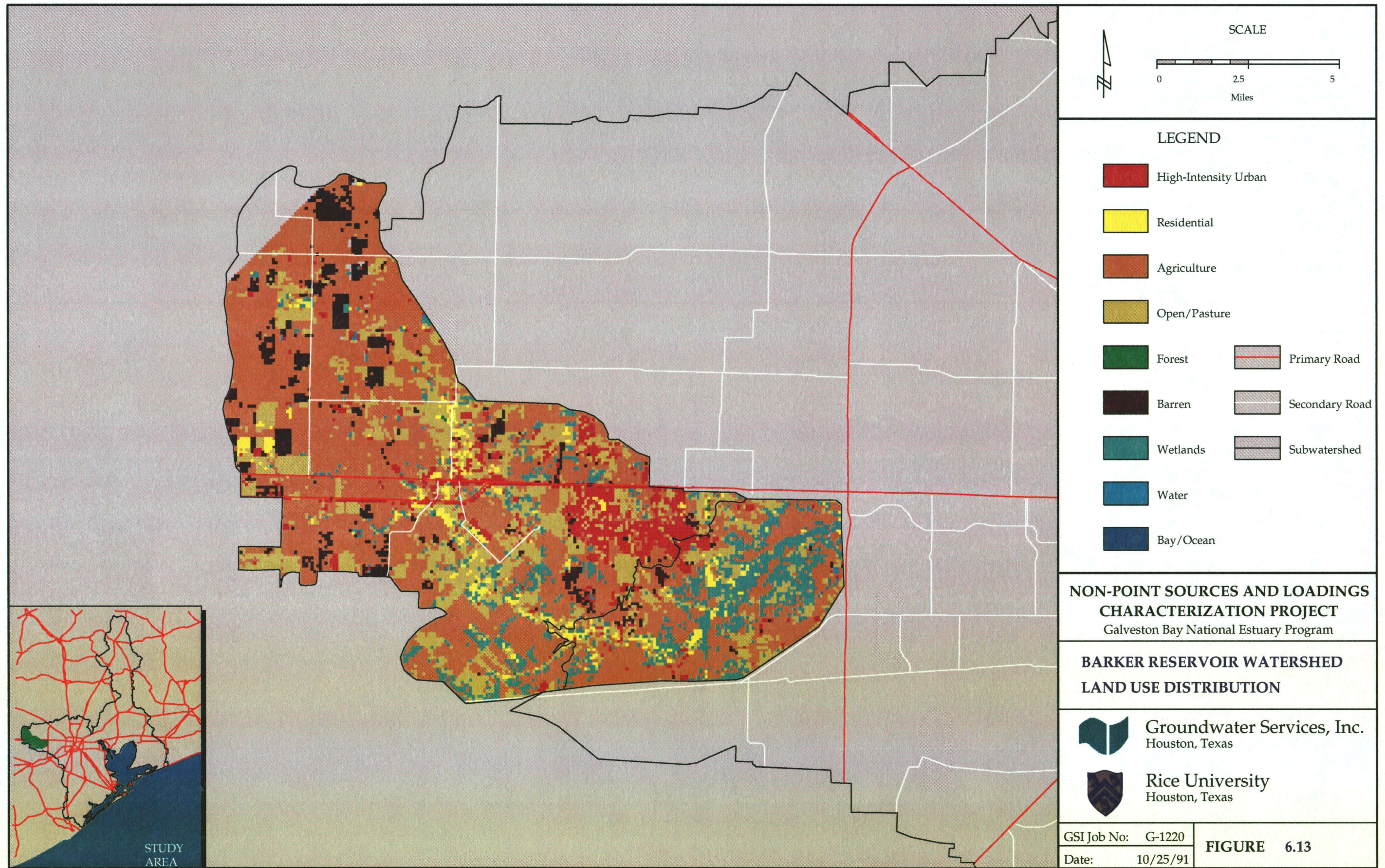
SOURCE: LANDSAT imagery taken November, 1990. Interpretation performed by Intera Aero Service.





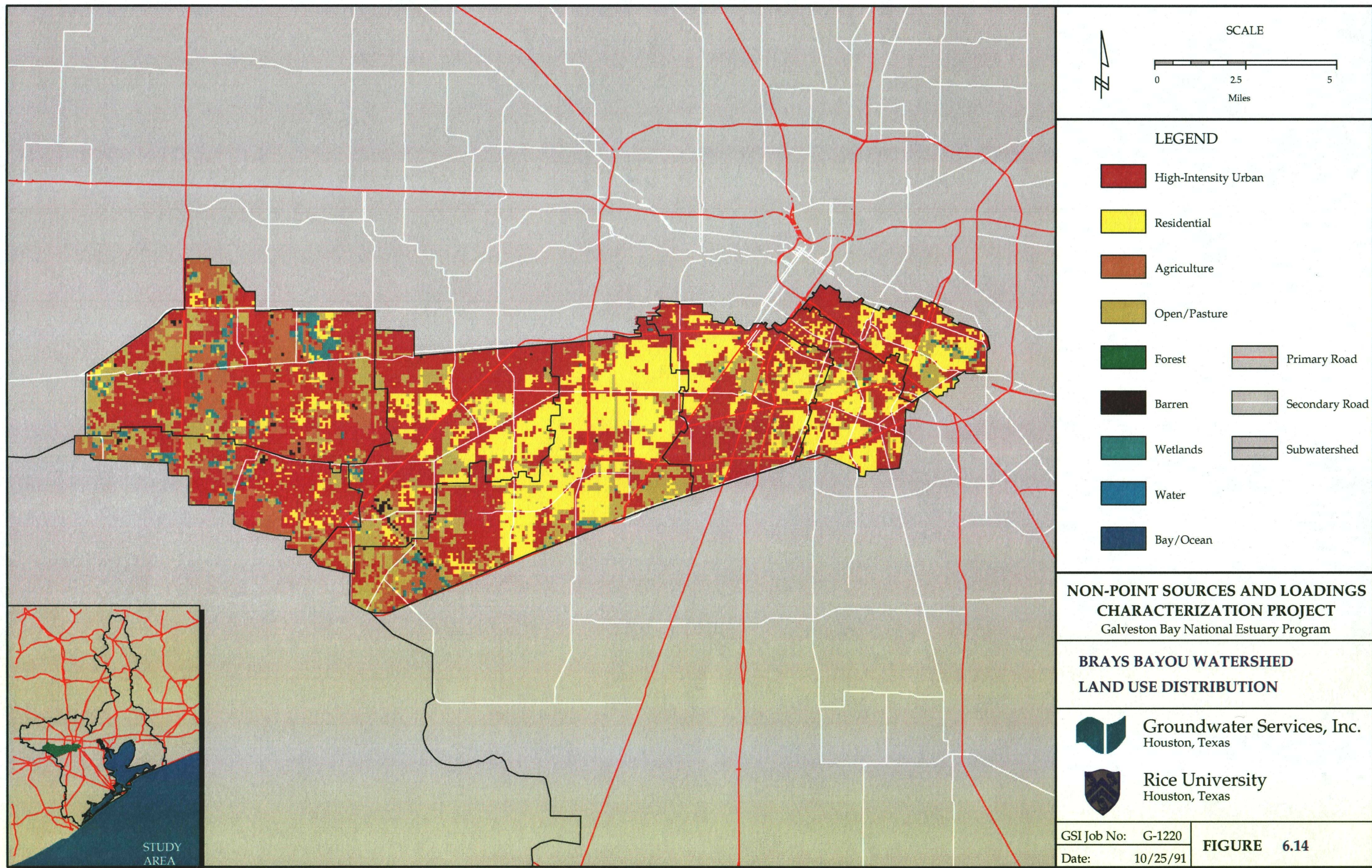
SOURCE: LANDSAT imagery taken November, 1990. Interpretation performed by Intra Aero Service.





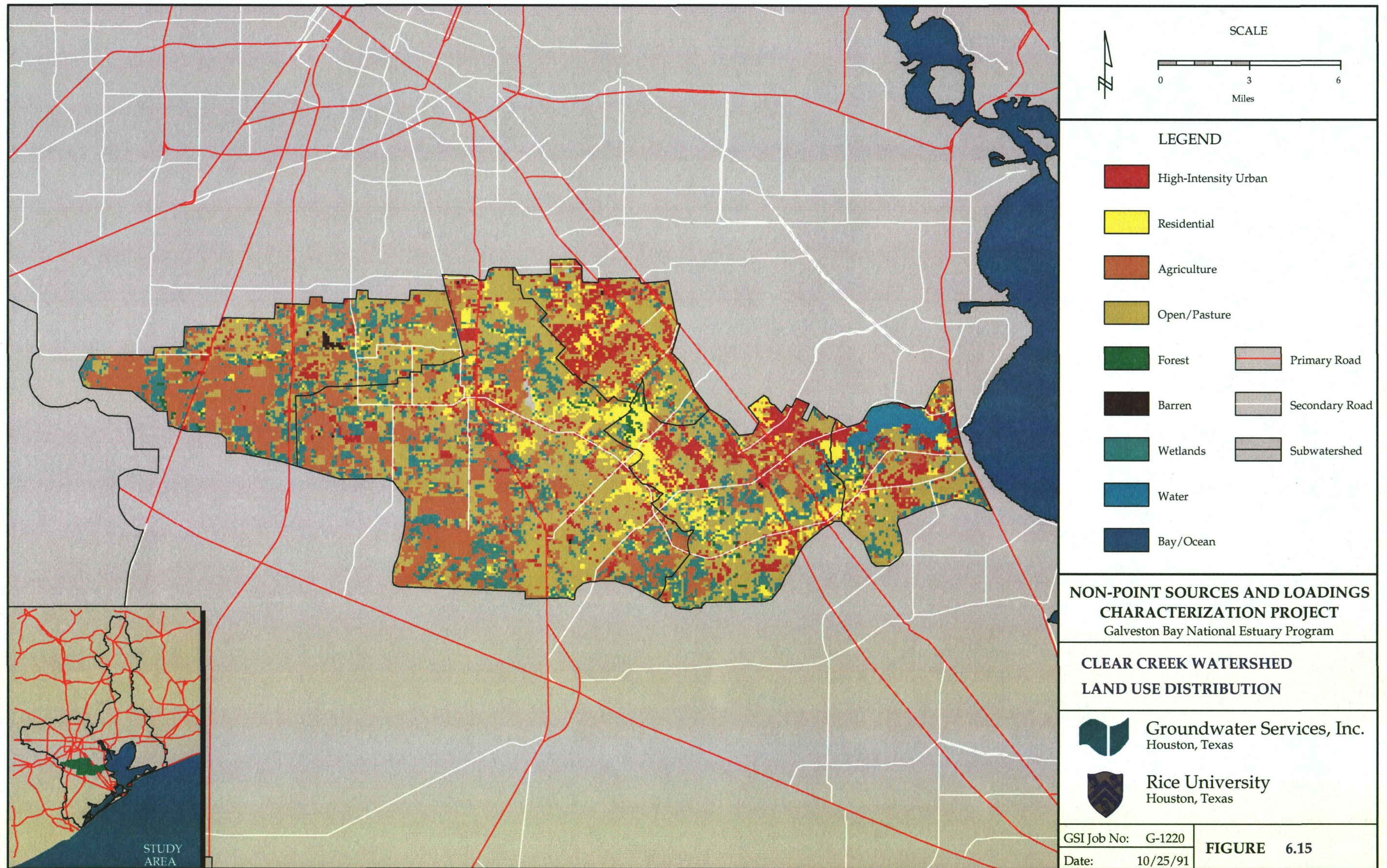
SOURCE: LANDSAT imagery taken November, 1990. Interpretation performed by Intera Aero Service





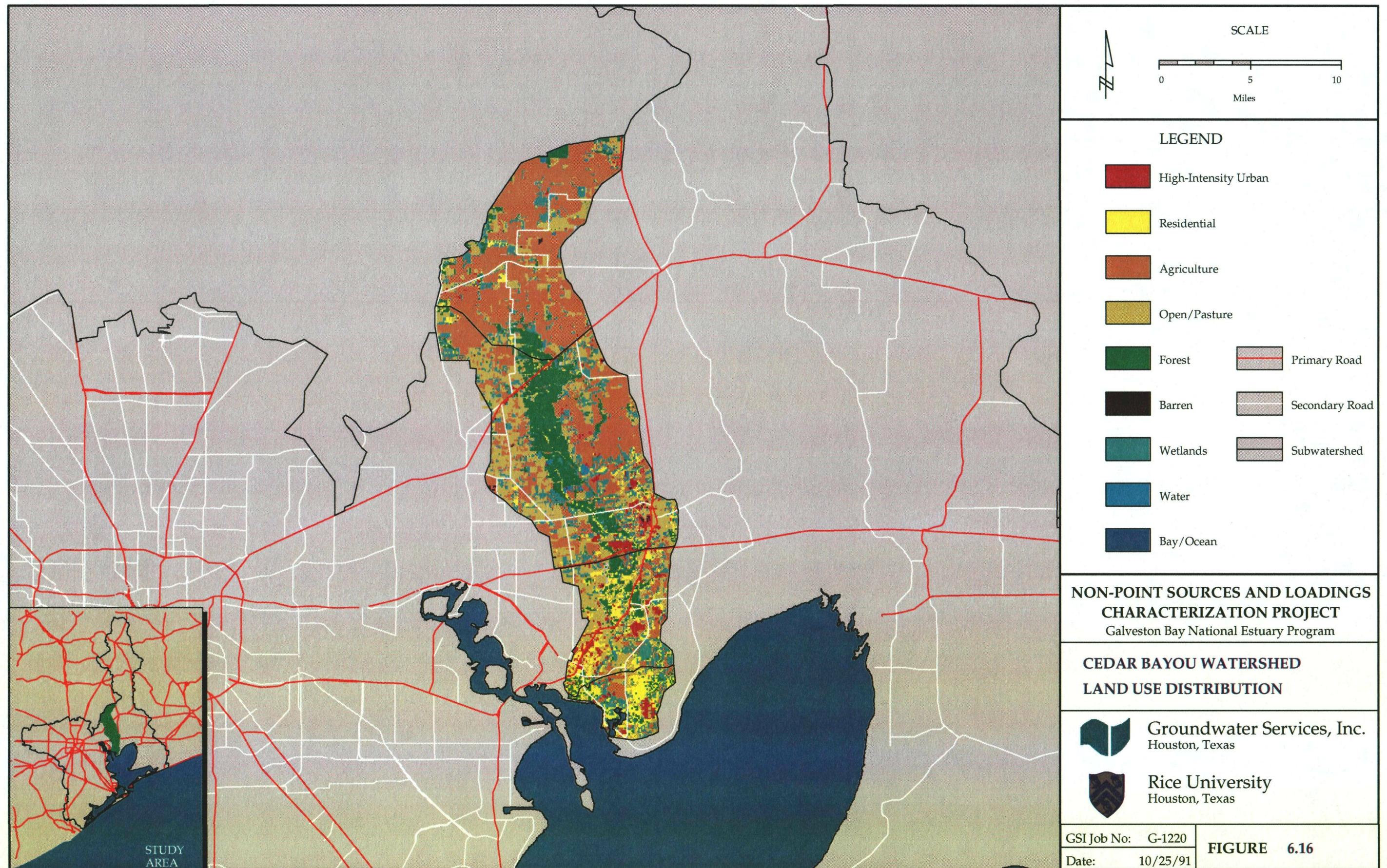
SOURCE: LANDSAT imagery taken November, 1990. Interpretation performed by Intera Aero Service.





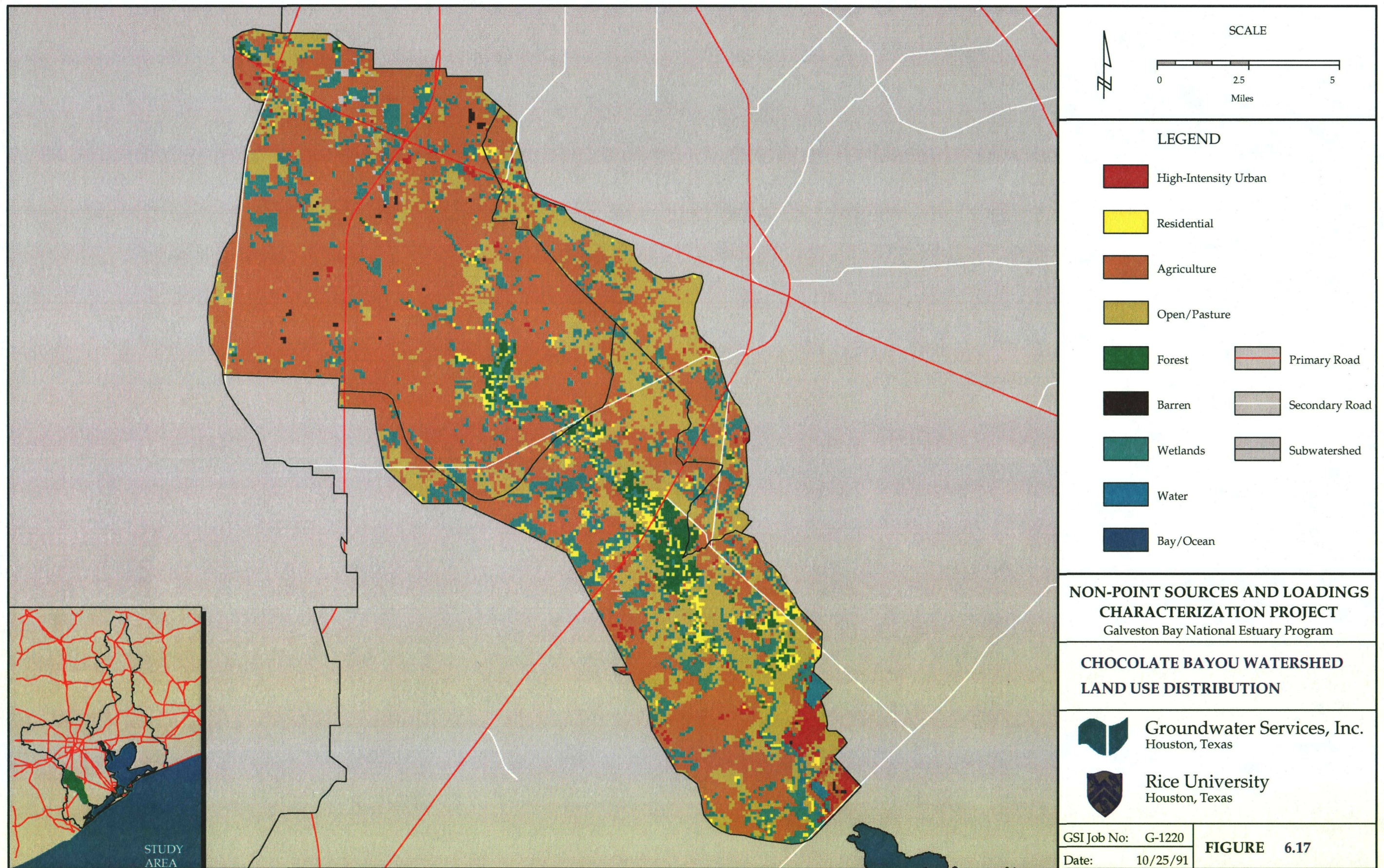
SOURCE: LANDSAT imagery taken November, 1990. Interpretation performed by Intera Aero Service.





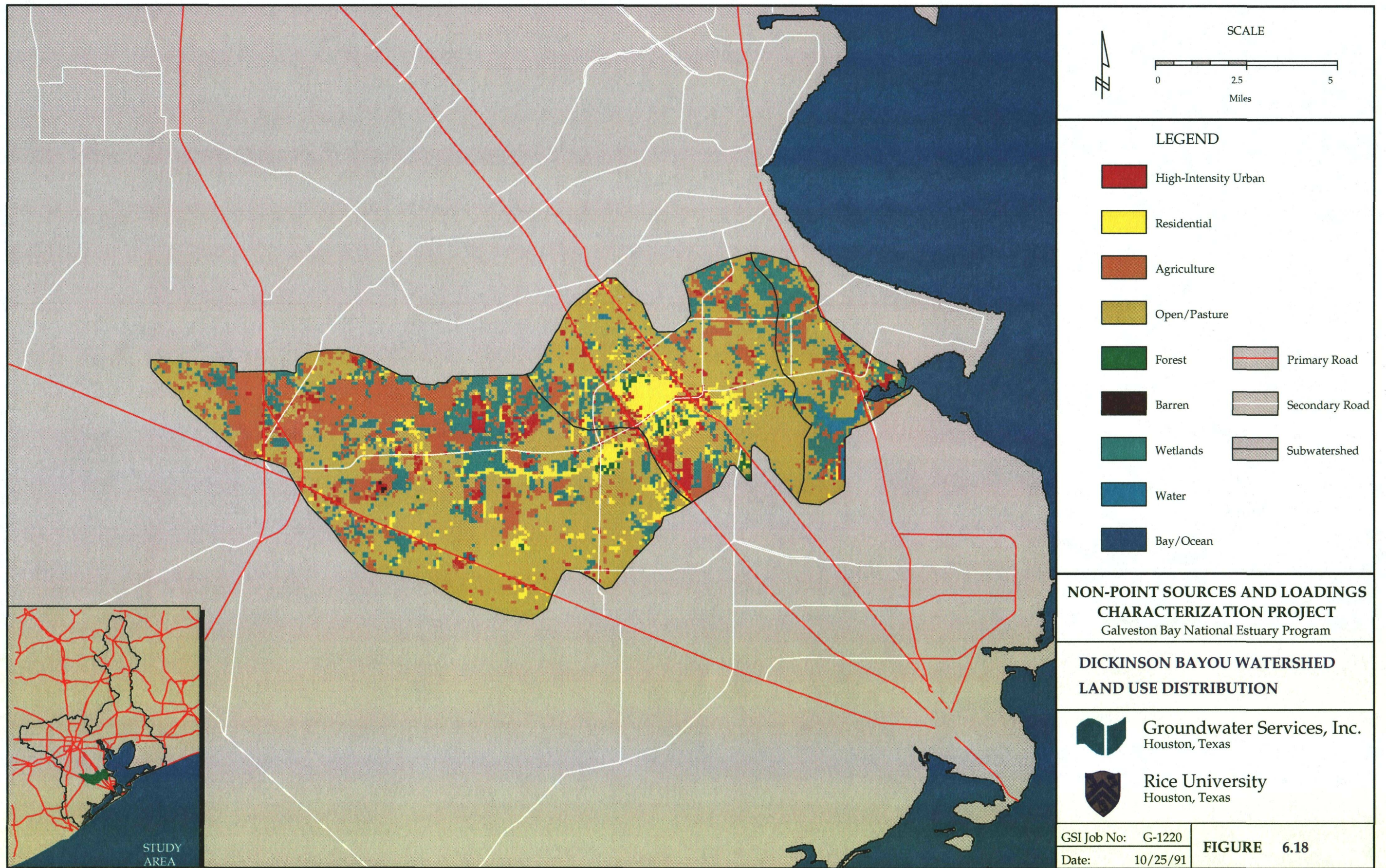
SOURCE: LANDSAT imagery taken November, 1990. Interpretation performed by Intera Aero Service.





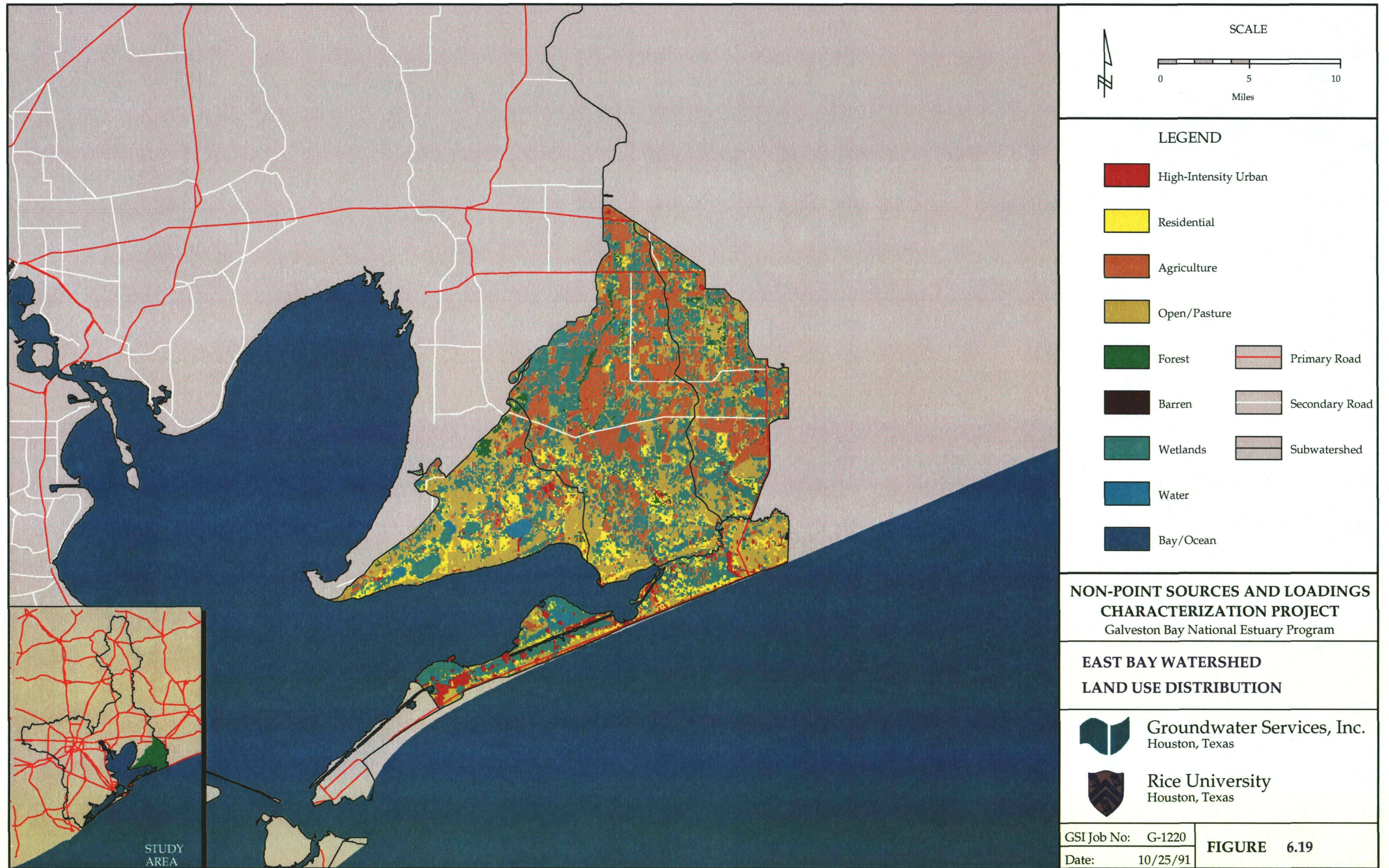
SOURCE: LANDSAT imagery taken November, 1990. Interpretation performed by Intera Aero Service.





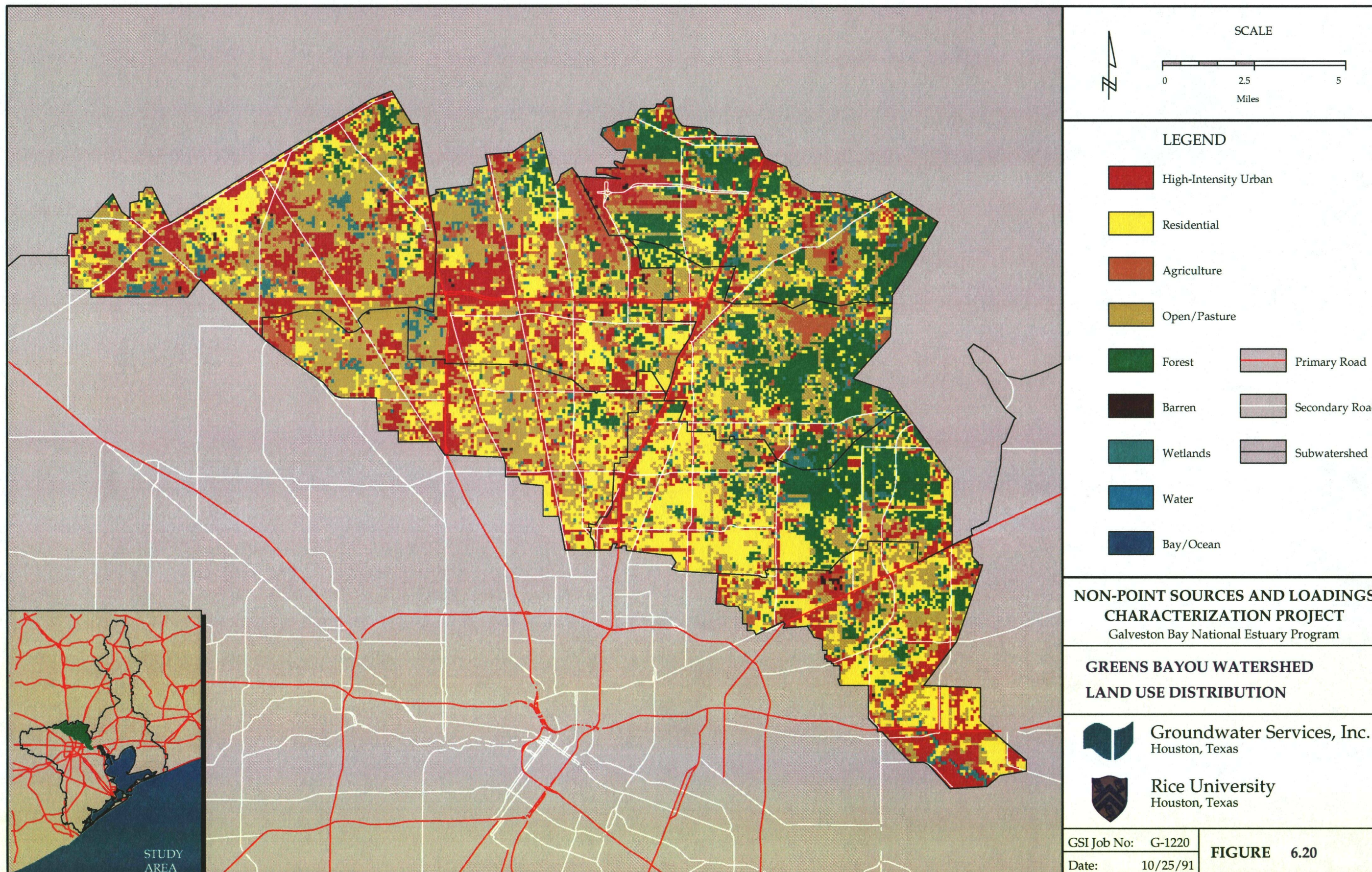
SOURCE: LANDSAT imagery taken November, 1990. Interpretation performed by Intera Aero Service.





