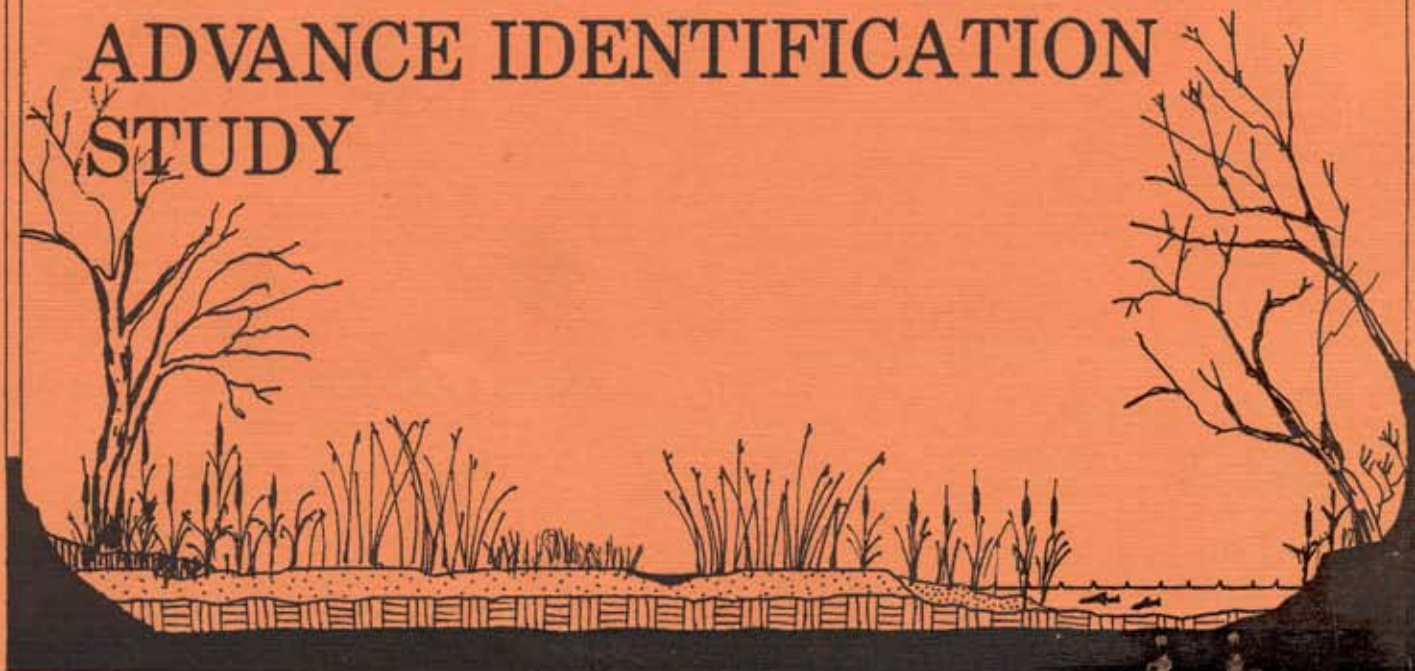


**SALT LAKE CITY-COUNTY HEALTH DEPARTMENT**  
**Division of Environmental Health**  
**Bureau of Water Quality**

**FINAL DRAFT**  
**JORDAN RIVER WETLANDS**  
**ADVANCE IDENTIFICATION**  
**STUDY**



SALT LAKE CITY-COUNTY HEALTH DEPARTMENT  
DIVISION OF ENVIRONMENTAL HEALTH  
BUREAU OF WATER QUALITY

JORDAN RIVER WETLAND ADVANCE IDENTIFICATION STUDY  
WETLAND FUNCTIONAL ASSESSMENT  
INTERPRETIVE REPORT

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## ACKNOWLEDGEMENTS

The Jordan River Wetland Advance Identification Study was undertaken as a cooperative interagency effort. This means that most of the technical support was donated by other agencies.

It is very difficult--to say the least--to obtain results of such voluminous technical scope on the Jordan River from individuals in other local, state and federal agencies on a "free gratis" basis. Some of the information was obtained through interagency contracts.

The WAIDS Technical Team worked many hours, often their own hours, to complete the reports necessary to attain the wetland rankings. Other personnel at Region VIII EPA displayed much patience and perseverance in overseeing and providing additional funding for the project. Finally, key media consultants provided a wealth of free television and radio time to inform Salt Lake residents about the project.

Special acknowledgments go to the following outstanding individuals within their respective areas of expertise:

Paul Adamus for flying all the way from Pennsylvania to instruct the WAIDS Technical Team on the use of his method.

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The future of wetlands near the Jordan River--or anywhere--rests with public awareness. Few people understand and appreciate the functions, values, and benefits of wetlands. We hope the project has made some inroads to understanding the sensitivity of these treasured resources and inhabitants.

Steven F. Jensen  
October 20, 1987.

JORDAN RIVER WETLAND ADVANCE IDENTIFICATION STUDY  
WETLAND FUNCTIONAL ASSESSMENT: DRAFT II  
SEPTEMBER 29, 1987 Begin  
OCTOBER 20, 1987 End

I. INTRODUCTION

The purpose of the Jordan River Wetland Functional Assessment is to facilitate the identification of individual wetland basin functions (such as wildlife, flood control, etc.) and relative ranking of individual wetlands and types as they occur along the Jordan River corridor from the Jordan Narrows to 2100 South Street in Salt Lake County.

The wetland functional assessment was the principal method utilized in an Advance Identification Study co-sponsored by Region VIII Environmental Protection Agency in Denver and the local office of the U.S. Army Corps of Engineers. Advance Identification studies are authorized in order to determine areas where Section 404 permit activity can be expedited or shortened. Likewise, the result of the Advance Identification process may result in decisions to prohibit any further Section 404 permit activity on an individual wetland or sub-regional wetland community basis.

The Jordan River Wetland Advance Identification Study (WAIDS) utilized a method for wetland functional assessment developed by Adamus (March, 1983). The Adamus document was originally commissioned by the U.S. Department of Transportation to aid efforts by the Federal Highway Administration in identifying conflicts and impacts from highway construction, and enable methods to mitigate or replace wetland loss (1).

The WAIDS was structured utilizing a multi-agency technical team approach, consisting of representatives from several federal, state, and local planning agencies (Figure 1). The technical team was divided into areas of individual expertise and performed assessments and site-specific studies. The WAIDS field data compiled to date include the period from May to November, 1986. Further study may be necessary to develop more information that would facilitate decisions to invoke Section 404c status, which prohibits any permitting action. Wetlands are also dynamic plant communities, and their boundaries may change with fluctuations in surface or groundwater hydrology.

This summary includes a short definition of objectives, scope, and functional definitions of wetland values attached to wetland basins identified along the Jordan River corridor. It also attempts to rank wetlands according to multiple functions, relative to each other.

FIGURE 1  
 JORDAN RIVER WAIDS TECHNICAL COMMITTEE  
 STRUCTURE, MEMBERSHIP, AND FUNCTIONS

REPRESENTATIVE	FUNCTION
Bob Mairley Region VIII EPA	Project Oversight, Administration
Brooks Carter U.S. Army Corps of Engineers	Project Oversight, consultation Liason, Waterway Exp. Station
Steve Jensen Salt Lake City-County Health	Project Manager, coordination Erosion control values
Bob Freeman, Bob McCue U.S. Fish & Wildlife Service	Project Oversight, Wildlife Values
Margy Halpin Utah Div. Wildlife Resources	Vegetation & Wildlife Values
Maureen Wilson Utah Div. Wildlife Resources	Fishery Values
Bard Ferrin, Terry Green Utah Div. Parks & Recreation	Recreational Values
Rick Wilcox, Stan Elmer Utah Div. Lands & Forestry	State Sovereign Lands Coordination
Roy Gunnell Utah Bureau Water Quality	Macroinvertebrates, Water Quality
Bob Sennett U.S. Soil Conservation Serv.	Vegetation & Soil Values
William D. Robinson Salt Lake Soil Conservation District	Vegetation & Soil Values
Paul West Salt Lake County Planning	Vegetation Values & Mapping
Terry Way Salt Lake County Flood Control	Flood storage & hydrology
Frank Nabrotzky Salt Lake City-County Health	Macroinvertebrates, Water Quality

## II. PROJECT SCOPE & OBJECTIVES

The scope of the Jordan River WAIDS includes the geographic corridor of the Jordan from the Narrows to 2100 South (Figure 2). It includes approximately 2000 acres of mostly Palustrine Emergent wetlands principally confined between irrigation canals flanking the eastern and western sides of the river.

The objectives of the Jordan River WAIDS are:

1. To identify wetlands where dredge and fill permit activity can be expedited and where potential mitigation or replacement would be required.

2. To identify wetlands where Section 404c designation would prohibit future permit activity.

These objectives have relied on the method developed by Adamus to enable sub-regional analyses in a timely manner. The Adamus method appears most applicable to site-specific analysis. However, the WAIDS Technical Committee believed that this approach could be applied in a more expansive sub-regional setting.

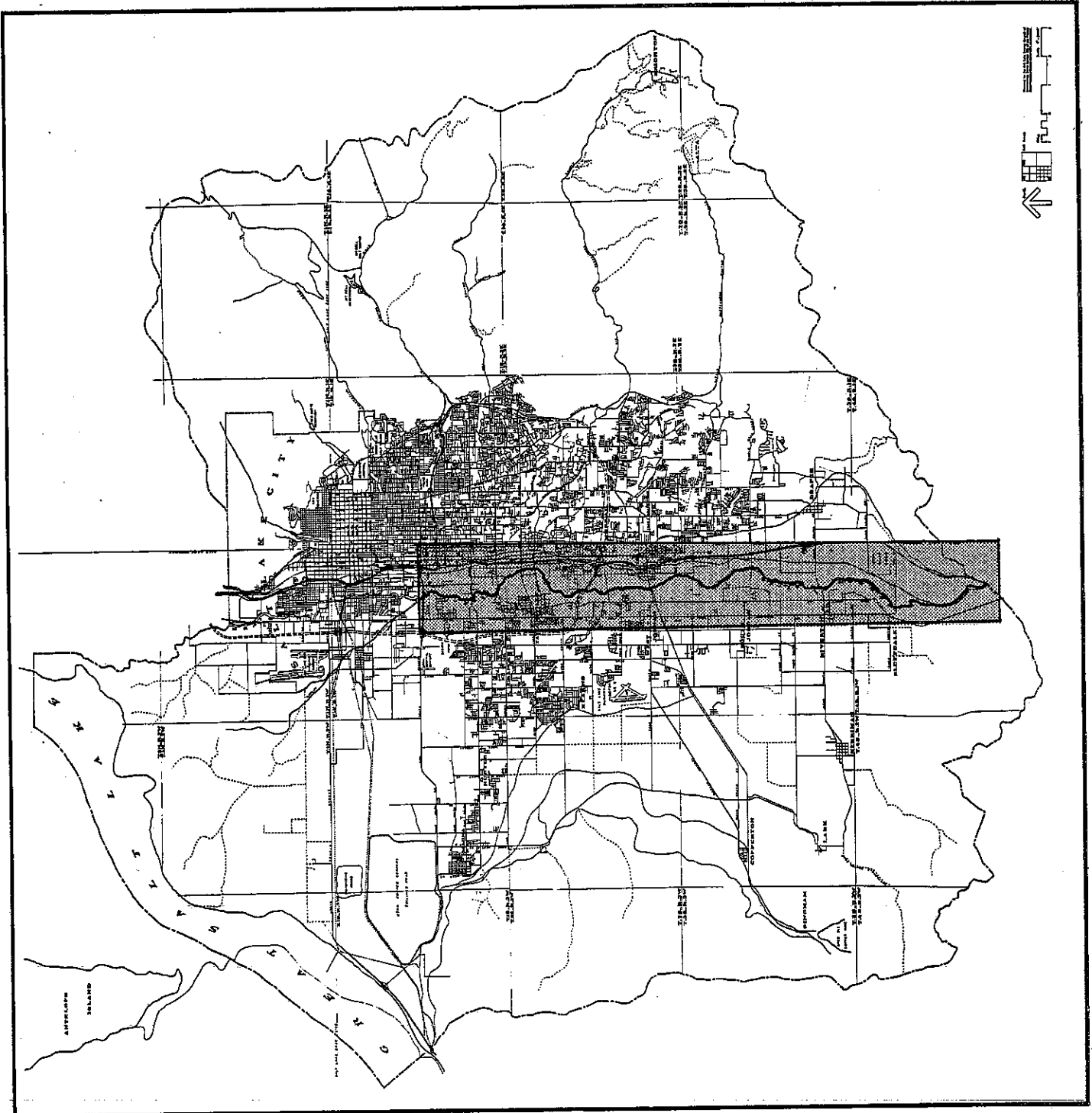
The identification of wetlands which possess characteristics meriting Section 404c designation requires a tremendous amount of data that, due to the time available, may be incomplete. A single seasonal inventory of biological conditions along a 22 river-mile corridor may be insufficient to make determinations with any degree of statistical confidence, but may facilitate good decision-making based on qualified judgement.

Many wetland variations occur with seasonal changes. Hydrologic conditions, particularly related to flood inundation and groundwater discharge, were estimated during a high flow regime not representative of low flow periods. Recent flooding has downcut the river channel and isolated many adjacent oxbows. Single samples were taken for macroinvertebrate and water quality analyses during the latter part of the growing season. Many bird and wildlife species that frequent the area during spring, fall and winter are absent from the WAIDS inventory.

The WAIDS Technical Committee will recommend to the U.S. Corps of Engineers and Region VIII Environmental Protection Agency certain wetland rankings based on a threshold analysis which defines functional opportunity and effectiveness during a single inventory season. Regulatory agencies have the option of postponing decisions until such a time that adequate data is generated to accurately define important values.




**FIGURE 2. DEFINITION  
OF THE STUDY AREA**



SALT LAKE CITY-COUNTY HEALTH DEPARTMENT  
Division of Environmental Health  
Bureau of Water Quality

JORDAN RIVER WETLANDS  
ADVANCE IDENTIFICATION  
STUDY



### III. WETLAND FUNCTIONAL DEFINITIONS & ASSESSMENT METHODOLOGY

The method employed by the interagency WAIDS Technical Committee defines important wetland values and functions. Based on composite analysis of various functions and values, individual wetland communities-or basins-can ranked in terms of their importance to the larger community. Wetland communities can also be ranked among each other and compared for possible 404c designation.

Trade-offs among various wetland values can be determined from the Adamus method in order to optimize conservation decisions. The method can also be updated based on the acquisition of additional data which may clarify or refine functional values. Such updates could affect the ranking of various wetlands according to functional values.

Based on office or file information, the WAIDS Technical Committee responded to questions regarding existing conditions at 22 individual wetland basins along the 22 miles of the Jordan River. The questions are included in the Adamus wetland functional assessment format and answers are recorded on a computer response sheet. The responses address 69 questions indicating wetland value (Figure 3). Of the 69 questions, 51 require office and field-type data. The remainder require detailed data that were gathered between May and September of 1986.

Individual technical reports produced by WAIDS Technical Committee members provided detailed data. This intensive data acquisition phase (Part C) adds some clarification to questions in part A and part B. A summary of answers to questions 1-51 is included in the following discussion. Answers to questions 52-69 are contained in the Appendix.

Figure 3 Predictors of wetland functional value

1. CONTIGUITY
2. CONSTRICTION
3. SHAPE OF BASIN
4. FETCH AND EXPOSURE
5. BASIN SURFACE
6. WETLAND SURFACE AREA
7. BASIN AREA/WATERSHED AREA RATIO
8. BASIN AREA/SUBWATERSHED AREA RATIO
9. LOCATION IN WATERSHED
10. STREAM ORDER
11. GRADIENT OF SUBWATERSHED
12. GRADIENT OF TRIBUTARIES
13. GRADIENT OF BASIN
14. PERCHED CONDITION
15. LAND COVER OF SUBWATERSHED
16. LAND COVER TRENDS
17. SOILS OF SUBWATERSHED,
18. LITHOLOGIC DIVERSITY
19. DELTA ENVIRONMENT
20. EVAPORATION-PRECIPIATION BALANCE
21. WETLAND SYSTEM
22. VEGETATION FORM
23. SUBSTRATE TYPE
24. SALINITY AND CONDUCTIVITY
25. pH
26. HYDROPERIOD
27. FLOODING DURATION AND EXTENT
28. ARTIFICIAL WATER LEVEL FLUCTUATIONS
29. NATURAL WATER LEVEL FLUCTUATIONS
30. TIDAL RANGE
31. SCOURING
32. FLOW VELOCITY
33. WATER DEPTH (MAXIMUM)
34. WATER DEPTH (MINIMUM)
35. WIDTH
36. OXYGENATION OF SEDIMENTS
37. MORPHOLOGY OF WETLAND
38. FLOW BLOCKAGE
39. BASIN ALTERATIONS
40. POOL-RIFLE RATIO
41. BASIN'S VEGETATION DENSITY
42. WETLAND'S VEGETATION DENSITY
43. SHEET VS. CHANNEL FLOW
44. WETLAND-WATER EDGE
45. GRADIENT OF EDGE
46. SHORELINE VEGETATION DENSITY
47. SHORELINE SOILS
48. DISTURBANCE
49. PLANTS: FORM RICHNESS
50. PLANTS: WATERFOWL VALUE
51. PLANTS: ANCHORING VALUE
52. PLANTS: PRODUCTIVITY
53. INVERTEBRATE DENSITY: FRESHWATER
54. INVERTEBRATE DENSITY: TIDAL FLAT
55. SHORE EROSION MEASUREMENTS
56. GROUND WATER MEASUREMENTS
57. SUSPENDED SOLIDS
58. ALKALINITY
59. EUTROPHIC CONDITION
60. WATER QUALITY CORRELATES
61. WATER QUALITY ANOMALIES
62. WATER TEMPERATURE ANOMALIES
63. BOTTOM WATER TEMPERATURE
64. DISSOLVED OXYGEN
65. UNDERLYING STRATA
66. DISCHARGE DIFFERENTIAL
67. TSS DIFFERENTIAL
68. NUTRIENT DIFFERENTIAL
69. RECHARGE EFFECTIVENESS
70. DISCHARGE EFFECTIVENESS
71. FLOOD STORAGE EFFECTIVENESS
72. SHORELINE ANCHORING OPPORTUNITY
73. SHORELINE ANCHORING EFFECTIVENESS
74. SEDIMENT TRAPPING OPPORTUNITY
75. SEDIMENT TRAPPING EFFECTIVENESS

## A. WETLAND FUNCTIONAL ASSESSMENT: DETERMINING VALUES

Figure 4 enumerates functions performed by wetlands that make them valuable resources. Functions documented near the Jordan River include groundwater discharge, flood storage, shoreline anchoring, sediment trapping, nutrient and pollutant retention, food chain support, fishery habitat, wildlife habitat and recreation.

Each wetland basin was evaluated based on its effectiveness in performing these functions and assigned relative point values. Point values are totaled to enable estimation of relative values and prioritization of individual wetland basins.

Where data is lacking or insufficient to make any conclusions as to function, recommendations are made for further study. The following sections summarize the interactions and values of the various functions and how they were derived during the WAIDS study.

### 1. GROUNDWATER DISCHARGE.

The shallow aquifer in the Salt Lake valley drains into the Jordan River along the base of bluffs formed by ancient alluvial or lacustrine deposits. This drainage or "discharge" provides valuable low flow augmentation to the Jordan River during dry periods, contributing 170,000 acre-feet annually. Since the Jordan is flanked on both sides by irrigation canals, it is possible that leakage may occur, further augmenting groundwater spring flow. Observations during winter months reveal that even when canals are empty, groundwater spring seepage still occurs to the Jordan (2).

Spring seepage interacts with other wetland functions (3):

- a. Possible aggravation of flood peaks
- b. Growth and maintenance of vegetation to help anchor the shoreline, and provide habitat structural diversity.
- c. Dilution of nutrient or pollutant loads.
- d. Increasing net food chain productivity by stabilizing seasonal water levels, and water quality.
- e. Maintaining minimum flows for fishery production.
- f. Maintaining minimum flows for canoeing or other water sports.
- g. Provides spawning grounds for various fishes in the River.

These interactions occur with varying frequency in different wetland basins. They are noted in Table 1 with the corresponding letter.

### Summary Sheet D

This form is the appropriate place for recording the ratings that result from use of the interpretation procedures and keys in Sections 2.1.2, and 2.2.2. As each analysis is completed, enter its rating (high, moderate, or low; or A, B, or C) in the relevant box until all boxes for functions of interest are filled.

Begin by labeling the context of the analysis (pre- or post- construction, with or without mitigation, name of basin and WIA). Then enter the data, using the numbered footnotes to help locate the associated analyses. For the evaluation of each function's Effectiveness, enter whichever rating is higher--that for the basin or that for the WIA. The evaluation of the impact vector is optional.

BASIN _____		WIA _____		PROJECT _____	
EVALUATION TIME FRAME (PRE/POST) _____			MITIGATION PLAN # _____		
FUNCTION	EFFECTIVENESS <sup>1</sup>	OPPORTUNITY <sup>1</sup>	FUNCTIONAL RATING <sup>2</sup>	SIGNIFICANCE <sup>3</sup>	FUNCTIONAL SIGNIFICANCE <sup>4</sup>
GROUND WATER RECHARGE <sup>5</sup>					
GROUND WATER DISCHARGE <sup>6</sup>					
FLOOD STORAGE <sup>7</sup>					
SHORELINE ANCHORING <sup>8</sup>					
SEDIMENT TRAPPING <sup>9</sup>					
NUTRIENT RETENTION LONG-TERM <sup>10</sup> SEASONAL <sup>11</sup>					
FOOD CHAIN SUPPORT DOWNSTREAM <sup>12</sup> IN-BASIN <sup>13</sup>					
FISHERY HABITAT WARMWATER <sup>14</sup> - COLDWATER <sup>14</sup> COLDW. RIVERINE <sup>14</sup> ANADROMOUS RIV. SPECIES <sup>15</sup> _____					
WILDLIFE HABITAT GENERAL DIVERSITY <sup>16</sup> WATERFOWL GP. <sup>17</sup> WATERFOWL GP. <sup>17</sup> SPECIES <sup>18</sup> _____ SPECIES <sup>18</sup> _____ SPECIES <sup>18</sup> _____					
ACTIVE RECREATION <sup>19</sup> SWIMMING BOAT LAUNCHING POWER BOATING CANOEING SAILING					
PASSIVE RECREATION AND HERITAGE <sup>20</sup>					
IMPACT VECTOR RATING <sup>21</sup>					

FIGURE 4. FUNCTIONS PERFORMED BY WETLANDS

Table 1 is a summary of groundwater discharge conditions occurring within individual wetland basins. Effectiveness is based on the frequency of discharges and the number of interactions with other factors present. Further study is recommended where needed. Figure 5 notes distribution of groundwater discharge and springs along the Jordan River. Spring flows were not measured.

TABLE 1. BASIN EFFECTIVENESS: GROUNDWATER DISCHARGE

BASIN #	EFFECTIVENESS	INTERACTIONS/RECOMMENDATIONS/COMMENTS
1	Moderate	b,d,e. Also supports wetlands important to many types of wildlife, deer, beaver, etc.
2	Low	b. Narrow drainage basin. Discharge supports heavy riparian growth bankside.
3	High	a,b,c,d,e,f,g. High volume spring flows. Heavy grazing activity: dairy cows/horses
4	High	b,c,d,e,g. Discharge supports many upland isolated palustrine communities preferred by valuable waterbirds such as Ibises.
5	High	5 b,c,d,e. Discharge supports thick Riparian growth and isolated Palustrine communities preferred by valuable waterbirds.
6	Moderate	a,b,c,d,e. Oxbows store floodwater, provide good riparian overstory growth important to wildlife.
7	High	a,b,c,d,e. Recent dredging activity may have modified plant density by impounding groundwater discharge.
8	Low	b,c. Further study recommended on this site.
9	Moderate	b,c,d,e,g. Dense riparian cover spotty. Grazing activity has modified cover.
10	Low	b,d. Further study recommended on this site
11	Low	b,d. Modified by illegal filling activity
12	Moderate	b,c,d. Cut-off oxbow traps discharge. Flood dredging piles have modified plant density by impounding groundwater discharge.
13	Low	Further study recommended on this site.
14	Moderate	a,b,c,d,e,f. Groundwater near Steel Mill tailings should be investigated for toxics.
15	Low	b,c,d. Discharge monitoring recommended.
16	Low	c,d. Further study recommended.
17	Low	c,d. Further study recommended.
18	Low	b,d. Modified by flood control activities.
19	High	b,c,d. Dense riparian growth supports extensive wildlife.
20	Moderate	b,d. Modified by flood control activities.
21	Low	b,d. Little discharge observed. Further study recommended.
22	Low	b,d. Little discharge observed.

FREQUENCY DISTRIBUTION: OXBOWS & SPRING DISCHARGE

Jordan River

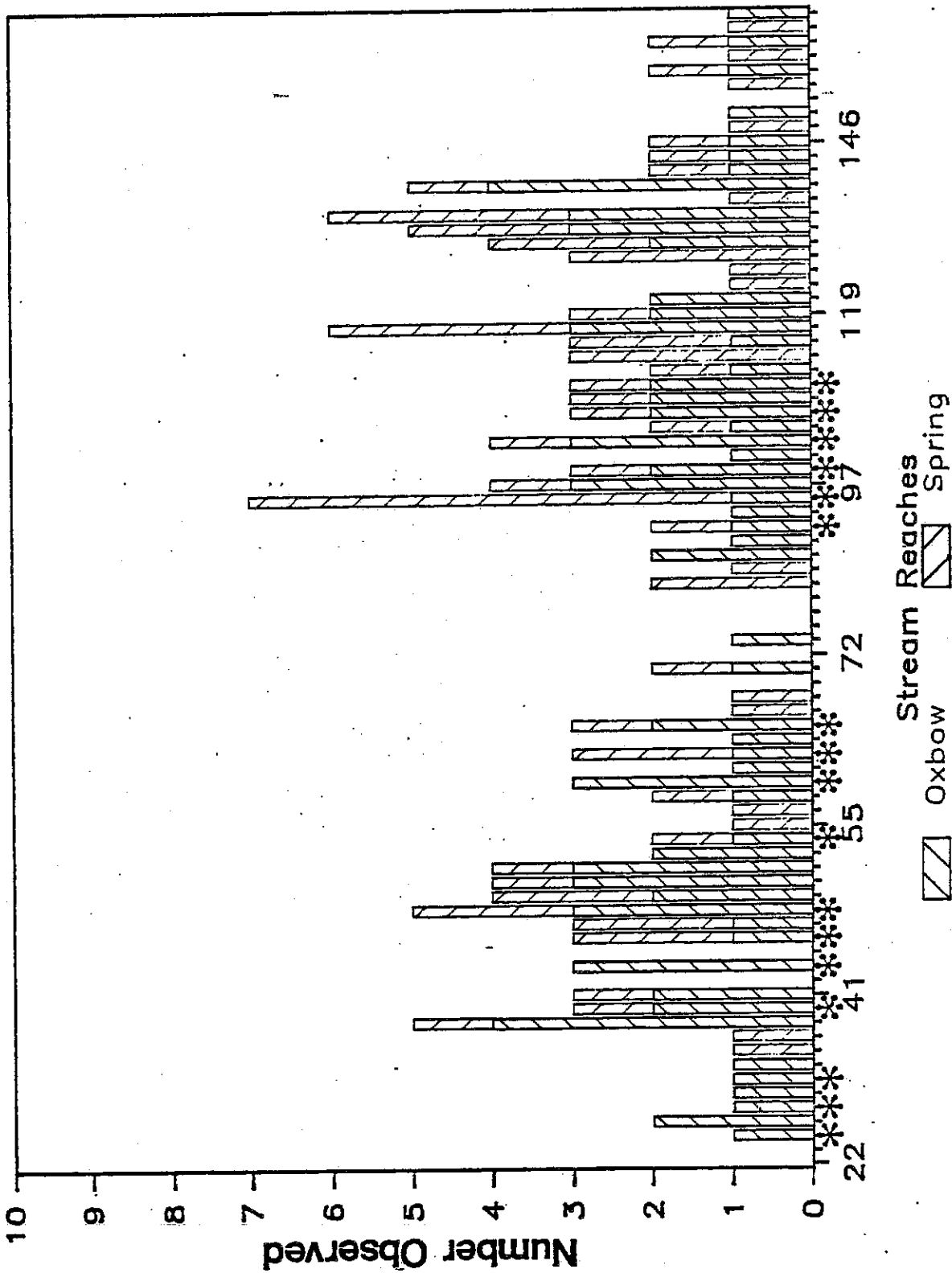


Figure 5

## 2. FLOOD STORAGE. (Way, 1986)

Wetlands can play an important part in flood storage which can prevent downstream damages. "Flood desynchronization is the process by which simultaneous storage of peak flows in numerous basins within a watershed, and their subsequent gradual release in a non-simultaneous staggered manner, results in containment of flow downstream, as well as usually more persistent flows downstream" (4).

Flooding on the Jordan River during 1983-84 was extensively photographed. Such field surveys indicate that many historic oxbow meanders did in fact store floodwater, as did many wetland complexes located within the floodplain. Although it is difficult to assess flood damage savings from wetland flood storage, government payments for flood-related disaster assistance total millions of dollars annually. Any flood control program should include wetland conservation as part of its damage prevention strategy.

Interactions with other wetland functions are:

- a. Flood storage may reduce the need for shoreline anchoring downstream.
- b. Flood storage generally enhances sediment trapping within a wetland.
- c. Nutrient retention may be enhanced from deposition of fine sediment.
- d. The retention of nutrients may increase macroinvertebrate population and diversity thereby increasing food chain support.
- e. Nutrient rich silt deposition may enhance vegetation growth and increase habitat for fish and wildlife.

The effectiveness rating table for flood storage is based on field observations and aerial photo interpretation summarized in the Jordan River Channel Stability Evaluation (5). Wetlands which appeared to provide flood storage based on recent waterline features or existing inundation were noted within each wetland basin. Wetlands either inundated at the time of observation or exhibiting evidence of recent inundation were rated high. Wetlands that in the past had been inundated based on evidence of channel outlets were rated moderate. Wetlands with little potential for inundation and flood storage were rated low. See Table 2.



