

An Archaeological Survey of Three Reservoir Areas in Northern Jordan, 1978:

by
T.M. Kerestes
J.M. Lundquist
B.G. Wood
K. Yassine

Organisation and Purpose

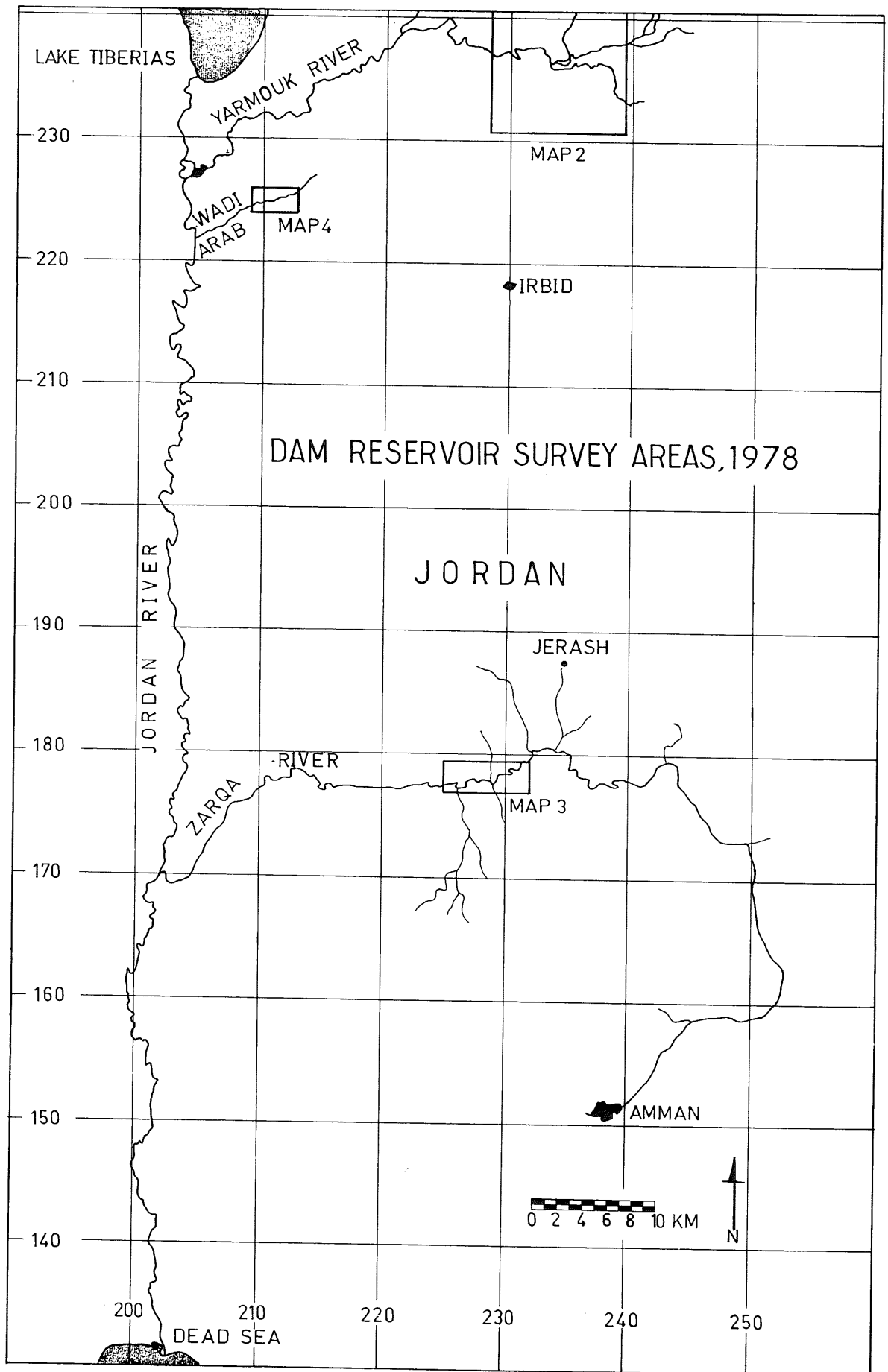
An archaeological salvage survey was carried out between January 14 and March 15, 1978 in the Yarmouk, Zarqa and Wadi Arab Valleys in northern Jordan. The project was commissioned by the Jordan Valley Authority (JVA) and the Department of Antiquities of Jordan. The field work itself was carried out in the reservoir area of the King Talal Dam in the Zarqa Valley, and the projected reservoir areas of the Maqarin Dam in the Yarmouk River Valley on the Jordanian-Syrian border, and the Wadi Arab.

The survey work was part of the environmental impact studies commissioned in connection with the dam construction. The specific purpose of the archaeological survey was the investigation of the reservoir areas in order to identify sites of ancient human occupation which would be lost due to dam construction or flooding. Based on these findings recommendations are presented concerning future archaeological salvage work which would be advisable in the affected areas.

The team consisted of John M. Lundquist and Terrence M. Kerestes of the University of Michigan, Bryant G. Wood of the University of Toronto, and Dr. Khair Yassine of the University of Jordan, all co-directors. Lundquist, Kerestes and Wood were contract employees of the JVA during the project. Mr. Ali Mousa, Inspector of the Jerash District, accompanied the team as a representative of the Department of Antiquities. Dr. James A. Sauer, Director of the American Center of Oriental Research in Amman served as archaeological adviser to the project. Project photographer was Lundquist, with additional photography carried out by

Yassine and Kerestes. Yassine and Mousa served as liaison between the team and local residents in seeking information on place names and other pertinent data. Professor William J. Fulco, S.J., kindly assisted in the transliteration of Arabic place names. Maps were drafted by Mr. Abdel Razeq Yousif and Wood. Six days were spent surveying in the King Talal Dam reservoir area in the Zarqa Valley, followed by three weeks in the Yarmouk and one day in Wadi Arab; from January 21 through February 20, 1978.

The successful completion of the survey in an expeditious manner was made possible by the generous cooperation received from numerous individuals connected with the sponsoring institutions in Jordan. We are especially grateful to Drs. Munthir Haddadin, Senior Vice President of the Jordan Valley Authority and Adnan Haddidi, Director of the Department of Antiquities of Jordan. Excellent maps of the three survey areas and feasibility reports were graciously supplied by the staff of the JVA. Survey data collected in the field was plotted on topographic maps in the scale of 1:10,000 for the Maqarin reservoir area, 1:2,000 for the King Talal Dam reservoir area and 1:1000 for the Wadi Arab. The engineers and geologists at King Talal Dam and at the Yarmouk and Wadi Arab dam sites were very generous with their time and facilities. Special thanks go to Mr. Zafir Allem, Project Director at Maqarin, and to Mr. Dean Wilson, Head Geologist at Maqarin for comfortable accommodations and trolley transportation on the Hijaz rail line while working in the Yarmouk Valley. The team is especially grateful to Dr. James A. Sauer of the American



Center of Oriental Research in Amman for his time in initiating the survey and providing technical direction for the duration of the project. We also wish to thank Ambassador Thomas R. Pickering for his helpful support. Finally, we wish to thank Dr. Edward F. Campbell for handling arrangements in the U.S. during the formulation stage of the project.

Methodology

The methodology was essentially that of an intensive area survey of the three reservoir areas. Virtually all accessible terrain in the affected areas, up to an elevation ca. twenty meters above the ultimate reservoir levels was covered. After having conducted a general reconnaissance of a given dam site the reservoir was divided into areas. These areas are designated in Maps 2,3, and 4, with the rivers and wadis serving as boundaries. The team members walked over the accessible areas of each section, the distance between team members determined by the nature of the terrain covered. Surface artifacts (primarily potsherds and worked flint, but also including glass, worked stone and fragments of building materials, among others) were collected from each area surveyed. Other evidence of ancient occupation, such as building foundations, walls, terraces, burials, or identifiable architectural remains was noted. A photographic record was kept.

A site was distinguished within a particular area by the concentration of artifacts (e.g., potsherds and flints) and /or architectural remains. In general, a site could fall within the range between a prehistoric open air station and a major city. After collecting a representative sample of artifacts the site was described and photographs taken. The location of the site was also plotted on the map.

