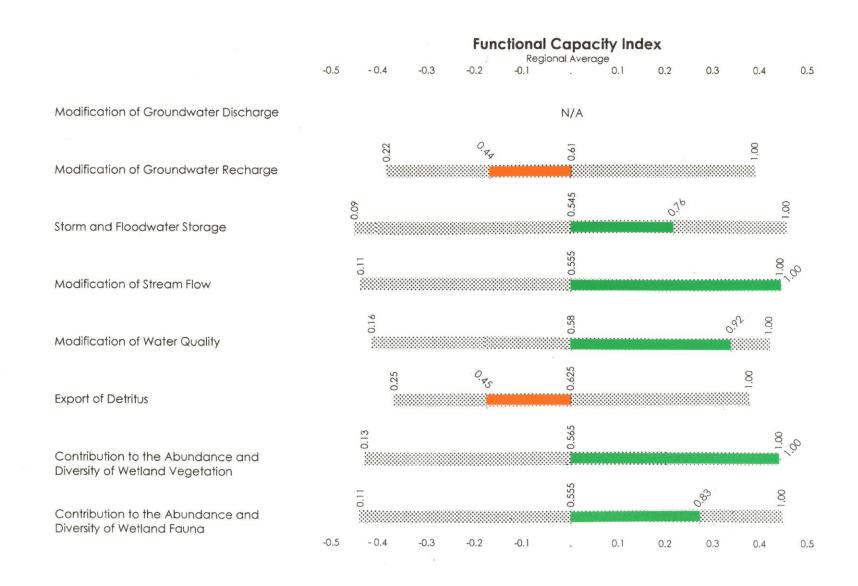
Town of Yorktown, New York Wetland Functional Assessment Study Peekskill Hollow Brook Watershed

Mohegan Lake Subwatershed Shrub Oak Brook Subwatershed Peekskill Hollow Brook Mohegan Lake and other Grandott having Contactorio to especialmente en Especialmente de Contactorio de Co Town of Putnam Valley **Town of Carmel** of Cortland Legend Wetlands by Hydrogeomorphic Type Depression Lacustrine Riverine..... 1 inch = 1,600 feet Slope 1,600 3,200 4,800 6,400 Waterbody Watershed Prepared By: Sub-Watershed'.... Environmental Design Consulting Tax Lots'..... ENVIRONMENTAL ARRICE ANALYSIS, ANALYSIS DESIGN DESIGN AND ASSOCIATION OF THE PARK ASSOCIATION OF THE P Study Areas As part of the Freshwater Wetlands Functional Assessment Study, 2007. Additional GIS map production assistance provided by: JAM GIS CONSULTING JAIME A. MARTINEZ - 718-501-8332

Lacustrine Fringe Wetland

Study Area: ML-1

28 ac. - 95% of total 29.5 ac. wetlands



| Project Number: | | , KII I | pate. | |
|--|------------------|----------------------------|--|---|
| Wetland Number: 🔟 | Yohegan Lak | ce 1W-1 | | |
| Aerial Photo Number | 's: | | | |
| USGS Quadrangle: . | Mohegan Lak | ie | | |
| | V T - 1.11 | ĸ | | |
| Field Investigators: | | | | |
| | DADT 1 | CHADACTED | IZATION of WETLANI | n |
| | PARII- | CHARACIEN | ZATION OF WEIGHT | |
| SURFAC | E WATER FLOW VE | CTORS | PLANT | SPECIES |
| Condition | Percent/Acreag | e | | OW FW FW FU OU CCOM COM CCOM S S S TIS |
| 1 | | | RED MAPLE | |
| → v ← | | Depressional | CATIFIEN AGH | |
| 1 | 22.2 | | AMERICAL ELM | |
| *** | 5% | Slope | TULIP POPLAR | |
| TTT | | Flat | SVUNK CARBAGE | |
| ^ | | | SPLE BUSH | |
| ← → | **** | Extensive Peatland | MUSTARD GARLIC | |
| ↓ | | | SILKY DOGWOOD | |
| THE STATE OF THE S | | | VINTER BETTER | |
| | 95% | Lacustrine | SUMMORSHOUT LIETHE | |
| | -+ | Fringe | LICHBUSH BLUEBEDRY | |
| | | Riverine | GNAMP WHITE DAL | |
| | | Kiveinie | SPHALMUM MOSS | |
| | | | SINGTON FERM | |
| | | | POYAL FIERLY | |
| | VEGETATION TYPES |) | MULTIFLORA POSE | |
| Type . | Percent/Acreage | | LISTERIA | |
| | | SOIL TYPES | VIRGINIA CRIMER | |
| Forested Wetland | | SOIL TIPES | POISON IVY | |
| Evergreen Needle-leaved | | Histosol | Common CATTAL | |
| Deciduous | ~ | • Fibric 🔲 • Hemic 🔲 | GWAMP AZOLIA | |
| Broad-leaved | 20% | • Hemic 🔲 • Sapric 🚜 | SHADBUSH STRUKETED | |
| Needle-leaved | | | IUSSOCK SEDAK | |
| Scrub Shrub | | Mineral | Jack-14-THE-FLAPIT | |
| Evergreen | | Hydric Soil • Gravelly | BLACK BIRCH | |
| Broad-leaved Needle-leaved | | • Sandy | SWEET BIRCH | |
| Deciduous | 80% | • Silty 🔲 • Clayey 🔲 | PURPLE LAGISTRIF | |
| Broad-leaved Needle-leaved | DUB | 0.2,0, | OW Obligate Wetland | COM Common |
| Meedle-leaved | | CROLOGY | FW Facultative Wetland | OCC Occasional |
| Emergent Wetland | 50% | GEOLOGY | F Facultative | C Canopy S Sapling |
| Persistent Non-persistent | 5-10 | Surficial: Glacial till | FU Facultative Upland OU Obligate Upland | TS Tall Shrub |
| | | Macial I. | DOM Dominant | LS Low Shrub |
| Aquatic Bed | 11-2 | Bedrock: | | H Herb |
| Total | 150% | | PRE-EMF | TIVE STATUS |
| Comments: | | | Public ownership | Documented habitat fo |
| Commence | | | Wildlife management | state or federal listed |
| | | | area Fisheries management | species Regionally scarce |
| | | | area | wetland category |
| | | | Designated State or | Historie/archaeologic |
| | | | Federal protected wetl | and area |

WETLAND INVENTORY DATA (continued)

PART 2 - CHARACTERIZATION of MODEL VARIABLES

| LANDSCAPE VARIABLES | Microrelief of Wetland Surface: | Number of Types & Relative Proportions: |
|--|---|---|
| Size: Smail (<10 acres) Medium (10-100 acres) Large (>100 acres) | Pronounced >45 cm Well Developed 15-45 cm Poorty Developed <15 cm Absent | Number of Types Evenness of Distribution Actual # Even Distribution Extra 5 |
| Wetland Juxtaposition: Connected Upgream and Downstream Only Connected Above Only Connected Below Other Wetlands Nearby but not Connected Wetland Isolated Fire Occurence and Frequency: Natural; Predictable Frequency Human-caused; Predictable Human-caused; Sporadic Rare Event No Evidence Regional Scarce (>5% of total wetland area of region) Scarce (<5% of total wetland area of region) Watershed Land Use: > 30% urbanized | Inlet/Outlet Class: No Inlet/No Outlet No Inlet/Informittent Outlet Intermittent Inlet/No Outlet Intermittent Inlet/No Outlet Intermittent Inlet/Intermittent Outlet Intermittent Outlet/Perennial Outlet Perennial Inlet/Intermittent Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Perennial Inlet/Perennial Outlet Nested Piezometer Data: Recharge Discharge Horizontal Flow Not Available Relationship of Wetlands' Substrate Elevation to Regional Piezometric Surface: Piez. Surface Above or at Substrate elev. Piez. Surface below Substrate elev. Not Available | Vegetation Density/Dominance: Sparse (0-20%) Low Density (20-40%) Medium Density (40-60%) High Density (80-100%) Very High Density (80-100%) Vegetative Interspersion: High (small groupings, diverse and interspersed) Moderate (broken irregular rings) Low (large patches, concentric rings) Number of Layers and Percent Cover: Number of Layers % Cover 6 or (actual 8) 1. submergents: S 2. floating: 4 3. moss-lichen: 3 4. short herb: 2 5. tall herb: 1 6. dwarf shrub: |
| U 0-25% urbanized HYDROLOGIC VARIABLES | Evidence of Sedimentation: No Evidence Observed Sediment Observed on Wetland Substrate | 7. short shrub: 8. tall shrub: 9. saping: |
| Surface Water Level Fluctuation of Wetland: High Fluctuation Low Fluctuation Never inundated | Fluvaquent Soits Evidence of Seeps and Springs: No Seeps or Springs Seeps Observed Perennial Spring Intermittent Spring SOIL VARIABLES Soil Lacking: Fibric Hemic Sapric Mineral Hydric Soil: Gravelly Sandy Silty Clayey VEGETATION VARIABLES Vegetation Lacking: Porested - Evergreen - Needle-leaved Forested - Deciduous - Broad-leaved Scrub Shrub - Evergreen - Needle-leaved Scrub Shrub - Evergreen - Needle-leaved Scrub Shrub - Deciduous - Broad-leaved Scrub Shrub - Deciduous - Broad-leaved Scrub Shrub - Deciduous - Broad-leaved Scrub Shrub - Deciduous - Needle-leaved Emergent - Persistent Emergent - Persistent Emergent - Non-persistent Emergent - Non-persistent | Plant Species Diversity: Low 1-2 plots sampled Medium 3-4 plots sampled High 5 or more plots sampled High 5 or more plots sampled Proportion of Animal Food Plants: Law (5-25% cover) Medium (25-50% cover) High (>50% cover) Cover Distribution: Continuous Cover Small Scattered Patches: Parts of Site Open Solitary, Scattered Stems Dead Woody Material: Abrundant (>50 of weiland surface) Moderately Abrundant (25-50% of surface) Low Abrundance (0-25% of surface) Low Abrundance (0-25% of surface) Interspersion of Cover and Open Water: 26-75% Scattered or Peripheral < 25% Scattered or Peripheral < 25% Scattered or Peripheral Highly Convoluted (index 1.50 or >) Moderately Convoluted (index 1.25-1.50) Straight/Slightly Irreg. (index) 1.10-1.25 Presence of Islands: Several to Many One or Few Absent |
| Ratio of Wetland Area to Watershed Area; High >10% Low <10% | | |

2.9.1 Modification of Ground Water Discharge

HOT EVALUATED SEPARATELY

| | | WEIGHTS | | | | |
|---|---|------------------|------------------|------------------|------------------|--|
| VARIABLES | CONDITIONS HGM TYPES: | D | (§) | R | E | |
| Indicators of Disfunction • Inlet/Outlet Class | perennial inlet/no outlet | 0 | . 0 | 0 | 0 | |
| Nested Piezometer Data | recharge condition | 0 | 0 | 0 - | 0 | |
| Relationship to Regional Piezo- metric Surface | wetland substrate elevation above piezometric surface | 0 | 0 | 0 | 0 | |
| Direct Indicators of Function • Presence of Springs and Seeps | evidence of perennial seeps or springs | 18 | 15) | 15 | 18 | |
| Nested Piezometer Data | discharge condition | 18 | 15 | 15 | 18 | |
| Relationship to Regional Peizometeric Surface | wetland substrate elevation below piezometric surface | 18 | 15 | 15 | 18 | |
| Inlet/Outlet Class | • no inlet/perennial outlet | 18 | 15 | 15 | 18 | |
| Primary Variables • Microrelief of Wetland Surface | pronounced well developed poorly developed absent | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | |
| • Inlet/Outlet Class | perennial inlet/perennial outlet intermittent inlet/perennial outlet all other classes | 3 2 0 | 3 2 0 | 0 0 0 | 3 2 0 | |
| • pH | alkaline circumneutral acid no water present | 3 2 0 0 | 3 2 0 0 | 3 2 0 0 | 3 2 0 0 | |
| Surficial Geologic Deposit Under Wetland | high permeability stratified deposits low permeability stratified deposits glacial till | 3 2 1 | 3 2 1 | 3 2 1 | 3 2 1 | |
| Wetland Water Regime | wet; permanently flooded, intermittently exposed, semipermanently flooded | 3 | 0 | 3 | 3 | |
| | drier; seasonally flooded, temporarily flooded, saturated | l | 0 | 1 | 1 | |

2.9.1 Modification of Ground Water Discharge (Continued)

| | | WEIGHTS | | | |
|-----------|--|----------------------|--------------|--------------|--------------|
| VARIABLES | CONDITIONS HGM TYPES: | D | S | R | E |
| Soil Type | histosolmineral hydric soil | 3 1 | 3 1 | 3 1 | 3 1 |
| | Total Score: | | | | |
| | Model Range: | 3-18 | 2-15 | 3-15 | 3-18 |
| | Functional Capacity Index: | Total Score 18 | 15 | 15 | 18 |
| | Index Range: | 0.19-1.0 | 0.16- 1.0 | 0.22- 1.0 | 0.19- 1.0 |

Note: This model can be applied to both year long and seasonal discharge wetlands.

If the wetland is seasonally fluctuating between recharge and discharge, then reduce the above score by one half (1/2), because the wetland only functions in a discharge mode for roughly half the year.

2.9.2 Modification of Ground Water Recharge

| ** | | | | | WEIGH | TS | |
|---|---|--|---|----|-------|----|---|
| VARIABLES | CONDITIONS | HGM TYPES: | D | Ľ! | EP | R | F |
| Indicators of Disfunction Inlet/Outlet Class | no inlet/perent tent inlet/perent | nial outlet; intermit- nnial outlet | 0 | | | | 0 |
| Nested Piezometer Data | discharge conc | lition | 0 | 0 | 0 | 0 | 0 |
| Relationship to Regional Piezo- metric Surface | wetland substr or at piezomet | ate elevation above ric surface | 0 | 0 | 0 | 0 | 0 |
| Presence of Seeps and Springs | • presence of se | eps or springs | 0 | 0 | 0 | 0 | 0 |

| | | | | | WEIGH | ITS | |
|---|---|--|-------------------------------|--------------|------------------|------------------|------------------|
| VARIABLES | CONDITIONS | HGM TYPES: | D | 3 53 | EP | R | F |
| Direct Indicators of Function • Inlet/Outlet Class | • perennial inlet | /no outlet | 21 | | | | 21 |
| Nested Piezometer Data | • recharge cond | ition | 21 | | | | 21 |
| Relationship to Regional Peizometeric Surface | wetland substr piezometric su | ate elevation below rface | 21 | | | | 21 |
| Primary Variables Microrelief of Wetland Surface | Poorly Develo Absent Well Develope Pronounced | • | 3 3 2 1 | 3324 | 1 1 2 3 | 3 3 2 1 | 3 3 2 1 |
| • Inlet/Outlet Class | Perennial InletAll Other Class | /Intermittent Outlet ses | 3 | <u>@</u> | 0 | 0 | 3 |
| • рН | Acid Circumneutral Alkaline No water press | | 3 2 1 0 | 3 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 |
| Surficial Geologic Deposit Under Wetland | its | lity Stratified Depos- | 3 2 1 | 3 | 1 2 3 | 1 2 3 | 3 2 1 |
| Surface Water Level Fluctuation of the Wetland | High Fluctuation Low Fluctuation Never Inundate | ท | 3 2 1 | 3 | 0 0 | 3 2 1 | 3 2 1 |
| • Wetland Water Regime | porarily Floode | ntly Flooded, Inter- sed, Semiper- | 3 1 | 3 | 0 0 — | 3 1 — | 3 1 — |
| Soil Type | Gravelly or Sal Silty or Clayey Sapric Histosol Fibric or Hemi | ndy Mineral Hydric Mineral Hydric c Histosol | 3 2 1 0 | 3 2 0 | 0 0 0 3 | 3 2 1 0 | 3 2 1 0 |
| | | Total Score: | | 8 | | | |
| | | Model Range: | 4- 21 | 4-18 | 2-12 | 4-18 | 4-21 |
| | Functi | onal Capacity Index: | To- tal Sco re 21 | <u>8</u> 1 | 0 . kd 12 | 18 | 21 |
| | | Index Range: | 0.1 9- 1.0 | 0.22- 1.0 | 0.16- 1.0 | 0.22- 1.0 | 0.19 1.0 |

Note: This model should be applied to both year long and seasonal recharge wetlands.

If the wetland is seasonally fluctuating between recharge and discharge, then reduce the above score by one half (1/2), because the wetland only functions in a recharge mode for roughly half the year.

| | | WEIGHTS | | | | | |
|--|--|-----------------------|-----------------------|------------------|-----------------------|-----------------------|-----------------------|
| VARIABLES | CONDITIONS HGM TYPES: | D | s | ME. | EP | R | F |
| Indicators of disfunction | none | | | | | | |
| Direct Indicators of Function | no outlet | 27 | 21 | | | | 30 |
| Primary Variables Inlet/Outlet Class | perennial inlet/intermittent outlet intermittent inlet/intermittent outlet no inlet/intermittent outlet non inlet/perennial outlet intermittent inlet/perennial outlet perennial inlet/perennial outlet | 3 2 1 1 1 | 3 2 1 1 1 | 0 0 0 0 | 0 0 0 0 0 | 0 0 0 0 0 | 3 2 1 1 1 |
| Degree of Outlet Restriction | restrictedunrestricted | 3 | 0 | 0 | 0 0 | 0 0 | 3 |
| Basin Topographic Gradient | low gradienthigh gradient | 3 1 | 3 | 0 | 3 0 | 3 1 | 3 1 |
| Wetland Water Regime | Drier: seasonally flooded, temporarily flooded, saturated Wet: permanently flooded, intermittently exposed, semipermanently | 3 | 3 | 3 〔Î. | 0 | 3 | 3 |
| Surface Water Level Fluctuation of the Wetland | high fluctuation low fluctuation never inundated | 3 2 0 | 0 0 0 | 3 2 0 | 0 0 0 | 3 2 0 | 3 2 0 |
| Ratio of Wetland Area to Watershed Area | largesmall | 3 1 | 3 1 | 1 | 0 | 3 1 | 1 |
| Microrelief of Wetland Surface | pronounced well developed poorly developed absent | 3 2 1 0 | 3 2 1 0 | 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 |
| • Frequency of Overbank Flooding | overbank flooding absent return interval of > 5 yrs return interval of 2-5 yrs return interval of 1-2 yrs | 0 0 0 | 0 0 0 | 0 1 2 3 | 0 0 0 | 0 1 2 3 | 0 1 2 3 |
| Vegetation Density/Dominance | high/very highmoderatesparse/lowno vegetation | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 |

2.9.3 Storm and Flood-Water Storage (Continued)

| | er ^e | | WEIGHTS | | | | | |
|---------------------|--|-----------------------|----------------------|------------------|------------------|------------------|------------------|------------------|
| VARIABLES | CONDITIONS | HGM TYPES: | D | S | L | EP | R | F |
| Dead Woody Material | abundant moderately abund sparse absent | ant | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 |
| | | Total Score: | - | - | 16 | _ | _ | |
| | | Model Range: | 4-27 | 4-21 | 2-21 | 0-12 | 3-24 | 4-30 |
| | Funct | ional Capacity Index: | Total Score 27 | <u></u> | 16:0 | 76 12 | 24 | 30 |
| | | Index Range: | 0.15- 1.0 | 0.19- 1.0 | 0.09- | 0-1.0 | 0.12- 1.0 | 0.13- 1.0 |

2.9.4 Modification of Stream Flow

(This model is identical for all HGM types)

| | VARIABLI | ES | | CO | NDITIONS | WEIGHTS |
|---|--------------------------------------|--------------------------------------|-----------------------------------|---------------------------------|---|------------------|
| Indicators | of Disfunction | = | no outlet | 1 | | 0 |
| Direct Inc | licators of Func | tion | none | | | 3313343999475399 |
| Primary \ | /ariables | | 160 - 2018 - 330 - 330 - 330 | | | 1 |
| Storm and Function | Flood Water S Model Score | torage | Modific Discharge | ation of Gro | undwater lodel Score | * |
| High* Mod Low High Mod Low High Mod Low Low Low Low | 3 2 1 3 2 1 3 2 | x x x x x x x x | High High Mod Mod Mod Low Low Low | 3 3 3 2 2 2 2 | = | 6 4 2 3 2 |
| | • | * | Low | 1 | Total Score: Model Range: | 1-9 |
| | | | | Functiona | l Capacity Index: | Total A . 1,0 |
| | | | | | Index Range: | 0.11-1.0 |

^{&#}x27;High = FCI of 0.67-1.0, Mod = FCI of 0.34-0.66, Low = FCI of 0-0.33 for the Storm and Flood Water Storage and Modification of Ground Water Discharge Function Model Scores.

