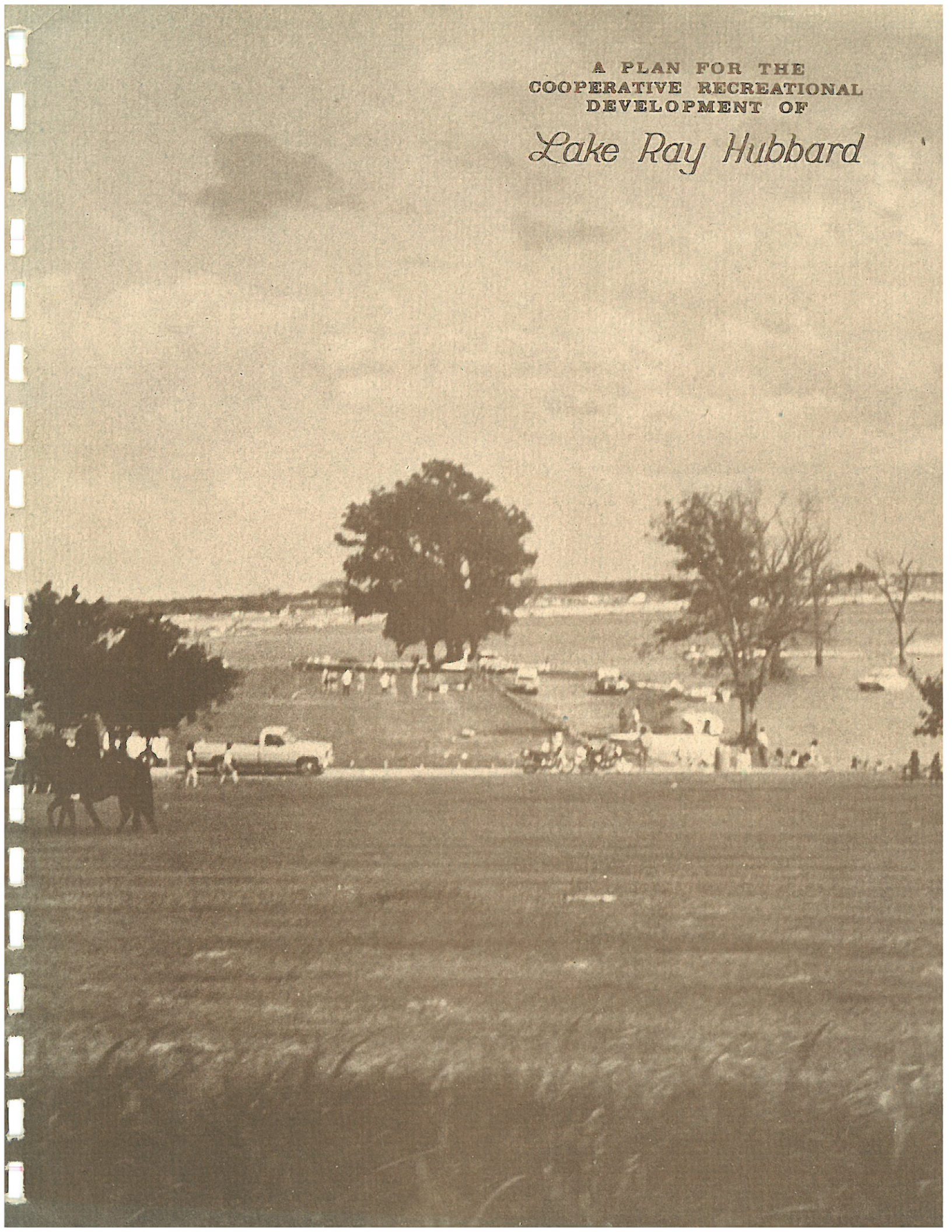


A PLAN FOR THE
COOPERATIVE RECREATIONAL
DEVELOPMENT OF

Lake Ray Hubbard



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COOPERATIVE RECREATIONAL
DEVELOPMENT OF

Lake Ray Hubbard

APRIL, 1976

Assigned to - City of Rockwall

0056

DALLAS PARK DEPT.
SUPT. OF LAKES

PREPARED FOR

THE DALLAS PARK AND RECREATION BOARD
IN COOPERATION WITH
THE DALLAS WATER UTILITIES DEPARTMENT

BY

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DALLAS, TEXAS

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INTRODUCTION

Lake Ray Hubbard was built by the Dallas Water Utilities Department for the primary purpose of developing a major municipal water supply. The dam which created the reservoir was substantially completed in 1967 but the spillway gates were not closed for full impoundment until completion of certain railroad relocation and highway improvements in early 1970. The original concept of the reservoir included the provision of a 200 foot strip of land around the lake shore above the normal water level of 435.5 feet above sea level for park and recreational purposes. The actual shore area strip resulting from the difference between the acquisition line or take line and the water elevation of 435.5 varies from a few feet to several thousand feet.

Since the completion of the reservoir, numerous changes have taken place along the shoreline. Agreements have also substantially changed the development and jurisdictional responsibilities around the Lake. In April, 1975, the City of Dallas, through the cooperation of the municipalities of Garland, Sunnyvale, Heath, Rowlett and Rockwall, annexed the entire water surface of Lake Ray Hubbard and the shore land owned by Dallas which was not inside any other municipality. The adjustment of the municipal boundaries placed the regulation of the water surface and about 40 percent of the shoreline within the jurisdiction of the City of Dallas. Subsequent to the consolidation of the water area under Dallas' jurisdiction in December, 1975, regulations were adopted by the City of Dallas governing the use of the Lake.

The adjustment of jurisdictional limits on and around Lake Ray Hubbard was one of the steps set forth in A Plan For The Cooperative Recreational Development Of Lake Ray Hubbard prepared and adopted by the City of Dallas Park and Recreation Board in 1967. At the time of the study which led to the Cooperative Plan for Lake Ray Hubbard, water impoundment had not started and land acquisition for the reservoir was still in progress.

In 1975 the Dallas Park and Recreation Board directed that the 1967 Plan be reviewed and updated in light of changed conditions and the accomplishment of some features of the earlier Plan and the following constitutes an update of that Plan.

EXISTING FEATURES AND DEVELOPMENT OF LAKE RAY HUBBARD AND THE SHORE AREA

At the time of its construction, Lake Ray Hubbard offered an opportunity to create one of the most significant additions to the inventory of outdoor recreation facilities available in the Dallas area. The opportunity for the achievement of a significant recreational facility still exists at Lake Ray Hubbard. No other major water area is likely to be created in the future which will have the convenience of location, large size and accessibility to such a large portion of the Dallas area population as does Lake Ray Hubbard. The only other additional reservoir likely to be constructed close to Dallas is Lakeview Reservoir planned for the southwestern corner of Dallas County and which is not expected to approach the size of Lake Ray Hubbard.

Among the special features of Lake Ray Hubbard are the following:

1. It is the largest municipally owned reservoir in the Region.
2. It is both a water impounding reservoir and a peaking pool for the water from East Texas sources which will be introduced into the Dallas Water Supply System.
3. It is so located that it can be expected that the reservoir will eventually be substantially surrounded by urban development much in the manner that White Rock Lake is enveloped by urban area. The process of urbanization around the Lake has advanced substantially in the past seven years.
4. The location of the reservoir in four counties and six municipal jurisdictions creates a complex development and control problem.

LAKE CONFIGURATION - The main portion of Lake Ray Hubbard occupies the flood plain of the East Fork of the Trinity River and extends on a north-south axis from the northwest corner of Kaufman County the full length of Rockwall County into Collin County. Two arms along the western part of the Lake are created by the Muddy Creek and Rowlett Creek tributaries to the East Fork of the Trinity River and both arms, plus a portion of the lower main Lake, are in Dallas County. Two peninsulas are created by the Muddy Creek and Rowlett Creek arms and both peninsulas are largely

in the City of Rowlett.

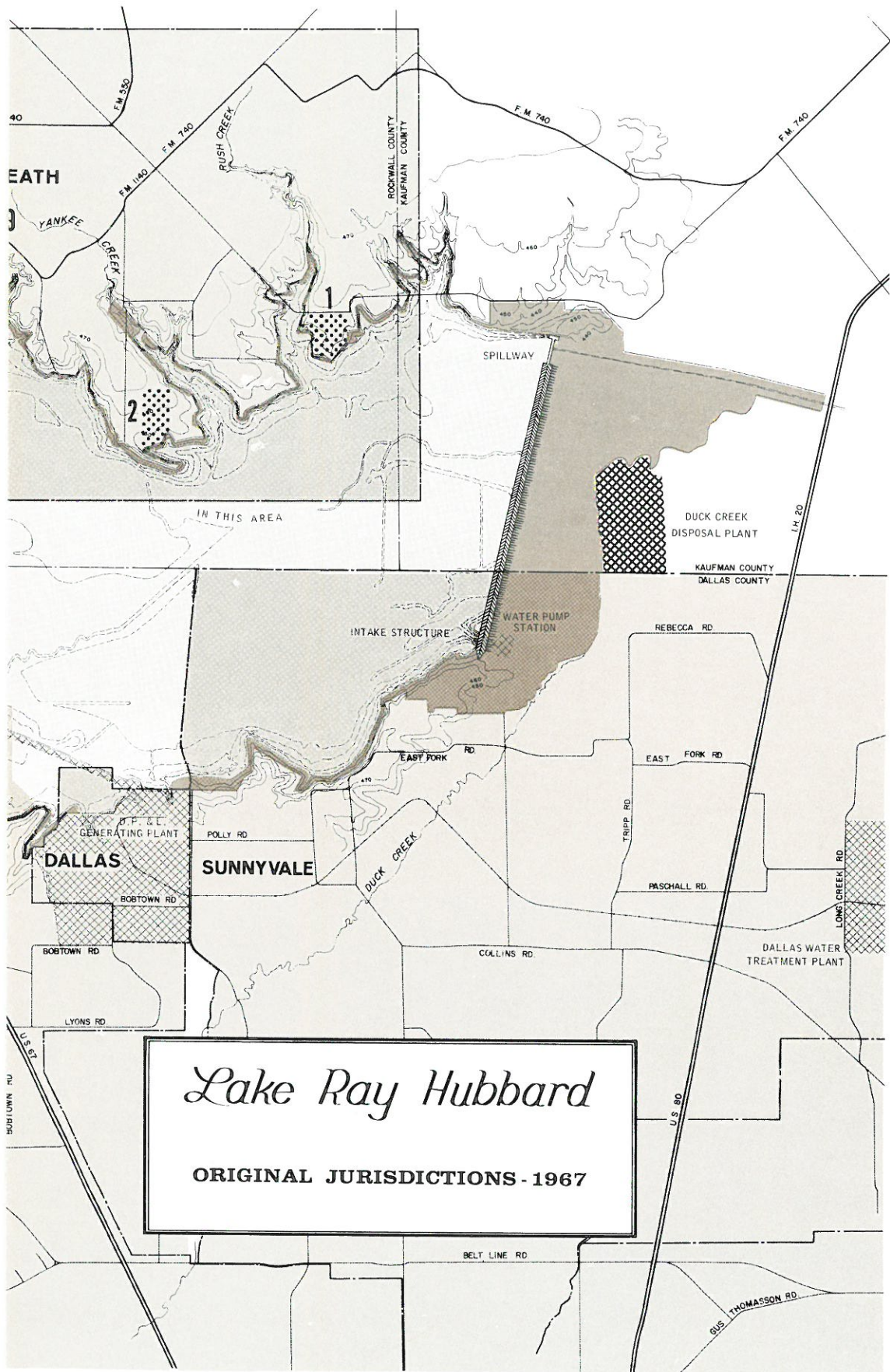
The entire Lake has a surface area of 22,745 acres at the 435.5 foot level and a shoreline of 78.4 miles. The depth of the Lake varies from a maximum of 40 feet in the lower portion of the main body to 5 to 10 feet in the tributary arms and upstream. The upstream portions of the main Lake and the tributary arms are very shallow and marsh-like.

Several roads and highways cross portions of the Lake with two major east-west highways, Interstate Highway 30 and State Highway 66, extending across the entire reservoir on a combination of earthen embankments and bridge structures. The two tributary branches are crossed by several Dallas County thoroughfares such as Rowlett Road and Miller Road. A number of county roads existing prior to the reservoir construction were terminated by the Lake and create points of access to the water and shore areas.

The several embankments and bridges across portions of the Lake divide the water surface into varying size areas of differing characteristics. All of the bridges have vertical and horizontal clearances adequate to permit the passage of power boats from one area of the Lake to another. Large barges and sailboats with tall masts are the only watercraft which will be confined within the compartmental areas created by the bridges. The division of the water surface by the various bridges plus some utility lines offers a readily identifiable way of designating specific use areas for different types of water activity.

JURISDICTIONAL CHANGES AND AGREEMENTS - The changes which have recently occurred in the municipal jurisdictions are important to an understanding of many of the conditions which are found on and around Lake Ray Hubbard. The arrangement of jurisdictional boundaries on and around Lake Ray Hubbard at the time the reservoir was completed is shown by Plate 1.

The county lines which divide the Lake Ray Hubbard area are fixed and have not been changed. The eastern part of the dam and a small portion of the reservoir are in Kaufman County while the western part of the dam is in Dallas County. About one-half of the reservoir below Interstate Highway 30 is in Dallas County and both the Muddy Creek and Rowlett Creek arms of the Lake are also



Lake Ray Hubbard
ORIGINAL JURISDICTIONS - 1967

entirely in Dallas County. The preponderance of the main body of the Lake is in Rockwall County. The most northerly (upper) end of the Lake extends into Collin County. The county lines as they exist are considered to be fixed and no change is contemplated. The Counties' jurisdiction is significant relative to thoroughfare access and subdivision control along the unincorporated portion of the shoreline.

At the time of completion of the reservoir, Dallas owned all of the water area plus a variable width strip of shore area between the take line and the water surface. The water surface area was within the corporate limit lines of six cities and the unincorporated areas of four counties. Sunnyvale and Heath extended into the lower portion of the Lake. Garland covered an area around the Interstate Highway 30 bridge on the west side and extended up Rowlett Creek. Rockwall's corporate limits extended westward into the lake area and Dallas had jurisdiction over a small area owned by Dallas Power and Light Company and located between Sunnyvale and Garland on the west shore. The Dallas area was tied to Dallas proper by a narrow annexation strip which extended between Mesquite and Garland. The Dallas municipal area on Lake Ray Hubbard provided the basis for later expansion of the City's control over the water surface. All of the Muddy Creek arm and about one-half of the Rowlett Creek arm of the Lake was located in Rowlett. On the east shore around and above Interstate Highway 30, Rockwall's jurisdiction extended into the main body of the Lake.