Geographical and Geological Background

The Yarmouk and Zarqa Rivers and the Wadi Arab all descend from the high eastern plateau of Jordan, and drain into the Jordan River. Of the three, the Yarmouk and Zarqa are

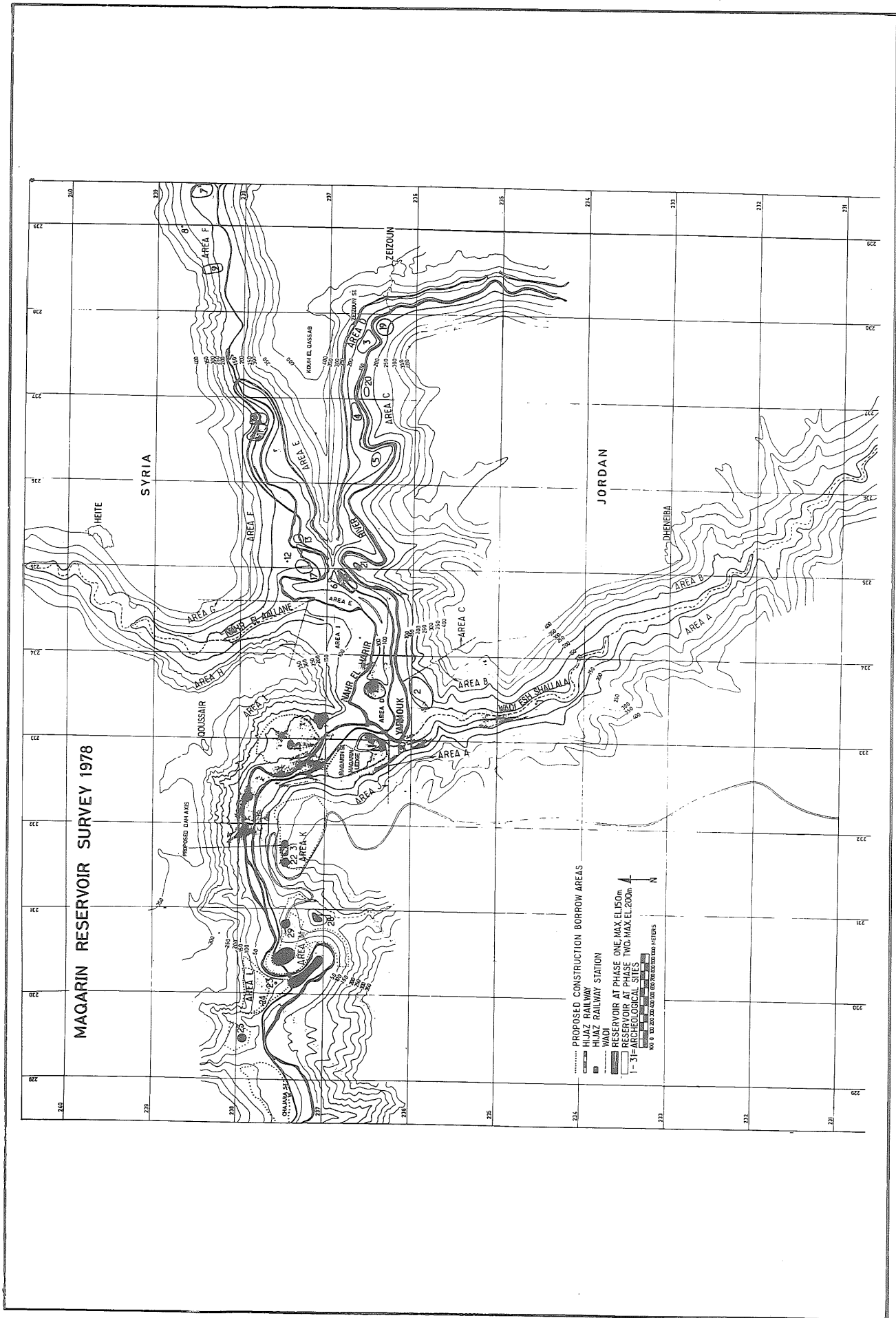
perennial streams, with the Yarmouk being the most important Jordan River tributary. The three cut rather deeply into the sloping eastern side of the Jordan Valley as they descend.

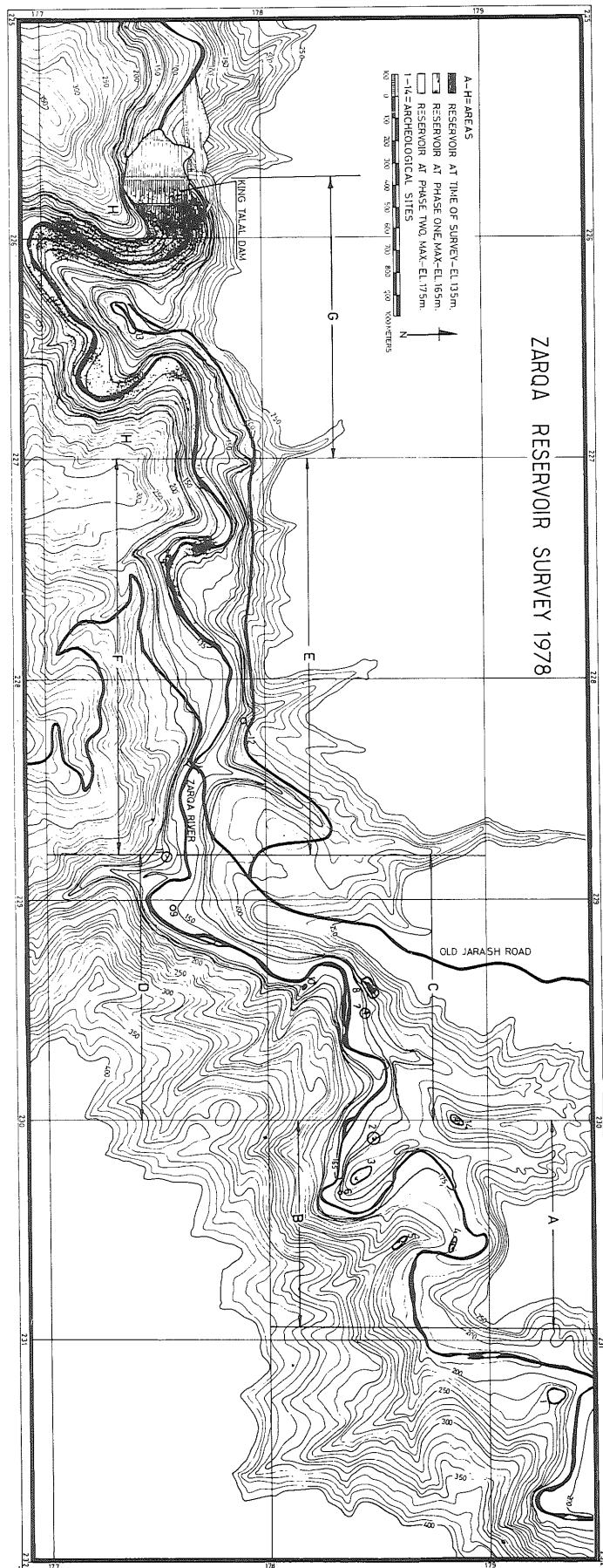
Geologically, most of Jordan is post-Eocene in age, with much of the area having been eroded into mature topographic forms. In some areas, particularly the Yarmouk, these mature forms have been covered by substantial outpourings of basalt. The eastern highlands of the Jordan Valley rise abruptly to elevations between 300 and 500 m. Because of the much lower elevation of the Jordan Valley itself, westward flowing streams and their tributaries are deeply incised. These streams commonly show a youthful form with narrow steep sided valleys indicating a rapid downcutting. The downcutting comes about because of the continual subsidence of the Jordan Valley.

The rock formations near the area of the proposed Maqarin Dam (the dam site is situated about 40 km. upstream of the Yarmouk's confluence with the Jordan River, near the Maqarin Station of the Hijaz Railway) consist of a bituminous marl unit, which extends up both sides of the valley wall about 100 m. above the valley bottom. This stratum is overlain by a thick bed of chalky limestone, which in turn is overlain by a thin layer of chert. Over the chert layer is a layer of basalt. Talus, or shallow landslides, overlie bedrock on parts of the valley sides. Alluvium overlies bedrock in the valley bottoms.

More generally, the Maqarin reservoir area exhibits a rather narrow alluvial flood plain, above which rise gently sloping alluvial terraces. These terraces then give way to the steep, often talus strewn slopes of the canyon, which rise to the plateau at ca. 400 m. The reservoir of the proposed Maqarin Dam will rise between five and six km. up the Yarmouk River Valley. In addition, it will inundate parts of the Yarmouk tributaries: the Nahr Aallane, the Nahr el Harir, and the Wadi esh Shallala (see Map No.2).

In the Zarqa River Valley the King Talal Dam is located ca.30 km. upstream from the confluence of the Zarqa with the Jordan. The river itself is immediately bordered by a layer of gravel and sand, with coarse boulders of gravel predominating. The alluvial terraces which rise





above the river bottom are comprised of a silty sandy clay with rock fragments and gravel boulders. The steep slopes which rise above the alluvial terraces consist of a layer of sandstone, which is overlain by a stratum of dolomitic limestone. The reservoir of the King Talal Dam will inundate an area stretching ca. six km. upstream (see Map No.3).

Modern Settlement Patterns and Land Utilization

Modern land use in the three valleys is very similar. Villagers from the villages perched on the plateaus just on the lips of the canyons come down into the valleys and use the alluvial plains and the terraces for agriculture and grazing. One extended family unit was living permanently in Nahr el Harir near site No. 7 in the Yarmouk Valley. Several beduin groups were also located in the Nahr el Harir and were cultivating and grazing flocks and herds there. In all three areas there is considerable seasonal pasturing and grazing of sheep, goats and cattle. Many corrals of varying shapes and sizes were observed in the Yarmouk Valley. These were constructed of field stones and, in some cases, dressed blocks of basalt and limestone reused from earlier periods. Numerous pathways and tracks gave both horizontal and vertical access to the valleys.