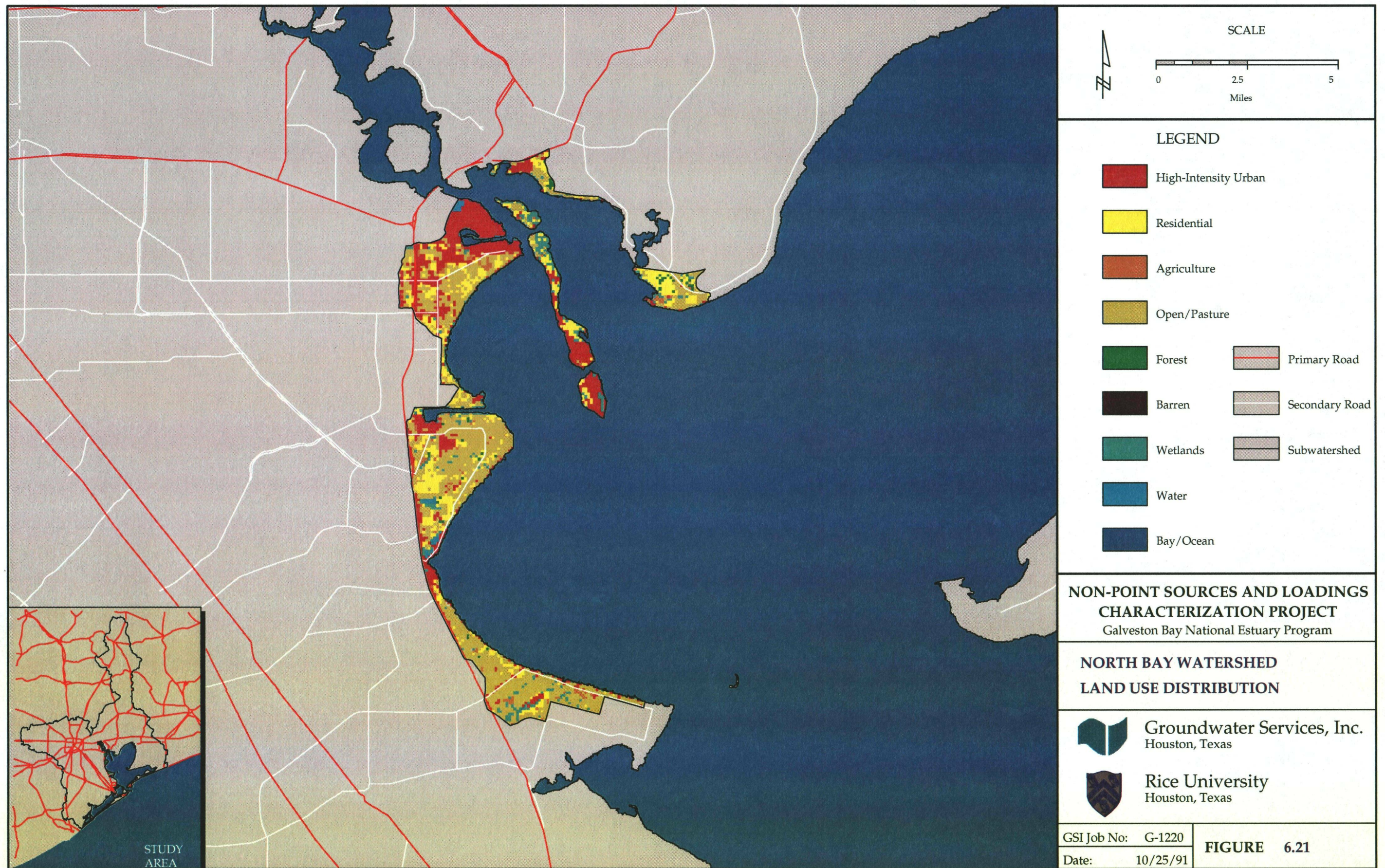
SOURCE: LANDSAT imagery taken November, 1990. Interpretation performed by Intera Aero Service.





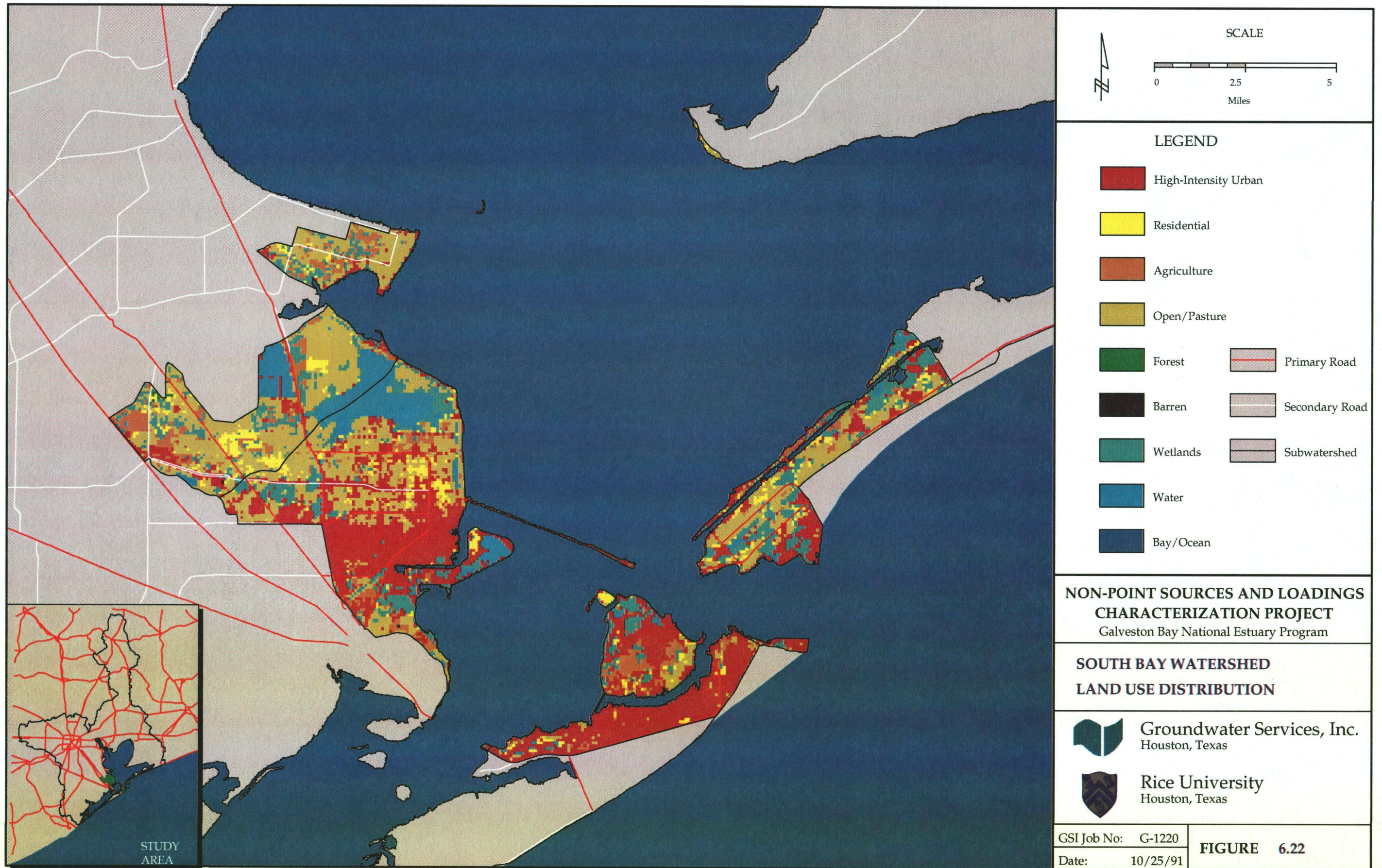
SOURCE: LANDSAT imagery taken November, 1990. Interpretation performed by Intera Aero Service.





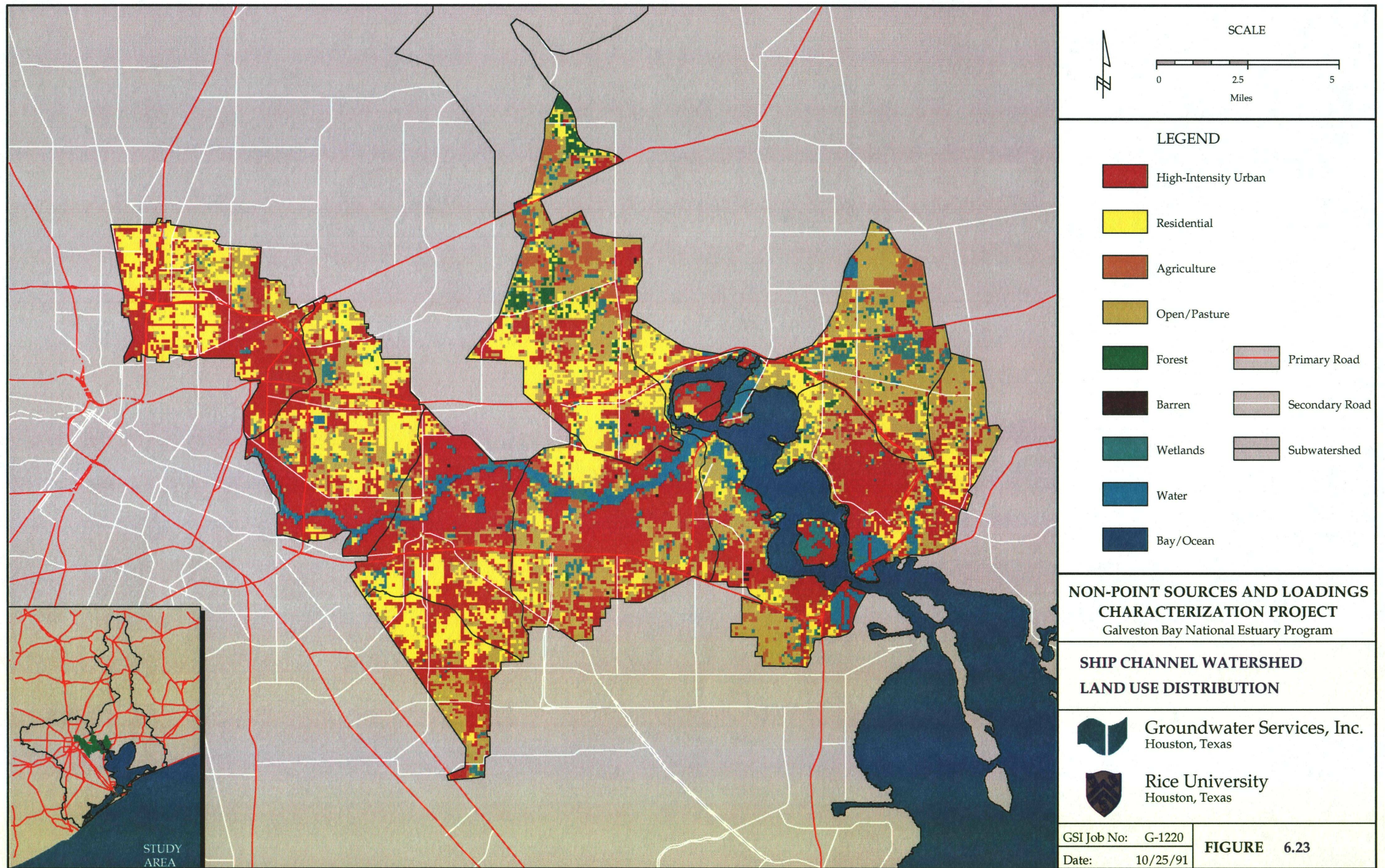
SOURCE: LANDSAT imagery taken November, 1990. Interpretation performed by Intera Aero Service.





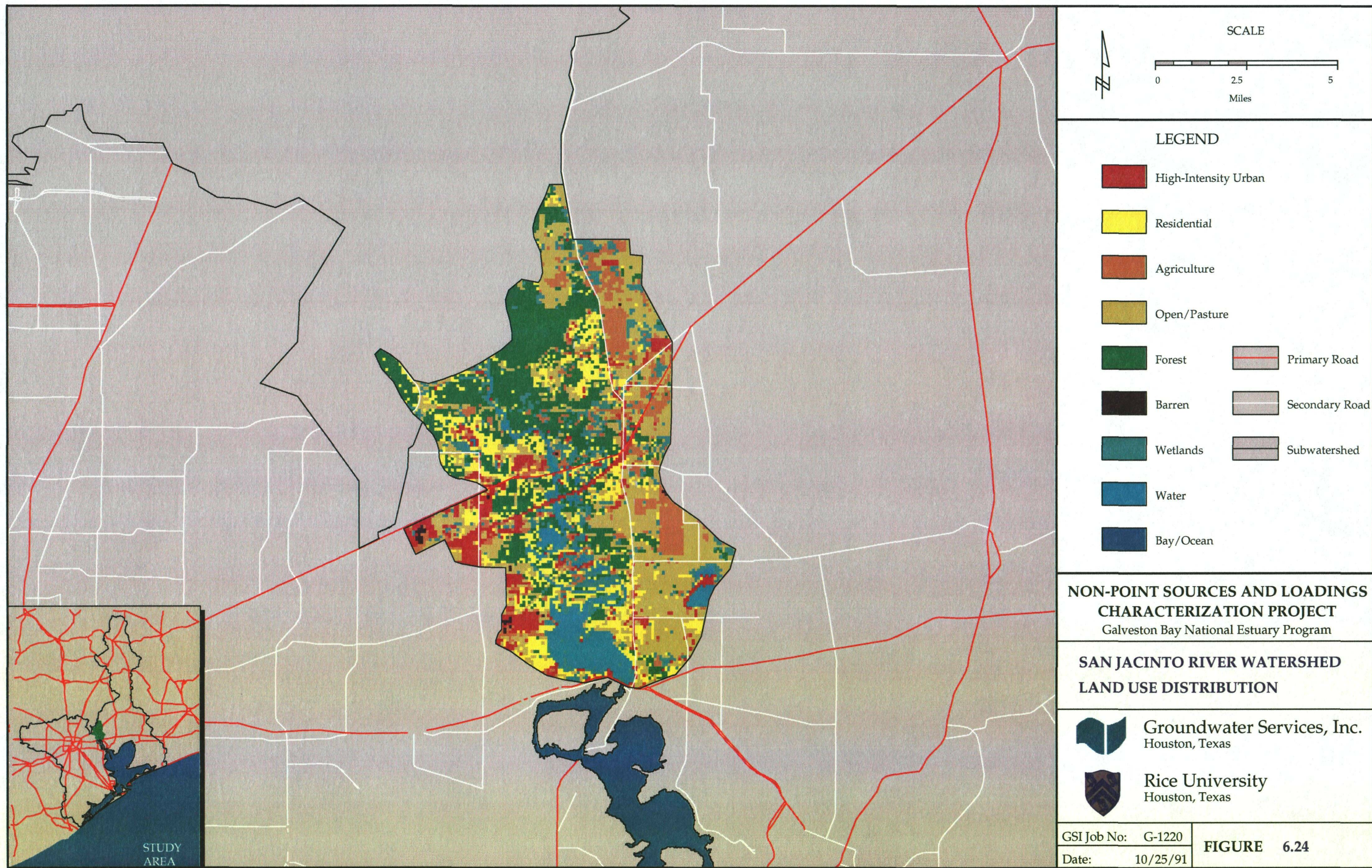
SOURCE: LANDSAT imagery taken November, 1990. Interpretation performed by Intera Aero Service.





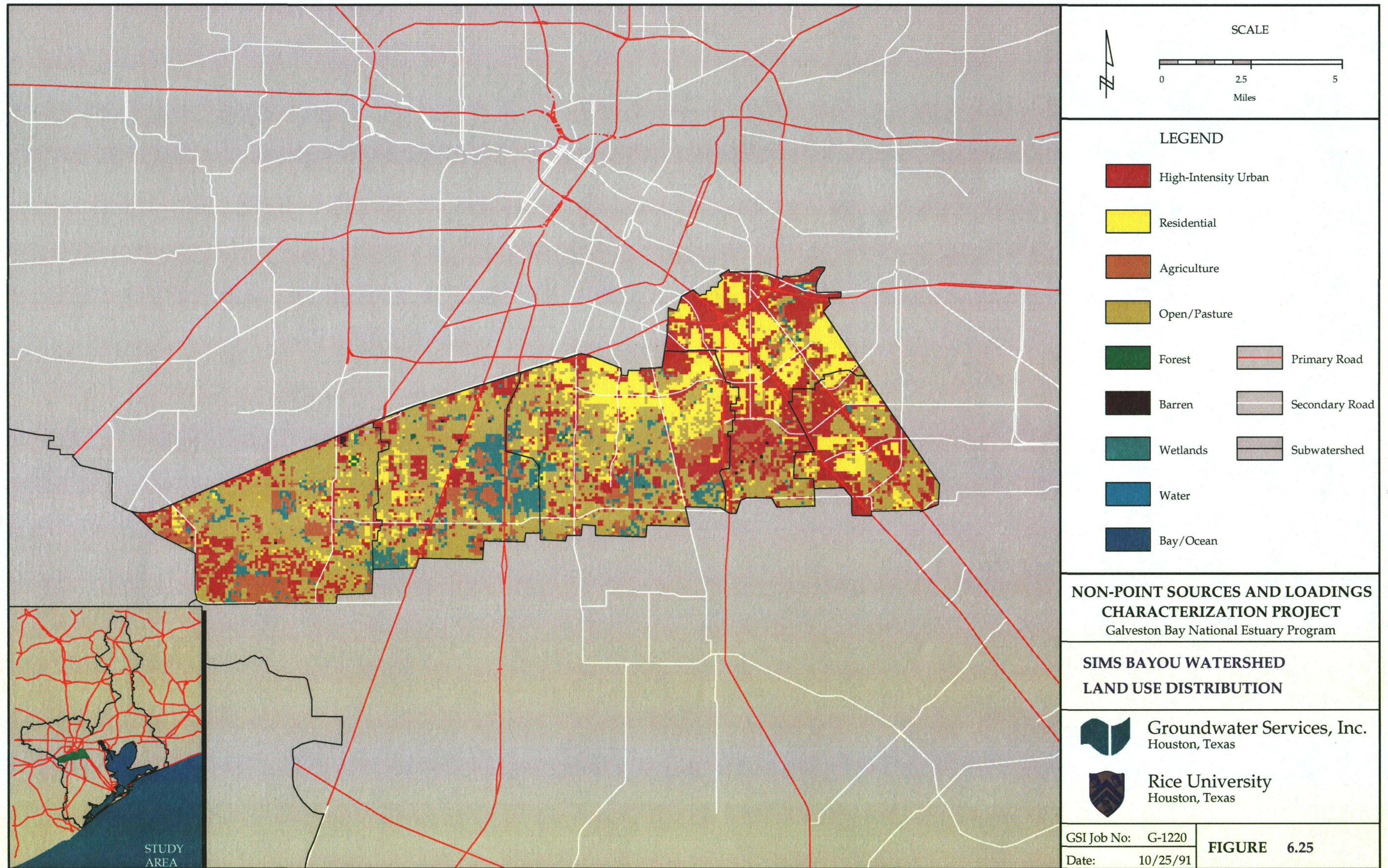
SOURCE: LANDSAT imagery taken November, 1990. Interpretation performed by Intera Aero Service.





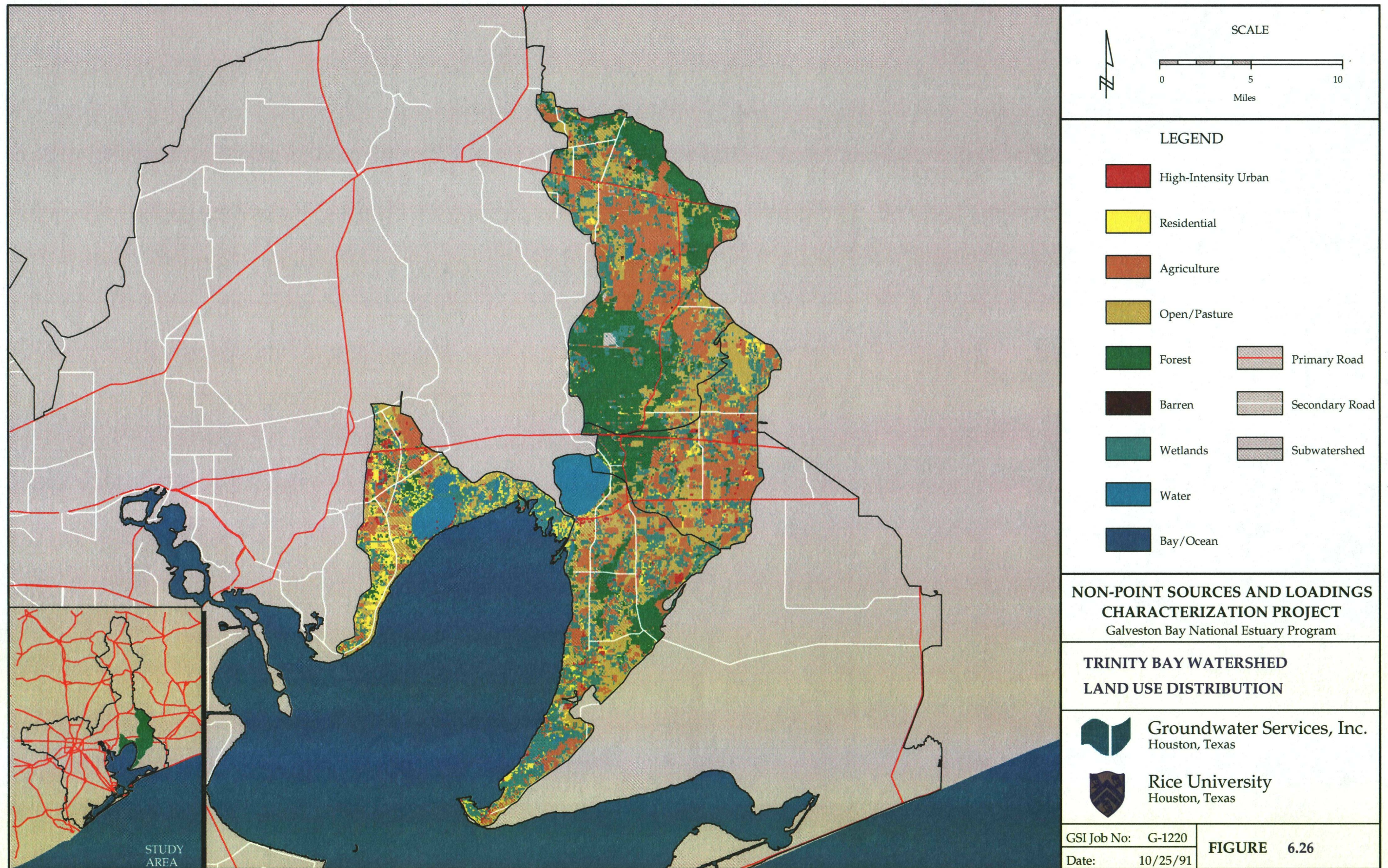
SOURCE: LANDSAT imagery taken November, 1990. Interpretation performed by Intera Aero Service.





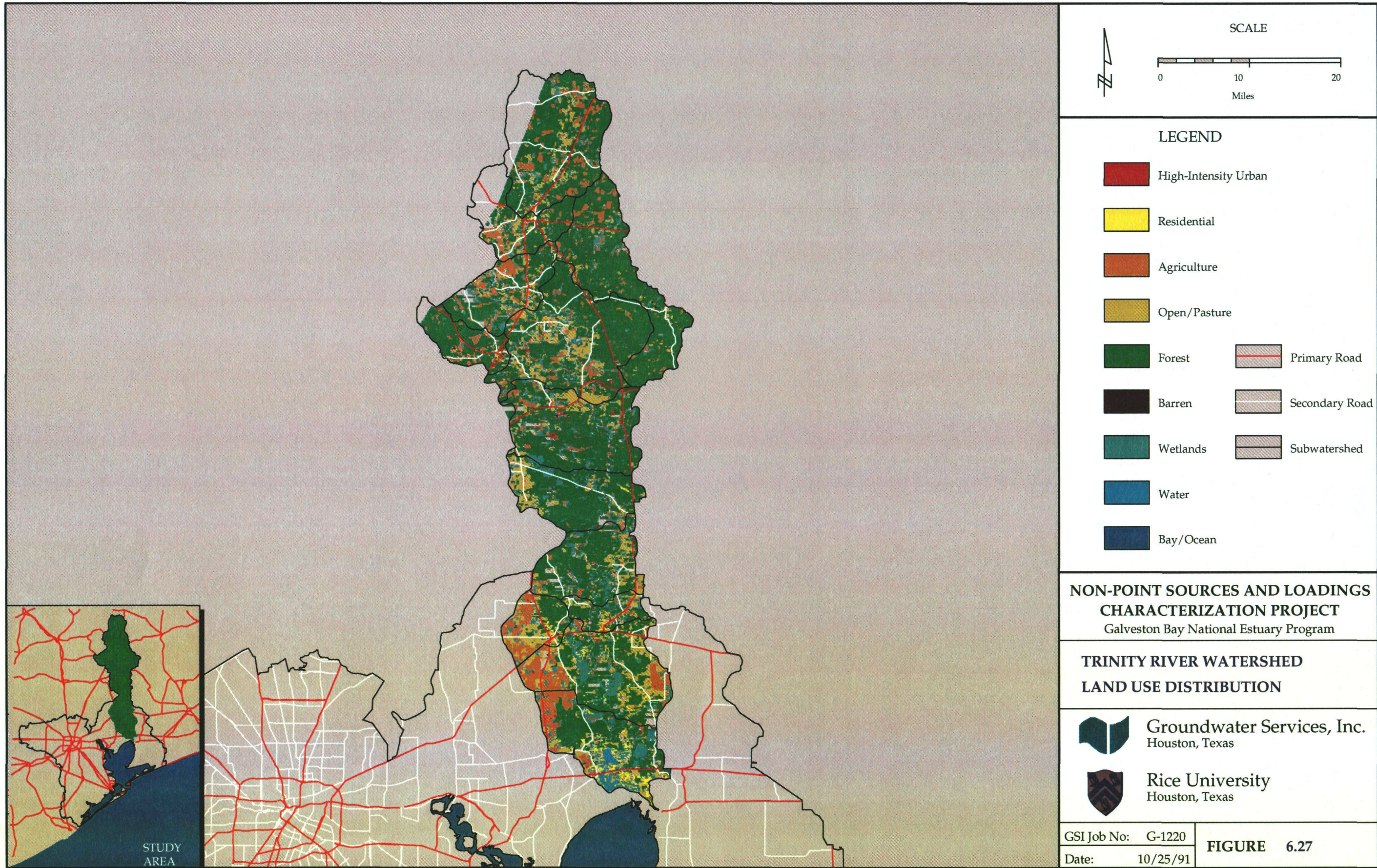
SOURCE: LANDSAT imagery taken November, 1990. Interpretation performed by Intera Aero Service.