STEPS IN SLOPE PORTION OF WETCHUS OTHERWISE LF HIS NO (IN DISCHARGE EVALUATION, THEREFORE HD MODIFICATION OF STREAM FLOW.

2.9.5 Modification of Water Quality

| | | | | WEI | GHTS | | |
|--------------------------------------|--|--------------|--------------|--------------|-------------|--------------|------|
| VARIABLES | CONDITIONS HGM TYPES: | D | s | 'L' | EP | R | F |
| ndicators of disfunction | none | | | | | | * |
| Direct Indicators of Function | evidence of sedimentation | 18 | 15 | 12 | 12 | 12 | 18 |
| Primary Variables | | | | | | | |
| Wetland Land Use | low intensity | 3 | 3 | 3 | 3 | 3 | 3 |
| | moderate intensity | 2 | 3 2 | 7 | 2 | 2 | 2 |
| | high intensity | 1 | 1 | 1 | 1 | 1 | 1 |
| Degree of Outlet | • restricted outflow | 3 | 0 | 0 | 0 | 0 | 3 |
| Restriction | no outlet | 2 | 0 | 0 | 0 | 0 | 2 |
| | unrestricted outflow | 1 | 0 | 0 | 0 | 0 | 1 |
| Inlet/Outlet Type | • no outlet | 3 | 3 | 0 | 0 | 0 | 3 |
| | intermittent outlet | 2 | 2 | 0 | 0 | 0 | 2 |
| | • perennial outlet | 1 | 1 | (0) | 0 | 0 | 1 |
| Dominant Wetland Type | forested wetland | 3 | 3 | 3 | 3 | 3 | 3 |
| ** | scrub-shrub | 2 | 2 | 2 2 | 2 | 2 | 2 |
| | emergent wetland | 2 | 2 | 2 | 2 | 2 | 2 |
| | aquatic bed | 1 | 0 | 0 | 0 | 0 | 0 |
| | no vegetation | . 0 | 0 | 0 | . 0 | 0 | 0 |
| Cover Distribution | • forming a continuous cover | 3 | 3 | <u>(3)</u> | 3 | 3 | 3 |
| | growing in small scattered patches | 2 | 2 | 2 | 2 | 2 ` | 2 |
| 3 (2) | one or more large patches | 1 | 1 | 1 | 1 | 1 | 1 |
| | solitary scattered stems | 1 | 1 | 1 | 1 | 1 | 1 |
| 4 | no vegetation | 0 | 0 | 0 | 0 | 0 | 0 |
| Soil Type | histosol or clayey soil | 3 | 3 | ્ર ે | 3 | 3 | 3 |
| | silty soil | 2 | 2 | 2 | 0 | 2 | 2 |
| | sandy or gravelly soil | 1 | 1 | 1 | 0 | 1 | 1 |
| | | | | 11 | | _ | |
| | Total Score: | | | 5 | | | |
| | Model Range: | 4-18 | 3-15 | 2-12 | 1-12 | 2-12 | 4-18 |
| | Functional Capacity Index: | Total | | 11 = 0 | ,92 | | |
| | 2 | Score 18 | 15 | 12 = 0 | 12 | 12 | 18 |
| | Index Range: | 0.22- 1.0 | 0.20- 1.0 | 0.16- 1.0 | 0.8- 1.0 | 0.16- 1.0 | 0.23 |

2.9.6 Export of Detritus

| | | | WEIGHTS | | | | |
|--|---|----------------------------------|------------------|--------------------|------------------|-----------------------|------------------|
| VARIABLES | CONDITIONS HGM | TYPES: D | S | 5 | EP | R | F |
| Indicators of disfunction | no outlet | 0 | 0 | | 0 | | 0 |
| Direct Indicators of Function | none | | | | | | |
| Primary Variables Wetland Land Use | moderate intensity low intensity high intensity | 3 2 1 | 3 2 1 | 3 2 | 3 2 1 | 3 2 1 | 3 2 1 |
| Degree of Outlet Restriction | unrestricted outflow restricted outflow | 3 1 | 0 | 0 | 0 | 0 | 3 1 |
| Inlet/Outlet Class | perennial outletintermittent outlet | 3 1 | 3 1 | 0 | 0 | 0 0 | 3 1 |
| Wetland Water Regime | drier: seasonally flooded, temporarily flooded, sature wet: permanently flooded, intermittently exposed, semipermanently flooded | ated 1 | 3 | 3 _1 | 0 | 3 1 | 3 |
| Vegetation Den- sity/Dominance | high/very high medium sparse/low no vegetation | 3 2 1 0 | 3 2 1 0 | (3) 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 |
| • Soil Type | mineral hydric soilhistosol | 3 | 3 1 | 3 1 | 3 | 3 | 3 |
| | Т | otal Score: | | 7 | | | |
| | - Moo | del Range: 5-18 | 4-15 | 3-12 | 2-10 | 3-12 | 5-18 |
| | Functional Capac | city Index: Total Score 18 | | 7 = C | 10 | 12 | 18 |
| | Ind | ex Range: 0.27- 1.0 | 0.26- 1.0 | 0.25- 1.0 | 0.20- 1.0 | 0. 25 - 1.0 | 0.27 1.0 |

2.9.7 Contribution to Abundance and Diversity of Wetland Vegetation (This model is identical for all HGM types)

| VARIABLES | | CONDITIONS | | WEIGHTS |
|---------------------------|-------------------------------------|--|-------------------------------|----------------------|
| Indicators of Disfunction | | no vegetation | | 0 |
| Direct Indicators of | Function | none | | |
| Primary Variables • | Plant Species Diversity | high diversity medium diversity low diversity | | 5) 3 1 |
| • | Vegetation Density/Do minance | high/very highmediumsparse/low | | (5) 3 1 |
| • | Wetland Juxtapositio n | connected upstream and downstream connected above or below other wetlands nearby but not | | (5) 3 1 |
| | | connected (400 m or closer) ■ isolated | Total Score: | <u>0</u> 15 |
| 8 | | 8 | Model Range: | 2-15 |
| | | | Functional Capacity Index: | = Total Score 15 |
| | | | Index Range: | 0.13-1.0 |

2.9.8 Contribution to Abundance and Diversity of Wetland Fauna

(This model is identical for all HGM types except Slope Wetlands for which "Interspersion of Vegetation Cover and Open Water" does not apply))

| VARIABLES | CONDITIONS | WEIGHTS |
|--|--|---------------------|
| Direct Indicators of Disfunction | none | |
| Direct Indicators of Function | none | |
| Primary Variables | | |
| Watershed Land Use | low intensity (0-25% urbanized) | 3 |
| | moderate intensity (25-50% urbanized) | 3 2 |
| | high intensity (>50% urbanized) | . 1 |
| Wetland Land Use | • low intensity | 3 |
| | moderate intensity | 2 |
| | • high intensity | 2 1 |
| Wetland Water Regime | • wet: permanently flooded, intermittently | ② |
| Wettatid Water Regime | exposed, semipermanently flooded | عی |
| | • drier: seasonally flooded, temporarily | |
| | flooded, saturated | 1 |
| Microrelief of Wetland Surface | • pronounced | 3 |
| • Microreller of Wetland Surface | well developed | 2 |
| | poorly developed | Ĩ. |
| | absent | 0 |
| • | - ausen | |
| Number of Wetland types and Relative | • 5 or more types | 2 |
| Proportions | • 3-4 types | 2 |
| | • 1-2 types | 1 |
| | • no vegetation | 0 |
| | • even distribution | 3 |
| | moderately even distribution | ② |
| | highly uneven distribution | 1 |
| | • no vegetation | 0 |
| Vegetation Interspersion | • high interspersion | 3 |
| Object ♥ Anabele (1956) 557 558 (1910) (1957) | moderate interspersion | (2) |
| | low interspersion | 2) |
| | no vegetation | 0 |
| Number of Layers and Percent Cover | • 5 or more layers | 0 |
| | • 3-4 layers | 2 |
| | • 1-2 layers | 1 |
| | • no vegetation | 0 |
| | • layers well developed (>50% cover) | 13) |
| | • layers with moderate cover (26-50% | $\frac{\iota_2}{2}$ |
| | cover) | 1 |
| | layers poorly distinguishable (<25% | o |
| | cover) | |
| | • no vegetation | 0 |

2.9.8 Contribution to Abundance and Diversity of Wetland Fauna

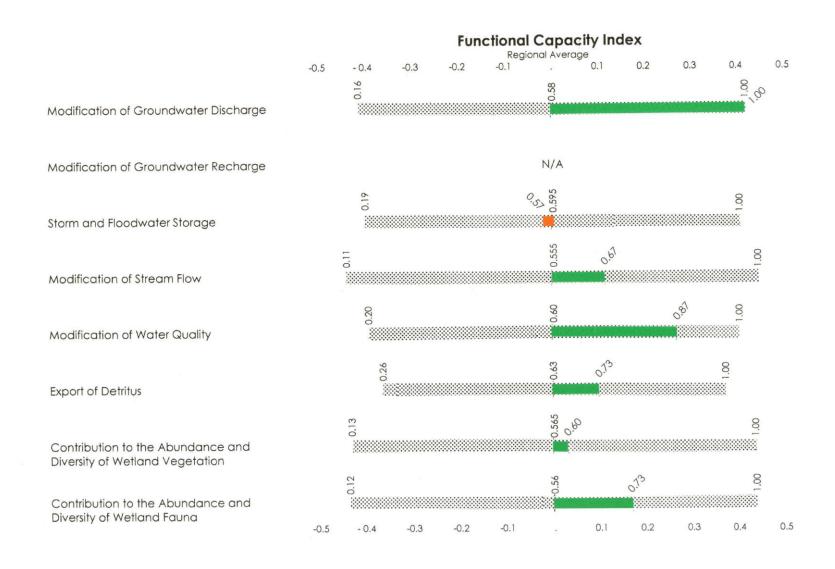
(This model is identical for all HGM types except Slope Wetlands for which "Interspersion of Vegetation Cover and Open Water" does not apply))

| VARIABLES | CONDITIONS | WEIGHTS |
|--|--|---------------------|
| Direct Indicators of Disfunction | none | |
| Direct Indicators of Function | none | |
| Primary Variables | | |
| Watershed Land Use | low intensity (0-25% urbanized) | 3 |
| | moderate intensity (25-50% urbanized) | 3 2 |
| | high intensity (>50% urbanized) | . 1 |
| Wetland Land Use | • low intensity | 3 |
| | moderate intensity | 2 |
| | • high intensity | 2 1 |
| Wetland Water Regime | • wet: permanently flooded, intermittently | ② |
| Wettatid Water Regime | exposed, semipermanently flooded | عی |
| | • drier: seasonally flooded, temporarily | |
| | flooded, saturated | 1 |
| Microrelief of Wetland Surface | • pronounced | 3 |
| • Microrelier of Wetland Surface | well developed | 2 |
| | poorly developed | Ĩ. |
| | absent | 0 |
| • | - ausen | |
| Number of Wetland types and Relative | • 5 or more types | 2 |
| Proportions | • 3-4 types | 2 |
| | • 1-2 types | 1 |
| | • no vegetation | 0 |
| | • even distribution | 3 |
| | moderately even distribution | ② |
| | highly uneven distribution | 1 |
| | • no vegetation | 0 |
| Vegetation Interspersion | • high interspersion | 3 |
| Object ♥ Anabele (1956) 557 558 (1910) (1957) | moderate interspersion | (2) |
| | low interspersion | 2) |
| | no vegetation | 0 |
| Number of Layers and Percent Cover | • 5 or more layers | 0 |
| | • 3-4 layers | 2 |
| | • 1-2 layers | 1 |
| | • no vegetation | 0 |
| | • layers well developed (>50% cover) | 13) |
| | • layers with moderate cover (26-50% | $\frac{\iota_2}{2}$ |
| | cover) | 1 |
| | layers poorly distinguishable (<25% | o |
| | cover) | |
| | • no vegetation | 0 |

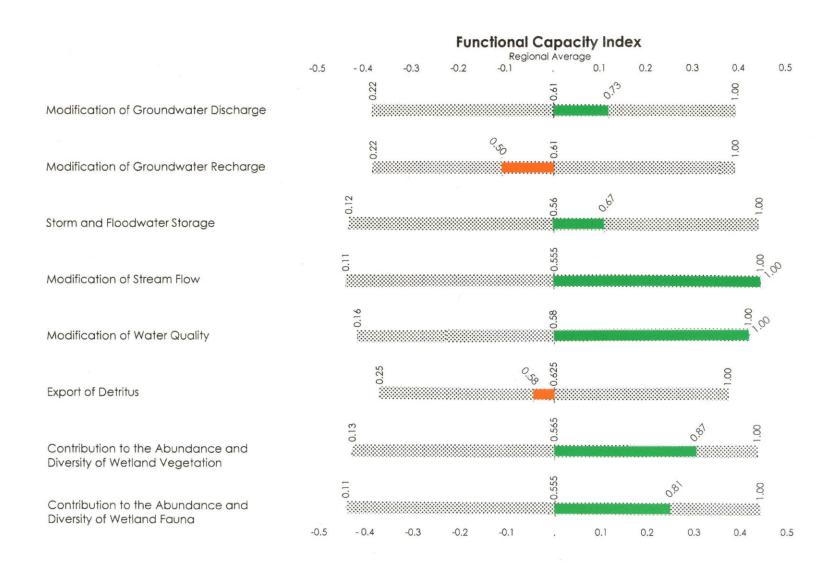
Sloping Wetland

Study Area: ML-2

8.6 ac. - 35% of total 26 ac. wetlands



13 ac. - 50% of total 26 ac. wetlands



WETLAND INVENTORY DATA Total wethouts 75.5 ac Project Number: | CORVINORY | Project Number: | ML-Z | Wetland Number: | ML-Z | Aerial Photo Numbers: | Mehegan Lake | USGS Quadrangle: | Mehegan Lake | Field Investigators: | BD + SC | WETLAND INVENTORY DATA | Total wethouts 75.5 ac Pluggine 15.1 ac = 51% | Slope 8.6 ac = 34% | Depression 3.7 ac = 15% | ** 4.25%, not assessed | ** 5.5 ac | ** 4.25%, not assessed | ** 5.5 ac | ** 4.25%, not assessed | ** 5.5 ac | ** 6.5 ac | ** 6

PART 1 - CHARACTERIZATION of WETLAND

| | FARI I-V | | | |
|---|-------------------|---|---|---|
| SURFAC | E WATER FLOW VECT | ors | PLANT | SPECIES |
| Condition | Percent/Acreage | | | OW FW FFU OU OCC C C C C C C I I S |
| → / ← | 15/p/3.7ac | Depressional | American Elm La Hon wood | |
| #### | 347,8.62 | Slope Flat | Distributy | |
| ← ↓→ | | Extensive Peatland | Honk Calons Tossack Selge | |
| | <u> </u> | Lacustrine Fringe | Sphagnom mass. | |
| 99 | 51/e/ 13.1 ac | Riverine | | |
| | VEGETATION TYPES | | | |
| Type | Percent/Acreage | | | |
| Forested Wetland Evergreen Needle-leaved Deciduous Broad-leaved Needle-leaved | e Co | Histosol Fibric Hemic Sapric | | |
| Scrub Shrub Evergreen Broad-leaved Needle-leaved Deciduous Broad-leaved Needle-leaved | 15% | Mineral Hydric Soil Gravelly Sandy Silty Clayey | OW Obligate Wetland | |
| Emergent Wetland Persistent Non-persistent | 5% | GEOLOGY Surficial: | FW Facultative Wetland F Facultative FU Facultative Upland OU Obligate Upland DOM Dominant | OCC Occasional C Canopy S Sapling TS Tall Shrub LS Low Shrub |
| Aquatic Bed | . 0 | Bedrock: | DDE EMI | H Herb PTIVE STATUS |
| Total Comments: | 100% | | Public ownership Wildlife management area Fisheries management area Designated State or Federal projected wet | Documented habitat fo state or federal listed species Regionally scarce wetland category Historic/archaeologic |

WETLAND INVENTORY DATA (continued)

PART 2 - CHARACTERIZATION of MODEL VARIABLES

| | Microrelief of Wetland Surface: | Number of Types & Deletive Proportions |
|---|--|--|
| LANDSCAPE VARIABLES Size: | Pronounced >45 cm | Number of Types & Relative Proportions: Number of Types Evenness of Distribution |
| Small (<10 scres) | Weil Developed 15-45 cm | Actual # Even Distribution |
| Medium (10-100 acres) | Poorly Developed <15 cm | Moderately Even Distribution |
| Large (>100 acres) | | Highly Uneven Distribution |
| | Inlet/Outlet Class: | 2 |
| Wetland Juxtaposition: | No Injet/No Outlet | |
| Connected Upstream and Downstream Only Connected Above | No Injet/Intermittent Outlet | Vegetation Density/Dominance: |
| Only Connected Below | No Inlet/Perennial Outlet Intermittent Inlet/No Outlet | ☐ Sparse (0-20%) |
| Other Wetlands Nearby but not Connected | Intermittent Inter/Intermittent Outlet | Low Density (20-40%) |
| ☐ Wetland Isolated | Intermittent Outlet/Perennial Outlet | Medium Density (40-60%) |
| F0 | Perennial Inlet/No Outlet | High Density (60-80%) |
| Fire Occurence and Frequency: | Perennial Inlet/ Intermittent Outlet | Very High Density (80-100%) |
| Natural; Predictable Frequency Natural; Sporadic Frequency | Perennial Inlet/Perennial Outlet | Vegetative Interspersion: |
| Human-caused; Predictable | Nested Plezometer Data: | |
| ☐ Human-caused; Sporadic | Recharge | High (small groupings, diverse and interspersed) Moderate (broken irregular rings) |
| Rare Event | ☐ Discharge | Low (large patches, concentric rings) |
| Mo Evidence | Horizontal Flow | |
| Regional Scarcity: | Not Available | Number of Layers and Percent Cover: |
| Not Scarce (>5% of total wetland area of region) | Relationship of Wetlands' Substrate Elevation | Number of Layers % Cover |
| Scarce (<5% of total wetland area of region) | to Regional Plezometric Surface: | 6 or > (actual #) 1. submergents: 2. floating: |
| | | 5 2. floating: 3. moss-lichen: |
| Watershed Land Use: | Piez. Surface Above or at Substrate elev. | 3. moss-nener: |
| > 50% urbanized | Piez. Surface below Substrate elev. Not Available | 2 5. tall herb: |
| 25-50% urbanized | ES MOLAVAIIANO | 1 6. dwarf shrub: |
| O-25% urbanized | Evidence of Sedimentation: | 7. short shrub: |
| HYDROLOGIC VARIABLES | ☐ No Evidence Observed | 8. tall shrub; |
| HYDROLOGIC VARIABLES | Sediment Observed on Wetland Substrate | 9. sapling: |
| Surface Water Level Fluctuation of Wetland: | Fluvaquent Soils | 10. tree: |
| High Fluctuation | Evidence of Seeps and Springs: | Plant Species Diversity: |
| Low Fluctuation | ☐ No Seeps or Springs | Low 1-2 plots sampled |
| Never Inundated | Seeps Observed | Medium 3-4 plots sampled |
| Frequency of Overbank Flooding: | Perennial Spring | High 5 or more plots sampled |
| Return Interval > 5 yrs. | ☐ Intermittent Spring | Proportion of Animal Food Plants: |
| Return Interval 2-5 yrs. | SOIL VARIABLES | Troportion of Animat Food Flants. |
| Return Interval 1-2 yrs. | | Low (5-25% cover) |
| No Overbank Flooding | Soil Lacking: | Medium (25-50% cover) |
| pH: | | High (>50% cover) |
| | Histosoi: | Cover Distribution: |
| Circumneutral 5.5-7.4 | ☐ Fibric | Market and the same of the sam |
| Alkaline >7.4 | Hemic | Continuous Cover |
| ☐ No Water | Sapric | Small Scattered Patches |
| | | 1 or More Large Patches; Parts of Site Open |
| Surficial Geologic Deposit Under Wetland | Mineral Hydric Soil: | Solitary, Scattered Stems |
| Low Permeability Stratified Deposits | Graveily | Dead Woody Material: |
| High Permeability Stratified Deposits | Sandy | pead woody material. |
| Glacial Till | Silty | Abrundant (>50 of wetland surface) |
| Wetland Land Use: | Clayey | Moderately Abrundant (25-50% of surface) |
| ☐ High Intensity (ie. agriculture) | VEGETATION VARIABLES | Low Abrundance (0-25% of surface) |
| Moderate Intensity (ie. Igrestry) | | Interspersion of Cover and Open Water: |
| Low Intensity (ie. open space) | Vegetation Lacking: | |
| AND THE RESIDENCE OF THE PARTY | | 26-75% Scattered or Peripheral |
| Wetland Water Regime: | Dominant Watland Town | >75% Scattered or Peripheral <25% Scattered or Peripheral |
| Wet: Perm Flooded, Intermittently Exposed, | Dominant Wetland Type: | 100% Cover or Open Water |
| Semiperm. Flooded | Forested - Evergreen - Needle-leaved | |
| Drier: Seasonally Flooded, Temporarily Flooded, | Forested - Deciduous - Broad-leaved | Stream Sinuosity: |
| Saturated | Forested - Deciduous - Needle-leaved Scrub Shrub - Evergreen - Broad-leaved | Highly Convoluted (Index 1 50 as 5) |
| Basin Topographic Gradient: | Scrub Shrub - Evergreen - Broad-leaved Scrub Shrub - Evergreen - Needle-leaved | Highly Convoluted (index 1.50 or >) Moderately Convoluted (index 1.25-1.50) |
| ☐ High Gradient >2% | Scrub Shrub - Deciduous - Broad-leaved | Straight/Slightly Irreg. (index) 1.10-1.25 |
| Low Gradient <2% | Scrub Shrub - Deciduous - Needle-leaved | |
| Degree of Outlet Restriction: | Emergent - Persistent | Presence of Islands: |
| | Emergent - Non-persistent | Several to Many |
| Restricted Outflow Unrestricted Outflow | Aquatic Bed | One or Few |
| No Outflow | 1 | Absent |
| | | Absent |
| Ratio of Wetland Area to Watershed Area: | | Absent |