TABLE 2. BASIN EFFECTIVENESS: FLOOD STORAGE

BASIN #	EFFECTIVENESS	INTERACTIONS/RECOMMENDATIONS/COMMENTS
1	High	Numerous, braided flood channels
2	Low	Narrow, constricted channel with high velocities. Some very limited storage.
3	High	Extensive oxbow/meander system with numerous inlets/outlets.
4	Moderate	Three or four inlets/outlets. Evidence of recent inundation near 12600 South.
5	Moderate	Eastern oxbows exhibited inundation.
6	Moderate	Several channel inlet/outlets
7	High	Upstream inlets. Recent inundation.
8	Moderate	Evidence of recent inundation.
9	High	Eastern oxbows/floodplain inundated.
10	Moderate	Evidence of recent inundation.
11	Moderate	Channel inlet/outlet obstructed.
12	Moderate	Channel inlet/outlet constricted.
13	Low	No evidence of channel inlet/outlet.
14	High	Evidence of extensive inundation.
15	Moderate	Evidence of limited recent inundation.
16	Low	No potential for inundation except for Northwestern-most corner.
17	Low	Potential at six inlet/outlet points.
18	Moderate	Evidence of inundation at constricted inlet/outlets.
19	High	Exhibits inundation at several points.
20	Moderate	Evidence of recent inundation.
21	High	Exhibits inundation at several points.
22	Moderate	Some evidence of recent inundation.

### 3. SHORELINE ANCHORING.

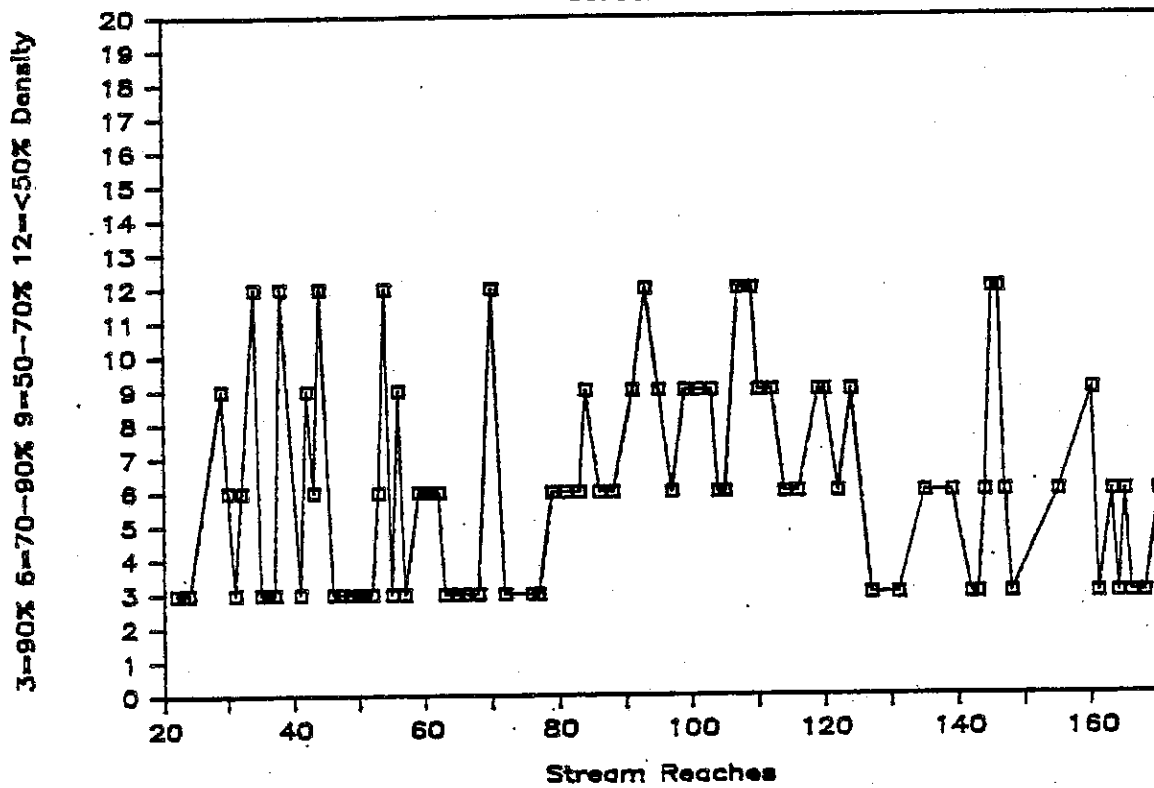
Shoreline anchoring is considered to be soil stabilization of upper and lower banks by fibrous plant root complexes. This condition was documented along the Jordan River during the WAIDS and reported in the Jordan River Channel Stability Evaluation (Jensen, 1987).

Wetland basins with high shoreline anchoring effectiveness possess significant densities of bank vegetation, typically in conjunction with meander oxbows. Moderate effectiveness is measured by observed 50% plant density, and low effectiveness is measured at less than 50% plant density (See Table 3 below and Figure 6).

TABLE 3. BASIN EFFECTIVENESS: SHORELINE ANCHORING

BASIN #	EFFECTIVENESS	INTERACTIONS/RECOMMENDATIONS/COMMENTS
1	High	Dense understory/overstory vegetation among braided stream channels.
2	High	Mostly rip-rap upper section with good density on lower section.
3	Moderate	Extensive erosion on banks not associated with oxbows.
4	Moderate	50% plant density overall.
5	Low	Only one major oxbow benefits anchoring.
6	High	Several oxbows exhibit good anchoring.
7	Low	Dredge piles not revegetated.
8	Low	Dredge piles not revegetated.
9	Low	Dredge piles not revegetated.
10	Low	Dredge piles not revegetated.
11	Low	Dredge piles not revegetated.
12	Low	Dredge piles not revegetated. Oxbow cut off.
13	Low	Steep cut eroded banks.
14	Moderate	Three major palustrine complexes have been key to shoreline anchoring here.
15	High	Dense riparian growth has survived flooding.
16	Low	Some anchoring in Northwestern basin.
17	Low	Mostly steeply eroded banks.
18	Moderate	50% plant density overall.
19	High	Significant densities of both overstory and understory bank vegetation.
20	Moderate	50% plant density overall.
21	High	Dense riparian and bankside growth.
22	High	Dense bankside growth, mostly willow, tamarisk, and cottonwood.

Figure 6  
 VEGETATIVE BANK PROTECTION  
 Jordan River



#### 4. SEDIMENT TRAPPING.

Flooding on the Jordan River in 1983-84 resulted in extensive bank erosion and sediment deposition. This deposition occurred principally within the river channel, causing shifting and meandering of the channel. Because of erosive downcutting of the river bottom this function of wetlands was not obvious. Sediment trapping does occur from point or nonpoint sources into wetlands near the Jordan, but oxbows adjacent to the river exhibited little evidence of recent deposition.

In general, long-term deposition in wetlands appears more prevalent on the lower stream reaches of the Jordan. Upper stream reach gradient is higher, and oxbow inlet constrictions limit sediment trapping values. Sediment trapping in upper wetland basins is considered short-term. Wider wetland basins have greater trapping potential than narrow basins. See Table 4 below.

TABLE 4. BASIN EFFECTIVENESS: SEDIMENT TRAPPING

BASIN #	EFFECTIVENESS	INTERACTIONS/ RECOMMENDATIONS/COMMENTS
1	High	Wide, braided channel with sheet flows over widely interspersed wetlands.
2	Low	Narrow, steep gradient with high flow velocities.
3	High	Wide basin characterized by high bank cutting and deposition.
4	High	Wide basin characterized by high bank cutting and deposition.
5	Low	Mostly instream deposition.
6	Low	Mostly instream deposition.
7	Low	Mostly instream deposition.
8	Low	Mostly instream deposition.
9	Moderate	Instream deposition with some wetland trapping indicated.
10	Low	Mostly instream deposition.
11	Low	Mostly instream deposition.
12	Low	Mostly instream deposition.
13	Low	Mostly instream deposition.
14	Moderate	Wetland trapping indicated in eastern wetlands and near Sharon Mill tailings.
15	Low	Mostly instream deposition.
16	Low	Mostly cutting. Little deposition.
17	Low	Mostly cutting. Little deposition.
18	Low	Mostly instream deposition.
19	High	Some wetland trapping evident.
20	Low	Mostly instream deposition.
21	High	Backwater wetland trapping evident.
22	High	Backwater wetland trapping evident.

## 5. NUTRIENT AND POLLUTANT RETENTION.

This function involves the storage of nutrients within the substrate or vegetation of wetlands. Both long and short-term storage are significant in the maintenance or improvement of downstream water quality.

Several factors have been considered in estimating the effectiveness of wetland basins for nutrient storage or pollutant retention:

- a. Acreage of hydric soils in the basin which consist of fine-grained organic sediments which trap metals, nutrients, and other contaminants, and are responsible for the support of hydrophytic plants (6). Refer to Figure 7.
- b. Acreage of wetland plant stock, mainly Palustrine Emergent variety, which has been determined to be effective in the uptake of nutrients (7).
- c. Proximity of wetlands to stormwater discharges to be regulated under the National Pollutant Discharge Elimination System (NPDES) (8).
- d. Existing land uses which, without wetlands, would be expected to contribute increasing pollutant loads to downstream reaches of the Jordan River (9).

This method of factoring is consistent with that of Adamus. The processes responsible for wetland value in nutrient retention are summarized by Adamus below:

- Wetland vegetation assimilates and transfers more nutrients than are subsequently released via leaching and decay, especially during the growing season when downstream reaches are most sensitive to nutrient enrichment.
- Wetland soils accumulate organic matter.
- Sediments accumulate faster than they are removed.
- Rate of denitrification exceeds that of nitrogen fixation.

Effectiveness ratings in Table 5 are based on factors a through d, principally on the basis of qualified estimates of acreage present within the basin. Those basins possessing larger acreages of hydric soils, palustrine emergent wetland vegetation, agricultural or other potentially polluting land uses (without the wetlands), and size or number of stormwater discharges rate the highest. Rating criteria are as follows:

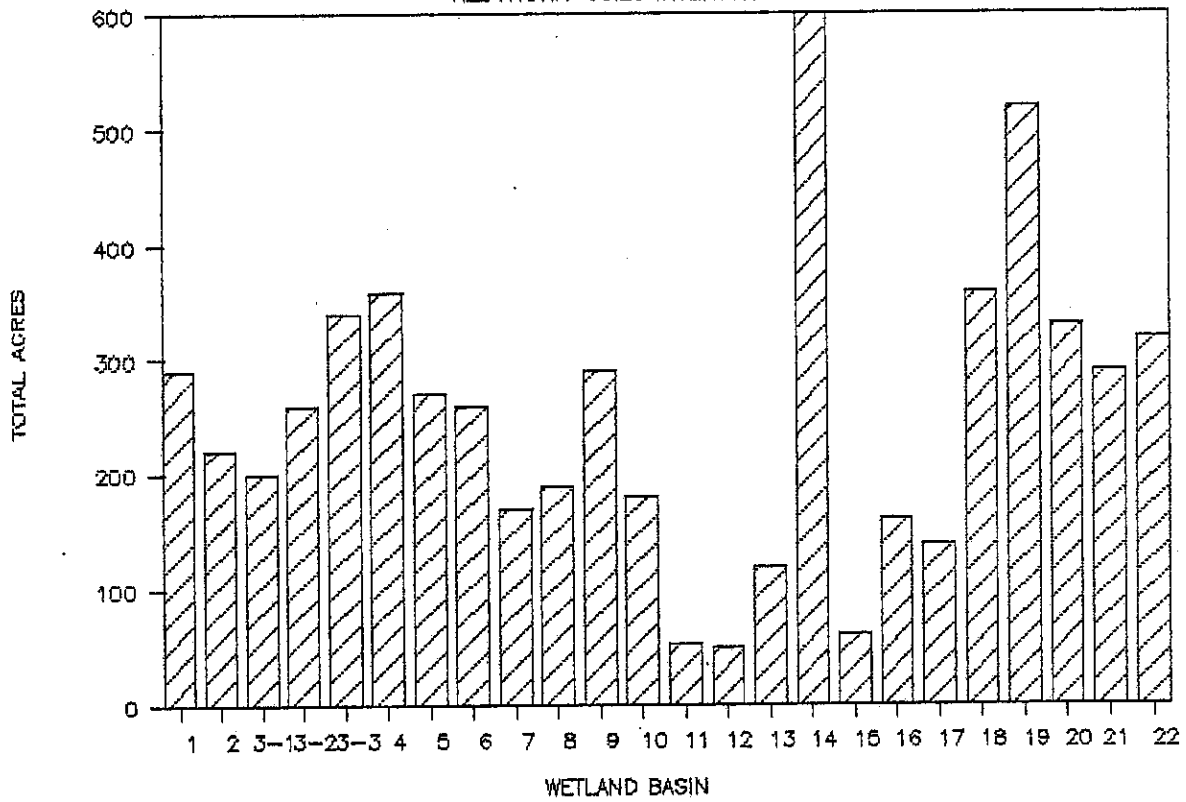
- a. Hydric Soils: Occurrence of identified Hydric Soils
- b. Wetland Plants: Occurrence of any class Wetland Acreage
- c. Pollutant Discharge: Number of drains x Drain Diameter
- d. Land Use: Acreage Agricultural Use

TABLE FIVE. BASIN EFFECTIVENESS: NUTRIENT/POLLUTANT RETENTION

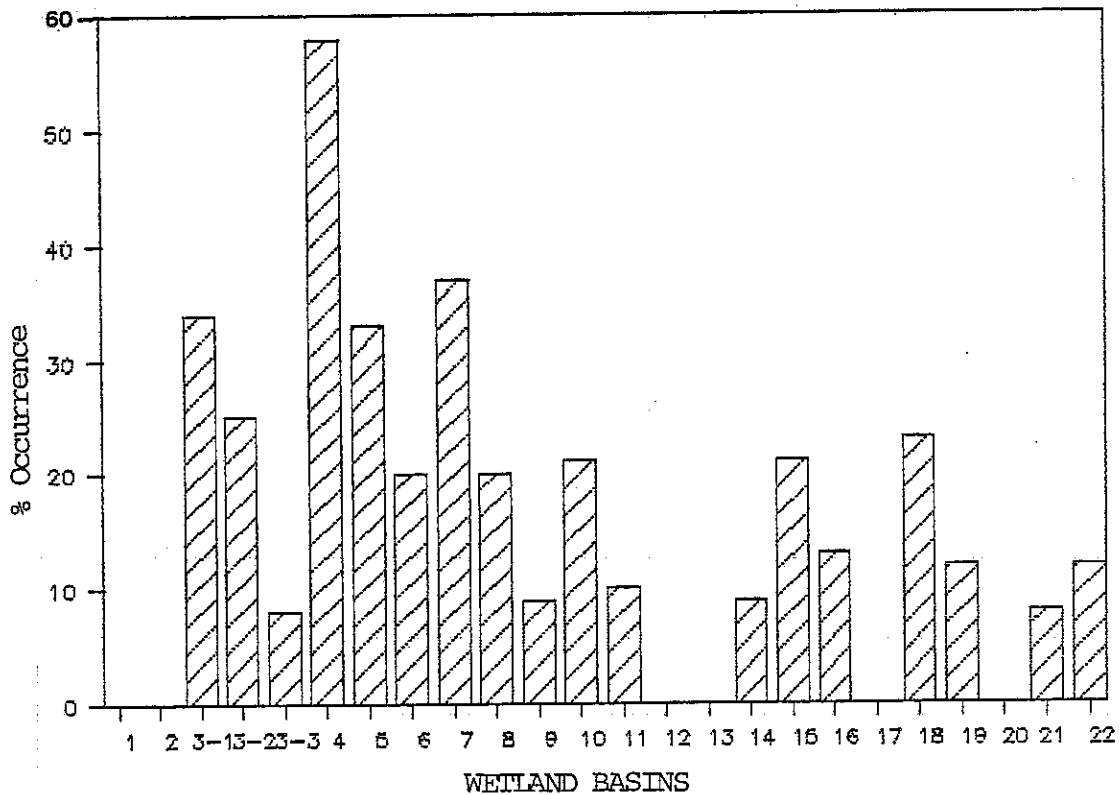
BASIN #	EFFECTIVENESS RATING	RATING CRITERIA
1	Low (68)	a=0. b=68 (low). c=0. d=0.
2	Low (132)	a=0. b=62 (low). c=0. d=70 (high)
3	High (509)	a=166 (high) b=273 (high) c=0. d=70 (high).
4	High (630)	a=210 (high) b=329 (high) c=21 (low) d=70 (high)
5	Moderate (227)	a=89 (high) b=68 (low) c=0. d=70 (high)
6	Moderate (166)	a=51 (moderate) b=45 (low) c=0. d=70 (high)
7	Moderate (196)	a=64 (low) b=32 (low) c=30 (low) d=70 (high)
8	Low (140)	a=38 (low) b=32 (low) c=0 d=70 (high)
9	Moderate (189)	a=26 (low) b=63 (low) c=30 (low) d=70 (high)
10	Low (121)	a=38 (low) b=48 (low) c=0 d=35 (low)
11	Low (112)	a=5 (low) b=15 (low) c=42 (low) d=50 (Moderate)
12	Low (78)	a=0 b=8 (low) c=0 d=70 (high)
13	Low (58)	a=0 b=8 (low) c=0 d=50 (moderate)
14	High (562)	a=51 (moderate) b=161 (high) c=300 (high) d=50 (moderate)
15	High (514)	a=130 (high) b=94 (moderate) c=240 (high) d=50 (moderate)
16	Low (123)	a=21 (low) b=12 (low) c=90 (moderate) d=0
17	Low (118)	a=0 b=12 (low) c=36 (low) d=70 (high)
18	Moderate (280)	a=53 (high) b=91 (moderate) c=111 (high) d=25 (low)
19	Moderate (394)	a=61 (high) b=73 (low) c=210 (high) d=50 (moderate)
20	Moderate (263)	a=1 (low) b=41 (low) c=201 (high) d=20 (low)
21	Moderate (352)	a=22 (low) b=94 (moderate) c=186 (high) d=50 (moderate)
22	High (550)	a=38 (moderate) b=325 (high) c=162 (high) d=25 (low)

FIGURE 7. OCCURRENCE OF HYDRIC SOILS  
 JORDAN RIVER WETLAND SOILS

ALL HYDRIC SOILS INVENTORIED



**JORDAN RIVER WETLAND SOILS Class I**



## 6. FOOD CHAIN SUPPORT.

Adamus defines food chain support as "the direct or indirect use of nutrients, in any form, by animals inhabiting aquatic environments." His manual for functional assessment uses food chain support principally with regard to use of nutrients by fish and aquatic invertebrates "of commercial sport value."

The Jordan River WAIDS identifies food chain support in a broader context. Food chain support effectiveness for Jordan River wetlands relies less on nutrient import/export relationships to benthic invertebrate growth (sport fishery support), and more on interdependencies of both fish and terrestrial wildlife on invertebrate populations.

Fifteen specific wetland sites were sampled during the Jordan River WAIDS to determine the density and diversity of macroinvertebrate species (Figure 8). The sites were also sampled for water quality. Parameters included dissolved oxygen, conductivity, temperature, ammonia, phosphorus, nitrate, pH, total suspended solids, and total dissolved solids (10).

Since samples were collected from each site only once, it is recommended that further sampling be conducted in order to enlarge the data base and enable statistical evaluation for seasonal fluctuations. Sampling sites should be re-evaluated to determine representativeness of different wetland classes along the river, and new sites added if necessary.

Other investigations conducted on the Jordan River include inventories conducted by the State Bureau of Water Quality and EPA (Mangum, 1986), and the Central Valley Water Reclamation Facility (Biowest, 1986). These studies were also of short duration not representing seasonal fluctuation. No relationships between wetland macroinvertebrate density, diversity and productivity with the same values in the Jordan River are possible at this time. Literature review and future sampling should address this relationship.

Table Six summarizes estimated effectiveness values of each wetland study basin for production of food chain support. Although the WAIDS Macroinvertebrate analysis documents key food chain support species, the effectiveness rating is based largely on total organisms sampled plus total family diversity forms. Productivity values cannot be estimated without higher volumes of seasonal data.

Ratings are calculated on the following relative values:

- a. Family Diversity: Low=0-4 Moderate=4-8 High=>8
- b. Total Organisms: Low=0-100 Moderate=100-200 High=200-500



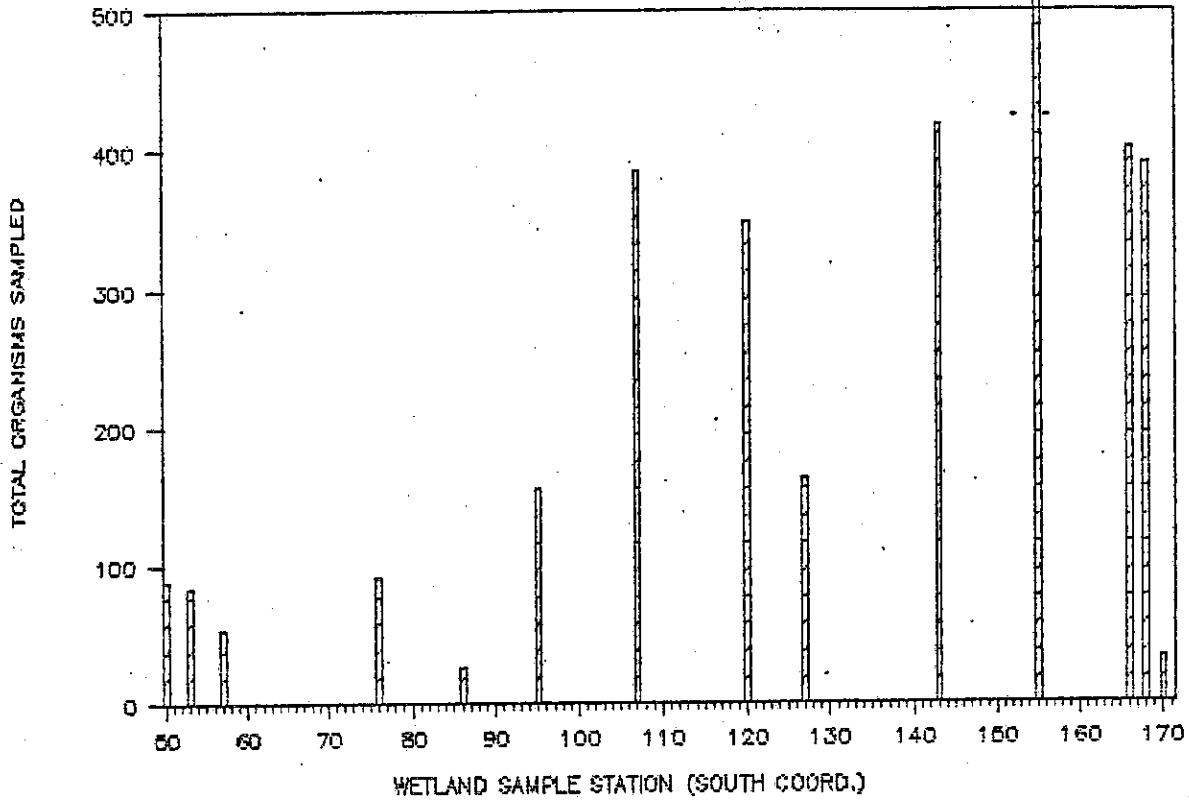
TABLE 6. BASIN EFFECTIVENESS: FOOD CHAIN SUPPORT

BASIN #	EFFECTIVENESS RATING	COMMENTS/RECOMMENDATIONS
1	High (408)	a=8, b=400
2	No Rating	Basin not sampled
3	High (411)	a=11, b=400
4	Moderate (185)	a=15, b=170
5	Moderate (381)	a=11, b=370
6	No Rating	Basin not sampled
7	High (402)	a=12, b=390
8	No Rating	Basin not sampled
9	No Rating	Basin not sampled
10	No Rating	Basin not sampled
11	No Rating	Basin not sampled
12	Moderate (181)	a=6, b=175
13	No Rating	Basin not sampled
14	Low (32)	a=7, b=25
15	Low (106)	a=6, b=100
16	No Rating	Basin not sampled
17	No Rating	Basin not sampled
18	Low (54)	a=4, b=50
19	Moderate (186)	a=6, b=180
20	No Rating	Basin not sampled
21	No Rating	Basin not sampled
22	No Rating	Basin not sampled

FIGURE 8

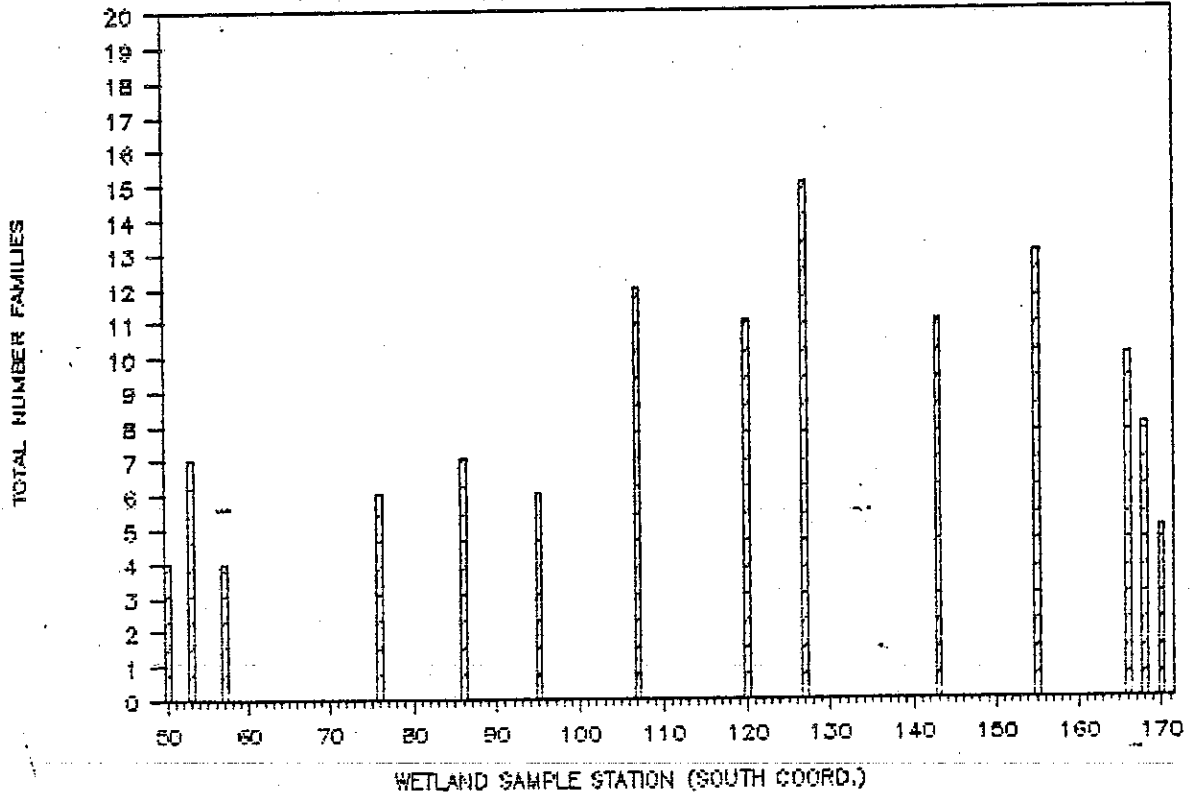
JORDAN RIVER MACROINVERTEBRATES

TOTAL OF ALL SAMPLES



JORDAN RIVER MACROINVERTEBRATES

TOTAL FAMILY DIVERSITY FORMS



## 7. FISHERY HABITAT.

The Adamus method uses fishery values in terms of "finfish or shellfish resources harvested commercially or for sport." Those species providing recreation are most affected by habitat limitations or values. This definition crosses the spectrum of coldwater game, warmwater game, and non-game fishes in the Jordan River.

The role of wetlands in fish habitat as described by Adamus relates to estuarine or upstream spawning areas. These are the most significant commercial areas of national importance. The Jordan River WAIDS examined locally important species for recreation. The emphasis on the Jordan River fishery has increased since the early 70's when the first scientific investigations began. Pollution was found to have significantly impaired the fishery, and provisions of the federal Clean Water Act were first enforced to identify pollution sources and restore the river to more natural levels of fish density, diversity, and productivity.

Major factors which influence the fishery habitat function are:

- a. Water Quality, both physical (turbidity) and chemical (nutrients) properties.
- b. Water Quantity, including hydroperiod, flow, and depth.
- c. Cover, Substrate and interspersions of open water and vegetation (11).
- d. Fishery density and diversity.

The Utah Department of Natural Resources, Division of Wildlife produced an evaluation of the Jordan River Fishery in 1986 (12). Three sources of information were reviewed in the evaluation: Fishery resource inventories conducted on the Jordan during 1976, studies conducted in support of the WAIDS in 1985-86, and studies conducted by Biowest for the Central Valley Water Reclamation Facility in 1986. The Biowest study referenced work compiled by EPA in the early 70's.

Relatively little effort has been expended on Jordan River fishery data acquisition. Most recent (10 years) emphasis has been on collection of water quality data, believed by most federal, state, and local technical personnel to be the primary inhibitor to fishery production. The Biowest studies are the first comprehensive attempt to collect fishery, macroinvertebrate, and water quality data. The major conclusion of the Biowest effort to date is that "habitat conditions" have been most responsible for impairment of the Jordan River fishery. Habitat conditions are defined by Biowest as damage to streamside vegetation and modification of the river substrate. Water quality degradation is not believed to be constraining the density, diversity, and productivity of the river--according to Biowest.

However, there has not been a truly comprehensive evaluation of the Jordan River fishery. Replicate seasonal data have not been collected over a period of time to enable trend or regression analysis that ties changes in water quality and habitat conditions with density, diversity, and productivity of the Jordan. However, the recent inventory and analyses do contribute a significant first step to understanding the past and potential of the fishery in the Jordan River.

Tables 7 & 8 summarize information collected during the Biowest effort during 1986. If the conclusions of the Biowest effort are validated by on-going studies, the emphasis for future pollution clean-up efforts may include the replacement of lost habitat and conservation of existing habitat.

"From a fishery standpoint, the maintenance of all existing wetlands along the Jordan River corridor is valuable to preserve what little habitat diversity the river now has. As such, the wetland basins identified in the WAIDS would be considered to be valuable and the re-establishment of oxbows cut off during channelization activities and the improvement of riparian vegetation in the river are recommended to improve the fishery resource values of the Jordan River "(13).