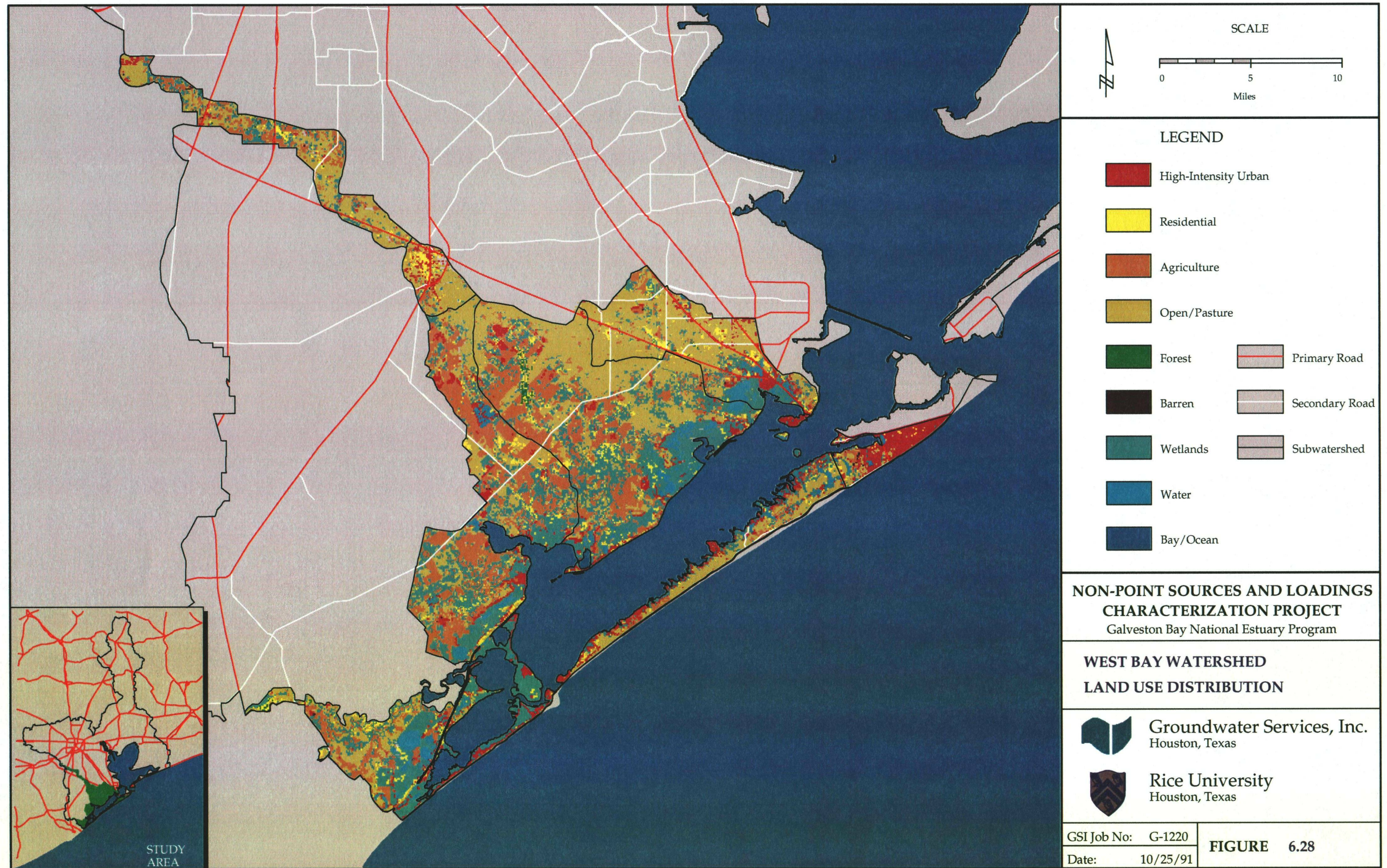
SOURCE: LANDSAT imagery taken November, 1990. Interpretation performed by Intera Aero Service.





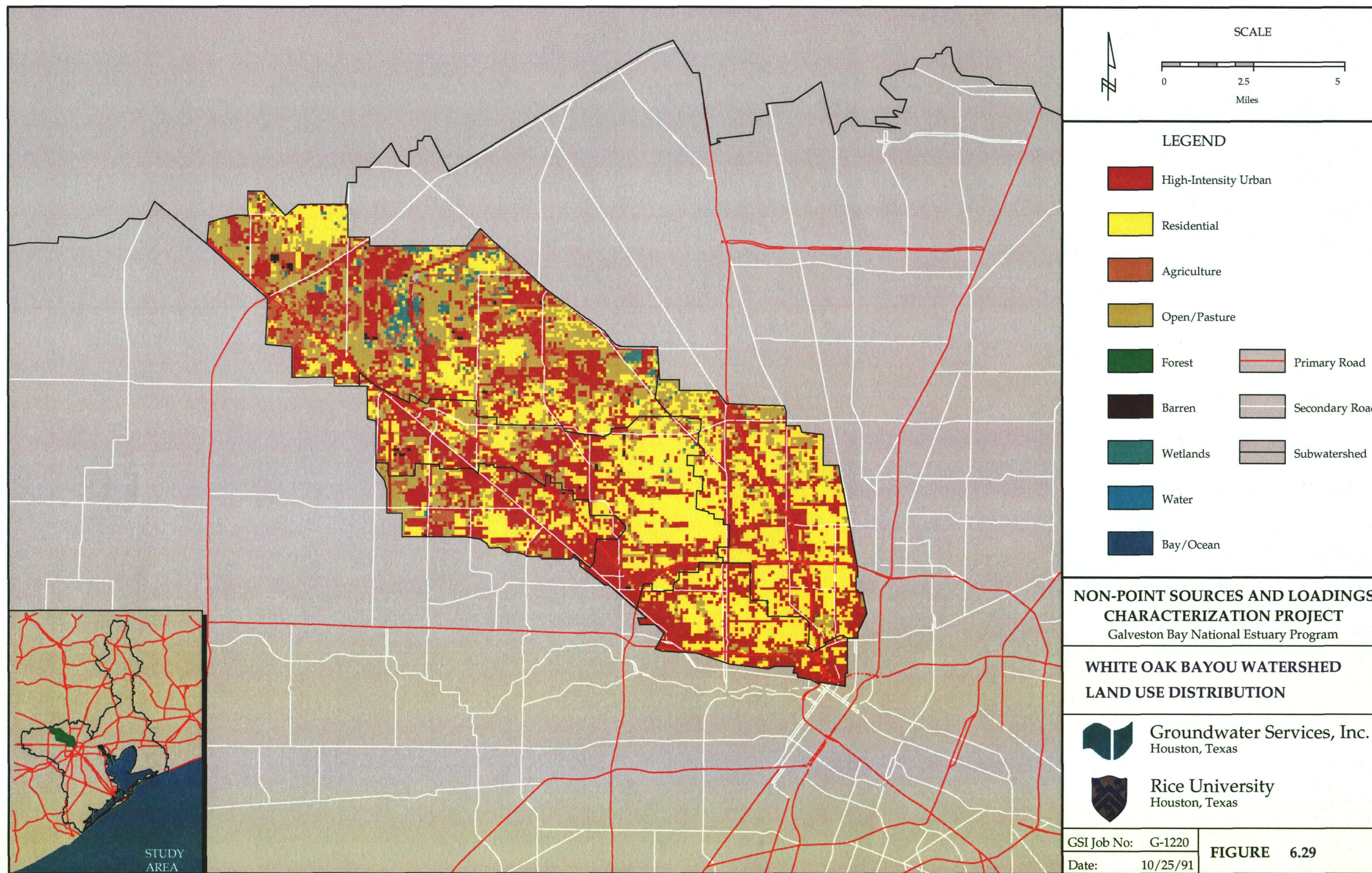
SOURCE: LANDSAT imagery taken November, 1990. Interpretation performed by Intera Aero Service.





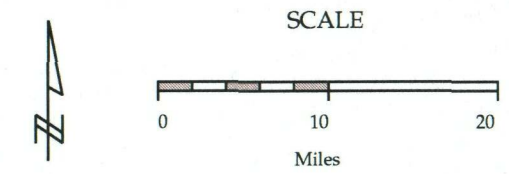
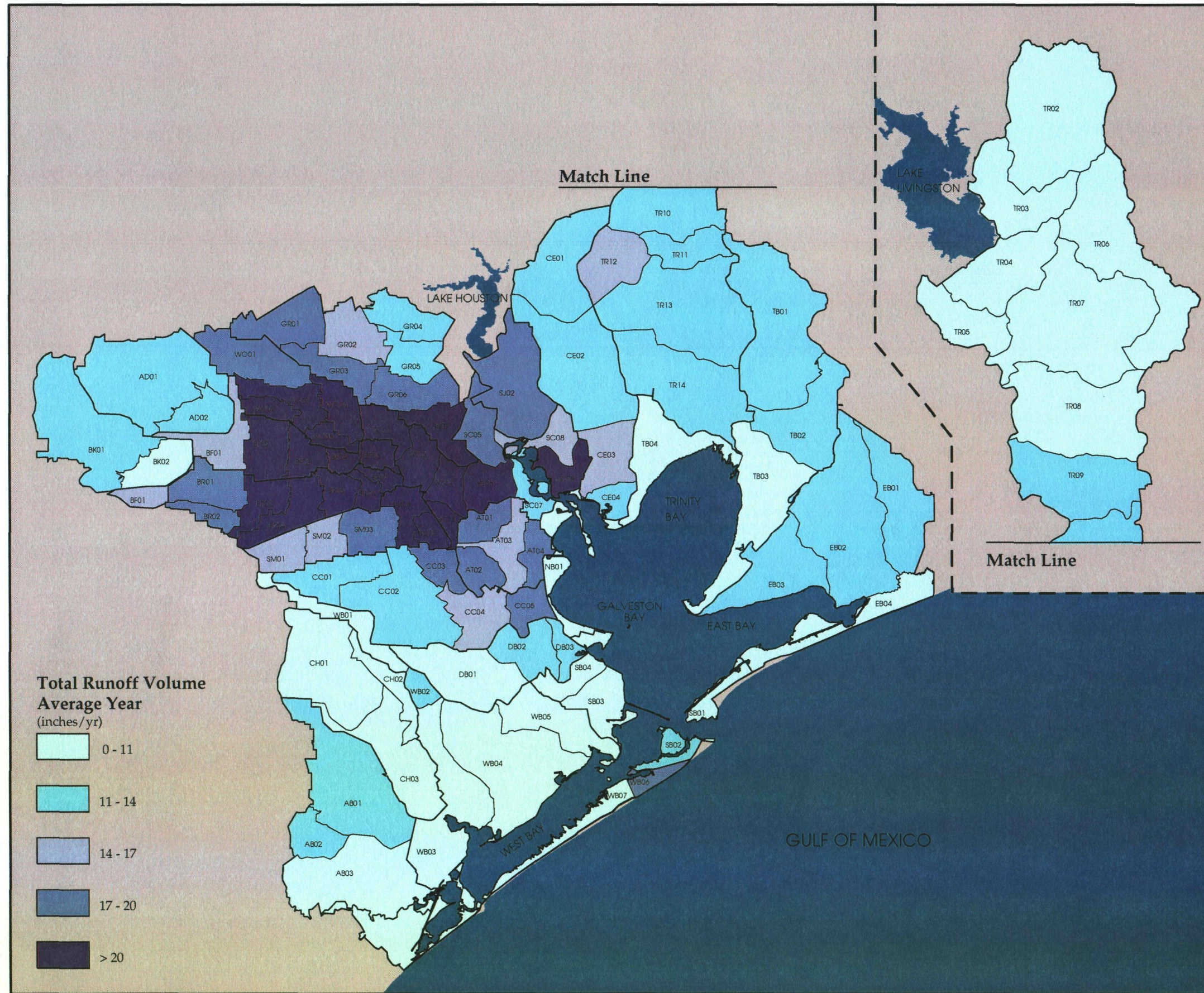
SOURCE: LANDSAT imagery taken November, 1990. Interpretation performed by Intera Aero Service.





SOURCE: LANDSAT imagery taken November, 1990. Interpretation performed by Intera Aero Service.







**LEGEND**

- AB Austin/Bastrop Bayou
- AD Addicks Reservoir
- AT Armand/Taylor Bayou
- BF Buffalo Bayou
- BK Barker Reservoir
- BR Brays Bayou
- CC Clear Creek
- CE Cedar Bayou
- CH Chocolate Bayou
- DB Dickinson Bayou
- EB East Bay
- GR Greens Bayou
- NB North Bay
- SB South Bay
- SC Ship Channel
- SJ San Jacinto River
- SM Sims Bayou
- TB Trinity Bay
- TR Trinity River
- WB West Bay
- WO White Oak Bayou

**NON-POINT SOURCES AND LOADINGS  
CHARACTERIZATION PROJECT**  
Galveston Bay National Estuary Program

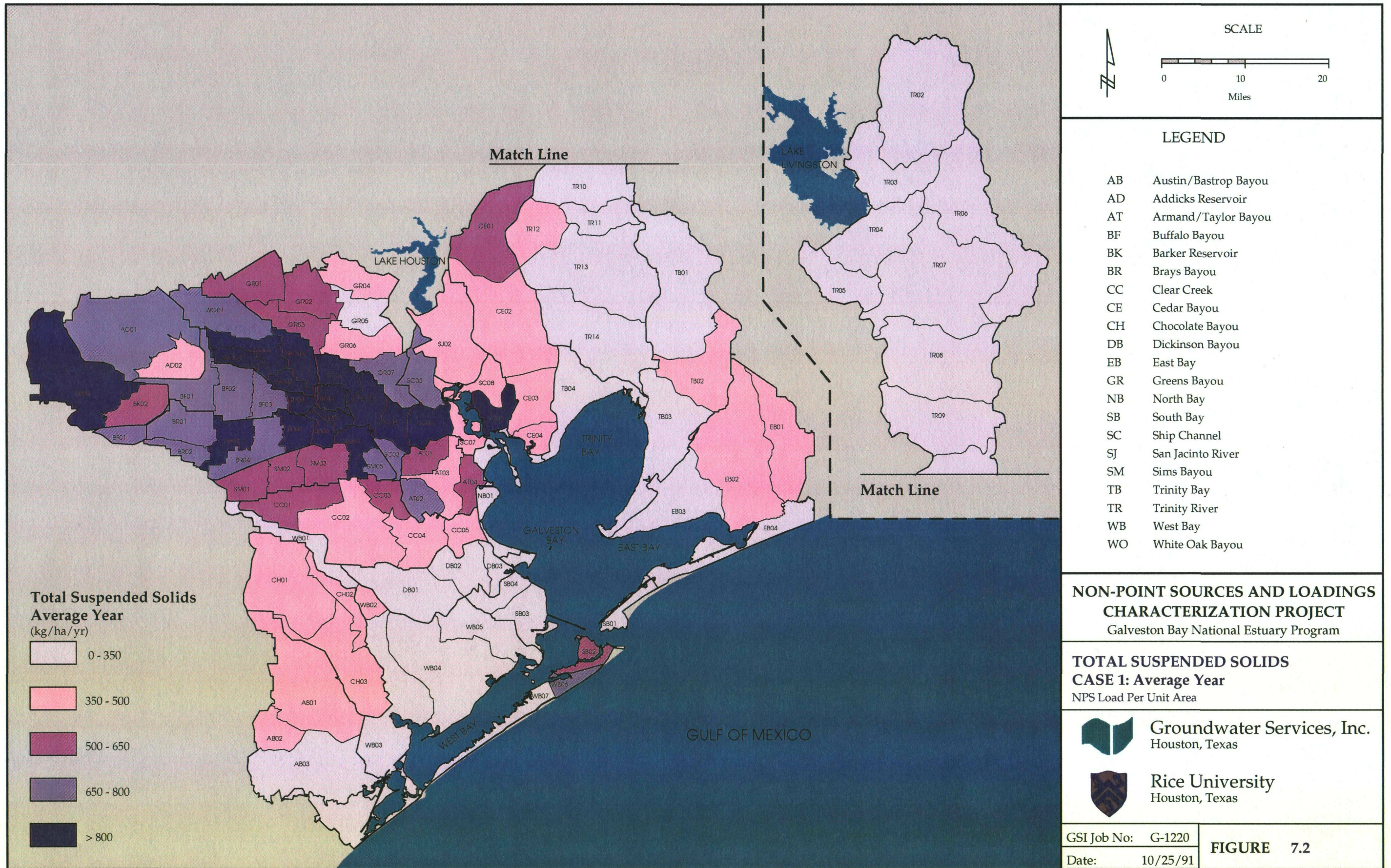
**TOTAL RUNOFF VOLUME  
CASE 1: Average Year**

 Groundwater Services, Inc.  
Houston, Texas  
 Rice University  
Houston, Texas

GSI Job No: G-1220  
Date: 10/25/91

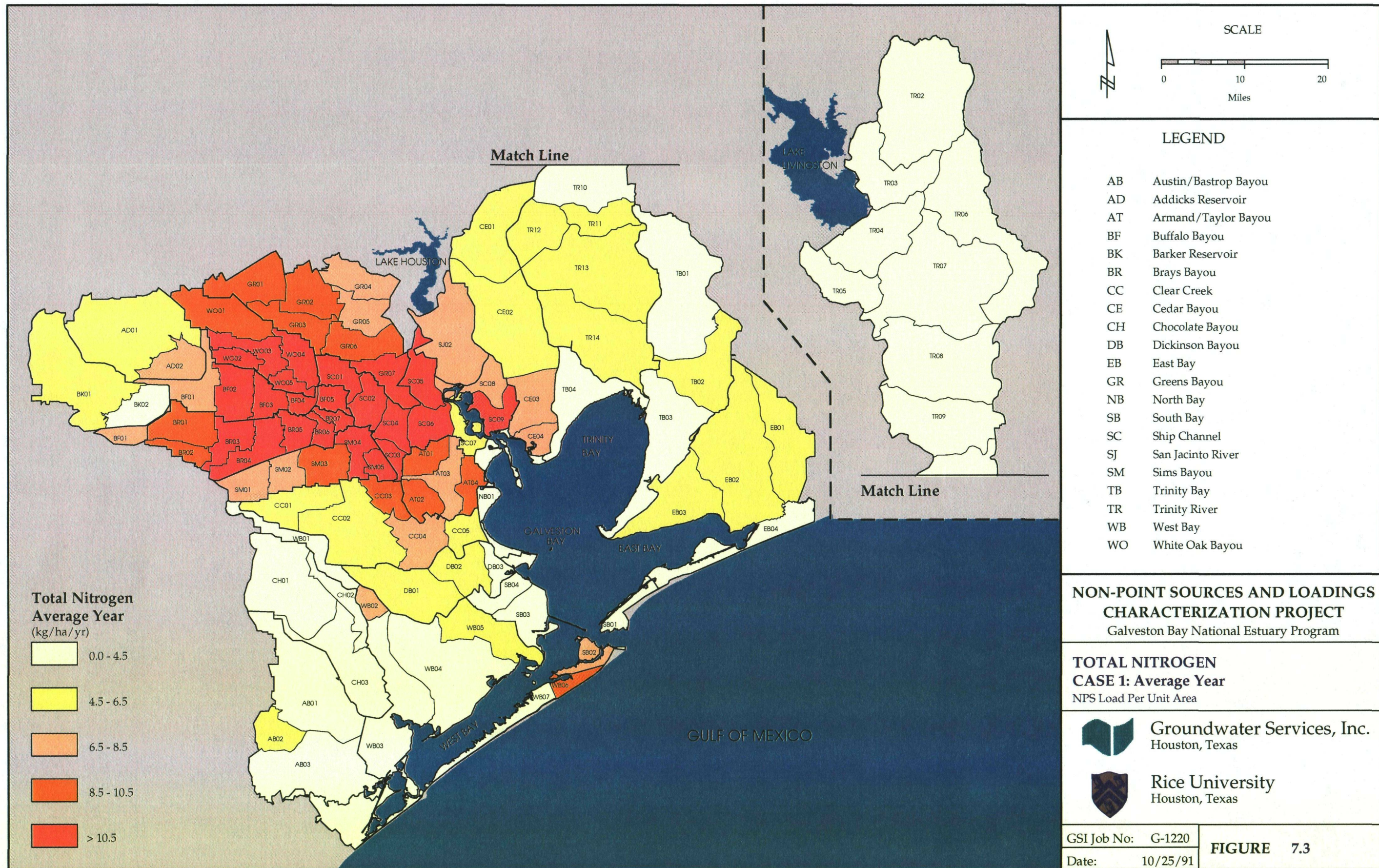
**FIGURE 7.1**





NOTE: 1 hectare (ha) = 2.47 acres.





SCALE


0 10 20  
Miles


LEGEND

AB	Austin/Bastrop Bayou
AD	Addicks Reservoir
AT	Armand/Taylor Bayou
BF	Buffalo Bayou
BK	Barker Reservoir
BR	Brays Bayou
CC	Clear Creek
CE	Cedar Bayou
CH	Chocolate Bayou
DB	Dickinson Bayou
EB	East Bay
GR	Greens Bayou
NB	North Bay
SB	South Bay
SC	Ship Channel
SJ	San Jacinto River
SM	Sims Bayou
TB	Trinity Bay
TR	Trinity River
WB	West Bay
WO	White Oak Bayou

**NON-POINT SOURCES AND LOADINGS  
CHARACTERIZATION PROJECT**  
Galveston Bay National Estuary Program

**TOTAL NITROGEN  
CASE 1: Average Year**  
NPS Load Per Unit Area

 Groundwater Services, Inc.  
Houston, Texas

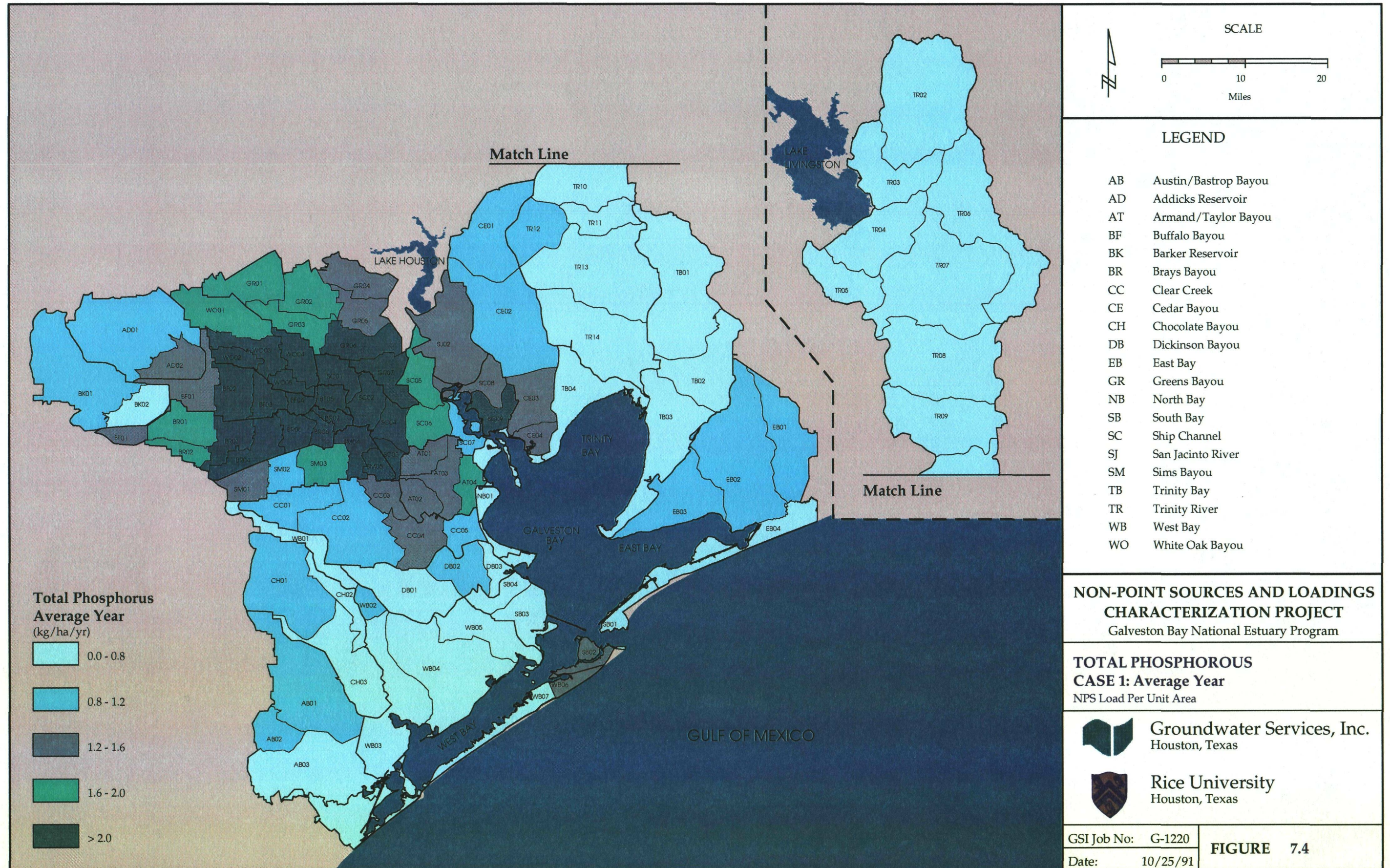
 Rice University  
Houston, Texas

GSI Job No: G-1220  
Date: 10/25/91

**FIGURE 7.3**

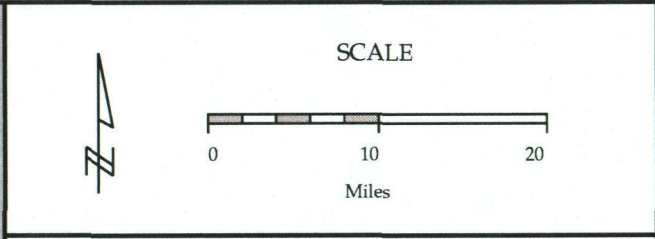
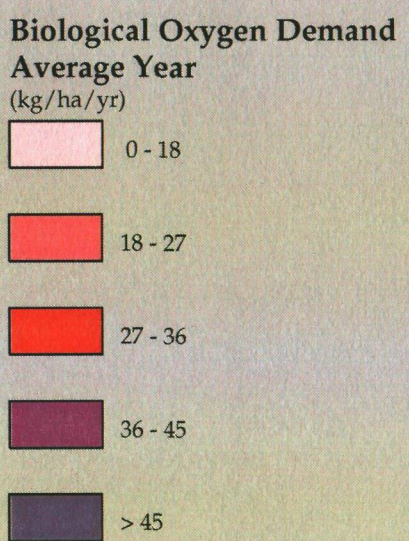
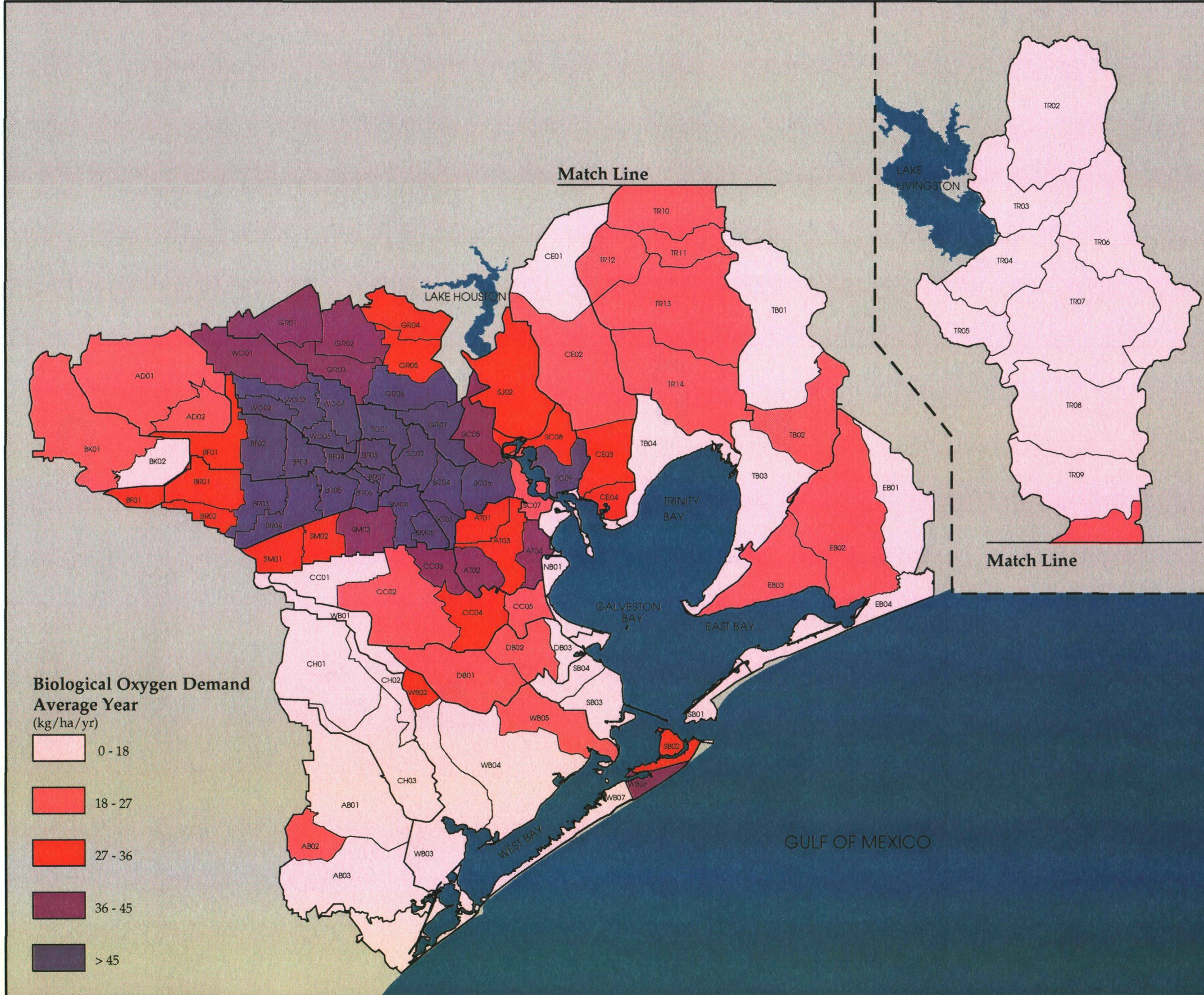
NOTE: 1 hectare (ha) = 2.47 acres.





NOTE: 1 hectare (ha) = 2.47 acres.