The alluvial terraces in the Maqarin reservoir area are widely planted with pomegranate orchards. Those in the Zarqa Valley are planted with orange and lemon groves, and in the Wadi Arab with bananas. Irrigation is widespread in all three valleys, water being channeled through the fields by pumps and by dams and canals which crisscross the valley walls at many different levels. At the lower levels the water is diverted from the river into canals by ingenious, in some cases laboriously constructed dams. Among the cultivated crops grown on the alluvial plain and the terraces were turnips, beans, tomatoes, radishes and lettuce. The team observed a logging operation in a grove of sycamore trees on the W side of a wadi stretching S of Site No. 11 in the Zarqa Valley.

Numerous ephemeral wadis feed into the larger river systems. Some of these were active during the time of the survey, but most were

dry. There are thick cane brakes along the S side of Nahr el Harir in the Yarmouk Valley which the villagers harvest and use for building material. Various wild vegetables were gathered daily by the village and beduin women and girls. This gathering often constituted a full day's work for those involved.

Present-day settlement patterns clearly reflect the differences of topography on each side of the Yarmouk River and its tributaries. While the southern slopes are generally very steep with a great concentration of thorn bushes and other types of overgrowth which make land use difficult, spacious terraces graduating up the slopes of the north side are generally observed. Thus there is more usable land on the N side of the Yarmouk Valley, and this is reflected in both the modern and the ancient settlement patterns (see Map No. 2).

Agricultural terracing is very much in evidence in all three river valleys. The most common form which this takes is the low, rock built terrace wall. Along the S side of the Zarqa Valley the hill sides are dense with shallow terracing cut into the earth--some of it apparently used for vineyards. In the Yarmouk the terracing is often achieved with varying sizes of the basalt rocks which are so numerous on the slopes. In several cases worked limestone and basalt blocks from earlier periods have been reused in terrace walls. In several instances it was difficult to determine whether a terrace wall was recent or ancient, or in fact whether the wall line was a terrace wall or part of an ancient building foundation.

There is evidence of early modern land use in the areas in the form of sugar and flour mills and ovens. Some of these structures appear to stem from Ottoman times. Lime and charcoal kilns were also observed, one of which was in current use. (see Pl.LXV,1).

Perhaps the most striking recent building development in the Yarmouk Valley is the Hijaz Railway, which borders the river. Built around 1905, this line runs from Haifa to Damascus. There are three railway stations in the survey area, the Maqarin, Zeizoun and Chajara. (See Map No. 2 and Pl.LXV,2). An abandoned village near the Maqarin bridge appears to have been associated with the railway, as do other recently abandoned buildings

in the area. The railway itself serves as the international border between Jordan and Syria when the rail line runs south of the Yarmouk River. Otherwise the river is the border.

A very interesting architectural feature of the Zarqa Valley is the presence of the remains of two former bridges near the present Old Jerash Bridge over the Zarqa. Remains of the modern high bridge, which were destroyed during the fighting of 1970, stand on the E of the footings of the Ayyubid/Mamluk bridge.

Archeological Background

Some previous survey work has been carried out in Jordan in the Yarmouk, Zarqa and Wadi Arab Valleys, but as far as is known no previous work has been done on the Syrian side of the Yarmouk Valley in the reservoir area. The first to publish scientific observations on the archeological remains in the areas of interest was Gottlieb Schumacher who surveyed the area E of Lake Tiberius in 1884 in preparation for the construction of a railway from Haifa to Damascus. A general report of his observations is given in *Across the Jordan* (Schumacher 1886). Here he gives a brief description of Tell Jamid in the Yarmouk Valley (1886: 100). He also published further details of his visits to a number of ancient sites in northern Jordan in *Zeitschrift des Deutschen Palastinvereins (ZDPV)*. Unfortunately, this work was not available to the authors of this report at the time of preparation. According to later references by Nelson Glueck, Schumacher described Tell Jamid in *ZDPV* 36:114-23 and *ZDPV* 49: A526; Tell Qurs in the Yarmouk Valley in *ZDPV* 49: A531, and Tell Zer'ah in the Wadi Arab in *ZDPV* 49: 464-65) Glueck 1951: 122, n. 299; 130, n. 320; 182, n. 452).

As part of his extensive surface surveys of Palestine in the 1930's and 1940's, Nelson Glueck visited a number of sites in the Zarqa, Yarmouk and Wadi Arab Valleys. In 1938 he visited Kh. es-Suwari, Tell Tunyah, Kh. es-Seqi and Tell er-Reheil in the Zarqa reservoir area (Glueck 1939: 222-24). (See the discussion on pp. 28-29 with regard to the location of Tell Tunyah and Kh. es-Seqi). Of the four sites Glueck published only a plate of photos of pottery sherds from Tell er-Reheil (1939: pl.17).

In the Yarmouk reservoir area, Glueck visited Tell Jamid and Tell Qurs in 1942 (1951: 122-24, 130). Photos of the pottery from these two sites was published in plates 84 and 85 and described on pp. 491-93. Also in 1942 Glueck visited Tell Zer'ah in the Wadi Arab reservoir area (1951: 182-84). A photo of one flint from the site was published in plate 114 (No.9).

As part of the Point Four Irrigation Project the Yarmouk and Jordan Valleys were surveyed by James Mellaart and Henri de Contenson in 1953. They described four sites in the Yarmouk reservoir area, all on the Jordanian side. Mellaart and de Contenson, as well as Glueck before them, were not able to visit the Syrian side of the Yarmouk River. Mellaart conducted a sounding on Tell Jamid (Mellaart 1962: 131), but did not publish the material from the sounding. He also briefly described the prehistoric site on the Maqarin ledge, Tell Qurs, and the site at the present location of the JVA camp. (1962: 140-41, sites 2,3 and 4). De Contenson described flints from Tell Jamid (1964: 30, pl. VII: 1-9, Pl. VIII: 1-3), and from the Maqarin ledge (1964: 31, Pl. VIII: 4,5), pottery from Tell Qurs (1964: 31,32), and flints from Tell Qurs (1964: 32, pl. IX: 1,2).

Presentation of Results

During the survey a total of 48 sites were identified, of which 31 are in the Maqarin reservoir area, 14 in the King Talal Dam reservoir area, and three in the Wadi Arab. There is a large variety of types represented among these sites, including small, flat prehistoric sites, tombs, rock shelters, towers, tells and even a town. Each is described below in numerical sequence according to its respective reservoir location. The area and site sheets, which were used in the field for recording the archeological data and on which the site descriptions are based, are available through the Department of Antiquities of Jordan in Amman.

Of the total number of sites identified during the survey, only six were known previously. The remaining 42 sites are new additions to the archeological record.

Tables 1, 2, and 3 present the distribution of archeological periods of the three reservoirs by area and site, according to the pottery and flint

evidence. Each table is followed by the site descriptions for the particular reservoir. A number of the artifacts from the three reservoir areas are shown in photos 17 to 38.

The abbreviations used throughout the report are as follows:

P	Paleolithic	—14,000 B.C.
M	Mesolithic	14,000-8,000 B.C.
N	Neolithic	8,000-4,500 B.C.
N/C	Neolithic/Chalcolithic	8,000-3,300 B.C.
N/CF	Neolithic/Chalcolithic Flints	8,000-3,300 B.C.
C	Chalcolithic	4,500-3,300 B.C.
C/EB	Chalcolithic/Early Bronze	4,500-2,100 B.C.
C/EBF	Chalcolithic/Early Bronze Flints	4,500-2,100 B.C.
EB	Early Bronze Age	3,300-2,100 B.C.
EBF	Early Bronze Age Flints	3,300-2,100 B.C.
EB-MB	Early Bronze Age IV-Middle Bronze Age I	2,300-1,950 B.C.
MB	Middle Bronze Age II	1,950-1,550 B.C.
LB	Late Bronze Age	1,550-1,200 B.C.
IA	Iron Age	1,200-539 B.C.
PE	Persian Period	539-332 B.C.
H	Hellenistic Age	332-63 B.C.
R	Roman Period	63 B.C.-A.D. 324
B	Byzantine Period	324-640 A.D.
EI	Early Islamic Period	630-1174 A.D.
LI	Late Islamic Period	1174-1918 A.D.
Ott/M	Ottoman/Modern	1516-Present
M	Modern	1918-Present
UDS	Undetermined Sherds	
UDF	Undetermined Flints	
TS	Total Sherds	
TF	Total Flints	
?	Probable	
/	Either/Or	