2.9.1 Modification of Ground Water Discharge

Total Wetlands Z5.5ec L/p%,

Biverine 13.1ec = 51%

Slope 8.6 = 34%

Depression 3.7 ac = 15% *

* L Z5%: Assessed woltziverine.

| | | | WE | GHTS | Maria de la companiona de | | | |
|---|---|----|-------|------|--|--|--|--|
| VARIABLES | VARIABLES CONDITIONS HGM TYPES: | D | S | R | F | | | |
| Indicators of Disfunction Inlet/Outlet Class | perennial inlet/no outlet | 0 | 0 | 0 | 0 | | | |
| • Inter-Odder Class | pereranar mico no outier | U | . 0 | U | U | | | |
| Nested Piezometer Data | • recharge condition | 0 | 0 | 0 | 0 | | | |
| Relationship to Regional Piezo- metric Surface | wetland substrate elevation above piezometric surface | 0 | 0 | 0 | 0 | | | |
| Direct Indicators of Function • Presence of Springs and Seeps | evidence of perennial seeps or springs | 18 | 15 | 15 | 18 | | | |
| Nested Piezometer Data | discharge condition | 18 | 15 | 15 | 18 | | | |
| Relationship to Regional Peizometeric Surface | wetland substrate elevation below piezometric surface | 18 | 15 . | 15 | 18 | | | |
| • Inlet/Outlet Class | • no inlet/perennial outlet | 18 | 15 | 15 | 18 | | | |
| Primary Variables | -† | | | | NAME OF THE OWNER, WHEN | | | |
| Microrelief of | pronounced | 3 | 3 | 3 | 3 | | | |
| Wetland Surface | well developed | 2 | 2 | 2 | 2 | | | |
| • | poorly developed | 1 | 1 | 1 | 1 | | | |
| | absent | 0 | 0 | 0 | 0 | | | |
| Inlet/Outlet Class | perennial inlet/perennial outlet | 3 | 3 | 0 | 3 | | | |
| - Inter outlet onto | • intermittent inlet/perennial outlet | 2 | 2 | 0 | 2 | | | |
| | all other classes | 0 | 0 | 0 | 0 | | | |
| • pH | alkaline | 3 | 3 | 3 | 3 | | | |
| - pii | circumneutral | 2 | 2 | (2) | 2 | | | |
| | • acid | 0 | 0 | 2 | 0 | | | |
| | no water present | 0 | 0 | 0 | 0 | | | |
| Surficial Geologic | high permeability stratified deposits | 3 | 3 | 3 | 3 | | | |
| Deposit Under | low permeability stratified deposits | 2 | 3 2 . | 2 | 2 | | | |
| Wetland | glacial till | ī | ī | 2 | 1 | | | |
| Wetland Water Regime | wet; permanently flooded, intermittently exposed, semipermanently | 3 | 0 | 3 | 3 | | | |
| | flooded drier; seasonally flooded, temporarily flooded, saturated | 1 | 0 | 1 | 1 | | | |

| | | WEIGHTS | | | | | |
|------------|----------------------------|----------|-------|---------|------|--|--|
| VARIABLES | CONDITIONS HGM TYPES: | D | S | R | E | | |
| Soil Type | • histosol | 3 | 3 | 3 | 3 | | |
| - Son Type | mineral hydric soil | 1 | 1 | 1 | 1 | | |
| | | _ | _ | īī | - | | |
| | Total Score: | | | | | | |
| | Model Range: | 3-18 | 2-15 | 3-15 | 3-18 | | |
| | Functional Capacity Index: | Total | | 0 11 =0 | 13 | | |
| | | Score | 15 =1 | 011 | _ | | |
| | : | 18 | 15 | 15 | 18 | | |
| | Index Range: | 0.19-1.0 | 0.16- | 0.22- | 0.19 | | |
| | THE TABLE | | 1.0 | 1.0 | 1.0 | | |

Note: This model can be applied to both year long and seasonal discharge wetlands.

If the wetland is seasonally fluctuating between recharge and discharge, then reduce the above score by one half (1/2), because the wetland only functions in a discharge mode for roughly half the year.

2.9.2 Modification of Ground Water Recharge

| | | | WEIGHTS | | | | | |
|---|--------------------------------------|--------------------------------------|---------|----|---|---|---|--|
| VARIABLES | CONDITIONS | D | L | EP | R | F | | |
| Indicators of Disfunction Inlet/Outlet Class | no inlet/perent tent inlet/perent | nial outlet; intermit- | 0 | | | | 0 | |
| Nested Piezometer Data | discharge cond | lition | 0 | 0 | 0 | 0 | 0 | |
| Relationship to Regional Piezo- metric Surface | wetland substr or at piezomet | rate elevation above tric surface | 0 | 0 | 0 | 0 | 0 | |
| Presence of Seeps and Springs | • presence of se | eeps or springs | 0 | 0 | 0 | 0 | 0 | |

| | | | | | WEIGHTS | | | | |
|---|--|---|-----------------|----------|---|--------|-------|--|--|
| VARIABLES | CONDITIONS | HGM TYPES: | D | L | EP | Ŕ | F | | |
| Direct Indicators of Function Inlet/Outlet Class | perennial inlet | /no outlet | 21 | | | | 21 | | |
| Nested Piezometer Data | • recharge cond | ition | 21 | | | | 21 | | |
| Relationship to Regional Peizometeric Surface | wetland substr piezometric su | ate elevation below | 21 | | | | 21 | | |
| Primary Variables Microrelief of Wetland Surface | Poorly Develo | ined | 3 | 3 | 1 | 3 | 3 | | |
| With the state of west and surface | Absent | | 3 2 | 3 2 | 1 | 3 3 2 | 3 2 | | |
| | Well Develope Pronounced | ed | 2 | 2 | 2 | (2) | 2 | | |
| | Pronounced | | 1 | 1 | 3 | | | | |
| • Inlet/Outlet Class | Perennial Inlet All Other Class | /Intermittent Outlet | 3 | 0 | 0 | 0 | 3 | | |
| • pH | Acid | | 3 | 3 | 3 | 3 | 3 | | |
| • pri | Circumneutral | | 3 2 1 | 2 | 2 | (2) | 2 | | |
| | Alkaline | | 1 | 1 | 1 | 0 | 0 | | |
| | No water pres | ent | 0 | 0 | 0 | 0 | U | | |
| Surficial Geologic Deposit Un- | Glacial Till | | 3 | 1 | 1 | 1 | 3 | | |
| der Wetland | Low Permeab | ility Stratified Depos- | 2 | 2 | 2 | (1) | 3 2 | | |
| | its | | | | | | | | |
| | High Permeab its | ility Stratified Depos- | 1 | 3 | 3 | 3 | 1 | | |
| | a West Pleasure | | 2 | 3 | 0 | 3 | 3 | | |
| Surface Water Level Fluctuation of the Wetland | High Fluctuati Low Fluctuati | | 3 2 | 2 | Ö | (2) | 3 2 | | |
| of the wetland | Never Inundate | | ī | ī | 0 | 7 | 1 | | |
| Wetland Water Regime | Drier: Season | nally Flooded, Tem- | 3 | 3 | 0 | 3 | 3 | | |
| Trettand Trates Regime | porarily Flood | led, Saturated ently Flooded, Inter- | | | | 0 | | | |
| | Wet: Perman | ently Flooded, Inter- | 1 | 1 | 0 | 1 | 1 | | |
| | manently Floo | osed, Semiper- oded | - | - | | metite | - | | |
| Soil Type | Gravelly or Sa | andy Mineral Hydric | 3 | 3 | 0 | 3 | 3 | | |
| - bon Type | Silty or Clayer | y Mineral Hydric | 2 | 2 | 0 | 2 | 3 2 1 | | |
| | Sapric Histoso Fibric or Hem | ol | 1 | 1 | 0 | 0 | 0 | | |
| | Title of fich | Total Score: | | | AND DESCRIPTION OF THE PERSON | 9 | | | |
| | | | | Vin Seed | - | | | | |
| | | Model Range: | 4- 21 | 4-18 | 2-12 | 4-18 | 4-21 | | |
| | Func | tional Capacity Index: | To- | | | 9=0 | 0,50 | | |
| | | | tal Sco | | 10 | 18 | 21 | | |
| | | | Sco | 18 | 12 | 18 | 21 | | |
| | | | <u>re</u> 21 | | | | | | |
| | | | | | 0.11 | 0.00 | 0.11 | | |
| | | Index Range: | 0.1 | 0.22- | 0.16- | 0.22- | 0.19 | | |
| | | | 1.0 | 1.0 | 1.0 | 1.0 | | | |

Note: This model should be applied to both year long and seasonal recharge wetlands.

If the wetland is seasonally fluctuating between recharge and discharge, then reduce the above score by one half (1/2), because the wetland only functions in a recharge mode for roughly half the year.

| | | | | WE | IGHTS | 1000 | |
|--|---|----|----------|----|-------|------|-----|
| VARIABLES | CONDITIONS HGM TYPES: | D | S | L | EP | R | F |
| Indicators of disfunction | none | | | | | | |
| Direct Indicators of Function | no outlet | 27 | 21 | | | | 30 |
| Primary Variables | | | | | | | |
| Inlet/Outlet Class | perennial inlet/intermittent outlet | 3 | 3 | 0 | 0 | 0 | 3 |
| | intermittent inlet/intermittent outlet | 2 | . 2 | 0 | 0 | 0 | . 2 |
| | no inlet/intermittent outlet | 1 | 1 | 0 | 0 | 0 | 1 |
| | non inlet/perennial outlet | 1 | 1 | 0 | 0 | 0 | 1 |
| | intermittent inlet/perennial outlet | 1 | 1 | 0 | 0 | 0 | 1 . |
| | perennial inlet/perennial outlet | 1 | 1 | 0 | 0 | 0 | 1 |
| Degree of Outlet | • restricted | 3 | 0 | 0 | 0 | 0 | 3 |
| Restriction | • unrestricted | 0 | 0 | 0 | 0 | 0 | 0 |
| Restriction | unicstricted . | | | | | | |
| a Paris Tanagarahia | • low gradient | 3 | (3) | 0 | 3 | (3) | 3 |
| Basin Topographic | high gradient | 1 | 1 | 0 | 0 | 1 | 1 |
| Gradient | • mgn gradient | | • | | 0 | | |
| Wetland Water Regime | Drier: seasonally flooded, | 3 | (3) | 3 | 0 | 3 | 3 |
| | temporarily flooded, saturated Wet: permanently flooded, intermit- | 1 | 1 | ,1 | 0 | 1 | 1 |
| | tently exposed, semipermanently flooded | | | | | | |
| Surface Water Level | high fluctuation | 3 | 0 | 3 | 0 | 3 | 3 |
| Fluctuation of the | low fluctuation | 2 | 0 | 2 | 0 | 2 | 2 |
| Wetland | • never inundated | 0 | 0 | 0 | 0 | 0 | 0 |
| Ratio of Wetland Area to | • large | 3 | 3 | 3 | 0 | 3 | 3 |
| Watershed Area | • small | 1 | 0 | 1 | 0 | 1 | 1 |
| Microrelief of Wetland | pronounced | 3 | 3 | 3 | 3 | 3 | 3 |
| Surface | well developed | 2 | 2 | 2 | 2 | 2 | 2 |
| | poorly developed | 1 | 0 | 1 | 1 | 1 | 1 |
| | • absent | 0 | 0 | 0 | 0 | 0 | 0 |
| Frequency of Overbank | overbank flooding absent | 0 | 0 | 0 | 0 | 0 | 0 |
| Flooding | • return interval of >5 yrs | 0 | 0 | 1 | 0 | 1 | 1 |
| | return interval of 2-5 yrs | 0 | 0 | 2 | 0 | 2 | 2 |
| | • return interval of 1-2 yrs | 0 | 0 | 3 | 0 | 3 | 3 |
| Vegetation | high/very high | 3 | 3 | 3 | 3 | 3 | 3 |
| Density/Dominance | • moderate | 2 | 2 | 2 | 2 | 2 | 2 |
| | sparse/low | 1 | 1 | 1 | 1 | 1 | 1 |
| | no vegetation | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | WEIG | HTS | | |
|---------------------|--|-----------------|----------------------|-------------|------------------|------------------|--------------|------------------|
| VARIABLES | CONDITIONS H | GM TYPES: | D | S | L | EP | R | F |
| Dead Woody Material | abundant moderately abundant sparse absent | | 3 2 1 0 | 3 2 0 | 3 2 1 0 | 3 2 1 0 | 3 2 0 | 3 2 1 0 |
| | | Total Score: | | 17 | - | SABATTE | 16 | |
| | | Model Range: | 4-27 | 4-21 | 2-21 | 0-12 | 3-24 | 4-30 |
| | Functiona | Capacity Index: | Total Score 27 | 12 00 21 | <u>51</u> | 12 | 16 =0 | 30 |
| | | Index Range: | 0.15- | 0.19- | 0.09- | 0-1.0 | 0.12- 1.0 | 0.1 |

2.9.4 Modification of Stream Flow

(This model is identical for all HGM types)

| VARIABLES | CONDITIONS | WEIGHTS |
|--|--|---------------------------------|
| Indicators of Disfunction | no outlet | 0 |
| Direct Indicators of Function | none | |
| Primary Variables Storm and Flood Water Storage Function Model Score High 3 x Mod 2 x Low 1 x High 3 x Mod 2 x Low 1 x High 3 x Mod 2 x Low 1 x High 3 x Mod 2 x Low 1 x | High 3 = Mod 2 = Mod 2 = Low 1 = Low 1 = Low 1 | 2 3 2 1.0 |
| • | Model Range: Functional Capacity Index: Index Range: | Total 6 = 0.67 Score 9 0.11-1.0 |

^{&#}x27;High = FCI of 0.67-1.0, Mod = FCI of 0.34-0.66, Low = FCI of 0-0.33 for the Storm and Flood Water Storage and Modification of Ground Water Discharge Function Model Scores.

2.9.5 Modification of Water Quality

| | | WEIGHTS | | | | | |
|--|---|-------------|-------|--------------------------------------|------|-------------------------------|-----|
| VARIABLES | CONDITIONS HGM TYPES: | D | S | L | EP | R | F |
| ndicators of disfunction | none | | | magany dipudahany kumaka anaka anaka | | 101401-100-00-14-100-00-00-00 | |
| Direct Indicators of Function | evidence of sedimentation | 18 | 15 | 12 | 12 | 12 | 18 |
| rimary Variables | | | | | | 2 | |
| Wetland Land Use | low intensity | 3 | 3 | 3 | 3 | 3 | 3 2 |
| | moderate intensity | 2 | 2 | 2 | 2 | 2 | |
| | high intensity | 1 | 1 | 1 | 1 | 1 | 1 |
| Degree of Outlet | restricted outflow | 3 | 0 | 0 | 0 | 0 | 3 |
| Restriction | o no outlet | 2 | 0 | 0 | 0 | 0 | 2 |
| CONTROL CONTRO | unrestricted outflow | 1 | 0 | 0 | 0 | 0 | 1 |
| Inlet/Outlet Type | • no outlet | 3 | 3 | 0 | 0 | 0 | 3 |
| - Inico Outice 13pc | • intermittent outlet | 2 | 2 | 0 | 0 | 0 | 2 |
| | • perennial outlet | 1 | 0 | 0 | 0 | 0 | 1 |
| Dominant Wetland Type | forested wetland | 3 | 3 | 3 | 3 | 3 | 3 |
| - Dominan ottana ype | scrub-shrub | 2 | 2 | 2 | 2 | 2 - | 2 |
| | emergent wetland | 2 | 2 | 2 | 2 | 2 | 2 |
| | aquatic bed | 1 | 0 | 0 | 0 | 0 | 0 |
| | • no vegetation | . 0 | 0 | 0 . | 0 | 0 | 0 |
| . C. Diviloria | • forming a continuous cover | 3 | 3 | 3 | 3 | 3 | 3 |
| Cover Distribution | | 2 | 2 | 2 | 2 | 2 | 2 |
| | | 1 | ĩ | 1 | 1 | 1 | 1 |
| | one or more large patches | 1 | 1 | 1 | 1 | 1 | 1 |
| · · | solitary scattered stems no vegetation | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 1 | 3 | 3 | 3 | 3 | 3 |
| Soil Type | histosol or clayey soil | 3 2 | 2 | 2 | 0 | 2 | 2 |
| | silty soil sandy or gravelly soil | 1 | 1 | 1 | 0 | 1 | 1 |
| | sandy or gravelly soil | | - | | _ | | |
| | Total Score: | | 13 | | | IT | |
| | | | | 0.10 | 1 10 | 2.12 | 4- |
| | Model Range: | 4-18 | 3-15 | 2-12 | 1-12 | 2-12 | 4- |
| | Functional Capacity Index: | Total | 12 | 0,81 | | 12. | 1.0 |
| | | Score 18 | 13= | 12 | 12 | 12 | 1 |
| | Index Range: | 0.22- | 0.20- | 0.16- | 0.8- | 0.16- | 0. |
| | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1. |

| | * | | | WEIG | HTS | | |
|--|---|-------------|---------------|-------|-------|-------|-----------------|
| VARIABLES | CONDITIONS HGM TYPES | i: D | S | L | EP | R | F |
| Indicators of disfunction | no outlet | 0 | 0 | | 0 | | 0 |
| Direct Indicators of Function | none | | | | | | a.paysayaya.cva |
| Primary Variables Wetland Land Use | moderate intensitylow intensity | 3 2 1 | 3 2 | 3 2 | 3 2 1 | 3 (2) | 3 2 1 |
| Degree of Outlet | high intensity unrestricted outflow | 3 | 0 | 0 | 0 | 0 | 3 |
| Restriction | restricted outflow | 3 | 0 | 0 | 0 | 0 | 3 |
| Inlet/Outlet Class | perennial outlet intermittent outlet | 1 | 1 | 0 | 0 | 0 | 1 |
| • Wetland Water Regime | e drier: seasonally flooded, temporarily flooded, saturated | 3 | 3 | 3 | 0 | 3 | 3 |
| | wet: permanently flooded, intermittently exposed, semipermanently flooded | | | | | | |
| Vegetation Den- sity/Dominance | high/very high medium | 3 2 | 3 | 3 2 | 3 2 | 3 | 3 2 |
| Sity/Dominance | sparse/low no vegetation | 0 | 0 | 0 | 0 | 0 | 0 |
| Soil Type | mineral hydric soil histosol | 3 | 3 | 3 | 3 | 3 | 3 |
| | Total Sco | | [[| _ | - | 7 | |
| | - Model Ran | | 4-15 | 3-12 | 2-10 | 3-12 | 5-18 |
| | Functional Capacity Inc | | 15 | 13 | 10 | 7/12 | 050 |
| | Index Rai | nge: 0.27- | 0.26- | 0.25- | 0.20- | 0.25- | 0.2 |