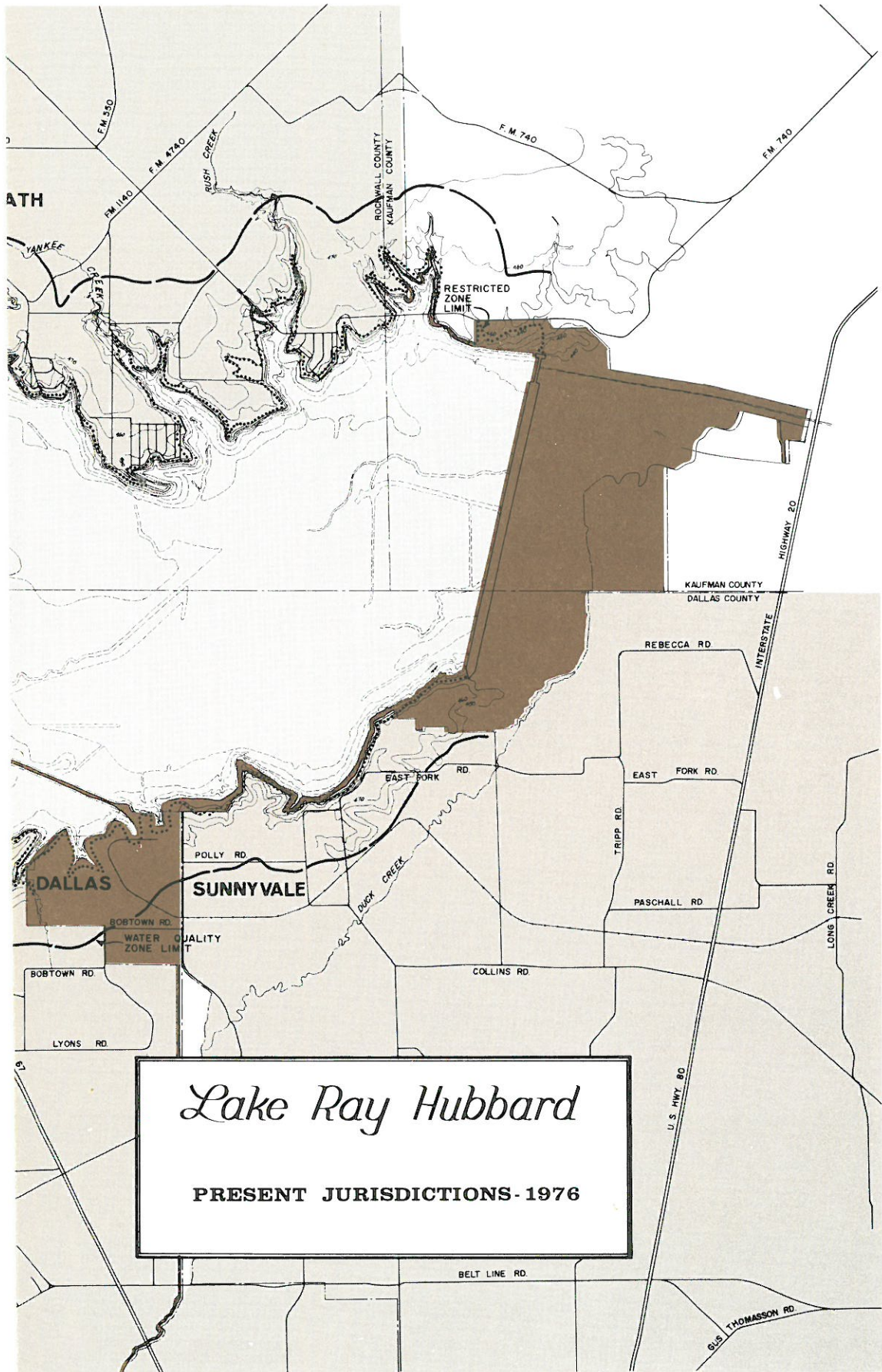
The problem of regulating the use of the water and shore area of Lake Ray Hubbard with the complex jurisdictional problem created by original arrangement of county and municipal boundary lines is obvious. It was recommended that an attempt be made to adjust the municipal boundaries shown by Plate 1 to achieve an arrangement which would facilitate the policing and maintenance for recreational use, as well as to protect the primary water supply function of the facility.

In April, 1975, through cooperative agreements with the various municipalities involved, the City of Dallas annexed the entire water surface (elevation 435.5 feet) and that portion of the Dallas owned shore to the take line (approximately 441 feet elevation) not located in any other municipality. The adjusted municipal boundaries are shown by Plate 2. The changes in municipal boundaries resulted in the following:

1. The entire 22,745 acre water surface (at 435.5 foot elevation) was placed within the municipal limits of Dallas.
2. An additional 2,217.7 acres of shore, owned by the City of Dallas and located outside the other municipalities, were annexed to Dallas and the annexation included the Dallas owned shore area in Sunnyvale, which was relinquished by Sunnyvale.
3. The remaining shore area which was retained by the other municipalities included, (1) Rowlett - 609.7 acres, (2) Garland - 597.7 acres, (3) Heath 471.3 acres and (4) Rockwall - 231 acres.

In December, 1975, the City Council of the City of Dallas passed an ordinance entitled Rules and Regulations, Lake Ray Hubbard, and thereby established control over the recreational and related use of the water surface and shoreline. The Rules and Regulations cover a wide range of activities and uses related to the Lake. Restricted areas are established for safety and protection of the primary water supply function. Construction on or alteration of the lake shore is prohibited without written authority. The use of firearms and the anchoring or operation of houseboats is prohibited. Fishing is restricted or prohibited in certain areas and commercial fishing, except by approved contract, is not permitted anywhere.

Provisions are made for the impoundment of personal property abandoned or left unattended at the Lake. Written authority is required for any diversion of water from the Lake. Hunting is prohibited and camping is restricted to designated areas. Picnicking may be prohibited in certain designated areas and the conduct of special events and programs require a written permit from the Director of Parks and Recreation. Motor vehicle operation on the lake shore is restricted to facilities established for such use and at posted speeds. The provisions of the Texas Water Safety Act with some local additions apply to boat operation. Boats must be moored or stored at authorized facilities such as approved marinas. Engaging in or soliciting any business or gambling are prohibited except for limited use permits such as approved marinas. Responsibilities are established for approval of certain facilities and the enforcement of regulations on the Lake.



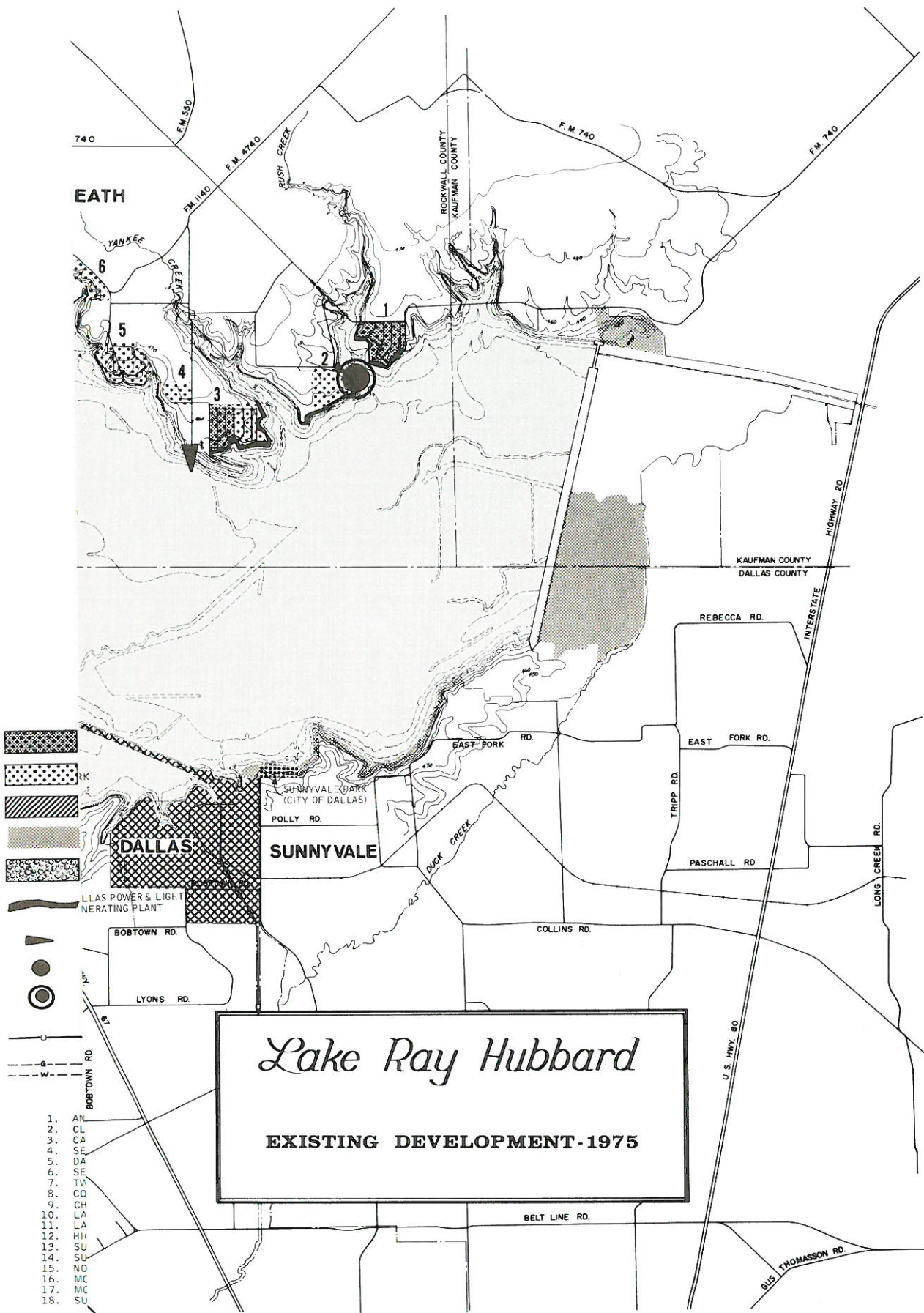
For the first time since the construction of Lake Ray Hubbard, a comprehensive set of regulations has recently been applied to the entire lake surface by a single enforcing agency, the City of Dallas. Experience with the Rules and Regulations for Lake Ray Hubbard has been brief and continued experience may provide a basis for some additions or modifications. It should be recognized that some conditions existing in the lake shore area, which are contrary to the recommendations of the earlier Recreational Plan, came into being during a period of complex and confused jurisdiction and the ability of the City of Dallas to enforce the needed standards of use has only been recently established.

In working out the cooperative adjustment of jurisdictions on and around Lake Ray Hubbard, lease agreements covering the lake shore area within the limits of the several cities surrounding Lake Ray Hubbard were established in contract form. Each municipal lessee agreed to specific conditions outlined in the contracts with the City of Dallas. The lease agreements in all but one case (Sunnyvale) grant the municipalities the authority and responsibility to develop and control the lake shore for public recreational use. Approval of all facilities constructed on leased lake shore is required from the City of Dallas under joint approval of the Park and Recreation Board and the Dallas Water Utilities Department. By the provisions of the contracts, the municipalities may collect a franchise fee from approved recreational facilities, such as marinas, and deposit such funds in the General Fund to assist in offsetting recreational development and operating costs. The initial intent was that the lake shore property should remain open and available to the general public and this concept is clearly stated in all lease agreements. Some existing conditions raise questions as to whether the provisions for public access have, in all cases, been adhered to by several of the municipalities. Another important jurisdictional change affecting Lake Ray Hubbard was established in 1971 by the Texas Water Quality Board which created a Restricted Zone and a Water Quality Zone around the Lake and designated the North Texas Municipal Water District with offices at Wylie, Texas, as the administrative agency for rules and regulations related to the control of sewage in the applicable areas. The Texas Water Quality Board Order No. 71-0917-12 establishes a Restricted Zone within the 442 foot contour or within 200 feet of the 435.5 foot contour whichever is greater and a Water Quality Zone delineated by a line parallel to and 2,000 feet from the outer boundary of the Restricted Zone (See Plate 2). The construction or location of sewerage facilities within either Zone is

restricted and regulated by the North Texas Municipal Water District and all organized sewage systems are subject to valid waste control orders of the Texas Water Quality Board. Subdivisions within the Water Quality Zone must be served by an organized and approved sewage system or if lots are served by septic tanks they must contain a minimum area of one acre. Exceptions are granted to subdivisions existing prior to July 1, 1971, but licenses are required for all septic tank installations and such licenses are limited to a period of two years in the Restricted Zone and to five years in the Water Quality Zone.

The application of the Texas Water Quality Board's regulations and their administration by the North Texas Municipal Water District has tended to restrict most recent subdivision development to areas which can be served by organized municipal sewerage systems. Unfortunately, a number of subdivisions existed around Lake Ray Hubbard prior to the application of the Texas Water Quality Board's order and the earlier subdivisions remain as sanitation problems and many of them are designed to restrict public access to the shore area. The physical and sanitation problems created by several of the early subdivisions are not likely to be easily solved.

In addition to the sanitation control exercised by the North Texas Municipal Water District over the land around Lake Ray Hubbard, the several municipalities and counties have both direct and extraterritorial jurisdiction over all of the land surrounding the Lake. By the existing arrangement of municipal jurisdictions and through agreements with the other municipalities, Dallas has little opportunity to exercise direct control over the subdivision of land adjacent to the Lake. The arrangement of streets, access and private development adjacent to the Lake has become the direct responsibility of municipalities adjacent to the Lake. In the unincorporated areas around the Lake, the extraterritorial platting control of the adjacent municipalities applies to part of the area and beyond their extraterritorial jurisdiction platting control is the responsibility of the County in which the land is located. It appears that a potential for the exercise of extraterritorial platting jurisdiction by Dallas may exist along a small strip of the east shore north of Rockwall. The jurisdictional authority overlaps that of Rockwall and would require negotiation. The area in question is remote from Dallas, on the east shore of the Lake and could most conveniently be handled by the City of Rockwall.

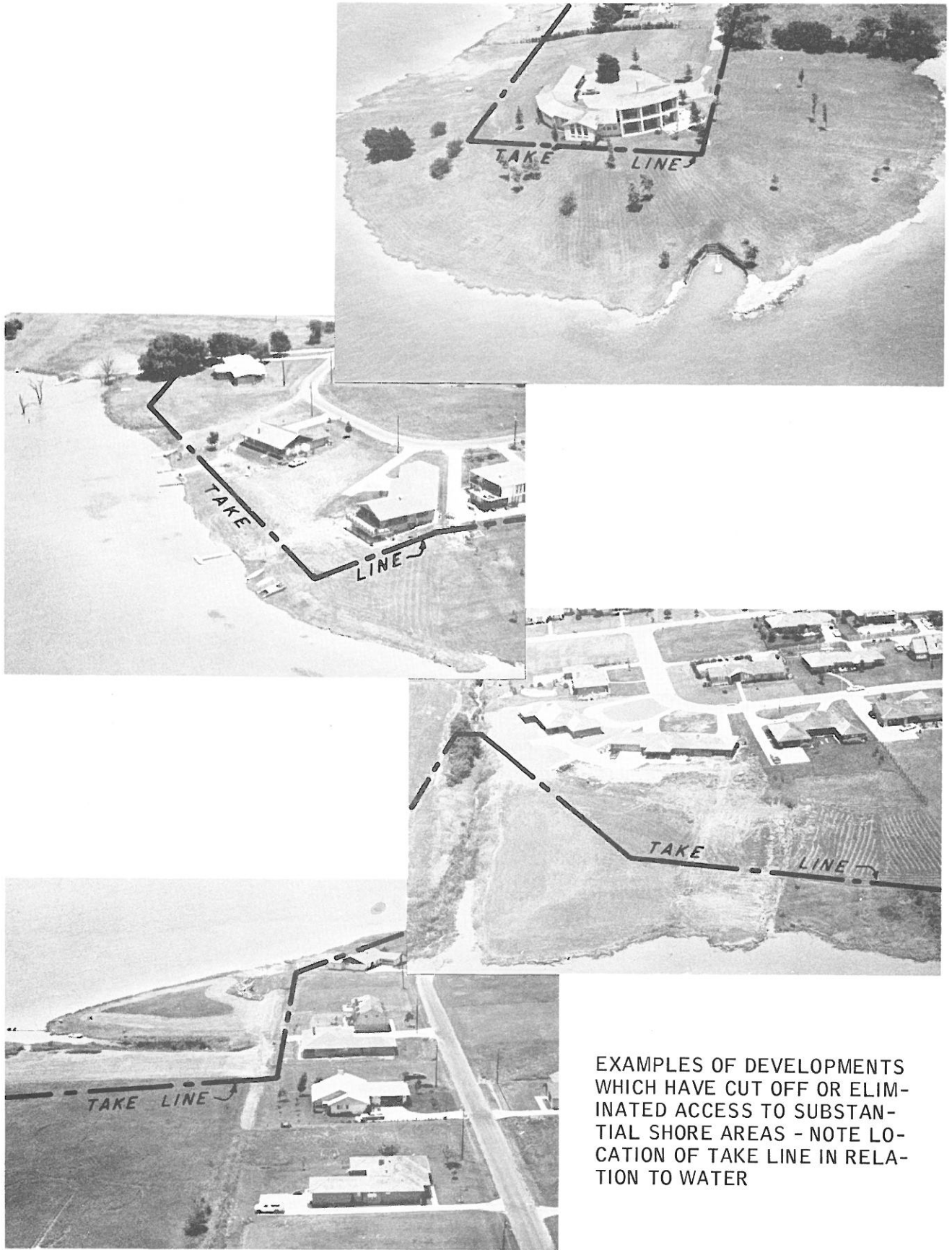


It is apparent that the achievement of a reasonable relationship between the public shore area around the Lake and private urban development is dependent upon the cooperation of the municipalities exercising municipal control over the developing areas.