Table 1

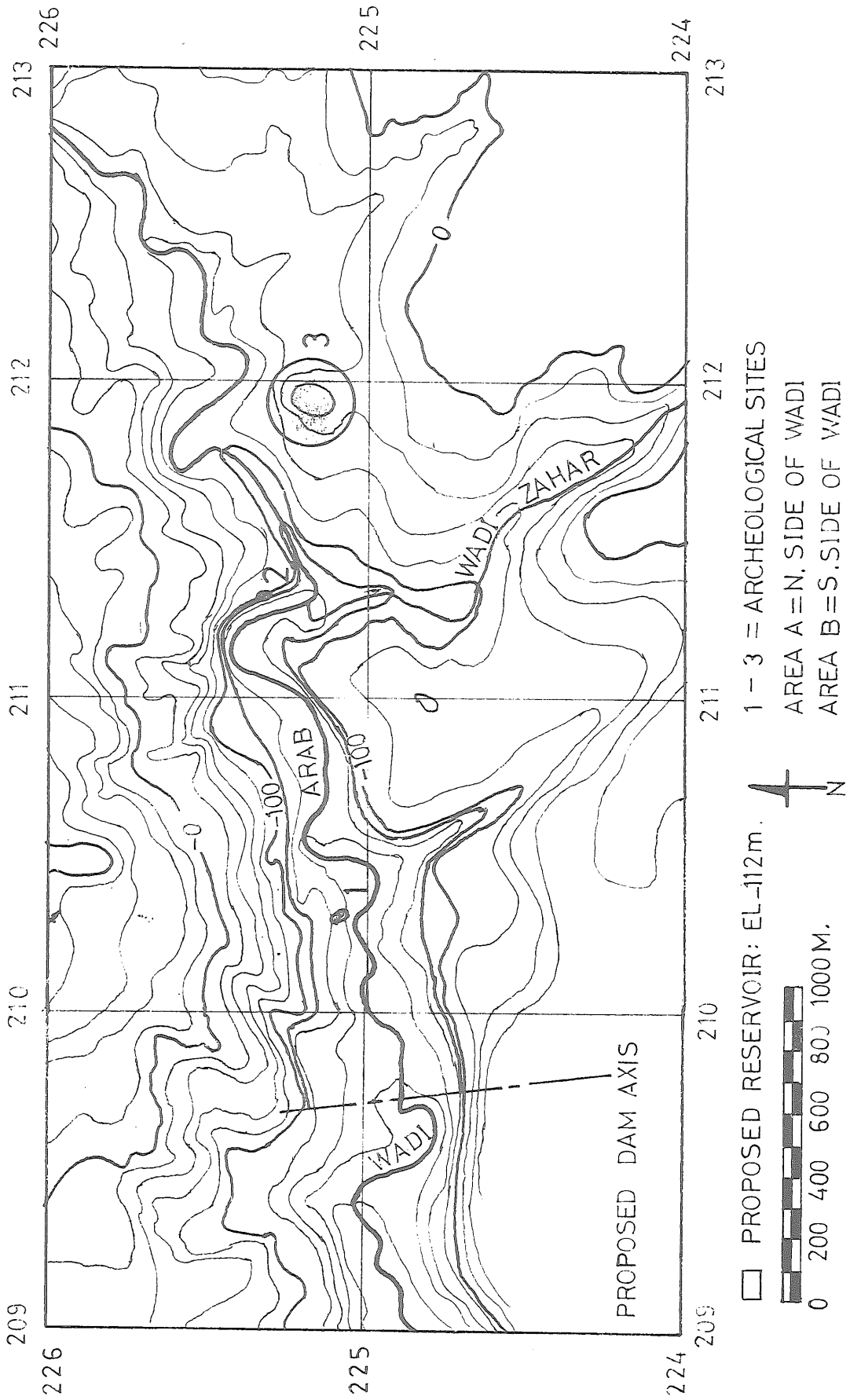
Archeological Analysis of Maqarin Reservoir Area

Period	Area												
	A	B	C	D	E	F	G	H	I	J	K	L	M
P	8	10	1	10		15			26			2	
M													
N				7		13							
N/C	25	8		1		2							
N/CF													
C													
C/EB				3		9							
C/EBF													
EB		1		1								2	
EBF				1									
EB-MB													
MB		6		2									
LB													
IA	1			4									
PE													
H				2									
R		2		9	2	5			1				
B	6	4		25	3	5			2				
EI				8									
LI													
OTT/M			1	70		3							
M		2							1				
UDS	9	2		49	12	15			14			1	
UDF	8	5	1	52		63			9				
TS	44	55	1	332	17	237			20			5	
TF	30	64	2	80	30	95			35			2	

Table 1 (cont.)
Archeological Analysis of Maqarin Reservoir Area

Period	Sites														
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
P	5?	50	6	43	4	1?		3	10	26	39	1	11		13
M													2?		
N		18						26?		715	162				29
N/C															24
N/CF															1?
C															
C/EB				5											
C/EBF															
EB		1			4							13	41		
EBF				3	6		1?						53?		
EB-MB															
MB			3		2		12								
LB	4		17												
IA			3									1			
PE															
H												3			
R	5	1	6	3		33					3	11	1		3
B	14			1	5					2					
EI															
LI															
OTT/M															
M	1	1			1	2			1	1					
UDS	13	5	15	5	12	10					5	7			1
UDF	39	21	13	22		42			25	122		12		3	7
TS	200	18	178	129	26	181	39		1	41	7	68	42	24	4
TF	44	93	19	68	10	69	1	39	35	863	201	13	72	4	49

WADI ARAB RESERVOIR SURVEY, 1978



Site Descriptions

Maqarin Reservoir Area

Site Number 1

grid coordinates: 233 460/234 550

elevation: 100m.

estimated size: 10x5m.

Site 1 is a rock shelter located above a spring. It is inhabited seasonally by nearby villagers who grow winter crops and graze herds and flocks. A stone wall has been built along the front of the rock shelter. Fields are cultivated below the shelter on the W side of Wadi esh Shallala. A small sample of weathered sherds was found below the shelter.

Site Number 2

grid coordinates: 233 540/235 900

elevation: 70-140m.

estimated size: 400x200m.

Site 2 is a large prehistoric site on the E side of the Wadi esh Shallala where the Wadi gorge opens up into the Yarmouk basin. It is located on a partially cultivated alluvial terrace below a limestone ridge. A heavy concentration of worked flints was found, with Early Neolithic flints dominant. Few sherds were found, most of which are undateable. However, a few Byzantine and Mamluke-Ottoman sherds were identified. A cave is located on the SW edge of the terrace, which may be a cut tomb or a cistern. The interior of the cave consists of three chambers separated by a low wall surmounted by pillars cut from the rock. There is also a round cut in the roof of the cave, visible from the inside, and a depression in the ground above, visible from the outside. A canal runs along the 70m. contour from the east along the western edge of the site. There is a pomegranate orchard on the NW edge.

Site Number 3, El Habis:

grid coordinates: 237 700/236 500

elevation: 160-200m.

estimated size: 300x200m.

Site 3 is N of the Yarmouk River between the railway and the river, below the Zeizoun station. The predominant period of occupation as indicated by the sherds was Byzantine. In

addition, worked flints from the Paleolithic and Neolithic periods were found, as well as a number of pottery fragments from the Neolithic through Early Roman periods. Comprised of a series of terraces, the site today is heavily cultivated. The striking feature of Site 3 is the abundance of finely dressed stones in the area. Examples which were observed are: a limestone sarcophagus and lid (see pl.LXVI,1), limestone doorjam, basalt mortar, rectangular basalt blocks, a flared basalt block, and a one-meter section of a sculptured entablature (see pl.LXVI,2).

Site Number 4, Umm Qala⁶a

grid coordinates: 236 860/236 680

elevation: 150-180m.

estimated size: 200x100m.

Site 4 is a series of terraces on the N side of the Yarmouk River between the railway tracks and the river. The sherds found were predominately Byzantine, with a concentration of flints found at the E corner. At the time of the survey, the area was heavily cultivated. There are numerous worked rectangular basalt blocks on the terraces. At a number of places these form distinct courses of walls which may have served as terrace walls or as building or defense walls. Along the E side of the site a path leads towards the river to a cave cut into the rock of the hillside. The interior of the cave consists of three chambers separated by a low wall surmounted by pillars cut from the rock. A number of worked limestone and basalt blocks line the path. Some of these are *in situ* and form courses of a wall. One large block measures 112x47x26cm. Another basalt block is tapered from top to bottom and has a hole cut in the top. A basalt cylinder with a conical top was also observed, as was a worked limestone block which appears to be a Roman altar.

Site Number 5, Sheikh Faris

grid coordinates: 236 300/236 450

elevation: 170-190m.

estimated size: 150x100m.

Site 5 is located N of the Yarmouk River on terraces between the railway and the river. The major period of occupation was in the Byzan-

tine period. On the N side of the site are basalt foundations of two buildings. South of the buildings the land slopes gently toward the river and is terraced. The area is heavily cultivated today.

Site Number 6

grid coordinates: 234 880/236 940

elevation: 90-160m.

estimated size: 300x150m.

Site 6 is the summit and S slope of the E end of a ridge between the Yarmouk River and the Nahr El Harir. The pottery collected was predominately Iron IB-C (see Pl.LXXVIII,1,2), although the MB II, H (see Pl.LXXVII,1), and Early Roman periods were also represented. A number of building foundations and well-dressed basalt blocks were observed on the ridge SW and NE of the summit, as well as along the S slope. A completely exposed foundation on the top of the ridge SW of the summit is ca. 36x4m. with six rooms (see Pl.LXVII,1).