2.9.7 Contribution to Abundance and Diversity of Wetland Vegetation (This model is identical for all HGM types)

| VARIABLES | | CONDITIONS | | WEIGHTS |
|-----------------------|-------------------------------|---|-------------------------------|--------------------------|
| Indicators of Disfund | ction | no vegetation | | 0 |
| Direct Indicators of | Function | none | | |
| Primary Variables | | • high diversity | | 5 |
| • | Plant Species Diversity | medium diversity low diversity | | |
| | Vegetation | high/very high | | 3 |
| | Density/Do | • medium | | (3) |
| | minance | • sparse/low | | 1 |
| | | | | (3) |
| • | Wetland | connected upstream and downstream | | 3 |
| | Juxtapositio | connected above or below | | 1 |
| | n | other wetlands nearby but not | | |
| | | connected (400 m or closer) | | 0 |
| | | • isolated | | author |
| | | | Total Score: | · 92 00 |
| | | | Model Range: | 2-15 15 |
| | | | Functional Capacity Index: | 2-15 15 = Total Score 15 |
| | | | Index Range: | 0.13-1.0 |

2.9.8 Contribution to Abundance and Diversity of Wetland Fauna
(This model is identical for all HGM types except Slope Wetlands for which "Interspersion of Vegetation Cover and Open Water" does not apply))

| VARIABLES | CONDITIONS | WEIGHTS |
|--|---|---------|
| Direct Indicators of Disfunction | none | |
| Direct Indicators of Function | none | |
| Primary Variables | | (5) |
| Watershed Land Use | low intensity (0-25% urbanized) | 2 |
| | moderate intensity (25-50% urbanized) | 1 |
| | high intensity (>50% urbanized) | 1 |
| | • low intensity | 3 |
| Wetland Land Use | moderate intensity | 2 |
| | • high intensity | 1 |
| | | (3) |
| Wetland Water Regime | wet: permanently flooded, intermittently | 9 |
| | exposed, semipermanently flooded | |
| | • drier: seasonally flooded, temporarily | D |
| | flooded, saturated | |
| Microrelief of Wetland Surface | • pronounced | 3 (2) |
| Microrelief of Welland Surface | • well developed | 2 |
| | poorly developed | 0 |
| | • absent | 0 |
| · Intrins | a f or more times | 3 |
| Number of Wetland types and Relative | • 5 or more types | 3 |
| Proportions | 3-4 types 1-2 types | 0 |
| | • no vegetation | 0 |
| | The regulation | 3 |
| | even distribution | |
| | moderately even distribution | 2 |
| | highly uneven distribution | 0 |
| | o no vegetation | |
| Vegetation Interspersion | high interspersion | 3 2 0 0 |
| w vegetation interspersion | moderate interspersion | |
| | • low interspersion | 0 |
| | • no vegetation | |
| A Paramet Cover | • 5 or more layers | 3 |
| Number of Layers and Percent Cover | • 3-4 layers | 2 |
| | • 1-2 layers | 1 |
| | • no vegetation | 0 |
| | a lawer well developed (> 500% cover) | 3 |
| | layers well developed (>50% cover) layers with moderate cover (26-50% | 0 |
| | | 1 |
| | cover) layers poorly distinguishable (<25% | 0 |
| | cover) | |
| | | 0 |
| | • no vegetation | |

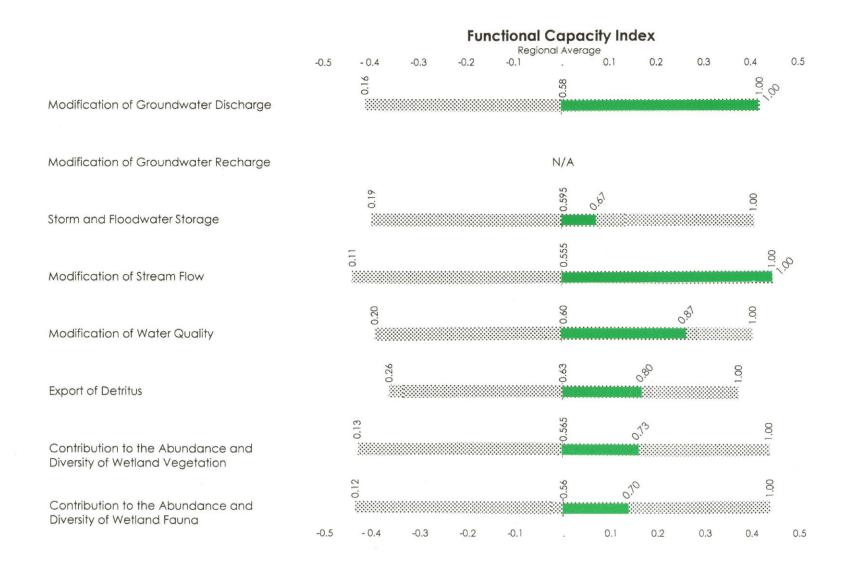
2.9.8 Contribution to Abundance and Diversity of Wetland Fauna (Continued)

| VA | RIABLES | CONDITIONS | | | WEIGHTS | _ |
|-----|---|---|--------------------------------|-----------------------------|------------------|-------|
| • | Interspersion of Vegetation Cover and Open Water | 26-75% scattered >75% scattered <25% scattered 100% cover or op no vegetation | or peripheral or peripheral | | 3 2 1 0 | |
| • | Size | large (>100 acre medium (10-100 acres small (<10 acres | acres) | | 3 | 18 |
| | Wetland Juxtaposition | other wetlands with connected above other wetlands with the connected above of the con | or below | | 1 | |
| | | connectedwetland isolated | : | | 0 | |
| | Slope Wetlands: | | All Other HGM Types: | Total Score: | | |
| | Model Range: 4-33 | | | Model Range: | 4-36 | |
| Fur | | 24=0.13 | | Functional Capacity Index = | Total Score | 29=0. |
| | Index Range: 0.12-1.0 | | | Index Range | 0.11-1.0 | |

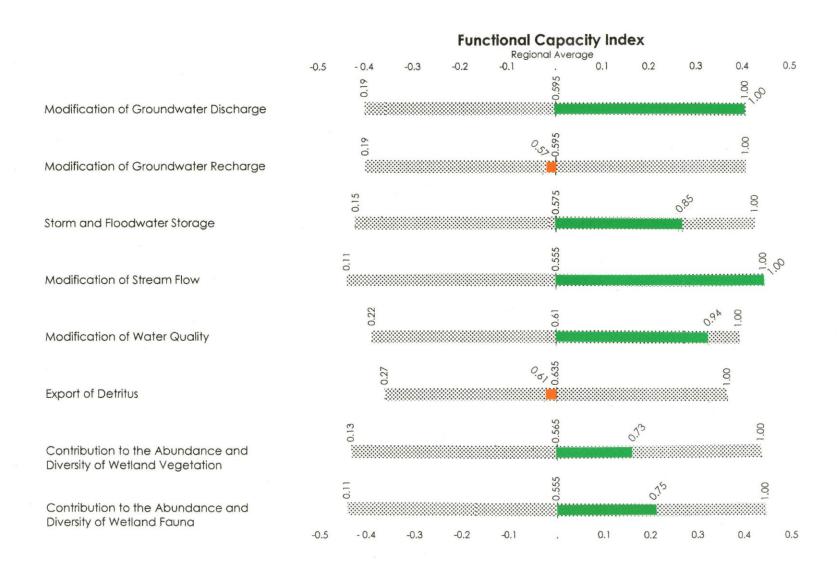
Sloping Wetland

Study Area: SO-1

6.6 ac. - 31% of total 21.5 ac. wetlands



14.9 ac. - 69% of total 21.5 ac. wetlands



WETLAND INVENTORY DATA

| Project Number: | 7 | - | Date: | |
|--|---|------------------------|---|---|
| Wetland Number: | 50+1 D | EPCB5 10+1+5 | -ote | |
| Aerial Photo Number | rs: | | | |
| USGS Quadrangle: | 11-11-11 | ALLE | | |
| | the tradeologic | 1-14 | | |
| Field Investigators: | 5 CONCE | | | |
| | | | | |
| | PART 1 | - CHARACTER | IZATION of WETLAND | |
| SURFAC | E WATER FLOW VE | CTORS | PLANT | SPECIES |
| Condition | Percent/Acreas | | | Z Z O |
| | | - | A Maria Maria Caranta Maria | PW FW COM |
| 1 | | Depressional | BOUN ENTY | |
| → ^ | | Depressional | GUADENSH | |
| | | C1 | CHIRISTMAS PETEN | |
| | - | Slope Flat | CATIAIL | 000000000000 |
| VVV | - | riat | ATRONWOOD VIB | 00000000000000 |
| T. | | Extensive Peatland | MULTI FLOTA ROSE | |
| | | | DEDMAPLE | |
| ~ | | | AMERICAL ELM | |
| | | | MIRGINIA CROEPER | |
| 7 | | Lacustrine Fringe | JACK-WITHER PULPIT | |
| The state of the s | | | WILTERBOREY | |
| 000 | | Riverine | GRAPE SP | |
| | | | SILKY DOGWOOD | |
| | | | JELIEL WEED | |
| | VEGETATION TYPE | S | PUZAGMITES | |
| Туре | Percent/Acreage | | ALLEGEN ASH | |
| | | | CLIBOT BIDGH | |
| Forested Wetland | | SOIL TYPES | SWAMP AZELEA | |
| Evergreen | | Histosol | PLACK BIRCH | 000000000000000000000000000000000000000 |
| Needle-leaved Deciduous | | • Fibric 🔲 | JAPANES BADBUDET | |
| Broad-leaved | 100/0 | • Hernic - Sapric | COMMON SPICEBUSH | |
| Needle-leaved | | | VERNAL CALTENHAZOZ | |
| Scrub Shrub | | Mineral | AMERICAN ELDECH | |
| Evergreen | | Hydric Soil • Gravelly | BESS WILLOW | |
| Broad-leaved Needle-leaved | | Sandy | - Auto- | |
| Deciduous | | · Silty - Clayey | | |
| Broad-leaved Needle-leaved | | | OW Obligate Wetland | COM Common |
| | American Property of the Control of | GEOLOGY | FW Facultative Wetland | OCC Occasional |
| Emergent Wetland | | Surficial: | FU Facultative Upland | C Canopy S Sapling |
| Non-persistent | | GLACIAL TILL | OU Obligate Upland | TS Tall Shrub |
| Aquatic Bed | | | DOM Dominant | LS Low Shrub H Herb |
| Aquado Deu | | Bedrock: | | |
| Total | | | PRE-EMPT | TVE STATUS |
| Comments: | | | Public ownership | Documented habitat fo |
| | | | Wildlife management area | state or federal listed species |
| | | | Fisheries management | Regionally scarce |
| | | | area | wetland category |
| | | | Designated State or Federal protected wetland | Historic/archaeologic |
| | | | redutar protected wetra | area . |

WETLAND INVENTORY DATA (continued)

PART 2 - CHARACTERIZATION of MODEL VARIABLES

| LANDSCAPE VARIABLES | Microrelief of Welland Surface: | Number of Types & Relative Proportions: |
|--|---|--|
| Size: | Pronounceit >45 cm | Number of Types Evenness of Distribution Actual # Even Distribution |
| Smail (<10 scres) | ☐ Well Developed 15-45 cm ☐ Poorly Developed <15 cm | Actual # Even Distribution Moderately Even Distribution |
| ☐ Medium (10-100 acres) | Absent | Highly Uneven Distribution |
| Large (>100 scres) | | D 3 |
| | Inlet/Outlet Class: | |
| Wetland Juxtaposition: | ☐ No Injet/No Outlet | |
| Connected Upstream and Downstream Only Connected Above | No Injec/Letermittens Outlet | Vegetation Density/Dominance: |
| Only Connected Relow | No Intervitters Inter/No Outlet | |
| Other Wetlands Nearby but not Connected | Intermittent Inlet/No Outlet Intermittent Inlet/Intermittent Outlet | |
| ☐ Wetland Isolated | ☐ Intermittent Outlet/Perennial Outlet | Medium Density (40-60%) |
| that the same and | Perennial Inlet/No Outlet | High Density (60-80%) |
| Fire Occurence and Frequency: | Perennial Inlet/ Intermittent Outlet | Very High Density (80-100%) |
| Natural; Predictable Frequency Natural; Sporadic Frequency | Perennial Inlet/Perennial Outlet | Vegetative Interspersion: |
| Natural; Sporadic Frequency | Nested Plezometer Data: | |
| Human-caused; Predictable Human-caused; Sporadic | Recharge | High (small groupings, diverse and interspersed) Moderate (broken irregular rings) |
| Rare Event | ☐ Discharge | Low (large patches, concentric rings) |
| No Evidence | Horizontal Flow | |
| The state of the s | Not Available | Number of Layers and Percent Cover: |
| Regional Scarcity: | Relationship of Wetlands' Substrate Elevation | Number of Layers & Cover |
| Not Scarce (>5% of total wetland area of region) | to Regional Plezometric Surface: | 6 or > (actual #) 1. submergents: |
| Scarce (<5% of total wetland area of region) | | 5 2. floating: |
| Watershed Land Use: | Piez. Surface Above or at Substrate elev. | 5 2. floating: 3. moss-lichen: 4. short herb: |
| | Piez. Surface below Substrate elev. Not Available | 2 5. tall herb: |
| > 50% urbanized | Not Available | 2 5. tall herb: 6. dwarf shrub: |
| 0-25% urbanized | Evidence of Sedimentation: | 7. short shrub: |
| | ☐ No Evidence Observed | 8. tall shrub: |
| HYDROLOGIC VARIABLES | Sediment Observed on Wetland Substrate | 9. sapling: |
| and the second second | Fluvaquent Sails | 10. tree: |
| Surface Water Level Fluctuation of Wetland: | Evidence of Seeps and Springs: | Plant Species Diversity: |
| High Fluctuation | | Low 1-2 plots sampled |
| Never Inundated | No Sceps or Springs Sceps Observed | Medium 3-4 plots sampled |
| - Meset Himitoring | Perennial Spring | High 5 or more plots sampled |
| Frequency of Overbank Flooding: | Intermittent Spring | |
| Return Interval > 5 yrs. | | Proportion of Animal Food Plants: |
| Return Interval 2-5 yrs. | SOIL VARIABLES | Low (5-25% cover) |
| Return Interval 1-2 yrs. No Overbank Flooding | Soil Lacking: | Medium (25-50% cover) |
| 140 Overbank Flooding | | High (>50% cover) |
| pH: | | C Distribution |
| Acid <5.5 | Histosol: | Cover Distribution: |
| Circumneutral 5.5-7.4 | Fibric | Continuous Cover |
| Alkaline >7,4 | Hemic | Small Scattered Patches |
| □ No Water | □ Sapric | 1 or More Large Patches; Parts of Site Open |
| Surficial Geologic Deposit Under Wetland | Mineral Hydric Soil: | Solitary, Scattered Stems |
| Low Permeability Stratified Deposits | Graveily Graveily | Dead Woody Material: |
| ☐ High Permeability Stratified Deposits | ☐ Sandy | |
| Glacial Till | Silty | Abrundant (>50 of wetland surface) |
| Wetland Land Use: | Clayey | Moderately Abrundant (25-50% of surface) |
| | VEGETATION VARIABLES | Low Abrundance (0-25% of surface) |
| High Intensity (ie. agriculture) Moderate Intensity (ie. forestry) | | Interspersion of Cover and Open Water: |
| Low Intensity (ie. open space) | Vegetation Lacking: | 26-75% Scattered or Peripheral |
| Mary Mary and the second of th | | |
| Wetland Water Regime: | Dominant Wetland Type: | >75% Scattered or Peripheral <25% Scattered or Peripheral |
| Wet: Perm Flooded, Intermittently Exposed, | | 100% Cover or Open Water |
| Semiperm. Flooded Drier: Seasonally Flooded, Temporarily Flooded, | | Starrage Starrage |
| Drier: Seasonally Flooded, Temporarily Flooded, Saturated | Forested - Deciduous - Broad-leaved Forested - Deciduous - Needle-leaved | Stream Sinuosity: |
| THE RESERVE AND THE PARTY AND | Scrub Shrub - Evergreen - Broad-leaved | Highly Convoluted (index 1.50 or >) |
| Basin Topographic Gradient: | Scrub Shrub - Evergreen - Needle-leaved | Moderately Convoluted (index 1.25-1.50) |
| High Gradient >2% | Scrub Shrab - Deciduous - Broad-leaved | Straight/Slightly Irreg. (index) 1.10-1.25 |
| □ Low Gradient <2% | Scrub Shrab - Deciduous - Needle-leaved | Presence of Islands: |
| Degree of Outlet Restriction: | Emergent - Persistent Emergent - Non-persistent | A CONTRACTOR OF A CONTRACTOR AND A CONTR |
| Restricted Outflow | Aquatic Bed | Several to Many |
| Unrestricted Outflow | | One or Few |
| ☐ No Outflow | | - Austri |
| Ratio of Wetland Area to Watershed Area: | | |
| □ High >10% | | |
| D Low <10% | | |

WETLAND CLASSES CONSTITUTING LESS THAN 25% OF TOTAL WETLAND AREA ARE COMBINED W/ HEMREST CLASS,

Modification of Ground Water Discharge 2.9.1

| | | | WE | IGHTS | |
|---|---|------------------|------------------|------------------|------------------|
| VARIABLES | CONDITIONS HGM TYPES | : D | S | R | F |
| Indicators of Disfunction Inlet/Outlet Class | perennial inlet/no outlet | 0 . | 0 | 0 | 0 |
| Nested Piezometer Data | • recharge condition | 0 | 0 | 0 | 0 |
| Relationship to Regional Piezo- metric Surface | wetland substrate elevation above piezometric surface | 0 | 0 | 0 | 0 |
| Direct Indicators of Function Presence of Springs and Seeps | evidence of perennial seeps or springs | 18 | 15 | 15 | 18 |
| Nested Piezometer Data | discharge condition | 18 | 15 | 15 | 18 |
| Relationship to Regional Peizometeric Surface | wetland substrate elevation below piezometric surface | 18 | 15 | 15 | 18 |
| Inlet/Outlet Class | no inlet/perennial outlet | 18 | 15 | 15 | 18 |
| Primary Variables Microrelief of Wetland Surface | pronounced well developed poorly developed absent | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 |
| Inlet/Outlet Class | perennial inlet/perennial outlet intermittent inlet/perennial outlet all other classes | 3 2 | 3 2 0 | 0 0 0 | 3 2 0 |
| • pH | alkaline circumneutral acid no water present | 3 2 0 0 | 3 2 0 0 | 3 2 0 0 | 3 2 0 0 |
| Surficial Geologic Deposit Under Wetland | high permeability stratified deposits low permeability stratified deposits glacial till | 3 2 | 3 2 | 3 2 1 | 3 2 1 |
| • Wetland Water Regime | wet; permanently flooded, intermittently exposed, semipermanently flooded | 3 | 0 | 3 | 3 |
| | drier; seasonally flooded, temporarily flooded, saturated | 0 | 0 | 1 | 1 |

2.9.1 Modification of Ground Water Discharge (Continued)

| | | | WEI | GHTS | |
|-----------|---|----------------|---------|---------|---------|
| VARIABLES | CONDITIONS HGM TYPES: | D | S | R | E |
| Soil Type | • histosol | 3 | 3 | 3 | 3 |
| | mineral hydric soil | 1 | 1 | 1 | 1 |
| | | 10 | -5 | - | - |
| | Total Score: | | | | |
| | Model Range: | 3-18 | 2-15 | 3-15 | 3-18 |
| | Functional Capacity Index: | Total Score | 0.55(6) | 0.33 1% | =1.0000 |
| | | 18 | 15 | 15 | 18 |
| | Index Range: | 0.19-1.0 | 0.16- | 0.22- | 0.19- |
| | | | 1.0 | 1.0 | 1.0 |

Note: This model can be applied to both year long and seasonal discharge wetlands.