#### RATING CRITERIA

**WATER QUALITY.** The Utah State Bureau of Water Quality summarized water quality data for the Jordan River in the 305b Water Quality Assessment (14). The source of information is a composite STORET analysis. Results are displayed in Figures 9 through 11. Water quality ratings group the following wetland basins together (based on STORET sample sites) for purposes of assigning values:

1. Basins 1 through 14: Bluffdale to 7800 South.
2. Basins 15 through 19: 7800 South to 4800 South.
3. Basins 20 through 22: 4800 South to 2100 South.

Table 9 enumerates average water quality value ratings based on the severity impairment index calculated by the State in the 305b Assessment, for the wetland basins grouped above. Further water quality monitoring data is recommended to refine information for individual wetland basins. Flows are not rated, as adequate flows exist along the upper Jordan to insure fishery support.

**COVER, SUBSTRATE, SPAWNING.** Cover, substrate, interspersion and spawning inflows are rated high, moderate, and low based on studies conducted by Biowest, and field information contained in the Jordan River Stability Evaluation.

Table 7 Total numbers of fish collected at BIO/WEST study sites.

STATION*	SC NT	SC -- 17S	JR 10N	JR 17S	JR AD	JR BMC	JR AMC	JR 45S	JR -- RT	JR BD
Carp	261	64	492	106	128	111	217	197	11	47
Utah sucker	2	10	24	150	100	88	168	204	92	190
Mountain sucker	0	0	0	0	0	0	0	0	6	12
Utah chub	0	0	9	13	0	0	3	0	0	0
Black crappie	1	2	0	13	2	0	6	0	6	5
White bass	14	12	0	8	19	3	42	4	20	5
Bluegill sunfish	0	0	0	1	0	0	0	7	0	0
Green sunfish	0	1	0	10	0	2	2	8	0	0
Walleye	4	2	0	0	0	5	0	7	3	0
Rainbow trout	0	0	0	3	0	0	0	0	0	0
Cutthroat trout	0	0	0	4	0	0	0	3	0	0
Brown trout	0	0	0	0	0	0	1	0	0	1
Channel catfish	0	1	0	1	0	2	1	3	0	1
Black bullhead	0	0	0	1	0	0	1	0	1	0
Yellow perch	0	0	0	0	0	0	0	0	1	0
Largemouth bass	0	0	0	0	0	0	0	0	0	1
Fathead minnow	0	0	0	0	0	0	37	0	10	6
Redside shiner	0	0	0	0	0	0	0	0	1	0
Gambusia	0	1	0	0	0	0	1	0	0	0

\*SC-NT= Surplus Canal, North Temple; SC-17S= Surplus Canal, 17thS; JR-10N= Jordan River, 10th N; JR-17S= Jordan River, 17th South; JR-AD= Jordan River, above diversion; JR-BMC= Jordan River, below Mill Creek, JR-AMC= Jordan River, above Mill Creek; JR-45S = Jordan River, 45th S; JR-RT= Jordan River, Riverton; JR-BD= Jordan River, Bluffdale.



Figure 9

# JORDAN RIVER STUDY

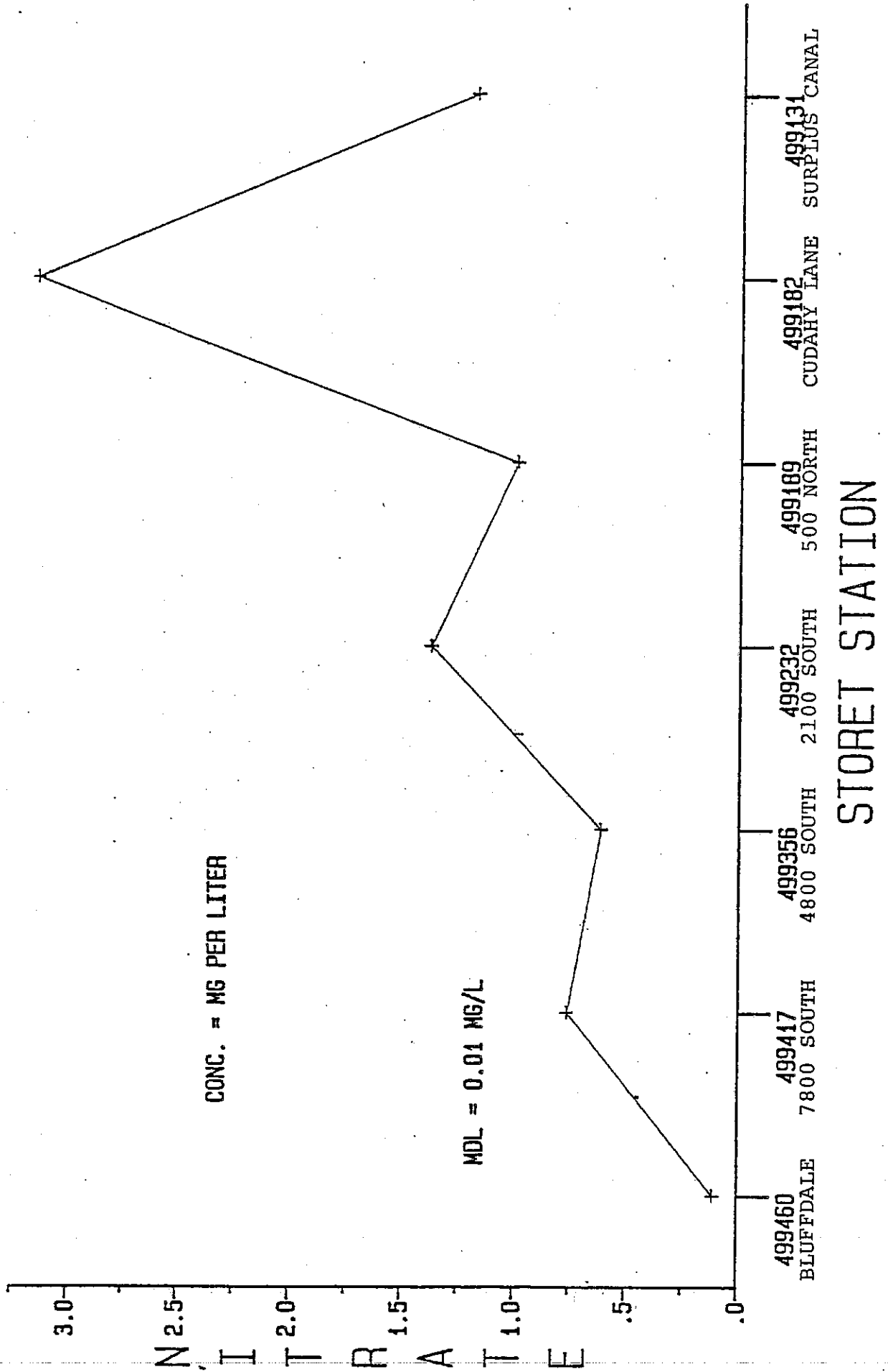


Figure 10

# JORDAN RIVER STUDY

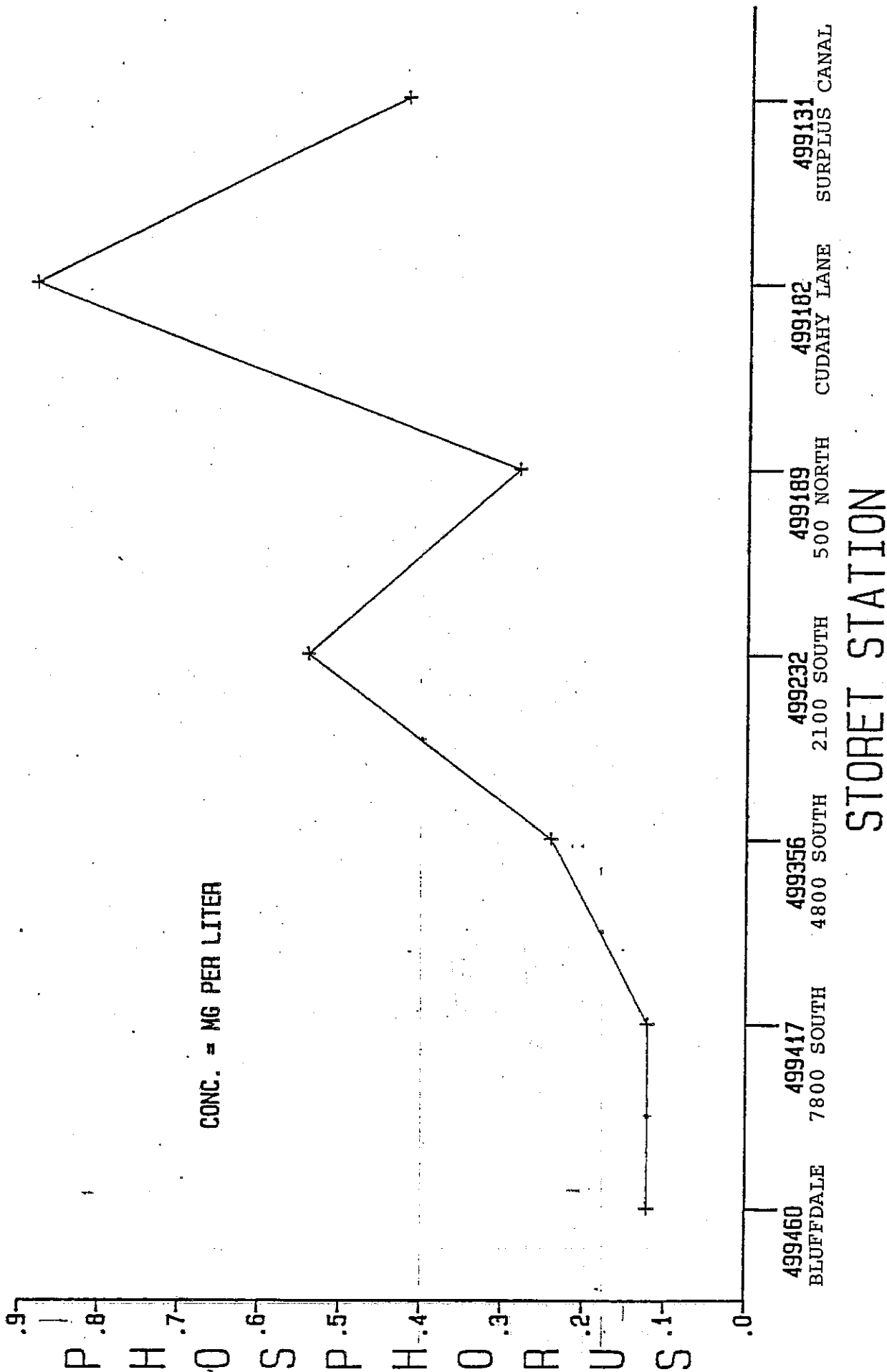
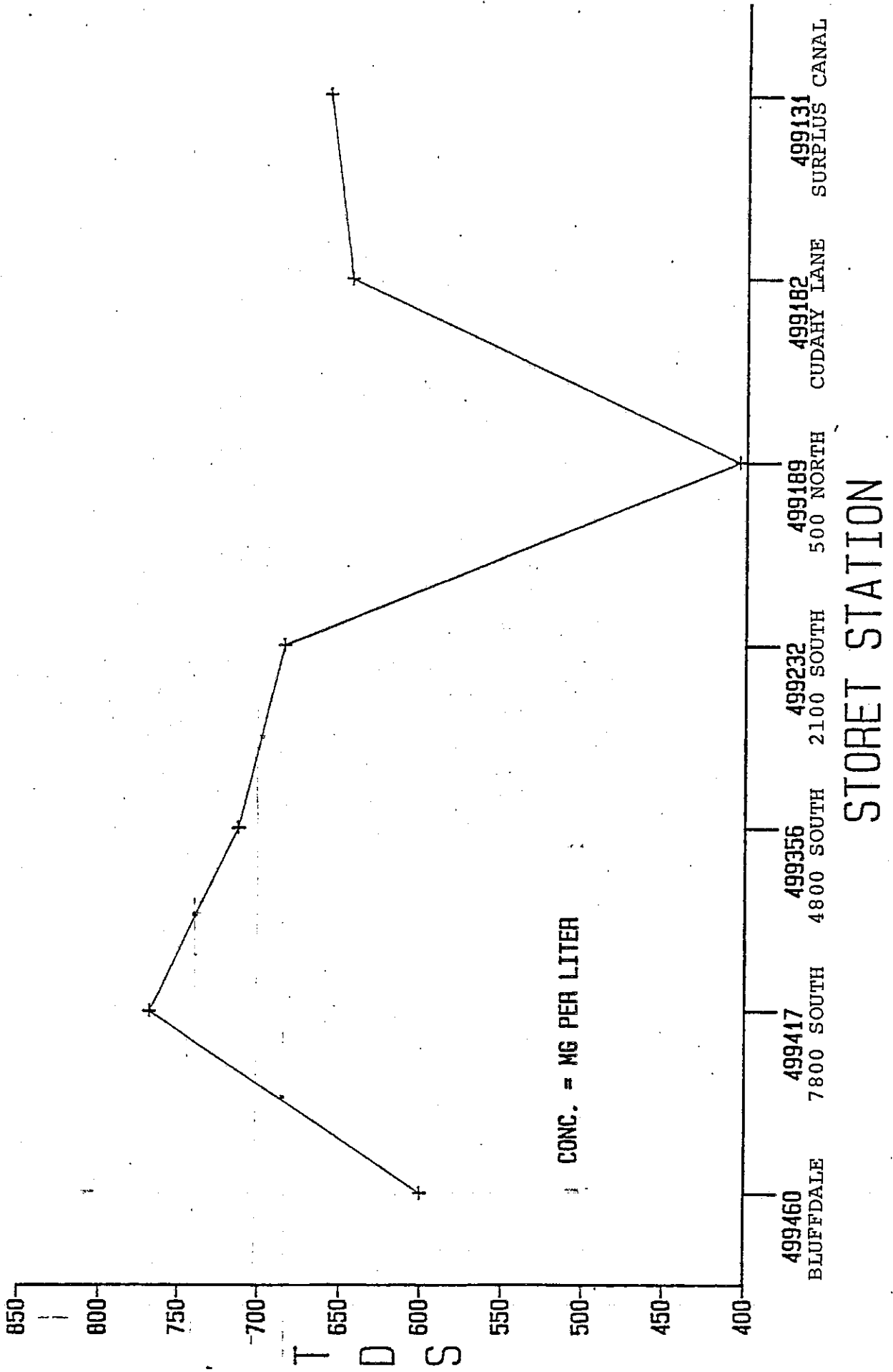




Figure 11

# JORDAN RIVER STUDY



Cover values are derived from upper and lower bank plant density estimates in the Jordan River Channel Stability Evaluation (5). Density of upper bank plant material was averaged from multiple stream reaches where necessary. High cover values represent more than 90% plant density, moderate values fall between 70-90% density, and low values are between 50-70% density.

Substrate values are derived from percentages of bottom composition in multiple stream reaches, multiplied by average macroinvertebrate densities per substrate type (Figure 12).

Interspersion of aquatic plants in the river channel is relatively low. Only one or two wetland basins possess any significant amounts at the upper end of the river drainage.

Spawning areas may relate to occurrence of shallow groundwater inflows on the upper end of the river drainage (classified for coldwater fisheries) where it is probable that coldwater species living in the river could utilize the spring discharge for spawning.

FISHERY DENSITY & DIVERSITY. Wetland basins were combined for fishery density and diversity analyses. Both Biowest and Division of Wildlife Resource stations are represented. Total numbers of fish, together with total species present and total game species present were used to assign values for density and diversity.

Rating criteria (High, Moderate, Low) codes are as follows:

- a. Water Quality (Nitrate + Phosphorus + TDS =index in mg/l).

	Nitrate	Phosphorus	TDS
High Value (30)	0-.1	0-.1	0-600
Moderate Value (20)	.1-.7	.1-.2	600-700
Low Value (10)	>.7	>.2	>700

- b. Cover + Substrate + Interspersion + Spawning inflows.

	Cover	Substrate	Intersp.	Spawn Infl.
High Value	>90%	>55	>10%	3
Moderate Value	70-90%	45-55	5-10%	2
Low Value	50-70%	30-45	0-5%	1

- c. Fish Density + Diversity.

	Total # Fish	Game #	Diversity #
High Value	250-500	20-60	9-10
Moderate Value	100-250	10-20	6-9
Low Value	0-100	0-10	0-6

Figure 12

# WETLAND BASIN EFFECTIVENESS

## FISHERY HABITAT SUBSTRATES

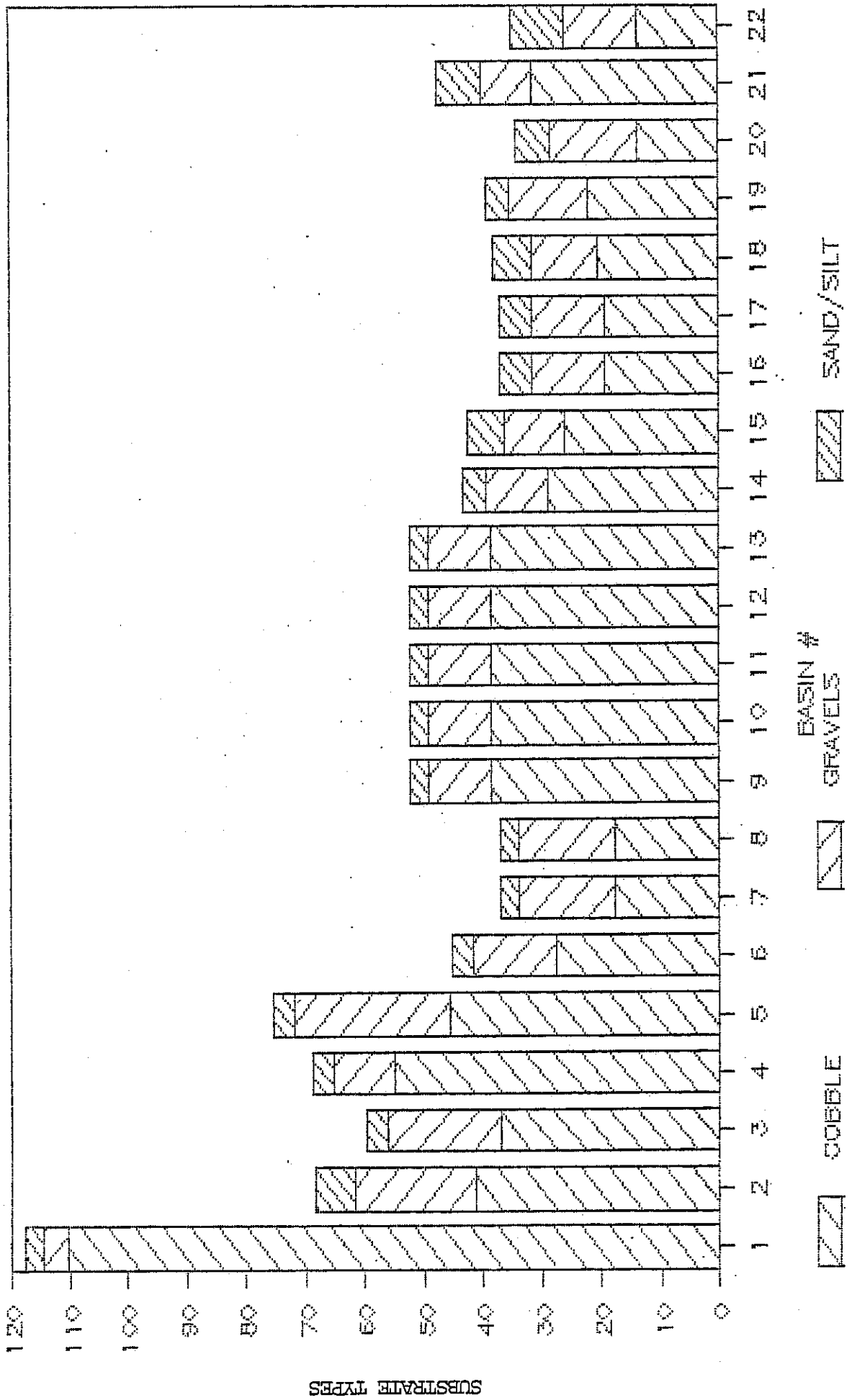


TABLE 9. BASIN EFFECTIVENESS: FISHERY HABITAT

BASIN #	EFFECT. RATING	COMMENTS/RECOMMENDATIONS
1	Moderate (566)	a. Water Quality Index: $N=20+P=20+T=20$ Total: 60 b. Cover, etc Index: $C=90+S=118+I=10+S=3$ Total: 221 c. Dens/Div Index: $T=268+G=8+S=9$ Total: 285
2	Moderate (489)	Water Quality Index: 60 Cover, etc. Index: $C=70+S=69+I=5+S=0$ Dens/Div Index: 285
3	Moderate (384)	Water Quality Index 60 Cover, etc. Index: $C=70+S=60+I=5+S=3$ Dens/Div Index: $T=151+G=25+S=10$
4	Moderate (413)	Water Quality Index: 60 Cover, etc. Index: $C=90+S=69+I=5+S=3$ Dens/Div Index: $T=151+G=25+S=10$
5	Moderate (237)	Water Quality Index: 60 Cover, etc. Index: $C=50+S=75+I=5+S=1$ Dens/Div Index: $T=38+G=4+S=4$
6	Low (222)	Water Quality Index: 60 Cover, etc. Index: $C=70+S=45+I=0+S=1$ Dens/Div Index: $T=38+G=4+S=4$
7	Low (143)	Water Quality Index: 60 Cover, etc. Index: $C=0+S=37+I=0+S=0$ Dens/Div Index: $T=38+G=4+S=4$
8	Low (143)	Same ratings as Basin 7.
9	Low (211)	Water Quality Index: 60 Cover, etc. Index: $C=50+S=53+I=0+S=2$ Dens/Div Index: $T=38+G=4+S=4$
10	Low (211)	Same ratings as Basin 9
11	Low (159)	Water Quality Index: 60 Cover, etc. Index $C=0+S=53+I=0+S=0$ Dens/Div Index: $T=38+G=4+S=4$
12	Low (209)	Water Quality Index: 60 Cover, etc. Index: $C=50+S=53+I=0+S=0$ Dens/Div Index: $T=38+G=4+S=4$
13	Low (159)	Water Quality Index: 60 Cover, etc. Index: $C=0+S=53+I=0+S=0$ Dens/Div Index: $T=38+G=4+S=4$
14	High (632)	Water Quality Index: 60 Cover/SS Index: $C=70+S=43+I=0+S=1$ Dens/Div Index: $T=426+G=25+S=7$ Total=458

TABLE 9. BASIN EFFECTIVENESS FOR FISHERY HABITAT CONTINUED

15	High (632)	Water Quality Index: $N=10+P=20+TDS=10$ Total=40 Cover/SS Index: $C=90+S=43+I=0+S=1$ Dens/Div Index: 458
16	High (626)	Water Quality Index: 40 Cover/SS Index: $C=90+S=37+I=0+S=1$ Dens/Div Index: 458
17	High (626)	Water Quality Index: 40 Cover/SS Index: $C=90+S=37+I=0+S=1$ Dens/Div Index: 458
18	High (627)	Water Quality Index: 40 Cover/SS Index: $C=90+S=38+I=0+S=1$ Dens/Div Index: 458
19	High (628)	Water Quality Index: 40 Cover/SS Index: $C=90+S=39+I=0+S=1$ Dens/Div Index: 458
20	High (661)	Water Quality Index: $N=10+P=10+TDS=10$ Total=30 Cover/SS Index: $C=50+S=34+I=0+S=1$ Dens/Div Index: $T=479+G=56+S=11$ Total=546
21	Moderate (378)	Water Quality Index: 30 Cover/SS Index: $C=70+S=48+I=0+S=1$ Dens/Div Index: $T=211+G=12+S=6$
22	Moderate (430)	Water Quality Index: 30 Cover/SS Index: $C=90+S=35+I=0+S=1$ Dens/Div Index: $T=249+G=21+S=4$

## 8. WILDLIFE HABITAT.

Habitat as defined by Adamus "pertains to those features which affect the food and cover needs of wildlife in the place where they reside."

The Utah Division of Wildlife Resources conducted an inventory of Jordan River wetlands with respect to wildlife habitat effectiveness (15):

"Evaluation of the relative importance of particular wetland habitats and sites to birds and other wildlife is complex. Habitat values are species and community-specific. Some vegetative life forms, for example, may offer adequate cover for some species but not for others. Also, the variety of wildlife species that occur in wetlands along the Jordan River exhibit a range of feeding strategies. These include use of and dependency on all wetland classes and many different kinds of plants and food chains. Furthermore, habitat values vary seasonally and with a diversity of uses among different species and even within individual species. During the summer surveys, birds occurred in all available wetland classes along the Jordan River, displaying a diversity of activities and habitat uses."

With limited summer survey, only general patterns of habitat use could be documented. The single-season information that was obtained does substantiate in general terms the use & importance of Jordan River wetland habitat to wildlife. Further assessment will validate the single season study and add information on important birds which are candidates for endangered, threatened, or wetland-dependent status.

Although wetland basin effectiveness for wildlife will be underestimated with use of summer data, Table 10 summarizes values for total sightings and total species for various Jordan River sites. Where winter or other seasonal sightings were made of species of special concern, those are noted for inclusion into the basin effectiveness ratings.

Highest wildlife dependency on wetland resources is principally by avian and amphibian species.

The interdependency of birds on food chain systems is mentioned in previous discussions about macroinvertebrate density and diversity. Figure 13 compares the distribution of macroinvertebrate density and diversity with bird density and diversity (16). Habitat for avian cover, nesting, resting, feeding and breeding is indicated by Figure 14.

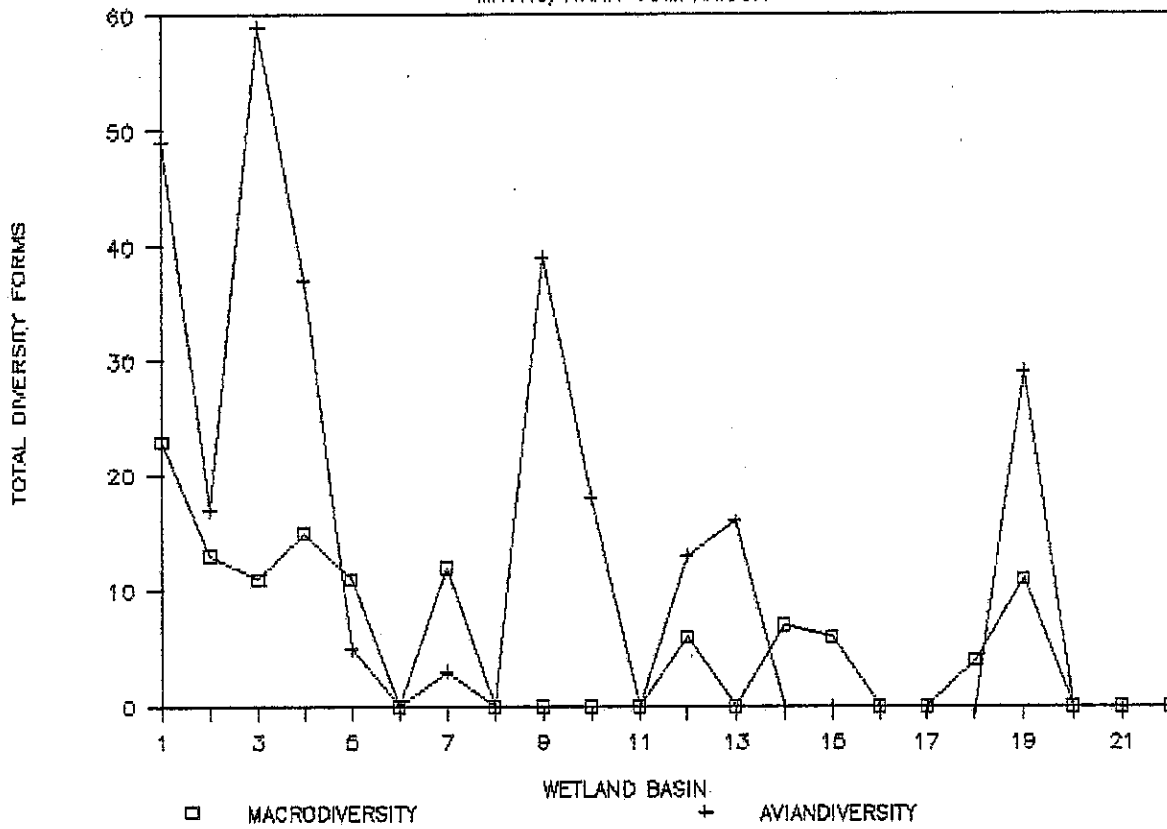
TABLE 10. BASIN EFFECTIVENESS: WILDLIFE HABITAT (15)

BASIN #	EFFECTIVENESS RATING	COMMENTS/INTERACTIONS/RECOMMENDATIONS
1	High	Density Index: 797 Diversity Index: 49
2	Low	Density Index: 53 Diversity Index: 17
3	High	Density Index: 1193 Diversity Index: 59
4	High	Density Index: 353 Diversity Index: 37
5	Moderate	Density Index: 6 Diversity Index: 5 More Data Needed
6	Moderate (Estimate)	No Data Available
7	Moderate (Estimate)	Density Index: 12 Diversity Index: 3 More Data Needed
8	No Data Available	
9	High	Density Index: 574 Diversity Index: 39
10	Moderate	Density Index: 140 Diversity Index: 18 More Data Needed
11	Moderate	More Data Needed
12	Moderate (Estimate)	Density Index: 64 Diversity Index: 13 More Data Needed
13	Moderate (Estimate)	Density Index: 117 Diversity Index: 16 More Data Needed
14	High (Estimate)	More Data Needed
15	High (Estimate)	More Data Needed
16	High (Estimate)	More Data Needed
17	High (Estimate)	More Data Needed
18	High (Estimate)	More Data Needed
19	High	Density Index: 146 Diversity Index: 29
20	High (Estimate)	More Data Needed
21	High (Estimate)	More Data Needed
22	High (Estimate)	More Data Needed