The provisions of the existing lease and use agreements for Dallas owned shore area within the various municipalities should be examined as a basis for achieving an understanding as to the acceptable standards of public access to be provided as land adjacent to the Lake develops.

EXISTING LAND USE AND DEVELOPMENT CONDITIONS - The status of development around and on Lake Ray Hubbard as of mid-1975 is shown by Plate 3. It was indicated by the 1967 Plan that Lake Ray Hubbard would tend to attract urban development and would eventually become a lake in an urban setting. The degree to which urban change and related development has taken place is illustrated by Plate 3. Among the various existing development features are the following:

1. RESIDENTIAL SUBDIVISIONS - From a survey of the entire lake shore, a total of 39 residential type developments were identified. The nature and quality of the developments vary widely and range from vacant subdivisions with unsurfaced streets to well developed townhouse and condominium projects containing several hundred dwelling units. Nearly all of the housing constructed around the Lake is of the permanent home type as contrasted to weekend type cabins. The various developments are identified on Plate 3 by number. Thirteen of the identified developments were recognized as having been started prior to the 1967 Plan and 26 developments have been started since 1967. The early developments are identified on Plate 3. In all of the early developments, except one, little or no provision has been made for public access to the shore area and in a number of cases there has been obvious attempts to block public access and take over the shore area (See Photographs). Most developments which have been started since 1967 have followed the pattern of the earlier subdivisions and have failed to provide the needed access routes or have directly cut off access to the shore. Some exceptions to the practice of arranging the street system so as to eliminate access to the shore exist. The Bay Island development in Garland has provided a shore drive. Lake Ray



EXAMPLES OF DEVELOPMENTS WHICH HAVE CUT OFF OR ELIMINATED ACCESS TO SUBSTANTIAL SHORE AREAS - NOTE LOCATION OF TAKE LINE IN RELATION TO WATER

Hubbard Parkway and Cove Ridge Estates has a lake side drive (See Photographs). Chandlers Landing Community Development Plan provides for public access to the marina and to a shore side shopping village which is intended to contain a water side promenade. The various developments are listed as follows:

- | | |
|---|--|
| 1. Antiqua Bay | 20. Lake North and Esquire Lane Estates |
| 2. Club Estates and Rush Creek Marina | 21. Subdivision (name unknown) |
| 3. Candlelite Park | 22. Point Royal Estates |
| 4. Seabolt Addition | 23. Chantilly Bay |
| 5. Darr Estates | 24. Subdivision (abandoned dwellings) |
| 6. Secluded Shores and adjacent development | 25. Stone Meadow Estates |
| 7. Twin View Village | 26. Mobile Home Park |
| 8. Cove Ridge Acres | 27. Shady Acres |
| 9. Chandlers Landing and Marina | 28. Lakeview Meadows |
| 10. Lakeside Village and Marina | 29. Mobile Home Park |
| 11. Lakeshore | 30. Rowlett Ranch Estates |
| 12. High Ridge Estates | 31. Flamingo Drive |
| 13. Subdivision (name unknown) undeveloped | 32. Lakeview Estates (Edgewater Beach Estates) |
| 14. Subdivision along County Road | 33. Miller Heights Drive |
| 15. North Bay Estates | 34. Wind Ridge Estates |
| 16. Mobile Home Park | 35. Hillside Harbor Estates |
| 17. Mobile Home Park | 36. Candlestick Cove |
| 18. Sunrise Beach Estates | 37. Strip Subdivision |
| 19. Mobile Home Park (Malabar Estates) | 38. Bay Island and Cape Colony |
| | 39. Captain's Cove and Marina |

Most of the earlier subdivision developments occurred before the cities could exercise regulatory control and before several of the cities had established effective regulations. Presently, all the municipalities surrounding Lake Ray Hubbard have zoning and subdivision control ordinances and are in a position to exercise more effective control over the use and arrangement of land adjacent to the lake shore. In view of the nature of the license agreements between the City of Dallas and the other municipalities around Lake Ray Hubbard, there is an agreed upon commitment by each city "to assume the duties and obligations of policing, supervising and operating a public park located on such premises". The question is raised whether, when a city, through its development



SHORE DRIVE CREATED BY ACCESS PRESSURE INDICATING NEED FOR INCREASING THE SHORE AREA AVAILABLE TO THE PUBLIC



BAY ISLAND

COVE RIDGE

SHORE DRIVES WHICH PROVIDE ACCESS TO THE SHORE AND A VIEW OF THE LAKE



control of private property, permits the platting of subdivisions in a manner which blocks public access to the licensed shore area, is complying with the conditions of the license agreement? It is imperative that a clarification of the intent and the meaning of the various license agreements be achieved with the purpose of assuring that reasonable public access to the shore area is provided and protected in the future.

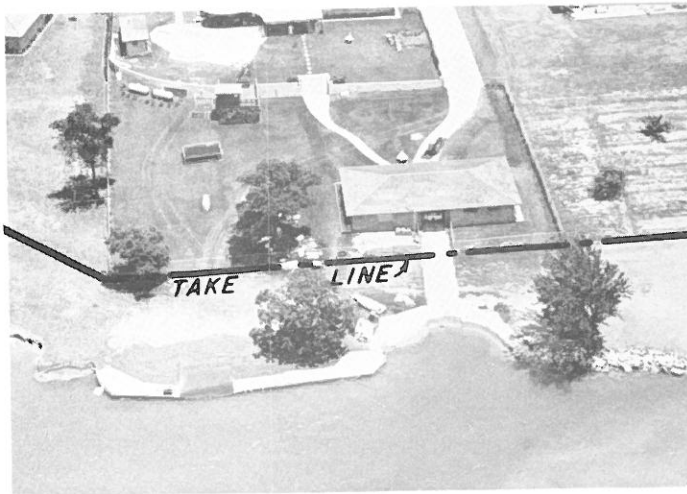
2. ENCROACHMENTS - Examination of the photographs showing blocked access to the shore area will also indicate typical private encroachments on the Dallas owned land. The encroachments are of two types; (1) authorized and (2) unauthorized. At some locations for drainage control and shore protection, construction has been permitted by the Water Utilities Department. In other locations, construction of boat launching areas, boat slips, docks, retaining walls, terraces and boat storage facilities has occurred as direct encroachments which represent an unauthorized use of City of Dallas land (See Photographs).

The intent of the authorized encroachments in the form of drainage flumes has been to permit the stabilization of the lake shore and control erosion from both wave action and storm water drainage into the Lake. The shore of the Lake obviously slopes to the water in all areas and rain falling on the shore drains to the Lake. Where there is a substantial concentration of water, such as in a natural draw, some stabilization of the soil and bank can be justified. Where the water concentration results from conditions created by the development of a subdivision or an individual private lot, it is questionable to what extent alteration of the natural shore configuration should be permitted. In many cases, storm sewers should be constructed in lieu of open flumes or ditches. In all cases, the need to move along the public shore by trail, by drive or with emergency equipment or vehicles must be recognized. Many of the existing encroachments would constitute direct barriers to any form of movement along the shore.

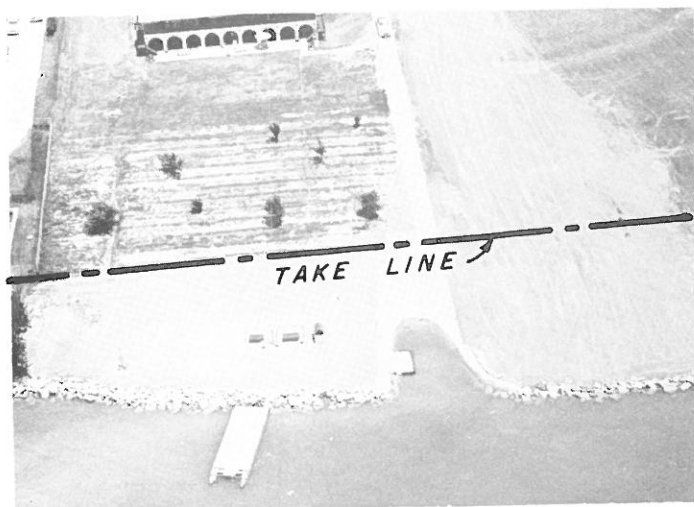
Lake Ray Hubbard is a young reservoir and the shore areas are not fully stabilized and wave action is causing erosion at exposed locations, especially along the west shore



ENCROACHMENT - CONCRETE
BOAT LAUNCHING STRIPS
WERE NOT AUTHORIZED



ENCROACHMENT - SHALLOW
CONCRETE DRAIN WAS
AUTHORIZED BUT BOAT SLIP
AND DOCK WERE NOT



ENCROACHMENT - SHALLOW
CONCRETE DRAIN WAS
AUTHORIZED BUT BOAT SLIP
WAS NOT AND FLOATING
DOCK IS ILLEGAL

and at some locations on the lower east shore. Stabilization of the shore in the eroding areas would be desirable and in some cases adjacent owners have placed stone or concrete riprap along the water line. The Dallas shore area above the water line is of variable width and erosion could reduce or even consume the entire shore area at some locations where the public strip is narrow. A program of shore protection should be considered and private efforts, such as grass sodding and mowing, under controlled conditions could be allowed as part of the program provided such activity did not destroy tree planting and other existing woody plant materials on the shore.

The enactment of the Rules and Regulations for Lake Ray Hubbard in December, 1975, provides a basis for approaching the problem of use encroachments on the shore area. The Water Utilities Department, together with the assistance of the Park and Recreation Board and their lake management and patrol, has undertaken a program of encroachment abatement and, over a period of time, the existing encroachments can be expected to be removed. Some unauthorized encroachments such as excavated boat slips, concrete boat landings or piers will be difficult and expensive to remove; however, the equitable treatment of adjacent landowners will require that a uniform policy of encroachment abatement be firmly pursued.

Provisions of the Rules and Regulations for Lake Ray Hubbard as enacted by the City of Dallas should prevent future encroachments if they are enforced. The provisions of the Regulations state "IT IS THE POLICY OF THE CITY OF DALLAS TO PROHIBIT CONSTRUCTION OF OR MAINTENANCE ON ITS PROPERTY AT LAKE RAY HUBBARD, OF ANY PRIVATE FACILITIES INCLUDING, BUT NOT RESTRICTED TO PRIVATE BOAT CHANNELS, BOAT DOCKS, BOAT HOUSES, BOAT LANDINGS OR ANY PRIVATE ROADWAY OR PARKING AREA OR ANY DWELLING, SHELTER OR OTHER STRUCTURE OR ANY SANITARY FACILITY". The Regulations further provide that "ANY CONSTRUCTION IN THE WATERS OF THE RESERVOIR OR ON CITY OWNED PROPERTY WILL BE INITIATED ONLY AFTER PLANS FOR SAME HAVE BEEN



ENCROACHMENTS WITH HOUSE ON TAKE LINE



BOAT LANDINGS CUT INTO SHORE AREA

TERRACE CONSTRUCTION EXTENDING ONTO CITY OF DALLAS SHORE PROPERTY



SUBMITTED TO AND APPROVED IN WRITING BY THE DIRECTOR OF PARKS AND RECREATION AND THE DIRECTOR OF WATER UTILITIES. CONSTRUCTION SHALL BE IN ACCORDANCE WITH SUCH PLANS. AT THE DIRECTION OF THE CITY OF DALLAS, PROPERTY WILL BE REMOVED AND THE LAND SURFACE RESTORED EITHER BY THE OWNER OR BY CITY FORCES AND DEMAND MADE ON THE OWNER FOR THE COST THEREOF". Proper enforcement of the provisions of the Rules and Regulations listed should assure that existing encroachments are eliminated and that no further unauthorized encroachments occur. The elimination of existing encroachments and the prevention of future placement of such facilities on the lake shore will assure that the integrity of the Lake Ray Hubbard shore land is protected and that this area will be available for public park use in accordance with the original intent under which shoreline land was purchased.

All actions to authorize any construction on or along the shore area should recognize that public access and use is the intended purpose of a large portion of the shore area and that at least pedestrian circulation and access to all public areas is essential. Structures which block or disrupt access and circulation along the shore must be discouraged.

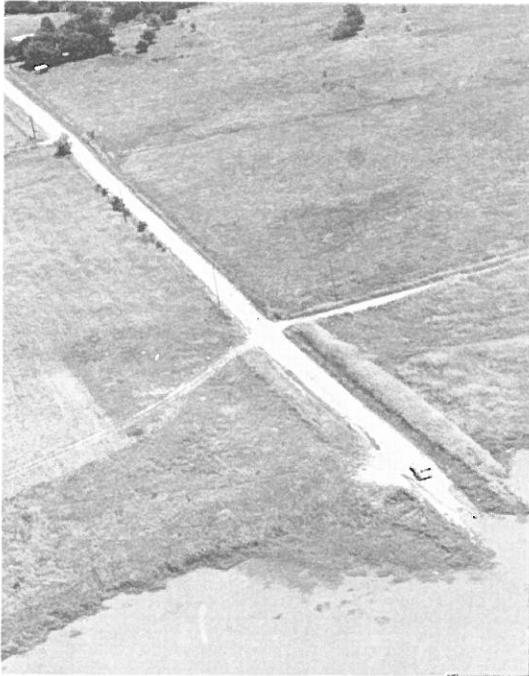
3. IMPAIRED SHORELINE - The areas where existing development or encroachments have impaired the shoreline for public use are shown by Plate 3. About 10 percent (7.6 miles) of the shoreline has been impaired by existing development. At the present time, only the shorelines in Garland and that in Sunnyvale are considered generally free from impairment though one small area of impaired shore does exist in Garland. All the other cities around the Lake have substantial strips of impaired shore. Garland has retained its portion of the shore fairly free of impairment and has started development of public park areas including some lake side drives. The Sunnyvale shore was relinquished to the City of Dallas and no development has taken place along it.