If the wetland is seasonally fluctuating between recharge and discharge, then reduce the above score by one half (1/2), because the wetland only functions in a discharge mode for roughly half the year.

2.9.2 Modification of Ground Water Recharge

| | | | | | | WEIGH | TS | |
|--|-----------------------|-------------------------------------|--------------------------------------|---|----|-------|----|---|
| VARIABLES | CONDITIONS HGM TYPES: | | D | L | EP | R | F | |
| Indicators of Disfunction | | | | | | | | |
| Inlet/Outlet Class | • | no inlet/perent tent inlet/peren | ial outlet; intermit- nial outlet | 0 | | | | 0 |
| Nested Piezometer Data | • | discharge cond | ition | 0 | 0 | 0 | 0 | 0 |
| Relationship to Regional Piezo- metric Surface | • | wetland substra | ate elevation above ric surface | 0 | 0 | 0 | 0 | 0 |
| Presence of Seeps and Springs | | presence of see | ps or springs | 0 | 0 | 0 | 0 | 0 |

2.9.1 Modification of Ground Water Discharge (Continued)

| | | | WEI | GHTS | |
|-----------|---|----------------|---------|---------|---------|
| VARIABLES | CONDITIONS HGM TYPES: | D | S | R | E |
| Soil Type | • histosol | 3 | 3 | 3 | 3 |
| | mineral hydric soil | 1 | 1 | 1 | 1 |
| | | 10 | -5 | - | - |
| | Total Score: | | | | |
| | Model Range: | 3-18 | 2-15 | 3-15 | 3-18 |
| | Functional Capacity Index: | Total Score | 0.55(6) | 0.33 1% | =1.0000 |
| | | 18 | 15 | 15 | 18 |
| | Index Range: | 0.19-1.0 | 0.16- | 0.22- | 0.19- |
| | | | 1.0 | 1.0 | 1.0 |

Note: This model can be applied to both year long and seasonal discharge wetlands.

If the wetland is seasonally fluctuating between recharge and discharge, then reduce the above score by one half (1/2), because the wetland only functions in a discharge mode for roughly half the year.

2.9.2 Modification of Ground Water Recharge

| | | | | | | WEIGH | TS | |
|--|-----------------------|-------------------------------------|--------------------------------------|---|----|-------|----|---|
| VARIABLES | CONDITIONS HGM TYPES: | | D | L | EP | R | F | |
| Indicators of Disfunction | | | | | | | | |
| Inlet/Outlet Class | • | no inlet/perent tent inlet/peren | ial outlet; intermit- nial outlet | 0 | | | | 0 |
| Nested Piezometer Data | • | discharge cond | ition | 0 | 0 | 0 | 0 | 0 |
| Relationship to Regional Piezo- metric Surface | • | wetland substra | ate elevation above ric surface | 0 | 0 | 0 | 0 | 0 |
| Presence of Seeps and Springs | | presence of see | ps or springs | 0 | 0 | 0 | 0 | 0 |

| | | | | | WE | IGHTS | | |
|------------------|-----------------|---|------|-----|----|-------|---|-----|
| VARIABLE | ES | CONDITIONS HGM TYPE | S: D | S | L | EP | R | F |
| Indicators of di | isfunction | none | | | | | | |
| Direct Indicato | rs of Function | no outlet | 27 | 21 | | | | 30 |
| Primary Varial | bles | | | | | | | |
| • Inlet/Ou | tlet Class | perennial inlet/intermittent outlet | 3 | 3 | 0 | 0 | 0 | 3 |
| | | • intermittent inlet/intermittent outlet | 2 | .2 | 0 | 0 | 0 | - 2 |
| | | no inlet/intermittent outlet | 1 | 1 | 0 | 0 | 0 | 1 |
| | | non inlet/perennial outlet | 1 | 1 | 0 | 0 | 0 | 1 |
| | | • intermittent inlet/perennial outlet | 1 | 1 | 0 | 0 | 0 | 1 |
| | | perennial inlet/perennial outlet | 1 | 1 | 0 | 0 | 0 | 1 |
| - 7 | | | 1 | 0 | 0 | 0 | 0 | 3 |
| | of Outlet | restricted unrestricted | 3 | 0 | 0 | 0 | 0 | 0 |
| Restricti | ion | unrestricted | U | U | U | 0 | U | U |
| | | a law andian | 3 | 2 | 0 | 2 | 3 | 2 |
| | opographic | • low gradient | | 3 | 0 | 3 | 1 | 3 |
| Gradien | | high gradient | 1 | 1 | 0 | 0 | 1 | 1 |
| - W-1- | Water Danier | • Deiger ganganally flooded | 3 | (3) | 3 | 0 | 3 | 3 |
| • Wetland | Water Regime | Drier: seasonally flooded, | (3) | (3) | 3 | U | 3 | 3 |
| | | temporarily flooded, saturated | | | | | | |
| | | Wet: permanently flooded, intermit- | . 1 | 1 | 1 | 0 | 1 | 1 |
| | | tently exposed, semipermanently | | | | | | |
| | | flooded | | | | | | |
| • Surface | Water Level | high fluctuation | 3 | 0 | 3 | 0 | 3 | 3 |
| | | high fluctuation low fluctuation | 3 | 0 | 2 | 0 | 2 | 2 |
| | ion of the | | 0 | 0 | 0 | 0 | 0 | 0 |
| Wetland | | never inundated | 0 | (0) | 0 | 0 | U | U |
| Ratio of | Wetland Area to | • large | 3 | (3) | 3 | 0 | 3 | 3 |
| | ed Area | • small | 1 | 1 | 1 | 0 | 1 | 1 |
| Watersii | icu Alca | Siliali | * | | * | U | • | • |
| Microre | lief of Wetland | • pronounced | (3) | 3 | 3 | 3 | 3 | 3 |
| Surface | net of wetland | well developed | 3 | 2 | 2 | 2 | 2 | 2 |
| Surface | | poorly developed | 1 | Ō | 1 | ī | 1 | 1 |
| | | absent | 0 | 0 | 0 | 0 | 0 | 0 |
| | | ◆ aosem | U | U | U | 0 | 0 | U |
| • Frequen | cy of Overbank | overbank flooding absent | 0 | 0 | 0 | 0 | 0 | 0 |
| Flooding | | • return interval of > 5 yrs | 0 | 0 | 1 | 0 | 1 | 1 |
| Tioodin | • | • return interval of 2-5 yrs | 0 | 0 | 2 | 0 | 2 | 2 |
| | | • return interval of 1-2 yrs | 0 | 0 | 3 | 0 | 3 | 3 |
| | | - Island more of 1-2 yes | | | | | 1 | |
| • Vegetati | ion | high/very high | 3 | 3 | 3 | 3 | 3 | 3 |
| | /Dominance | moderate | 2 | 2 | 2 | 2 | 2 | 2 |
| Delisity | Dominance | • sparse/low | 1 | 1 | 1 | 1 | 1 | 1 |
| • | | | 0 | 0 | 0 | 0 | 0 | Ó |
| | | • no vegetation | U | U | U | U | 0 | 0 |

2.9.3 Storm and Flood-Water Storage (Continued)

| | | | | | WEI | GHTS | | |
|---------------------|--|-----------------------|----------------|---------------------|------------------|------------------|------------------|------------------|
| VARIABLES | CONDITIONS | HGM TYPES: | D/ | S | L | EP | R | F |
| Dead Woody Material | abundant moderately abunda sparse absent | ant | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 |
| | | Total Score: | 23 | 14 | - | - | - | T |
| | | Model Range: | 4-27 | 4-21 | 2-21 | 0-12 | 3-24 | 4-30 |
| | Funct | ional Capacity Index: | Total Score 27 | 4-21 3 = 0.8 | 0.67 | 12 | 24 | 30 |
| | | Index Range: | 0.15- 1.0 | 0.19- | 0.09- | 0-1.0 | 0.12- 1.0 | 0.13- |

2.9.4 Modification of Stream Flow

(This model is identical for all HGM types)

| no outlet none Modific Discharg | cation of Grou | | | 0 |
|------------------------------------|-------------------|---|--------------------------------------|---|
| Modific | cation of Grou | | | |
| Modific Discharg | cation of Grou | | | |
| Modific Discharg | cation of Grou | | | |
| | C T GIRCHOIT IVI | odel Score | | |
| High High High Mod Mod Low Low Low | 3 3 3 2 2 2 1 1 1 | = | 9636423321 | |
| | Functional | | 9 | =1.0 |
| | Mod Low Low | Low 1 Low 1 Low 1 | Low 1 = Low 1 = Low 1 = Total Score: | Low 1 = 3 Low 1 = 2 Low 1 = 1 Total Score: Model Range: 1-9 Functional Capacity Index: Total Score Score 9 |

*High = FCI of 0.67-1.0, Mod = FCI of 0.34-0.66, Low = FCI of 0-0.33 for the Storm and Flood Water Storage and Modification of Ground Water Discharge Function Model Scores.

2.9.6 Export of Detritus

| | | | | WE | GHTS | | |
|--|--|---------|-------|-------|-------|-------|------|
| VARIABLES | CONDITIONS HGM TYPES: | D | S | L | EP | R | F |
| Indicators of disfunction | no outlet | 0 | 0 | | 0 | | 0 |
| Direct Indicators of Function | none | | | | | | |
| Primary Variables | | | | | | | |
| Wetland Land Use | moderate intensity | 3 | 3 | 3 | 3 | 3 | 3 |
| | • low intensity | 2 | (2) | 2 | 2 | 2 | 2 |
| | high intensity | 1 | 1 | 1 | 1 | 1 | 1 |
| Degree of Outlet | unrestricted outflow | 3 | 0 | 0 | 0 | 0 | 3 |
| Restriction | • restricted outflow | 3 | 0 | 0 | 0 | 0 | 1 |
| Inlet/Outlet Class | perennial outlet | 1 | 3 | 0 | 0 | • | |
| and Cultivi Class | • intermittent outlet | 1 | (1) | 0 | 0 | 0 | 3 |
| | - intermittent outlet | (I) | | U | 0 | 0 | 1 |
| Wetland Water Regime | drier: seasonally flooded, | 3 | 3 | 3 | 0 | 3 | 3 |
| | temporarily flooded, saturated | | | | | | |
| | wet: permanently flooded, | 1 | 1 | 1 | 1 | 1 | 1 |
| | intermittently exposed, | | | | | | |
| | semipermanently flooded | | * | | | | |
| Vegetation Den- | high/very high | 3 | 3 | 3 | 3 | 3 | 3 |
| sity/Dominance | • medium | 2 | 2 | 2 | . 2 | 2 | 2 |
| ************************************** | • sparse/low | 1 | 1 | 1 | 1 | 1 | 1 |
| | • no vegetation | 0 | 0 | 0 | 0 | 0 | 0 |
| Soil Type | mineral hydric soil | 3 | 3 | 3 | 3 | 3 | 3 |
| | • histosol | 1 | 1 | 1 | 1 | 1 | 1 |
| | | <u></u> | 12 | - | _ | _ | _ |
| | Total Score: | 11 | 12 | | | | |
| | - Model Range: | 5-18 | 4-15 | 3-12 | 2-10 | 3-12 | 5-18 |
| | Wodel Range. | 3-10 | 0.6 | | 2-10 | 3-12 | 3-10 |
| | Functional Capacity Index: | Total | 0 | | | | |
| | | Score | | | _ | _ | _ |
| | | 18 | 15 | 12 | 10 | 12 | 18 |
| | Index Range: | 0.27- | 0.26- | 0.25- | 0.20- | 0.25- | 0.27 |
| | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |

2.9.5 Modification of Water Quality

| | | WEIGHTS | | | | | | |
|---|------------------------------------|---------|-------|-------|------|-------|---|--|
| VARIABLES | CONDITIONS HGM TYPES: | D | S | L | EP | R | F | |
| ndicators of disfunction | none | | | | | | - | |
| Direct Indicators of Function | evidence of sedimentation | 18 | 15 | 12 | 12 | 12 | 18 | |
| Primary Variables | | | | | | | 111111111111111111111111111111111111111 | |
| Wetland Land Use | • low intensity | 3 | 3 | 3 | 3 | 3 | 3 | |
| | • moderate intensity | 2 | 2 | 2 | 2 | 2 | 2 | |
| | high intensity | 1 | 1 | 1 | 1 | 1 | 1 | |
| Degree of Outlet | restricted outflow | (3) | 0 | 0 | 0 | 0 | 2 | |
| Restriction | • no outlet | 3 | 0 | 0 | 0 | 0 | 3 2 | |
| *************************************** | unrestricted outflow | 1 | 0 | 0 | 0 | 0 | 1 | |
| A Jules/Outlet True | | | | | | | | |
| Inlet/Outlet Type | • no outlet | 3 | 3 | 0 | 0 | 0 | 3 | |
| | • intermittent outlet | 2 | 2 | 0 | 0 | 0 | 2 | |
| | • perennial outlet | 1 | 1 | 0 | 0 | 0 | 1 | |
| Dominant Wetland Type | forested wetland | 3 2 | 3 | 3 | 3 | 3 | 3 | |
| | scrub-shrub | 2 | 3 | 2 | 2 | 2 | 2 | |
| | emergent wetland | 2 | 2 | 2 | 2 | 2 | 2 | |
| | aquatic bed | 1 | 0 | 0 | 0 | 0 | 0 | |
| | • no vegetation | 0 | 0 | 0 . | 0 | 0 | 0 | |
| Cover Distribution | forming a continuous cover | 3 | (3) | 3 | 3 | 3 | 3 | |
| | growing in small scattered patches | 2 | 2 | 2 | 2 | 2 | 2 | |
| | • one or more large patches | 1 | 1 | 1 | 1 | 1 | 1 | |
| | solitary scattered stems | 1 | 1 | 1 | 1 | 1 | 1 | |
| * | • no vegetation | 0 | 0 | 0 | 0 | 0 | 0 | |
| Soil Type | histosol or clayey soil | 3 | 2 | , | , | | | |
| - oon Type | • silty soil | 2 | 3 | 3 | 3 | 3 | 3 | |
| | sandy or gravelly soil | 1 | 1 | 2 | 0 | 2 | 2 | |
| | salidy of gravery soft | | 1 | 1 | U | 1 | 1 | |
| | | 17 | 13 | - | _ | - | - | |
| | Total Score: | | | | | | | |
| | Model Range: | 4-18 | 3-15 | 2-12 | 1-12 | 2-12 | 4-18 | |
| | Functional Capacity Index: | Total | =0.94 | -1 | | | | |
| | anotional Capacity Index. | Score | 13 0 | 9.1 | | | | |
| | | 18 | 15 | 12 | 12 | 12 | 18 | |
| | | 10 | 15 | 12 | 12 | 12 | 10 | |
| | Index Range: | 0.22- | 0.20- | 0.16- | 0.8- | 0.16- | 0.22 | |
| | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |

2.9.5 Modification of Water Quality

| | | WEIGHTS | | | | | | |
|---|------------------------------------|---------|-------|-------|------|-------|---|--|
| VARIABLES | CONDITIONS HGM TYPES: | D | S | L | EP | R | F | |
| ndicators of disfunction | none | | | | | | - | |
| Direct Indicators of Function | evidence of sedimentation | 18 | 15 | 12 | 12 | 12 | 18 | |
| Primary Variables | | | | | | | 111111111111111111111111111111111111111 | |
| Wetland Land Use | • low intensity | 3 | 3 | 3 | 3 | 3 | 3 | |
| | • moderate intensity | 2 | 2 | 2 | 2 | 2 | 2 | |
| | high intensity | 1 | 1 | 1 | 1 | 1 | 1 | |
| Degree of Outlet | restricted outflow | (3) | 0 | 0 | 0 | 0 | 2 | |
| Restriction | • no outlet | 3 | 0 | 0 | 0 | 0 | 3 2 | |
| *************************************** | unrestricted outflow | 1 | 0 | 0 | 0 | 0 | 1 | |
| A Jules/Outlet True | | | | | | | | |
| Inlet/Outlet Type | • no outlet | 3 | 3 | 0 | 0 | 0 | 3 | |
| | • intermittent outlet | 2 | 2 | 0 | 0 | 0 | 2 | |
| | • perennial outlet | 1 | 1 | 0 | 0 | 0 | 1 | |
| Dominant Wetland Type | forested wetland | 3 2 | 3 | 3 | 3 | 3 | 3 | |
| | scrub-shrub | 2 | 3 | 2 | 2 | 2 | 2 | |
| | emergent wetland | 2 | 2 | 2 | 2 | 2 | 2 | |
| | aquatic bed | 1 | 0 | 0 | 0 | 0 | 0 | |
| | • no vegetation | 0 | 0 | 0 . | 0 | 0 | 0 | |
| Cover Distribution | forming a continuous cover | 3 | (3) | 3 | 3 | 3 | 3 | |
| | growing in small scattered patches | 2 | 2 | 2 | 2 | 2 | 2 | |
| | • one or more large patches | 1 | 1 | 1 | 1 | 1 | 1 | |
| | solitary scattered stems | 1 | 1 | 1 | 1 | 1 | 1 | |
| * | • no vegetation | 0 | 0 | 0 | 0 | 0 | 0 | |
| Soil Type | histosol or clayey soil | 3 | 2 | , | , | | | |
| - oon Type | • silty soil | 2 | 3 | 3 | 3 | 3 | 3 | |
| | sandy or gravelly soil | 1 | 1 | 2 | 0 | 2 | 2 | |
| | salidy of gravery soft | | 1 | 1 | U | 1 | 1 | |
| | | 17 | 13 | - | _ | - | - | |
| | Total Score: | | | | | | | |
| | Model Range: | 4-18 | 3-15 | 2-12 | 1-12 | 2-12 | 4-18 | |
| | Functional Capacity Index: | Total | =0.94 | -1 | | | | |
| | anotional Capacity Index. | Score | 13 0 | 9.1 | | | | |
| | | 18 | 15 | 12 | 12 | 12 | 18 | |
| | | 10 | 15 | 12 | 12 | 12 | 10 | |
| | Index Range: | 0.22- | 0.20- | 0.16- | 0.8- | 0.16- | 0.22 | |
| | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |

2.9.8 Contribution to Abundance and Diversity of Wetland Fauna

(This model is identical for all HGM types except Slope Wetlands for which "Interspersion of Vegetation Cover and Open Water" does not apply))

