

**Blackburn Crossing Dam and Lake Palestine**

**OWNER**

Upper Neches River Municipal Water Authority. Dallas, Palestine, and Tyler have term permits to purchase water.

**ENGINEER (Design)**

Forrest and Cotton, Inc.

**LOCATION**

On the Neches River in Anderson and Cherokee Counties, 4 miles east of Frankston. The lake extends into Henderson and Smith Counties.

**DRAINAGE AREA**

839 square miles.

**DAM**

Type Earthfill  
 Length (including spillway) 5,720 ft  
 Maximum height 75 ft  
 Top width 20 to 21.3 ft

**SPILLWAY (emergency)**

Location Near left end of the dam  
 Type Concrete ogee weir  
 Control None  
 Crest length 500 ft  
 Crest elevation 345.0 ft above msl

**OUTLET WORKS (service spillway)**

Location Near center of the dam  
 Type Gated concrete tower  
 Discharge Conduit, 8.5-ft diameter  
 Invert of conduit 298.0 ft above msl  
 Control Two 5 by 7 ft gates

**LOW-FLOW OUTLET**

Type 2 pipes, 36-inch diameter from tower  
 Control Valves operated from tower  
 Discharge To outlet conduit  
 Lowest slide gate invert to tower 309.5 ft above msl  
 Other slide gates invert to tower 312.5, 322.5, and 332.5 ft above msl  
 Gate size Each 3.5 by 5 ft

**AUTHORIZATION**

Permit No. 1832 (Application No. 1975), July 12, 1956, allows storage of 410,000 acre-feet of water with an annual use of 84,000 acre-feet for industrial purposes and 112,000 acre-feet for municipal use.  
 Permit No. 1832A, December 12, 1965, amends permit to change the 84,000 acre-feet of water for industrial purposes to municipal use.  
 Permit No. 1832D, February 11, 1970 amends the permit to increase the storage by 1,180 acre-feet to a total of 411,840 acre-feet at elevation 345.0 ft above msl. By agreement the water was allocated 53.73 percent to the Texas Water Development Board and 46.27 percent to the Upper Neches River Municipal Water Authority. In 1972 the Texas Water Development Board's share was transferred to the Upper Neches Municipal Water Authority in order to provide the city of Dallas additional water in an amount not to exceed 53.73 percent of the yield.

**RESERVOIR DATA (Based on data from Forrest and Cotton, Inc.)**

| FEATURE                               | ELEVATION<br>(FEET ABOVE MSL) | CAPACITY<br>(ACRE-FEET) | AREA<br>(ACRES) |
|---------------------------------------|-------------------------------|-------------------------|-----------------|
| Top of dam                            | 364.0                         | 1,070,140               | 43,750          |
| Design water surface                  | 355.3                         | 726,000                 | 35,400          |
| Spillway crest<br>(conservation pool) | 345.0                         | 411,840                 | 25,560          |
| Invert of low-flow outlet             | 309.5                         | 10,600                  | 1,700           |
| Invert of 8.5 ft conduit              | 298.0                         | 550                     | 400             |
| Usable storage                        | -                             | 411,290                 | -               |

**GENERAL**

Original dam started May 30, 1960  
 Original dam completed June 13, 1962  
 Deliberate impoundment began May 1, 1962  
 Enlargement started September 26, 1969  
 Enlargement completed March 3, 1971  
 Contractor for enlargement Wm. A. Smith Construction Co., Inc.  
 Total cost of enlargement \$13,872,000  
 Cost of original dam \$1,950,000  
 Total project cost \$15,822,000