FIGURE 13. MACROINVERTEBRATE-AVIAN COMPARISON

JORDAN RIVER WETLAND STUDY

MACRO/AVIAN COMPARISON



JORDAN RIVER WETLAND STUDY

MACRO/AVIAN COMPARISON

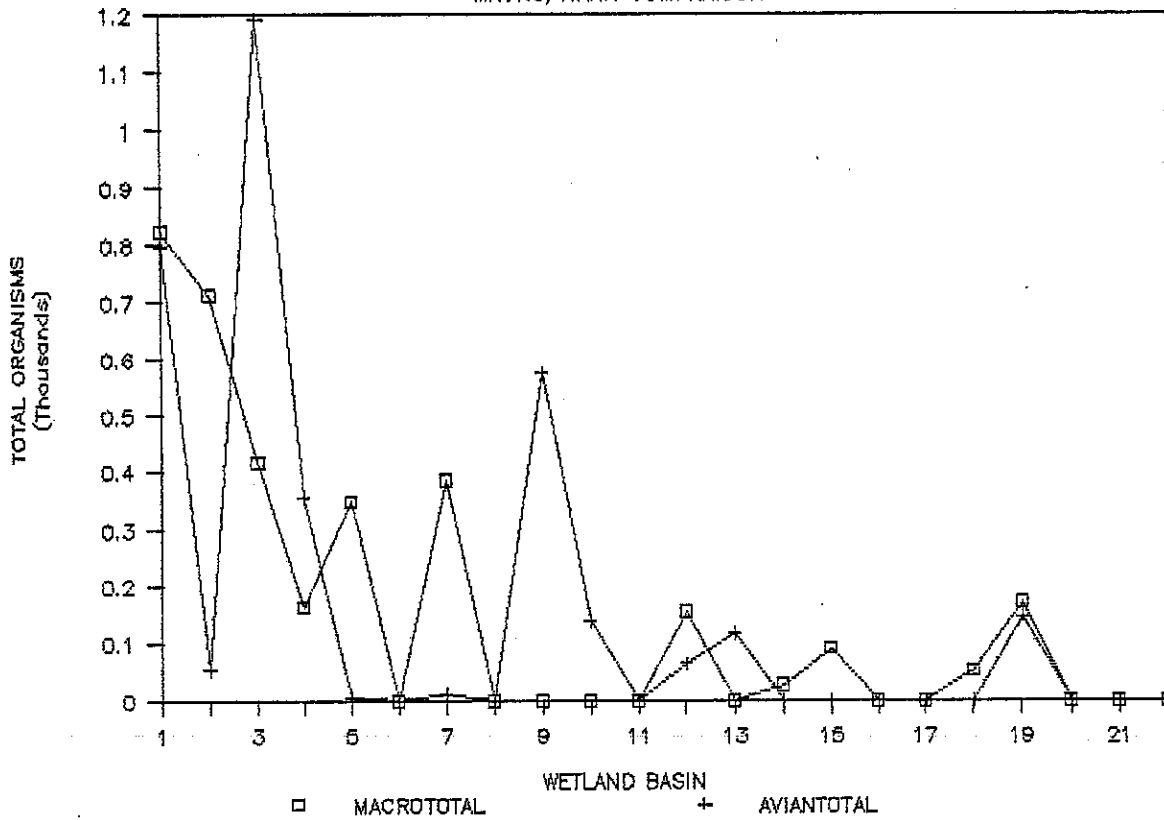
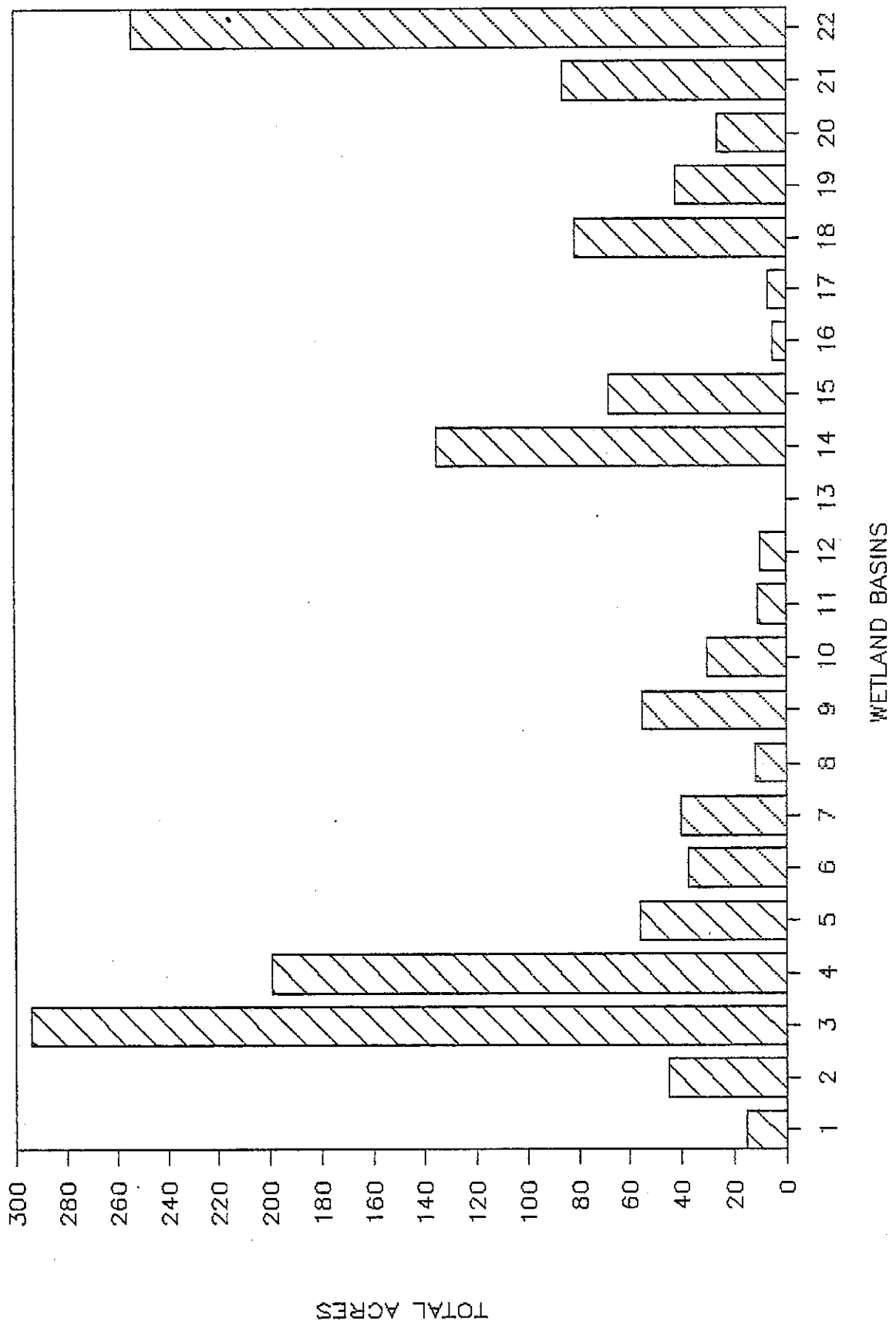




FIGURE 14. DISTRIBUTION OF PREDOMINANT WETLANDS

# JORDAN RIVER WETLANDS

TOTAL PALUSTRINE EMERGENT



## 9. RECREATION.

The Adamus method for wetland assessment refers to recreational activities at two different levels:

1. Those which are water dependent, such as kayaking or canoeing.

2. Passive recreation for aesthetic enjoyment, nature study, picnicking, education, scientific research, open space, preservation of rare or endemic species of plants or animals, archeologically or historically significant sites, or conservation of rare botanical features.

Both of these levels are addressed in the Jordan River WAIDS, with both passive and active recreation categories providing indexes for rating criteria. Active recreational values for canoeing or kayaking (Table 11) were estimated by a committee of experienced personnel from the Utah State Division of Parks & Recreation, Jordan River State Park (17). Passive recreational values (Table 12) were estimated by planning personnel from the State Division of Parks and Recreation planning office. (18).

### ACTIVE RECREATION.

The first rating criterion is derived from total point values (ranging from 1 to 10) assigned to seven recreation factors which affect the quality of canoeing or kayaking:

1. Stream velocity (High velocities = high rating)
2. Urban Noise (Low noise = high rating)
3. Skill level or difficulty (High skill level = high rating)
4. Stream hazard (Low hazard = high rating)
5. Wildlife observation opportunities (Low wildlife = low rating)
6. Bank vegetation (Little vegetation = low rating)
7. Aesthetics or river views/panoramas (Poor view = low rating).

### PASSIVE RECREATION.

The second rating criterion is derived from total point values (ranging from 1 to 10) assigned to ten passive recreation factors or activities available within each wetland basin:

1. Aesthetic enjoyment and solitude.
2. Nature study and photography.
3. Picnicking.
4. Educational resources.
5. Scientific research sites.
6. Rare or endemic species conservation sites.
7. Equestrian, hiking, bicycle trail sites.
8. Fishing.
9. Camping.
10. Organized group activities.

TABLE 11. RECREATION OPPORTUNITY ASSESSMENT: ACTIVE RECREATION

		WETLAND BASIN																					
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
FACTOR																							
1		10	10	8	7	7	7	7	7	6	6	6	6	6	6	6	6	6	6	5	4	2	1
2		10	10	5	5	5	5	5	5	5	5	5	4	3	2	2	2	4	4	4	5	6	3
3		10	10	6	6	5	5	5	5	4	4	4	4	4	4	5	4	4	4	3	4	4	2
4		1	1	10	10	7	7	7	7	5	5	5	5	5	7	1	7	7	7	8	6	6	9
5		9	9	8	8	8	8	8	8	4	4	4	4	4	3	4	3	3	3	7	4	4	5
6		8	8	8	8	5	5	5	5	2	2	2	2	2	2	5	1	1	1	7	5	5	7
7		7	7	10	10	8	8	8	8	4	4	4	4	4	4	5	4	4	4	6	2	4	6
TOTAL		55	55	55	54	45	45	45	45	30	30	30	29	28	28	28	27	29	29	40	30	31	33

TABLE 12. RECREATION OPPORTUNITY ASSESSMENT: PASSIVE RECREATION

		WETLAND BASIN																					
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
FACTOR																							
1		9	7	9	9	8	8	8	8	6	6	6	6	6	5	5	7	6	6	8	5	6	6
2		9	9	9	9	7	7	5	5	5	7	6	8	5	6	5	7	6	6	9	5	7	7
3		9	3	9	9	5	3	3	4	4	3	5	5	3	4	4	4	4	4	9	3	8	7
4		9	3	9	7	4	3	3	3	5	5	7	9	3	8	8	9	6	6	9	5	7	7
5		9	5	9	7	4	4	7	4	6	4	5	8	4	9	8	8	5	5	9	6	6	6
6		9	5	9	9	9	9	9	7	6	6	6	8	6	7	6	7	6	6	9	6	8	8
7		9	2	9	9	9	9	9	9	9	9	9	9	9	9	9	4	9	9	9	9	9	9
8		9	2	9	9	4	4	4	4	4	4	4	4	4	7	7	5	6	6	9	9	9	9
9		9	1	7	7	3	3	3	3	3	3	3	3	3	2	3	2	2	2	3	4	4	2
10		9	1	5	5	3	3	5	4	5	4	4	5	3	5	5	5	2	2	9	5	6	4
TOTAL		90	38	84	80	56	53	56	51	53	51	55	65	46	62	60	58	52	52	83	57	70	65

COMBINED RECREATIONAL INDEX (Table 9+10)

BASIN #	COMBINED SCORE	BASIN #	COMBINED SCORE
1	142	12	95
2	90	13	76
3	144	14	92
4	139	15	89
5	101	16	85
6	98	17	79
7	101	18	79
8	96	19	123
9	83	20	86
10	81	21	106
11	95	22	96

IV. SUMMARY/CONCLUSIONS.

Based on values derived during the Jordan River WAIDS, functional ratings were summed in order to prioritize wetland basins providing greatest benefits to the urban community. Table 13 below summarizes these values and preliminary prioritization.

TABLE 13. COMBINED FUNCTIONAL RATINGS.

Basin #	Rank	Functional Category #									TOTAL
		1	2	3	4	5	6	7	8	9	
1	4	200	300	300	300	68	408	566	300	142	2584
2	17	100	100	300	100	132	N/A	489	100	90	1411
3	1	300	300	200	300	509	411	384	300	144	2848
4	3	300	200	200	300	630	185	413	300	139	2667
5	11	300	200	100	100	227	381	237	200	101	1846
6	16	200	200	300	100	166	N/A	222	200	98	1486
7	12	300	300	100	100	196	402	143	200	101	1842
8	22	100	200	100	100	140	N/A	143	N/A	96	879
9	13	200	300	100	200	189	N/A	211	300	83	1583
10	19	100	200	100	100	121	N/A	211	200	81	1113
11	20	100	200	100	100	112	N/A	159	200	95	1066
12	18	200	200	100	100	78	181	209	200	95	1363
13	21	100	100	100	100	58	N/A	159	200	76	893
14	5	200	300	200	200	562	32	632	300	92	2518
15	6	100	200	300	100	514	106	632	300	89	2341
16	14	100	100	100	100	123	N/A	626	300	85	1534
17	15	100	100	100	100	118	N/A	626	300	79	1523
18	10	100	200	200	100	280	54	627	300	79	1940
19	2	300	300	300	300	394	186	628	300	123	2831
20	9	200	200	200	100	263	N/A	661	300	86	2010
21	8	100	300	300	300	352	N/A	378	300	106	2136
22	7	100	200	300	300	550	N/A	430	300	96	2276

Category Key: 1. Groundwater Discharge 2. Flood Storage  
 3. Shoreline Anchoring 4. Sediment Trapping  
 5. Pollutant Retention 6. Food Chain Support  
 7. Fishery Habitat 8. Wildlife Habitat  
 9. Recreation (Active + Passive)

For those basins where data was not available (N/A), scores may be artificially low. It is recommended that further information be gathered on these basins to determine future possible consideration for Section 404c designation.

## A. DISCUSSION

Individual wetland basins scoring greater than 1900 total points should be given consideration for Section 404c designation and placed on the priority list for public acquisition under the National Wetlands Priority Conservation Plan and Jordan River Parkway Program. Re-evaluation of existing assessed valuations on these properties should be undertaken immediately by local taxing authorities, and special zoning designations should reflect a more enhanced greenbelt status.

The Jordan River WAIDS duration was about one year from time of workplan completion to technical report completion. Only single grab samples were taken, within a single season, of water quality, macroinvertebrate population, fishes, and wildlife. Due to the importance of these factors in estimating wetland value, it is recommended that those basins lacking data be studied further.

For example, wetland basins 5, 6, and 7 all possess locally important wetlands supporting strong populations of white-faced ibis. Since the status of these birds is of special concern, the local habitat can be critical to species survival within the Rocky Mountain or Basin & Range flyways. Other bird species were not captured in the study because of limited seasonal inventory. More study of the smaller wetland communities within these basins should take place prior to any consideration of either accelerated permit status or 404c status.

The following wetland basins should be studied further for food chain and wildlife values:

- Basins 5-8: Macroinvertebrates, Water Quality, Wildlife, Fishery Habitat.
- Basins 9-11: Macroinvertebrates, Wildlife, Fishery Habitat.
- Basins 16-17: Macroinvertebrates, Wildlife.
- Basins 20-21: Macroinvertebrates, Wildlife.

Based on existing data, the following basins could be considered for 404c designation:

- Basin 1: All wetland communities.
- Basin 3: All western communities, eastern aquatic beds, including scrub/shrub structure.
- Basin 4: All eastern wetland communities.
- Basin 14: Community adjacent to Sharon Steel Mill Tailings.
- Basin 15: Two major palustrine wetlands on western side.
- Basin 18: Communities on both sides of river.
- Basin 19: All communities within the basin.
- Basin 20: All northwestern communities.
- Basin 21: Southern communities on both sides of river.
- Basin 22: All southern communities, particularly scrub/shrub and tree structure.

B. ESTIMATED ACQUISITION COST.

Table 14 summarizes the estimated acreage of each basin recommended for 404c designation at this time, and estimates the land value multiplied by acreage to total potential acquisition cost by federal, state, or local government. These costs represent capital investment by entities providing public goods to the community as-a-whole, and should be weighed against revenue return from local recreation that may result from future Parkway use.

TABLE 14. POTENTIAL ACQUISITION COST FOR PRIORITY WETLANDS.

BASIN #	ACRES	EST.COST/ACRE	TOTAL COST	COMMENTS
1	34	\$ 6500	\$ 221,000	50% acquired
3	273	\$ 6500	\$ 1.7 mil.	
4	160	\$ 6500	\$ 1.0 mil.	50% acquired
14	80	\$ 6500	\$ 520,000	
15	40	\$ 6500	\$ 260,000	
18	90	\$ 6500	\$ 585,000	
19	73	\$ 12000	\$ N/A	90% acquired
20	40	\$ 15000	\$ 600,000	
21	45	\$ 15000	\$ 675,000	50% acquired
22	100	\$ 15000	\$ 1.5 mil.	
TOTALS	935		\$ 6.9 mil.	

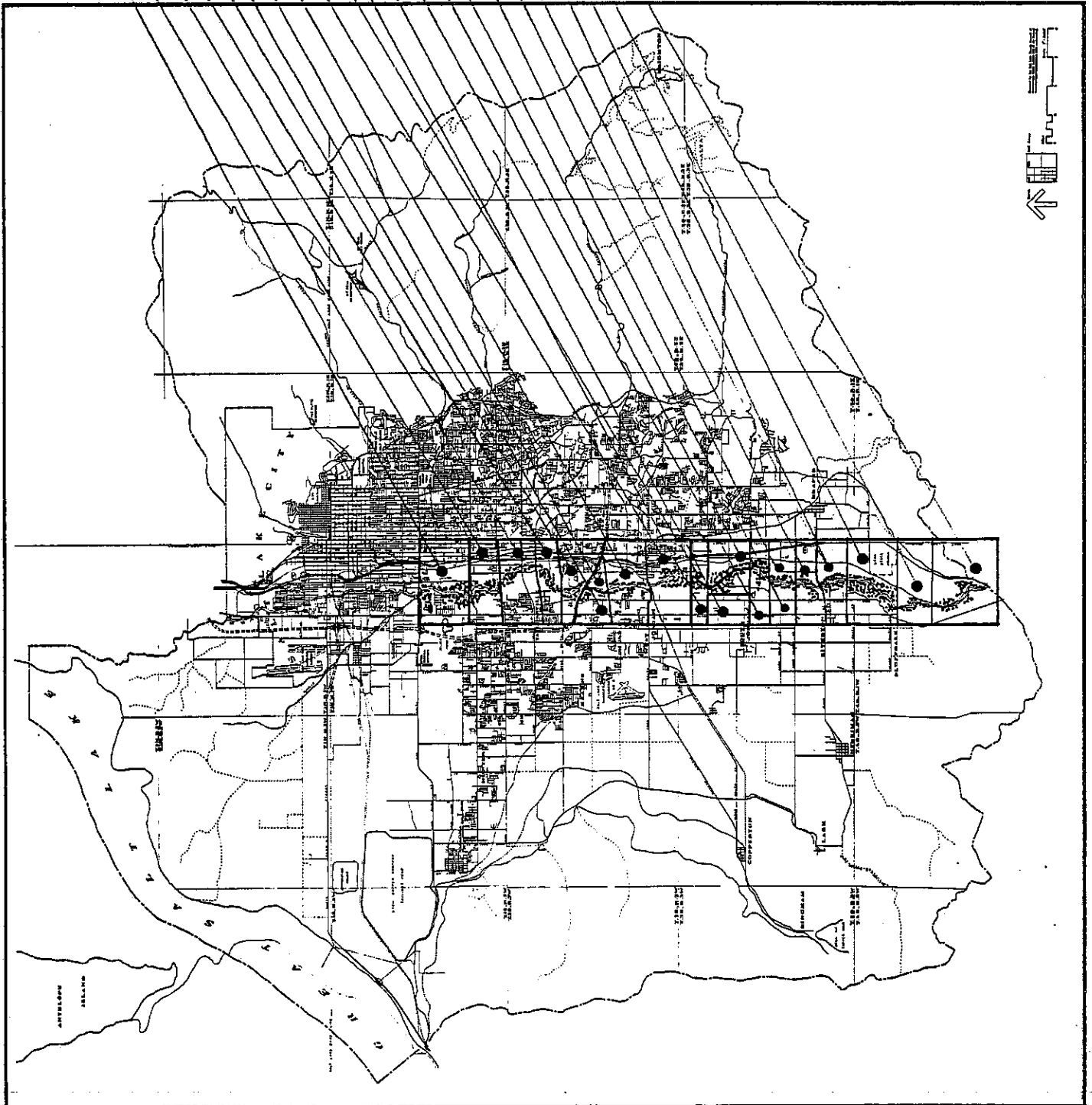
Many areas along the Jordan River have been acquired by local government or the Jordan River Parkway. Current ownership information by the parkway is not included in these estimates, although most Parkway ownership consists of narrow 50-100' easements or corridors and excludes large acreages of palustrine emergent wetlands away from the river.

Land values are estimates provided by the Salt Lake County Office of Administration & Procurement, and represent average land values compiled from recent procurement projects (19).

Several avenues for either fee simple acquisition or conservation easement designation exist for private landowners. The Emergency Wetland Conservation Act, and the Farm Food Act both entail significant advantages to landowners impacted by possible 404c designation. Provisions of the Clean Water Act may require local government acquisition of stormwater pollution control sites, and make available funds for abatement of non-point sources of pollution, both of which can be matched by local funds and integrated into recreational use planning.

**FIGURE 14.1 LOCATION OF WETLAND STUDY BASINS**

- BASIN 22
- BASIN 21
- BASIN 20
- BASIN 19
- BASIN 18
- BASIN 17
- BASIN 16
- BASIN 15
- BASIN 14
- BASIN 13
- BASIN 12
- BASIN 11
- BASIN 10
- BASIN 9
- BASIN 8
- BASIN 7
- BASIN 6
- BASIN 5
- BASIN 4
- BASIN 3
- BASIN 2
- BASIN 1



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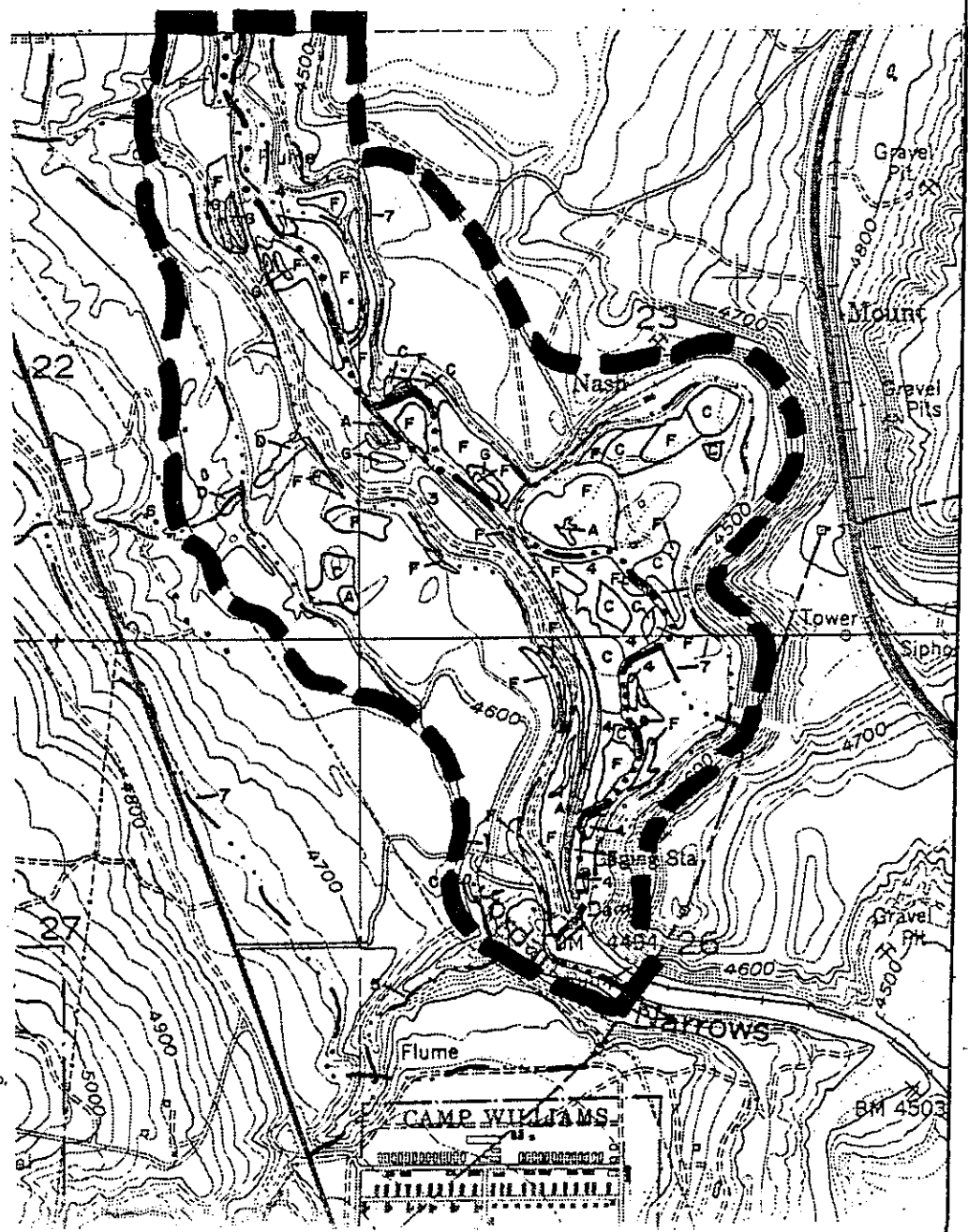
JORDAN RIVER WETLANDS  
 ADVANCE IDENTIFICATION  
 STUDY

INITIAL RATING	WETLAND FUNCTION								
	CHICKENWATER DISCHARGE	FLOOD STORAGE	SHORELINE PROTECTION	SEDIMENT TRAPPING	POLLUTANT RETENTION	FOOD CHAIN SUPPORT	FISHERY HABITAT	WILDLIFE HABITAT	RESTORATION CAPABILITY
HIGH		X	X	X		X	X	X	X
MODERATE	X								
LOW					X				
TOTAL ACREAGE: 68	RANKING: 4 <sup>th</sup>								

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## FIGURE 15 BASIN 1

JORDAN RIVER WETLANDS  
 ADVANCE IDENTIFICATION  
 STUDY



**WETLAND CLASSIFICATION LEGEND:**

- 1 = RIVERINE, LOWER PERENNIAL, AQUATIC BOTTOM, SEMI-PERMANENTLY FLOODED
- 2 = RIVERINE, LOWER PERENNIAL, EMERGENT, SEASONALLY FLOODED
- 3 = RIVERINE, LOWER PERENNIAL, UNCONSOLIDATED BOTTOM, PERMANENTLY FLOODED
- 4 = RIVERINE, LOWER PERENNIAL, UNCONSOLIDATED SHORE, SEASONALLY FLOODED, WELL-DRAINED
- 5 = RIVERINE, INTERMITTENT, STREAMED, SEASONALLY FLOODED
- 6 = RIVERINE, UPPER PERENNIAL, STREAMED, INTERMITTENTLY FLOODED
- 7 = RIVERINE, UPPER PERENNIAL, STREAMED, ARTIFICIALLY FLOODED, ENCAVATED
- A = PALUSTRINE, AQUATIC BED
- B = PALUSTRINE, AQUATIC BED, SEMI-PERMANENTLY FLOODED
- C = PALUSTRINE, EMERGENT
- D = PALUSTRINE, FORESTED
- E = PALUSTRINE, ROCK BOTTOM
- F = PALUSTRINE, SCARP-SLOPE
- G = PALUSTRINE, UNCONSOLIDATED BOTTOM
- H = PALUSTRINE, UNCONSOLIDATED SHORE
- U = UPLAND



INITIAL RATING	WETLAND FUNCTION								
	GROUNDWATER DISCHARGE	FLOOD STORAGE	SHORELINE ANCHORING	SEDIMENT TRAPPING	POLLUTANT RETENTION	FOOD CHAIN SUPPORT	FISHERY HABITAT	WILDLIFE HABITAT	RECREATION OPPORT.
BASIN 2									
HIGH			X			N/A	X		
MODERATE									X
LOW	X	X		X	X			X	
TOTAL ACREAGE: 62	RANKING: 17th DATA NEEDS: MACROINVERTEBRATES								

WETLAND CLASSIFICATION LEGEND:


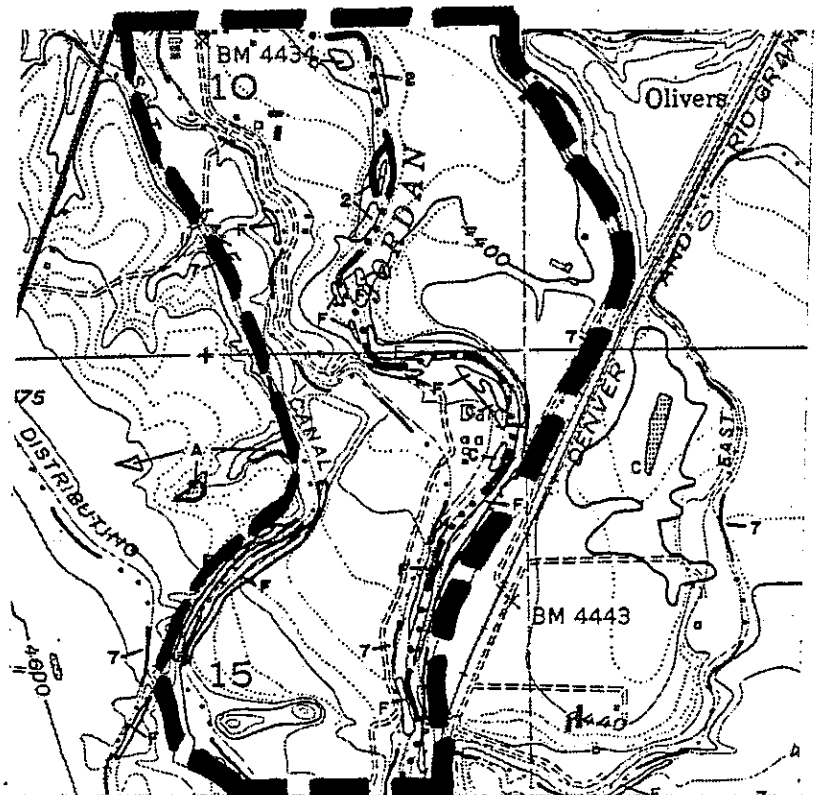
- 1 = RIVERINE, LOWER PERENNIAL, AQUATIC BOTTOM, SEMI-PERMANENTLY FLOODED
- 2 = RIVERINE, LOWER PERENNIAL, EMERGENT, SEASONALLY FLOODED
- 3 = RIVERINE, LOWER PERENNIAL, UNCONSOLIDATED BOTTOM, PERMANENTLY FLOODED
- 4 = RIVERINE, LOWER PERENNIAL, UNCONSOLIDATED SHORE, SEASONALLY FLOODED, WELL-DRAINED
- 5 = RIVERINE, INTERMITTENT, STREAMBED, SEASONALLY FLOODED
- 6 = RIVERINE, UPPER PERENNIAL, STREAMBED, INTERMITTENTLY FLOODED
- 7 = RIVERINE, UPPER PERENNIAL, STREAMBED, ARTIFICIALLY FLOODED, EXCAVATED