The most serious shore impairment feature is considered to be the blocking of access

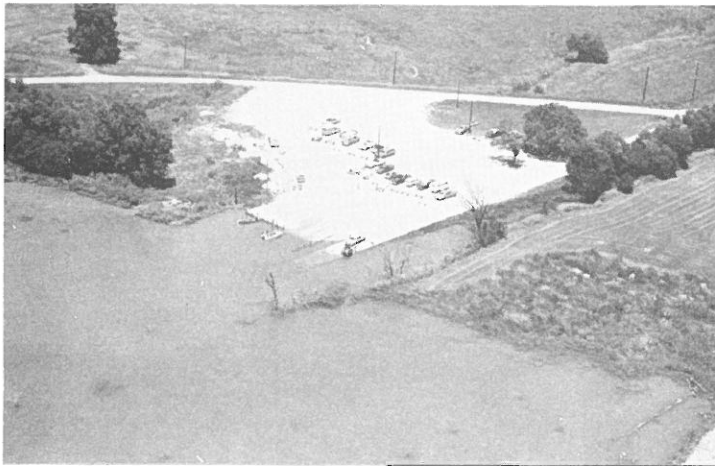
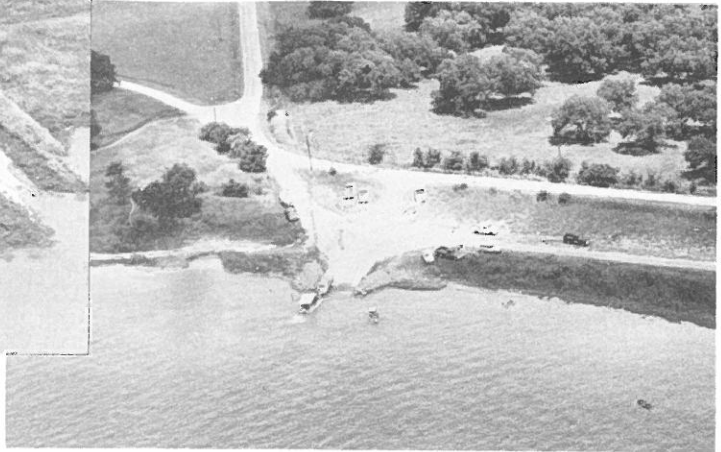
by the manner in which streets and lots are platted. Encroachments can be removed but the street arrangements which completely eliminate all forms of public access are obviously intended to attempt to restrict the shore area use to the adjacent owners. In many cases, the arrangement appears to be practically an attempted taking of the shore area for private use. To overcome the problems of restricted or eliminated access to the shoreline would likely involve the condemnation of access routes through existing developments. It is recommended that an agreement as to the minimum standard for access to the shore area in new subdivisions be worked out with the interested cities to assure that impairment of the shoreline does not continue. In many cases, drainage across the City of Dallas property is involved and access points should be worked out with all drainage agreements. Another basis for working out reasonable access standards appears to be the license agreements for the shore area which exist with all cities except Sunnyvale.

4. LEASED SHORE AREA - Provision is made in the Rules and Regulations for the lease of portions of the shore area for agricultural, grazing or other purposes. The areas involved in such lease agreements as of December, 1975, are shown by Plate 3. All leases are subject to immediate cancellation except one. A total of 1,285.79 acres of land is involved and the individual leased parcels range from 2.16 acres to 650 acres. The larger agricultural land leases exist at the lower portion of the reservoir (below the dam) where a total of 445 acres is involved in two tracts and at the upper shallow end of the reservoir where 650 acres in two tracts are involved. The remaining 190 acres consist largely of a series of small shore strips, some of which have questionable agricultural value. In one case, a 13 acre lease involves the shore area of an entire peninsula which has public access by an existing county road and a boat launching ramp which needs parking area.

Most leases, as they presently exist, represent a moderate source of income to the Water Utilities Department and a productive method of maintaining the area involved. The largest lease, located on the upper shallow end of the reservoir, is in an area



EXISTING AND POTENTIAL BOAT LAUNCHING RAMP WHERE COUNTY ROADS TERMINATE AT THE WATER'S EDGE



ROCKWALL BOAT LAUNCHING RAMP

A GARLAND BOAT LAUNCHING RAMP



proposed for development and protection as a wildlife sanctuary and a gradual phase-out of the lease is anticipated. It can be anticipated that other leases will be added or terminated from time to time. It will be desirable to review each new lease and each lease renewal in light of the growing needs for recreational shoreline and to base the action upon such need as it exists at the time of consideration.

5. BOAT LAUNCHING RAMPS - Seven of the 16 boat launching ramps proposed by the 1967 Development Plan for Lake Ray Hubbard have been created. Two of the launching ramps were developed by Garland, one was created by Rockwall, three were part of the development of Elgin B. Robertson Park by the City of Dallas and one launching ramp was created in Heath by the modification of the Barnes Bridge Road termination at the Lake. The two ramps in Garland and one in Rockwall were achieved through financing assistance and agreement with the Bureau of Outdoor Recreation through the Texas Parks and Wildlife Department.

The existing boat launching ramps are of generally good quality and all but one have surfaced vehicle parking areas. A number of points where county roads are terminated at the water's edge still offer opportunities for additional boat launching facilities and some are presently being used in an informal manner for launching (See Photographs). Observations during the heavy use period of July, 1975, indicated a need for additional launching ramps and the future plans should include locations to permit at least doubling the present number of boat launching ramps. The points of contact with the shore where boat launching ramps are created could also serve as connections to pedestrian, bicycle or bridle trails along the shore.

6. MARINAS - Eight marinas are located on Lake Ray Hubbard of which four are located in accordance with proposals of the 1967 Plan and four others represent modifications of the locations proposed earlier. The original proposals for the development of the Lake included a total of eight marinas. One additional marina proposed by the original plan has been approved but construction has not started. The existing marinas are



CHANDLER'S LANDING MARINA
SHOWING EXPANSION SPACE
BEHIND BREAKWATER



LAKESIDE VILLAGE MARINA
ACCESS IS SEPARATED FROM
THAT OF RESIDENTIAL DEVELOPMENT



CAPTAIN'S COVE MARINA

listed as follows along with the city in which they are located and the reported capacity as of February, 1976.

	<u>Name</u>	<u>Location</u>	<u>Boat Storage Spaces</u>
1.	Captain's Cove	Garland	480
2.	Chalet Bay	Garland	104
3.	Chandlers Landing	Rockwall	180
4.	Dalrock (Elgin B. Robertson Park)	Dallas	144
5.	Eastern Hills Country Club	Unincorporated	52*
6.	Lakeside	Rockwall	133
7.	Point Royal	Dallas	248
8.	Rush Creek	Heath	54
9.	Crow-Coker (construction not started)	Rockwall	100**

Total available spaces excluding Eastern Hills and Crow-Coker 1,343

Note: Eastern Hills is a private club - marina and is located on City of Dallas land and the club area is in an unincorporated portion of Dallas County.

Rush Creek Marina is a private club with a marina franchise.

The number of storage spaces includes covered slips, uncovered slips, mooring stations and land storage.

* Eastern Hills Marina capacity estimated.

** Crow-Coker Marina not built.

A telephone survey of the existing marinas, excluding Eastern Hills, in February, 1976, indicated that 882 of the 1,343 boat storage spaces were rented, providing an overall occupancy of 65.7 percent. Dalrock Marina reported the highest occupancy with 83 percent of its spaces rented. Further investigation indicated that some vacant spaces were for specialized use such as very large boats. One marina reported a demand for more space but had a problem of financing new facilities at the present time.

The eight marinas existing, and one approved but not started, appear to be capable of providing adequate service except, possibly in some specialized areas. Some marinas were constructed with the intent to expand with demand. Chandlers Landing Marina, for example, has a breakwater enclosing a substantially larger area than is actually

presently developed. The design obviously anticipates expansion within the protected water area.

The location and expansion of marina areas, including the plans for such facilities, require the approval of the Department of Water Utilities and the Park and Recreation Board of the City of Dallas. It is essential and desirable that standards for the approval or disapproval of marina sites and expansion be established to assure uniform treatment and that the public will be adequately served. The maximum size to which any one marina would be permitted to expand must be one of the standard considerations.

The quality of the existing marinas varies widely from well constructed, well maintained facilities to incomplete construction and poor housekeeping. The fact that the marinas are located on City of Dallas land should provide a basis for periodic inspection and requirements for orderly housekeeping by lake management and patrol personnel.

7. EXISTING PARKS - Three specific park areas have been established on Lake Ray Hubbard with the largest being Elgin B. Robertson Park which contains 250 acres and which is owned and operated by the Dallas Park and Recreation Department. Sunnyvale Park is a small area on the lower west shore also under the jurisdiction of the Dallas Park and Recreation Department. The third park area is under development by the City of Garland on licensed land along the west shore of the Rowlett Creek arm of the Lake. No park areas on the lake shore have, as of yet, been established by Heath, Rockwall or Rowlett and Sunnyvale has relinquished all the shore area along its boundary to the City of Dallas' jurisdiction. Many portions of the lake shore are being used where no specific park designation exists. Points where utility lines or terminated County roads touch the shore area are the primary points of use and fishing is the principal activity involved.

The most prominent and centrally located park on Lake Ray Hubbard is Elgin B. Robertson Park which is located on a peninsula between the Rowlett - Muddy Creek arms and the main East Fork portion of the Lake. The park area is divided by Interstate

Highway 30 and access from the highway is by the Dalrock Road interchange. The location, on a peninsula, provides Elgin B. Robertson Park with a long shoreline and consequently much exposure to the water. The substantial water exposure of the park area provides many opportunities for water oriented recreation.

The development plan for Elgin B. Robertson Park has been partially carried out but changes were made in the land reclamation and grading which will require some changes and additions in facilities and use areas to restore the original concepts and improve the function of the Park. The decision was made to increase the park acreage rather than create raised viewing areas with material excavated from the water area of the Lake prior to the completion of the reservoir. The change altered the relationship between the water and the drive circulation system. While automobiles should not be permitted to intrude upon the shore area, parking areas should be more closely related to the shore. Substantial tree planting is needed to alter the barren appearance of the southern portion of the Park, to provide shade along the water's edge, and to frame views of the Lake. The addition of pedestrian trails would also be a desirable improvement to the Park. The need is apparent for some organized camping areas for short period use (2 to 5 days) on Lake Ray Hubbard. The northern end of Elgin B. Robertson Park, with some expansion, could be developed to meet part of the camping needs. Another type of camping for which some demand has been indicated involves an area suitable for overnight use by Boy Scouts and similarly organized youth groups. A wilder, less structured camp area than would be appropriate in Elgin B. Robertson Park should be better suited to the youth group activity. Elgin B. Robertson Park is now and will continue to be the most important and heavily used park facility on Lake Ray Hubbard and, as such, it is a very important element of the Dallas Park System.

Sunnyvale Park contains about 14.7 acres and is located immediately south of where Barnes Bridge Road terminates on the western shore of the Lake. The Dallas Power and Light Company generating station is directly north of the Park. The park area is in

the Dallas City Limits but the adjacent land is located in Sunnyvale. At present, the development of Sunnyvale Park is largely limited to a parking and turnaround area and temporary restroom facilities. Despite the minimum development, very heavy usage was observed at the Park during the summer of 1975. Sunnyvale Park is most closely related to Dallas proper and is considered to have special significance to Dallas because of the proximity. The adjacent shore area is under agricultural lease but, based upon observed usage, expansion of the recreational area is justified. The expansion of Sunnyvale Park represents one area where the Dallas Park and Recreation Department could assist in providing additional public shore area.

Garland has provided two boat launching ramps, picnicking facilities and related facilities along the west shore of the Rowlett Creek arm. The Chaha Road and Wynn Joyce Boat Ramps are substantially used. The overall plans for shore park development on Garland's licensed land along the Rowlett Creek arm extend from south of Interstate Highway 30 to the upper end of the arm near State Highway 66. The plans include the addition of a campground, hike and bike trails, restrooms, parking areas, picnicking areas, shelters, lighted fishing piers, a shoreline drive and a nature area. Funding of a portion of the park development has recently been achieved and detailed planning for improvements in the funded area is underway.

It is evident that the entire land area in Garland adjacent to Lake Ray Hubbard will soon be entirely urban and the city has taken positive steps to assure the full utilization of the shore area for public park purposes. Garland's action should be an example to the other cities of the type of action and cooperative development intended by the lease agreements.

8. WOODED AREA IN AND ALONG THE LAKE - Lake Ray Hubbard was created by the submerging of the valley of the East Fork of the Trinity River and the two tributary valley arms. Much of the valley area was in bottom land timber when the Lake was built and only partial clearing of trees in the main body of the Lake was accomplished before

inundation took place. The upper shallower portions of the Lake now contain large masses of dead trees. The locations of the major dead tree areas are shown on Plate 3.

The dead trees are now decaying at the water line and toppling into the water. The process of gradual thinning of the dead trees can be expected to continue for several years. The below water stumps and snags remaining after the trees topple will be especially slow to disappear and will likely remain as boating hazards for many years. Fluctuation of the water level of the Lake will periodically expose the dead tree stumps and snags to air and should tend thereby to hasten their decomposition.

The areas of the Lake having large concentrations of dead trees, obviously, have different recreational use potentials than do the open water areas where trees were cleared. The dead tree masses will continue to influence the recreational functions in the various areas of the Lake for many years. As the vegetative life in and around the Lake becomes more stable and adapted to the water conditions, thickets of water tolerant willows and other trees will become established in the shallow areas. The willows and other vegetation will assist the deposition of silt in the shallow upper reaches and thereby encourage the establishment of new wooded areas.

The preponderance of the trees existing in the inundated valleys created by Lake Ray Hubbard were within the water area. Because of the youthful nature of the reservoir, trees have not become established along the water's edge. The planting of trees and encouraging of volunteer tree growth along the water's edge should be a development policy. Effort should be made to achieve a tree-shore relationship at Lake Ray Hubbard similar to that existing around White Rock Lake. Trees at or near the water's edge can also be an effective method of erosion control.

Where trees exist within the shore area strip, they should be preserved. No cutting or removal of tree growth should be permitted except where removal is essential for the primary water supply function or where park development plans make some clearing necessary. Written permission from the Dallas Park and Recreation Department for any

tree removal should be required and all development plans submitted by cities for approval should show existing tree cover and identify any clearing or cutting proposed.

9. THOROUGHFARE ACCESS - Lake Ray Hubbard had a major impact upon the original road and thoroughfare system existing in the area prior to its construction. Interstate Highway 30 and State Highway 66 crossed the valley of the East Fork of the Trinity River prior to the development of the reservoir and both highways were rebuilt to cross the new lake. The two highways represent the only continuous east-west traffic routes across Lake Ray Hubbard though several county roads cross one or both of the two lake arms located in Dallas County.

A number of county roads such as Barnes Bridge Road were disrupted by the reservoir development but few traffic problems resulted from the changes. The Lake was located along the north-south axis of the common Dallas County - Rockwall County line and the existing county road arrangement in the area was initially irregular and discontinuous.

The recreational traffic generated by the Lake has placed new demands upon the highway and road system. Farm to Market Roads 740 and 1140 and State Highway 205, running northward from Kaufman County through Rockwall to an intersection with State Highway 78 near Lake Lavon, provide the basic circulation and access route parallel to the east shore of Lake Ray Hubbard. None of the Highway routes touch the lake shore but are located from one-half to one mile east of the shore. Access routes to the shore must be developed from the Highways and to date very little has been done to achieve such access along the east shore. Most of the subdivisions which have access to F.M. 740 and 1140 have been laid out so as to block public access to the shore.

While the basic circulation route parallel to the east shore offers a fairly readily identified system, the circulation system on the west shore and around the Muddy Creek and Rowlett Creek arms is less defined, though a number of thoroughfare improvements have been made in the area by Dallas County.

Dalrock Road extends north from Interstate Highway 30 and represents the most important and direct circulation route on the west bank to a point just north of State Highway 66. A very irregular road arrangement exists north of State Highway 66 in both Rockwall, Dallas and Collin Counties. Improvement of the irregular road arrangement north of State Highway 66 along the west shore will require the cooperation of Dallas, Rockwall and Collin Counties as well as the cities of Garland and Rowlett.

The upper end of the reservoir area is bounded by State Highway 78 and this highway provides a tie between the parallel route to the east shore and any improved route along the west shore to create a circulation route around the end of the Lake.

In the City of Rowlett, Chiesa Road, Princeton Road and Liberty Grove-Kirby Road provide a loop around the Muddy Creek arm with connections to other roads in the area which are important to Lake Ray Hubbard access such as Miller Road, Rowlett Road, Dalrock Road and State Highway 66. Circulation around the Rowlett Creek arm of the Lake is less complete and will be difficult to improve. No existing roads other than Dexham Road between State Highway 66 and Miller Road exist along the north side of the Rowlett Creek arm. The Eastern Hills Country Club constitutes a barrier to the development of any continuous thoroughfare parallel to the shore on the south side.