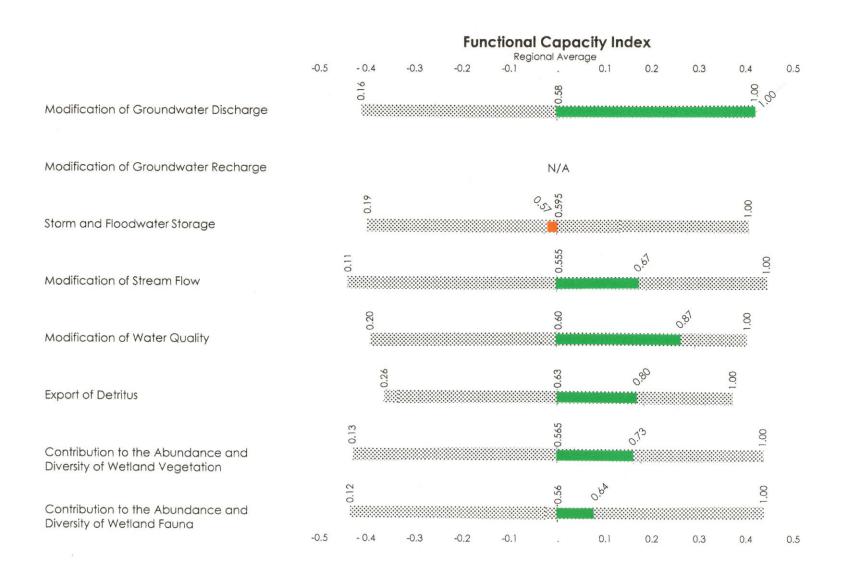
| VARIABLES | CONDITIONS | 1 | WEIGHTS |
|--|---|---|---------|
| Direct Indicators of Disfunction | none | | |
| Direct Indicators of Function | none | | |
| Primary Variables | | | |
| Watershed Land Use | • low intensity (0-25% urbanized) | | 3 |
| | moderate intensity (25-50% urbanized) | | 2 |
| | • high intensity (>50% urbanized) | | 2 |
| Wetland Land Use | • low intensity | | |
| The state of the s | moderate intensity | | 3 2 |
| | • high intensity | | 1 |
| Wetland Water Regime | • water manuscratter flooded the street | | |
| Wedalia Water Regime | wet: permanently flooded, intermittently | | 3 |
| | exposed, semipermanently flooded | | |
| | drier: seasonally flooded, temporarily flooded, saturated | | 0 |
| | ricoded, Saturated | | |
| Microrelief of Wetland Surface | • pronounced | | 3 |
| | • well developed | | 2 |
| | poorly developed | | 1 |
| | • absent | | 0 |
| • | | | 0 |
| Number of Wetland types and Relative | • 5 or more types | | 3 |
| Proportions | • 3-4 types | | (2) |
| | • 1-2 types | | 1 |
| | • no vegetation | | 1 0 |
| | • even distribution | | 3 |
| | moderately even distribution | | (2) |
| | highly uneven distribution | | 1 0 |
| | • no vegetation | | 0 |
| Vegetation Interspersion | • high interspersion | | (3) |
| | • moderate interspersion | | 3 |
| | low interspersion | | 1 |
| | • no vegetation | | 0 |
| Number of Layers and Percent Cover | • 5 or more layers | | (3) |
| • | • 3-4 layers | | 2 |
| | • 1-2 layers | | 1 |
| | • no vegetation | | 0 |
| | • layers well developed (>50% cover) | | (3) |
| | • layers with moderate cover (26-50% | | 3 |
| | cover) | | 1 |
| | layers poorly distinguishable (<25% | | 0 |
| | cover) | | |
| | • no vegetation | | 0 |
| | | | |

2.9.8 Contribution to Abundance and Diversity of Wetland Fauna (Continued)

| VARIABLES | CONDITIONS | | WEIGHTS |
|---|---|-----------------------------|-----------------------|
| Interspersion of Vegetation Cover and Open Water | 26-75% scattered or peripheral >75% scattered or peripheral <25% scattered or peripheral 100% cover or open water no vegetation | | 3 2 1 1 0 |
| • Size | large (> 100 acres) medium (10-100 acres) small (< 10 acres) | | 3 |
| Wetland Juxtaposition | other wetlands within 400 m and connected above or below other wetlands within 400 m but not connected wetland isolated | | 1 0 |
| Slope Wetlands: | All Other HGM Types: | Total Score: | 27 23 |
| Model Range: 4-33 | | Model Range: | 4-36 |
| Functional Capacity Index = Total Score | 3 = 0.10 | Functional Capacity Index = | Total Score 27 |
| Index Range: 0.12-1.0 | | Index Range | 0.11-1.0 |

Refer to Appendix 'C' for SO-2 Data and Analysis sheets and graphs.

5.3 ac. - 97% of total 6.1 ac. wetlands



WETLAND INVENTORY DATA

| Project Number: | | | Date: | | |
|-------------------------------|---------------------------------------|-----------------------------|--|----------|---|
| Wetland Number: _ | 60-3-51 | OHU6 | to the state of th | | |
| Aerial Photo Numbe | ore: | | | | ************************************** |
| USGS Quadrangle: | | 3 | | | |
| USGS Quadrangie: | & Dalothas | | | | |
| Field Investigators: | B DONOHUE | | 1 | | |
| | PART 1 - | CHARACTER | IZATION of WETLANI |) | |
| SURFAC | E WATER FLOW VEC | TORS | PLANT | SPECI | ES |
| Condition | Percent/Acreage | _ | | F.W | FU DOM COM CCOM CCOM S CCOM S CC C |
| 1 | | | · Red Made | عَمُ مُ | مُعَمَّدُهُمُ مُعَمِّدُهُمُ مُعَمِّدُهُمُ مُعَمِّدُهُمُ مُعَمِّدُهُمُ مُعَمِّدُهُمُ مُعَمِّدُهُمُ م |
| → V ← | | Depressional | Spicebush | | |
| T | | | American Elm Skunk Cabbage | | |
| | 45% | Slope Flat | Japanese Barberry | | |
| ^ | · · · · · · · · · · · · · · · · · · · | 11 | Tulip Poplar | | |
| <u> </u> | | Extensive Peatland | Black Birch Hornbeam | | |
| 1 | | | Japanese Rose | | |
| | | | American Beech | | |
| | | Lacustrine Fringe | Grape Sensitive Forn | | |
| 130 | / 0 | Linike | Winter serv | | |
| | _V 5% | Riverine | Pignut Hickory | | |
| | * | | Mustarel Garlic | | |
| | VEGETATION TYPES | · | Christmas Fern | | |
| | | | Scarlet Oak | | |
| Туре | Percent/Acreage | | Scouring Rush | | |
| Forested Wetland | | SOIL TYPES | | | |
| Evergreen Needle-leaved | | Histosol | | | |
| Deciduous | 100% | • Fibric • Hemic • Sapric | | | |
| Broad-leaved Needle-leaved | 100% | · Sapric | | | |
| Section 1995 | | Mineral | | | |
| Scrub Shrub Evergreen | * | Hydric Soil | | | |
| Broad-leaved Needle-leaved | | • Gravelly • Sandy | | | |
| Deciduous | | • Silty . Clayey | | | |
| Broad-leaved Needle-leaved | | 3.3,5, | OW Obligate Wetland | | COM Common |
| Emergent Wetland | | GEOLOGY | FW Facultative Wetland F Facultative | | OCC Occasional C Canopy |
| Persistent | | Surficial: | FU Facultative Upland | | S Sapling |
| Non-persistent | · | Glacial til | OU Obligate Upland DOM Dominant | | TS Tall Shrub LS Low Shrub |
| Aquatic Bed | | Bedrock: | | | H Herb |
| Total | 100% | | PRE-EMP | TIVE S | TATUS |
| Comments: | | | Public ownership Wildlife management | | Documented habitat for state or federal listed |
| | | | area | | species |
| | | | Fisheries management area | | Regionally scarce wetland category |
| | | | Designated State or | | Historic/archaeologic |
| | | | Federal protected wetl: | ınd | area |
| | | | | | 740 |
| | | | | | 9 |
| | | 1 | | | (|

WETLAND INVENTORY DATA (continued)

PART 2 - CHARACTERIZATION of MODEL VARIABLES

| LANDSCAPE VARIABLES | Microrellef of Wetland Surface: | Number of Types & Relative Proportions: |
|--|--|--|
| Size: | Pronounced >45 cm | Number of Types Bremess of Distribution Actual 6 Seen Distribution |
| Small (<10 acres) | Peerly Developed <15 cm | Actual # Even Distribution Mederately Even Distribution |
| Medium (10-100 acres) | About | 4 Highly Uneven Distribution |
| Large (>100 scree) | | |
| | Inlet/Outlet Clase: | 8 2 |
| Wetland Juxtaposition: | ☐ No Inter/No Obstet | |
| Comested Upstream and Downstream | No Inject/Intermittent Outlet No Inject/Percential Outlet | Vegetation Density/Dominance: |
| Only Connected Above Only Connected Below | | |
| Only Connected Above Only Connected Below Other Wetlands Nearby but not Connected Wetland Isolated | Intermittent Inter/No Outlet | |
| Wetland Isolated | Intermitted Outlet/Perennial Outlet | Law Density (20-40%) Medium Density (40-40%) |
| | Perennial Injet/No Outlet | High Density (60-80%) |
| Fire Occurence and Frequency: | Personnial Inlet/ Intermittent Outlet | Very High Density (80-100%) |
| Natural; Predictable Frequency Natural; Sporadic Frequency Human-caused; Predictable Human-caused; Sporadic | Perennial Inlet/Perennial Outlet | |
| Natural; Sporadic Frequency | Nested Plezdmeter Data: | Vegetative Interspersion: |
| Human-caused; Predictable | ☐ Recharge | High (small groupings, diverse and interspersed |
| Human-coused; Sporadic Rare Event | Discharge | Moderate (broken irregular rings) Low (large petches, concentric rings) |
| No Evidence | Horizoniai Flow | Cow (sarge peaches, concentric range) |
| | Not Available | Number of Layers and Percent Cover: |
| Regional Scarcity: | Balationable of Wattendal Substanta Planetics | Number of Layers & Cover |
| Not Scarce (>5% of total wetland area of region | Relationship of Wetlands' Substrate Elevation | 6 or > (actual #) 1. submergents: |
| Scarce (4% of total wetland area of region) | to Regional Plezometric Surface: | 5 2. floating: |
| Watershed Land Use: | Piez. Surface Above or at Substrate elev. | 4 3. moss-lichen: 3 4. short herb: 2 5. tall herb: |
| | Piez. Surface below Substrate elev. | 3 4. short herb: |
| > 50% urbanized | Not Available | 1 6. dwarf shrub: |
| 0-25% urbanized | Evidence of Sedimentation: | 7. short shrub: |
| | ☐ No Evidence Observed | 8. tali shrub: |
| HYDROLOGIC VARIABLES | Sediment Observed on Wetland Substrate | 9. sepling: |
| | Fluvaquent Soils | 10. tree: |
| Surface Water Level Fluctuation of Wetland: | B-44 | Plant Species Diversity: |
| ☐ High Fluctuation ☐ Low Fluctuation | Evidence of Seeps and Springs: | |
| | No Scope or Springs | Low 1-2 plots sampled Medium 3-4 plots sampled |
| Never Inundated | Sceps Observed Personial Spring | High S or more plots sampled |
| Frequency of Overbank Flooding: | Perennial Spring | |
| Return Interval > 5 yrs. | | Proportion of Animal Food Plants: |
| Return Interval 2-5 yrs. | SOIL VARIABLES | □ Low (5-25% cover) |
| Return Interval 1-2 yra. | Soil Lacking: | Medium (25-50% cover) |
| No Overbank Flooding | A STATE OF THE STA | High (>50% cover) |
| pH: | | |
| ☐ Acid <5.5 | Historel: | Cover Distribution: |
| Circumneutral 5.5-7.4 | ☐ Fibric | Continuous Cover |
| ☐ Aikaline >7.4 | ☐ Hemaic | Small Scattered Patches |
| ☐ No Water | ☐ Sepric | 1 or More Large Patches; Parts of Site Open |
| Surficial Geologic Deposit Under Wetland | Mineral Hydric Soil: | Solitary, Scattered Stems |
| Low Permeability Stratified Deposits | Gravelly | |
| High Permeability Stratified Deposits | ☐ Sandy | Dead Woody Material: |
| Glacial Till | Sitty Sitty | Abrundant (>50 of wetland surface) |
| | Clayey | Moderately Abrundant (25-50% of surface) |
| Wetland Land Use: | VEGETATION VARIABLES | Low Abrundance (0-25% of surface) |
| High Intensity (ie. agriculture) | TEGERALION TARIABLES | Interspersion of Cover and Open Water: |
| Moderate Intensity (ie. forestry) Low Intensity (ie. open space) | Vegetation Lacking: | Andrew Committee (1997) and the committee of the committe |
| | | 26-75% Scattered or Peripheral |
| Wetland Water Regime: | | >75% Scattered or Peripheral <25% Scattered or Peripheral |
| Wet: Perm Flooded, Intermittently Exposed, | Dominant Wetland Type: | <25% Scattered or Peripheral 100% Cover or Open Water |
| Semiperm. Flooded | Forested - Evergreen - Needle-leaved | |
| Drier: Seasonally Flooded, Temporarily Floode | d. Forested - Deciduous - Broad-loaved | Stream Sinuosity: |
| Saturated | Forested - Deciduous - Needle-leaved Scrub Shrub - Evergreen - Broad-leaved | Highly Convoluted (index 1.50 or >) |
| Basin Topographic Gradient: | Scrub Shrub - Evergreen - Needle-leaved | Moderately Convoluted (index 1.25-1.50) |
| High Gradient >2% | Scrub Shrub - Deciduous - Broad-leaved | Straight/Slightly Irreg. (index) 1.10-1.25 |
| ☐ Low Gradient <2% | Scrub Shreb - Deciduous - Needle-leaved | |
| Degree of Outlet Restriction: | Emergent - Persistent | Presence of Islands: |
| Restricted Outflow | Emergent - Non-persistent | Several to Many |
| Unrestricted Outflow | Aquetic Bed | One or Few |
| No Outflow | | Absent |
| SEE ON CONTRACTOR OF THE PROPERTY AND THE PROPERTY OF THE PROP | | |
| Ratio of Wetland Area to Watershed Area: | | 1 |
| ☐ High >10% | | ₩ |
| □ Low <10% | | 1 |
| | | 1 |
| | To all the second of the secon | |

2.9.1 Modification of Ground Water Discharge

| | | WEIGHTS | | | | |
|---|---|------------------|------------------|------------------|------------------|--|
| VARIABLES | CONDITIONS HGM TYPES: | D | S. | R | F | |
| Indicators of Disfunction Inlet/Outlet Class | perennial inlet/no outlet | 0 . | 0 | 0 | 0 | |
| Nested Piezometer Data | • recharge condition | 0 | 0 | 0 | 0 | |
| Relationship to Regional Piezo- metric Surface | wetland substrate elevation above piezometric surface | 0 | 0 | 0 | 0 | |
| Direct Indicators of Function Presence of Springs and Seeps | evidence of perennial seeps or springs | 18 | 15 | 15 | 18 | |
| Nested Piezometer Data | discharge condition | 18 | 15. | 15 | 18 | |
| Relationship to Regional Peizometeric Surface | wetland substrate elevation below piezometric surface | 18 | 15 | 15 | 18 | |
| Inlet/Outlet Class | • no inlet/perennial outlet | 18 | 15 | 15 | 18 | |
| Primary Variables • Microrelief of Wetland Surface | pronounced weil developed poorly developed absent | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | |
| Inlet/Outlet Class | perennial inlet/perennial outlet intermittent inlet/perennial outlet all other classes | 3 2 0 | 3 2 0 | 0 0 0 | 3 2 0 | |
| • pH | alkaline circumneutral acid no water present | 3 2 0 0 | 3 2 0 0 | 3 2 0 0 | 3 2 0 0 | |
| Surficial Geologic Deposit Under Wetland | high permeability stratified deposits low permeability stratified deposits glacial till | 3 2 1 | 3 2 1 | 3 2 1 | 3 2 1 | |
| Wetland Water Regime | wet; permanently flooded, inter- mittently exposed, semipermanently flooded. | 3 | 0 | 3 | 3 | |
| | flooded drier; seasonally flooded, temporarily flooded, saturated | 1 | 0 | 1 | 1 | |

2.9.1 Modification of Ground Water Discharge

| | | WEIGHTS | | | | |
|---|---|------------------|------------------|------------------|------------------|--|
| VARIABLES | CONDITIONS HGM TYPES: | D | S. | R | F | |
| Indicators of Disfunction Inlet/Outlet Class | perennial inlet/no outlet | 0 . | 0 | 0 | 0 | |
| Nested Piezometer Data | • recharge condition | 0 | 0 | 0 | 0 | |
| Relationship to Regional Piezo- metric Surface | wetland substrate elevation above piezometric surface | 0 | 0 | 0 | 0 | |
| Direct Indicators of Function Presence of Springs and Seeps | evidence of perennial seeps or springs | 18 | 15 | 15 | 18 | |
| Nested Piezometer Data | discharge condition | 18 | 15. | 15 | 18 | |
| Relationship to Regional Peizometeric Surface | wetland substrate elevation below piezometric surface | 18 | 15 | 15 | 18 | |
| Inlet/Outlet Class | • no inlet/perennial outlet | 18 | 15 | 15 | 18 | |
| Primary Variables • Microrelief of Wetland Surface | pronounced weil developed poorly developed absent | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | |
| Inlet/Outlet Class | perennial inlet/perennial outlet intermittent inlet/perennial outlet all other classes | 3 2 0 | 3 2 0 | 0 0 0 | 3 2 0 | |
| • pH | alkaline circumneutral acid no water present | 3 2 0 0 | 3 2 0 0 | 3 2 0 0 | 3 2 0 0 | |
| Surficial Geologic Deposit Under Wetland | high permeability stratified deposits low permeability stratified deposits glacial till | 3 2 1 | 3 2 1 | 3 2 1 | 3 2 1 | |
| Wetland Water Regime | wet; permanently flooded, inter- mittently exposed, semipermanently flooded. | 3 | 0 | 3 | 3 | |
| | flooded drier; seasonally flooded, temporarily flooded, saturated | 1 | 0 | 1 | 1 | |

| | | | | | | WEIG | HTS | |
|---|-----|-----------------------------------|--------------------------------------|-----------------|---------------|-------|-----------|----------|
| VARIABLES | CON | DITIONS | HGM TYPES: | D | L | EP | R | F |
| Direct Indicators of Function Inlet/Outlet Class | • | perennial inlet/ | no outlet | 21 | | | | 21 |
| Nested Piezometer Data | • | recharge condi | tion | 21 | | | | 21 |
| Relationship to Regional Peizometeric Surface | • | wetland substra | ate elevation below | 21 | | | | 21 |
| Primary Variables Microrelief of Wetland Surface | | | _ | | | | | |
| Which of wetland Surface | | Poorly Develor Absent | ped | 3 3 2 | 3 | 1 | 3 | 3 |
| | • | Well Developer | d | 2 | 2 | 1 2 | 3 2 | 3 2 |
| | • | Pronounced ' | | ī | ī | 3 | ĩ | ĩ |
| Inlet/Outlet Class | • | Perennial Inlet/ | Intermittent Outlet | 3 | 0 | 0 | 0 | 3 |
| | • | All Other Class | ses | 0 | 0 | Ö | ŏ | ŏ |
| ● pH | | Acid | | 3 | 3 | 3 | 3 | 3 |
| | • | Circumneutral | | 2 | 2 | 2 | 2 | 3 |
| | | Alkaline No water prese | nt | 1 | 1 0 | 0 | 1 | 1 |
| • Confidence of the Property | | (- 2 | | v | | U | U | U |
| Surficial Geologic Deposit Under Wetland | | Glacial Till | ity Stratified Depos- | 3 | 1 | 1 | 1 | 3 |
| | 1 | ts | 100 | 2 . | 2 | 2 | 2 | 2 |
| | •] | High Permeabil | ity Stratified Depos- | 1 | 3 | 3 | 3 | 1 |
| Surface Water Level Fluctuation | | | | | | *1 | | |
| of the Wetland | | High Fluctuation | n | 3 | 3 | 0 | 3 | 3 |
| | | Never Inundated | | 2 | 2 1 | 0 | 2 | 2 |
| • Wetland Water Regime | • 1 | Prier: Cencons | lly Flooded, Tem- | • | | | - | Ī |
| | Ē | orarily Flooder | d, Saturated htly Flooded, Inter- | 3 | 3 | 0 | 3 | 3 |
| | • ! | Wet: Permanen nittently Expose | itly Flooded, Inter- | 1 | 1 | 0 | 1 | 1 |
| | r | nanently Flood | ed, Semiper- ed | _ | - | 10. | _ | + |
| Soil Type | • (| Gravelly or San | dy Mineral Hydric | 3 | • | • | • | 1 |
| ** | • 5 | ilty or Clavey | Mineral Hydric | 2 | 3 2 | 0 | 3 2 | 3 |
| | • 5 | apric Histosol ibric or Hemic | 12.50 | 1 | 1 | 0 | 1 | Ĩ |
| | • | TOTAL OF TREMIE | Total Score: | | <u> </u> | 3 | 0 | 0 |
| | | | | | | | 24 107000 | |
| | | | Model Range: | 4- 21 | 4-18 | 2-12 | 4-18 | 4-2 |
| | | Functio | nal Capacity Index: | To- | | | | |
| | | | 26 S | tal Sco | -75 | 76 | -7- | <u>_</u> |
| | | | | re | 18 | 12 | 18 | 21 |
| | | | | <u>re</u> 21 | | | | |
| | | | Index Range: | 0.1 | 0.22- | 0.16- | 0.22- | 0.19 |
| | | | | 9- | 1.0 | 1.0 | 1.0 | 1.0 |

Note: This model should be applied to both year long and seasonal recharge wetlands.