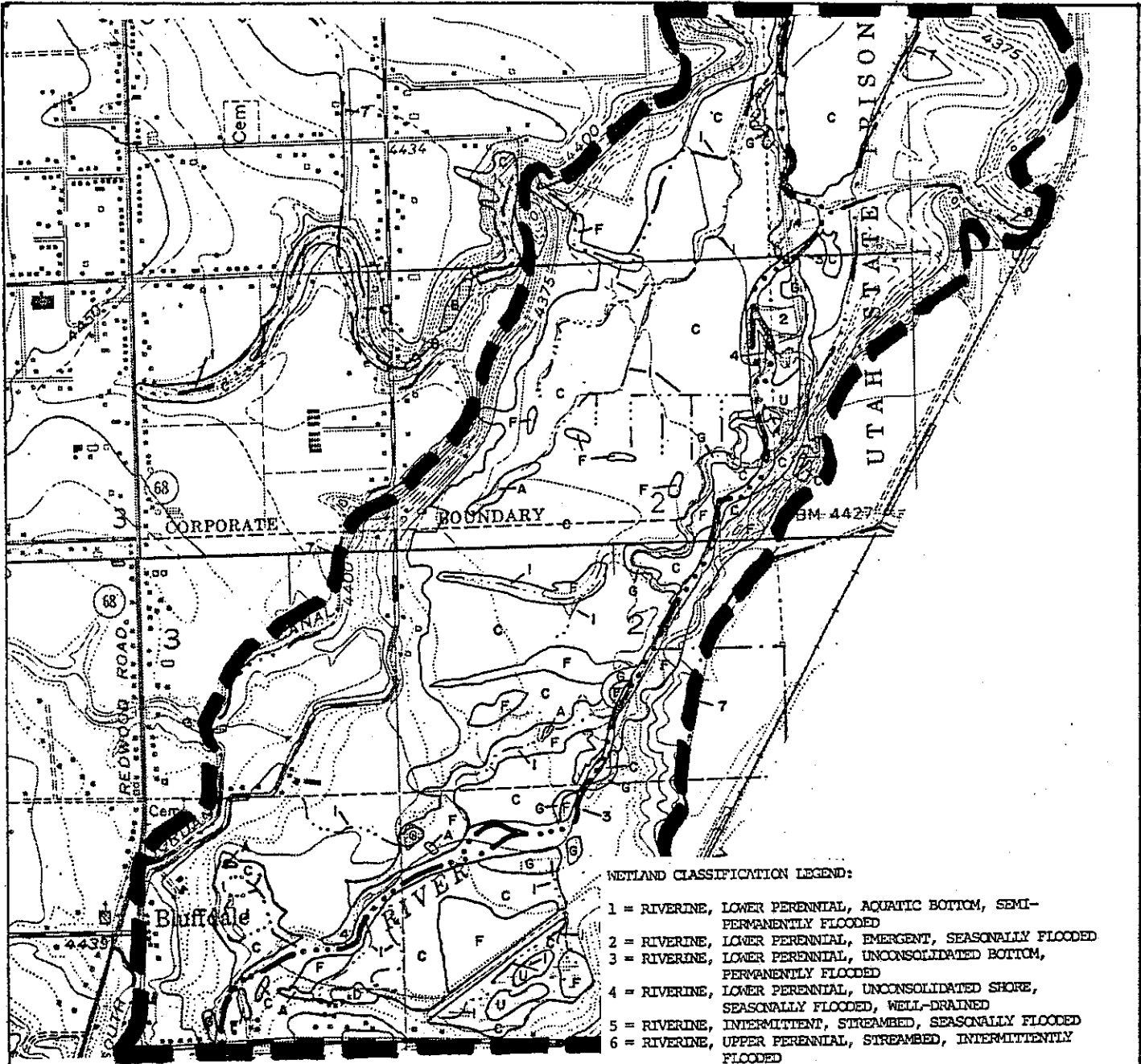
- A = PALUSTRINE, AQUATIC BED
- B = PALUSTRINE, AQUATIC BED, SEMI-PERMANENTLY FLOODED
- C = PALUSTRINE, EMERGENT
- D = PALUSTRINE, FORESTED
- E = PALUSTRINE, ROCK BOTTOM
- F = PALUSTRINE, SCRUB-SHRUB
- G = PALUSTRINE, UNCONSOLIDATED BOTTOM
- H = PALUSTRINE, UNCONSOLIDATED SHORE
- U = UPLAND

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**FIGURE 16**  
**BASIN 2**

JORDAN RIVER WETLANDS  
ADVANCE IDENTIFICATION  
STUDY



**WETLAND CLASSIFICATION LEGEND:**

- 1 = RIVERINE, LOWER PERENNIAL, AQUATIC BOTTOM, SEMI-PERMANENTLY FLOODED
- 2 = RIVERINE, LOWER PERENNIAL, EMERGENT, SEASONALLY FLOODED
- 3 = RIVERINE, LOWER PERENNIAL, UNCONSOLIDATED BOTTOM, PERMANENTLY FLOODED
- 4 = RIVERINE, LOWER PERENNIAL, UNCONSOLIDATED SHORE, SEASONALLY FLOODED, WELL-DRAINED
- 5 = RIVERINE, INTERMITTENT, STREAMBED, SEASONALLY FLOODED
- 6 = RIVERINE, UPPER PERENNIAL, STREAMBED, INTERMITTENTLY FLOODED
- 7 = RIVERINE, UPPER PERENNIAL, STREAMBED, ARTIFICIALLY FLOODED, EXCAVATED

- A = PALUSTRINE, AQUATIC BED
- B = PALUSTRINE, AQUATIC BED, SEMI-PERMANENTLY FLOODED
- C = PALUSTRINE, EMERGENT
- D = PALUSTRINE, FORESTED
- E = PALUSTRINE, ROCK BOTTOM
- F = PALUSTRINE, SCRUB-SHRUB
- G = PALUSTRINE, UNCONSOLIDATED BOTTOM
- H = PALUSTRINE, UNCONSOLIDATED SHORE
- U = UPLAND

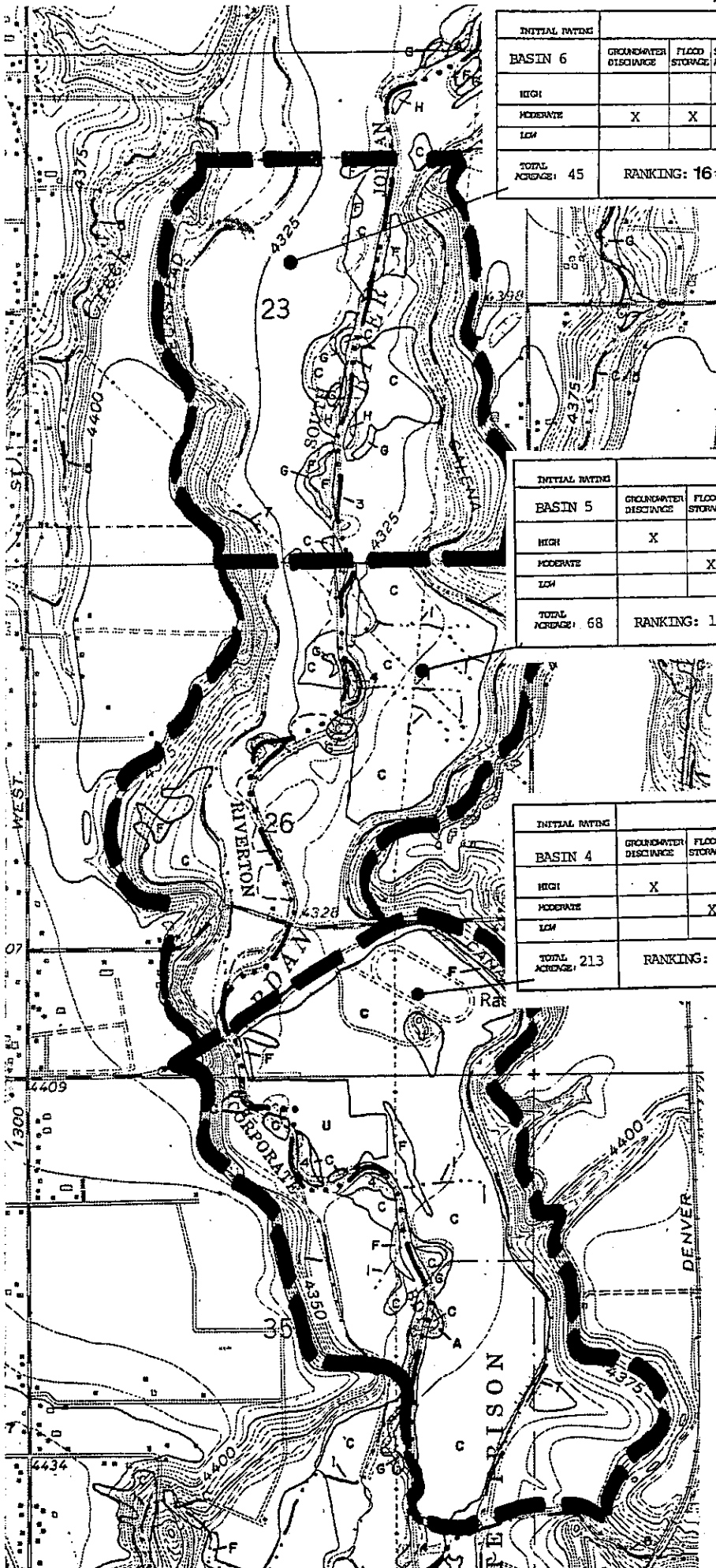
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**FIGURE 17**  
**BASIN 3**

JORDAN RIVER WETLANDS  
 ADVANCE IDENTIFICATION  
 STUDY



INITIAL RATING	WETLAND FUNCTION									
	ORGANIC WATER DISCHARGE	FLOOD STORAGE	SHORELINE PROTECTION	SEDIMENT TRAPPING	POLLUTANT RETENTION	FOOD CHAIN SUPPORT	FISHERY HABITAT	WILDLIFE HABITAT	RECREATION	OTHER
HIGH	X	X		X	X	X		X	X	
MODERATE			X				X			
LOW										
TOTAL ACREAGE: 388	RANKING: 1st									



INITIAL RATING	WETLAND FUNCTION								
	GROUNDWATER DISCHARGE	FLOOD STORAGE	SHORELINE ANCHORING	SEDIMENT TRAPPING	POLLUTANT RETENTION	FOOD CHAIN SUPPORT	FISHERY HABITAT	WILDLIFE HABITAT	RECREATION OPPORT.
BASIN 6			X			N/A			
HIGH									
MODERATE	X	X					X	X	X
LOW				X	X				
TOTAL ACREAGE: 45	RANKING: 16th			DATA NEEDS: MACROINVERTEBRATES, WILDLIFE, FISHERY					

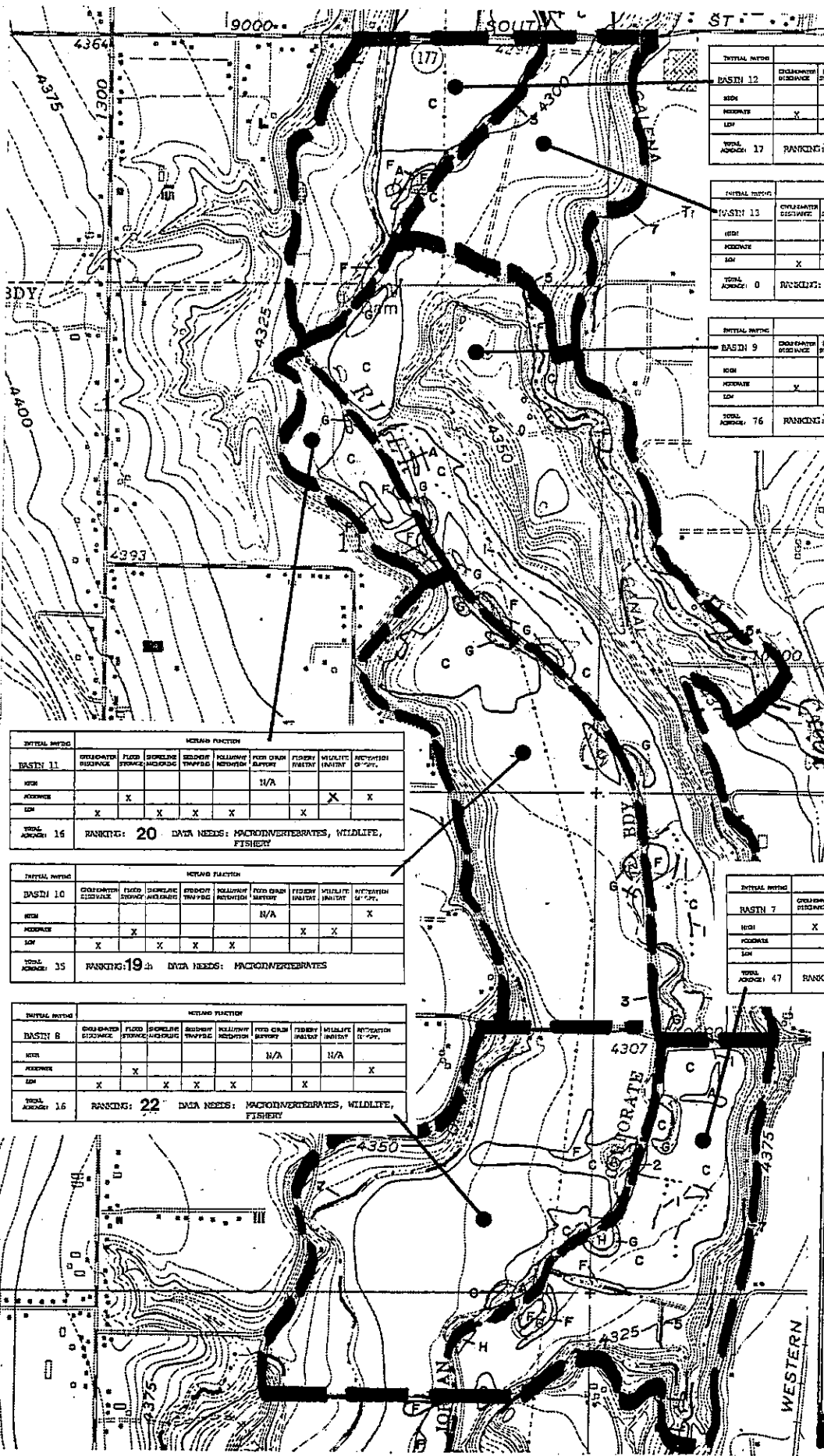
INITIAL RATING	WETLAND FUNCTION								
	GROUNDWATER DISCHARGE	FLOOD STORAGE	SHORELINE ANCHORING	SEDIMENT TRAPPING	POLLUTANT RETENTION	FOOD CHAIN SUPPORT	FISHERY HABITAT	WILDLIFE HABITAT	RECREATION OPPORT.
BASIN 5						X			
HIGH	X								
MODERATE		X					X	X	X
LOW			X	X	X				
TOTAL ACREAGE: 68	RANKING: 11th			DATA NEEDS: IBIS HABITAT...POTENTIALLY THREATENED SPECIES					

INITIAL RATING	WETLAND FUNCTION								
	GROUNDWATER DISCHARGE	FLOOD STORAGE	SHORELINE ANCHORING	SEDIMENT TRAPPING	POLLUTANT RETENTION	FOOD CHAIN SUPPORT	FISHERY HABITAT	WILDLIFE HABITAT	RECREATION OPPORT.
BASIN 4							X	X	X
HIGH	X			X	X		X	X	X
MODERATE		X	X			X			
LOW									
TOTAL ACREAGE: 213	RANKING: 3rd								

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**FIGURE 18**  
**BASINS 4,5,6**

JORDAN RIVER WETLANDS  
 ADVANCE IDENTIFICATION  
 STUDY



INITIAL BASIN	WETLAND FUNCTION									
	COHESION DISTANCE	FLOOD STORAGE	SHORELINE PROTECTION	SEDIMENT TRAPPING	POLLUTANT RETENTION	FRESHWATER SUPPLY	FISHERY HABITAT	WILDLIFE HABITAT	RECREATION POTENTIAL	
BASIN 12										
RICH										
MEDIUM	X	X				X	X	X	X	X
LOW			X	X	X					
TOTAL SCORE: 17	RANKING: 18th DATA NEEDS: CROWN THORN FEASIBILITY ANALYSIS									

INITIAL BASIN	WETLAND FUNCTION									
	COHESION DISTANCE	FLOOD STORAGE	SHORELINE PROTECTION	SEDIMENT TRAPPING	POLLUTANT RETENTION	FRESHWATER SUPPLY	FISHERY HABITAT	WILDLIFE HABITAT	RECREATION POTENTIAL	
BASIN 13										
RICH						N/A				
MEDIUM								X		
LOW	X	X	X	X	X		X			X
TOTAL SCORE: 0	RANKING: 21 DATA NEEDS: MACROINVERTEBRATES									

INITIAL BASIN	WETLAND FUNCTION									
	COHESION DISTANCE	FLOOD STORAGE	SHORELINE PROTECTION	SEDIMENT TRAPPING	POLLUTANT RETENTION	FRESHWATER SUPPLY	FISHERY HABITAT	WILDLIFE HABITAT	RECREATION POTENTIAL	
BASIN 9										
RICH		X				N/A		X		
MEDIUM	X		X	X	X		X			
LOW			X	X	X					X
TOTAL SCORE: 76	RANKING: 13th DATA NEEDS: MACROINVERTEBRATES									

INITIAL BASIN	WETLAND FUNCTION									
	COHESION DISTANCE	FLOOD STORAGE	SHORELINE PROTECTION	SEDIMENT TRAPPING	POLLUTANT RETENTION	FRESHWATER SUPPLY	FISHERY HABITAT	WILDLIFE HABITAT	RECREATION POTENTIAL	
BASIN 11										
RICH						N/A				
MEDIUM		X					X	X	X	X
LOW	X		X	X	X		X			
TOTAL SCORE: 16	RANKING: 20 DATA NEEDS: MACROINVERTEBRATES, WILDLIFE, FISHERY									

INITIAL BASIN	WETLAND FUNCTION									
	COHESION DISTANCE	FLOOD STORAGE	SHORELINE PROTECTION	SEDIMENT TRAPPING	POLLUTANT RETENTION	FRESHWATER SUPPLY	FISHERY HABITAT	WILDLIFE HABITAT	RECREATION POTENTIAL	
BASIN 10										
RICH						N/A		X	X	X
MEDIUM		X					X	X		
LOW	X		X	X	X					
TOTAL SCORE: 35	RANKING: 19th DATA NEEDS: MACROINVERTEBRATES									

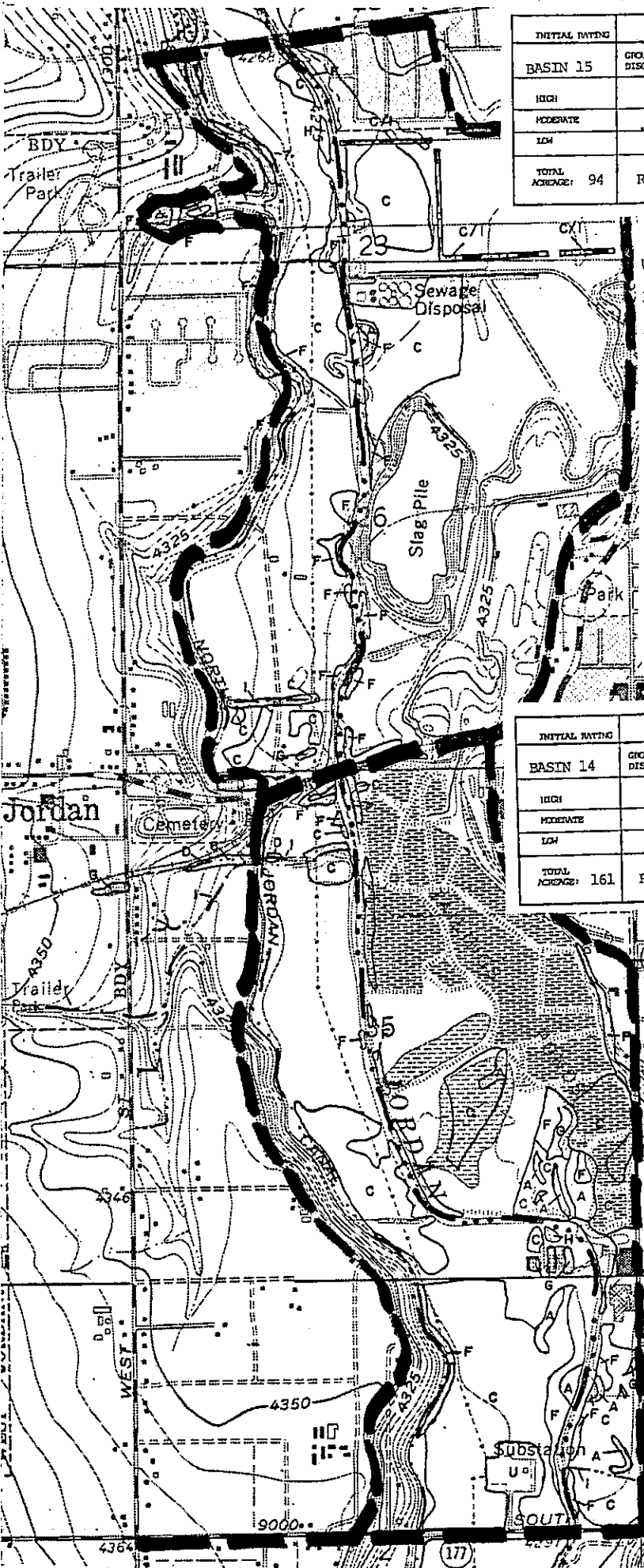
INITIAL BASIN	WETLAND FUNCTION									
	COHESION DISTANCE	FLOOD STORAGE	SHORELINE PROTECTION	SEDIMENT TRAPPING	POLLUTANT RETENTION	FRESHWATER SUPPLY	FISHERY HABITAT	WILDLIFE HABITAT	RECREATION POTENTIAL	
BASIN 7										
RICH	X	X					X			
MEDIUM								X		
LOW			X	X	X		X		X	X
TOTAL SCORE: 47	RANKING: 12th									

INITIAL BASIN	WETLAND FUNCTION									
	COHESION DISTANCE	FLOOD STORAGE	SHORELINE PROTECTION	SEDIMENT TRAPPING	POLLUTANT RETENTION	FRESHWATER SUPPLY	FISHERY HABITAT	WILDLIFE HABITAT	RECREATION POTENTIAL	
BASIN 8										
RICH						N/A	N/A			
MEDIUM		X	X	X	X		X			X
LOW	X		X	X	X		X			
TOTAL SCORE: 16	RANKING: 22 DATA NEEDS: MACROINVERTEBRATES, WILDLIFE, FISHERY									

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**FIGURE 19**  
**BASINS 7-13**

JORDAN RIVER WETLANDS  
 ADVANCE IDENTIFICATION  
 STUDY



INITIAL RATING	WETLAND FUNCTION								
	GROUNDWATER DISCHARGE	FLOOD STORAGE	SHORELINE ANCHORING	SEDIMENT TRAPPING	POLLUTANT RETENTION	FOOD CHAIN SUPPORT	FISHERY HABITAT	WILDLIFE HABITAT	RECREATION SUPPORT
BASIN 15									
HIGH			X				X	X	
MODERATE		X			X				
LOW	X			X		X			X
TOTAL ACREAGE: 94	RANKING: 6th DATA NEEDS: FISHERY, WILDLIFE								

**WETLAND CLASSIFICATION LEGEND:**

- 1 = RIVERINE, LOWER PERENNIAL, AQUATIC BOTTOM, SEMI-PERMANENTLY FLOODED
- 2 = RIVERINE, LOWER PERENNIAL, EMERGENT, SEASONALLY FLOODED
- 3 = RIVERINE, LOWER PERENNIAL, UNCONSOLIDATED BOTTOM, PERMANENTLY FLOODED
- 4 = RIVERINE, LOWER PERENNIAL, UNCONSOLIDATED SHORE, SEASONALLY FLOODED, WELL-DRAINED
- 5 = RIVERINE, INTERMITTENT, STREAMBED, SEASONALLY FLOODED
- 6 = RIVERINE, UPPER PERENNIAL, STREAMBED, INTERMITTENTLY FLOODED
- 7 = RIVERINE, UPPER PERENNIAL, STREAMBED, ARTIFICIALLY FLOODED, EXCAVATED
  
- A = PALUSTRINE, AQUATIC BED
- B = PALUSTRINE, AQUATIC BED, SEMI-PERMANENTLY FLOODED
- C = PALUSTRINE, EMERGENT
- D = PALUSTRINE, FORESTED
- E = PALUSTRINE, ROCK BOTTOM
- F = PALUSTRINE, SCRUB-SHRUB
- G = PALUSTRINE, UNCONSOLIDATED BOTTOM
- H = PALUSTRINE, UNCONSOLIDATED SHORE
- U = UPLAND

INITIAL RATING	WETLAND FUNCTION								
	GROUNDWATER DISCHARGE	FLOOD STORAGE	SHORELINE ANCHORING	SEDIMENT TRAPPING	POLLUTANT RETENTION	FOOD CHAIN SUPPORT	FISHERY HABITAT	WILDLIFE HABITAT	RECREATION SUPPORT
BASIN 14									
HIGH		X			X		X	X	
MODERATE	X		X	X					X
LOW						X			
TOTAL ACREAGE: 161	RANKING: 5th DATA NEEDS: WILDLIFE, FISHERY								

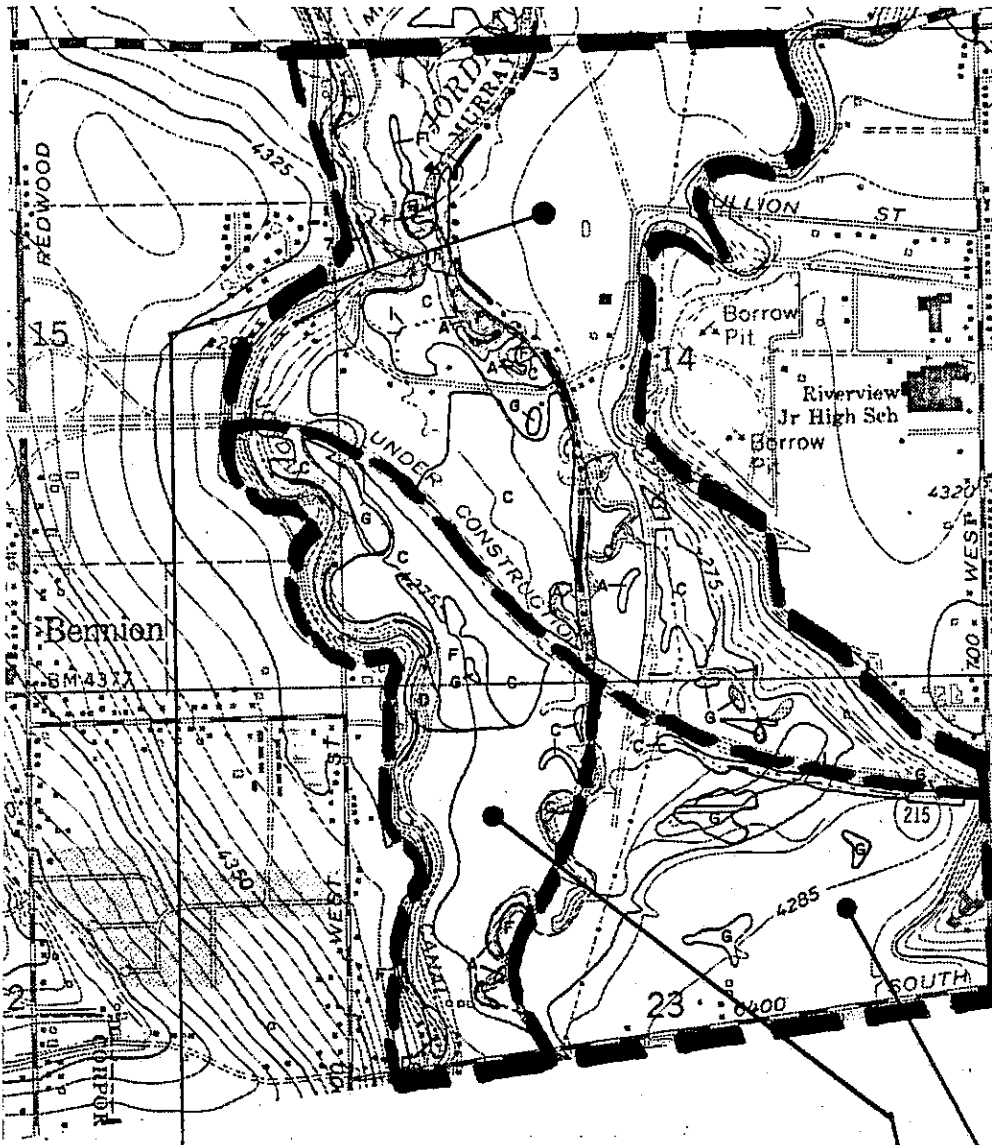
SALT LAKE CITY-COUNTY HEALTH DEPARTMENT  
 Division of Environmental Health  
 Bureau of Water Quality