Garland has planned the extension of Lakeside Drive along a portion of its developing park area and Zion Road provides access along the shore westward from Chaha Road. Garland has also provided Lake Ray Hubbard Drive along the shore from the eastern end of Chaha Road.

Some improvement of the irregular north-south road alignment through Sunnyvale to Interstate Highway 20 has been provided. The combination of East Fork Road, Polly Road and Bobtown Road provides an irregular route between Interstate Highways 30 and 20 along the lower west shore of the Lake.

The recreational traffic around Lake Ray Hubbard can be expected to increase as more

recreational facilities are provided and as urban development around the lake shore continues. The major approach to Lake Ray Hubbard from Dallas is by Interstate Highway 30 and it appears unlikely that additional high capacity thoroughfares will be added to the present highway system. The only additional freeway type thoroughfare likely to be constructed in the vicinity is the proposed east leg of State Loop 9. The approved routing of Loop 9 provides a crossing of the Rowlett Creek arm of the Lake along a general north-south alignment in the vicinity of the existing Rowlett Road Bridge. If constructed, the Loop 9 route would provide a high capacity traffic distributor along the west shore. There is, however, a question as to whether the east leg of Loop 9 can be financed and constructed.

It will be desirable, through the cooperation of the various counties and cities involved, to seek to improve the convenience of access by major arteries around the Lake. Improvement of the Dalrock Road interchange at Elgin B. Robertson Park is an example of an improvement which could be directly influenced by the Dallas Department of Parks and Recreation.

10. UTILITY LINES - The locations of four electric transmission lines, a main water line and a gas line crossing Lake Ray Hubbard in the vicinity of the State Highway 66 bridge and northward are shown by Plate 3. No serious obstruction to recreational development or use appears to result from the utility line crossings. In some situations, the utility lines offer an opportunity for the visual identification of use areas. It appears, for example, that the City of Garland electric transmission line crossing in the vicinity of the Collin-Rockwall County line could provide a readily identifiable southern boundary for a proposed wildlife area.
11. EXISTING LEVEL OF RECREATIONAL USE - Observations were made during weekends in July, 1975, of the level of use at Lake Ray Hubbard. Observations and photographs taken from a helicopter provided a method of evaluating the use. During peak use periods in late afternoon of weekends, the existing facilities were being utilized to

capacity. For example, on one 3,300 foot stretch of drive in the southern portion of Elgin B. Robertson Park, 140 vehicles were counted and over 90 percent of the vehicles were parked along the drive's edge. The vehicle density amounted to one automobile for each 23.5 linear feet of drive (an almost solid line of vehicles).

The accompanying photograph illustrates the heavy use of the shore area observed at Sunnyvale Park.



The use observations indicate a developing deficiency of available shore area for use by the general public. During peak use periods the present deficiency of available shore area is considered to be critical. Numerous conditions were observed where large groups of people and vehicles had crossed private fields to reach the shore. It is obvious that a direct conflict is arising between the demand for public shore area and the obstruction of access or direct appropriation of the shore area by private residential developments.

The provision of more shore area accessible to the general public is one of the most pressing recreational needs at Lake Ray Hubbard. Under existing conditions, the Dallas Park and Recreation Department can meet only a portion of the growing space needs. Cooperation of all jurisdictional agencies will be required to fully develop the recreational potential of Lake Ray Hubbard.

EXISTING PARK AND RECREATIONAL RESOURCES

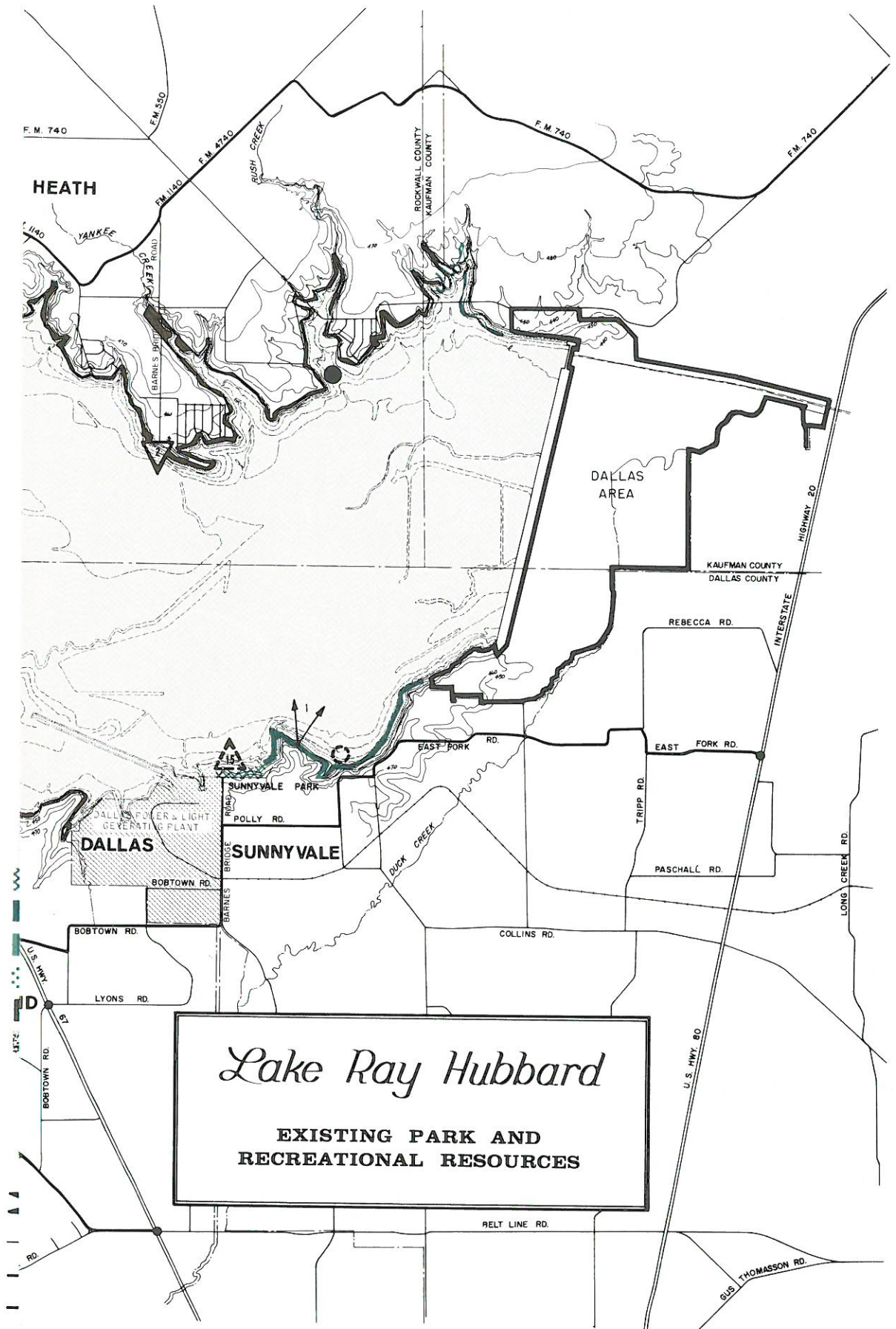
The development of the full recreational potential of Lake Ray Hubbard will result only from a continuing cooperative effort by all of the municipalities, counties and other agencies having jurisdiction, obligations and responsibilities for achieving such full development. Many of the recreational resources have been at least partially developed or made available and these were identified in the preceding section. A number of additional, yet undeveloped or unopened, recreational areas and facilities were included in the 1967 Plan. Many of the proposals outlined in the earlier plan are still valid and changes and experience have indicated others. As a basis for a Proposed Plan for the Cooperative Recreational Development of Lake Ray Hubbard, an evaluation of the park and open space resources of the Lake and shore area is included in the following and Plate 4 shows the location of the various resources and facilities.

WATER AND SHORE AREA - The major open space and recreational resource is created by the 22,745 acres of water surface at normal water elevation. While the nature of the water surface varies in different parts of the Lake, the differences provide opportunities for a wide variety of active and passive water oriented activities.

The lower part of the Lake, below the Interstate Highway 30 bridge, is from 2 to 3.6 miles wide and provides a large, generally unobstructed water surface. The open nature of the lower part of the Lake makes it appropriate for all types of boating, except small craft, and for other water sports. Any competitive water sports events such as boat races should be confined to the wide lower portion of the Lake.

The wide and open nature of the lower part of the Lake makes it subject to the most severe wind disturbances. During periods of heavy winds, water-skiers usually seek more protected areas north of the Interstate Highway 30 bridge and causeway. To accommodate water-skiers who desire a more protected water surface, two areas above (north) of the Interstate Highway 30 bridge, which are generally clear of tree hazards, could also be used for water-skiing.

The Rowlett Creek arm, the upper Muddy Creek arm and the main East Fork section of the Lake from



Lake Ray Hubbard
**EXISTING PARK AND
 RECREATIONAL RESOURCES**

about one mile north of State Highway 66, including lower areas where substantial dead trees and snags exist, are more appropriate for smaller boats and fishing. Unless a plan for use of the water surface of the Lake is adopted, there is likely to be pressure for dead tree, snag and stump removal and, because of the expanse of water where such conditions exist, a removal program could be costly.

A total of 4,217.4 acres of shore area is available on Lake Ray Hubbard for park and open space development and use. Elgin B. Robertson Park is the largest park presently existing in the shore area. As the population of the Dallas area increases and urbanization around the Lake continues, demand for the use and development of shore area will likewise grow. The shore area available represents a major resource to the area for recreational and park expansion. By jurisdiction and agreement, the shore area is divided as follows: (1) Dallas - 53.7 percent, (2) Garland - 14.5 percent, (3) Heath - 11.4 percent, (4) Rockwall - 5.6 percent and (5) Rowlett - 14.8 percent.

MARINAS AND MARINA SITES - The existing marinas and possible future marina sites are shown by Plate 4. The original eight marina site recommendations included in the 1967 Plan recognized generally protected locations in coves and where causeways shielded the sites. Four of the shielded locations have been developed and four others were developed by providing breakwater protection. The most extensive breakwater was constructed for the Chandlers Landing Marina. The investment for an adequate breakwater barrier at exposed locations can be substantial. The Eastern Hills Country Club Marina, which was recognized by the earlier Plan, involves the maintenance of an access channel in shallow water across City of Dallas property. Because of its location, Eastern Hills Marina has little exposure problem but its access problem is a major difficulty which, during periods of low water, will likely isolate the marina from the Lake.

Some protected undeveloped potential marina sites exist as indicated by Plate 4. It should be recognized that attempts may be made to create marinas at unprotected locations by construction of breakwater protection. In the location of all boating facilities, the nature of winds on Lake Ray Hubbard should be recognized.

The utilization of the water surface of Lake Ray Hubbard is influenced by the wind characteristics in

the area. Large bodies of water tend to permit the unobstructed movement of air across their surface and when velocities are high, the lake area can become hazardous for small craft. The location of marinas, launching ramps and other facilities should be determined in recognition of the wind movements.

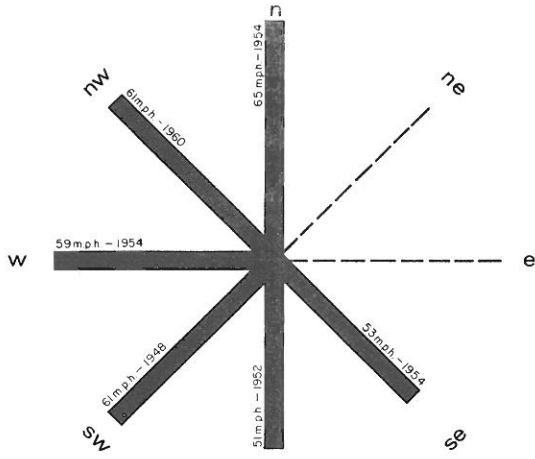
Plate 5 illustrates two important characteristics of the wind in the Dallas area as determined from data obtained from the Environmental Sciences Services of the United States Department of Commerce. One diagram illustrates the direction of the prevailing winds and the other diagram shows the direction and speed of the fastest winds recorded in the area. Each diagram is oriented to the configuration of the Lake for interpretation.

The prevailing winds in the Dallas area are from the south and southeast - as is indicated by diagram A on Plate 5 which shows about 40 percent of the winds from the south-southeast quadrant. The East Fork Valley, which is nearly north-south in alignment, will tend to channel the prevailing winds up the long axis of the Lake. The sweep of the prevailing winds up the Lake is broken to some extent by the embankments and bridges of Interstate Highway 30 and State Highway 66 which cross the Lake.

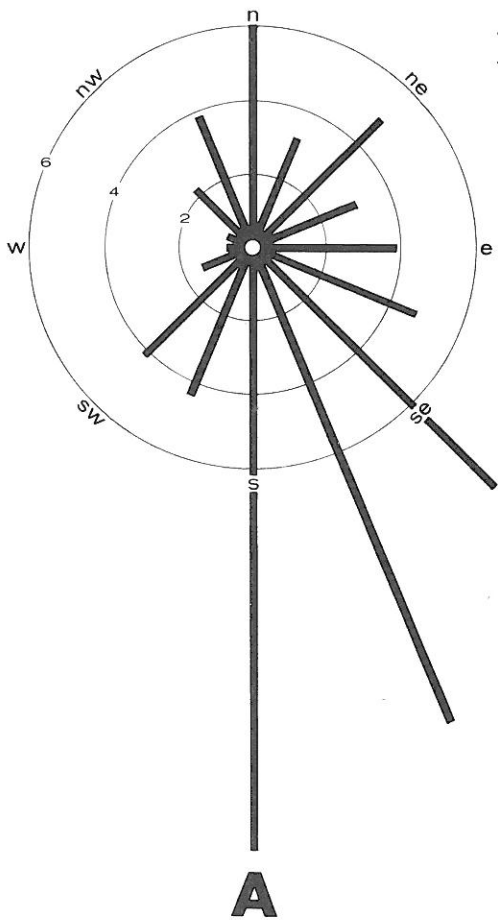
While the winds are predominantly from the south and southeast, the fastest winds are not from these directions. Diagram B shows graphically the direction and velocity of the fastest wind recordings in recent years. The strongest winds tend to be from the north, northwest, west and southwest while the least amount of heavy winds are from the northeast and east.

Winds up to 65 miles per hour have been recorded from the north and velocities of over 60 miles per hour have been recorded from the northwest and southwest. The west, south and southeast show winds of over 50 miles per hour.