If the wetland is seasonally fluctuating between recharge and discharge, then reduce the above score by one half (1/2), because the wetland only functions in a recharge mode for roughly half the year.

2.9.3 Storm and Flood-Water Storage

| | | | | WE | IGHTS | | |
|--|--|-----------------------|---|------------------|------------------|------------------|----------------------------|
| VARIABLES | CONDITIONS HGM TYPES: | D | s | L | EP | R | F |
| Indicators of disfunction | none | | - 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 | | | | contract of the second |
| Direct Indicators of Function | no outlet | 27 | 21 | | | 100,000 | 30 |
| Primary Variables • Inlet/Outlet Class | perennial inlet/intermittent outlet intermittent inlet/intermittent outlet no inlet/intermittent outlet non inlet/perennial outlet intermittent inlet/perennial outlet perennial inlet/perennial outlet | 3 2 1 1 1 | 3 (2) 1 1 1 1 | 0 0 0 0 | 0 0 0 0 | 0 0 0 0 | 3 2 1 1 1 1 |
| Degree of Outlet Restriction | restrictedunrestricted | 3 | 0 | 0 | 0 | 0 0 | 3 0 |
| Basin Topographic Gradient | low gradient high gradient | 3 1 | 3 ① | 0 | 3 0 | 3 1 | 3 1 |
| Wetland Water Regime | Drier: seasonally flooded, temporarily flooded, saturated Wet: permanently flooded, intermittently exposed, semipermanently flooded | 3 | 1 | 3 | 0 | 3 | 1 |
| Surface Water Level Fluctuation of the Wetland | high fluctuation low fluctuation never inundated | 3 2 0 | 0 | 3 2 0 | 0 0 0 | 3 2 0 | 3 2 0 |
| Ratio of Wetland Area to Watershed Area | large small | 3 1 | 3 | 3 | 0 | 3 1 | 3 |
| Microrelief of Wetland Surface | pronounced well developed poorly developed absent | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 |
| • Frequency of Overbank Flooding | overbank flooding absent return interval of >5 yrs return interval of 2-5 yrs return interval of 1-2 yrs | 0 0 0 | 0 0 0 0 | 0 1 2 3 | 0 0 0 | 0 1 2 3 | 0 1 2 3 |
| Vegetation Density/Dominance | high/very high moderate sparse/low no vegetation | 3 2 1 0 | 3) 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 |

2.9.3 Storm and Flood-Water Storage (Continued)

| | | | | | WEI | GHTS | | |
|---------------------|---|-----------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| VARIABLES | CONDITIONS | HGM TYPES: | D | S | L | EP | R | F |
| Dead Woody Material | abundant moderately abund sparse absent | ant | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 |
| | | Total Score: | | 114100 | | | _ | |
| | | Model Range: | 4-27 | 4-21 | 2-21 | 0-12 | 3-24 | 4-3 |
| | Functi | ional Capacity Index: | Total | 2 | 2.57 2 | | | Marine Andrews |
| | | | Score 27 | 21 | 21 | 12 | 24 | 30 |
| | | Index Range: | 0.15- 1.0 | 0.19- 1.0 | 0.09- 1.0 | 0-1.0 | 0.12- 1.0 | 0 .13 |

2.9.4 Modification of Stream Flow

(This model is identical for all HGM types)

| | VARIA | BLES | | CO | NDITIONS | | WEIGHTS |
|--|---|--------------------------------------|------------------------------------|--------------------------------------|---------------------------------|---|---------|
| Indicator | s of Disfunct | ion | no outlet | | | | 0 |
| Direct In | dicators of F | unction | none | | | | |
| Primary | Variables | | | | | | |
| Storm and Function | d Flood Wate n Model Sco | er Storage re | Modific Discharge | ation of Gro | undwater Iodel Score | | |
| High Mod Low High Mod Low High Mod Low | 3 2 1 3 2 1 3 2 1 | x x x x x x x x | High High High Mod Mod Low Low Low | 3 3 3 2 2 2 1 1 | = = = = = = = | 9 6 3 6 4 2 3 2 1 | |
| | | | | | Total Score: | | |
| | • | | | | Model Range: | 1-9 | |
| | | | | Functiona | I Capacity Index: | Total 6 | 0.67 |
| | | | | | Index Range: | 9 0.11-1.0 | |

^{&#}x27;High = FCI of 0.67-1.0, Mod = FCI of 0.34-0.66, Low = FCI of 0-0.33 for the Storm and Flood Water Storage and Modification of Ground Water Discharge Function Model Scores.

2.9.6 Export of Detritus

| | | | | WE | GHTS | | |
|--------------------------------------|---|--------------------------------|--------------|--------------|--------------|--------------|--------------|
| VARIABLES | CONDITIONS HGM TYPE | :S: D | S | L EP | | R | F |
| Indicators of disfunction | no outlet | 0 | 0 | | 0 | | 0 |
| Direct Indicators of Function | none | | | | | | |
| Primary Variables | | , | | | | | |
| Wetland Land Use | moderate intensity | 3 | 3 | 3 | 3 | 3 | 3 |
| | low intensity | 2 | (2) | 2 | 2 | 2 | 2 |
| | high intensity | ī | 1 | 1 | 1 | 1 | 1 |
| Degree of Outlet | unrestricted outflow | 3 | (O) | 0 | 0 | 0 | 3 |
| Restriction | • restricted outflow | 1 | 0 | ŏ | ŏ | ŏ | 1 |
| Inlet/Outlet Class | perennial outlet | 3 | 3 | 0 | 0 | 0 | 3 |
| | • intermittent outlet | 1 | (I) | Ö | Ŏ | ŏ | 1 |
| Wetland Water Regime | drier: seasonally flooded, temporarily flooded, saturated | 3 | (3) | 3 | 0 | 3 | 3 |
| | wet: permanently flooded, intermittently exposed, semipermanently flooded | 1 | 1 | 1 | 1 | 1 | 1 |
| Vegetation Den- | high/very high | 3 | (3) | 3 | 3 | 3 | 3 |
| sity/Dominance | • medium | 2 | 2 | 2 | . 2 | 2 | 2 |
| | • sparse/low | 1 | 1 | 1 | 1 | ī | 1 |
| | no vegetation | 0 | 0 | Ō | Ō | ō | ō |
| Soil Type | • mineral hydric soil | 3 | 3 | 3 | 3 | 3 | 3 |
| | • histosol | 1 | 1 | 1 | 1 | 1 | 1 |
| | | | 17 | - | _ | | |
| | Total Scor | re: | | | | | |
| | - Model Rang | e: 5-18 | 4-15 | 3-12 | 2-10 | 3-12 | 5-18 |
| r. | Functional Capacity Inde | x: Total <u>Score</u> 18 | 15 | 1.83 | 10 | 12 | 18 |
| | | | 25 | | | | |
| | Index Rang | e: 0.27- 1.0 | 0.26- 1.0 | 0.25- 1.0 | 0.20- 1.0 | 0.25- 1.0 | 0.27- 1.0 |

2.9.5 Modification of Water Quality

| | | | | WEI | GHTS | | |
|--|--|-------------|---------------|------------|------|----------|-------|
| VARIABLES | CONDITIONS HGM TYPES: | D | S | L | EP | R | F |
| Indicators of disfunction | none | | | A TO SLAVA | | (5.49.9) | |
| Direct Indicators of Function | evidence of sedimentation | 18 | 15 | 12 | 12 | 12 | 18 |
| Primary Variables | | | 1341405033400 | | • | | |
| Wetland Land Use | low intensity | 3 | (3) | 3 | 3 | 3 | 3 |
| | moderate intensity | 2 | 2 | 2 | 2 | 2 | 2 |
| | high intensity | 1 | 1 | 1 | 1 | 1 | 1 |
| Degree of Outlet | • restricted outflow | 3 | 0 | 0 | 0 | 0 | 3 |
| Restriction | no outlet | 2 | 0 | 0 | 0 | 0 | 2 |
| | unrestricted outflow | 1 | (0) | 0 | 0 | 0 | 1 |
| Inlet/Outlet Type | • no outlet | 3 | 3 | 0 | 0 | 0 | 3 |
| | • intermittent outlet | 2 | 2 | 0 | 0 | 0 | 2 |
| | • perennial outlet | 1 | 1 | 0 | 0 | 0 | 1 |
| Dominant Wetland Type | forested wetland | 3 | (3) | 3 | 3 | 3 | 3 |
| | scrub-shrub | 2 | 2 | 2 | 2 | 2 | 2 |
| | emergent wetland | 2 | 2 | 2 | 2 | 2 | 2 |
| | aquatic bed | 1 | 0 | 0 | 0 | 0 | 0 |
| | • no vegetation | . 0 | 0 | 0 . | 0 | 0 | 0 |
| Cover Distribution | • forming a continuous cover | 3 | 3 | 3 | 3 | 3 | 3 |
| | growing in small scattered patches | 2 | 2 | 2 | 2 | 2 | 2 |
| | one or more large patches | 1 | 1 | 1 | 1 | 1 | 1 |
| | solitary scattered stems | 1 | 1 | 1 | 1 | 1 | 1 |
| 4 | no vegetation | 0 | 0 | 0 | 0 | 0 | 0 |
| Soil Type | histosol or clayey soil | 3 | 3 | 3 | 3 | 3 | 3 |
| | silty soil | 2 | (2) | 2 | 0 | 2 | 2 |
| | sandy or gravelly soil | 1 | 1 | 1 | 0 | 1 | 1 |
| | Total Score: | | 尼 | _ | | _ | |
| | Model Range: | 4-18 | 3-15 | 2-12 | 1-12 | 2-12 | 4-18 |
| | _ | | 1010 1010 | | | ~ 12 | + 10 |
| | Functional Capacity Index: | Total | 13 =0 | .37 | | | |
| | | Score 18 | 15 | 12 | 12 | 12 | 18 |
| | | 16. | 13 | 12 | 12 | 12 | 18 |
| | Index Range: | 0.22- | 0.20- | 0.16- | 0.8- | 0.16- | 0.22- |
| | and stanger | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |

2.9.7 Contribution to Abundance and Diversity of Wetland Vegetation (This model is identical for all HGM types)

| VARIABLES | * . | CONDITIONS | | WEIGHTS |
|------------------------|----------------------|---|-------------------------------|-------------|
| Indicators of Disfunc | tion | no vegetation | | 0 |
| Direct Indicators of I | Function | none | , | |
| Primary Variables | | high diversity | | 5 |
| • | Plant | medium diversity | | 3 |
| | Species Diversity | low diversity | | 5 3 ① |
| • | Vegetation | high/very high | | 3 |
| | Density/Do | • medium | | 3 |
| | minance | • sparse/low | | 1 |
| • | Wetland | connected upstream and downstream | | (5) |
| | Juxtapositio | connected above or below | | 3 |
| | n | other wetlands nearby but not | | 1 |
| | | connected (400 m or closer) | s•> | |
| | | • isolated | | 0 |
| | | | | 11 |
| | | | Total Score: | |
| ži. | | 4 | Model Range: | 2-15 |
| (4) | | | Functional Capacity Index: | Score |
| | | | Index Range: | 0.13-1.0 |

2.9.8 Contribution to Abundance and Diversity of Wetland Fauna
(This model is identical for all HGM types except Slope Wetlands for which "Interspersion of Vegetation Cover and Open Water" does not apply))

| VARIABLES | CONDITIONS | VEIGHTS |
|--|--|---------------|
| Direct Indicators of Disfunction | none | |
| Direct Indicators of Function | none | |
| Primary Variables | | |
| Watershed Land Use | • low intensity (0-25% urbanized) | 3 |
| | moderate intensity (25-50% urbanized) | |
| | • high intensity (>50% urbanized) | 1 |
| Wetland Land Use | • low intensity | 3 |
| | moderate intensity | 2 |
| | • high intensity | ī |
| Wetland Water Regime | • wet: permanently flooded, intermittently | 3 |
| 9 | exposed, semipermanently flooded | , |
| | drier: seasonally flooded, temporarily | i |
| | flooded, saturated | (i) |
| Microrelief of Wetland Surface | • pronounced | |
| | • well developed | 3 2 D |
| | poorly developed | Ō |
| | • absent | o |
| Number of Wetland types and Relative | • 5 or more types | 3 |
| Proportions | • 3-4 types | 2 |
| | • 1-2 types | (T) |
| | • no vegetation | |
| | • even distribution | 3 |
| | moderately even distribution | 2 |
| | highly uneven distribution | 3 2 (1) |
| | • no vegetation | `0 |
| Vegetation Interspersion | • high interspersion | 3 |
| | moderate interspersion | 2 |
| | • low interspersion | 3 |
| | • no vegetation | 0 |
| Number of Layers and Percent Cover | • 5 or more layers | 3 |
| • | • 3-4 layers | 2 |
| | • 1-2 layers | 1 |
| | • no vegetation | 0 |
| | • layers well developed (>50% cover) | (3) |
| | • layers with moderate cover (26-50% | 3 |
| | cover) | 1 |
| | layers poorly distinguishable (<25% | 0 |
| | cover) | |
| | • no vegetation | 0 |
| | | |

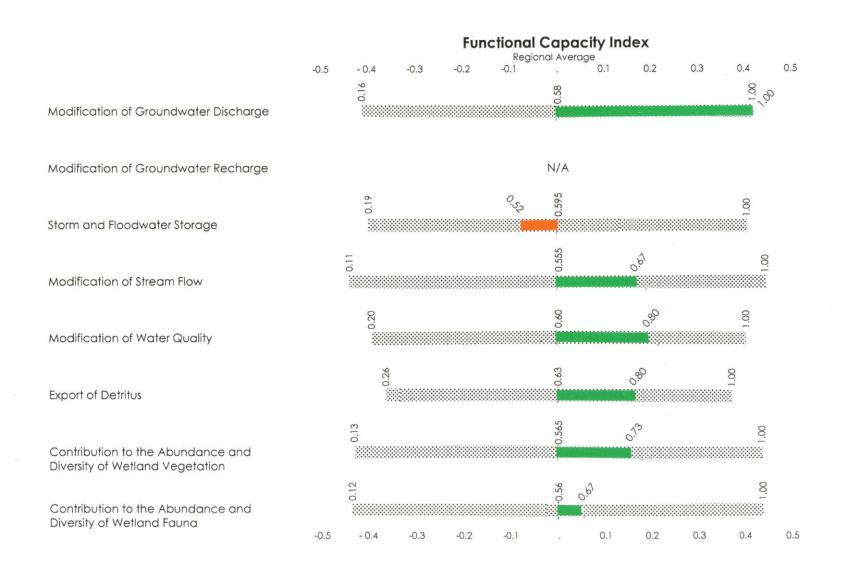
2.9.8 Contribution to Abundance and Diversity of Wetland Fauna (Continued)

| VARIABLES | CONDITIONS | | WEIGHTS |
|---|---|-----------------------------|----------------------|
| Interspersion of Vegetation Cover and Open Water | 26-75% scattered or peripheral >75% scattered or peripheral <25% scattered or peripheral 100% cover or open water no vegetation | 6 | 3 2 1 0 |
| • Size | large (> 100 acres) medium (10-100 acres) small (< 10 acres) | | 3 2 ① |
| Wetland Juxtaposition | other wetlands within 400 m and connected above or below other wetlands within 400 m but not connected wetland isolated | | 1 0 |
| Slope Wetlands: | All Other HGM Types: | Total Score: | 73 |
| Model Range: 4-33 | | Model Range: | 4-36 |
| Functional Capacity Index = Total Score 33 | | Functional Capacity Index = | Total Score 23 = 0.0 |
| Index Range: 0.12-1.0 | | Index Range | 0.11-1.0 |

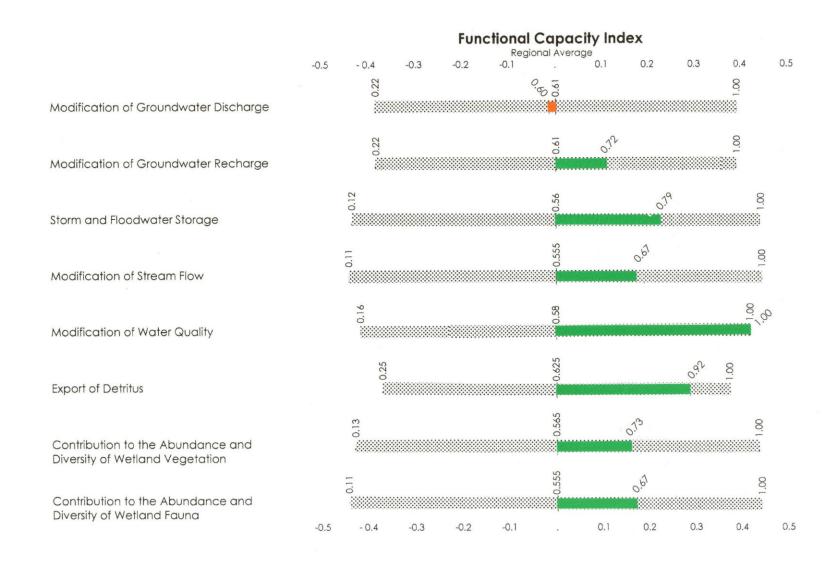
Sloping Wetland

Study Area: SO-4

2.1 ac. - 50% of total 4.2 ac. wetlands



1.6 ac. - 38% of total 4.2 ac. wetlands



WETLAND INVENTORY DATA

SO-4 SLOPE BIVISING

| Project Number: | | | Date: MAY Z, | 2004 | KIVEK | -INS |
|--|--|--|--|---|---|---------------|
| | 60-4 | | | | | |
| | | | | | | |
| | | V | WIT & SI ADE | | | |
| USGS Quadrangle: . | MOHELIKE LA | LE - RIVER | THE POLOTE | | | |
| Field Investigators: _ | - | | | | | |
| | | | | | | |
| | PART 1 - | CHARACTER | IZATION of WETLA | ND | | |
| SUPFACI | And Numbers: al Photo Numbers: SQuadrangle: MCHECAN LAKE - EVEL HE SLOPE PART 1 - CHARACTERIZATION of WETLAND SURFACE WATER FLOW VECTORS Percent Acreage II OAT ME Depressional Grace Law State Common Spring State Stat | | | | | |
| | | | | | ZZO | |
| Condition | Teremonerage | | | W T | 23223 | = 12 Z C |
| 1 | 11/04700 | Densesional | | _ 000 | | |
| → <u></u> | | Depressional | | | | |
| | ED /7.08 ac | Class | The state of the s | | | |
| | 27 2100 | | | | | |
| A | | | | | | |
| ← → | A/A | Extensive Peatland | | | | |
| 1 | 1 | | | | | |
| The state of the s | . / | | Royal Fern | | | |
| 知) | H/F | Control of the Contro | | _ 000 | | |
| | | Fringe | | | | |
| a a | 39/1,600 | Riverine | | | | |
| 20 | | | | | | |
| | | | Sweet Birch | | | |
| | VEGETATION TYPES | | | _ 000 | | |
| Type | Percent/Acreage | | | | | |
| | | CONT. THURSES | | | | |
| Forested Wetland | | SOIL TYPES | | | | <u>20000</u> |
| Evergreen Needle leaved | 100/4.16ac | | 1 01 1 | _ 000 | | |
| Deciduous | | | | New DOD | | |
| | | | | | | |
| | | Mineral | LADICER CONGRESSE | | | |
| Scrub Shrub | | Hydric Soil | | THE REAL PROPERTY AND PERSONS ASSESSED. | | |
| Broad-leaved | | | | | | |
| | | · Silty | | | THE RESERVE AND ADDRESS OF THE PARTY OF THE | |
| Broad-leaved | | · Clayey | OW ON Wales | | | Common |
| Needle-leaved | | | | | | |
| Emergent Wetland | | | F Facultative | | | |
| | Flu Flu | and the second second second second | | | | |
| | - 00 | intibuonis compa | | | | |
| Aquatic Bed | , | | | | | nero |
| Total | 100 14,1600 | | PRE-E | MPTIVE ST | | |
| Comments: | 1 | | | | | |
| | | | | -111 | | ederar fisted |
| | | | Fisheries managem | ient | Regional | |
| | | | ALTER SECTION | T | | |
| | | | | | | |
| | 1 11 - | | | 7 | | |