**LEGEND**

AB	Austin/Bastrop Bayou
AD	Addicks Reservoir
AT	Armand/Taylor Bayou
BF	Buffalo Bayou
BK	Barker Reservoir
BR	Brays Bayou
CC	Clear Creek
CE	Cedar Bayou
CH	Chocolate Bayou
DB	Dickinson Bayou
EB	East Bay
GR	Greens Bayou
NB	North Bay
SB	South Bay
SC	Ship Channel
SJ	San Jacinto River
SM	Sims Bayou
TB	Trinity Bay
TR	Trinity River
WB	West Bay
WO	White Oak Bayou

**NON-POINT SOURCES AND LOADINGS  
CHARACTERIZATION PROJECT**  
Galveston Bay National Estuary Program

**BIOCHEMICAL OXYGEN DEMAND  
CASE 1: Average Year**  
NPS Load Per Unit Area

 **Groundwater Services, Inc.**  
Houston, Texas

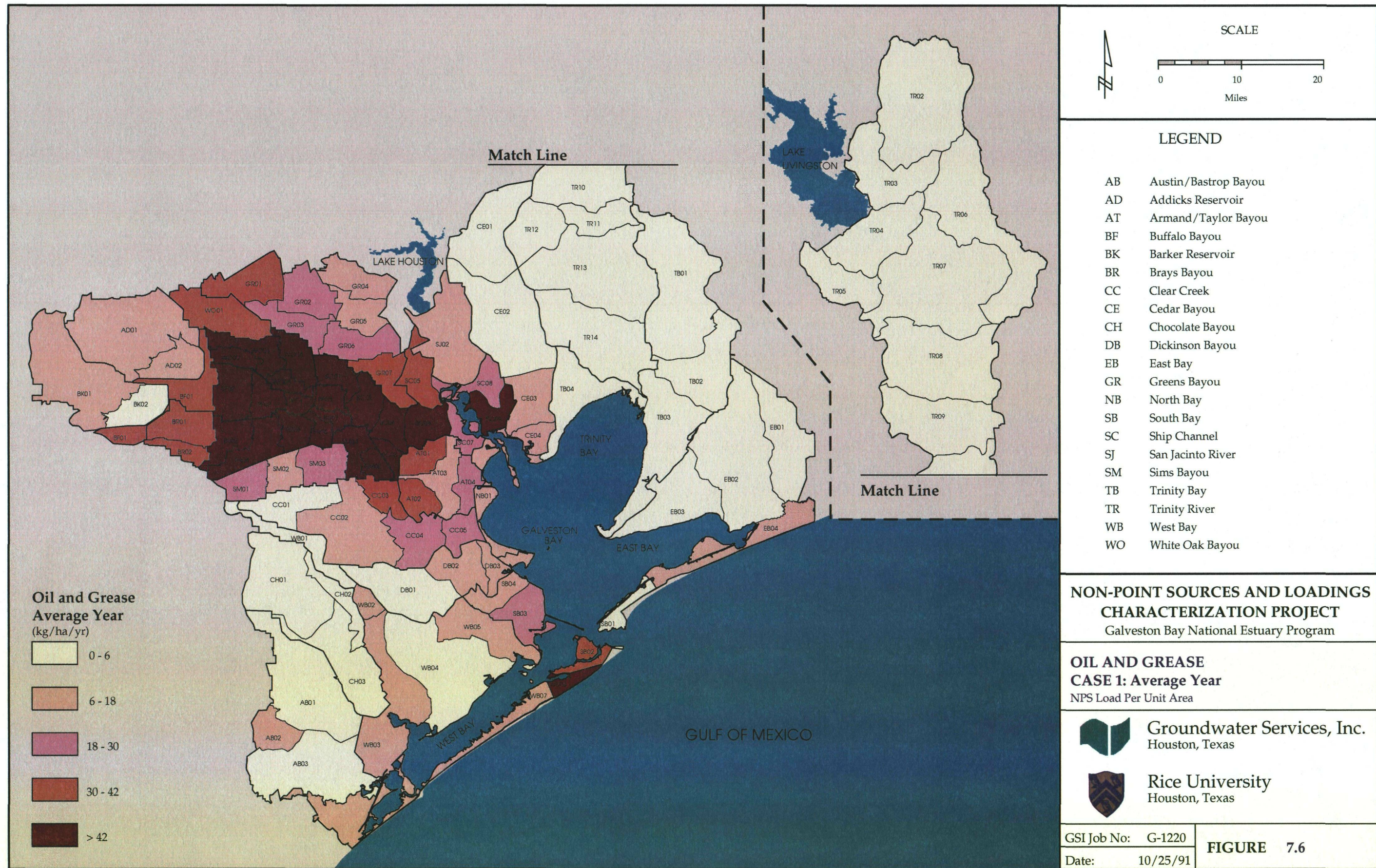
 **Rice University**  
Houston, Texas

GSI Job No: G-1220  
Date: 10/25/91

**FIGURE 7.5**

NOTE: 1 hectare (ha) = 2.47 acres.





SCALE


0 10 20  
Miles


**LEGEND**

AB	Austin/Bastrop Bayou
AD	Addicks Reservoir
AT	Armand/Taylor Bayou
BF	Buffalo Bayou
BK	Barker Reservoir
BR	Brays Bayou
CC	Clear Creek
CE	Cedar Bayou
CH	Chocolate Bayou
DB	Dickinson Bayou
EB	East Bay
GR	Greens Bayou
NB	North Bay
SB	South Bay
SC	Ship Channel
SJ	San Jacinto River
SM	Sims Bayou
TB	Trinity Bay
TR	Trinity River
WB	West Bay
WO	White Oak Bayou

**NON-POINT SOURCES AND LOADINGS  
CHARACTERIZATION PROJECT**  
Galveston Bay National Estuary Program

**OIL AND GREASE  
CASE 1: Average Year**  
NPS Load Per Unit Area

 Groundwater Services, Inc.  
Houston, Texas

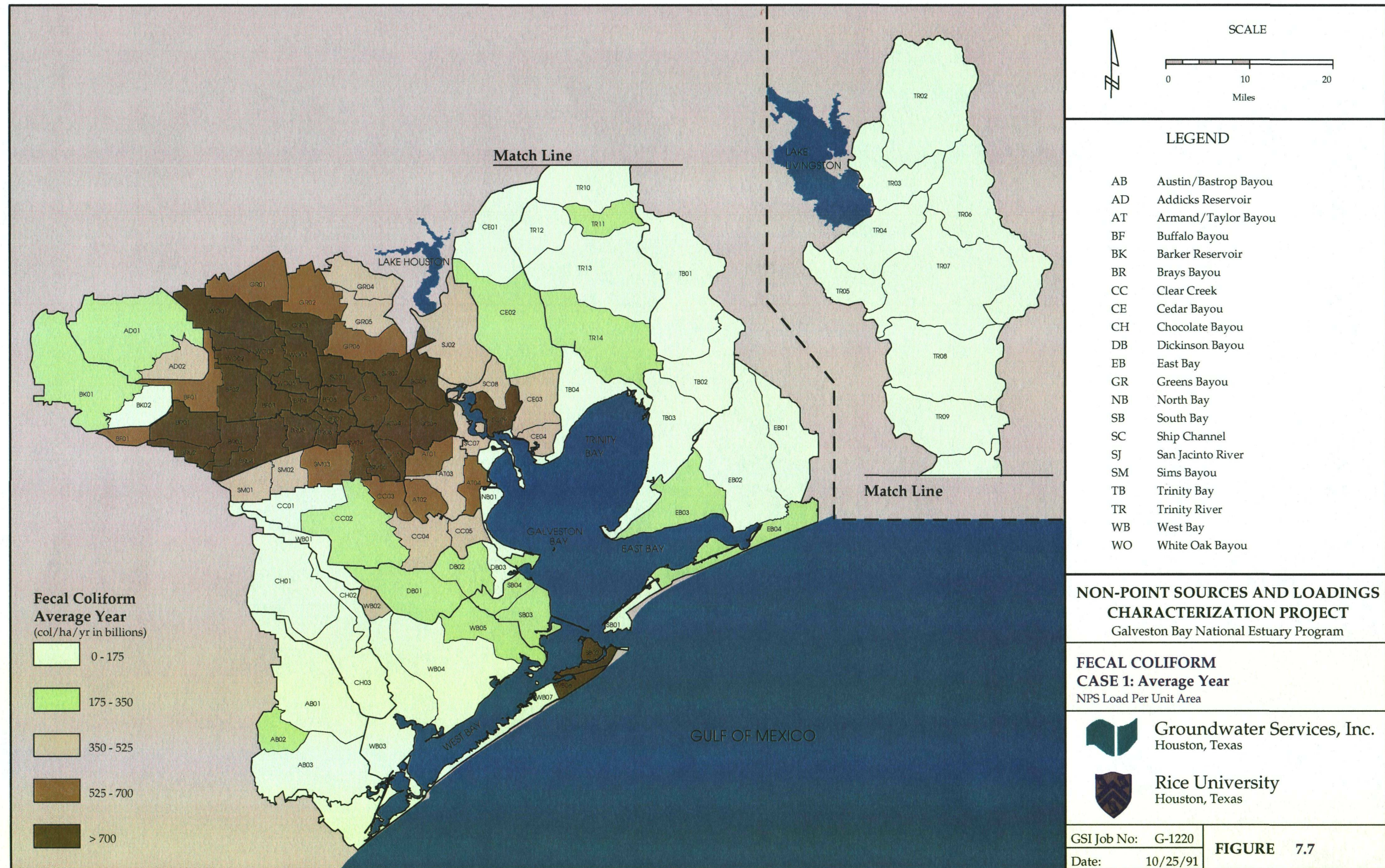
 Rice University  
Houston, Texas

GSI Job No: G-1220  
Date: 10/25/91

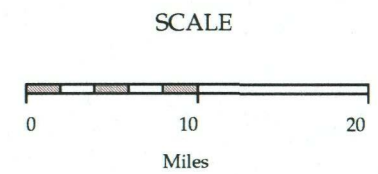
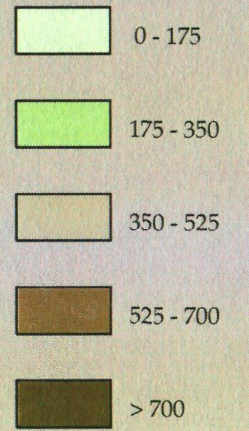
**FIGURE 7.6**

NOTE: 1 hectare (ha) = 2.47 acres.





**Fecal Coliform  
Average Year**  
(col/ha/yr in billions)



**LEGEND**

- AB Austin/Bastrop Bayou
- AD Addicks Reservoir
- AT Armand/Taylor Bayou
- BF Buffalo Bayou
- BK Barker Reservoir
- BR Brays Bayou
- CC Clear Creek
- CE Cedar Bayou
- CH Chocolate Bayou
- DB Dickinson Bayou
- EB East Bay
- GR Greens Bayou
- NB North Bay
- SB South Bay
- SC Ship Channel
- SJ San Jacinto River
- SM Sims Bayou
- TB Trinity Bay
- TR Trinity River
- WB West Bay
- WO White Oak Bayou

**NON-POINT SOURCES AND LOADINGS  
CHARACTERIZATION PROJECT**  
Galveston Bay National Estuary Program

**FECAL COLIFORM  
CASE 1: Average Year**  
NPS Load Per Unit Area

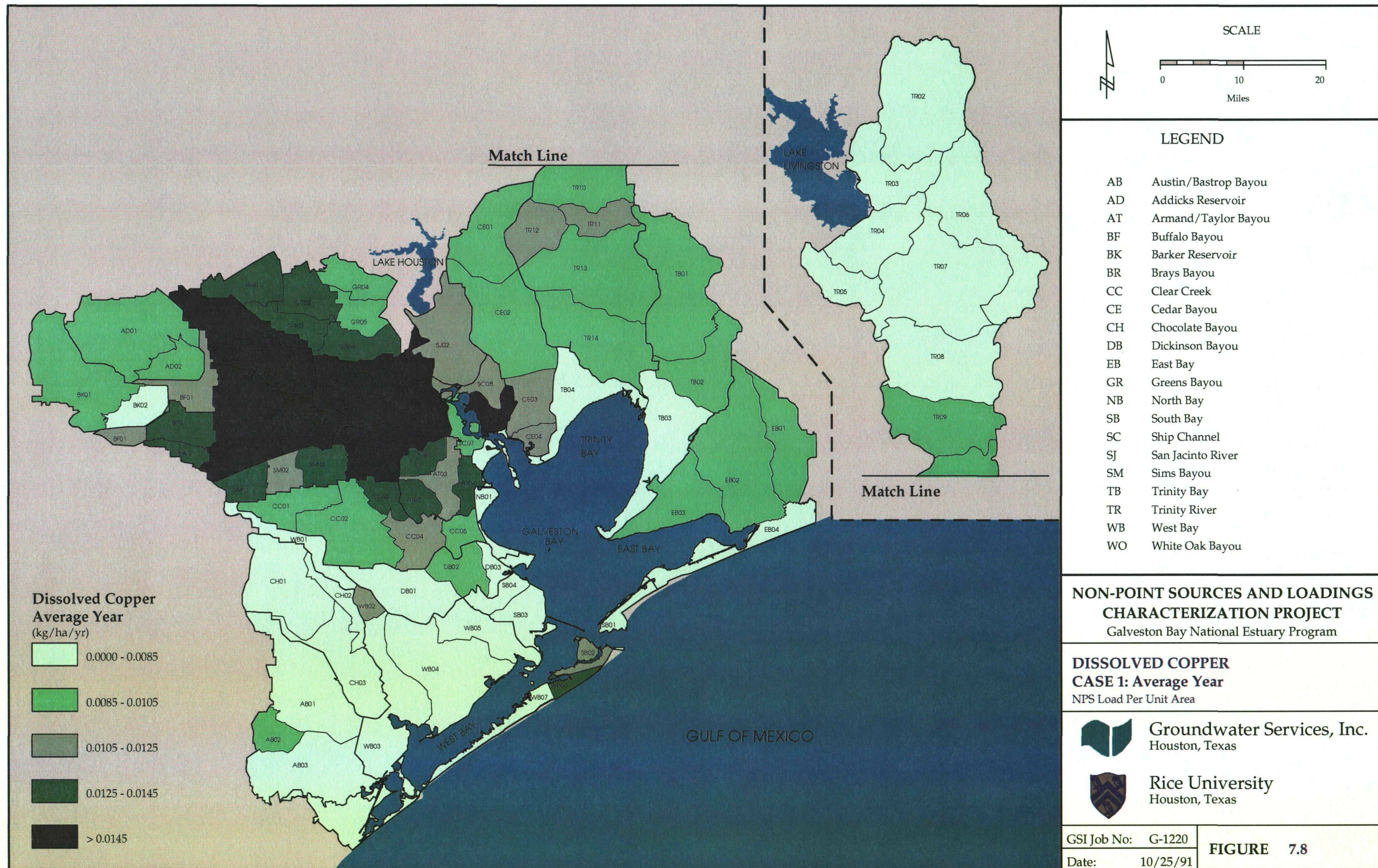
	Groundwater Services, Inc. Houston, Texas
	Rice University Houston, Texas

GSI Job No: G-1220  
Date: 10/25/91

**FIGURE 7.7**

NOTE: 1 hectare (ha) = 2.47 acres.





SCALE


0 10 20  
Miles


**LEGEND**

AB	Austin/Bastrop Bayou
AD	Addicks Reservoir
AT	Armand/Taylor Bayou
BF	Buffalo Bayou
BK	Barker Reservoir
BR	Brays Bayou
CC	Clear Creek
CE	Cedar Bayou
CH	Chocolate Bayou
DB	Dickinson Bayou
EB	East Bay
GR	Greens Bayou
NB	North Bay
SB	South Bay
SC	Ship Channel
SJ	San Jacinto River
SM	Sims Bayou
TB	Trinity Bay
TR	Trinity River
WB	West Bay
WO	White Oak Bayou

**NON-POINT SOURCES AND LOADINGS  
CHARACTERIZATION PROJECT**  
Galveston Bay National Estuary Program

**DISSOLVED COPPER  
CASE 1: Average Year**  
NPS Load Per Unit Area

 Groundwater Services, Inc.  
Houston, Texas

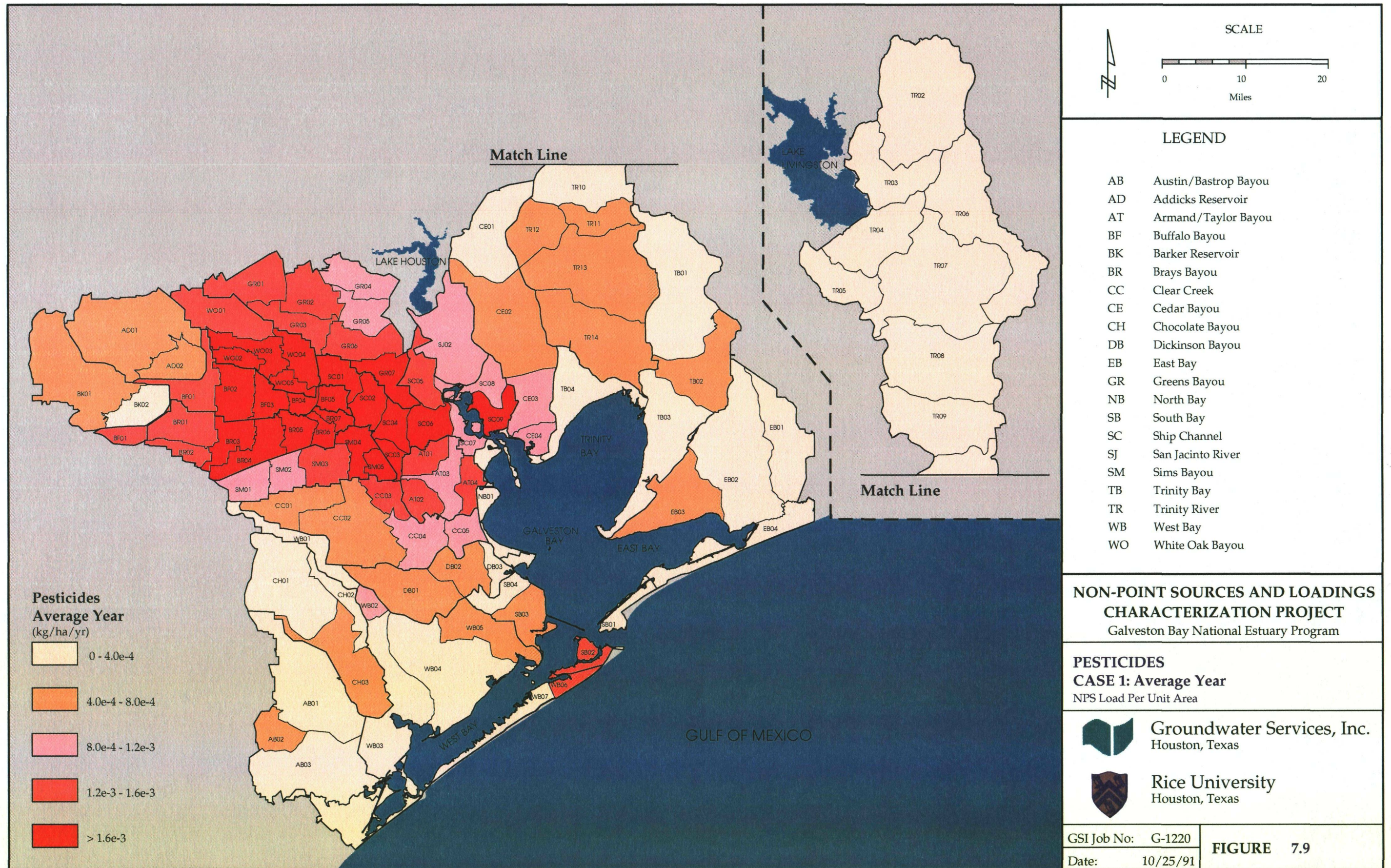
 Rice University  
Houston, Texas

GSI Job No: G-1220  
Date: 10/25/91

**FIGURE 7.8**

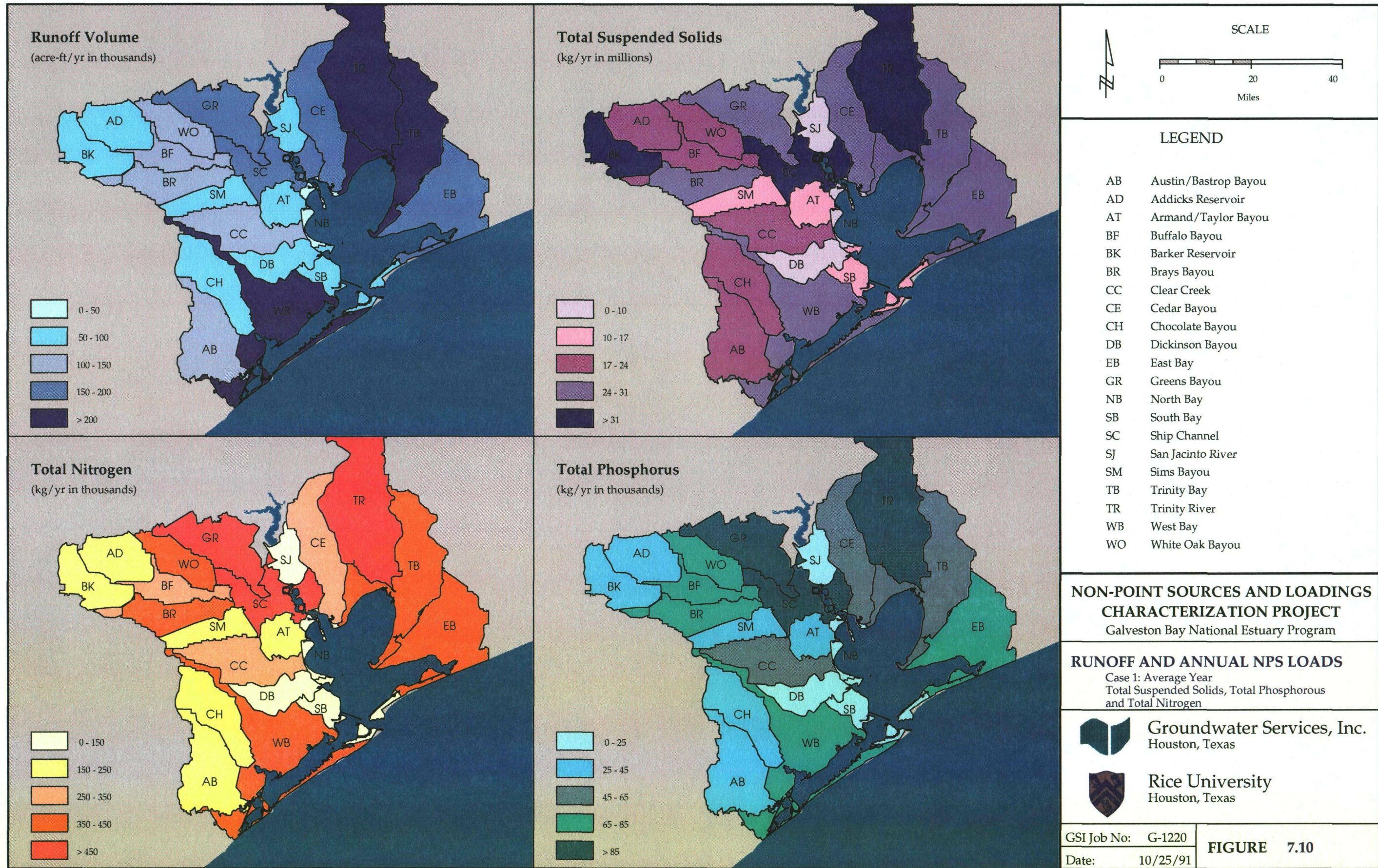
NOTE: 1 hectare (ha) = 2.47 acres.





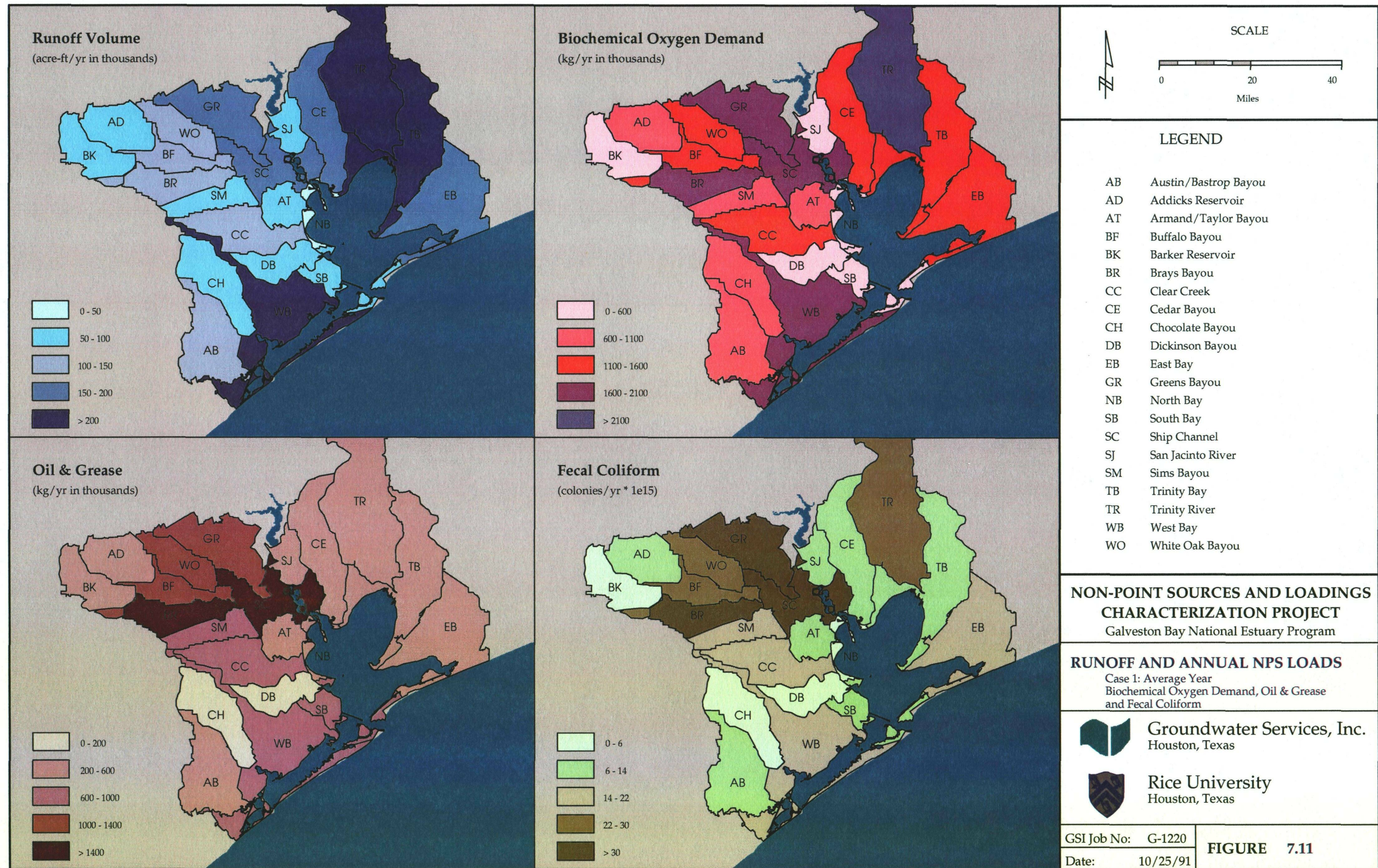
NOTE: 1 hectare (ha) = 2.47 acres.





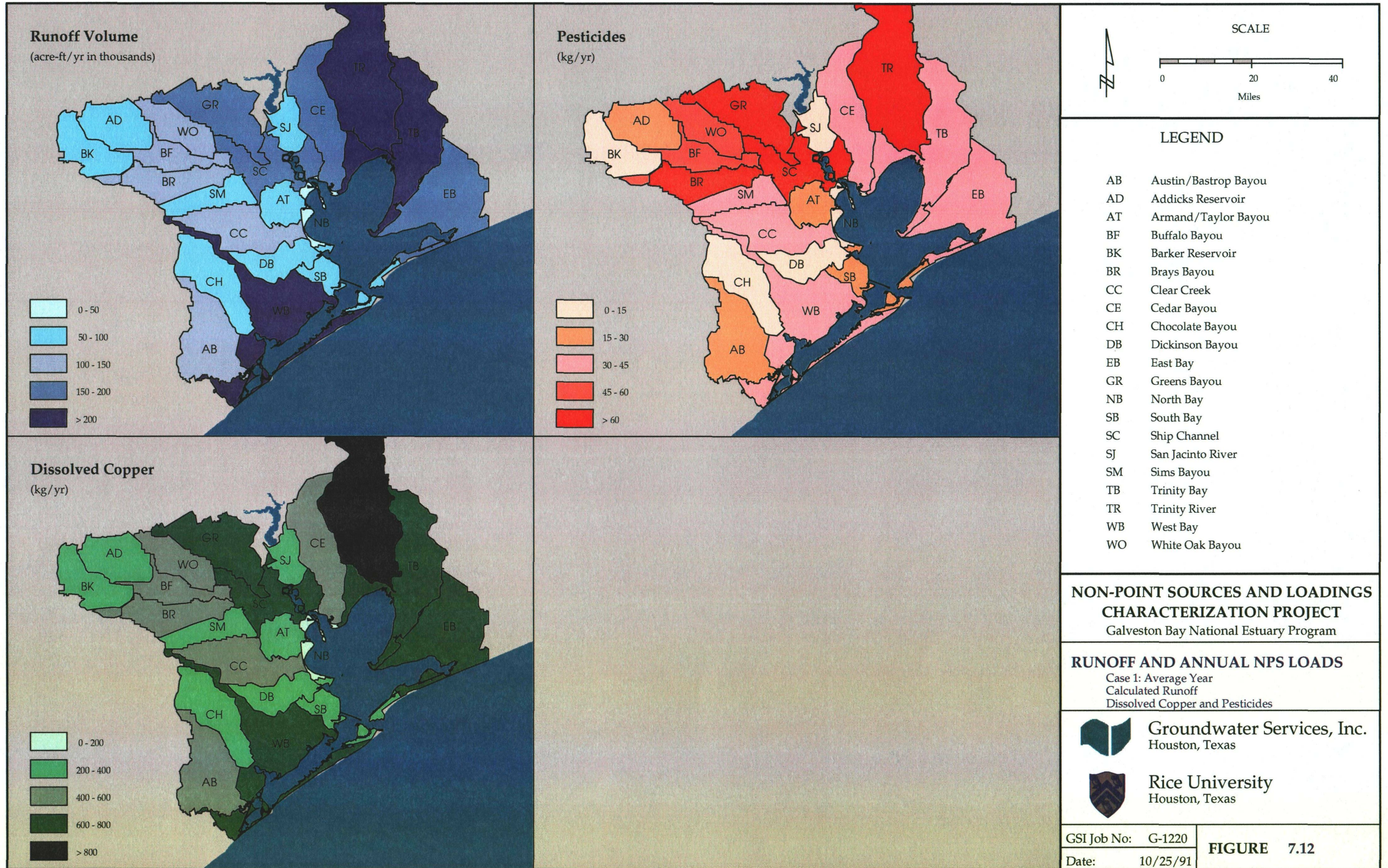
NOTE: Only portion of Trinity River Watershed shown.  
NPS Loads for Lake Houston and Lake Livingston not included.