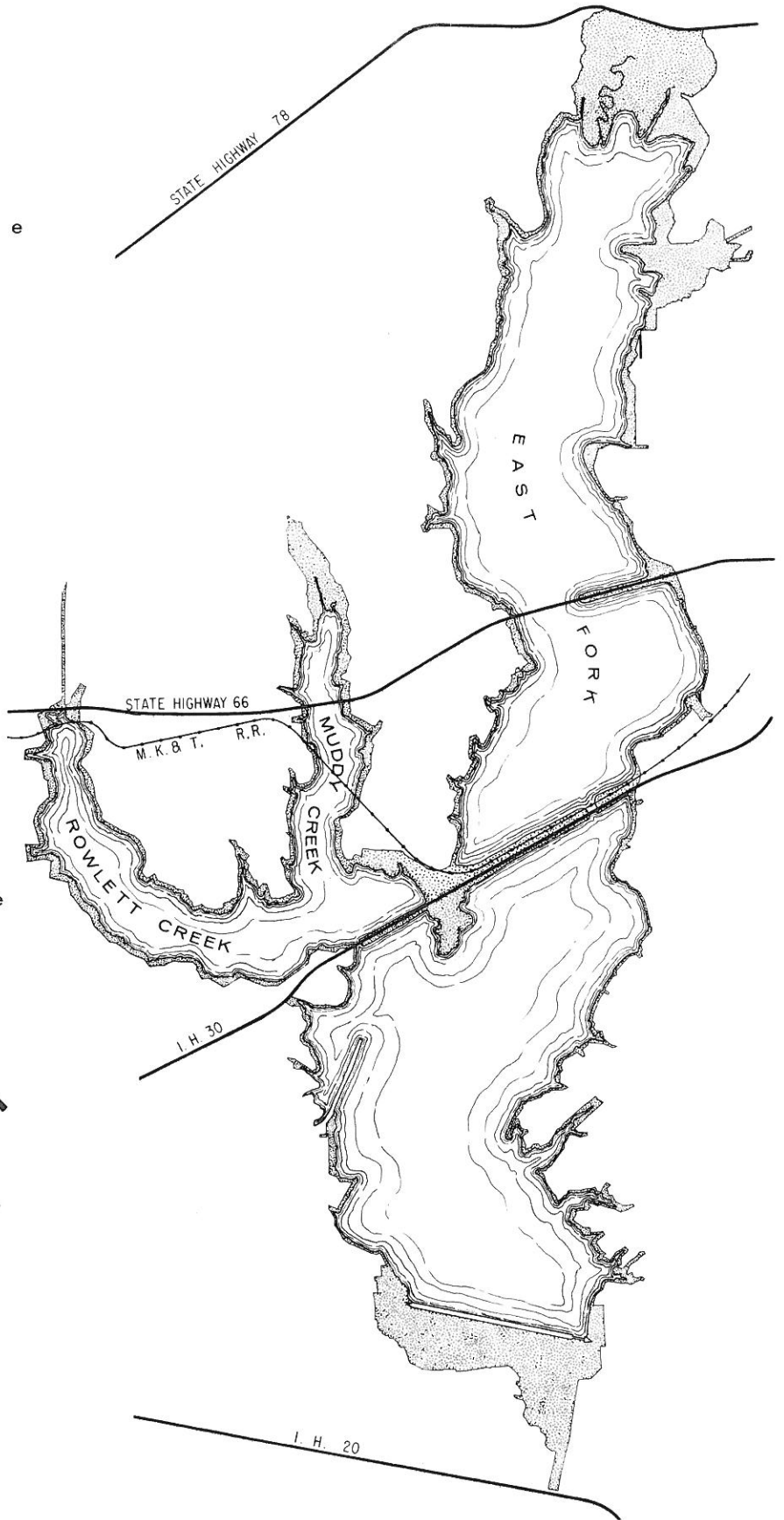
The wind data indicates that marina and boat launching ramps on the west shore of Lake Ray Hubbard would be in more protected locations than if located on the east shore. The various inlets and arms of the Lake offer protected areas for marinas and launching ramps and consideration should be given to these areas when locating such facilities. As no significant terrain features or barriers exist to



B
FASTEST WINDS



A
PREVAILING WINDS



Prepared for
DALLAS PARK AND RECREATION BOARD

break the wind's sweep on Lake Ray Hubbard, it is especially important to take advantage of the protection afforded by bridge embankments and the tributary arms of the Lake for boat landing, launching, storage and maintenance.

At least three generally protected, additional marina sites are considered to exist on Lake Ray Hubbard and one of the sites has been approved but is as of yet undeveloped. One site is located on the east shore in the Sunnyvale area and would be within Dallas' jurisdiction. A proposal to create a marina near the Sunnyvale site has been received but the proposal involves excavating a channel inland some distance and contains questionable features including possible access complications for Sunnyvale Park. The proposal has never been approved.

A second site is located in Rowlett at a protected location on a peninsula in the Rowlett Creek arm but is presently without public road access. The approved but undeveloped marina is located in Rockwall near the State Highway 66 bridge.

It is generally recommended that marinas not be located above (north) of State Highway 66 crossing. The shallower upper portion of the Lake will have more difficult access problems during periods of low water while marinas in the lower (deeper) portion of the Lake should not experience the same degree of access restriction from water level fluctuation.

BOAT LAUNCHING RAMPS - A total of seven recognized public boat launching ramps have been provided at Lake Ray Hubbard in addition to the launching facilities provided by marinas. An additional eight potential launching ramp locations are indicated on Plate 4. Access by existing roads which terminate at the water's edge influenced the proposed locations. The potential locations include two in Rowlett on the Muddy Creek arm, two in Rockwall on the east shore and four within Dallas' shore jurisdiction at various locations. Dallas' future ramp locations are indicated on the west shore where Barnes Bridge Road meets the water, near the terminus of old State Highway 66 on the west shore, at the end of Elm Grove Road and on the upper east shore where the stub of F.M. 552 terminates at the Lake.

Other boat launching ramp sites may become possible by the creation of other streets or roads which

provide access to the water and shore area. The seven existing and eight potential boat launching ramps are generally well distributed around the shore area and, if properly developed, should provide a launching capacity in balance with the available water surface.

OVERLOOK AREAS - One form of passive recreation for which no significant provision has been made is viewing the lake area. Overlooks from which people may view the water surface and the activity thereon were recommended in the 1967 Plan. To date no specific overlook areas have been created. One of the problems involved in creating overlooks results from the public shore area being generally restricted to the lower elevations near the water. In most cases, some land acquisition would be required to achieve areas adequate for vehicle parking and of such elevation as to achieve good views of the Lake.

Private residential development is tending to take over most of the prominent viewing areas and, unless some overlook locations are preserved, housing and other development will tend to cut off most of the visual access to the Lake. Excellent high land areas which provide wide panoramas of the Lake exist along the east shore and several high points are found along the west shore. Eight potential areas for overlooks are indicated by Plate 4. Two of the suggested overlook locations are in Rockwall, two are in Garland and four are in or near the Dallas shore jurisdiction. A raised viewing area was originally proposed in the plan for Elgin B. Robertson Park and the potential for creating a viewing area still exists in the southern portion of the park. In most other cases, the provision of adequate overlook area including vehicle parking will require some land acquisition. Efforts should be made to preserve some of the overlook locations and each city which contains potential overlook sites should develop at least one overlook area to preserve views of the Lake.

WILDLIFE SANCTUARY - The 1967 Plan designated the upper shallow (northern) end of each arm of Lake Ray Hubbard as a Wildlife Sanctuary or Nature Area. The largest and most important of the shallow areas is located on the East Fork arm and extends to State Highway 78 just below the Lavon Dam. The initial Wildlife Sanctuary recommendation involved about 1,600 acres of lowland and shallow water area at the north end of the Lake.

The potential Wildlife Sanctuary area has, until recently, been in unincorporated territory, remote

from Dallas and without sponsorship except for interest indicated by the Dallas County Audubon Society. The area considered appropriate for a major wildlife sanctuary has been annexed to Dallas except for a peripheral portion which is in the City of Garland.

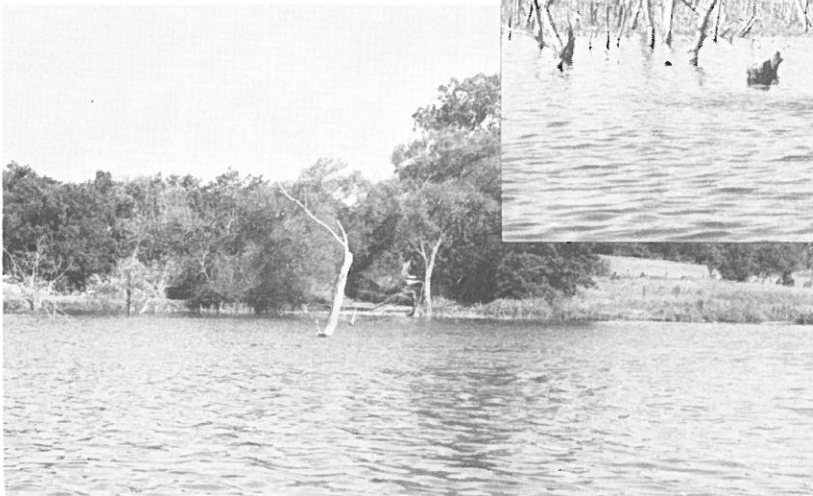
Review of the changes which have occurred in the area since completion of the reservoir indicates that the area represents a major wildlife resource which should be preserved and made available to the increasing number of people interested in the preservation, attraction, study and observation of wildlife, particularly of the many water birds which are attracted to the area. The East Fork of the Trinity River has long been an important flyway for migratory waterfowl. Observations during the summer of 1975 revealed a wide variety of herons, gulls and other water birds.

Lake Ray Hubbard is yet a very young reservoir and the vegetation in the lowlands and along the shore is still in a process of adjustment to the environmental conditions created by the water impoundment. Many large stands of timber which existed in the East Fork bottoms were flooded and have died and are toppling into the water as decay takes place at the water line. More water tolerant trees such as willows have survived in some areas and are expanding. The vegetative adjustment to the new water environment will likely continue for a number of years. Some management of the change in vegetation to maximize the area's capacity to attract and support wildlife appears appropriate.

Garland has proposed a nature area development and preservation of a portion of the upper Rowlett Creek arm. The shallow portion of the Muddy Creek arm is located in the City of Rowlett and no utilization of the area has been indicated.

The upper shallow end of the East Fork arm includes a very substantial amount of the shore area located within the City of Dallas jurisdiction. Its potential as a future Wildlife Sanctuary is illustrated by the accompanying photographs.

PARK AREAS - The potential for over 4,000 acres of shore park area exists around Lake Ray Hubbard exclusive of land owned by the City of Dallas immediately around and below the dam. It is obvious that all of the area, representing over 78 miles of shoreline, is not likely to be required for park use at an early date but nearly all of the shore area should be considered a park resource to be



SHORE AND SHALLOW
WATER CONDITIONS IN
THE PROPOSED WILD-
LIFE SANCTUARY

utilized as needed. The demand for shore park area will grow with the urban development of the adjacent communities. As more open land is absorbed by development, the need for shore park area will become more urgent.

The presently designated park areas have been listed and the following are comments relative to the potential of each park area.

1. Elgin B. Robertson Park - This relatively new park in the Dallas Park System is heavily used and provides a variety of uses and opportunities. The southern portion (south of Interstate Highway 30) was intended for primarily direct water related uses such as observing boat races, regattas and water sports competitions. Shore fishing was also an intended primary use along with picnicking and other passive uses. Additional development, including fishing piers, a raised viewing area, tree planting, more convenient access to the shore and parking areas, is needed in the southern portion of the park.

The northern portion of Elgin B. Robertson Park contains the Dalrock Marina, picnic areas and drives and the shore is used extensively for fishing. The expansion of the Park area on the north to provide short period camping and travel trailer and recreational vehicle stands with hookups could meet a presently unserved need and could be a basis of producing some revenue from the rental of space including a possible convenience retail franchise to serve the camping area and others. Space appears available to expand the Park for the creation of a camping area at the north end of the present park area.

2. Sunnyvale Park - This park area is somewhat isolated and small. It is entered from Barnes Bridge Road and, while it is the closest park to Dallas, its existence is not well known. Problems of policing the area have occurred. The opportunity exists to expand Sunnyvale Park southward from Barnes Bridge Road to a point where New Hope Road and Polly Road intersect. The central part of the area includes a peninsula and a raised knoll which could provide excellent views of the Lake. Some land acquisition would be required to obtain the knoll area. The strip of Dallas shore area involved is currently under an agricultural lease. A potential marina site (K) is located at the southern end

of the projected Sunnyvale Park area .

3. Garland's Shore Park - It has been indicated that a substantial portion of the Garland shore area is being developed for park use . The Garland development will represent a major contribution to the public recreational resources at Lake Ray Hubbard .
4. Potential Camp Area - The largest undeveloped and undesignated section of shore area with special park or related potential exists on the upper east shore generally south of Camp Creek and between State Highway 205 and the water . The area is generally level and is largely a treeless meadow . Earlier plantings of cottonwoods in the area have been destroyed by mowing of hay . The area contains about 190 acres and is located immediately adjacent to the proposed Wildlife Sanctuary . If some tree cover could be restored to the area , it could become an overnight campsite for Boy Scouts and similar organized youth groups . The potential campsite location is in an area which is expected to remain as the least urbanized section of the shore for many years .
5. Future Parks and Access - The park and recreational resource potential of much of the shore area around Lake Ray Hubbard will be determined by the level of access provided through future adjacent development . The provision of adequate access to the shore is largely within the jurisdiction of the adjacent municipalities . Garland appears to be doing an excellent job of working out reasonable access to the shore area . Attention to the shore access problem is especially urgent in Heath , Rockwall and Rowlett . An agreement as to minimum standards of access to the shore area should be reached with the municipalities . It is suggested that public access points be provided at the time of development of adjacent property at a minimum spacing of one dedicated street or road for each one-half to one mile of shoreline . Shore drives should also be encouraged wherever feasible . The adoption of such an access standard would prevent the continuation of past subdivision practices which eliminate all access to the shore and would protect the public park resource represented by the Dallas owned shore area , much of which has been licensed to the other municipalities for public park purposes .

A COOPERATIVE DEVELOPMENT PLAN FOR LAKE RAY HUBBARD

The various existing park and recreational facilities and resources recommended to be included in the revised Cooperative Development Plan for Lake Ray Hubbard are shown by Plate 6. Both the existing and proposed facilities and areas are identified on the Plan by name or symbol and include the following:

MARINAS - A need for six to eight public marinas on Lake Ray Hubbard was anticipated by the 1967 Plan and eight marinas have been developed and one additional has been approved but has not been constructed. In most cases, the location and development of the existing marinas observed the general standards set out in the 1967 Plan as follows:

1. "As all marinas must utilize the City of Dallas land area and water surface, each establishment should be franchised by the City with a regular charge for the franchise based upon a formula to be worked out. The franchise should include conditions for approval of construction plans and any cooperative exchanges such as the construction of an access road and the location and continuation of any lake shore drive which must be adjusted to accommodate a marina."
2. "The number of marinas should be regulated to assure the economic soundness of each operation, while at the same time providing sufficient marinas to prevent a monopoly operation. The ability and economic capacity of each marina operator should be ascertained before a franchise is granted."
3. "Periodic inspection and franchise renewal should be used to assure quality operation and maintenance."
4. "All "wet storage" of power boats or sail boats should be in franchise marinas and no exclusive or private marinas, except those of approved clubs or institutions, should be permitted and such clubs should have reasonable membership standards."
5. "Marinas should be permitted only in areas having reasonable protection from heavy winds. Plate 5 indicates the nature of the wind conditions anticipated on the Lake. It is recognized that land ownership and entrepreneurial decisions will influence marina location to some degree but safety and service should be the major considerations."

The general recommendations for evaluating marinas appear to remain valid with two exceptions; namely, (1) the franchise fees now accrue to the city having jurisdiction over the shore area by contract agreement and (2) no formal periodic inspection procedure is known to have been established.

Three undeveloped marina sites are indicated on Plate 6, providing a total of 9 possible

public marinas plus two private club marinas. The marina locations are identified by symbol and letter on Plate 6 and include:

- A Captain's Cove (Garland) - Expansion possible
- B Chalet Bay (Garland) - Moderate expansion possible
- C Chandlers Landing (Rockwall) - Existing breakwater would permit 150 percent expansion
- D Dalrock (Dallas) - Moderate expansion possible
- E Lakeside (Rockwall) - Space for substantial expansion exists
- F Eastern Hills (County) - Private club but any expansion would be on Dallas land
- G Point Royal (Dallas) - Expansion possibilities limited
- H Rush Creek (Heath) - Private club with moderate expansion possible
- I Crow-Coker (Rockwall) - Approved for 100 boats - could be increased
- J Future Site (Rowlett) - A reasonable capacity would be 200 boats
- K Future Site (Dallas) - A reasonable capacity would be 250 boats.