**FIGURE 20**  
**BASIN 14-15**  
 JORDAN RIVER WETLANDS  
 ADVANCE IDENTIFICATION  
 STUDY

**FIGURE 21**

**BASINS 16-18**

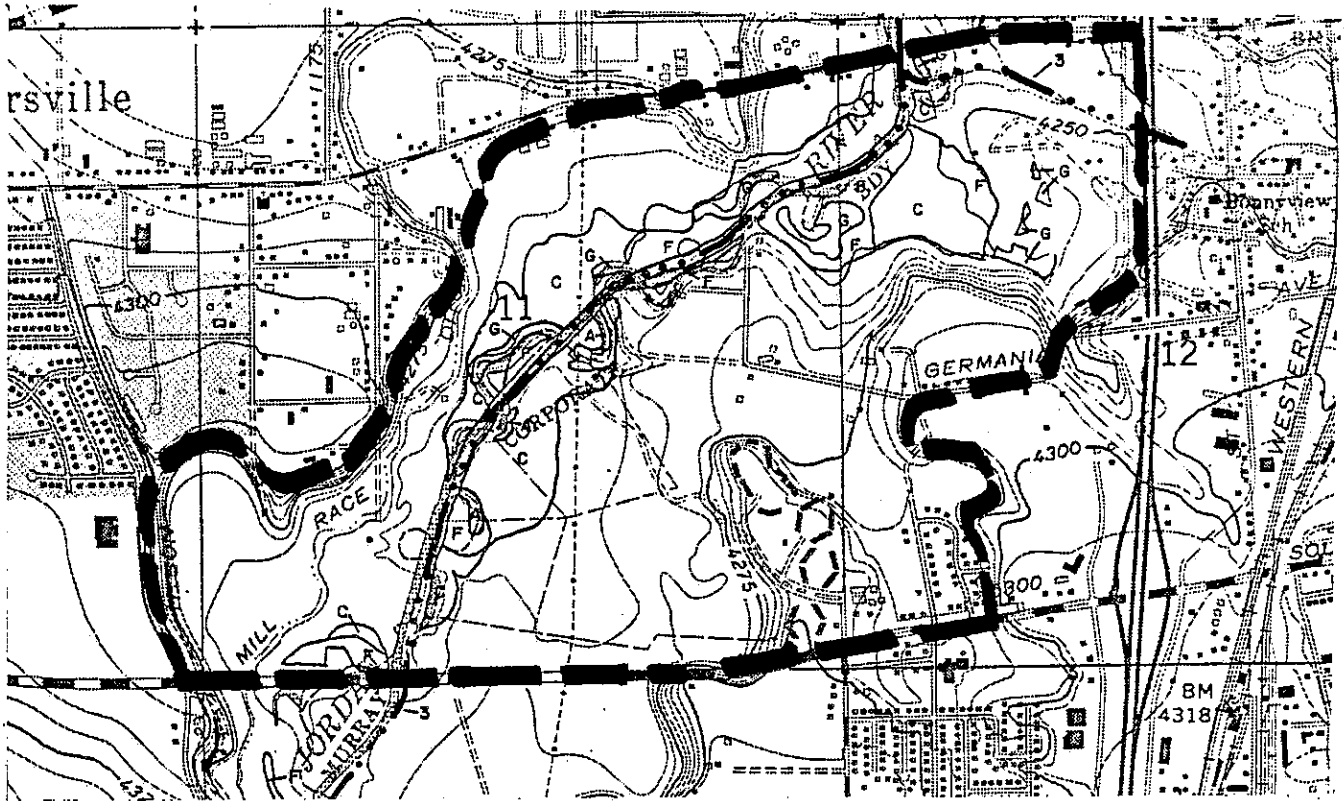
JORDAN RIVER WETLANDS  
 ADVANCE IDENTIFICATION  
 STUDY



INITIAL RATING	WETLAND FUNCTION								
	GROUNDWATER DISCHARGE	FLOOD STORAGE	SHORELINE ANCHORING	SEDIMENT TRAPPING	POLLUTANT RETENTION	FOOD CHAIN SUPPORT	FISHERY HABITAT	WILDLIFE HABITAT	RECREATION OPPORT.
HIGH							X	X	
MODERATE		X	X		X				
LOW	X			X		X			X
TOTAL AVERAGE: 91	RANKING: 10th DATA NEEDS: FISHERY								

INITIAL RATING	WETLAND FUNCTION								
	GROUNDWATER DISCHARGE	FLOOD STORAGE	SHORELINE ANCHORING	SEDIMENT TRAPPING	POLLUTANT RETENTION	FOOD CHAIN SUPPORT	FISHERY HABITAT	WILDLIFE HABITAT	RECREATION OPPORT.
HIGH						N/A	X	X	
MODERATE									
LOW	X	X	X	X	X				X
TOTAL AVERAGE: 19	RANKING: 15th DATA NEEDS: MACROINVERTEBRATES, WILDLIFE, FISHERY								

INITIAL RATING	WETLAND FUNCTION								
	GROUNDWATER DISCHARGE	FLOOD STORAGE	SHORELINE ANCHORING	SEDIMENT TRAPPING	POLLUTANT RETENTION	FOOD CHAIN SUPPORT	FISHERY HABITAT	WILDLIFE HABITAT	RECREATION OPPORT.
HIGH						N/A	X	X	
MODERATE									
LOW	X	X	X	X	X				X
TOTAL AVERAGE: 5	RANKING: 14th DATA NEEDS: MACROINVERTEBRATES, WILDLIFE, FISHERY								



INITIAL RATING	WETLAND FUNCTION								
	GROUNDWATER DISCHARGE	FLOOD STORAGE	SHORELINE ANCHORING	SEDIMENT TRAPPING	POLLUTANT RETENTION	FOOD CHAIN SUPPORT	FISHERY HABITAT	WILDLIFE HABITAT	RECREATION OPPORT.
BASIN 19									
HIGH	X	X	X	X			X	X	X
MODERATE					X	X			
LOW									
TOTAL ACREAGE: 73	RANKING: 2ND								

**WETLAND CLASSIFICATION LEGEND:**

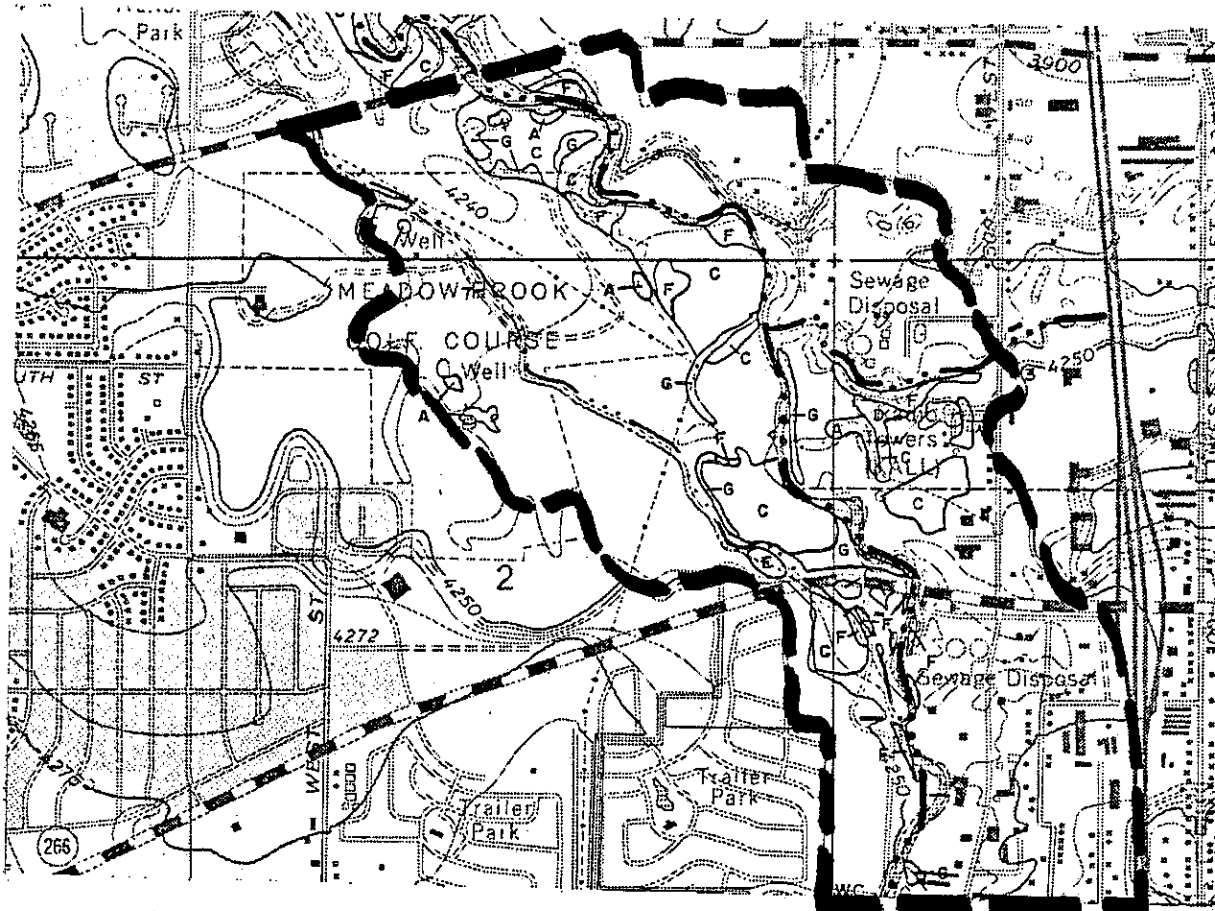
- 1 = RIVERINE, LOWER PERENNIAL, AQUATIC BOTTOM, SEMI-PERMANENTLY FLOODED
- 2 = RIVERINE, LOWER PERENNIAL, EMERGENT, SEASONALLY FLOODED
- 3 = RIVERINE, LOWER PERENNIAL, UNCONSOLIDATED BOTTOM, PERMANENTLY FLOODED
- 4 = RIVERINE, LOWER PERENNIAL, UNCONSOLIDATED SHORE, SEASONALLY FLOODED, WELL-DRAINED
- 5 = RIVERINE, INTERMITTENT, STREAMBED, SEASONALLY FLOODED
- 6 = RIVERINE, UPPER PERENNIAL, STREAMBED, INTERMITTENTLY FLOODED
- 7 = RIVERINE, UPPER PERENNIAL, STREAMBED, ARTIFICIALLY FLOODED, EXCAVATED

- A = PALUSTRINE, AQUATIC BED
- B = PALUSTRINE, AQUATIC BED, SEMI-PERMANENTLY FLOODED
- C = PALUSTRINE, EMERGENT
- D = PALUSTRINE, FORESTED
- E = PALUSTRINE, ROCK BOTTOM
- F = PALUSTRINE, SCRUB-SHRUB
- G = PALUSTRINE, UNCONSOLIDATED BOTTOM
- H = PALUSTRINE, UNCONSOLIDATED SHORE
- U = UPLAND

SALT LAKE CITY-COUNTY HEALTH DEPARTMENT  
 Division of Environmental Health  
 Bureau of Water Quality

**FIGURE 22**  
**BASIN 19**

JORDAN RIVER WETLANDS  
 ADVANCE IDENTIFICATION  
 STUDY



INITIAL RATING	WETLAND FUNCTION								
	GROUNDWATER DISCHARGE	FLOOD STORAGE	SHORELINE ANCHORING	SEDIMENT TRAPPING	POLLUTANT RETENTION	FOOD CHAIN SUPPORT	FISHERY HABITAT	WILDLIFE HABITAT	RECREATION OPPORT.
BASIN 20									
HIGH						N/A	X	X	
MODERATE	X	X	X		X				
LOW				X					X
TOTAL ACREAGE: 41	RANKING: 9th / DATA NEEDS: MACROINVERTEBRATES, WILDLIFE								

**WETLAND CLASSIFICATION LEGEND:**

- 1 = RIVERINE, LOWER PERENNIAL, AQUATIC BOTTOM, SEMI-PERMANENTLY FLOODED
- 2 = RIVERINE, LOWER PERENNIAL, EMERGENT, SEASONALLY FLOODED
- 3 = RIVERINE, LOWER PERENNIAL, UNCONSOLIDATED BOTTOM, PERMANENTLY FLOODED
- 4 = RIVERINE, LOWER PERENNIAL, UNCONSOLIDATED SHORE, SEASONALLY FLOODED, WELL-DRAINED
- 5 = RIVERINE, INTERMITTENT, STREAMBED, SEASONALLY FLOODED
- 6 = RIVERINE, UPPER PERENNIAL, STREAMBED, INTERMITTENTLY FLOODED
- 7 = RIVERINE, UPPER PERENNIAL, STREAMBED, ARTIFICIALLY FLOODED, EXCAVATED

- A = PALUSTRINE, AQUATIC BED
- B = PALUSTRINE, AQUATIC BED, SEMI-PERMANENTLY FLOODED
- C = PALUSTRINE, EMERGENT
- D = PALUSTRINE, FORESTED
- E = PALUSTRINE, ROCK BOTTOM
- F = PALUSTRINE, SCRUB-SHRUB
- G = PALUSTRINE, UNCONSOLIDATED BOTTOM
- H = PALUSTRINE, UNCONSOLIDATED SHORE
- U = UPLAND

SALT LAKE CITY-COUNTY HEALTH DEPARTMENT  
 Division of Environmental Health  
 Bureau of Water Quality

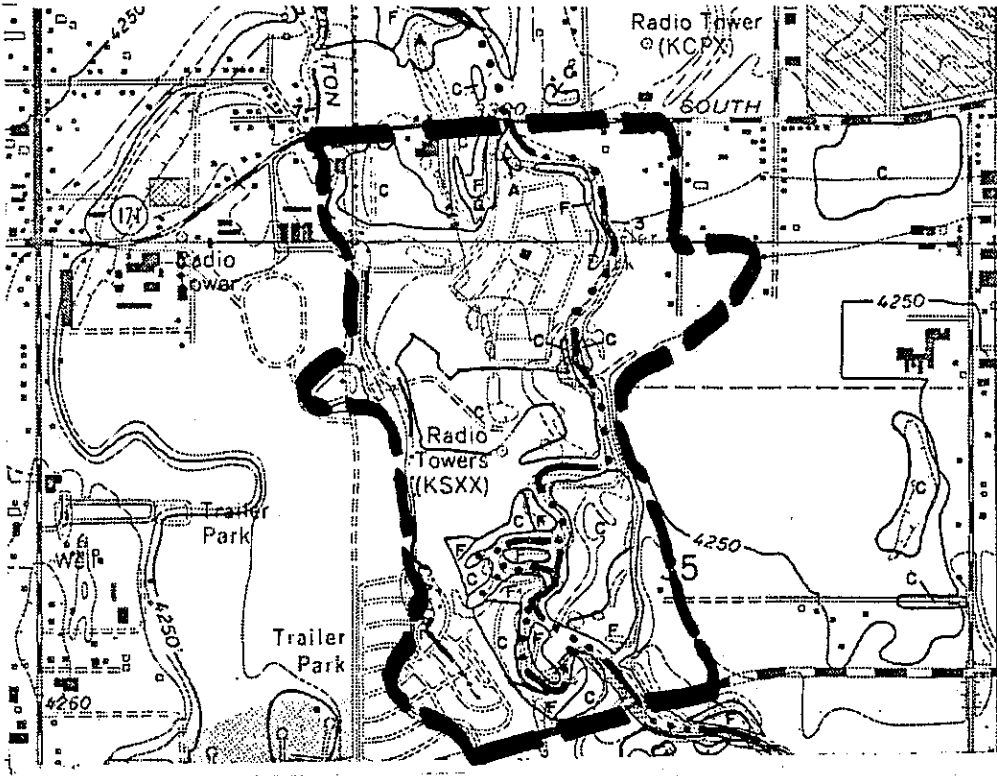
**FIGURE 23**  
**BASIN 20**

JORDAN RIVER WETLANDS  
 ADVANCE IDENTIFICATION  
 STUDY



**FIGURE 24**  
**BASIN 21**

JORDAN RIVER WETLANDS  
 ADVANCE IDENTIFICATION  
 STUDY

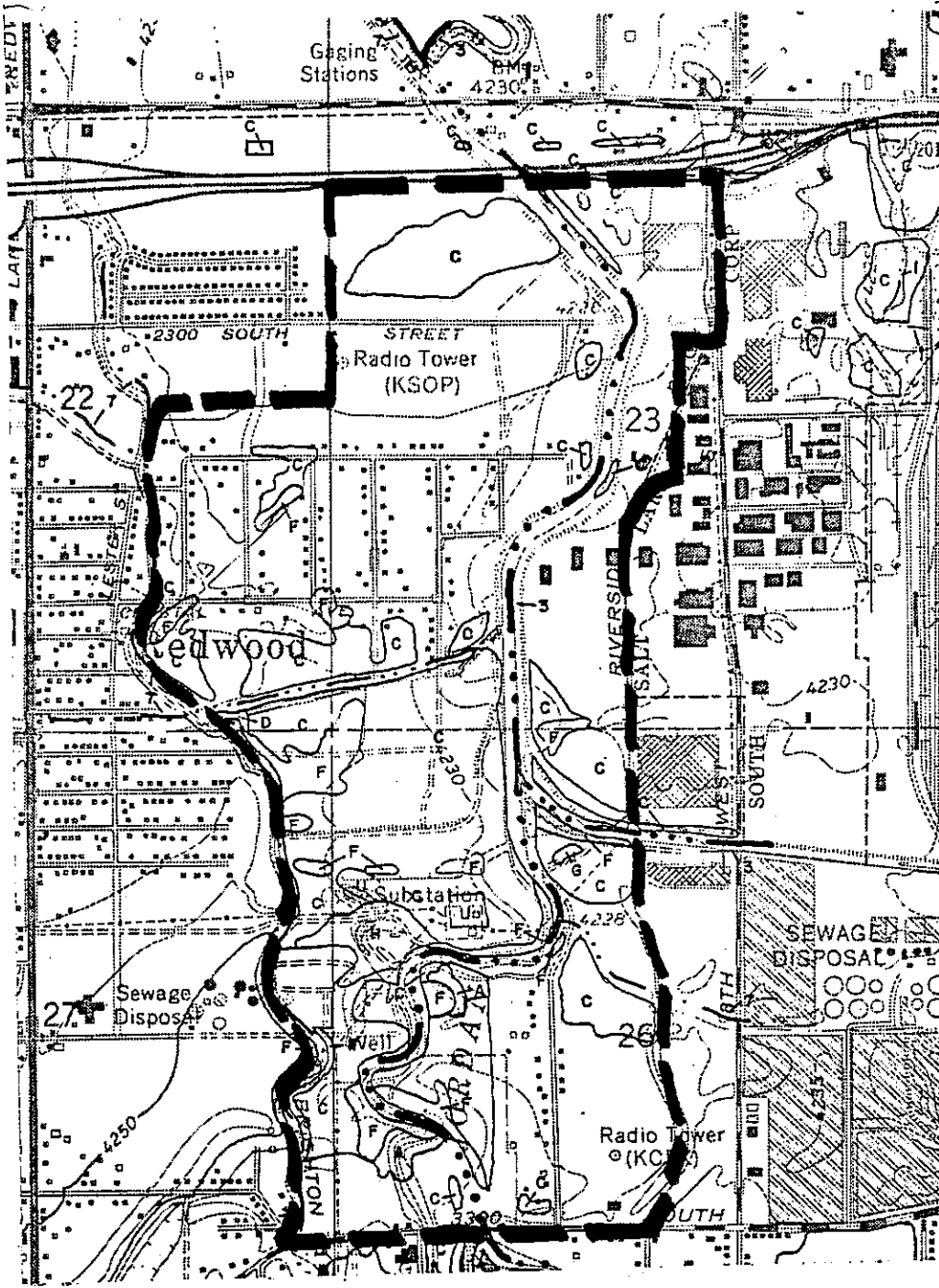


INITIAL RATING	WETLAND FUNCTION								
	GROUNDWATER DISCHARGE	FLOOD STORAGE	SHORELINE ANCHORING	SEDIMENT TRAPPING	POLLUTANT RETENTION	FOOD CHAIN SUPPORT	FISHERY HABITAT	WILDLIFE HABITAT	RECREATION OPPORT.
BASIN 21									
HIGH		X	X	X		N/A		X	
MODERATE					X		X		X
LOW	X								
TOTAL ACREAGE: 94	RANKING: 8th / DATA NEEDS: MACROINVERTEBRATES, WILDLIFE								

WETLAND CLASSIFICATION LEGEND:

- 1 = RIVERINE, LOWER PERENNIAL, AQUATIC BOTTOM, SEMI-PERMANENTLY FLOODED
- 2 = RIVERINE, LOWER PERENNIAL, EMERGENT, SEASONALLY FLOODED
- 3 = RIVERINE, LOWER PERENNIAL, UNCONSOLIDATED BOTTOM, PERMANENTLY FLOODED
- 4 = RIVERINE, LOWER PERENNIAL, UNCONSOLIDATED SHORE, SEASONALLY FLOODED, WELL-DRAINED
- 5 = RIVERINE, INTERMITTENT, STREAMBED, SEASONALLY FLOODED
- 6 = RIVERINE, UPPER PERENNIAL, STREAMBED, INTERMITTENTLY FLOODED
- 7 = RIVERINE, UPPER PERENNIAL, STREAMBED, ARTIFICIALLY FLOODED, EXCAVATED

- A = PALUSTRINE, AQUATIC BED
- B = PALUSTRINE, AQUATIC BED, SEMI-PERMANENTLY FLOODED
- C = PALUSTRINE, EMERGENT
- D = PALUSTRINE, FORESTED
- E = PALUSTRINE, ROCK BOTTOM
- F = PALUSTRINE, SCRUB-SHRUB
- G = PALUSTRINE, UNCONSOLIDATED BOTTOM
- H = PALUSTRINE, UNCONSOLIDATED SHORE
- U = UPLAND



SALT LAKE CITY-COUNTY HEALTH DEPARTMENT  
 Division of Environmental Health  
 Bureau of Water Quality

**FIGURE 25**  
**BASIN 22**

JORDAN RIVER WETLANDS  
 ADVANCE IDENTIFICATION  
 STUDY

INITIAL RATING	WETLAND FUNCTION								
	GROUNDWATER DISCHARGE	FLOOD STORAGE	SHORELINE ANCHORING	SEDIMENT TRAPPING	POLLUTANT RETENTION	FOOD CHAIN SUPPORT	FISHERY HABITAT	WILDLIFE HABITAT	RECREATION OPPORT.
BASIN 22									
HIGH			X	X	X	N/A		X	
MODERATE		X					X		X
LOW	X								
TOTAL ACREAGE: 325	RANKING: 7th/DATA NEEDS: MACROINVERTEBRATE, WILDLIFE								

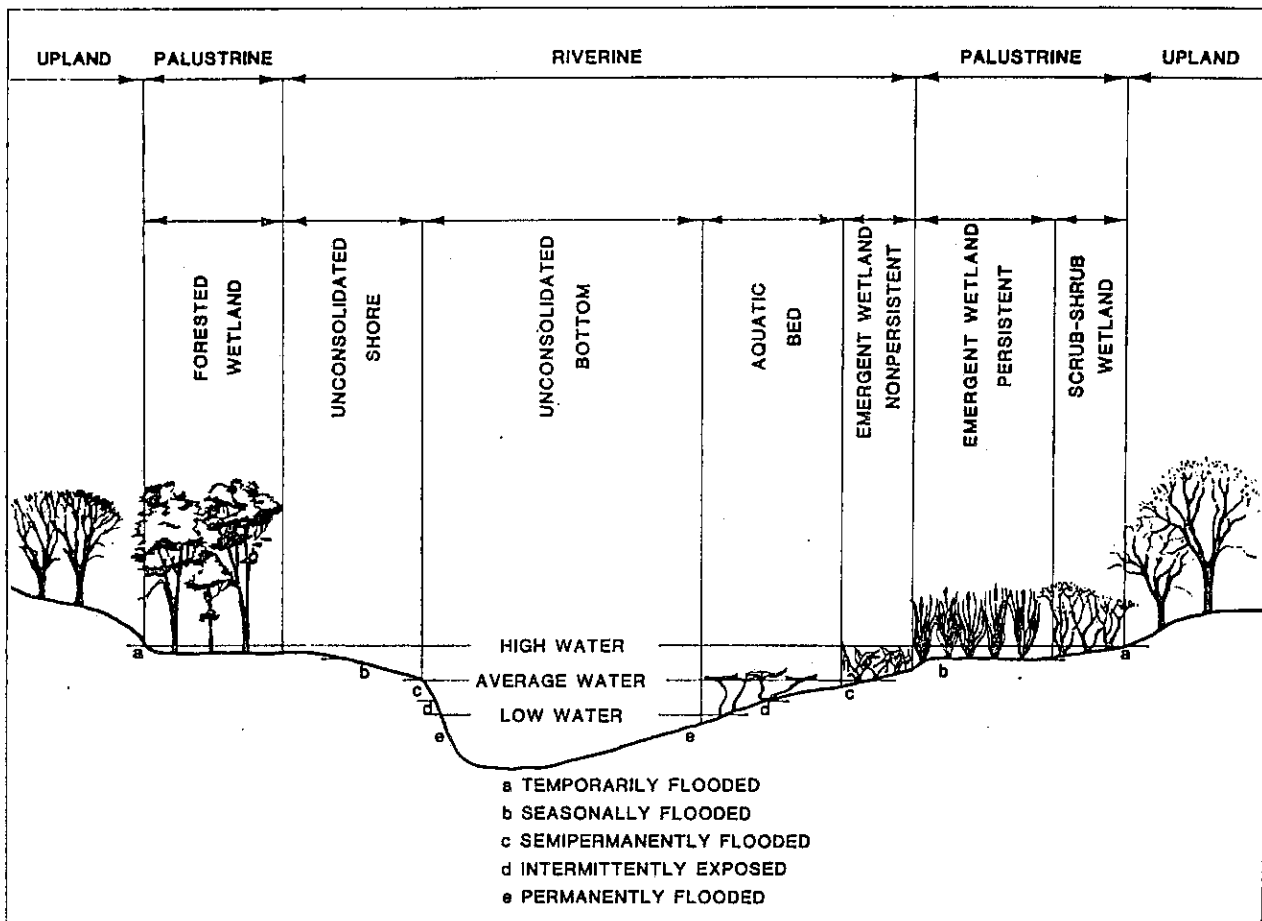
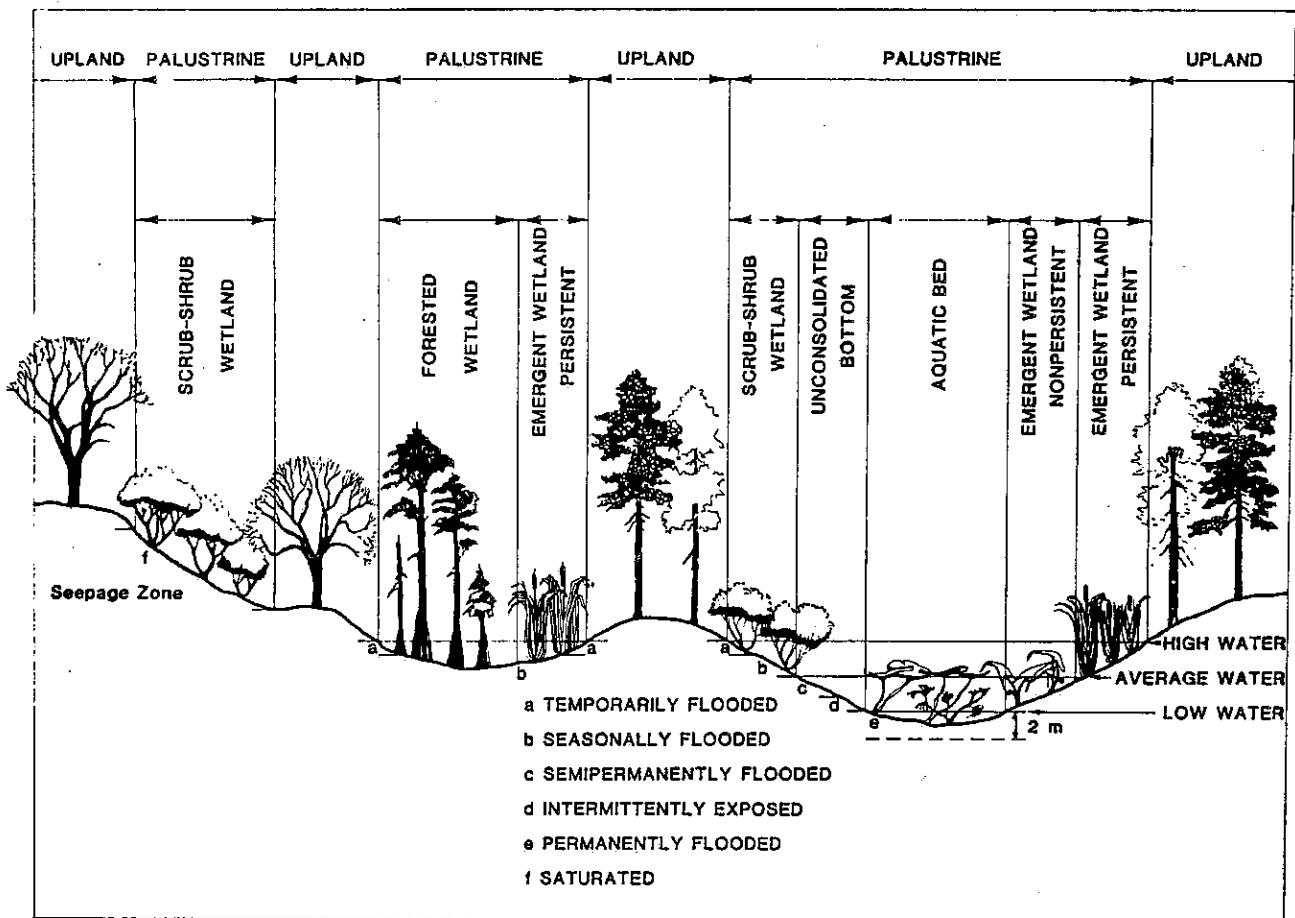
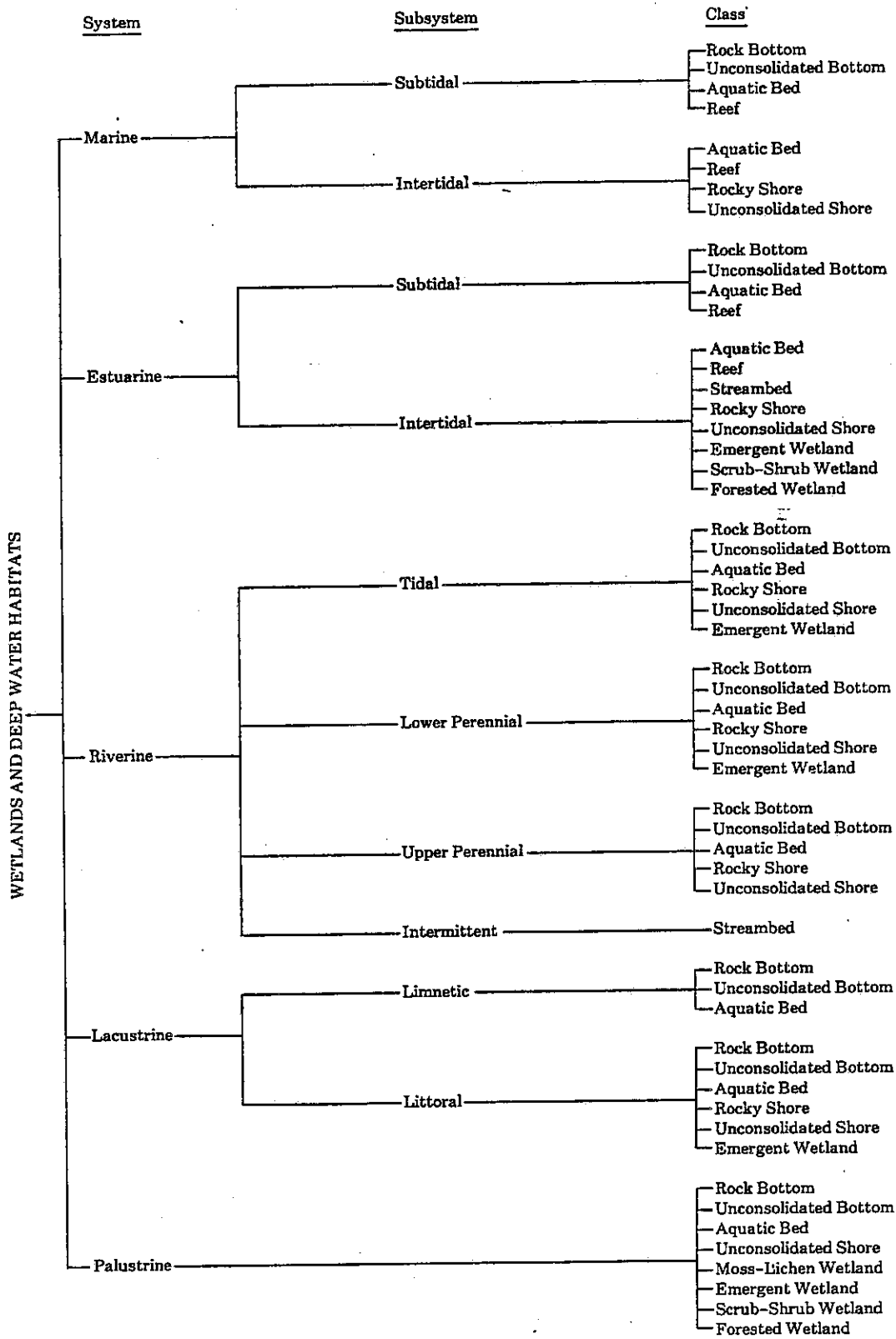


Fig. 27 Distinguishing features and examples of habitats in the Riverine System.