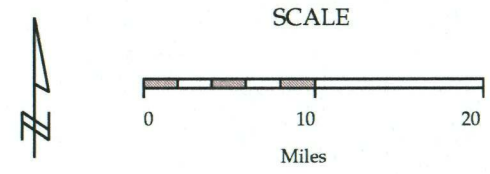
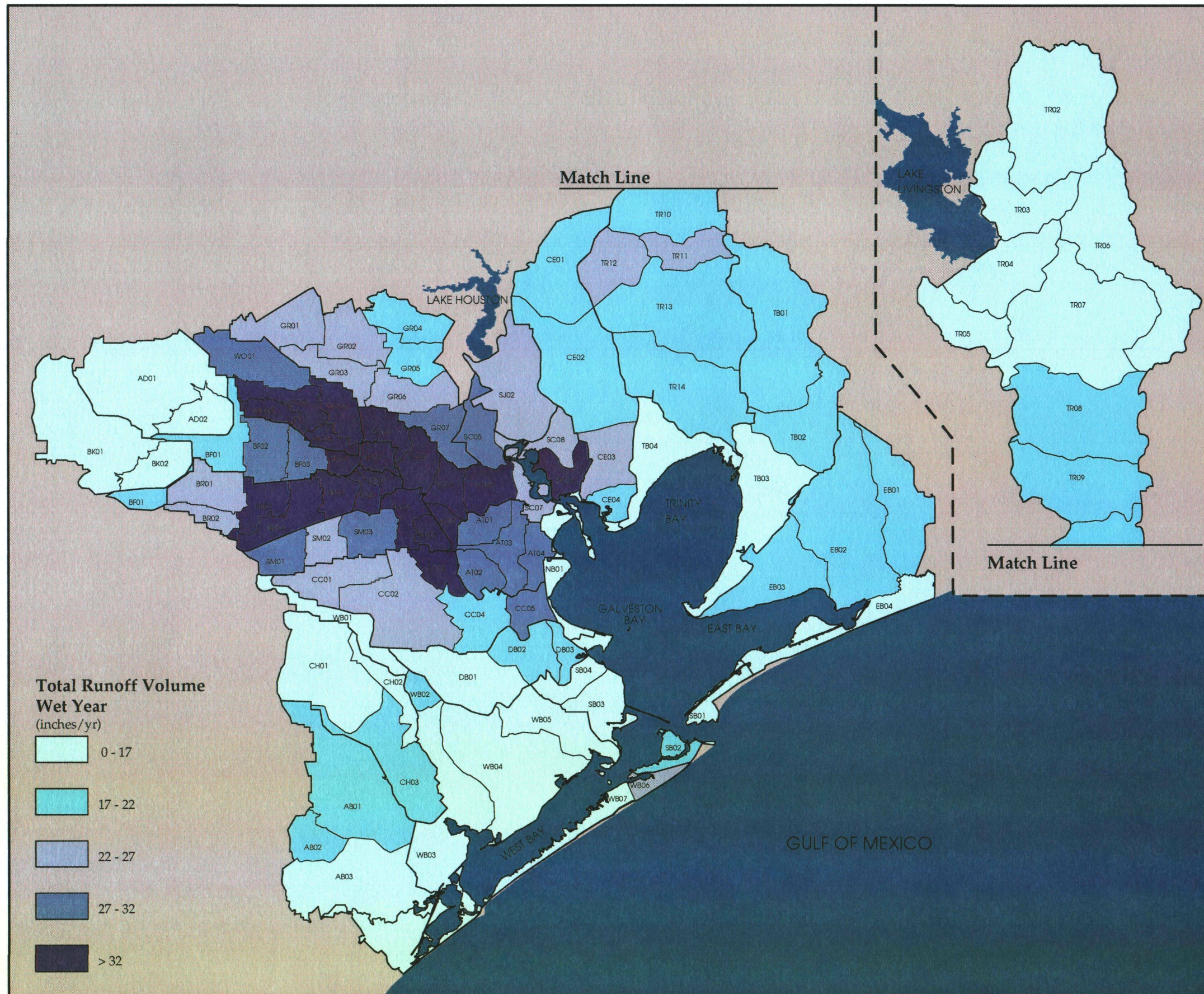
NOTE: Only portion of Trinity River Watershed shown.  
NPS Loads for Lake Houston and Lake Livingston not included.





NOTE: Only portion of Trinity River Watershed shown.  
NPS Loads for Lake Houston and Lake Livingston not included.







**LEGEND**

- AB Austin/Bastrop Bayou
- AD Addicks Reservoir
- AT Armand/Taylor Bayou
- BF Buffalo Bayou
- BK Barker Reservoir
- BR Brays Bayou
- CC Clear Creek
- CE Cedar Bayou
- CH Chocolate Bayou
- DB Dickinson Bayou
- EB East Bay
- GR Greens Bayou
- NB North Bay
- SB South Bay
- SC Ship Channel
- SJ San Jacinto River
- SM Sims Bayou
- TB Trinity Bay
- TR Trinity River
- WB West Bay
- WO White Oak Bayou

**NON-POINT SOURCES AND LOADINGS  
CHARACTERIZATION PROJECT  
Galveston Bay National Estuary Program**

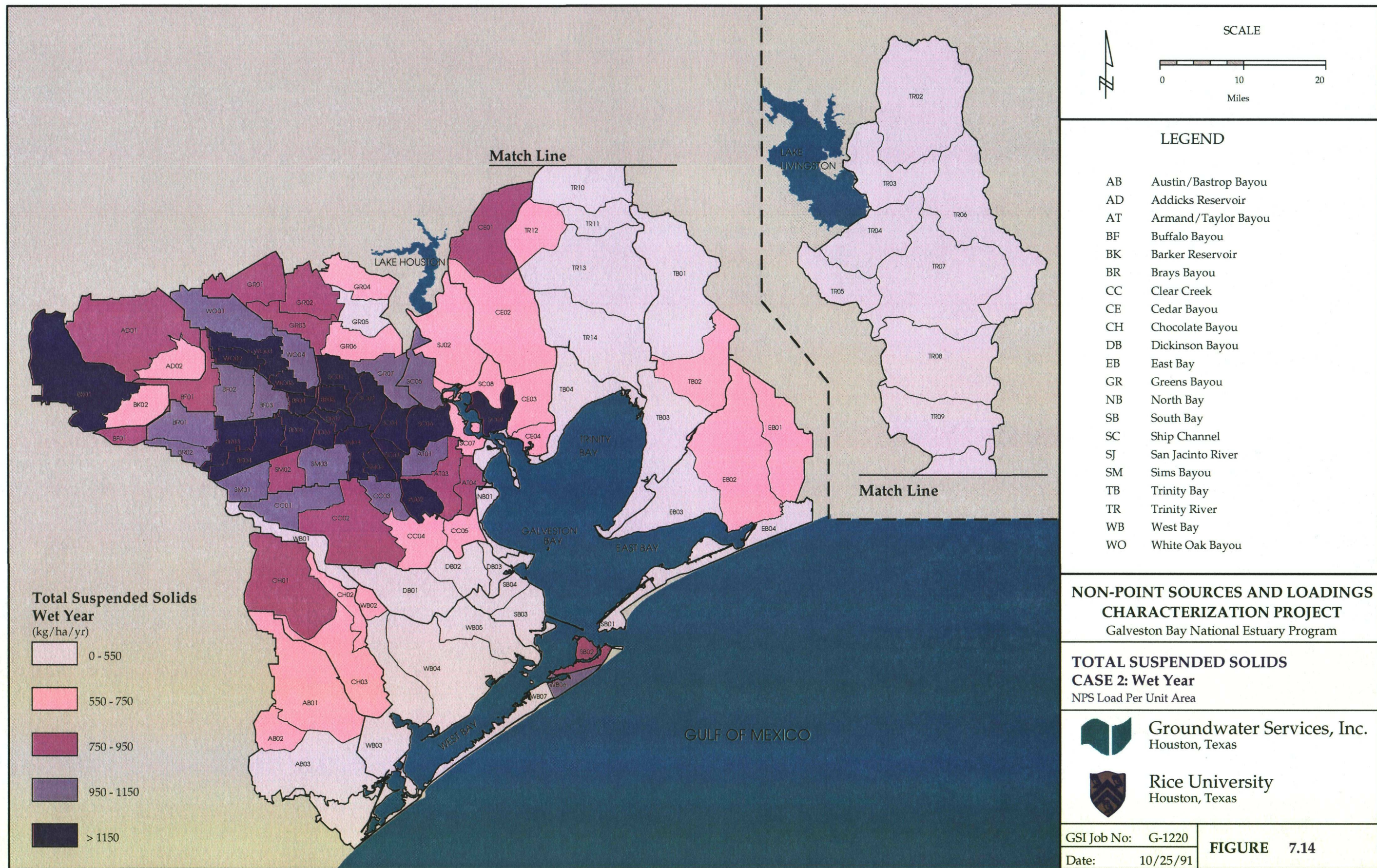
**TOTAL RUNOFF VOLUME  
CASE 2: Wet Year**

 Groundwater Services, Inc.  
Houston, Texas  
 Rice University  
Houston, Texas

GSI Job No: G-1220  
Date: 10/25/91

**FIGURE 7.13**



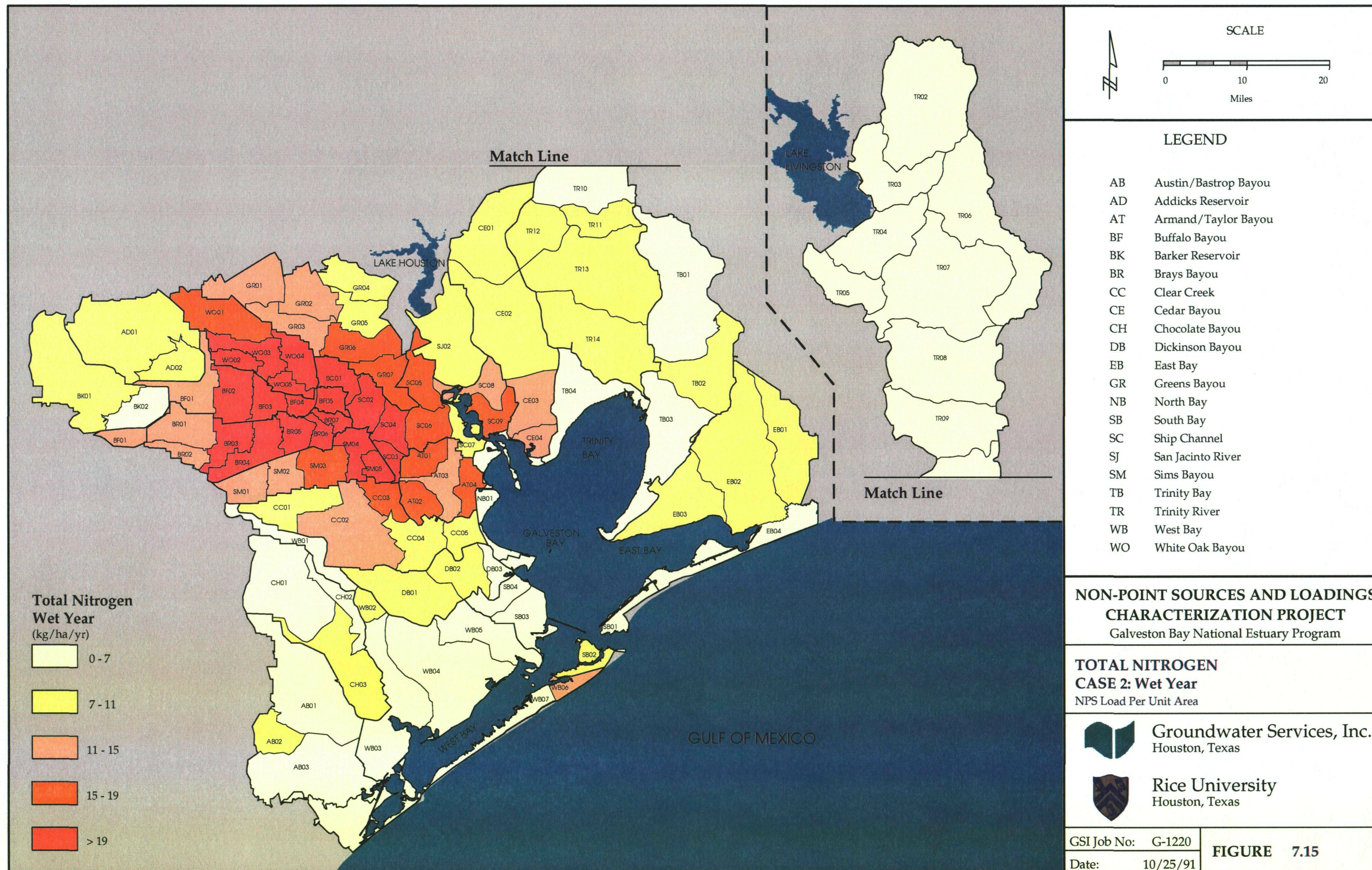


NOTE: 1 hectare (ha) = 2.47 acres.

GSI Job No: G-1220  
Date: 10/25/91

FIGURE 7.14





SCALE


0 10 20  
Miles


**LEGEND**

AB	Austin/Bastrop Bayou
AD	Addicks Reservoir
AT	Armand/Taylor Bayou
BF	Buffalo Bayou
BK	Barker Reservoir
BR	Brays Bayou
CC	Clear Creek
CE	Cedar Bayou
CH	Chocolate Bayou
DB	Dickinson Bayou
EB	East Bay
GR	Greens Bayou
NB	North Bay
SB	South Bay
SC	Ship Channel
SJ	San Jacinto River
SM	Sims Bayou
TB	Trinity Bay
TR	Trinity River
WB	West Bay
WO	White Oak Bayou

**NON-POINT SOURCES AND LOADINGS  
CHARACTERIZATION PROJECT**  
Galveston Bay National Estuary Program

**TOTAL NITROGEN  
CASE 2: Wet Year**  
NPS Load Per Unit Area

 Groundwater Services, Inc.  
Houston, Texas

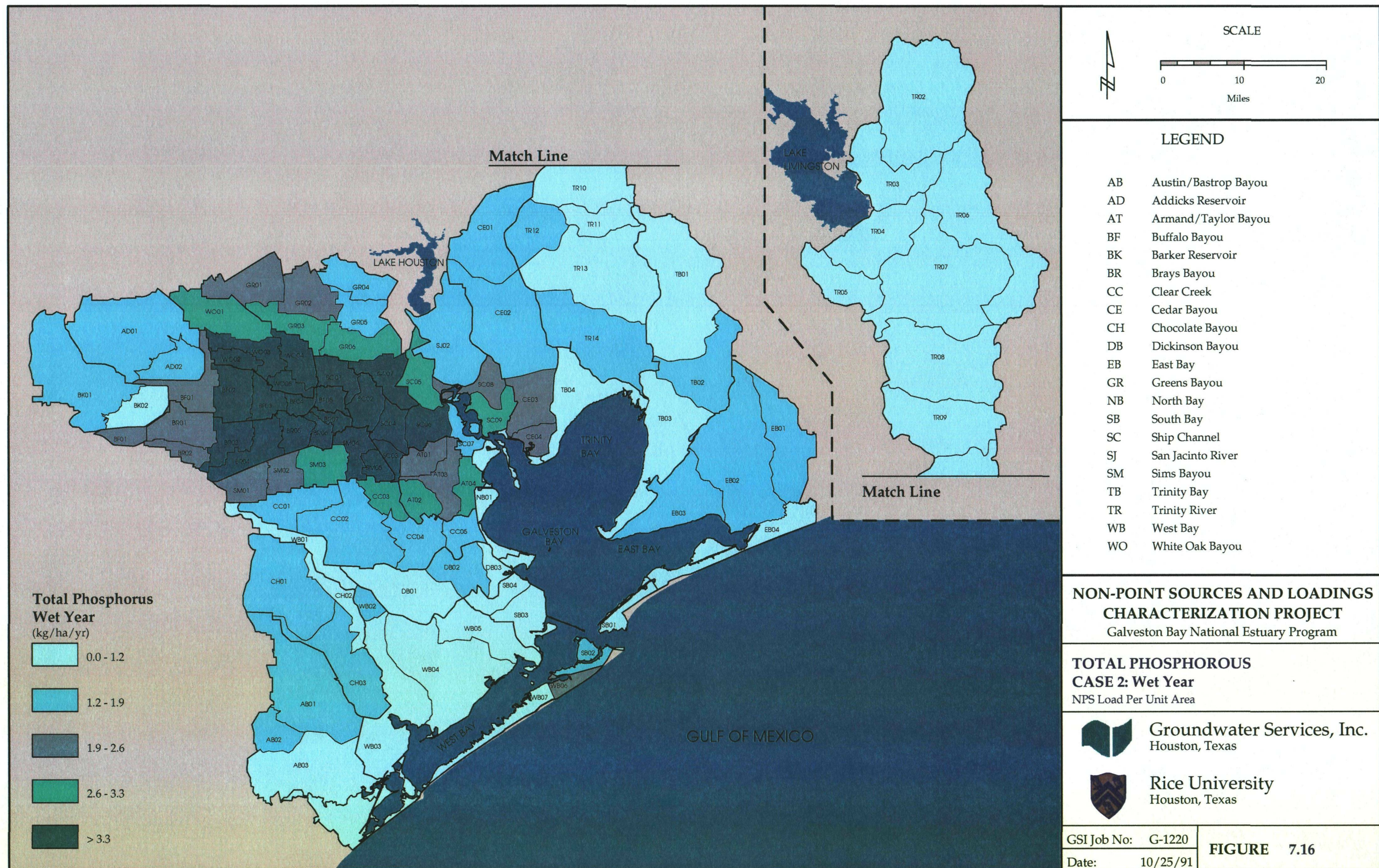
 Rice University  
Houston, Texas

GSI Job No: G-1220  
Date: 10/25/91

**FIGURE 7.15**

NOTE: 1 hectare (ha) = 2.47 acres.





SCALE

0 10 20  
Miles

**LEGEND**

AB	Austin/Bastrop Bayou
AD	Addicks Reservoir
AT	Armand/Taylor Bayou
BF	Buffalo Bayou
BK	Barker Reservoir
BR	Brays Bayou
CC	Clear Creek
CE	Cedar Bayou
CH	Chocolate Bayou
DB	Dickinson Bayou
EB	East Bay
GR	Greens Bayou
NB	North Bay
SB	South Bay
SC	Ship Channel
SJ	San Jacinto River
SM	Sims Bayou
TB	Trinity Bay
TR	Trinity River
WB	West Bay
WO	White Oak Bayou

**NON-POINT SOURCES AND LOADINGS CHARACTERIZATION PROJECT**  
Galveston Bay National Estuary Program

**TOTAL PHOSPHOROUS CASE 2: Wet Year**  
NPS Load Per Unit Area

 **Groundwater Services, Inc.**  
Houston, Texas

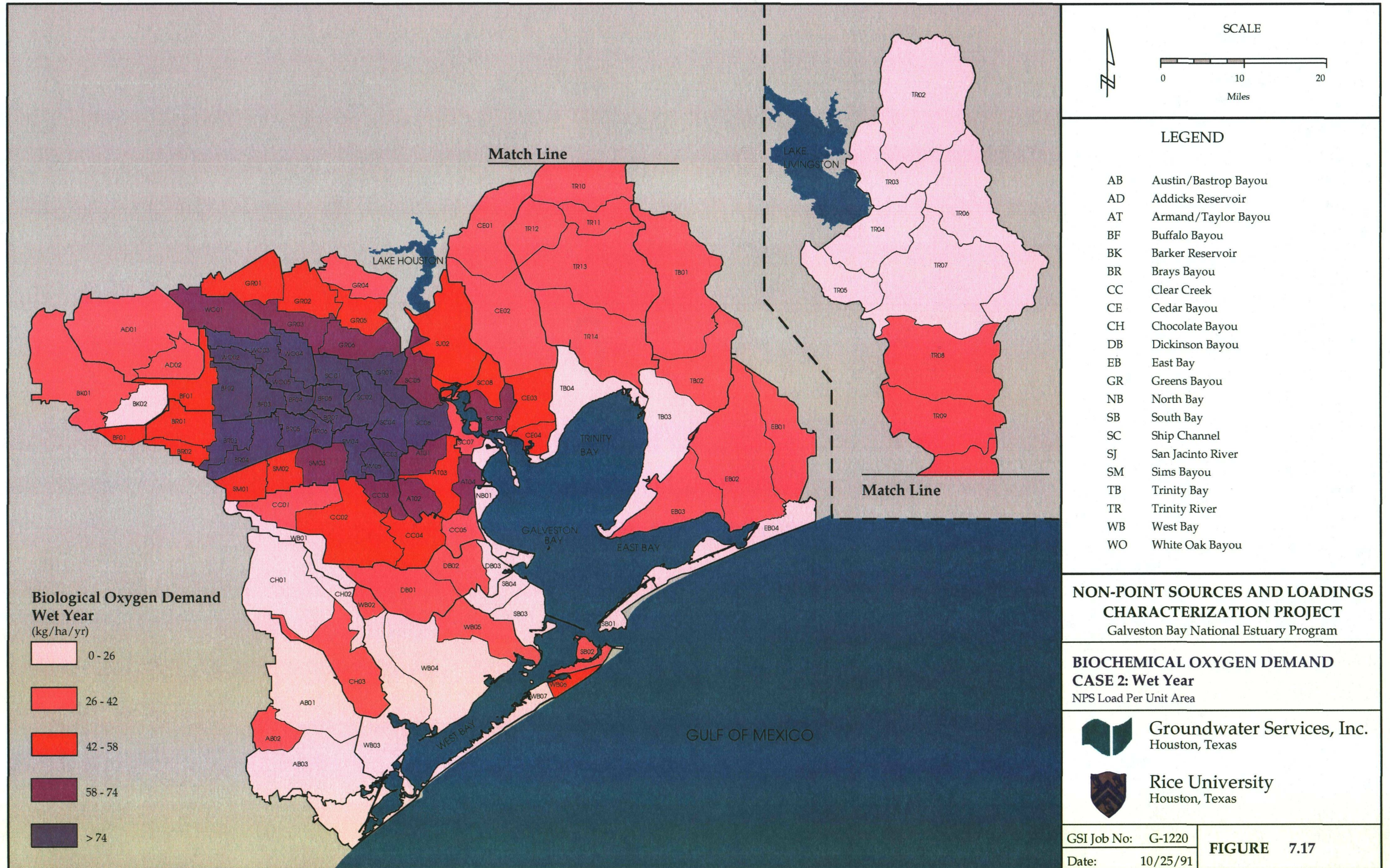
 **Rice University**  
Houston, Texas

GSI Job No: G-1220  
Date: 10/25/91

**FIGURE 7.16**

NOTE: 1 hectare (ha) = 2.47 acres.



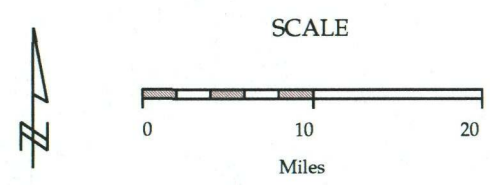
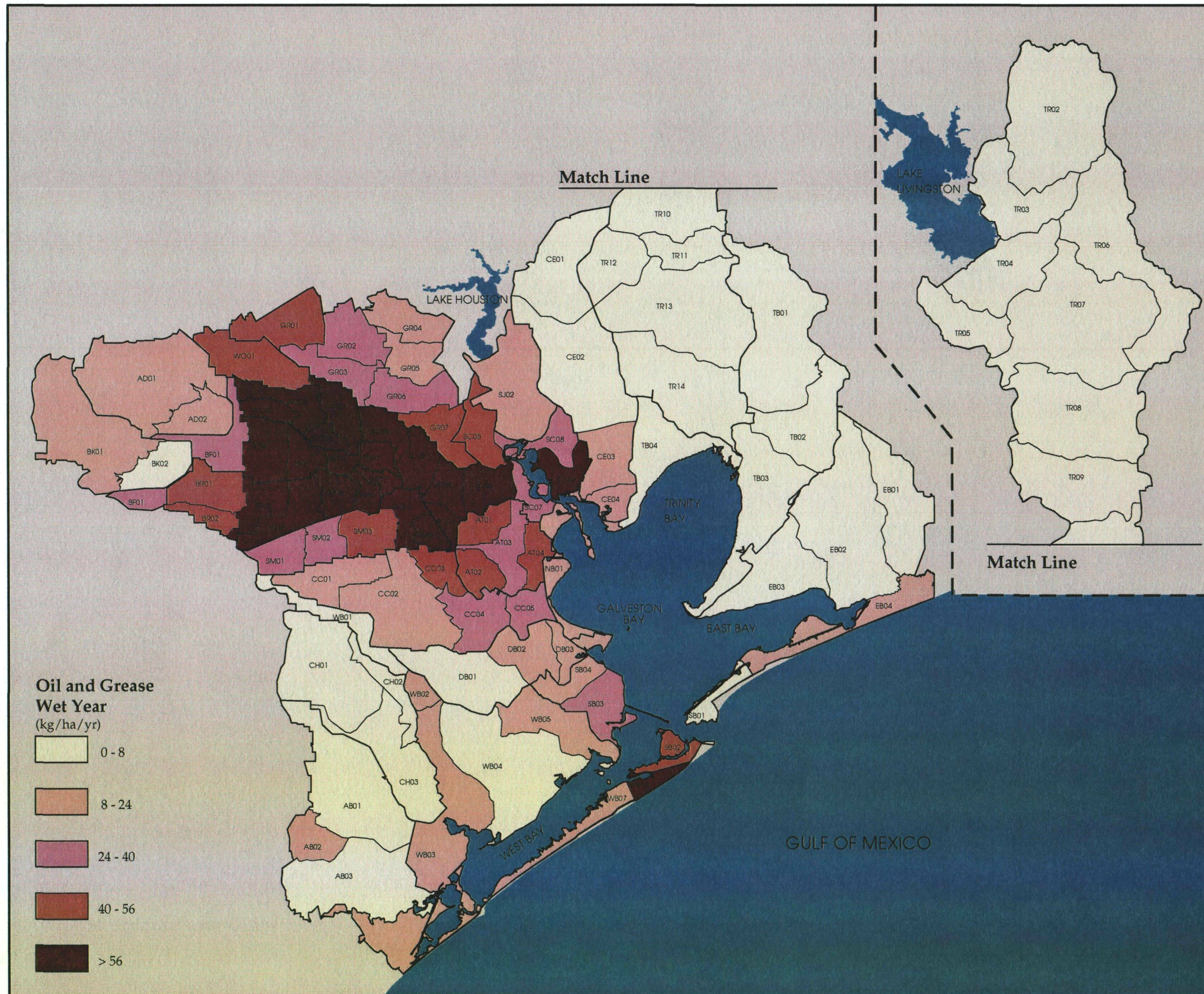


NOTE: 1 hectare (ha) = 2.47 acres.