The combined reasonable expansion capacity of the existing public and private marinas is estimated to be 750 boats. The potential new marinas, including the estimated full capacity of the one which has been approved, is 650 boats. The total ultimate capacity of existing marinas with expansion plus the possible new marinas would be 2,750 boats or more than twice the present capacity. Full use of the estimated capacity could result in nearly a 100 percent increase of boating activity on the Lake during heavy use periods. An increase of 100 percent in boating activity is considered to represent the approximate safe and reasonable capacity of the Lake.

Requests for approval to expand marinas should be based upon an evaluation of reasonable demand existing at the time of application. It is suggested that any marina which can show an 80 percent or greater occupancy, has adequate space for expansion and which does not exceed a storage concentration of over 500 boats should be given consideration for favorable action. Other factors which should be considered in relation to marina expansion include the quality of existing development, operating experience and housekeeping record, occupancy status of other marinas, adequacy of the particular area of the Lake to safely handle increased boating traffic and any unusual and specialized needs which can be substantiated.

Approval of marinas at the two sites, J and K, for up to 200 to 250 boats, based upon adequate plans, should present no major problem to the existing marinas and would provide a wider distribution of facilities.

Of the two private club marinas on the Lake, one, Rush Creek, operates under a franchise agreement and the other, Eastern Hills, occupies Dallas land with no agreement. It is recommended that both private marinas be subject to the same type of franchise agreements. In the interest of broad public use of the Lake, it is also recommended that not more than one of the future marinas be permitted as a private club.

BOAT LAUNCHING RAMPS - Locations for the possible addition of eight boat launching ramps are identified on the Plan. If all the ramp locations are developed, a total of 15 well distributed public launching facilities would exist on Lake Ray Hubbard. The wide distribution of launching ramps should prevent an excessive concentration of vehicles and boat trailers at any one location.

At some launching ramp developments, it will be desirable to permit a landing dock which could be in the form of a jetty and so constructed and located as to provide protection for the launching area. Private or individual launching ramps are prohibited by regulation and condoning private ramps, in whatever form, can only lead to a proliferation of such encroachments and the obstruction of future trails, drives and access paths on the lake shore.

The existing and proposed launching ramps are identified by symbol and number on Plate 6. Requests for additional launching ramps may be made and it will be appropriate to consider such proposals. Consideration of all future boat launching ramps, whether indicated on Plate 6 or not, should involve an evaluation of access, adequacy of vehicle and trailer parking, probable impact on any adjacent residential development, lighting, policing and maintenance responsibilities. The adjacent municipality should accept the basic development and maintenance responsibilities in most cases. The existing Garland and Rockwall boat launching facilities are excellent examples for future launching ramps.

OVERLOOKS - The possible locations for eight overlook areas are indicated on Plate 6 and each is identified by symbol and number. The City of Dallas could directly accept the responsibility for two overlook areas (Locations 1 and 4) and could influence or assist in the creation of two others (Locations 5 and 6).

Because of the problems related to acquiring, policing, developing and maintaining overlooks, it is recommended that a special effort be made to protect and create several areas for viewing Lake Ray Hubbard before the opportunities for creating such facilities are lost.

The overlook sites indicated on Plate 6 are described as follows:

OVERLOOK 1 - The location of this proposed overlook is within the proposed expansion area of Sunnyvale Park and the overlook should be an integral part of the Park design. The Dallas Park and Recreation Department is considered to be the appropriate agency for developing the Park and the Overlook.

OVERLOOK 2 - This proposed overlook would be within the City of Garland's jurisdiction and is recommended to be located near the west approach to the Interstate Highway 30 bridge.

OVERLOOK 3 - A second overlook proposed in the Garland shore area is indicated as 3 and is located near the Chaha Road Boat Launching Ramp. Access is proposed to be by Chaha Road.

OVERLOOK 4 - The original plan for Elgin B. Robertson Park proposed an overlook area on the southern tip of the peninsula. It is recommended that the overlook concept be retained and that such a facility be incorporated into the future improvement plans for the Park.

OVERLOOK 5 - The possibility of an overlook on the west shore of the main East Fork arm of the Lake is shown as site 5. The location is near where the eastward projection of Schrade Road would touch the shore. The shore in the area indicated is in the City of Dallas and the adjacent land is in the City of Rowlett. Provision of a small portion of higher land would be desirable for this Overlook.

OVERLOOK 6 - A condition similar to that related to Overlook 5 exists with the site proposed as Overlook 6. The high land on which the overlook is proposed is located within the extra-territorial jurisdiction of the City of Rowlett while the shore area is within the City of Dallas limits. A small park would be desirable around the overlook area indicated.

OVERLOOK 7 - The location of this proposed overlook is within the City of Rockwall near where an existing County road terminates at the shore. A small park area tied to the shore and extending to higher ground could provide the land necessary for Overlook 7.

OVERLOOK 8 - One of the most commanding views of Lake Ray Hubbard is available from the ridge running along the east shore in Rockwall from Interstate Highway 30 south along F.M. 740. It is recommended that a small overlook area be preserved along F.M. 740 and that the cooperation of the City of Rockwall, Rockwall County and the Texas Department of Highways and Public Transportation be sought for the development of the site.

MUNICIPAL PARKS AND OTHER OPEN SPACE AREAS - The existing and proposed municipal parks and other open space areas are indicated on Plate 6. The Dallas Park and Recreation Department presently maintains two park areas on Lake Ray Hubbard and both areas are recommended for moderate expansion. With the exception of the proposed Wildlife Sanctuary and an organized camping area on the east shore near Camp Creek, the development of additional municipal park areas, other than the two indicated, will require the cooperation of the other municipalities around the Lake. The other potential shore park areas are either within the corporate limits of the other municipalities or are at locations where the shore strip is in Dallas but the surrounding land is in one of the other municipalities.

The existing and proposed park and open space areas suggested at Lake Ray Hubbard are discussed as follows:

ELGIN B. ROBERTSON PARK - The full development of this park, which is expected to remain the largest shore park at Lake Ray Hubbard, could substantially increase the recreational potential of the park facility. Items recommended for consideration in the continuing development of Elgin B. Robertson Park include the following:

1. Improvement of parking and access to the shore in the southern portion.
2. Major tree planting, both along the shore and to create well delineated use areas (See original plan concept for Elgin B. Robertson Park).
3. Provision of a raised overlook area as previously indicated.
4. Expansion of the northern portion of the Park by approximately 33 acres to provide space for short period camping and recreational vehicle stands.
5. Creation of several short fishing piers extending into the Lake on the western side of the south portion of the peninsula for use by the elderly, the young and the handicapped.
6. The Dalrock Marina, which is part of Elgin B. Robertson Park, has a growing demand for expansion. It is suggested, however, that the demand for shoreline use raises a

serious question concerning how much, if any, of the present remaining shoreline near the Marina should be changed to marina use.

7. Improvement of the Dalrock Road connection with the interchange to Interstate Highway 30 should be encouraged. Cooperation with the Dallas County Commissioner and the Texas Highway Department should achieve the recommended improvement.
8. Additional trails and picnic areas should be provided in accordance with the proposals of the Plan for Elgin B. Robertson Park.

SUNNYVALE PARK - Acquisition of approximately 30 to 35 acres as an addition to the present shore park area is recommended at Sunnyvale Park and the improvements should include the following:

1. A shore drive connecting from Barnes Bridge Road to East Fork Road and providing access to the proposed Overlook Site 1.
2. Provision of a boat launching ramp and related parking area at the end of Barnes Bridge Road.
3. Construction of more adequate restroom facilities.
4. Addition of several picnic areas.
5. Provision of a security fence along the outside perimeter of the park area with gates to permit securing the area at nighttime.
6. Stabilizing exposed shore areas with riprap to arrest erosion and permit heavier use of the shoreline.
7. Planting of trees in accordance with an overall use plan to delineate use areas and provide shade. Existing tree cover should be preserved.
8. Adapting shore area to a future marina (Site K) when and if the demand for the marina develops.

WILDLIFE SANCTUARY - The area recommended as a wildlife sanctuary is largely located within the City of Dallas jurisdiction and is proposed to be preserved as one of the major open space uses on the Lake.

The nature and function of the proposed Wildlife Sanctuary requires that its boundaries be clearly delineated and identified from both land and water approaches. Investigation has indicated that the City of Garland electric powerline crossing of Lake Ray Hubbard would provide the most distinct and identifiable boundary on the south and it is recommended that the powerline be the southern boundary. By the use of the Garland powerline plus the inclusion of the low area along the east shore on the north side of Camp Creek, a total area of about 3,170 acres would be delineated as the Wildlife Sanctuary of which 1,650 acres would be shallow water at normal lake pool stage and 1,520 acres would be adjacent lowland. An agricultural lease exists on 650 acres of the lowland and 870 acres are not under lease. The preponderance of the area is located in Collin County with some overlap into Rockwall County.

The Wildlife Sanctuary as proposed at the north end of Lake Ray Hubbard is not expected to attract large crowds of people at any one period but rather to serve those interested in wildlife study as individuals and small groups. A school class of 20 to 50 people is considered to represent the maximum number of visitors at any one time. The facilities required for a sanctuary are modest and should consist of a small combination administration building and shelter. Exhibit space should be provided and could be created in the open. A place of assembly for orientation, meetings and lectures would also be a desirable facility and could be created in the open also. A limited and simple trail system connecting observation points and blinds with a central control area where vehicle parking is provided should be included. Facilities for the use and storage of small boats and canoes which might be used in shallow water for observation would also be appropriate. Power boats should be excluded from the wildlife area except patrol and maintenance boats.

State Highway 78 bounds the proposed Wildlife Sanctuary area on the north and State Highway

It is recommended that a new effort be made to establish fast growing trees such as cottonwoods and willows in the area and that the mowing be controlled to protect the plantings.

If interest is generated by organized youth groups in the development of the camping area and to act as sponsors, the development of the area would be justified. If no sponsoring interest develops, it is recommended that the land be held as a future recreational reserve with the ultimate use decision to be made at a later date.

The planting of trees as recommended would represent an enhancement of the future recreational potential and should be undertaken at an early date. The tree planting plan should be designed as a series of wooded and open spaces with the trees framing the open areas and bordering the lake shore.

OTHER MUNICIPAL PARKS - Recommendations for other municipal park areas are indicated on Plate 6. Some of the park area, in particular that of the City of Garland, has already been designated and is under development. Other park areas are located in Rowlett, Heath and Rockwall where no public shore park development has taken place. It must be recognized that the timing of the need and the local ability to finance shore park areas varies from city to city. Rockwall, for example, has an official park board while the other two cities are generally without park development at present.

Recognition of the public park purpose of the shore area exists in all contracts which license the Dallas owned shore to the other municipalities. The provision of and protection of access to the shore area should be considered as an initial positive act by the various municipalities, demonstrating intent to comply with the terms of the license agreements. Rockwall's securing of the Texas Parks and Wildlife cooperation in building a boat launching ramp is a further demonstration of compliance with the intent of the shore use agreements.

To provide a basis for further planning and development of public shore park areas by the municipalities other than Dallas and Garland, future potential municipal shore park areas are indicated on Plate 6. The suggested park areas include shore and adjacent land in the following communities:

1. Rowlett - One small area of acquisition to provide an overlook area with picnic, rest-room and parking facilities is proposed in Rowlett near where Liberty Grove Road touches the shore. Specific shore drive access is suggested at five locations where reasonable connections can be made to existing roads. One area within the overlapping Garland-Rowlett extraterritorial jurisdiction in the vicinity of where Whitley Road and Pleasant Valley Road approach the shore is also proposed to have a shore drive to provide access to the public area. Where no shore drive is proposed and where no other access is available, the points of contact by road and drive with the shore are proposed to be connected by trails of such grade and alignment to permit an emergency or maintenance vehicle to traverse the area. Controls in the form of barriers and signs should be placed at the beginning of each trail section to prevent motorcycles and unauthorized motor vehicles from entering the areas. Some jurisdictional adjustment on the shore area may be appropriate with Rowlett in the future inasmuch as most of the shore area along the west side of the East Fork arm is in the City of Dallas. One existing recreational facility in the Dallas area adjacent to Rowlett is the partially submerged bridge at the end of old State Highway 66 on the west shore. Dallas provides some parking and temporary restrooms. The bridge is a popular fishing pier and suitable, with some improvement and lighting, for use by the elderly and disabled.

The upper end of the Muddy Creek arm provides an opportunity for a nature area. If a nature area is designated and approved in Rowlett at the location indicated, it should be subject to the same recognition of the prior and primary use rights of the Dallas Water Utilities Department as was outlined for the proposed Wildlife Sanctuary on the upper East Fork arm.

2. Heath - A substantial portion of the shoreline in Heath has been impaired by subdivision developments which have cut off access. One significant portion of shore area which is recommended as a public park is located on a peninsula at the end of Barnes Bridge Road on the east shore. The shore area is currently under temporary lease. A narrow

privately owned strip of land between the Dallas owned shore strips exists along the peninsula and the private strip should be acquired to make the entire peninsula available for park use. The peninsula appears to be about the only accessible portion of the shore area in Heath on which a meaningful public shore park can be located. Another area that could be used largely as a municipal playground for local residents is located on the upper portion of Yankee Creek. The possibility of a shore drive connecting from F.M. 1140 to F.M. 740 near Chandlers Landing is also indicated on Plate 6. Provision of the shore drive could be part of the future development of the area. Removal of encroachments on some of the impaired shoreline in Heath could also permit the introduction of trails for bicycle and pedestrian access to the shore.

3. Rockwall - While a substantial area of the Rockwall shore has been impaired by blocked access, several significant opportunities exist for the provision of public park area along the shore. From the vicinity of the State Highway 66 bridge approach northward along the shore, opportunities exist for substantial public shore park areas as shown by Plate 6. Some buffering of the area in the immediate vicinity of the confluence of Squabble Creek, on which the city's sewage treatment plant is located, would be appropriate. Acquisition of a small area for an overlook and related park use is suggested along an existing road north of the present Rockwall development. At least two opportunities for shore drives exist north of State Highway 66 and it is possible that one shore drive connection could be created south of the Highway. Pedestrian trail access could be provided along much of the shoreline in Rockwall which is indicated as impaired.
4. Garland - Nearly the entire shore area in Garland is indicated as a public park area in accordance with Garland's plans and park development. Of the two shore drives indicated, one exists and the second is planned. As Garland's shore park area develops, it should become an example to the other municipalities of the excellent potential of the shore area within their jurisdiction.

RECOMMENDATION FOR IMPROVING ACCESS TO SHORE AREA - It is considered essential to provide access to the lake shore at convenient and selected points by access streets, roads and lake shore drives. The lake shore drives are to be served by a connecting system of major thoroughfares located inland from the shore. The lake shore drives would become a system of loops penetrating to the shore from the major thoroughfares, thereby concentrating the heavy traffic movements on the main thoroughfare systems and leaving the loop lake shore drives largely for access.

It is expected that the lake shore drives come into being gradually as development occurs around the Lake. In some cases it may be necessary to construct segments of the shore drives to complete circulation prior to development, but it is anticipated that the drives will be largely achieved by participation with adjacent developers. Careful attention to subdivision control by all the municipalities around the Lake and by the Counties involved is essential if a desirable relationship between the developments and the lake shore is to be achieved. Where no participation in providing access occurs on the part of the developer or adjacent owner, no access to the lake shore should be permitted and in some cases it will be desirable to fence the public area for security, maintenance liability and policing reasons. As the demand for recreational area increases as a result of population growth, the lake shore area will become a public asset of such value as to warrant significant investments in improvements. Care must be exercised to assure that private development seeking to take advantage of the Lake's benefits does not continue to complicate the use and enjoyment of the Lake by the public.

White Rock Lake offers a series of examples and guides for the handling of private development adjacent to the Lake. The relationships prevailing around White Rock Lake between the private and public property are considered to represent the minimum standards of access, fencing and cooperative arrangements appropriate around Lake Ray Hubbard.