West of the six-room building is a possible unfinished cistern. The summit is an acropolis-like promontory triangular in shape, measuring 50x50x10m., with occupation debris of ca. one m. thick, determined from a recent pit. A large number of recently dug pits were observed on the summit and slopes of the site. Along the S slope of the site is a well-cut trail ca. 3m. wide, which leads to a lower terrace ca. one km. to the SW. SW. (see Pl.LXVII,2).

Nelson Glueck observed this site from Tell Jamid in 1942 speculated on its importance, although he was unable to visit it personally. He called it "Tell el-Ehdeb" or "el-Mardashiyeh." (Glueck, 1951:124).

Site Number 7, El-Roba

grid coordinates: 239 400/238 500

elevation: 190-210m.

estimated size: 200x150m.

Site 7 is located on the N side of Nahr El Harir just W of the junction of a tributary coming from the NW. A large collection of worked flints were obtained at this site, all from the Early Neolithic period. The site is situated on a series of low terraces which are currently cultivated fields and orchards. A small village is located at the site.

Site Number 8:

grid coordinates: 238 975/238 730

elevation: 275m.

estimated size: see below

Site 8 consists of two tombs exposed by road construction in the recent past on the N side of Nahr el Harir. The tombs are cut into the limestone hillside. Many bone fragments were scattered about inside the tombs, but no pottery sherds were found. The western-most tomb is complete and is comprised of a large chamber with a bench on the right side. Cut into the back wall of the large chamber is a smaller chamber with benches on three sides. The entrance to the eastern-most tomb had been sheared away by the road construction. It is comprised of a large chamber with benches cut into three sides. In the back right-hand corner a small chamber was cut which appeared to go down to the floor level of the large chamber. Both tombs were filled with earth debris so it was not possible to determine their height nor examine the floor for artifacts. A possible linear inscription was found on the upper right corner of the entrance into the western tomb (see Pl. LXXVIII,1)

Site Number 9

grid coordinates: 238 500/238 360

elevation: 180-350m.

estimated size: 240x100m.

Site 9 is a steep slope on the N side of the Nahr El Harir. A heavy concentration of pottery was found on the hillside, predominantly of the Early Roman period. At the top of the slope is a basalt cliff rising to the Syrian plateau above. The slope is much too steep for occupation. Upon investigating the base of the cliff and the plateau above, however, no evidence of a habitation area was found.

Site Number 10, El-Madkhanah

grid coordinates: 236 780/237 860

elevation: 135-180m.

estimated size: 200x100m.

Site 10 is to the N of the Nahr El Harir and is composed of a natural hill-top with terraces S of the hill-top. The railway cuts through the site, between the hill-top and the terraces. Surface

artifact remains indicated that the predominant period of occupation was Early Roman. Numerous building foundations were observed on the hill-top. Along the N side of the hill-top is a low wall of large basalt blocks, ca. 100m. long, which appears to be a diversion wall to protect the site against water runoff from the cliffs above. On the terrace below is a round structure, recently made, ca 10x5m. It is constructed of fieldstones and dressed basalt and limestone blocks (see Pl.LXXVIII,2). On the S side of the structure is a round pit, ca 3m. in diameter and ca. 2m. deep.

Site Number 11, El-Madkhanah

grid coordinates: 236 550/237 790

elevation: 130-170m.

estimated size: 200x200m.

Site 11 is on a terrace on the N side of Nahr El Harir. The artifacts found at this site are predominately Early Neolithic, Early Roman and MB IIB-C, with some Early Bronze including a four-spouted lamp. The railway line cuts through the N side of the site and a small wadi borders the W side. Much of the site is now under cultivation. The cultivated areas are strewn with flint, basalt and limestone stones. Large stones have been placed in piles by the farmers. A canal runs along the S side of the site. A natural embankment, running from the wadi to the E seems to define the perimeter of the site.

Site Number 12, Abu Taha

grid coordinates: 235 080/237 460

elevation: 130m.

estimated size: 14m. EW and unknown NS

The foundation of an EW wall is visible. It is made of dressed limestone and basalt. There are undressed stones scattered about the site. Its condition is poor because a road cuts through the site, destroying the NS wall. A small sample of the pottery was found only in the road cut, mainly EB IVB-MB I. The site is on a natural ridge protruding towards the S. A grinding stone was found on the N side of the cut road.

Site Number 13

grid coordinates: 235 340/237 355

elevation: 115-130m.

estimated size: 100 m. diameter

Site 13 is on a low terrace S of the Nahr el Harir. A low density of sherds, mainly representing the R period was found. Also observed on the terrace were modern terracing and corrals made of field stones.

Site Number 14, Tell Jamid

grid coordinates: 232 965/236 510

elevation: 123m.

estimated size: 300x150x60m.

Tell Jamid is located on the S side of the Yarmouk above Maqarin station. (see Pl. LXIX,1). It is a major tell along the Yarmouk river, representing all four phases of the Early Bronze period (see Pl. LXXVI,1,2). The top of the tell is eroded, with an army road running across the tell and an army bunker placed on the NE corner facing the Yarmouk basin. Turkish buildings are also on the top of the tell along the E side S of the army bunker. At the time of the survey, the heavy vegetation made it difficult to collect artifacts. There are caves cut into the high cliff on the S and W sides of the tell. In addition to the sherds several grinding stones were noted.

Tell Jamid was visited by Gottlieb Schumacher in 1884 and briefly described (Schumacher 1886: 100). Glueck collected surface sherds there in 1942 and identified the periods of occupation as EB I-III (Glueck 1951: 122-24, Site No. 88). He published photos and descriptions of a number of these sherds (1951: 491-92, pl. 84: 1-6,8,9, 11; pl. 85: 1-15). Glueck also reported finding a massive wall of unhewn basalt blocks around the top of the tell, worked flints, and numerous fragments of basalt querns and dishes.

In 1953, James Mellaart and Henri de Contenson visited the site (their No.1). Mellaart reported the basalt wall as well as a gateway on the S side and building foundations (Mellaart 1962: 130). He conducted a sounding on the tell which revealed a large stone building and pottery from the EB I-III period (1962: 131). The material from this sounding was not published.

Contenson described 31 flint artifacts from Tell Jamid which he dated to the EB I-II period (Contenson 1964: 30-31, Pl.VII: 1-9., Pl.VIII: 1-3).

Site Number 15, Ez-Zawr

grid coordinates: 232 930/237 400

elevation: 85m.

estimated size: 100x50m.

Site 15 contains a small building (21x19m.) destroyed down to the first course. It is positioned on the summit of a natural hill on top of a bedrock foundation. The building is square, apparently with a south entrance built of rough limestone and basalt. There is a cistern-like pit inside this building. The mound is heavily eroded with numerous recently dug pits around the slopes. On the S slope towards the river there are several small piles of stone, possibly burials. Traces of what could have been a road ascending the tell on the NE side are present. A good sample of Early Roman sherds was collected. Site 15 is located in a primary borrow area.

Site Number 16

grid coordinates: 233 210/237 060

elevation: 100-150m.

estimated size: 150m. dia.

Site 16 represents an Upper Paleolithic concentration of flints on a high sloping terrace overlooking the flat basin to the W. Located on the N side of the Yarmouk, a foot-path leads from the terrace W up to Qoussair village on the plateau above.

Site Number 17, Et-Tahuna

grid coordinates: 235 020/237 290

elevation: 100m.

estimated size: 100m. dia.

Site 17 occupies several cultivated terraces covered predominantly with B sherds. On the lower terraces stand several recently made buildings now abandoned. The structures are made of stone and mud, and are in fair condition. Many dressed blocks were found and a possible piece of a basalt grinding wheel. An

unfinished limestone column base was located on an upper terrace. On the S end of the site there is a rock-cut channel leading from the river which was probably associated with a mill. A large well-cut basalt block was found in the mill area. An orchard is located on the S side and several canals are on the W side running N to S.

Site Number 18

grid coordinates: 233 600/236 430

elevation: 75-90m.

estimated size: 250x200m.

Site 18 is a large prehistoric site with a heavy concentration of worked flints. The Middle Paleolithic period is well represented. Also evidenced are the Early Neolithic and to a far lesser degree Lower Paleolithic. The terrace overlooks the basin where the Yarmouk and the Nahr el Harir join. The terrace is partially cultivated with several corrals made of field stones.

Site Number 19; El Baidar

grid coordinates: 237 850/236 370

elevation: 170-200m.

estimated size: 200m. dia.

Site 19 is located S of the Yarmouk river across from the Zeizoun station. The pottery artifacts were predominantly from the LB period. The site is strategically located on a high terrace at a point where the Yarmouk changes its course from N to W. On the E and N sides of the site there are steep cliffs going down to the river. It is also at this point that the Yarmouk Valley widens out to provide terrace areas suitable for cultivation and habitation (see Pl. LXIX,2). Dominating the site is a circular wall approximately 45m. diameter constructed of partially dressed basalt blocks, some of megalithic proportions (see Pl.LXX,1). On the N side, the wall stands to a height of ca. two m. On the E side is a gateway of dressed stones. The lower terraces to the N and W of the circular wall are littered with pottery indicating ancient habitation. The higher terraces to the E and S of the wall contain no pottery, but were

cleared of fieldstones as if for cultivation. The area is somewhat isolated and there is no evidence of recent cultivation. An E-W trail passes along the E edge of the site at the base of the steep incline rising to the Jordanian plateau above.