GSI Job No: G-1220  
Date: 10/25/91

**FIGURE 7.17**





**LEGEND**

- AB Austin/Bastrop Bayou
- AD Addicks Reservoir
- AT Armand/Taylor Bayou
- BF Buffalo Bayou
- BK Barker Reservoir
- BR Brays Bayou
- CC Clear Creek
- CE Cedar Bayou
- CH Chocolate Bayou
- DB Dickinson Bayou
- EB East Bay
- GR Greens Bayou
- NB North Bay
- SB South Bay
- SC Ship Channel
- SJ San Jacinto River
- SM Sims Bayou
- TB Trinity Bay
- TR Trinity River
- WB West Bay
- WO White Oak Bayou

**NON-POINT SOURCES AND LOADINGS  
CHARACTERIZATION PROJECT  
Galveston Bay National Estuary Program**

**OIL AND GREASE  
CASE 2: Wet Year  
NPS Load Per Unit Area**

 **Groundwater Services, Inc.**  
Houston, Texas

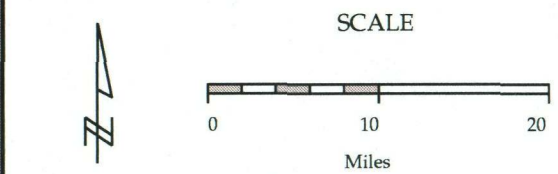
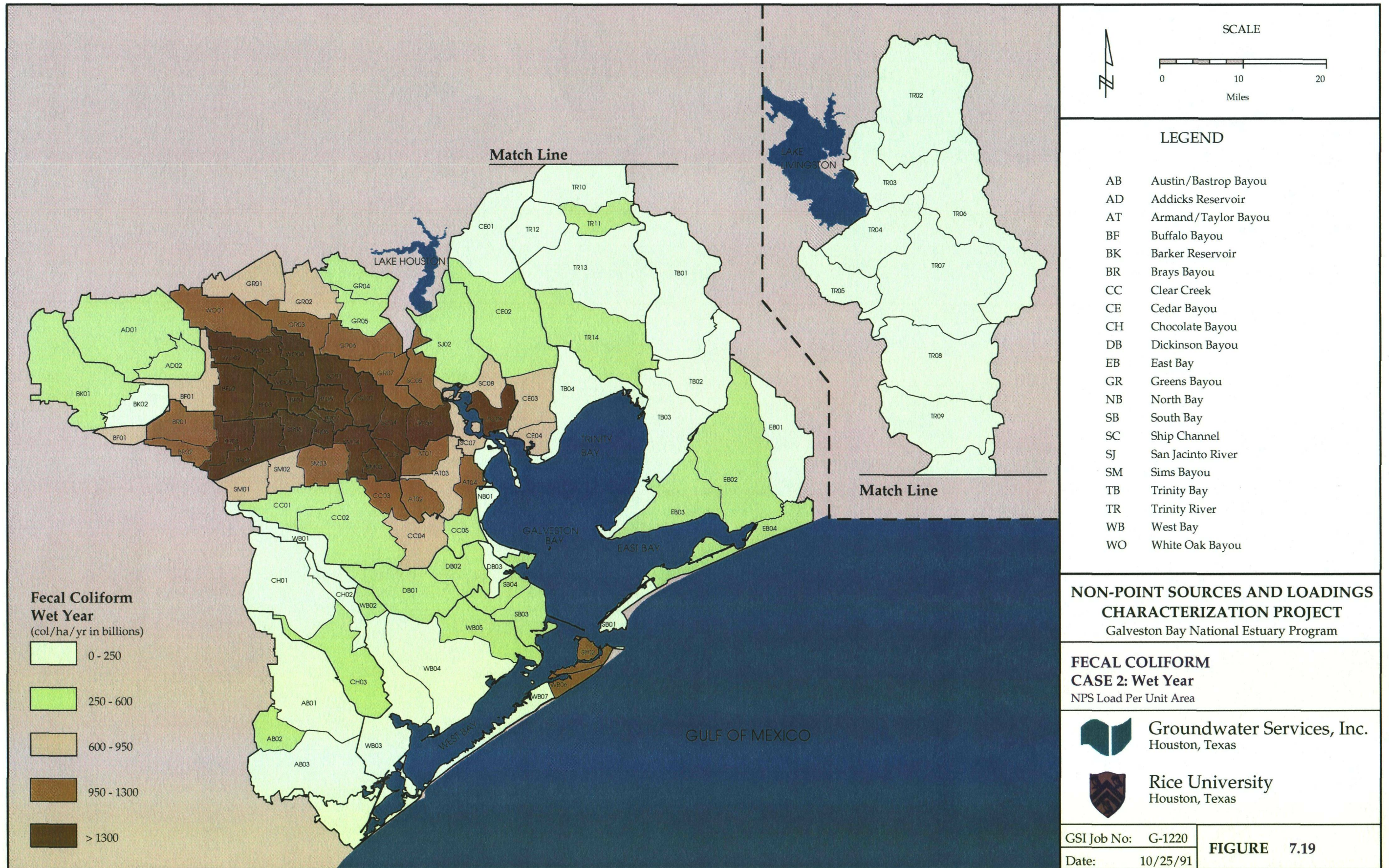
 **Rice University**  
Houston, Texas

GSI Job No: G-1220  
Date: 10/25/91

**FIGURE 7.18**

NOTE: 1 hectare (ha) = 2.47 acres.





**LEGEND**

AB	Austin/Bastrop Bayou
AD	Addicks Reservoir
AT	Armand/Taylor Bayou
BF	Buffalo Bayou
BK	Barker Reservoir
BR	Brays Bayou
CC	Clear Creek
CE	Cedar Bayou
CH	Chocolate Bayou
DB	Dickinson Bayou
EB	East Bay
GR	Greens Bayou
NB	North Bay
SB	South Bay
SC	Ship Channel
SJ	San Jacinto River
SM	Sims Bayou
TB	Trinity Bay
TR	Trinity River
WB	West Bay
WO	White Oak Bayou

**NON-POINT SOURCES AND LOADINGS CHARACTERIZATION PROJECT**  
Galveston Bay National Estuary Program

**FECAL COLIFORM CASE 2: Wet Year**  
NPS Load Per Unit Area

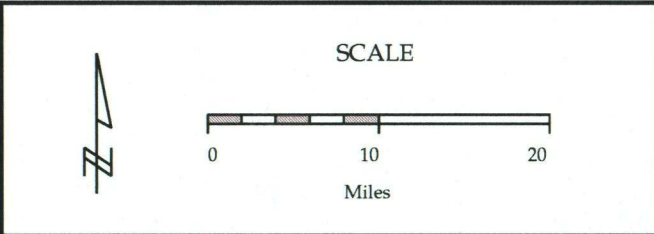
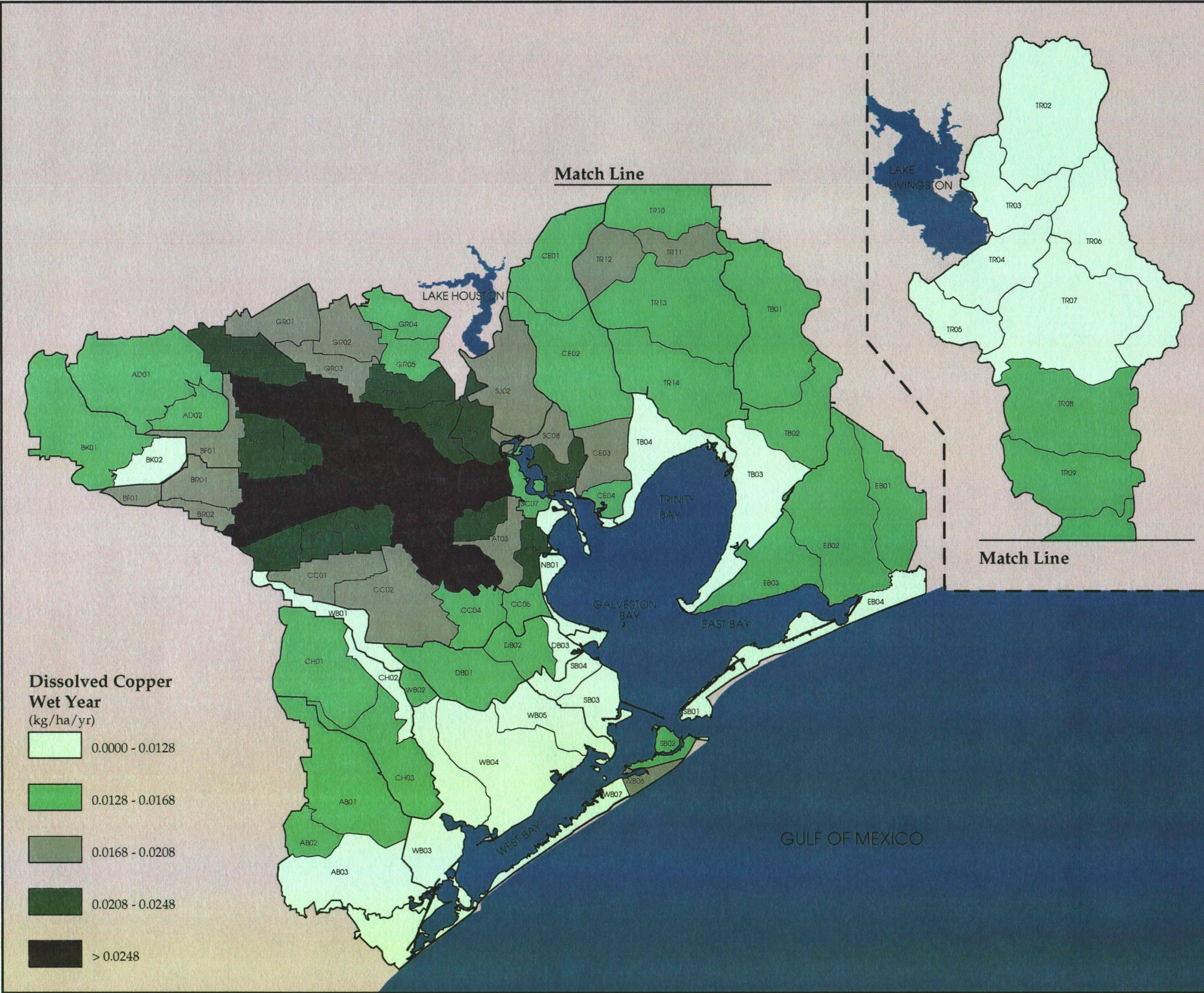
 **Groundwater Services, Inc.**  
Houston, Texas

 **Rice University**  
Houston, Texas

GSI Job No: G-1220	<b>FIGURE 7.19</b>
Date: 10/25/91	

NOTE: 1 hectare (ha) = 2.47 acres.





**LEGEND**

AB	Austin/Bastrop Bayou
AD	Addicks Reservoir
AT	Armand/Taylor Bayou
BF	Buffalo Bayou
BK	Barker Reservoir
BR	Brays Bayou
CC	Clear Creek
CE	Cedar Bayou
CH	Chocolate Bayou
DB	Dickinson Bayou
EB	East Bay
GR	Greens Bayou
NB	North Bay
SB	South Bay
SC	Ship Channel
SJ	San Jacinto River
SM	Sims Bayou
TB	Trinity Bay
TR	Trinity River
WB	West Bay
WO	White Oak Bayou

**NON-POINT SOURCES AND LOADINGS  
CHARACTERIZATION PROJECT**  
Galveston Bay National Estuary Program

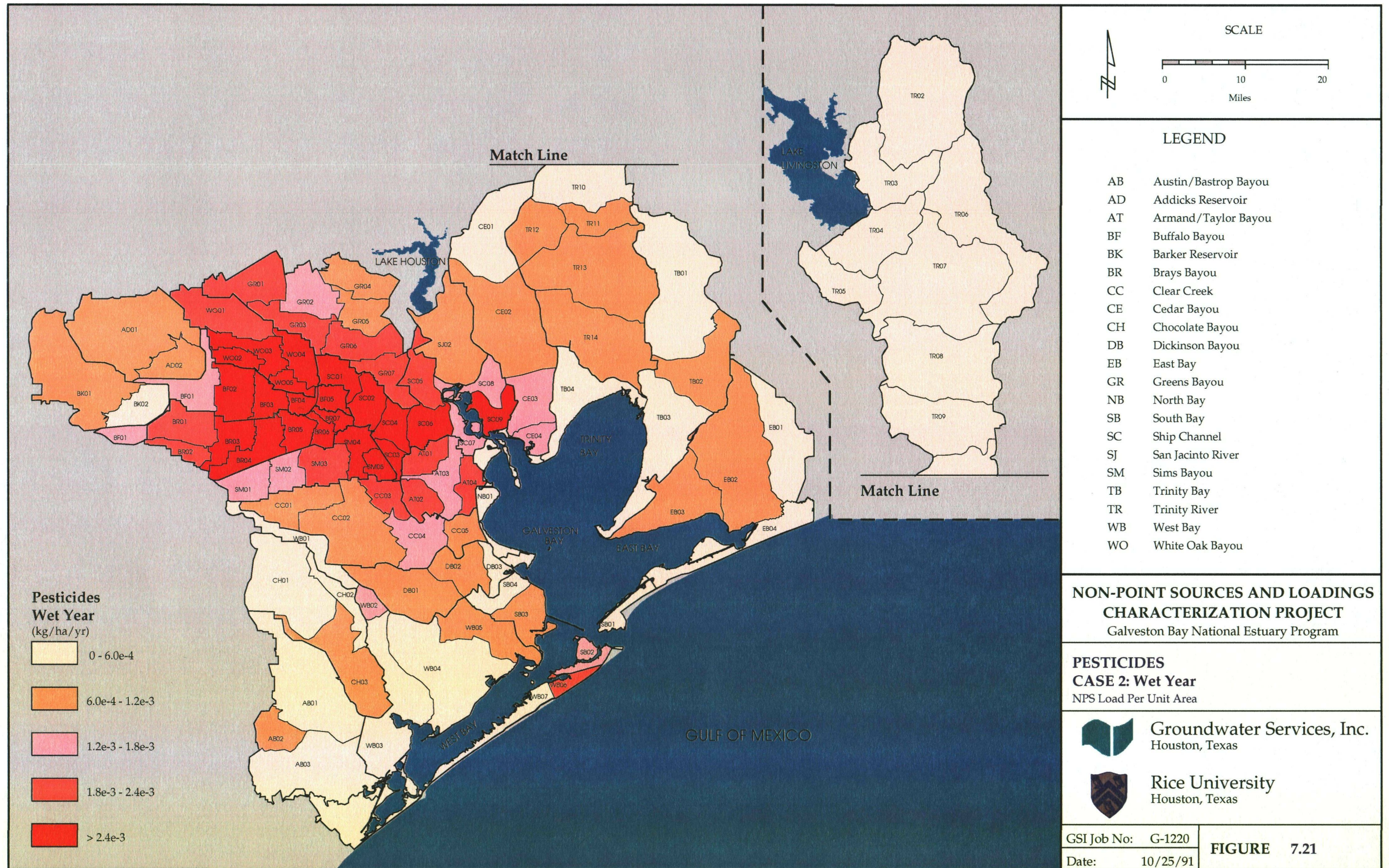
**DISSOLVED COPPER  
CASE 2: Wet Year**  
NPS Load Per Unit Area

	Groundwater Services, Inc. Houston, Texas
	Rice University Houston, Texas

GSI Job No: G-1220	<b>FIGURE 7.20</b>
Date: 10/25/91	

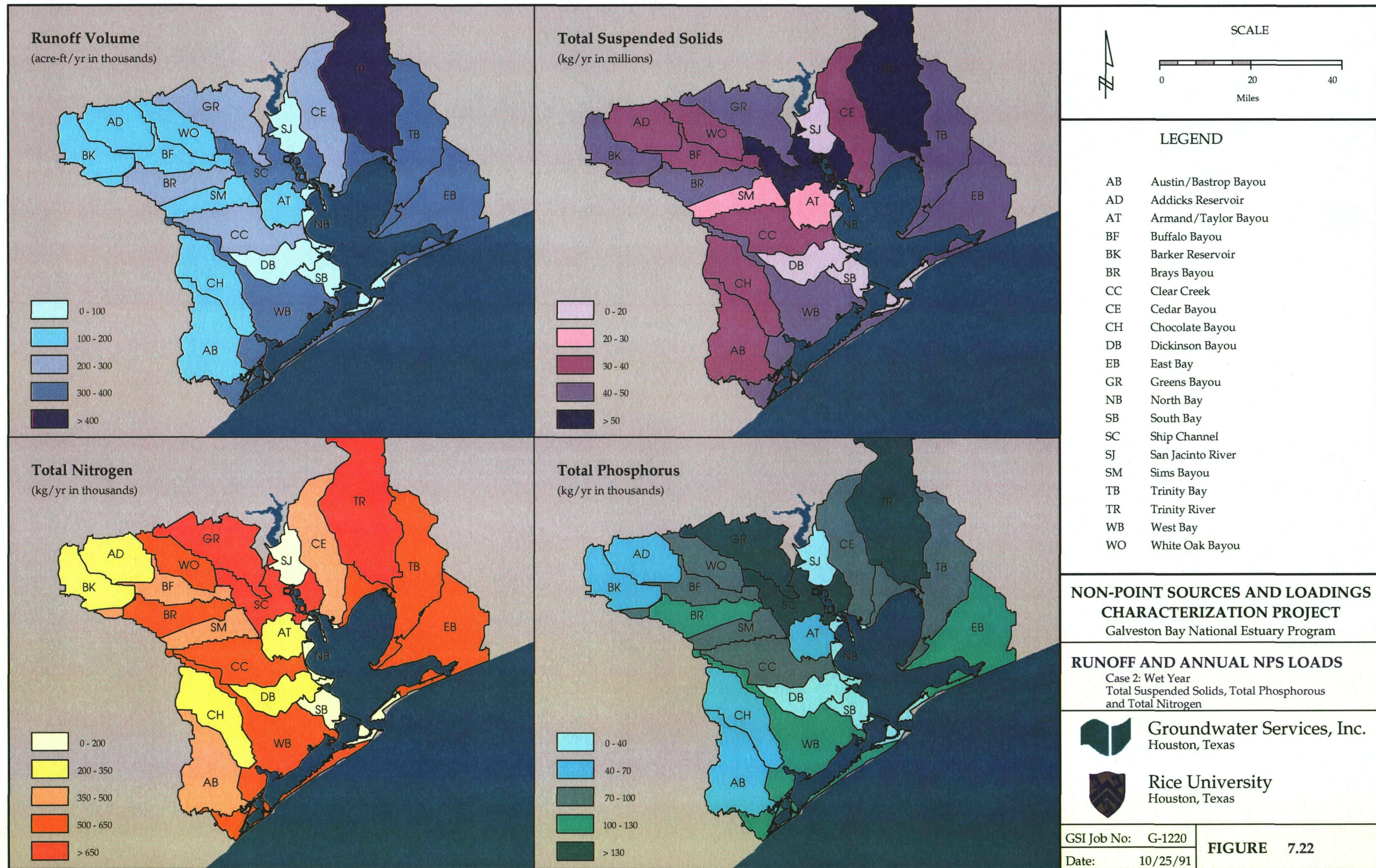
NOTE: 1 hectare (ha) = 2.47 acres.





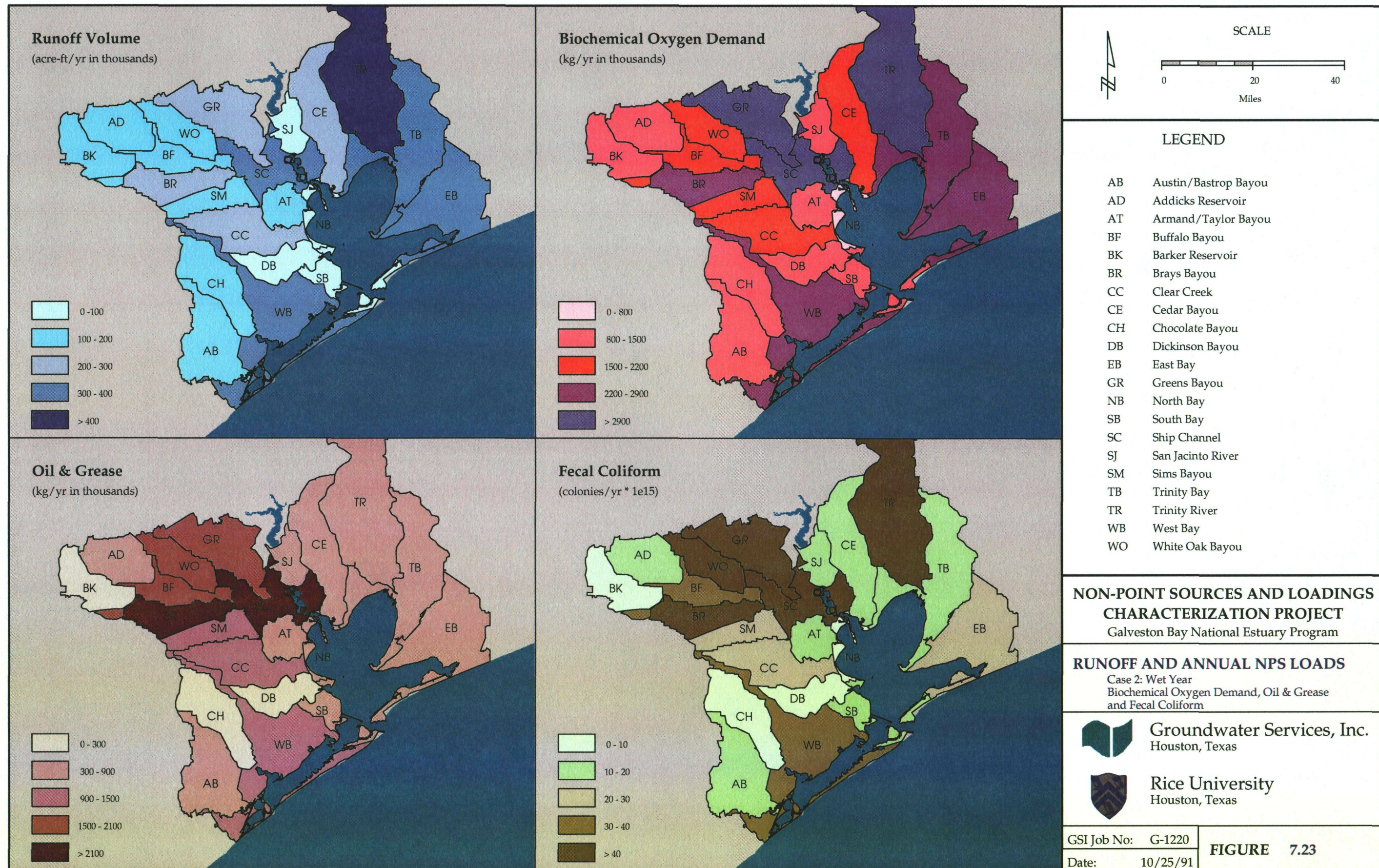
NOTE: 1 hectare (ha) = 2.47 acres.





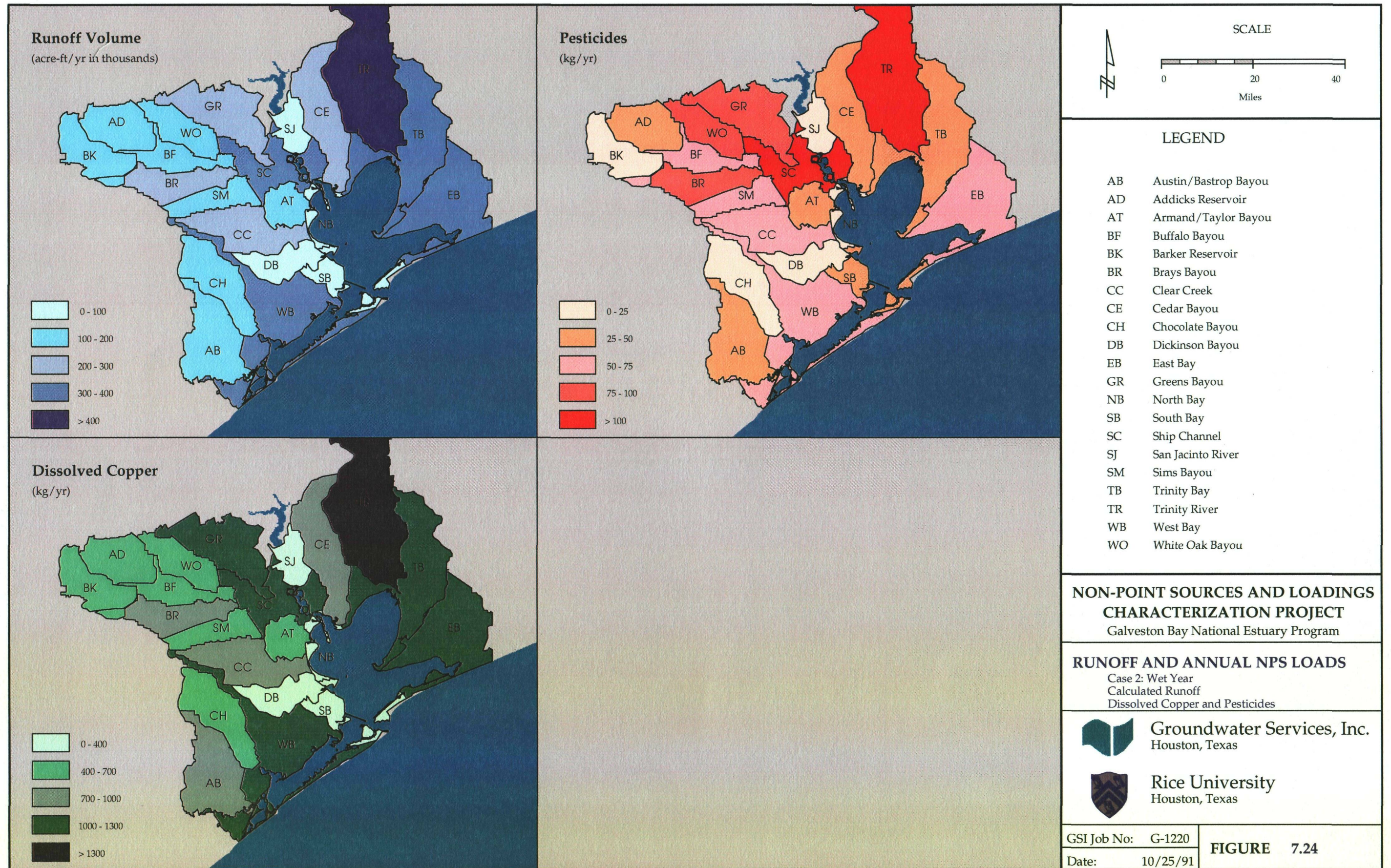
NOTE: Only portion of Trinity River Watershed shown.  
NPS Loads for Lake Houston and Lake Livingston not included.





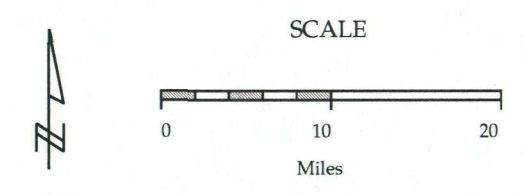
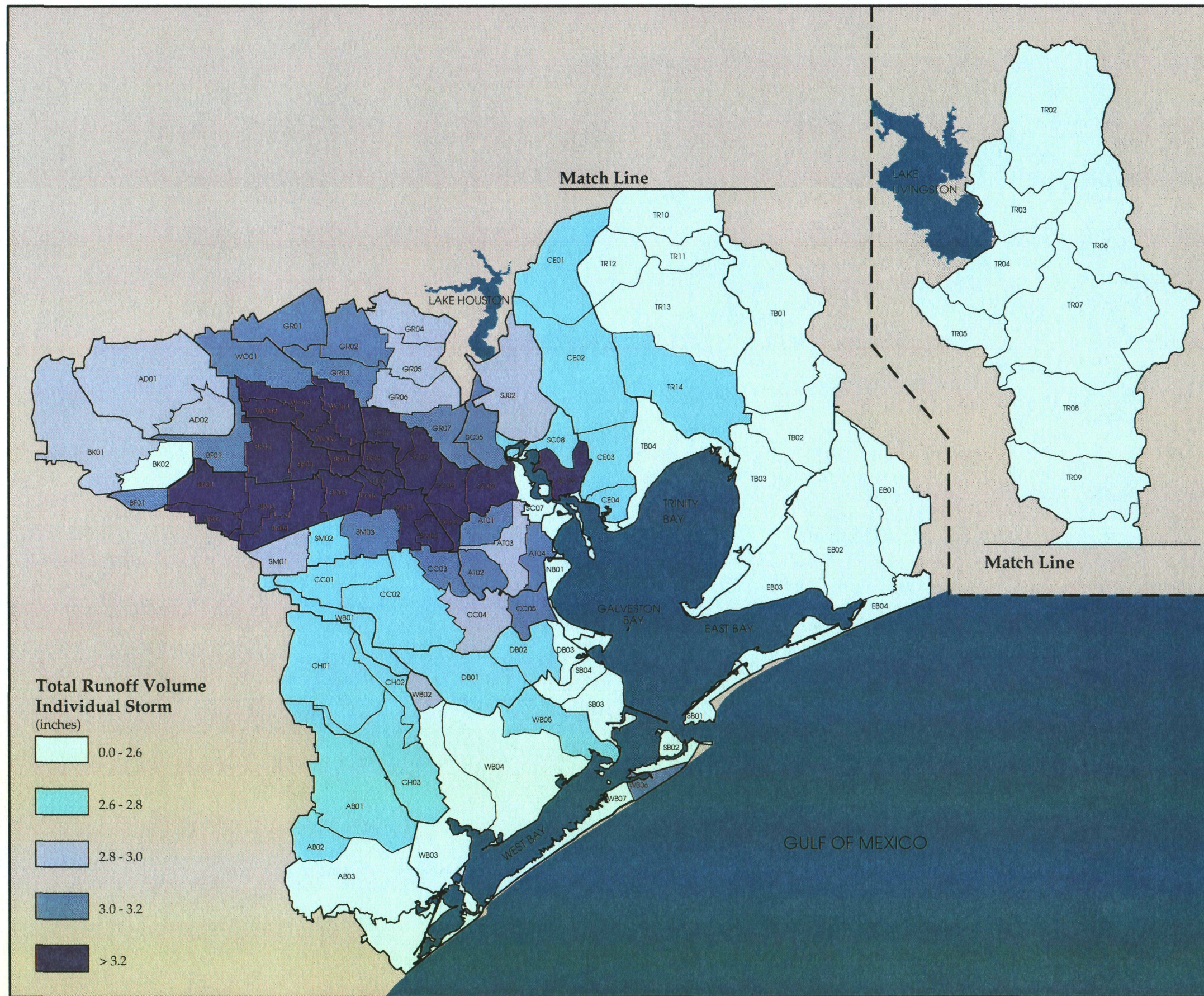
NOTE: Only portion of Trinity River Watershed shown.  
NPS Loads for Lake Houston and Lake Livingston not included.





NOTE: Only portion of Trinity River Watershed shown.  
NPS Loads for Lake Houston and Lake Livingston not included.