Distinguishing features and examples of habitats in the Palustrine System.

FIGURE 28. CLASSIFICATION OF DIFFERENT WETLAND SYSTEMS



Classification hierarchy of wetlands and deepwater habitats, showing systems, subsystems, and classes. The Palustrine System does not include deepwater habitats.

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APPENDIX

TOWNSHIP/BLOCK/TOPO MAP:  
 DATE VISITED: / /  
 EVALUATOR/COORDINATOR  
 REMARKS 1 :  
 REMARKS 2 :

PROJECT -- SLC1 (BASIN 1)

DATE -- 01/01/80

FUNCTION	EFFECT	OPPORT	FUNC RATING	SIGNIF	FUNC SIG
GROUND WATER RECHARGE	HIGH	LOW	MOD	MOD	MOD
GROUND WATER DISCHARGE	HIGH		HIGH	MOD	HIGH
FLOOD STORAGE	HIGH	HIGH	HIGH	MOD	HIGH
SHORELINE ANCHORING	MOD	HIGH	HIGH	MOD	HIGH
SEDIMENT TRAPPING	HIGH	MOD	HIGH	MOD	HIGH
NUTRIENT RETENTION					
LONG - TERM	HIGH	HIGH	HIGH	MOD	HIGH
SEASONAL	HIGH	HIGH	HIGH	MOD	HIGH
FOOD CHAIN SUPPORT					
DOWNSTREAM	HIGH		HIGH	MOD	HIGH
IN-BASIN	MOD		MOD	MOD	MOD
FISHERY HABITAT					
WARMWATER	MOD		MOD	MOD	MOD
COLDWATER	MOD		MOD	MOD	MOD
COLDW. RIVERINE	MOD		MOD	MOD	MOD
ANADROMOUS RIV	LOW		LOW	MOD	LOW
CRAPPIE, BLACK	MOD		MOD	MOD	MOD
BASS, LARGEMOUTH	MOD		MOD	MOD	MOD
CATFISH, CHANNEL	MOD		MOD	MOD	MOD
BASS, WHITE	MOD		MOD	MOD	MOD
WILDLIFE HABITAT					
GENERAL DIVERSITY	MOD		MOD	MOD	MOD
GROUP1 BREEDING	MOD		MOD	MOD	MOD
GROUP1 WINTERING	HIGH		HIGH	MOD	HIGH
GROUP2 BREEDING	MOD		MOD	MOD	MOD
GROUP2 WINTERING	HIGH		HIGH	MOD	HIGH
GROUP3 BREEDING	MOD		MOD	MOD	MOD
GROUP3 WINTERING	HIGH		HIGH	MOD	HIGH
GROUP4 BREEDING	MOD		MOD	MOD	MOD
GROUP4 WINTERING	MOD		MOD	MOD	MOD
GROUP5 BREEDING	MOD		MOD	MOD	MOD
GROUP5 WINTERING	MOD		MOD	MOD	MOD
GROUP7 BREEDING	MOD		MOD	MOD	MOD
GROUP7 WINTERING	MOD		MOD	MOD	MOD
HERON, GREAT BLUE				MOD	
EGRET, SNOWY				MOD	
IBIS, WHITE-FACED				MOD	
HERON, BLACK-CROWNED NIGH				MOD	
KILLDEER				MOD	
SANDPIPER, SPOTTED				MOD	
PELICAN, WHITE				MOD	
ACTIVE RECREATION					
SWIMMING	LOW		LOW	MOD	LOW
BOAT LAUNCHING	LOW		LOW	MOD	LOW
POWER BOATING	LOW		LOW	MOD	LOW
CANOEING	MOD		MOD	MOD	MOD
SAILING	LOW		LOW	MOD	LOW
PASSIVE RECREATION AND HERITAGE				MOD	MOD



SITE DOCUMENTATION  
 NAME OF WETLAND/BASIN  
 TOWNSHIP/BLOCK/TOPO MAP:  
 DATE VISITED: / /  
 EVALUATOR/COORDINATOR  
 REMARKS 1 :  
 REMARKS 2 :

PROJECT -- SLC2 (BASIN 2)

DATE -- 01/01/80

FUNCTION	EFFECT	OPPORT	FUNC RATING	SIGNIF	FUNC SIG
GROUND WATER RECHARGE	LOW	LOW	LOW	MOD	LOW
GROUND WATER DISCHARGE	HIGH		HIGH	MOD	HIGH
FLOOD STORAGE	HIGH	HIGH	HIGH	MOD	HIGH
SHORELINE ANCHORING	HIGH	HIGH	HIGH	MOD	HIGH
SEDIMENT TRAPPING	MOD	MOD	MOD	MOD	MOD
NUTRIENT RETENTION					
LONG - TERM	MOD	HIGH	HIGH	MOD	HIGH
SEASONAL	HIGH	HIGH	HIGH	MOD	HIGH
FOOD CHAIN SUPPORT					
DOWNSTREAM	MOD		MOD	MOD	MOD
IN-BASIN	MOD		MOD	MOD	MOD
FISHERY HABITAT					
WARMWATER	LOW		LOW	MOD	LOW
COLDWATER	LOW		LOW	MOD	LOW
COLDW. RIVERINE	LOW		LOW	MOD	LOW
ANADROMOUS RIV	LOW		LOW	MOD	LOW
TROUT, BROWN	MOD		MOD	MOD	MOD
TROUT, RAINBOW	MOD		MOD	MOD	MOD
WALLEYE	MOD		MOD	MOD	MOD
BASS, WHITE	MOD		MOD	MOD	MOD
CRAPPIE, BLACK	MOD		MOD	MOD	MOD
BASS, LARGEMOUTH	MOD		MOD	MOD	MOD
CATFISH, CHANNEL	MOD		MOD	MOD	MOD
WILDLIFE HABITAT					
GENERAL DIVERSITY	MOD		MOD	MOD	MOD
GROUP1 BREEDING	MOD		MOD	MOD	MOD
GROUP1 WINTERING	MOD		MOD	MOD	MOD
GROUP2 BREEDING	MOD		MOD	MOD	MOD
GROUP2 WINTERING	MOD		MOD	MOD	MOD
GROUP3 BREEDING	MOD		MOD	MOD	MOD
GROUP3 WINTERING	MOD		MOD	MOD	MOD
GROUP4 BREEDING	MOD		MOD	MOD	MOD
GROUP4 WINTERING	HIGH		HIGH	MOD	HIGH
GROUP7 BREEDING	MOD		MOD	MOD	MOD
GROUP7 WINTERING	MOD		MOD	MOD	MOD
HERON, GREAT BLUE	MOD		MOD	MOD	MOD
EGRET, SNOWY	MOD		MOD	MOD	MOD
IBIS, WHITE-FACED	MOD		MOD	MOD	MOD
HERON, BLACK-CROWNED NIGH	MOD		MOD	MOD	MOD
KILLDEER	MOD		MOD	MOD	MOD
SANDPIPER, SPOTTED	MOD		MOD	MOD	MOD
AVOCET, AMERICAN	LOW		LOW	MOD	LOW
ACTIVE RECREATION					
SWIMMING	LOW		LOW	MOD	LOW
BOAT LAUNCHING	LOW		LOW	MOD	LOW
POWER BOATING	MOD		MOD	MOD	MOD
CANOEING	HIGH		HIGH	MOD	HIGH
SAILING	LOW		LOW	MOD	LOW
PASSIVE RECREATION AND HERITAGE				MOD	MOD

NO SITE DOCUMENTATION

PROJECT -- SLC3 (BASIN 3)

DATE -- 01/01/80

FUNCTION	EFFECT	OPPORT	FUNC RATING	SIGNIF	FUNC SIG
GROUND WATER RECHARGE	HIGH	LOW	MOD	MOD	MOD
GROUND WATER DISCHARGE	LOW		LOW	MOD	LOW
FLOOD STORAGE	HIGH	LOW	MOD	MOD	MOD
SHORELINE ANCHORING	MOD	HIGH	HIGH	MOD	HIGH
SEDIMENT TRAPPING	MOD	MOD	MOD	MOD	MOD
NUTRIENT RETENTION					
LONG - TERM	MOD	HIGH	HIGH	MOD	HIGH
SEASONAL	MOD	HIGH	HIGH	MOD	HIGH
FOOD CHAIN SUPPORT					
DOWNSTREAM	MOD		MOD	MOD	MOD
IN-BASIN	MOD		MOD	MOD	MOD
FISHERY HABITAT					
WARMWATER	HIGH		HIGH	MOD	HIGH
COLDWATER	LOW		LOW	MOD	LOW
COLDW.RIVERINE	LOW		LOW	MOD	LOW
ANADROMOUS RIV	LOW		LOW	MOD	LOW
WALLEYE	MOD		MOD	MOD	MOD
BASS, WHITE	MOD		MOD	MOD	MOD
FERCH, YELLOW	HIGH		HIGH	MOD	HIGH
WILDLIFE HABITAT					
GENERAL DIVERSITY	HIGH		HIGH	MOD	HIGH
GROUP1 BREEDING	MOD		MOD	MOD	MOD
GROUP1 WINTERING	HIGH		HIGH	MOD	HIGH
GROUP2 BREEDING	HIGH		HIGH	MOD	HIGH
GROUP2 WINTERING	HIGH		HIGH	MOD	HIGH
GROUP3 BREEDING	MOD		MOD	MOD	MOD
GROUP3 WINTERING	MOD		MOD	MOD	MOD
GROUP4 BREEDING	MOD		MOD	MOD	MOD
GROUP4 WINTERING	MOD		MOD	MOD	MOD
GROUP7 BREEDING	MOD		MOD	MOD	MOD
GROUP7 WINTERING	MOD		MOD	MOD	MOD
HERON, GREAT BLUE	MOD		MOD	MOD	MOD
EGRET, SNOWY	MOD		MOD	MOD	MOD
IBIS, WHITE-FACED	MOD		MOD	MOD	MOD
HERON, BLACK-CROWNED NIGH	MOD		MOD	MOD	MOD
KILLDEER	MOD		MOD	MOD	MOD
AVOCET, AMERICAN	MOD		MOD	MOD	MOD
ACTIVE RECREATION					
SWIMMING	LOW		LOW	MOD	LOW
BOAT LAUNCHING	LOW		LOW	MOD	LOW
POWER BOATING	LOW		LOW	MOD	LOW
CANOEING	MOD		MOD	MOD	MOD
SAILING	LOW		LOW	MOD	LOW
PASSIVE RECREATION AND HERITAGE				MOD	MOD

NO SITE DOCUMENTATION

PROJECT -- SLC4 (BASIN 4)

DATE -- 01/01/80

FUNCTION	EFFECT	OPPORT	FUNC RATING	SIGNIF	FUNC SIG
GROUND WATER RECHARGE	HIGH	LOW	MOD	MOD	MOD
GROUND WATER DISCHARGE	LOW		LOW	MOD	LOW
FLOOD STORAGE	HIGH	HIGH	HIGH	MOD	HIGH
SHORELINE ANCHORING	MOD	HIGH	HIGH	MOD	HIGH
SEDIMENT TRAPPING	MOD	MOD	MOD	MOD	MOD
NUTRIENT RETENTION					
LONG - TERM	LOW	HIGH	MOD	MOD	MOD
SEASONAL	MOD	HIGH	HIGH	MOD	HIGH
FOOD CHAIN SUPPORT					
DOWNSTREAM	MOD		MOD	MOD	MOD
IN-BASIN	MOD		MOD	MOD	MOD
FISHERY HABITAT					
WARMWATER	HIGH		HIGH	MOD	HIGH
COLDWATER	LOW		LOW	MOD	LOW
COLDW. RIVERINE	LOW		LOW	MOD	LOW
ANADROMOUS RIV	LOW		LOW	MOD	LOW
WALLEYE	MOD		MOD	MOD	MOD
BASS, WHITE	HIGH		HIGH	MOD	HIGH
CATFISH, CHANNEL	MOD		MOD	MOD	MOD
WILDLIFE HABITAT					
GENERAL DIVERSITY	HIGH		HIGH	MOD	HIGH
GROUP1 BREEDING	MOD		MOD	MOD	MOD
GROUP1 WINTERING	HIGH		HIGH	MOD	HIGH
GROUP2 BREEDING	HIGH		HIGH	MOD	HIGH
GROUP2 WINTERING	MOD		MOD	MOD	MOD
GROUP3 BREEDING	MOD		MOD	MOD	MOD
GROUP3 WINTERING	HIGH		HIGH	MOD	HIGH
GROUP4 BREEDING	MOD		MOD	MOD	MOD
GROUP4 WINTERING	MOD		MOD	MOD	MOD
GROUP5 BREEDING	MOD		MOD	MOD	MOD
GROUP5 WINTERING	MOD		MOD	MOD	MOD
GROUP7 BREEDING	MOD		MOD	MOD	MOD
GROUP7 WINTERING	MOD		MOD	MOD	MOD
HERON, GREAT BLUE	MOD		MOD	MOD	MOD
EGRET, SNOWY	MOD		MOD	MOD	MOD
IBIS, WHITE-FACED	MOD		MOD	MOD	MOD
HERON, BLACK-CROWNED NIGH	MOD		MOD	MOD	MOD
KILLDEER	MOD		MOD	MOD	MOD
SANDPIPER, SPOTTED	MOD		MOD	MOD	MOD
AVOCET, AMERICAN	MOD		MOD	MOD	MOD
ACTIVE RECREATION					
SWIMMING	LOW		LOW	MOD	LOW
BOAT LAUNCHING	LOW		LOW	MOD	LOW
POWER BOATING	LOW		LOW	MOD	LOW
CANOEING	HIGH		HIGH	MOD	HIGH
SAILING	LOW		LOW	MOD	LOW
PASSIVE RECREATION AND HERITAGE				MOD	MOD

NO SITE DOCUMENTATION

PROJECT -- SLC5 (BASIN 5)

DATE -- 01/01/80

FUNCTION	EFFECT	OPPORT	FUNC RATING	SIGNIF	FUNC SIG
GROUND WATER RECHARGE	HIGH	LOW	MOD	MOD	MOD
GROUND WATER DISCHARGE	LOW		LOW	MOD	LOW
FLOOD STORAGE	HIGH	HIGH	HIGH	MOD	HIGH
SHORELINE ANCHORING	HIGH	HIGH	HIGH	MOD	HIGH
SEDIMENT TRAPPING	HIGH	HIGH	HIGH	MOD	HIGH
NUTRIENT RETENTION					
LONG - TERM	HIGH	HIGH	HIGH	MOD	HIGH
SEASONAL	MOD	HIGH	HIGH	MOD	HIGH
FOOD CHAIN SUPPORT					
DOWNSTREAM	MOD		MOD	MOD	MOD
IN-BASIN	LOW		LOW	MOD	LOW
FISHERY HABITAT					
WARMWATER	MOD		MOD	MOD	MOD
COLDWATER	LOW		LOW	MOD	LOW
COLDW. RIVERINE	LOW		LOW	MOD	LOW
ANADROMOUS RIV	LOW		LOW	MOD	LOW
WILDLIFE HABITAT					
GENERAL DIVERSITY	HIGH		HIGH	MOD	HIGH
GROUP1 BREEDING	HIGH		HIGH	MOD	HIGH
GROUP1 WINTERING	HIGH		HIGH	MOD	HIGH
GROUP2 BREEDING	HIGH		HIGH	MOD	HIGH
GROUP2 WINTERING	HIGH		HIGH	MOD	HIGH
GROUP3 BREEDING	MOD		MOD	MOD	MOD
GROUP3 WINTERING	MOD		MOD	MOD	MOD
GROUP4 BREEDING	MOD		MOD	MOD	MOD
GROUP4 WINTERING	MOD		MOD	MOD	MOD
GROUP5 BREEDING	HIGH		HIGH	MOD	HIGH
GROUP5 WINTERING	MOD		MOD	MOD	MOD
GROUP7 BREEDING	MOD		MOD	MOD	MOD
GROUP7 WINTERING	MOD		MOD	MOD	MOD
HERON, GREAT BLUE	MOD		MOD	MOD	MOD
EGRET, SNOWY	MOD		MOD	MOD	MOD
IBIS, WHITE-FACED	MOD		MOD	MOD	MOD
HERON, BLACK-CROWNED NIGH	MOD		MOD	MOD	MOD
KILLDEER	MOD		MOD	MOD	MOD
AVOCET, AMERICAN	LOW		LOW	MOD	LOW
ACTIVE RECREATION					
SWIMMING	LOW		LOW	MOD	LOW
BOAT LAUNCHING	LOW		LOW	MOD	LOW
POWER BOATING	LOW		LOW	MOD	LOW
CANOEING	HIGH		HIGH	MOD	HIGH
SAILING	LOW		LOW	MOD	LOW
PASSIVE RECREATION AND HERITAGE				MOD	MOD

NO SITE DOCUMENTATION  
PROJECT -- SLC6 (BASIN 6)

DATE -- 01/01/80

FUNCTION	EFFECT	OPPORT	FUNC RATING	SIGNIF	FUNC SIG
GROUND WATER RECHARGE	HIGH	LOW	MOD	MOD	MOD
GROUND WATER DISCHARGE	LOW		LOW	MOD	LOW
FLOOD STORAGE	HIGH	HIGH	HIGH	MOD	HIGH
SHORELINE ANCHORING	MOD	HIGH	HIGH	MOD	HIGH
SEDIMENT TRAPPING	HIGH	HIGH	HIGH	MOD	HIGH
NUTRIENT RETENTION					
LONG - TERM	HIGH	HIGH	HIGH	MOD	HIGH
SEASONAL	MOD	HIGH	HIGH	MOD	HIGH
FOOD CHAIN SUPPORT					
DOWNSTREAM	MOD		MOD	MOD	MOD
IN-BASIN	MOD		MOD	MOD	MOD
FISHERY HABITAT					
WARMWATER	MOD		MOD	MOD	MOD
COLDWATER	LOW		LOW	MOD	LOW
COLDW. RIVERINE	LOW		LOW	MOD	LOW
ANADROMOUS RIV	LOW		LOW	MOD	LOW
WILDLIFE HABITAT					
GENERAL DIVERSITY	HIGH		HIGH	MOD	HIGH
GROUP1 BREEDING	MOD		MOD	MOD	MOD
GROUP1 WINTERING	HIGH		HIGH	MOD	HIGH
GROUP2 BREEDING	HIGH		HIGH	MOD	HIGH
GROUP2 WINTERING	MOD		MOD	MOD	MOD
GROUP3 BREEDING	MOD		MOD	MOD	MOD
GROUP3 WINTERING	MOD		MOD	MOD	MOD
GROUP4 BREEDING	MOD		MOD	MOD	MOD
GROUP4 WINTERING	MOD		MOD	MOD	MOD
GROUP5 BREEDING	MOD		MOD	MOD	MOD
GROUP5 WINTERING	MOD		MOD	MOD	MOD
GROUP7 BREEDING	MOD		MOD	MOD	MOD
GROUP7 WINTERING	MOD		MOD	MOD	MOD
HERON, GREAT BLUE	MOD		MOD	MOD	MOD
EGRET, SNOWY	MOD		MOD	MOD	MOD
IBIS, WHITE-FACED	MOD		MOD	MOD	MOD
HERON, BLACK-CROWNED NIGH	MOD		MOD	MOD	MOD
KILLDEER	MOD		MOD	MOD	MOD
AVOCET, AMERICAN	MOD		MOD	MOD	MOD
ACTIVE RECREATION					
SWIMMING	LOW		LOW	MOD	LOW
BOAT LAUNCHING	LOW		LOW	MOD	LOW
POWER BOATING	LOW		LOW	MOD	LOW
CANOEING	HIGH		HIGH	MOD	HIGH
SAILING	LOW		LOW	MOD	LOW
PASSIVE RECREATION AND HERITAGE				MOD	MOD

SITE DOCUMENTATION  
 NAME OF WETLAND/BASIN  
 TOWNSHIP/BLOCK/TOPO MAP:  
 DATE VISITED: / /  
 EVALUATOR/COORDINATOR  
 REMARKS 1 :  
 REMARKS 2 :

PROJECT -- SLC7 (BASIN 7)

DATE -- 01/01/80

FUNCTION	EFFECT	OPPORT	FUNC RATING	SIGNIF	FUNC SIG
GROUND WATER RECHARGE	HIGH	LOW	MOD	MOD	MOD
GROUND WATER DISCHARGE	LOW		LOW	MOD	LOW
FLOOD STORAGE	HIGH	HIGH	HIGH	MOD	HIGH
SHORELINE ANCHORING	HIGH	HIGH	HIGH	MOD	HIGH
SEDIMENT TRAPPING	HIGH	HIGH	HIGH	MOD	HIGH
NUTRIENT RETENTION					
LONG - TERM	HIGH	HIGH	HIGH	MOD	HIGH
SEASONAL	MOD	HIGH	HIGH	MOD	HIGH
FOOD CHAIN SUPPORT					
DOWNSTREAM	HIGH		HIGH	MOD	HIGH
IN-BASIN	MOD		MOD	MOD	MOD
FISHERY HABITAT					
WARMWATER	MOD		MOD	MOD	MOD
COLDWATER	LOW		LOW	MOD	LOW
COLDW. RIVERINE	LOW		LOW	MOD	LOW
ANADROMOUS RIV	LOW		LOW	MOD	LOW
WILDLIFE HABITAT					
GENERAL DIVERSITY	HIGH		HIGH	MOD	HIGH
GROUP1 BREEDING	MOD		MOD	MOD	MOD
GROUP1 WINTERING	HIGH		HIGH	MOD	HIGH
GROUP2 BREEDING	MOD		MOD	MOD	MOD
GROUP2 WINTERING	HIGH		HIGH	MOD	HIGH
GROUP3 BREEDING	MOD		MOD	MOD	MOD
GROUP3 WINTERING	HIGH		HIGH	MOD	HIGH
GROUP4 BREEDING	MOD		MOD	MOD	MOD
GROUP4 WINTERING	HIGH		HIGH	MOD	HIGH
GROUP5 BREEDING	MOD		MOD	MOD	MOD
GROUP5 WINTERING	MOD		MOD	MOD	MOD
GROUP7 BREEDING	MOD		MOD	MOD	MOD
GROUP7 WINTERING	MOD		MOD	MOD	MOD
HERON, GREAT BLUE	MOD		MOD	MOD	MOD
EGRET, SNOWY	MOD		MOD	MOD	MOD
IBIS, WHITE-FACED	MOD		MOD	MOD	MOD
HERON, BLACK-CROWNED NIGH	MOD		MOD	MOD	MOD
KILLDEER	MOD		MOD	MOD	MOD
AVOCET, AMERICAN	MOD		MOD	MOD	MOD
ACTIVE RECREATION					
SWIMMING	LOW		LOW	MOD	LOW
BOAT LAUNCHING	LOW		LOW	MOD	LOW
POWER BOATING	LOW		LOW	MOD	LOW
CANOEING	HIGH		HIGH	MOD	HIGH
SAILING	LOW		LOW	MOD	LOW
PASSIVE RECREATION AND HERITAGE				MOD	MOD

## NO SITE DOCUMENTATION

PROJECT -- SLC8 (BASIN 8)

DATE -- 01/01/80

FUNCTION	EFFECT	OPPORT	FUNC RATING	SIGNIF	FUNC SIG
GROUND WATER RECHARGE	HIGH	LOW	MOD	MOD	MOD
GROUND WATER DISCHARGE	LOW		LOW	MOD	LOW
FLOOD STORAGE	HIGH	HIGH	HIGH	MOD	HIGH
SHORELINE ANCHORING	MOD	HIGH	HIGH	MOD	HIGH
SEDIMENT TRAPPING	HIGH	HIGH	HIGH	MOD	HIGH
NUTRIENT RETENTION					
LONG - TERM	HIGH	HIGH	HIGH	MOD	HIGH
SEASONAL	MOD	HIGH	HIGH	MOD	HIGH
FOOD CHAIN SUPPORT					
DOWNSTREAM	MOD		MOD	MOD	MOD
IN-BASIN	MOD		MOD	MOD	MOD
FISHERY HABITAT					
WARMWATER	MOD		MOD	MOD	MOD
COLDWATER	LOW		LOW	MOD	LOW
COLDW. RIVERINE	LOW		LOW	MOD	LOW
ANADROMOUS RIV	LOW		LOW	MOD	LOW
WILDLIFE HABITAT					
GENERAL DIVERSITY	MOD		MOD	MOD	MOD
GROUP1 BREEDING	MOD		MOD	MOD	MOD
GROUP1 WINTERING	HIGH		HIGH	MOD	HIGH
GROUP4 BREEDING	MOD		MOD	MOD	MOD
GROUP4 WINTERING	MOD		MOD	MOD	MOD
GROUP7 BREEDING	MOD		MOD	MOD	MOD
GROUP7 WINTERING	MOD		MOD	MOD	MOD
HERON, GREAT BLUE	MOD		MOD	MOD	MOD
EGRET, SNOWY	MOD		MOD	MOD	MOD
IBIS, WHITE-FACED	MOD		MOD	MOD	MOD
HERON, BLACK-CROWNED NIGH	MOD		MOD	MOD	MOD
KILLDEER	MOD		MOD	MOD	MOD
AVOCET, AMERICAN	LOW		LOW	MOD	LOW
ACTIVE RECREATION					
SWIMMING	LOW		LOW	MOD	LOW
BOAT LAUNCHING	LOW		LOW	MOD	LOW
POWER BOATING	LOW		LOW	MOD	LOW
CANOEING	MOD		MOD	MOD	MOD
SAILING	LOW		LOW	MOD	LOW
PASSIVE RECREATION AND HERITAGE				MOD	MOD

NO SITE DOCUMENTATION  
PROJECT -- SLC10 (BASIN 10)

DATE -- 01/01/80

FUNCTION	EFFECT	OPPORT	FUNC RATING	SIGNIF	FUNC SIG
GROUND WATER RECHARGE	HIGH	LOW	MOD	MOD	MOD
GROUND WATER DISCHARGE	LOW		LOW	MOD	LOW
FLOOD STORAGE	LOW	HIGH	MOD	MOD	MOD
SHORELINE ANCHORING	HIGH	HIGH	HIGH	MOD	HIGH
SEDIMENT TRAPPING	MOD	HIGH	HIGH	MOD	HIGH
NUTRIENT RETENTION					
LONG - TERM	LOW	HIGH	MOD	MOD	MOD
SEASONAL	MOD	HIGH	HIGH	MOD	HIGH
FOOD CHAIN SUPPORT					
DOWNSTREAM	MOD		MOD	MOD	MOD
IN-BASIN	LOW		LOW	MOD	LOW
FISHERY HABITAT					
WARMWATER	MOD		MOD	MOD	MOD
COLDWATER	LOW		LOW	MOD	LOW
COLDW. RIVERINE	LOW		LOW	MOD	LOW
ANADROMOUS RIV	LOW		LOW	MOD	LOW
WILDLIFE HABITAT					
GENERAL DIVERSITY	HIGH		HIGH	MOD	HIGH
GROUP7 BREEDING	MOD		MOD	MOD	MOD
GROUP7 WINTERING	HIGH		HIGH	MOD	HIGH
HERON, GREAT BLUE	MOD		MOD	MOD	MOD
EGRET, SNOWY	MOD		MOD	MOD	MOD
IBIS, WHITE-FACED	MOD		MOD	MOD	MOD
HERON, BLACK-CROWNED NIGH	MOD		MOD	MOD	MOD
KILLDEER	MOD		MOD	MOD	MOD
AVOCET, AMERICAN	LOW		LOW	MOD	LOW
ACTIVE RECREATION					
SWIMMING	LOW		LOW	MOD	LOW
BOAT LAUNCHING	LOW		LOW	MOD	LOW
POWER BOATING	LOW		LOW	MOD	LOW
CANOEING	MOD		MOD	MOD	MOD
SAILING	LOW		LOW	MOD	LOW
PASSIVE RECREATION AND HERITAGE				MOD	MOD