Site Number 20

grid coordinates: 237 090/236 570

elevation: 150-170m.

estimated size: 100x50m.

Site 20 is a natural terrace on the S side of the Yarmouk river. A road leading to the river is cut into the N side of the site. The terrace is eroded and is scattered with basalt outcropping. The artifacts collected were largely worked flints from the Middle Paleolithic through the EB.

Site Number 21, Umm El-Hasinat.

grid coordinates: 235 035/236 650

elevation: 150m.

estimated size: 100x50m.

Site 21 consists of dressed rectangular limestone blocks on the N end of a high ridge. Some foundation stones are also visible. A small sample of sherds was found with several periods of occupation represented. The range of the sample is EB, MB II, with a gap to Late Byzantine. The site commands a view of the Yarmouk river at a large bend on the S side. A well-worn path leads to the site. Because of the overgrowth it was difficult to find artifacts.

Site Number 22

grid coordinates: 231 550/237 450

elevation: 300m.

estimated size: 200x100m.

A building of partially dressed basalt stones was found on a high basaltic hill in a secondary borrow area. On the E side of the structure there appears to be an entrance into the building. A large concentration of sherds was found over the hill and on the slopes leading E to Site 31. These sherds are predominantly Early Roman II-IV. Basalt quarrying activity is evident near the building, as there is an abun-

dance of stone chips. To the SW of the building is a pile of basalt gravel, possibly used to pave the modern road that circles around the site to the N and down to the JVA camp. About 250m. to the east there is a pile of badly weathered basalt stones about 10m. diameter. Possibly this is a watchtower associated with Site 22.

Site Number 23, El-Burj.

grid coordinates: 230 130/237 550

elevation: 70m.

estimated size: 30m. dia.

Site 23 is located in a secondary borrow area. It consists of a square foundation (ca. 12x12m.) of undressed basalt field stones with a possible gateway of dressed stone. This badly destroyed structure is N of, but adjacent to, a Turkish complex, apparently built in connection with the Hijaz railway line. All of the structures are located on a natural hillside. Most of the sherds were picked up on the slopes of the hill side and represent the MB II B-C period. Several basalt grinding stones were also noted.

Site Number 24

grid coordinates: 229 861/237 688

elevation: 73m.

estimated size: 5x4m.

Site 24 is a small prehistoric site located in a primary borrow area. It is about 10m. SW of a geological test pit (HR2-2) on an eroded slope of a terrace. Early Neolithic flint dominates the small sample which also includes a few P flints.

Site 25

grid coordinates: 229 480/237 930

elevation: 70m.

estimated size: 100m. dia.

Site 25 is in a secondary borrow area and consists of a flat terrace with a large circular pile of undressed basalt stones at the S edge. The stone pile is ca. 15m. in diameter and ca. 4m. high with rock fall to the S side. A concentration of worked flints was found covering this terrace and also around the pile of stones. The identifiable flints are Lower to Middle Paleolithic. On a slightly lower terrace, SW of the pile of

undressed basalt stones, a foundation of a wall ca. 9m. long was found.

Site Number 26

grid coordinates: 230 215/237 225

elevation: 40m.

estimated size: 500x100m.

Site 26 is located on a flat ridge oriented NW-SE on the N side of the Yarmouk river. The ridge is washed on the NE, SE, and SW sides by the river. A heavy concentration of worked flints was found dating to the Early Neolithic period. The railway line cuts through the NW end of the site and the SE end is presently under cultivation. Site 26 yielded the heaviest concentration and highest quality of flint of any of the flint sites located in the survey. In dam construction this site could be damaged severely, as it is surrounded by borrow areas.

Site Number 27, Tabaqat Nasrah

grid coordinates: 230 540/237 450

elevation: 30-65m.

estimated size: 400x100m.

Site 27 is a large prehistoric site located in a secondary borrow area downstream from the proposed damsite. It is predominantly Early Neolithic with evidence of some P occupation. The site spreads over a natural terrace that is partially cultivated. Some lines of field stones are visible which may be terrace walls or structure walls. Three grinding stones were found of which a broken saddle mortar was photographed (see Pl.LXX,2). The summit at the NE end is strewn with rocks. At the time of the survey, the overgrowth made it difficult to find artifacts. Cultivated fields lay between the site and the river on the lower terrace. The railway line cuts through the NE end of the site.

Site Number 28, Tell Qurs.

grid coordinates: 230 890/237 065

elevation: 150-180m.

estimated size: 140x90m.

Tells Qurs is a natural hill located on the S side of the Yarmouk river, W of Wadi es Sijn. The predominant periods of occupation were

the EB and the R periods. There are a number of dressed blocks on the site indicating the presence of stone structures.

Nelson Glueck visited the site in 1942 and reported finding hewn stones and pottery from the first part of the EB, the IA, and the R and B periods, (Glueck 1951: 130, Site 89). A description and photo plate of two of these sherds was published (1951: 492, pl. 84: 7, 10).

Site Number 29

grid coordinates: 230 875/237 390

elevation: 80-85m.

estimated size: 100x100m.

Site 29 is situated on a high terrace on the S side of the Yarmouk river. The worked flints and pottery sherds collected here are predominately from the EB period. Presently, the JVA engineering camp is located on the site with some cultivated area around the camp.

Mellaart saw the site in 1953 and reported finding "Neolithic/Chalcolithic type flints", (Mellaart 1962: 140-41, Site No.4).

Site Number 30

grid coordinates: 232 990/236 050

elevation: 75m.

estimated size: 3.4x1m.

Site 30 is a N/C ash pit filled with sherds and small pebble stones. It is located on the W side of the Wadi esh Shallala just before the wadi intersects the Yarmouk and is SE of Tell Jamid. The pit is visible because of a road which cuts through the steep slope. It is on the W side of the road.

Site Number 31

grid coordinates: 231 645/237 440

elevation: 300m.

estimated size: ca. 200m. in one direction, unknown in the other direction.

Site 31 is located on a high terrace S of the Yarmouk river above the proposed damsite. It is a cultivated field N of the paved road which leads to the JVA camp. The artifacts collected are nearly all worked flints, predominately P and N. One artifact of special interest is an

Acheulian handaxe from the Lower to Middle P period. The site is located in a potential secondary borrow area.

Site: Maqarin Ledge

grid coordinates: 232 700/236 770

elevation: 80-100m.

estimated size: unknown.

The survey team did not visit this due to the presence of a mine field. It is a prehistoric site on a low terrace on the S side of the Yarmouk river to the NW of Tell Jamid and W of the Maqarin station. It is in a primary borrow area and thus threatened by dam construction. The site was visited in 1953 by James Mellaart and Henri de Contenson (their site No.2.). Mellaart reported finding some Mousterian flints (Middle Paleolithic), but the majority of the flints were from the N/C period (Mellaart 1962: 140-41). Contenson believed the site to be a flint workshop and reported flints from the Lower Paleolithic, Upper Paleolithic, and N periods (Contenson 1964: 31, pl. VIII:4,5).

King Talal Reservoir Area

Site Number 1, Khirbet es-Suwwari

grid coordinates: 231 250/179 300

elevation: 238 m.

estimated size: 65 m. dia.

Khirbet es-Suwwari (Glueck's No. 340), is located on a high natural hill that is heavily eroded. A large number of IA sherds (Pl.LXX-XII ,2), and very few MB were found, where Glueck found a large number of EB IV-MB IIA and numerous Iron I-II (1939:222). Two Persian sherds were also collected, a period not represented in Glueck's sample. Since Glueck visited the site, a modern building has been built on the top.

Site Number 2, El Maida

grid coordinates: 230 085/178 490

elevation: 175 m.

estimated size: 50 m. dia.

Site No.2 is a prehistoric site located on a low terrace next to the river on the N side. The terrace is well cultivated with a lemon and

orange orchard covering it. Early Neolithic flints are dominant, a few M and possibly a few P flints. The sherd sample is small with Modern Mamluke/Ottoman, and Byzantine periods represented.

Site Number 3, Umm Er-Rumman

grid coordinates: 230 250/178 410

elevation: 200 m.

estimated size: 110 x 50 m.

Site 3 is an elongated hill with a narrow ridge on top. The hill is a sandstone formation and is heavily eroded on top. The sherds were taken from the slopes. Sandstone formations along the E side just below the summit appear to be natural rather than remnants of a wall. Umm Er-Rumman rises above the terrace where Site No. 2 is located. A door socket of sandstone was found at the base of the hill on the W side. The sherds are predominantly Early Roman, with a fairly good representation of Iron IA.