**LEGEND**

- AB Austin/Bastrop Bayou
- AD Addicks Reservoir
- AT Armand/Taylor Bayou
- BF Buffalo Bayou
- BK Barker Reservoir
- BR Brays Bayou
- CC Clear Creek
- CE Cedar Bayou
- CH Chocolate Bayou
- DB Dickinson Bayou
- EB East Bay
- GR Greens Bayou
- NB North Bay
- SB South Bay
- SC Ship Channel
- SJ San Jacinto River
- SM Sims Bayou
- TB Trinity Bay
- TR Trinity River
- WB West Bay
- WO White Oak Bayou

**NON-POINT SOURCES AND LOADINGS  
CHARACTERIZATION PROJECT**  
Galveston Bay National Estuary Program

**TOTAL RUNOFF VOLUME  
CASE 3: Individual Storm**

 Groundwater Services, Inc.  
Houston, Texas  
 Rice University  
Houston, Texas

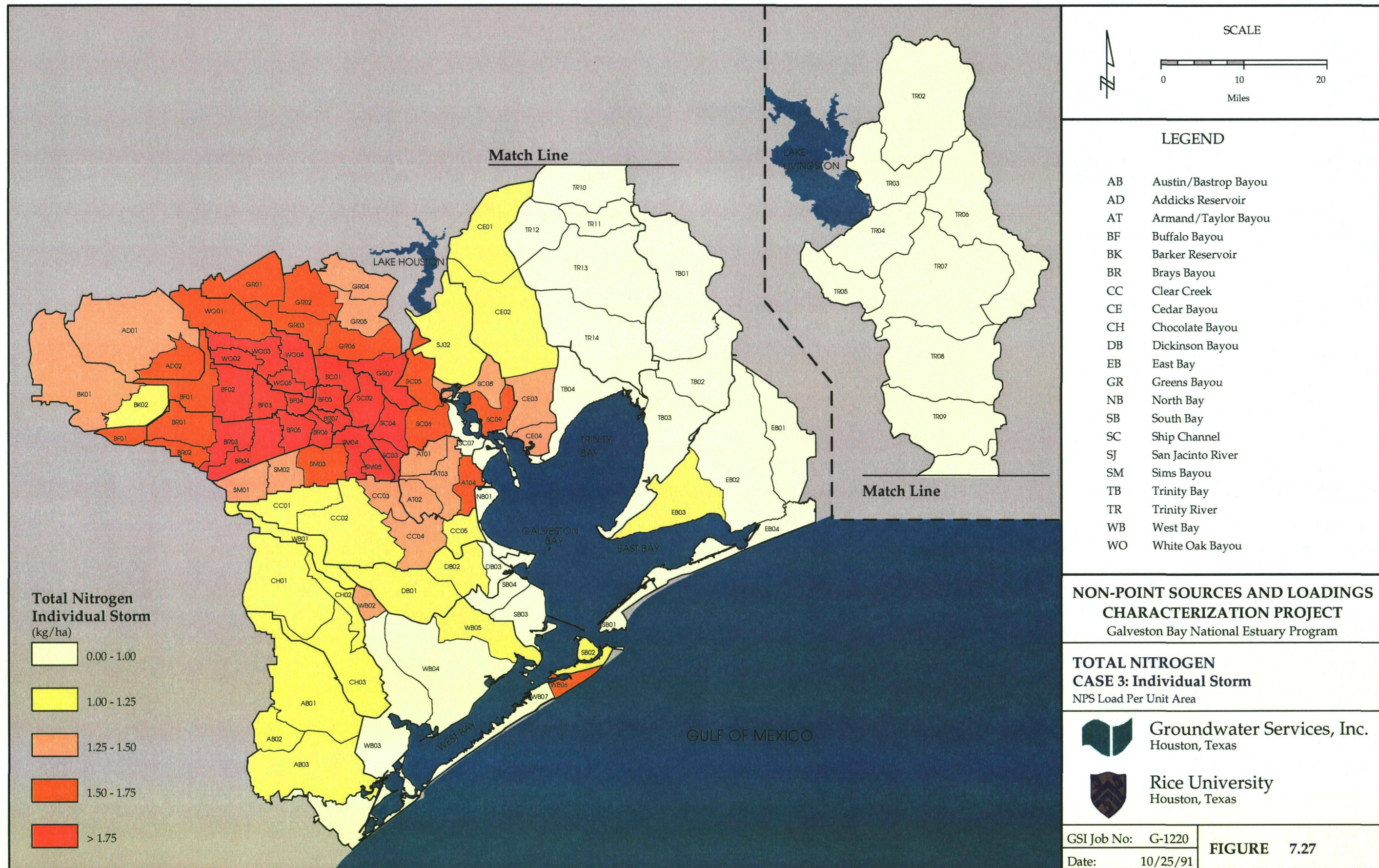
GSI Job No: G-1220  
Date: 10/25/91

**FIGURE 7.25**









SCALE


0 10 20  
Miles


**LEGEND**

AB	Austin/Bastrop Bayou
AD	Addicks Reservoir
AT	Armand/Taylor Bayou
BF	Buffalo Bayou
BK	Barker Reservoir
BR	Brays Bayou
CC	Clear Creek
CE	Cedar Bayou
CH	Chocolate Bayou
DB	Dickinson Bayou
EB	East Bay
GR	Greens Bayou
NB	North Bay
SB	South Bay
SC	Ship Channel
SJ	San Jacinto River
SM	Sims Bayou
TB	Trinity Bay
TR	Trinity River
WB	West Bay
WO	White Oak Bayou

**NON-POINT SOURCES AND LOADINGS CHARACTERIZATION PROJECT**  
Galveston Bay National Estuary Program

**TOTAL NITROGEN CASE 3: Individual Storm**  
NPS Load Per Unit Area

 Groundwater Services, Inc.  
Houston, Texas

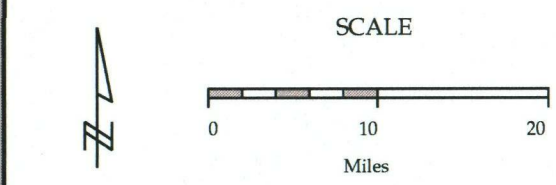
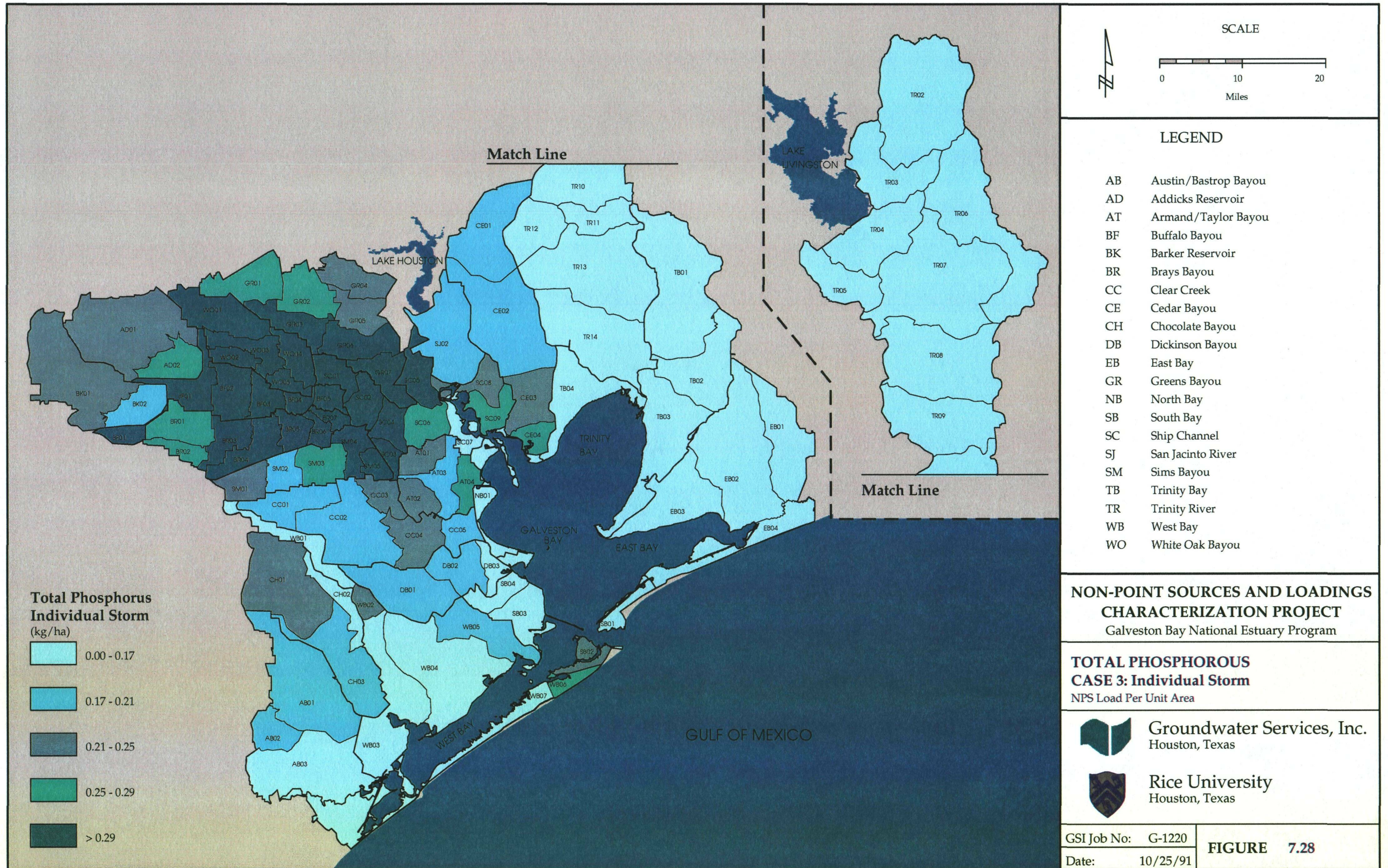
 Rice University  
Houston, Texas

GSI Job No: G-1220  
Date: 10/25/91

**FIGURE 7.27**

NOTE: 1 hectare (ha) = 2.47 acres.





**LEGEND**

AB	Austin/Bastrop Bayou
AD	Addicks Reservoir
AT	Armand/Taylor Bayou
BF	Buffalo Bayou
BK	Barker Reservoir
BR	Brays Bayou
CC	Clear Creek
CE	Cedar Bayou
CH	Chocolate Bayou
DB	Dickinson Bayou
EB	East Bay
GR	Greens Bayou
NB	North Bay
SB	South Bay
SC	Ship Channel
SJ	San Jacinto River
SM	Sims Bayou
TB	Trinity Bay
TR	Trinity River
WB	West Bay
WO	White Oak Bayou

**NON-POINT SOURCES AND LOADINGS CHARACTERIZATION PROJECT**  
Galveston Bay National Estuary Program

**TOTAL PHOSPHOROUS CASE 3: Individual Storm**  
NPS Load Per Unit Area

Groundwater Services, Inc.  
Houston, Texas

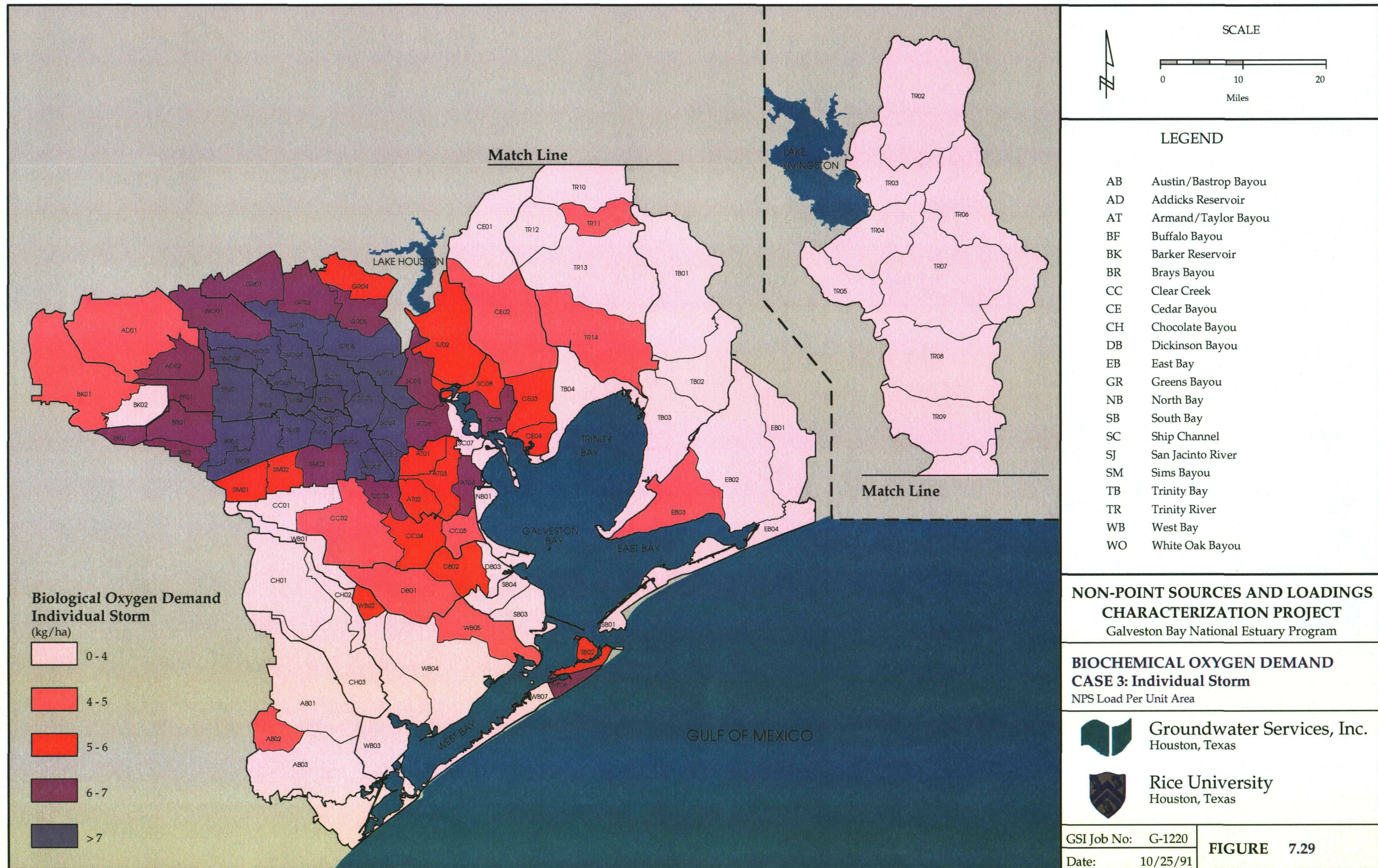
Rice University  
Houston, Texas

GSI Job No: G-1220  
Date: 10/25/91

**FIGURE 7.28**

NOTE: 1 hectare (ha) = 2.47 acres.





SCALE


0 10 20  
Miles

**LEGEND**

AB	Austin/Bastrop Bayou
AD	Addicks Reservoir
AT	Armand/Taylor Bayou
BF	Buffalo Bayou
BK	Barker Reservoir
BR	Brays Bayou
CC	Clear Creek
CE	Cedar Bayou
CH	Chocolate Bayou
DB	Dickinson Bayou
EB	East Bay
GR	Greens Bayou
NB	North Bay
SB	South Bay
SC	Ship Channel
SJ	San Jacinto River
SM	Sims Bayou
TB	Trinity Bay
TR	Trinity River
WB	West Bay
WO	White Oak Bayou

**NON-POINT SOURCES AND LOADINGS  
CHARACTERIZATION PROJECT**  
Galveston Bay National Estuary Program

**BIOCHEMICAL OXYGEN DEMAND  
CASE 3: Individual Storm**  
NPS Load Per Unit Area

 Groundwater Services, Inc.  
Houston, Texas

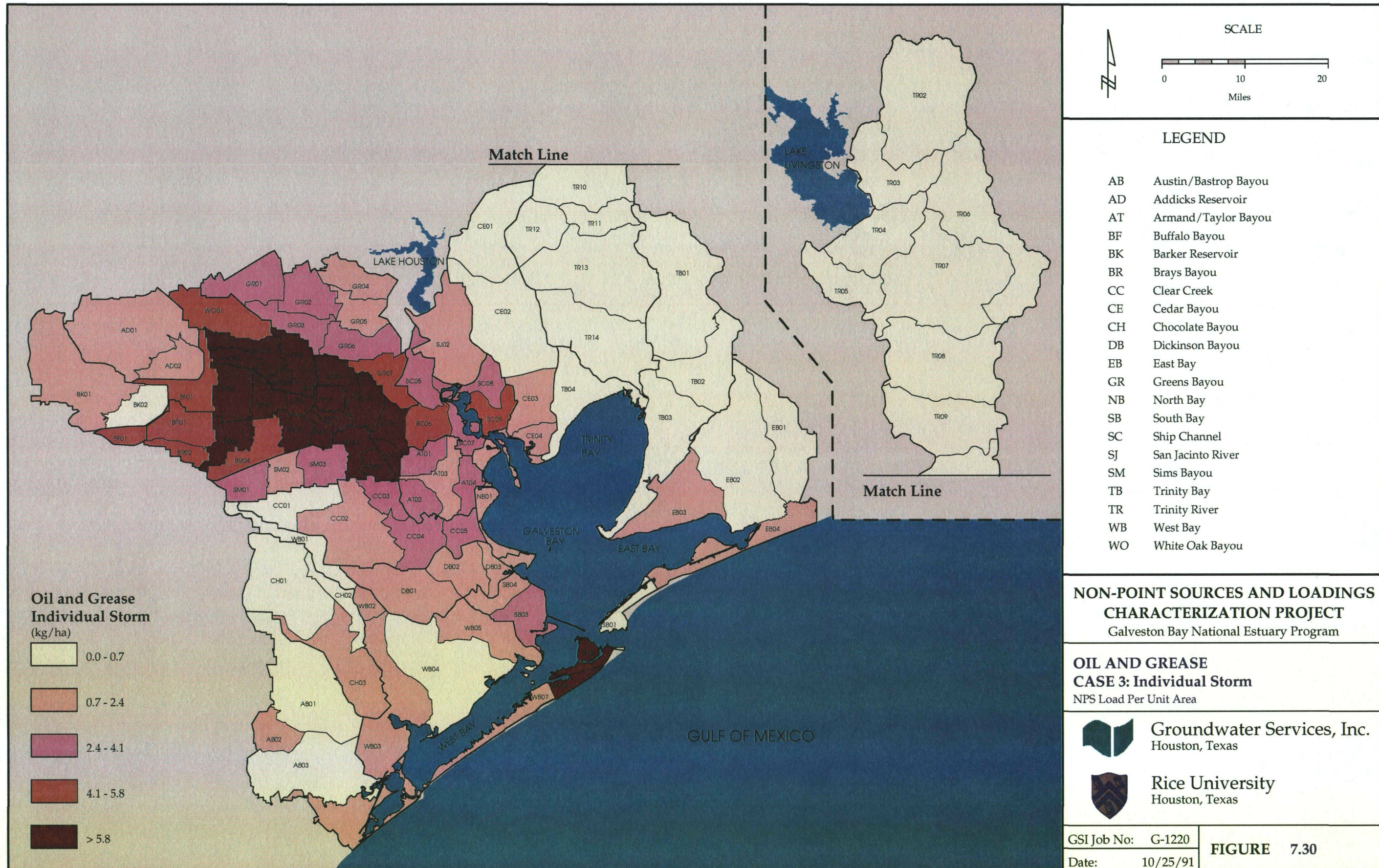
 Rice University  
Houston, Texas

GSI Job No: G-1220  
Date: 10/25/91

**FIGURE 7.29**

NOTE: 1 hectare (ha) = 2.47 acres.



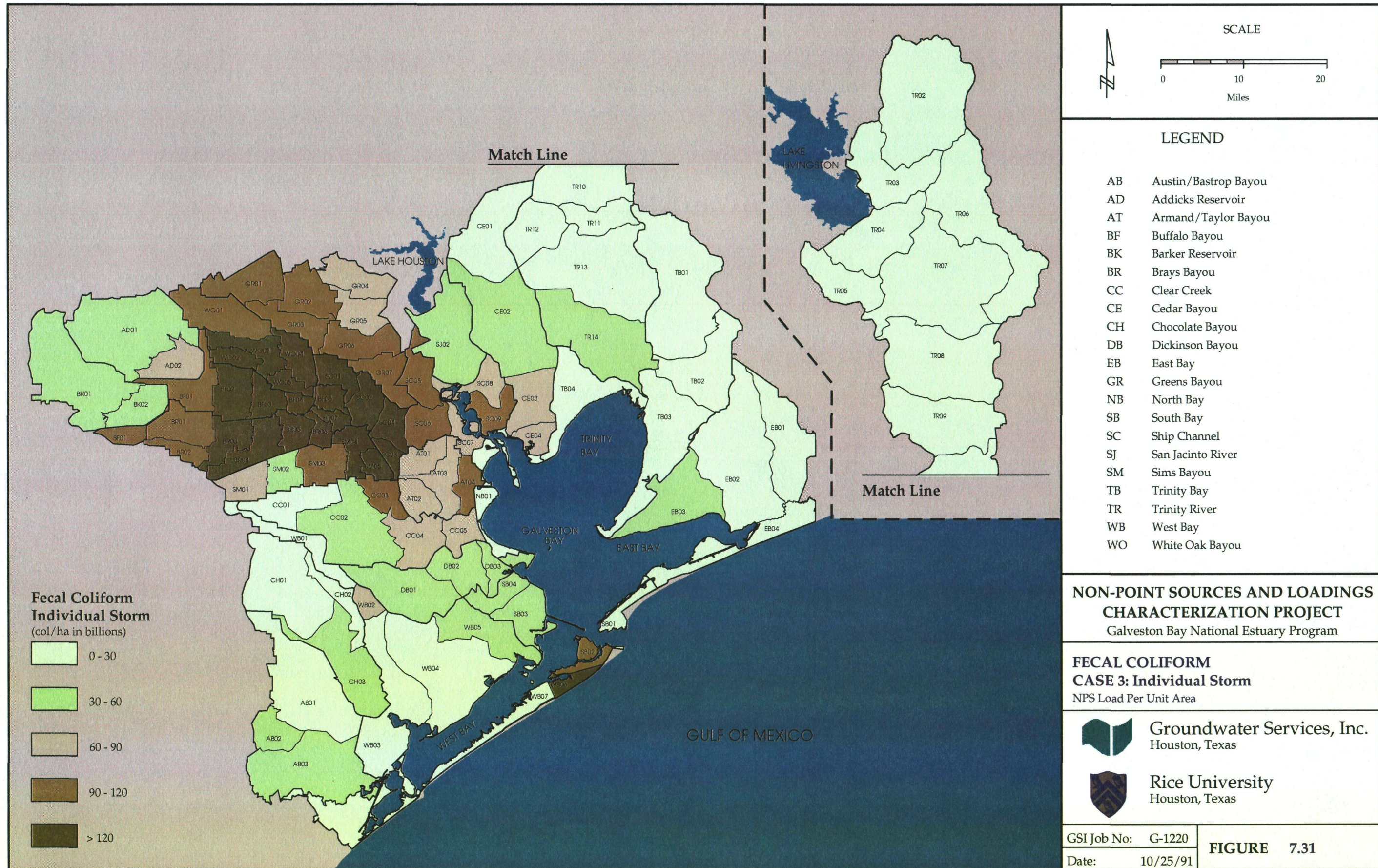


NOTE: 1 hectare (ha) = 2.47 acres.

GSI Job No: G-1220  
Date: 10/25/91

FIGURE 7.30



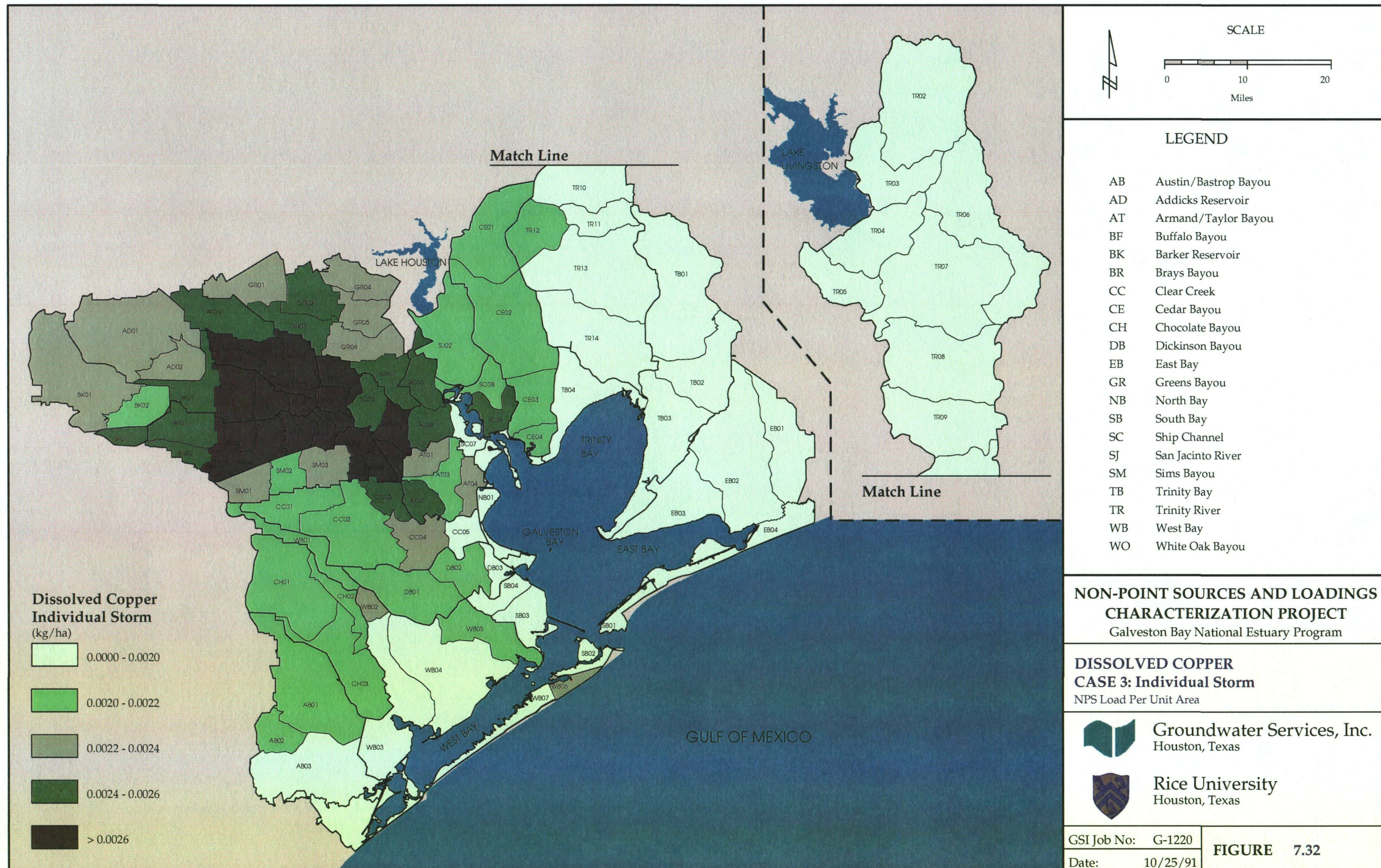


NOTE: 1 hectare (ha) = 2.47 acres.

GSI Job No:	G-1220
Date:	10/25/91

**FIGURE 7.31**





SCALE


0 10 20  
Miles


**LEGEND**

AB	Austin/Bastrop Bayou
AD	Addicks Reservoir
AT	Armand/Taylor Bayou
BF	Buffalo Bayou
BK	Barker Reservoir
BR	Brays Bayou
CC	Clear Creek
CE	Cedar Bayou
CH	Chocolate Bayou
DB	Dickinson Bayou
EB	East Bay
GR	Greens Bayou
NB	North Bay
SB	South Bay
SC	Ship Channel
SJ	San Jacinto River
SM	Sims Bayou
TB	Trinity Bay
TR	Trinity River
WB	West Bay
WO	White Oak Bayou

**NON-POINT SOURCES AND LOADINGS  
CHARACTERIZATION PROJECT**  
Galveston Bay National Estuary Program

**DISSOLVED COPPER  
CASE 3: Individual Storm**  
NPS Load Per Unit Area

 **Groundwater Services, Inc.**  
Houston, Texas

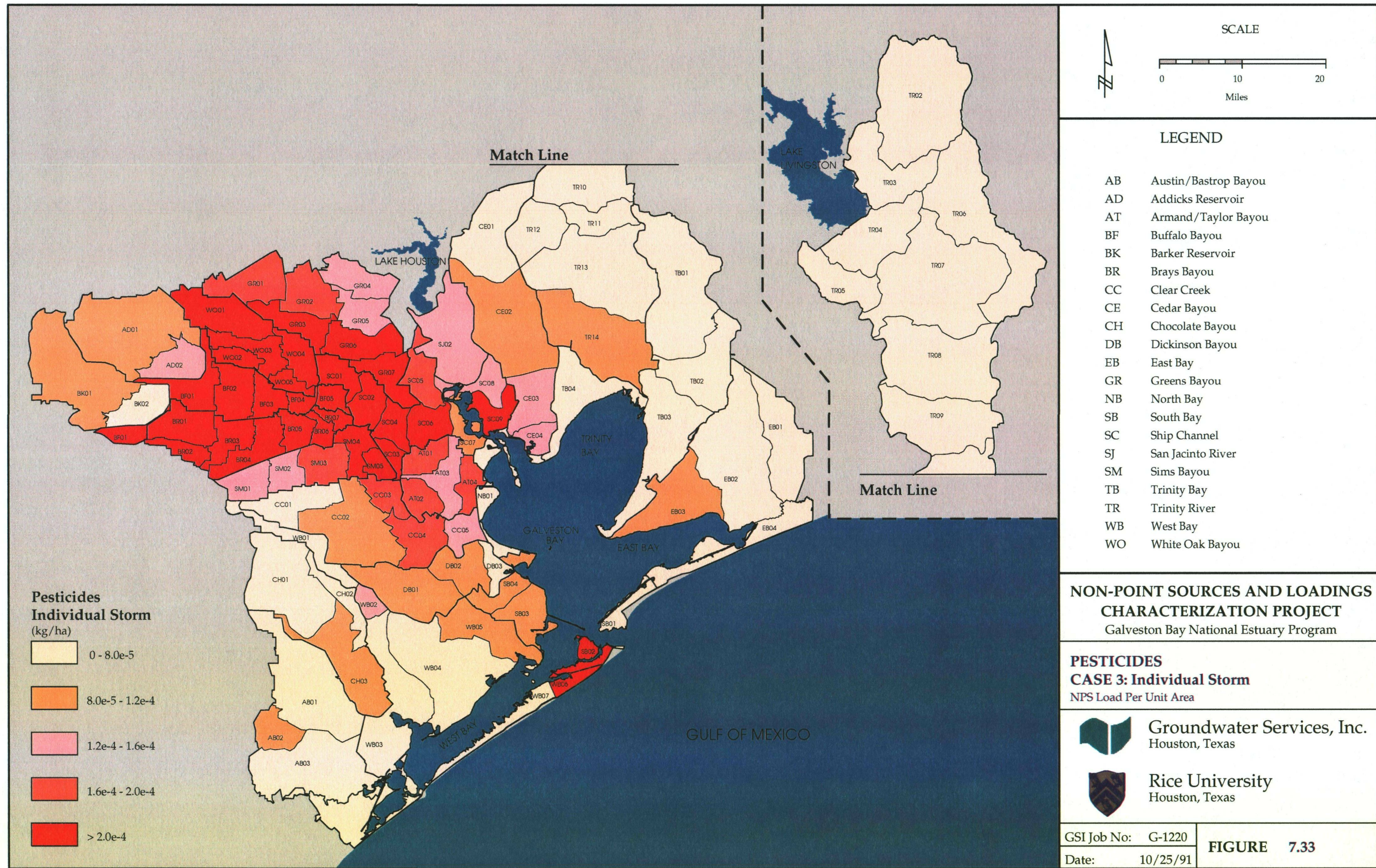
 **Rice University**  
Houston, Texas

GSI Job No: G-1220  
Date: 10/25/91

**FIGURE 7.32**

NOTE: 1 hectare (ha) = 2.47 acres.