Where no lake shore drives are proposed in the lake shore strip, access to the shore should be by a series of interconnecting pedestrian trails, bridle paths and bicycle ways. The paths and trails should be of such width and construction as to permit their use by light maintenance vehicles, and barriers should be provided at the entrance to the trails to prevent motor vehicles (including motorcycles) from using them. By introducing equestrian, pedestrian and bicycle trails where the motor vehicle

drives are not provided, a balance of use around the lake shore will be achieved. In many locations the paths or trails should continue parallel to the lake shore drive, thus achieving greater continuity in the pedestrian, bridle and bicycle trails.

The various relationships proposed between the lake water surface, the motor vehicle, pedestrian and bicycle circulation and the private property are illustrated by the following cross section figures:

FIGURE 1

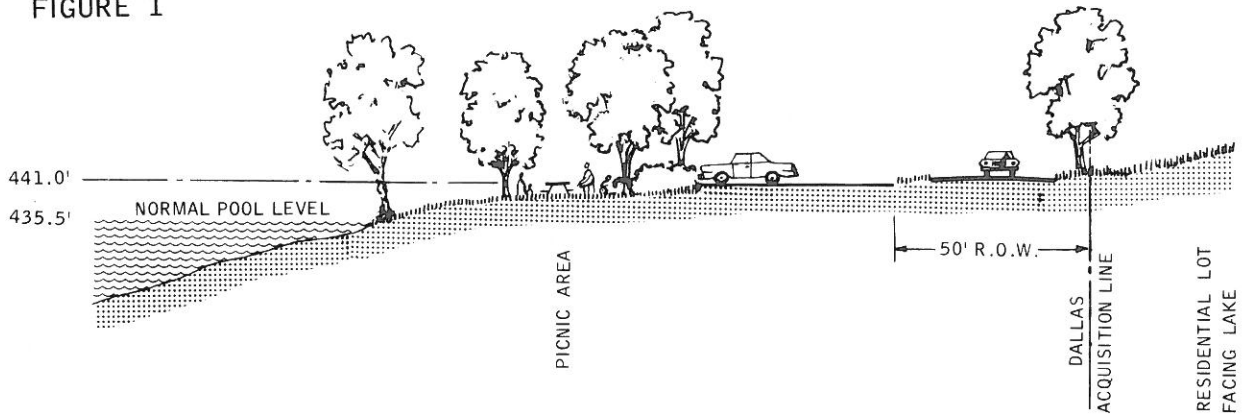


Figure 1 illustrates a cross section of a portion of lake shore where 50 feet of right-of-way has been allocated for drive or street purposes and where the developer would provide residential lots facing the street. The arrangement would allow shore area to be used for street purposes with the developer providing the street surfacing in exchange for the common use of a part of the shore strip. The relationship of other uses, such as picnicking, to the shore is also indicated.

FIGURE 2

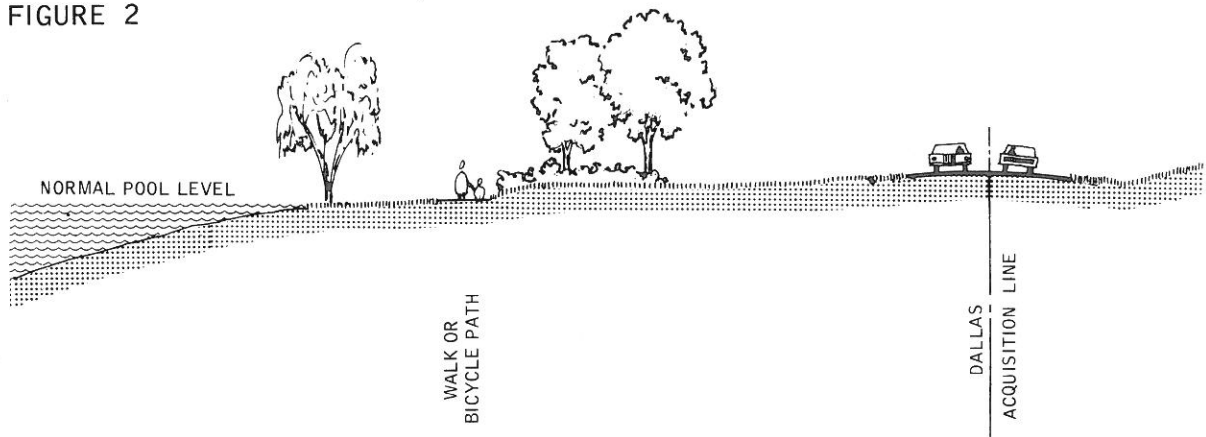


Figure 2 indicates a shore and drive arrangement where one-half the street is placed on the park strip and one-half is located in the adjacent subdivision. The arrangement indicated by Figure 2 could justify a participation in part of the street construction, particularly where the street was of importance in providing access to a significant portion of the shore.

The suggested locations of shore drives or streets which could recognize the arrangements illustrated by Figures 1 and 2 are indicated on Plate 6.

FIGURE 3



Figure 3 shows the location of a bicycle path or pedestrian trail on a portion of shore where no drive or street is proposed. Portions of the presently impaired shoreline could be adapted to the arrangement indicated by Figure 3.

FIGURE 4

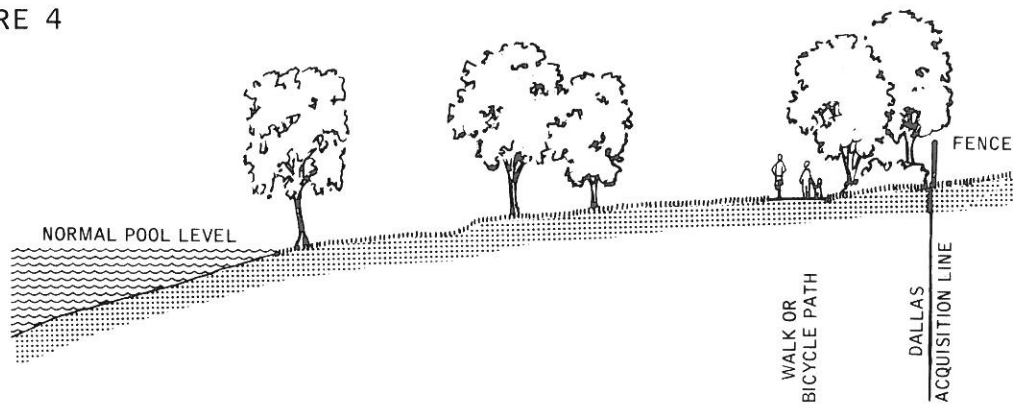


Figure 4 illustrates a shore arrangement including a pedestrian-bicycle trail where the fencing of the shore strip is appropriate. Fencing could become necessary where the public shore use created conflicts with the adjacent private use. Fencing could also be a method of securing certain shore areas from use or misuse during nighttime periods. Fencing is also recommended where bridle trails are provided or where grazing livestock would create problems to park use and maintenance.

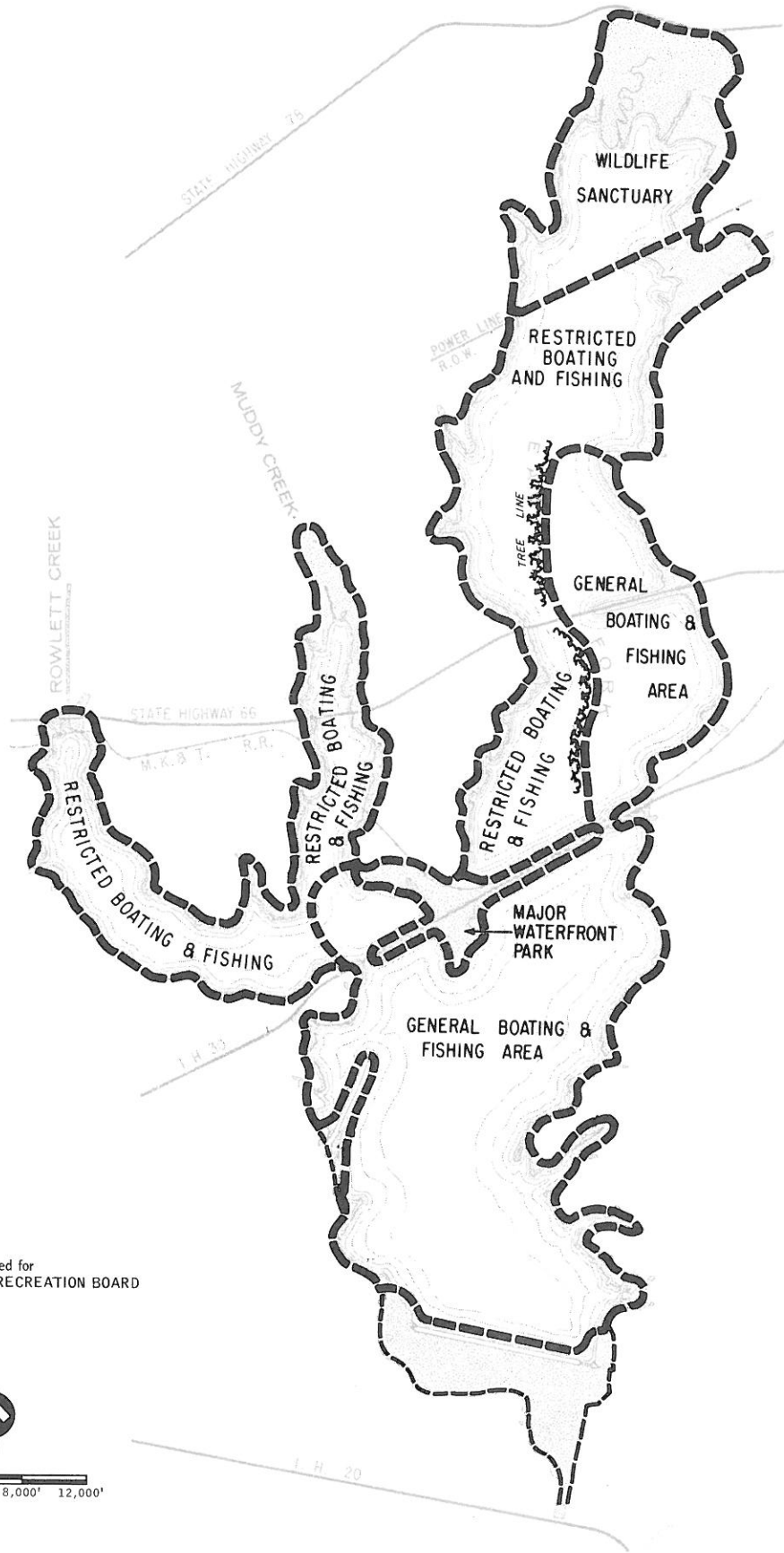
Each shore segment will, because of prevailing features and conditions, represent a special problem. The various cross section arrangements are intended to indicate different approaches to providing access to the shore areas. In some situations where shore drives are impractical or too costly, a stub street with a turnaround and parking could be considered adequate access. It is especially important to require all existing county roads which extend to the shore to be maintained open. Some efforts to close county road access to the shore have taken place along the east shore in Heath. The growing need for access to the shore requires that aggressive efforts be made to maintain existing access and improve it as generally illustrated by Plate 6.

The basic thoroughfare system which would interconnect the access roads and shore drives is indicated on Plate 6 and consists of a series of State Highways, F.M. Roads and County Roads which encircle most of the Lake. Improvements in capacity and alignment are especially desirable north of State Highway 66 along the west shore and south of Interstate Highway 30 in the Sunnyvale area. The suggested alignment adjustments are shown on the Plan. In most cases the needed alignment improvements involve county roads and will require cooperation from the respective County Commissioners of Dallas, Rockwall and Collin Counties.

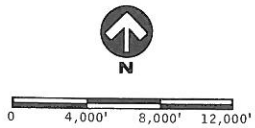
USE OF WATER SURFACE - The water surface of the Lake varies in its safe use potential and some regulation of the various possible uses is required. Plate 7 shows the general water use areas by nature of use recommended. The Rules and Regulations for Lake Ray Hubbard prescribe certain water use regulations and additional regulations are proposed as follows:

1. RESTRICTED AREAS

The water surface is restricted for any form of boating or water related activity within 1,000 feet of the spillway, the water intake structure and the Forney pump station.



Prepared for
DALLAS PARK AND RECREATION BOARD



Lake Ray Hubbard

RECOMMENDED WATER USE AREAS

MARVIN SPRINGER AND ASSOCIATES
URBAN PLANNING CONSULTANTS
DALLAS * TEXAS

Access to and fishing from the dam is also prohibited. The Dallas Power and Light Company jetty and an area around the inlet and outlet structures to the power plant are also restricted from access or use. Fishing from highway bridges is prohibited and "Slow" or "No Wake" boating zones are established within 300 feet of the dam, all jetties and the shoreline. Swimming is discouraged anywhere in the Lake.

2. GENERAL BOATING AND FISHING AREAS

All of that portion of Lake Ray Hubbard located south of the Interstate Highway 30 bridge except the described restricted areas is recommended for general boating and fishing use. General boating is intended to include power boats, sailboats, manually propelled craft, water skiing, but excluding houseboats, housebarges, fishing barges and commercial excursion boats or barges. Fishing includes all legal forms of sport fishing which are not prohibited by State Law or by the regulatory ordinances of the City of Dallas. Included in the general boating use category are two water surface areas north of the Interstate Highway 30 bridge in the East Fork arm. One general boating area extends along the east shore in the Rockwall vicinity but excludes the areas of heavy dead tree concentration which exist along the west shore of the East Fork arm. An area in the lower Muddy Creek arm around the Dalrock Marina and the shore of Elgin B. Robertson Park is also recommended for general boating. The vertical clearance at the Interstate Highway 30 bridge will restrict sailboats with tall masts to the water area on one side of the bridge unless the masts can be lowered.

The primary purpose of the general boating areas proposed north of the Interstate Highway 30 bridge is to provide partially sheltered water skiing areas and broad range boating access to some of the marinas located north of the bridge.

3. RESTRICTED BOATING AND FISHING AREAS

The shallower portions of the Lake and those containing dead trees and snags are proposed for restricted boating use and fishing. The restricted boating areas are intended for slow operation of power boats and for rowboats and canoes. No water skiing should

be permitted and large boats should be excluded. In some areas where obstructions prevail, power boats could appropriately be confined to marked channels in the restricted boating area.

4. WILDLIFE SANCTUARY

The area designated for a wildlife sanctuary on the upper East Fork arm and any future nature areas designated on the upper shallow portions of the other two arms should be restricted to manually powered boats and those operated by small electric trolling motors. No power boats should be permitted in the wildlife or nature areas except patrol or maintenance boats.

Requests for permission to operate fishing barges or excursion boats on Lake Ray Hubbard could occur. It is recommended that the commercial operation of such facilities be confined to the control of the City of Dallas under franchise. High standards of sanitation and housekeeping should be rigorously enforced on any fishing barge or excursion boat operation. The location, routes and mooring of such special craft should be strictly regulated. Adequate parking and access should be required in a manner so as not to complicate the recreational use of the shore by others.

NO OTHER WATER AREA OF SUCH SIZE OR RECREATIONAL POTENTIAL IS LIKELY TO BE CREATED AT A LOCATION SO CONVENIENT TO THE RESIDENTS OF THE CITY OF DALLAS AND THE WHOLE METROPOLITAN AREA IN THE FUTURE. FULL ADVANTAGE MUST BE TAKEN OF THE RECREATIONAL OPPORTUNITIES OFFERED BY THE LAKE'S DEVELOPMENT, AND THE FULL POTENTIAL CAN ONLY BE ACHIEVED THROUGH THE COOPERATION OF ALL JURISDICTIONS IN WHICH THE LAKE IS LOCATED.