SITE DOCUMENTATION  
 NAME OF WETLAND/BASIN  
 TOWNSHIP/BLOCK/TOPO MAP:  
 DATE VISITED: / /  
 EVALUATOR/COORDINATOR  
 REMARKS 1 :  
 REMARKS 2 :

PROJECT -- SLC11 (BASIN 11)

DATE -- 01/01/80

FUNCTION	EFFECT	OPPORT	FUNC RATING	SIGNIF	FUNC SIG
GROUND WATER RECHARGE	HIGH	LOW	MOD	MOD	MOD
GROUND WATER DISCHARGE	LOW		LOW	MOD	LOW
FLOOD STORAGE	MOD	HIGH	HIGH	MOD	HIGH
SHORELINE ANCHORING	MOD	HIGH	HIGH	MOD	HIGH
SEDIMENT TRAPPING	MOD	HIGH	HIGH	MOD	HIGH
NUTRIENT RETENTION					
LONG - TERM	LOW	HIGH	MOD	MOD	MOD
SEASONAL	MOD	HIGH	HIGH	MOD	HIGH
FOOD CHAIN SUPPORT					
DOWNSTREAM	MOD		MOD	MOD	MOD
IN-BASIN	MOD		MOD	MOD	MOD
FISHERY HABITAT					
WARMWATER	MOD		MOD	MOD	MOD
COLDWATER	LOW		LOW	MOD	LOW
COLDW. RIVERINE	LOW		LOW	MOD	LOW
ANADROMOUS RIV	LOW		LOW	MOD	LOW
WILDLIFE HABITAT					
GENERAL DIVERSITY	HIGH		HIGH	MOD	HIGH
GROUP1 BREEDING	MOD		MOD	MOD	MOD
GROUP1 WINTERING	HIGH		HIGH	MOD	HIGH
GROUP4 BREEDING	MOD		MOD	MOD	MOD
GROUP4 WINTERING	MOD		MOD	MOD	MOD
GROUP7 BREEDING	MOD		MOD	MOD	MOD
GROUP7 WINTERING	MOD		MOD	MOD	MOD
HERON, GREAT BLUE	MOD		MOD	MOD	MOD
EGRET, SNOWY	MOD		MOD	MOD	MOD
IBIS, WHITE-FACED	MOD		MOD	MOD	MOD
HERON, BLACK-CROWNED NIGH	MOD		MOD	MOD	MOD
KILLDEER	MOD		MOD	MOD	MOD
AVOCET, AMERICAN	LOW		LOW	MOD	LOW
ACTIVE RECREATION					
SWIMMING	LOW		LOW	MOD	LOW
BOAT LAUNCHING	LOW		LOW	MOD	LOW
POWER BOATING	LOW		LOW	MOD	LOW
CANOEING	MOD		MOD	MOD	MOD
SAILING	LOW		LOW	MOD	LOW
PASSIVE RECREATION AND HERITAGE				MOD	MOD

## NO SITE DOCUMENTATION

PROJECT -- SLC12 (BASIN 12)

DATE -- 01/01/80

FUNCTION	EFFECT	OPPORT	FUNC RATING	SIGNIF	FUNC SIG
GROUND WATER RECHARGE	HIGH	LOW	MOD	MOD	MOD
GROUND WATER DISCHARGE	LOW		LOW	MOD	LOW
FLOOD STORAGE	HIGH	HIGH	HIGH	MOD	HIGH
SHORELINE ANCHORING	MOD	HIGH	HIGH	MOD	HIGH
SEDIMENT TRAPPING	MOD	HIGH	HIGH	MOD	HIGH
NUTRIENT RETENTION					
LONG - TERM	LOW	HIGH	MOD	MOD	MOD
SEASONAL	MOD	HIGH	HIGH	MOD	HIGH
FOOD CHAIN SUPPORT					
DOWNSTREAM	MOD		MOD	MOD	MOD
IN-BASIN	MOD		MOD	MOD	MOD
FISHERY HABITAT					
WARMWATER	HIGH		HIGH	MOD	HIGH
COLDWATER	LOW		LOW	MOD	LOW
COLDW. RIVERINE	LOW		LOW	MOD	LOW
ANADROMOUS RIV	LOW		LOW	MOD	LOW
BASS, WHITE	HIGH		HIGH	MOD	HIGH
CATFISH, CHANNEL	MOD		MOD	MOD	MOD
WILDLIFE HABITAT					
GENERAL DIVERSITY	HIGH		HIGH	MOD	HIGH
GROUP1 BREEDING	MOD		MOD	MOD	MOD
GROUP1 WINTERING	HIGH		HIGH	MOD	HIGH
GROUP2 BREEDING	HIGH		HIGH	MOD	HIGH
GROUP2 WINTERING	MOD		MOD	MOD	MOD
GROUP7 BREEDING	MOD		MOD	MOD	MOD
GROUP7 WINTERING	MOD		MOD	MOD	MOD
HERON, GREAT BLUE	MOD		MOD	MOD	MOD
EGRET, SNOWY	MOD		MOD	MOD	MOD
IBIS, WHITE-FACED	MOD		MOD	MOD	MOD
HERON, BLACK-CROWNED NIGH	MOD		MOD	MOD	MOD
KILLDEER	MOD		MOD	MOD	MOD
ACTIVE RECREATION					
SWIMMING	LOW		LOW	MOD	LOW
BOAT LAUNCHING	LOW		LOW	MOD	LOW
POWER BOATING	LOW		LOW	MOD	LOW
CANOEING	MOD		MOD	MOD	MOD
SAILING	LOW		LOW	MOD	LOW
PASSIVE RECREATION AND HERITAGE				MOD	MOD

NO SITE DOCUMENTATION

PROJECT -- SLC13 (BASIN 13)

DATE -- 01/01/80

FUNCTION	EFFECT	OPPORT	FUNC RATING	SIGNIF	FUNC SIG
GROUND WATER RECHARGE	HIGH	LOW	MOD	MOD	MOD
GROUND WATER DISCHARGE	LOW		LOW	MOD	LOW
FLOOD STORAGE	MOD	HIGH	HIGH	MOD	HIGH
SHORELINE ANCHORING	LOW	HIGH	MOD	MOD	MOD
SEDIMENT TRAPPING	MOD	HIGH	HIGH	MOD	HIGH
NUTRIENT RETENTION					
LONG - TERM	MOD	HIGH	HIGH	MOD	HIGH
SEASONAL	LOW	HIGH	MOD	MOD	MOD
FOOD CHAIN SUPPORT					
DOWNSTREAM	MOD		MOD	MOD	MOD
IN-BASIN	MOD		MOD	MOD	MOD
FISHERY HABITAT					
WARMWATER	MOD		MOD	MOD	MOD
COLDWATER	LOW		LOW	MOD	LOW
COLDW. RIVERINE	LOW		LOW	MOD	LOW
ANADROMOUS RIV	LOW		LOW	MOD	LOW
WILDLIFE HABITAT					
GENERAL DIVERSITY	MOD		MOD	MOD	MOD
GROUP7 BREEDING	HIGH		HIGH	MOD	HIGH
GROUP7 WINTERING	MOD		MOD	MOD	MOD
IBIS, WHITE-FACED	MOD		MOD	MOD	MOD
KILLDEER	MOD		MOD	MOD	MOD
ACTIVE RECREATION					
SWIMMING	MOD		MOD	MOD	MOD
BOAT LAUNCHING	LOW		LOW	MOD	LOW
POWER BOATING	MOD		MOD	MOD	MOD
CANOEING	HIGH		HIGH	MOD	HIGH
SAILING	LOW		LOW	MOD	LOW
PASSIVE RECREATION AND HERITAGE				MOD	MOD

NO SITE DOCUMENTATION  
 PROJECT -- SLC14 (BASIN 14)

DATE -- 01/01/80

FUNCTION	EFFECT	OPPORT	FUNC RATING	SIGNIF	FUNC SIG
GROUND WATER RECHARGE	LOW	LOW	LOW	MOD	LOW
GROUND WATER DISCHARGE	HIGH		HIGH	MOD	HIGH
FLOOD STORAGE	MOD	HIGH	HIGH	MOD	HIGH
SHORELINE ANCHORING	MOD	HIGH	HIGH	MOD	HIGH
SEDIMENT TRAPPING	MOD	MOD	MOD	MOD	MOD
NUTRIENT RETENTION					
LONG - TERM	MOD	HIGH	HIGH	MOD	HIGH
SEASONAL	MOD	HIGH	HIGH	MOD	HIGH
FOOD CHAIN SUPPORT					
DOWNSTREAM	MOD		MOD	MOD	MOD
IN-BASIN	MOD		MOD	MOD	MOD
FISHERY HABITAT					
WARMWATER	LOW		LOW	MOD	LOW
COLDWATER	MOD		MOD	MOD	MOD
COLDW.RIVERINE	LOW		LOW	MOD	LOW
ANADROMOUS RIV	LOW		LOW	MOD	LOW
WILDLIFE HABITAT					
GENERAL DIVERSITY	MOD		MOD	MOD	MOD
GROUP1 BREEDING	MOD		MOD	MOD	MOD
GROUP1 WINTERING	HIGH		HIGH	MOD	HIGH
GROUP2 BREEDING	HIGH		HIGH	MOD	HIGH
GROUP2 WINTERING	HIGH		HIGH	MOD	HIGH
GROUP4 BREEDING	MOD		MOD	MOD	MOD
GROUP4 WINTERING	MOD		MOD	MOD	MOD
GROUP7 BREEDING	HIGH		HIGH	MOD	HIGH
GROUP7 WINTERING	MOD		MOD	MOD	MOD
HERON, GREAT BLUE	MOD		MOD	MOD	MOD
EGRET, SNOWY	MOD		MOD	MOD	MOD
IBIS, WHITE-FACED	MOD		MOD	MOD	MOD
HERON, BLACK-CROWNED NIGH	MOD		MOD	MOD	MOD
KILLDEER	MOD		MOD	MOD	MOD
AVOCET, AMERICAN	MOD		MOD	MOD	MOD
ACTIVE RECREATION					
SWIMMING	LOW		LOW	MOD	LOW
BOAT LAUNCHING	MOD		MOD	MOD	MOD
POWER BOATING	LOW		LOW	MOD	LOW
CANOEING	HIGH		HIGH	MOD	HIGH
SAILING	LOW		LOW	MOD	LOW
PASSIVE RECREATION AND HERITAGE				MOD	MOD

NO SITE DOCUMENTATION

PROJECT -- SLC15 (BASIN 15)

DATE -- 01/01/80

FUNCTION	EFFECT	OPPORT	FUNC RATING	SIGNIF	FUNC SIG
GROUND WATER RECHARGE	HIGH	LOW	MOD	MOD	MOD
GROUND WATER DISCHARGE	HIGH		HIGH	MOD	HIGH
FLOOD STORAGE	MOD	HIGH	HIGH	MOD	HIGH
SHORELINE ANCHORING	HIGH	HIGH	HIGH	MOD	HIGH
SEDIMENT TRAPPING	MOD	HIGH	HIGH	MOD	HIGH
NUTRIENT RETENTION					
LONG - TERM	MOD	HIGH	HIGH	MOD	HIGH
SEASONAL	LOW	HIGH	MOD	MOD	MOD
FOOD CHAIN SUPPORT					
DOWNSTREAM	MOD		MOD	MOD	MOD
IN-BASIN	MOD		MOD	MOD	MOD
FISHERY HABITAT					
WARMWATER	LOW		LOW	MOD	LOW
COLDWATER	LOW		LOW	MOD	LOW
COLDW. RIVERINE	LOW		LOW	MOD	LOW
ANADROMOUS RIV	LOW		LOW	MOD	LOW
WILDLIFE HABITAT					
GENERAL DIVERSITY	HIGH		HIGH	MOD	HIGH
GROUP1 BREEDING	MOD		MOD	MOD	MOD
GROUP1 WINTERING	HIGH		HIGH	MOD	HIGH
KILLDEER	MOD		MOD	MOD	MOD
ACTIVE RECREATION					
SWIMMING	LOW		LOW	MOD	LOW
BOAT LAUNCHING	MOD		MOD	MOD	MOD
POWER BOATING	MOD		MOD	MOD	MOD
CANOEING	LOW		LOW	MOD	LOW
SAILING	LOW		LOW	MOD	LOW
PASSIVE RECREATION AND HERITAGE				MOD	MOD

SITE DOCUMENTATION  
 NAME OF WETLAND/BASIN  
 TOWNSHIP/BLOCK/TOPO MAP:  
 DATE VISITED: / /  
 EVALUATOR/COORDINATOR  
 REMARKS 1 :  
 REMARKS 2 :

PROJECT -- SLC16 (BASIN 16)

DATE -- 01/01/80

FUNCTION	EFFECT	OPPORT	FUNC RATING	SIGNIF	FUNC SIG
GROUND WATER RECHARGE	HIGH	LOW	MOD	MOD	MOD
GROUND WATER DISCHARGE	LOW		LOW	MOD	LOW
FLOOD STORAGE	HIGH	HIGH	HIGH	MOD	HIGH
SHORELINE ANCHORING	MOD	HIGH	HIGH	MOD	HIGH
SEDIMENT TRAPPING	HIGH	HIGH	HIGH	MOD	HIGH
NUTRIENT RETENTION					
LONG - TERM	HIGH	HIGH	HIGH	MOD	HIGH
SEASONAL	MOD	HIGH	HIGH	MOD	HIGH
FOOD CHAIN SUPPORT					
DOWNSTREAM	HIGH		HIGH	MOD	HIGH
IN-BASIN	HIGH		HIGH	MOD	HIGH
FISHERY HABITAT					
WARMWATER	MOD		MOD	MOD	MOD
COLDWATER	LOW		LOW	MOD	LOW
COLDW.RIVERINE	LOW		LOW	MOD	LOW
ANADROMOUS RIV	LOW		LOW	MOD	LOW
WILDLIFE HABITAT					
GENERAL DIVERSITY	MOD		MOD	MOD	MOD
GROUP1 BREEDING	MOD		MOD	MOD	MOD
GROUP1 WINTERING	HIGH		HIGH	MOD	HIGH
GROUP7 BREEDING	MOD		MOD	MOD	MOD
GROUP7 WINTERING	MOD		MOD	MOD	MOD
ACTIVE RECREATION					
SWIMMING	LOW		LOW	MOD	LOW
BOAT LAUNCHING	MOD		MOD	MOD	MOD
POWER BOATING	LOW		LOW	MOD	LOW
CANOEING	HIGH		HIGH	MOD	HIGH
SAILING	LOW		LOW	MOD	LOW
PASSIVE RECREATION AND HERITAGE				MOD	MOD

NO SITE DOCUMENTATION

PROJECT -- SLC17 (BASIN 17)

DATE -- 01/01/80

FUNCTION	EFFECT	OPPORT	FUNC RATING	SIGNIF	FUNC SIG
GROUND WATER RECHARGE	HIGH	LOW	MOD	MOD	MOD
GROUND WATER DISCHARGE	LOW		LOW	MOD	LOW
FLOOD STORAGE	HIGH	HIGH	HIGH	MOD	HIGH
SHORELINE ANCHORING	HIGH	HIGH	HIGH	MOD	HIGH
SEDIMENT TRAPPING	HIGH	HIGH	HIGH	MOD	HIGH
NUTRIENT RETENTION					
LONG - TERM	HIGH	HIGH	HIGH	MOD	HIGH
SEASONAL	LOW	HIGH	MOD	MOD	MOD
FOOD CHAIN SUPPORT					
DOWNSTREAM	MOD		MOD	MOD	MOD
IN-BASIN	LOW		LOW	MOD	LOW
FISHERY HABITAT					
WARMWATER	LOW		LOW	MOD	LOW
COLDWATER	LOW		LOW	MOD	LOW
COLDW. RIVERINE	LOW		LOW	MOD	LOW
ANADROMOUS RIV	LOW		LOW	MOD	LOW
WILDLIFE HABITAT					
GENERAL DIVERSITY	LOW		LOW	MOD	LOW
GROUP1 BREEDING	MOD		MOD	MOD	MOD
GROUP1 WINTERING	MOD		MOD	MOD	MOD
GROUP7 BREEDING	MOD		MOD	MOD	MOD
GROUP7 WINTERING	HIGH		HIGH	MOD	HIGH
ACTIVE RECREATION					
SWIMMING	LOW		LOW	MOD	LOW
BOAT LAUNCHING	LOW		LOW	MOD	LOW
POWER BOATING	LOW		LOW	MOD	LOW
CANOEING	MOD		MOD	MOD	MOD
SAILING	LOW		LOW	MOD	LOW
PASSIVE RECREATION AND HERITAGE				MOD	MOD

NO SITE DOCUMENTATION  
 PROJECT -- SLC18 (BASIN 18)

DATE -- 01/01/80

FUNCTION	EFFECT	OPPORT	FUNC RATING	SIGNIF	FUNC SIG
GROUND WATER RECHARGE	HIGH	LOW	MOD	MOD	MOD
GROUND WATER DISCHARGE	LOW		LOW	MOD	LOW
FLOOD STORAGE	HIGH	HIGH	HIGH	MOD	HIGH
SHORELINE ANCHORING	HIGH	HIGH	HIGH	MOD	HIGH
SEDIMENT TRAPPING	HIGH	HIGH	HIGH	MOD	HIGH
NUTRIENT RETENTION					
LONG - TERM	HIGH	HIGH	HIGH	MOD	HIGH
SEASONAL	LOW	HIGH	MOD	MOD	MOD
FOOD CHAIN SUPPORT					
DOWNSTREAM	MOD		MOD	MOD	MOD
IN-BASIN	LOW		LOW	MOD	LOW
FISHERY HABITAT					
WARMWATER	LOW		LOW	MOD	LOW
COLDWATER	LOW		LOW	MOD	LOW
COLDW. RIVERINE	LOW		LOW	MOD	LOW
ANADROMOUS RIV	LOW		LOW	MOD	LOW
WILDLIFE HABITAT					
GENERAL DIVERSITY	MOD		MOD	MOD	MOD
GROUP1 BREEDING	MOD		MOD	MOD	MOD
GROUP1 WINTERING	HIGH		HIGH	MOD	HIGH
EGRET, SNOWY	MOD		MOD	MOD	MOD
KILLDEER	MOD		MOD	MOD	MOD
ACTIVE RECREATION					
SWIMMING	LOW		LOW	MOD	LOW
BOAT LAUNCHING	LOW		LOW	MOD	LOW
POWER BOATING	LOW		LOW	MOD	LOW
CANOEING	MOD		MOD	MOD	MOD
SAILING	LOW		LOW	MOD	LOW
PASSIVE RECREATION AND HERITAGE				MOD	MOD



NO SITE DOCUMENTATION

PROJECT -- SLC19 (BASIN 19)

DATE -- 01/01/80

FUNCTION	EFFECT	OPPORT	FUNC RATING	SIGNIF	FUNC SIG
GROUND WATER RECHARGE	HIGH	LOW	MOD	MOD	MOD
GROUND WATER DISCHARGE	LOW		LOW	MOD	LOW
FLOOD STORAGE	HIGH	HIGH	HIGH	MOD	HIGH
SHORELINE ANCHORING	HIGH	HIGH	HIGH	MOD	HIGH
SEDIMENT TRAPPING	HIGH	HIGH	HIGH	MOD	HIGH
NUTRIENT RETENTION					
LONG - TERM	HIGH	HIGH	HIGH	MOD	HIGH
SEASONAL	LOW	HIGH	MOD	MOD	MOD
FOOD CHAIN SUPPORT					
DOWNSTREAM	HIGH		HIGH	MOD	HIGH
IN-BASIN	MOD		MOD	MOD	MOD
FISHERY HABITAT					
WARMWATER	MOD		MOD	MOD	MOD
COLDWATER	LOW		LOW	MOD	LOW
COLDW. RIVERINE	LOW		LOW	MOD	LOW
ANADROMOUS RIV	LOW		LOW	MOD	LOW
BASS, WHITE	MOD		MOD	MOD	MOD
CATFISH, CHANNEL	MOD		MOD	MOD	MOD
WILDLIFE HABITAT					
GENERAL DIVERSITY	HIGH		HIGH	MOD	HIGH
GROUP1 BREEDING	MOD		MOD	MOD	MOD
GROUP1 WINTERING	MOD		MOD	MOD	MOD
GROUP2 BREEDING	MOD		MOD	MOD	MOD
GROUP2 WINTERING	MOD		MOD	MOD	MOD
GROUP7 BREEDING	MOD		MOD	MOD	MOD
GROUP7 WINTERING	HIGH		HIGH	MOD	HIGH
HERON, GREAT BLUE	MOD		MOD	MOD	MOD
EGRET, SNOWY	MOD		MOD	MOD	MOD
IBIS, WHITE-FACED	MOD		MOD	MOD	MOD
HERON, BLACK-CROWNED NIGH	MOD		MOD	MOD	MOD
KILLDEER	MOD		MOD	MOD	MOD
AVOCET, AMERICAN	LOW		LOW	MOD	LOW
ACTIVE RECREATION					
SWIMMING	MOD		MOD	MOD	MOD
BOAT LAUNCHING	LOW		LOW	MOD	LOW
POWER BOATING	LOW		LOW	MOD	LOW
CANOEING	HIGH		HIGH	MOD	HIGH
SAILING	LOW		LOW	MOD	LOW
PASSIVE RECREATION AND HERITAGE				MOD	MOD

NO SITE DOCUMENTATION

PROJECT -- SLC20 (BASIN 20)

DATE -- 01/01/80

FUNCTION	EFFECT	OPPORT	FUNC RATING	SIGNIF	FUNC SIG
GROUND WATER RECHARGE	HIGH	LOW	MOD	MOD	MOD
GROUND WATER DISCHARGE	LOW		LOW	MOD	LOW
FLOOD STORAGE	MOD	HIGH	HIGH	MOD	HIGH
SHORELINE ANCHORING	HIGH	HIGH	HIGH	MOD	HIGH
SEDIMENT TRAPPING	MOD	HIGH	HIGH	MOD	HIGH
NUTRIENT RETENTION					
LONG - TERM	MOD	HIGH	HIGH	MOD	HIGH
SEASONAL	LOW	HIGH	MOD	MOD	MOD
FOOD CHAIN SUPPORT					
DOWNSTREAM	MOD		MOD	MOD	MOD
IN-BASIN	MOD		MOD	MOD	MOD
FISHERY HABITAT					
WARMWATER	MOD		MOD	MOD	MOD
COLDWATER	LOW		LOW	MOD	LOW
COLDW. RIVERINE	LOW		LOW	MOD	LOW
ANADROMOUS RIV	LOW		LOW	MOD	LOW
WALLEYE	MOD		MOD	MOD	MOD
BASS, WHITE	MOD		MOD	MOD	MOD
CRAPPIE, BLACK	MOD		MOD	MOD	MOD
CATFISH, CHANNEL	MOD		MOD	MOD	MOD
SUNFISH, GREEN	MOD		MOD	MOD	MOD
WILDLIFE HABITAT					
GENERAL DIVERSITY	MOD		MOD	MOD	MOD
GROUP1 BREEDING	MOD		MOD	MOD	MOD
GROUP1 WINTERING	HIGH		HIGH	MOD	HIGH
GROUP7 BREEDING	MOD		MOD	MOD	MOD
GROUP7 WINTERING	HIGH		HIGH	MOD	HIGH
HERON, GREAT BLUE	MOD		MOD	MOD	MOD
EGRET, SNOWY	MOD		MOD	MOD	MOD
KILLDEER	MOD		MOD	MOD	MOD
ACTIVE RECREATION					
SWIMMING	LOW		LOW	MOD	LOW
BOAT LAUNCHING	LOW		LOW	MOD	LOW
POWER BOATING	LOW		LOW	MOD	LOW
CANOEING	MOD		MOD	MOD	MOD
SAILING	LOW		LOW	MOD	LOW
PASSIVE RECREATION AND HERITAGE				MOD	MOD

NO SITE DOCUMENTATION

PROJECT -- SLC21 (BASIN 21)

DATE -- 01/01/80

FUNCTION	EFFECT	OPPORT	FUNC RATING	SIGNIF	FUNC SIG
GROUND WATER RECHARGE	HIGH	LOW	MOD	MOD	MOD
GROUND WATER DISCHARGE	LOW		LOW	MOD	LOW
FLOOD STORAGE	MOD	HIGH	HIGH	MOD	HIGH
SHORELINE ANCHORING	HIGH	HIGH	HIGH	MOD	HIGH
SEDIMENT TRAPPING	MOD	HIGH	HIGH	MOD	HIGH
NUTRIENT RETENTION					
LONG - TERM	MOD	HIGH	HIGH	MOD	HIGH
SEASONAL	LOW	HIGH	MOD	MOD	MOD
FOOD CHAIN SUPPORT					
DOWNSTREAM	MOD		MOD	MOD	MOD
IN-BASIN	LOW		LOW	MOD	LOW
FISHERY HABITAT					
WARMWATER	MOD		MOD	MOD	MOD
COLDWATER	LOW		LOW	MOD	LOW
COLDW. RIVERINE	LOW		LOW	MOD	LOW
ANADROMOUS RIV	LOW		LOW	MOD	LOW
WALLEYE	MOD		MOD	MOD	MOD
BASS, WHITE	MOD		MOD	MOD	MOD
CRAPPIE, BLACK	MOD		MOD	MOD	MOD
CATFISH, CHANNEL	MOD		MOD	MOD	MOD
SUNFISH, GREEN	MOD		MOD	MOD	MOD
WILDLIFE HABITAT					
GENERAL DIVERSITY	HIGH		HIGH	MOD	HIGH
GROUP1 BREEDING	MOD		MOD	MOD	MOD
GROUP1 WINTERING	HIGH		HIGH	MOD	HIGH
GROUP2 BREEDING	MOD		MOD	MOD	MOD
GROUP2 WINTERING	HIGH		HIGH	MOD	HIGH
GROUP4 BREEDING	MOD		MOD	MOD	MOD
GROUP4 WINTERING	MOD		MOD	MOD	MOD
GROUP7 BREEDING	MOD		MOD	MOD	MOD
GROUP7 WINTERING	HIGH		HIGH	MOD	HIGH
HERON, GREAT BLUE	MOD		MOD	MOD	MOD
EGRET, SNOWY	MOD		MOD	MOD	MOD
KILLDEER	MOD		MOD	MOD	MOD
ACTIVE RECREATION					
SWIMMING	LOW		LOW	MOD	LOW
BOAT LAUNCHING	LOW		LOW	MOD	LOW
POWER BOATING	LOW		LOW	MOD	LOW
CANOEING	HIGH		HIGH	MOD	HIGH
SAILING	LOW		LOW	MOD	LOW
PASSIVE RECREATION AND HERITAGE				MOD	MOD

NO SITE DOCUMENTATION  
PROJECT -- SLC22 (BASIN 22)

DATE -- 01/01/80

FUNCTION	EFFECT	OPPORT	FUNC RATING	SIGNIF	FUNC SIG
GROUND WATER RECHARGE	HIGH	LOW	MOD	MOD	MOD
GROUND WATER DISCHARGE	LOW		LOW	MOD	LOW
FLOOD STORAGE	HIGH	HIGH	HIGH	MOD	HIGH
SHORELINE ANCHORING	HIGH	MOD	HIGH	MOD	HIGH
SEDIMENT TRAPPING	MOD	MOD	MOD	MOD	MOD
NUTRIENT RETENTION					
LONG - TERM	MOD	HIGH	HIGH	MOD	HIGH
SEASONAL	LOW	HIGH	MOD	MOD	MOD
FOOD CHAIN SUPPORT					
DOWNSTREAM	MOD		MOD	MOD	MOD
IN-BASIN	MOD		MOD	MOD	MOD
FISHERY HABITAT					
WARMWATER	MOD		MOD	MOD	MOD
COLDWATER	MOD		MOD	MOD	MOD
COLDW. RIVERINE	MOD		MOD	MOD	MOD
ANADROMOUS RIV	LOW		LOW	MOD	LOW
TROUT, BROWN	MOD		MOD	MOD	MOD
WALLEYE	MOD		MOD	MOD	MOD
BASS, WHITE	MOD		MOD	MOD	MOD
CRAPPIE, BLACK	MOD		MOD	MOD	MOD
CATFISH, CHANNEL	MOD		MOD	MOD	MOD
WILDLIFE HABITAT					
GENERAL DIVERSITY	MOD		MOD	MOD	MOD
GROUP1 BREEDING	MOD		MOD	MOD	MOD
GROUP1 WINTERING	HIGH		HIGH	MOD	HIGH
GROUP2 BREEDING	HIGH		HIGH	MOD	HIGH
GROUP2 WINTERING	HIGH		HIGH	MOD	HIGH
GROUP7 BREEDING	MOD		MOD	MOD	MOD
GROUP7 WINTERING	HIGH		HIGH	MOD	HIGH
HERON, GREAT BLUE	MOD		MOD	MOD	MOD
EGRET, SNOWY	MOD		MOD	MOD	MOD
IBIS, WHITE-FACED	MOD		MOD	MOD	MOD
KILLDEER	MOD		MOD	MOD	MOD
AVOCET, AMERICAN	MOD		MOD	MOD	MOD
ACTIVE RECREATION					
SWIMMING	LOW		LOW	MOD	LOW
BOAT LAUNCHING	LOW		LOW	MOD	LOW
POWER BOATING	LOW		LOW	MOD	LOW
CANOEING	MOD		MOD	MOD	MOD
SAILING	LOW		LOW	MOD	LOW
PASSIVE RECREATION AND HERITAGE				MOD	MOD