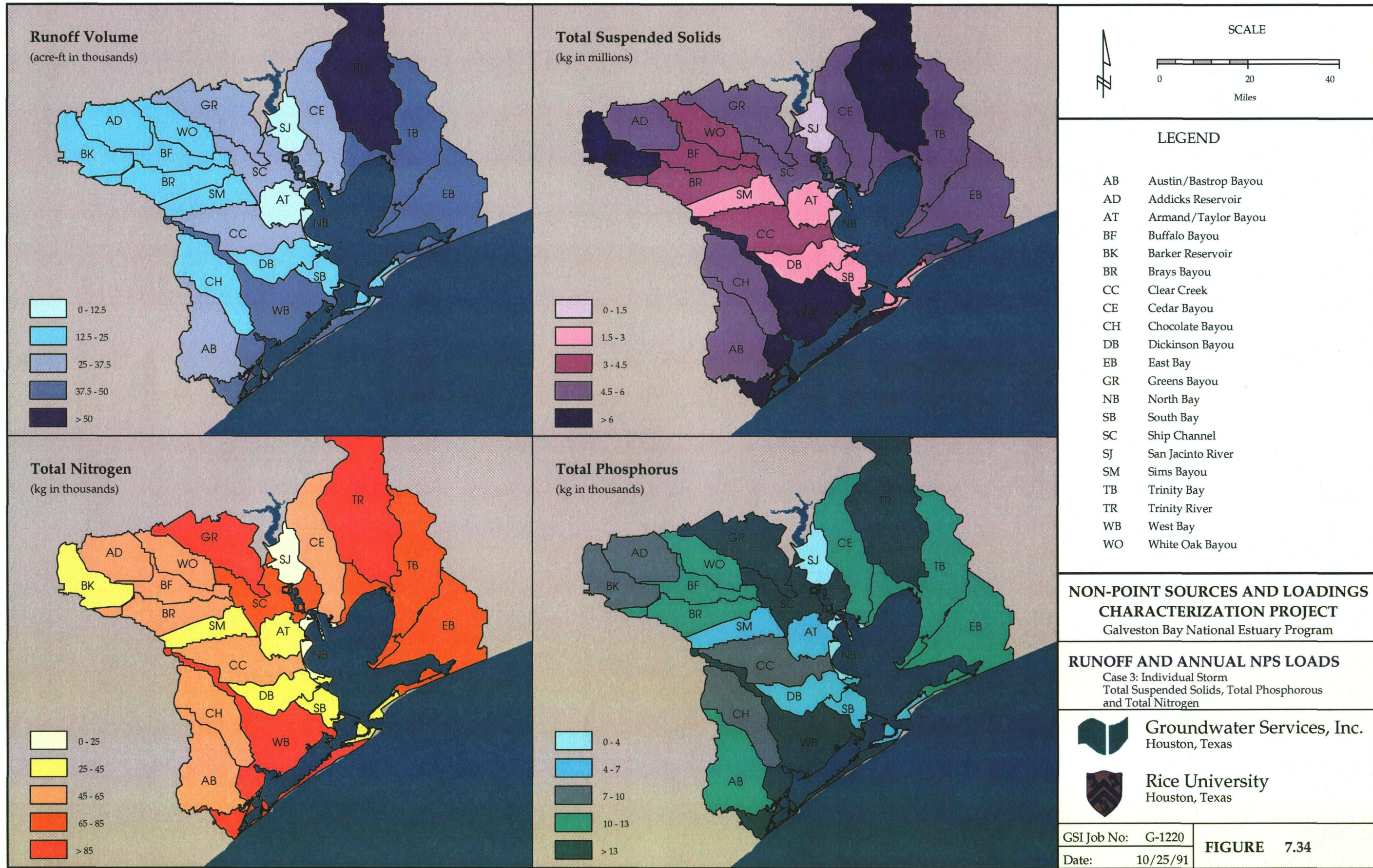


NOTE: 1 hectare (ha) = 2.47 acres.

GSI Job No: G-1220  
Date: 10/25/91

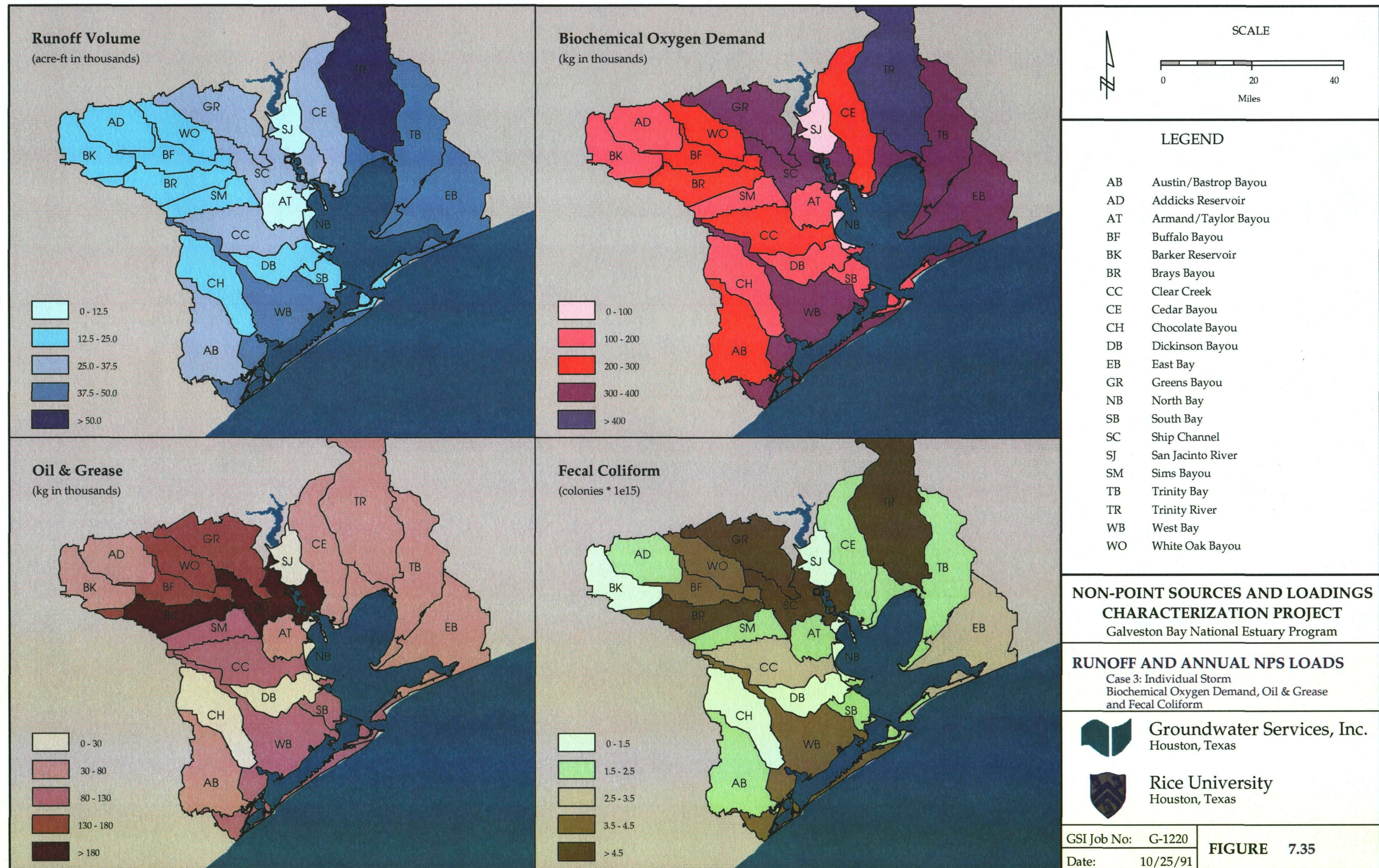
**FIGURE 7.33**





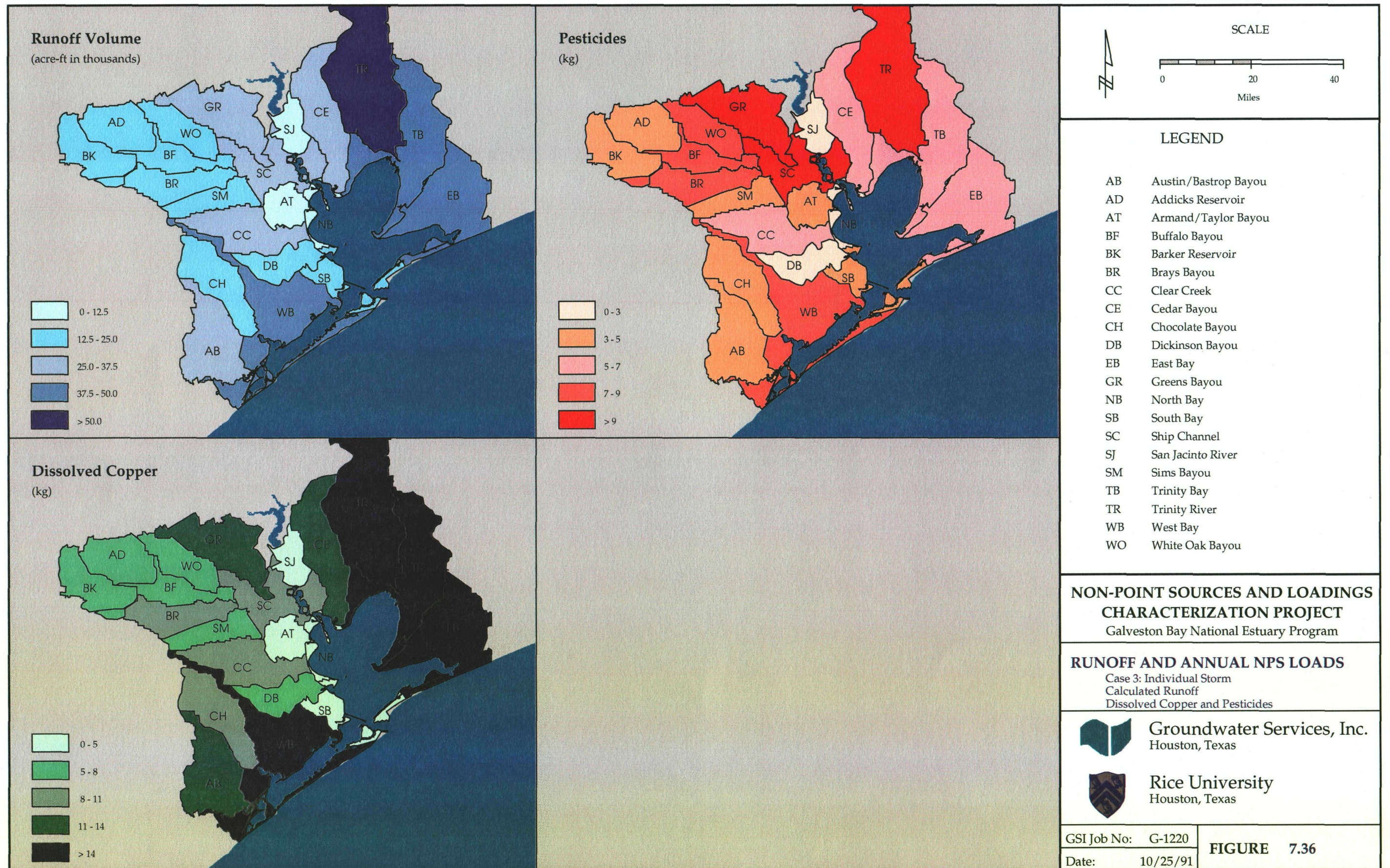
NOTE: Only portion of Trinity River Watershed shown.  
NPS Loads for Lake Houston and Lake Livingston not included.





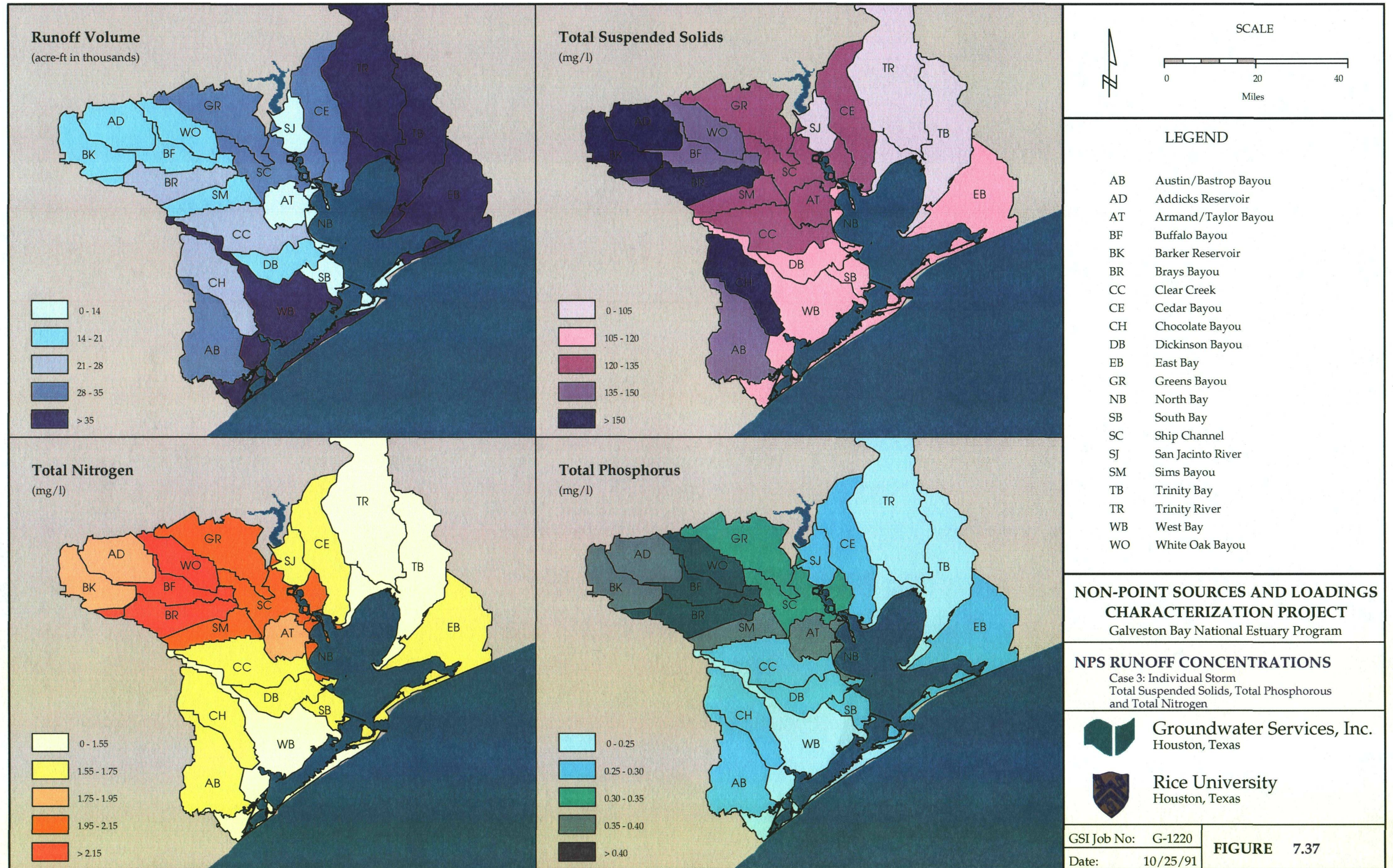
NOTE: Only portion of Trinity River Watershed shown.  
NPS Loads for Lake Houston and Lake Livingston not included.





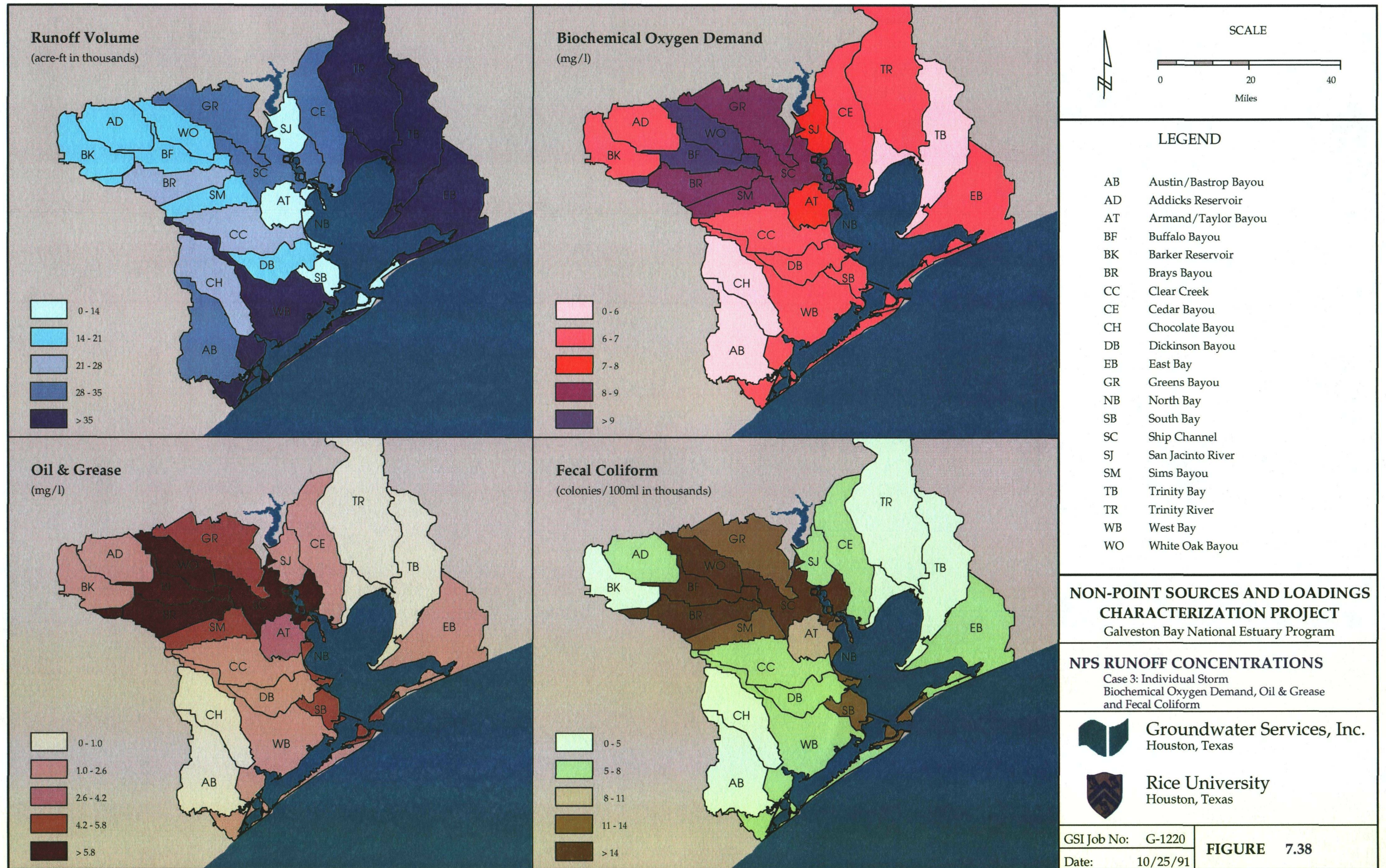
NOTE: Only portion of Trinity River Watershed shown.  
NPS Loads for Lake Houston and Lake Livingston not included.





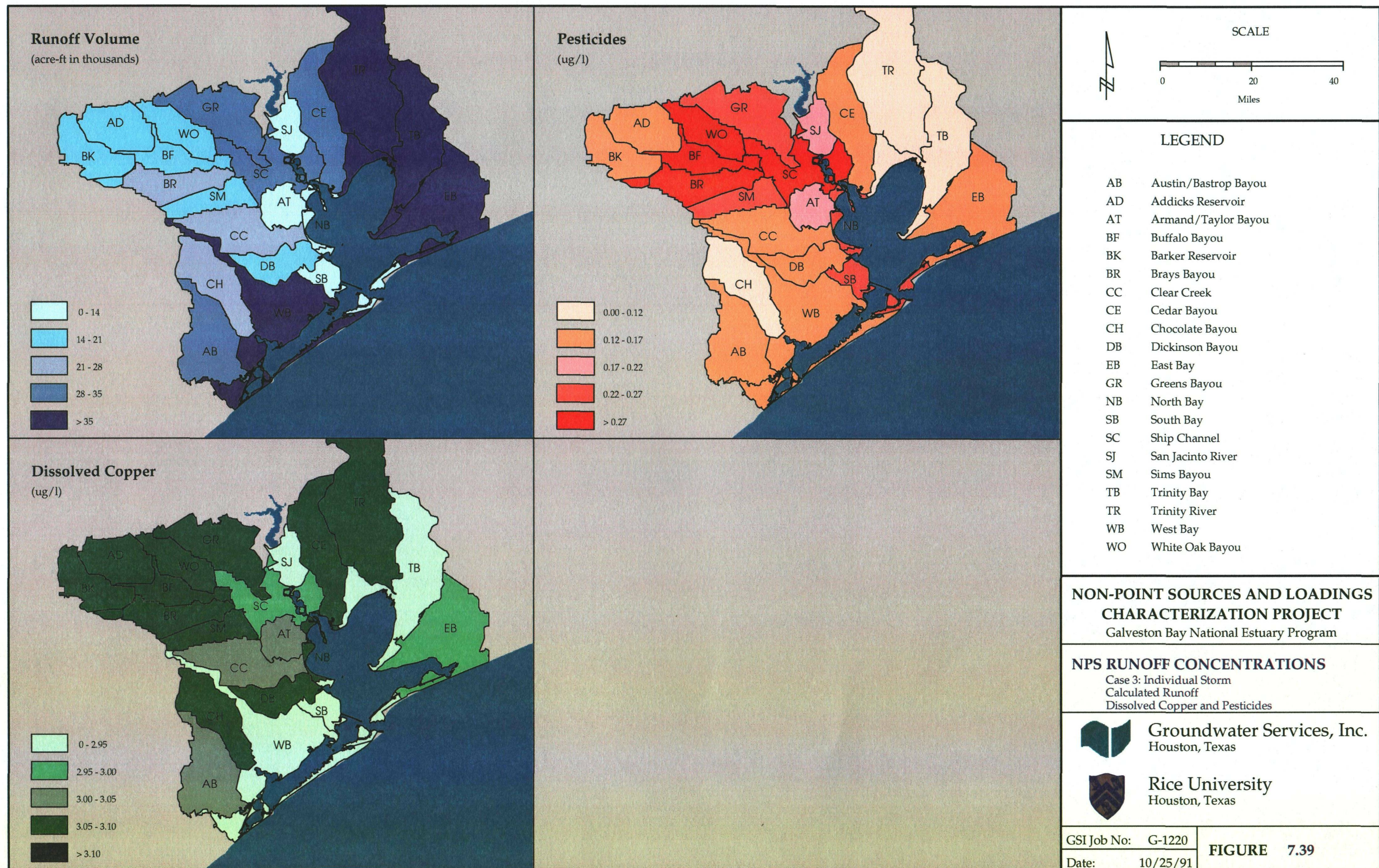
NOTE: Only portion of Trinity River Watershed shown.  
NPS Loads for Lake Houston and Lake Livingston not included.





NOTE: Only portion of Trinity River Watershed shown.  
NPS Loads for Lake Houston and Lake Livingston not included.

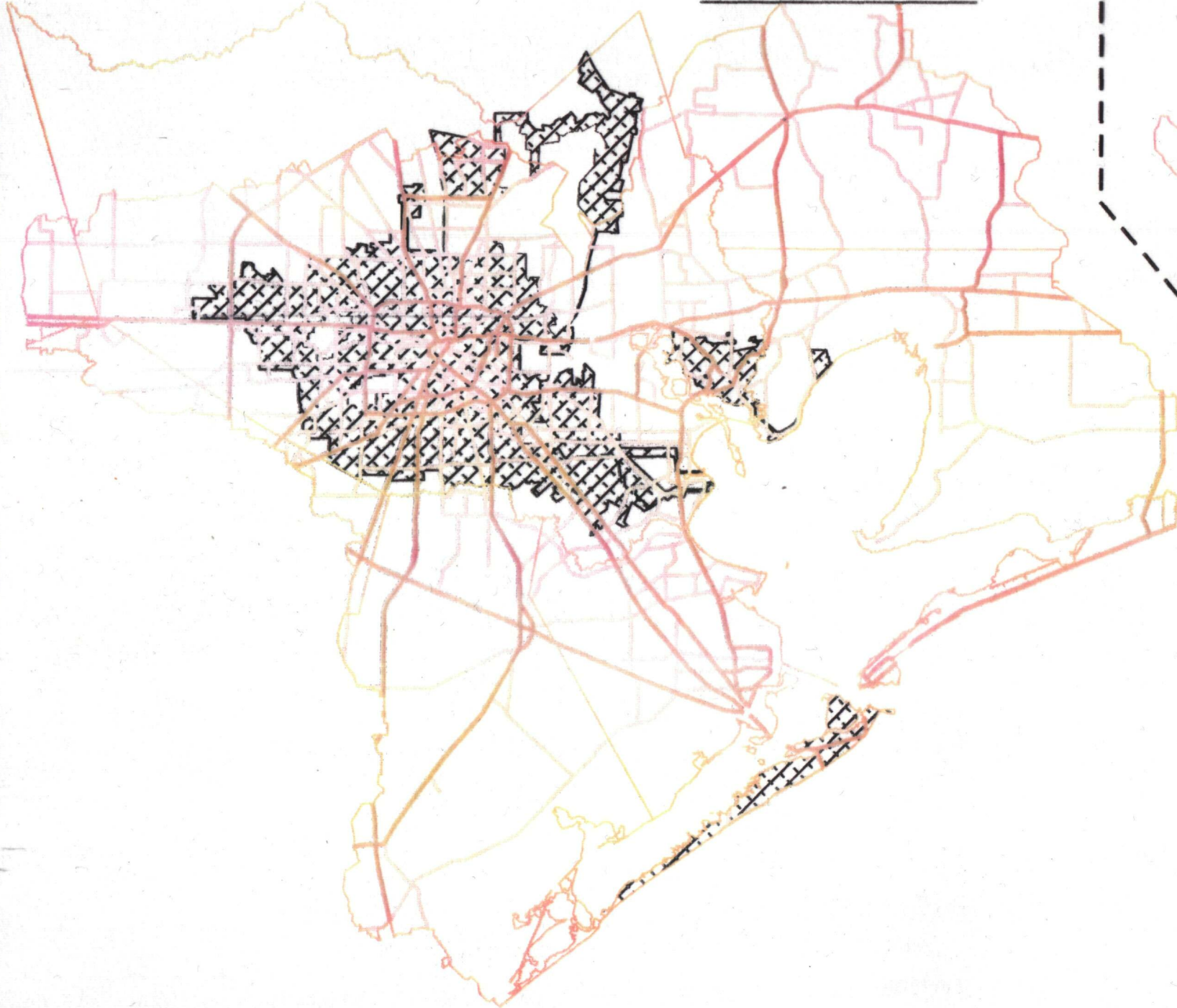




NOTE: Only portion of Trinity River Watershed shown.  
NPS Loads for Lake Houston and Lake Livingston not included.



**Match Line**



**Match Line**