The survey work in the Zarqa introduced a number of problems associated with identifying local names of sites, particularly tells. One objective of the survey was to verify or modify Nelson Glueck's site identifications where-ever possible. In the case of Sites 1 and 13, the verification proved a simple matter. The names supplied by the villagers for these sites, as well as their description, matched those given by Glueck. In other cases, however, complications arose. The description given by Glueck of his Site 341, Tell Tunyah, seemed to match Site 3 Umm Er-Rumman. The local names however did not match. The villagers indicated that Tell Tunyah was located farther W. Upon further investigation a long ridge was located, on which a village was recently built. This ridge is just W of the old Jerash road, overlooking the bridge on the N side of the river. A villager working in the field stated that this was Tell Tunyah. Glueck's Site 342, Khirbet es-Seqi, was located just W of Tell Tunyah. But the villager said that Khirbet es-Seqi was on the S side of the river. And in fact, on the map of the area on the S side of the river at this point is called Haud es Saqi. Glueck also described a spring called Ain Dalla

Table 2

Aicheological Analysis of King Talal Reservoir Area

Period	Areas																				
	A	B	C	D	E	F *	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
P	2	7	20					6	4	3			7				5				
M		5	9					5							6		5				
N		3						85	15								25				
N/C																					
N/CF																					
C																					
C/EB																					
C/EBF																					
EB							2				23					6				15	
EBF																					
EB-MB																					
MB	1	9					3							28						4	6
LB		1					4													8	
IA							20		10											3	
PE							2														
H																					
R	3		4			1			37				1								9
B								2								1		123			
EI																					
LI	13		1	10	28			5				3					4				
OTT/M			9																		
M	13	8	4				7	6	6						3	20					
UDS	1		5				5		18								26			5	2
UDF	7	8	17	3	29	8	2	5	13				1	13	4	13	3			2	18
TS	34	31	31	5	14	29	163	20	73		23	3	1	29	4	20	35	123	225	87	
TF	12	8	32	3	58	8		97	20	18	2	1	20	4	19	3	72			2	18

* G—H No Artifacts

on the S side of Khirbet es-Seqi. Upon asking the villager where Ain Dallal was located, he said that it was just below Tell Tunyah. And in fact, there was a spring in that location. At first however, the villager replied that Ain Dallal was atop a distant plateau. Some minutes later he said that he had lied about the location of Ain Dallal because he thought the survey team knew of the location of gold near Ain Dallal.

In any case, neither the ridge identified by the villager as Tell Tunyah (or Glueck's Khirbet es-Seqi), nor a ridge to the W of it (conceivably Glueck's Tell Tunyah), showed any traces of ancient occupation. In other cases, not associated with Glueck's sites, the team was given conflicting names for the same site by different local residents. For example, a villager identified himself as being better informed than other villagers, and his identification should take precedence. One villager said that the name Tell Tunyah had been introduced into the area by a foreign cartographer who had worked in the area recently. Lastly, it often happens that a name given to a specific mound is actually a general name for the entire district, such as Haud es-Saqi mentioned above: All of the above problems are pointed out by way of caution to future researchers. They may encounter great fluidity, fluctuation, and uncertainty in the identification of modern place names in the remote areas of the Near East.

Site Number 4.

grid coordinates: 230 600/178 825
 elevation: 180 m.
 estimated size: 75 x 10 m.

Site 4 is a relatively small site where a concentration of flints was found at the intersection of two tracks at the edge of the Zarqa on the W side. Wash coming down from the terraces above could have carried the flints to this place. Flints were found in the road above to the W for ca. 50m. The flints appear to be predominantly Early Neolithic.

Site Number 5, Tell Freiji

grid coordinates: 230 550/178 600
 elevation: 250 m.
 estimated size: 80 x 30m.

Tell Freiji is located on a very high hill, which is badly eroded and bare on the top and upper slopes. The top is rocky and few sherds were found--all possibly EB II. The top slopes were also cultivated.

Site Number 6

grid coordinates: 230 335/178 325
 elevation: 175 m.
 estimated size: 4x4m. average

Site 6 is a series of four large caves in the cliff at the SE end of Umm Er-Rumman overlooking the Zarqa. No artifacts were found in the caves which are presently being used by shepherds. Three Late Ottoman/Modern sherds were found on the slope outside of the caves.

Site Number 7, Abu el Samar

grid coordinates: 229 517/178 443
 elevation: 165 m.
 estimated size: 50m. dia.

Site 7 is a prehistoric site located on a low terrace, which is currently a well cultivated lemon and orange orchard. The flints are predominantly unidentified, with about one third P.

Site Number 8, Abu el Samar

grid coordinates: 229 404/178 456
 elevation: 172-179 m.
 estimated size: 100 m. dia.

Site 8 covers four terrace walls which are possibly ancient and modern. The hillside slopes down to a flat cultivated terrace next to the wadi on the NE side. The sherds were solely MB II (see Pl.LXXXII,1). A large sample of sherds was inadvertently left at the site.

Site Number 9

grid coordinates: 229 041/177 573
elevation: 149 m.
estimated size: 30x20m.

Site 9 is on a low terrace on the N side of the Zarqa river. A small quantity of worked flints were found here, of which one-third can be identified as M, the remainder being unidentified and require further analysis. The site today is under cultivation, with a ruined mud-brick building on it.

Site Number 10
grid coordinates: 229 393/178 172
elevation: 153 m.
estimated size: 30x12m.

Site 10 is a burial on a hillside to the E of the Zarqa river. It is located between a rock outcropping on the W edge and a ravine on the E edge. One grave had been recently opened. Modern pottery sherds were found in the vicinity of the cemetery.

Site Number 11, Abu Shawmar
grid coordinates: 228 800/177 548
elevation: 165 m.
estimated size: 50 m.-dia.

Site 11 is located on a high terrace on the S side of the Zarqa river. Today it is under cultivation and has a line of Eucalyptus trees along its upper (S) edge, some of which are being cut by villagers. There is a deep wadi on the E side of the site. Flints and sherds predominantly from the Early Neolithic (see Pl.LXXXI,2) and EB periods were found thinly scattered about the site.

Site Number 12
grid coordinates: 228 190/177 910
elevation: 185 m.
estimated size: 30x30 m.

Site 12 is a ruined site located at the edge of a deep wadi overlooking the Zarqa on the N side. The site is about 15 m. below the level of

the modern road leading to King Talal Dam. The site was virtually destroyed by the road building activity. There are remnants of a possible tower made of undressed stone. It is possible to follow the line of the tower wall. A deep cistern is located on the W side underneath the tumble. The sherds are predominantly Late Byzantine, with considerably smaller concentration of Early Byzantine (see Pl. LXXXIII,1).

Site Number 13, Tell Er-Rehil
grid coordinates: 226 320/177 360
elevation: 200 m.
estimated size: 140x40m.

Site 13 is located on a natural hill on the Zarqa river, with the river sweeping around its E,S, and W sides (see Pl.LXXI,1). It is currently the site of the permanent buildings for the King Talal Dam personnel. Because of the modern construction, the top of the site is almost totally destroyed. The sherds collected were predominantly from the EB period, although the MB, LB and IA are also represented. On the SE side of the hill, ca. 10m. below the top are two rock-cut chambers (which appear to be tombs. See Pl.LXXI,2). They are comprised of a single chamber each. The westernmost chamber is ca. 97 cm. wide 1.57m. deep and 1.2m. high (see Pl.LXXII,1) while the easternmost is 1.22m. wide, 1.89m. deep and 1.14m. high. It was reported that there are a series of such chambers further down the hill, but this area was under water at the time of the survey. Possible remains of walls were also observed on the SW and NW sides of the hill, and a possible road on a lower terrace on the SW side.

Site 13 was previously reported by Nelson Glueck (1939:223, Site No. 343), who observed wide cultivated terraces between the base of the hill and the river which are today under water. He also observed several cisterns, foundations, and a tower which have been destroyed by the modern construction.

Site Number 14, Tell es-Safh et Tawil

grid coordinates: 230 000/178 850
 elevation: 235 m.
 estimated size: 60x40m.

Site 14 is located on a natural hilltop on the N side of the Zarqa river. It is in the middle of a horseshoe bowl formed by wadis, with cultivated fields in the bottom of the bowl on the W, N and E sides of the site. The hilltop is bare, with rock outcropping at the N end. The predominant periods represented in the pottery sherds collected were R and MB IIA-B.

Table 3
 Archeological Analysis of Wadi Arab
 Reservoir Area

Period	Areas		Sites		
	A	B	1	2	3
P	2				
EB				2	8?
EBF				1?	
EB-MB					
MB				8	1
LB					
IA	1				1
PE					
H					
R	4	6	20	1	3
B	18				14
EI					
LI	1?				
OTT/M		1			10
M	1			5	
UDS	1	7	2		5
UDF	3			1	
TS	61	14	40	17	159
TF	5			1	5

Wadi Arab Reservoir Area

Site Number 1
 grid coordinates: 210 302/225 093
 elevation: 119m.
 estimated size: 75x20 m.

Site 1 is located on a natural tongue projecting into the wadi from the N side. The foundation of a two-room building is clearly visible. The building follows the natural contour of the ridge, and a well-worn path passes in front of the building continuing along the N edge of the wadi. The small sample of sherds reflects the Early Roman period.

Site Number 2
 grid coordinates: 211 320/225 323
 elevation: 100 to -104 m.
 estimated size: 50x20 m.

Site 2 is located on a natural hill on the N side of Wadi Arab. Today there is a small village on the site. Foundations on the S edge of the site ca. 4m. long appear to be ancient. The artifacts collected were predominantly from the Middle Bronze II period.

Site Number 3, Tell Zer'ah
 grid coordinates: 211 940/225 180
 elevation: 40 m.
 estimated size: 300 m. dia.

Site 3 consists of a high, isolated natural hill and the surrounding lower terraces on the S side of the Wadi Arab, E of the intersection of the Wadi Zahar with Wadi Arab (see pl. LXXII,2). The hilltop commands a view of the Wadi Arab Valley both to the E and W. The site was of major size in antiquity. Scattered about the hilltop are abundant foundations and building stones. One large cistern was observed. A recently excavated hole ca. 4 m. in diameter and 1.5 m. deep revealed a floor of tesserae about .5 m. below the surface. The sherds collected were predominantly from the Late Byzantine period (see pl. LXXXIII,2), with also a good representation from the Early Bronze period.

Tell Zer'ah was visited by Nelson Glueck in 1942 (Glueck 1951: 182-84, Site No. 100). In addition to the above observations, Glueck noted a second cistern and a natural spring on the hilltop.

Recommendations

The following recommendations are based

both upon urgency (available time) and the intrinsic archeological merit of the sites themselves. In no case is it recommended that construction on a dam be stopped, that a dam site be moved, or that a reservoir level be changed. The goal implicit behind the recommendations is that salvage excavations be carried out on certain sites before they are destroyed. Ideally, it would be advisable to salvage all the archeological remains in the reservoir areas. In more practical terms however, a plan is presented below with a suggested timetable for excavation of the most important sites in the reservoir areas. It would be possible to carry out this kind of timetable within the projected schedule of dam construction and reservoir filling. Along with the timetable, projected manpower needs connected with the excavations are estimated. It is important that copies of this report and the accompanying maps be given to the on-site officials at the dams so that sites will not be inadvertently destroyed prior to salvage work.

The archeological remains in the three river valleys surveyed may not, at first appearance, possess the monumental or spectacular physical features of those in other areas, such as the Jordan Valley (Ibrahim, Sauer, Yassine 1976). Nevertheless, it is the opinion of the authors of this report that these valleys represent important areas in the cultural history of Jordan, as habitation areas, as E-W and possibly N-S passageways, and as border zones. Even though the survey itself has provided important new data for our understanding of the ancient cultural history of northern Jordan, relatively little archeological excavation has been carried out in the area. In addition, there are major gaps in

our knowledge of several of the archeological periods of northern Jordan, and of Jordan in general, particularly the prehistoric periods, but also the Middle Bronze, Late Bronze and Iron Ages, and the Hellenistic and Late Byzantine periods. The prehistoric periods are richly represented in the sites discovered in the reservoir areas. The other periods mentioned above are also represented.

It is important to emphasize the newness of the majority of sites discovered in the reservoir areas. Additional excavation work in these areas would add richly to our understanding of Jordan's cultural history.

The following tables embody the recommendations for further excavation. The archeological sites of the Maqarin Dam reservoir area are grouped together, as are those of the King Talal Dam and the Wadi Arab. Within each group the table is divided into three parts: part one lists the sites by their intrinsic archeological value (Excellent, Medium, Low); part two lists the sites according to when they will be destroyed, either by the dam construction phase (in the case of the Maqarin sites), or by the successive flooding phases; part three then combines sites by these two previous factors (intrinsic value and time). For example, when a site of great intrinsic value is going to be destroyed in an early stage of dam construction, excavation is recommended. In each case where excavation is recommended, an estimate of the number of supervisors needed to carry out the excavation and the approximate amount of time they would need is included in the table. The recommendations for excavation embody the bare minimum of what actually should be done in these areas.

Table 4

Maqarin Dam Reservoir Area

Sites Grouped by Intrinsic Archeological Value
(With Major Periods of Each Site Identified)

Excellent:

6-Middle Bronze, Iron, Hellenistic, Roman

14-Early Bronze

19-Late Bronze

26-Neolithic

Medium:

1-Cave

2-Neolithic

3-Byzantine

4-Byzantine

7-Neolithic

10-Roman

11-Middle Bronze, Roman

16-Paleolithic

17-Byzantine

18-Paleolithic, Neolithic

27-Neolithic

31-Paleolithic

Maqarin Ledge

Low:

5

22

8

23

9

24

12

25

13

28

15

29

20

30

21

Sites Grouped by Urgency

Dam Construction Phase:

15

26

22

27

23

29

24

31

25

Maqarin Ledge

Flooding Phase I.

1

2

14

6

16

10

17

11

18

12

21

13

30

Flooding Phase II.

3	
4	9
5	19
7	20

Not Threatened:

8
28

Recommendations Based on Intrinsic Value and Urgency

URGENT (These sites will be destroyed by construction activity within the next few months to one year).

Site No.	Elevation	No. of Supervisors	Time for Excavation
26		4	one 6-8 week season
27			
31		2	one 6-8 week season

PHASE I (These sites will be flooded within 4-6 years at 150 m. elevation).

6	160	3	Two 6-8 week seasons
14	123	4	Two 6-8 week seasons
2	70-140		
18	75-90	2	One 6-8 week season
1	100		
17	100	2	One 6-8 week season
16	100-150	2	One 6-8 week season
11	120-170	2	One 6-8 week season
10	135-180	2	One or more 6-8 week seasons

PHASE II (These sites will be flooded within 20 years at 200 m. elevation)

19	170-200	4	Major salvage excavation
3	160-200	4	Two or more 6-8 week seasons
4	150-180		
7	190-210	2	Two or more 6-8 week seasons

Table 5

King Talal Dam Reservoir Area

Sites Grouped by Intrinsic Archeological Value

Excellent:

1-Iron

8-Middle Bronze

Medium:

2-Palaeolithic, Mesolithic, Neolithic

6-Caves

- 11-Paleolithic, Mesolithic, Neolithic
- 12-Byzantine
- 13-Early Bronze

Low:

3	9
4	10
5	14
7	

Sites Grouped by Urgency

Flooding Phase I:

- 9
- 10
- 11

Flooding Phase II:

- 2
- 6
- 7
- 8

Not Threatened:

1	12
3	13
4	14
5	

Recommendations Based on Intrinsic Value and Urgency

Urgent (These sites will be flooded in a time period based on the amount of rainfall into the present reservoir, at 165 m.

Site No.	elevation,m.	No. of Supervisors	Time for Excavation
11	165	2	One 6-8 week season

Phase II (These sites will be flooded within 20 years at 175 m. elevation).

8	172-179	2	One or more 6-8 week seasons
2	175	2	One 6-8 week season
6	175	1	One 3-6 week season

Not Threatened:

Site No.	Elevation,m.	No. of Supervisors	Time for Excavation
1	238	4	Major excavation
12	185	2	One 4 week season
13	226	3	Two 6-8 week seasons

Table 6

Wadi Arab Dam Reservoir Area

Sites Grouped by Intrinsic Archeological Value

Excellent:

3-Early Bronze, Roman, Byzantine

Medium:

None

Low:

1

2

Site Grouped by Urgency

Flooding:

1

Not Threatened:

2

3

Recommendations Based on Intrinsic Value and Urgency

Flooding (Four Plus Years)

Site No.	Elevation	No. of Supervisors	Time of Excavation
----------	-----------	--------------------	--------------------

None

Not Threatened:

3

—40

Major excavation

BIBLIOGRAPHY

Contenson, Henri de.

1964 "The 1953 Survey in the Yrmouk and Jordan Valleys," **ADAJ**, VIII and IX pp. 30-46

XXV-XXVIII for 1945-1949, 2 parts.

Ibrahim, Monawiyah, James A. Sauer, Khair Yassine.

Glueck, Nelson.

1939 "Explorations in Eastern Palestine, III," **The Annual of the American Schools of Oriental Research (AASOR)**, Vols. XVIII-XIX for 1973-1939.

1976 "The East Jordan Valley Survey, 1975," **Bulletin of the American Schools of Oriental Research**, No. 222, pp. 41-66.

Jordan Valley Irrigation project Stage II, Feasibility Report, Vol. I-- Main Report, Vol. III--Appendix C Geology, Chicago: Harza Overseas Engineering Company in association with

1951 "Explorations in Eastern Palestine, IV," **AASOR**, Vols.

Dar Al -Hardasah Consultants.

Mellaart, James.

1962 "Preliminary Report of the
Archaeological Survey in the
Yrmouk and Jordan Valley,"
ADAJ, Vols. VI and VII, pp.
162-57.

Schumacher, Gottlieb.

1886 **Across the Jordan**, London:
Richard Bentley and Son.

Zarqa River Project, Feasibility Study, Vol. III

1971 **Geology/Photogeology**, Belgrade,
Yugoslavia: Geokarta.

T.M. Kerestes

J.M. Lundquist

B.G. Wood

K. Yassine