WETLAND INVENTORY DATA (continued)

PART 2 - CHARACTERIZATION of MODEL VARIABLES

| LANDSCAPE VARIABLES | Microrelief of Wetland Surface: | Number of Types & Relative Proportions: |
|---|---|--|
| Size: | Pronounced >45 cm | Number of Types Evenness of Distribution |
| Smail (<10 acres) | ☐ Well Developed 15-45 cm ☐ Poorly Developed <15 cm | Actual 6 Even Distribution Moderately Even Distribution |
| Medium (10-100 scres) | Abeens | 4 Highly Uneven Distribution |
| Large (>100 scres) | | 3 Riverine |
| Wetland Juxtaposition: | Inlet/Outlet Class: | 2 5/1000 |
| Connected Upstream and Downstream | ☐ No Injec/No Outlet | Depressional |
| Only Connected Above | No Injet/Perennial Outlet | Vegetation Density/Dominance: |
| Only Connected Below | Intermittent Injet/No Outlet | Sparse (0-20%) |
| Other Wetlands Nearby but not Connected | Intermittent Inlet/Intermittent Outlet | Low Density (20-40%) |
| ☐ Wetland Isolated | Intermittent Outlet/Perennial Outlet | Low Density (20-40%) Medium Density (40-60%) |
| - 45 | Perennial Inlet/No Outlet | High Density (60-80%) |
| Fire Occurence and Frequency: | Perennial Inlet/ Intermittent Outlet Perennial Inlet/Perennial Outlet | Very High Density (80-100%) |
| Natural: Predictable Frequency Natural: Sporadic Frequency | | Vegetative Interspersion: |
| Human-caused; Predictable | Nested Piezometer Data: | High (small groupings, diverse and interspersed |
| Human-caused; Sporadic | ☐ Recharge | Moderate (broken irregular rings) |
| Rare Event | ☐ Discharge | Low (large patches, concentric rings) |
| No Evidence | Horizontal Flow Not Available | Number of Layers and Percent Cover: |
| Regional Scarcity: | Mot VASTROLE | |
| Not Scarce (>5% of total wetland area of region) | Relationship of Wetlands' Substrate Elevation | Number of Layers % Cover 6 6 or > (actual #) 1. submergents: |
| Scarce (<5% of total wetland area of region) | to Regional Plezometric Surface: | 2 floating: |
| | Piez. Surface Above or at Substrate elev. | 4 3. moss-lichen: |
| Watershed Land Use: | Piez, Surface below Substrate elev. | 4 3. moss-lichen: 3 4. short herb: 2 5. tall herb: |
| > 50% urbanized | Not Available | 2 5. tall herb: |
| 25-50% urbanized | Evidence of Sedimentation: | 1 6. dwarf shrub: |
| O-25% urbanized | | 7. short shrub: 8. tall shrub: |
| HYDROLOGIC VARIABLES | No Evidence Observed Sediment Observed on Wetland Substrate | 9. sapling: |
| | Fluvaguent Soils | , 10. tree: |
| Surface Water Level Fluctuation of Wetland: | | Plant Species Diversity: |
| High Fluctuation | Evidence of Seeps and Springs: | |
| Low Fluctuation | Mo Sceps or Springs | Low 1-2 plots sampled |
| Never Inundated | Seeps Observed | Medium 3-4 plots sampled |
| Frequency of Overbank Flooding: | Perennial Spring | High 5 or more plots sampled |
| Return Interval > 5 yrs. | ☐ Intermittent Spring | Proportion of Animal Food Plants: |
| Return Interval 2-5 yrs. | SOIL VARIABLES | |
| Return Interval 1-2 yrs. | 0.07 | Low (5-25% cover) |
| No Overbank Flooding | Soil Lacking: | Medium (25-50% cover) High (>50% cover) |
| pH: | | Co mign (x30's cover) |
| Acid <5.5 | Histosol: | Cover Distribution: |
| Circumneutral 5.5-7.4 | ☐ Fibric | = |
| Alkaline >7.4 | ☐ Hemic | Continuous Cover Small Scattered Patches |
| ☐ No Water | ☐ Sapric | 1 or More Large Patches; Parts of Site Open |
| Confidence Description Watland | Mineral Hydric Soil: | Solitary, Scattered Stems |
| Surficial Geologic Deposit Under Wetland | | |
| Low Permeability Stratified Deposits High Permeability Stratified Deposits | Gravelly Sandy | Dead Woody Material: |
| High Permeability Stratified Deposits Glacial Till | Silty | Abrundant (>50 of wetland surface) |
| | Clayey | Moderately Abrundant (25-50% of surface) |
| Wetland Land Use: | VECTON VARIABLES | Low Abrundance (0-25% of surface) |
| High Intensity (ie. agriculture) | VEGETATION VARIABLES | Interspersion of Cover and Open Water: |
| Moderate Intensity (ic. forestry) | Vegetation Lacking: | interspersion of Cover and Open Water. |
| Low Intensity (ie. open space) | | 26-75% Scattered or Peripheral |
| Wetland Water Regime: | | >75% Scattered or Peripheral <25% Scattered or Peripheral |
| Wet: Perm Flooded, Intermittently Exposed, | Dominant Wetland Type: | <25% Scattered or Peripheral 100% Cover or Open Water |
| Semiperm. Flooded | Forested - Evergreen - Needle-leaved | 100% Cover or Open water |
| Drier: Sessonally Flooded, Temporarily Flooded, | Forested - Deciduous - Broad-leaved | Stream Sinuosity: |
| Saturated | Forested - Deciduous - Needle-leaved Scrub Shrab - Evergreen - Broad-leaved | Highly Convoluted (index 1.50 or >) |
| Basin Topographic Gradient: | Scrub Shrub - Evergreen - Broad-leaved Scrub Shrub - Evergreen - Needle-leaved | Moderately Convoluted (index 1.25-1.50) |
| ☐ High Gradient >2% | Scrub Shrab - Deciduous - Broad-leaved | Straight/Slightly Irreg. (index) 1.10-1.25 |
| Low Gradient 4% | Scrub Shrab - Deciduous - Needle-leaved | I HIA |
| Degree of Outlet Restriction: | Emergent - Persistent | Presence of Islands: |
| | Emergent - Non-persistent | Several to Many |
| Restricted Outflow Unrestricted Outflow | Aquatic Bed | One or Few |
| No Outflow | | Absent |
| | | H/A |
| Ratio of Wetland Area to Watershed Area: | | |
| High >10% | | |
| Low <10% | | |

SO-4 Slope Riverine

2.9.1 Modification of Ground Water Discharge

| | | | WEIGHTS | | | | | |
|--|---|------------------|------------------|------------------|------------------|--|--|--|
| VARIABLES | CONDITIONS HGM TYPES: | D | S | R | E | | | |
| Indicators of Disfunction Inlet/Outlet Class | perennial inlet/no outlet | 0 | 0 | 0 | 0 | | | |
| Nested Piezometer Data | • recharge condition | 0 | 0 | 0 | 0 | | | |
| Relationship to Regional Piezo- metric Surface | wetland substrate elevation above piezometric surface | 0 | 0 | 0 | 0 | | | |
| Direct Indicators of Function Presence of Springs and Seeps | evidence of perennial seeps or springs | 18 | 15 | 15 | 18 | | | |
| Nested Piezometer Data | discharge condition | 18 | 15 | 15 | 18 | | | |
| Relationship to Regional Peizometeric Surface | wetland substrate elevation below piezometric surface | 18 | 15 | 15 | 18 | | | |
| Inlet/Outlet Class | no inlet/perennial outlet | 18 | 15 | 15 | 18 | | | |
| Primary Variables Microrelief of Wetland Surface | pronounced well developed poorly developed absent | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | | | |
| Inlet/Outlet Class | perennial inlet/perennial outlet intermittent inlet/perennial outlet all other classes | 3 2 0 | 3 2 0 | 0 | 3 2 0 | | | |
| • pH | alkaline circumneutral acid no water present | 3 2 0 0 | 3 0 0 | 3 0 0 | 3 2 0 0 | | | |
| Surficial Geologic Deposit Under Wetland | high permeability stratified deposits low permeability stratified deposits glacial till | 3 2 1 | 3 2 | 3 (2) | 3 2 1 | | | |
| Wetland Water Regime | wet; permanently flooded, inter- mittently exposed, semipermanently flooded | 3 | 0 | 3 | 3 | | | |
| | drier; seasonally flooded, temporarily flooded, saturated | ŧ | 0 | | 1 | | | |

| | | | | WEIGHTS | | | | | |
|-----------|---|----------------|----------|---------|------|--|--|--|--|
| VARIABLES | CONDITIONS HGM TYPES: | D | <u>s</u> | R | E | | | | |
| Soil Type | • histosol | 3 | 3 | 3 | 3 | | | | |
| | mineral hydric soil | 1 | 0 | | 1 | | | | |
| | | - | - | - | - | | | | |
| | Total Score: | | | | | | | | |
| | Model Range: | 3-18 | 2-15 | 3-15 | 3-18 | | | | |
| | Functional Capacity Index: | Total Score | 15=10 | 9 = 0.6 | ,0 | | | | |
| | | 18 | 15 | 15 | 18 | | | | |
| | Index Range: | 0.19-1.0 | 0.16- | 0.22- | 0.19 | | | | |
| | | | 1.0 | 1.0 | 1.0 | | | | |

Note: This model can be applied to both year long and seasonal discharge wetlands.

If the wetland is seasonally fluctuating between recharge and discharge, then reduce the above score by one half (1/2), because the wetland only functions in a discharge mode for roughly half the year.

2.9.2 Modification of Ground Water Recharge

| * | | | | | WEIGH | TS | |
|---|-----------------------------------|---------------------------------|---|---|-------|----|---|
| VARIABLES | CONDITIONS | HGM TYPES: | D | L | EP | R | F |
| Indicators of Disfunction Inlet/Outlet Class | no inlet/perent tent inlet/perent | nial outlet; intermit- | 0 | | | | 0 |
| Nested Piezometer Data | discharge cond | lition | 0 | 0 | 0 | 0 | 0 |
| Relationship to Regional Piezo- metric Surface | wetland substr or at piezomet | ate elevation above ric surface | 0 | 0 | 0 | 0 | 0 |
| Presence of Seeps and Springs | • presence of se | eps or springs | 0 | 0 | 0 | 0 | 0 |

| | | | | | WEIGH | HTS | |
|--|---|---|-------------------------------|--------------|-------------|--------------|-------------|
| ARIABLES | CONDITIONS | HGM TYPES: | D | L | EP | R | F |
| Direct Indicators of Function Inlet/Outlet Class | perennial inlet. | /no outlet | 21 | | | | 21 |
| Nested Piezometer Data | • recharge condi | tion | 21 | | | | 21 |
| Relationship to Regional Peizometeric Surface | wetland substra piezometric su | ate elevation below rface | 21 | | | | 21 |
| rimary Variables | | | | | | | |
| Microrelief of Wetland Surface | Poorly Develop Absent | ped | 3 | 3 2 | 1 | 3 2 | 3 2 1 |
| | Well Develope | d | 3 2 | 2 | | 2 | 2 |
| | Pronounced | T | 1 | 1 | 2 3 | 1 | 1 |
| Inlet/Outlet Class | Perennial Inlet All Other Class | /Intermittent Outlet ses | 3 | 0 | 0 | 0 | 3 |
| pH | • Acid | | 3 | 3 | 3 | 3 | 3 |
| | Circumneutral | | 2 | 2 | 3 2 1 | 2 | 3 2 1 |
| | Alkaline No water prese | | 0 | 0 | 0 | 1 | 0 |
| | - 140 water prese | all. | U | U | U | 0 | U |
| Surficial Geologic Deposit Under Wetland | | lity Stratified Depos- | 3 2 . | 1 2 | 1 2 | 2 | 3 2 |
| | High Permeabi its | lity Stratified Depos- | 1 | 3 | 3 | 3 | 1 |
| Surface Water Level Fluctuation | High Fluctuation | 20 | 3 | 3 | 0 | (3) | 3 |
| of the Wetland | Low Fluctuation | | 2 | 2 | Ö | 3 | 2 |
| | Never Inundate | | 2 | 1 | 0 | 1 | 1 |
| Wetland Water Regime | Drier: Seasons porarily Floods | ally Flooded, Tem- ed, Saturated ntly Flooded, Inter- | 3 | 3 | 0 | (3) | 3 |
| | • Wet: Permane | ntly Flooded, Inter- | 1 | 1 | 0 | 1 | 1 |
| | mittently Expor | sed, Semiper- led | - | - | _ | _ | _ |
| Soil Type | Gravelly or Sar | ndy Mineral Hydric | 3 | 3 | 0 | 3 | 3 |
| | Silty or Clayey | Mineral Hydric | 2 | 2 | 0 | 2 | 3 2 1 |
| | Sapric Histosol Fibric or Hemi | | 1 0 | 1 0 | 0 | 0 | 0 |
| | | Total Score: | | | | 13 | |
| | | Model Range: | 4- 21 | 4-18 | 2-12 | 4-18 | 4-2 |
| | Functi | onal Capacity Index: | To- tal Sco re 21 | 18 | 12 | 13 = 0 | 72 21 |
| | | Index Range: | 0.1 9- 1.0 | 0.22- 1.0 | 0.16- | 0.22- 1.0 | 0.19 |

Note: This model should be applied to both year long and seasonal recharge wetlands.

If the wetland is seasonally fluctuating between recharge and discharge, then reduce the above score by one half (1/2), because the wetland only functions in a recharge mode for roughly half the year.

| | | | | | WE | GHTS | | |
|--|--|--|-----------------------|-----------------------|------------------|------------------|------------------|-----------------------|
| VARIABLES | CONDITIONS | HGM TYPES: | D | S | L | EP | R | F |
| Indicators of disfunction | none | | | | | | | |
| Direct Indicators of Function | no outlet | | 27 | 21 | | | | 30 |
| Primary Variables • Inlet/Outlet Class | perennial inlet/intermittent inlet/incominlet/intermittent inlet/intermittent in | ntermittent outlet nt outlet Il outlet perennial outlet | 3 2 1 1 1 | 3 2 1 1 1 | 0 0 0 0 | 0 0 0 0 0 0 | 0 0 0 0 0 0 | 3 2 1 1 1 |
| Degree of Outlet Restriction | • restricted • unrestricted | | 3 | 0 | 0 | 0 | 0 | 3 0 |
| Basin Topographic Gradient | low gradient high gradient | • | 3 | 3 | 0 | 3 0 | 1 | 3 1 |
| Wetland Water Regime | • Wet: permanentl | ooded, saturated y flooded, intermit- | 3 | 1 | 3 1· | 0 | 1 | 3 |
| Surface Water Level Fluctuation of the Wetland | tently exposed, so flooded high fluctuation low fluctuation never inundated | emipermanently | 3 2 0 | 0 | 3 2 0 | 0 0 0 | 3 2 0 | 3 2 0 |
| Ratio of Wetland Area to Watershed Area | • large • small | | 3 | 3 P | 3 | 0 0 | 3 | 3 |
| Microrelief of Wetland Surface | pronounced well developed poorly developed absent | | 3 2 1 0 | 3 2 0 | 3 2 1 0 | 3 2 1 0 | 2 1 0 | 3 2 1 0 |
| Frequency of Overbank Flooding | overbank floodin return interval of return interval of return interval of | > 5 yrs 2-5 yrs | 0 0 0 | 0 0 0 | 0 1 2 3 | 0 0 0 0 | 0 1 2 3 | 0 1 2 3 |
| Vegetation Density/Dominance ** | high/very highmoderatesparse/lowno vegetation | | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 |

2.9.3 Storm and Flood-Water Storage (Continued)

| | | | | WEI | GHTS | | |
|---------------------|---|-----------------------|------------------|------------------|------------------|----------------------------------|-------------------------------|
| VARIABLES | CONDITIONS HGM TY | PES: D | S | L | EP | R F 3 3 2 2 1 1 0 0 9 3-24 4-3 | F |
| Dead Woody Material | abundant moderately abundant sparse absent Total 5 | 3 2 1 0 — | 3 2 0 - | 3 2 1 0 | 3 2 1 0 | | 3 2 1 0 |
| | Model R | | | | 0-12 | | 3 2 1 0 - 4-30 |
| | Functional Capacity I | index: To | ore 11 = | 21 | 12 | 19 = D | 30 |
| | Index R | tange: 0.1 | | - 0.09- 1.0 | 0-1.0 | 0.1 2 - 1.0 | |

2.9.4 Modification of Stream Flow

(This model is identical for all HGM types)

| | VARIABLES | 3 | | co | NDITIONS | | WEIGHTS |
|--|----------------------|--------------------------------------|--|---------------------------|-------------------------|-------------|----------|
| Indicators | of Disfunction | | no outlet | | | | 0 |
| Direct Inc | dicators of Function | n | none | | | | |
| Primary V | Variables | | | | | | |
| Storm and Function | Flood Water Store | rage | Modifica Discharge | tion of Gro Function M | undwater lodel Score | | |
| High Mod Low High Mod Low High Mod Low | 3 2 1 3 2 1 | x x x x x x x x | High High Mod Mod Low Low | 3 3 3 2 2 2 1 1 1 1 | Total Score: | 9642321 | |
| ٠ | | | | Function | Model Range: | Total Score | 6 = 0.67 |
| | | | | | Index Range: | 0.11-1.0 | |

^{&#}x27;High = FCI of 0.67-1.0, Mod = FCI of 0.34-0.66, Low = FCI of 0-0.33 for the Storm and Flood Water Storage and Modification of Ground Water Discharge Function Model Scores.

2.9.5 Modification of Water Quality

| | | | | WEI | GHTS | | |
|--|--|-----------------------|----------|-------|------|-------|-----|
| VARIABLES | CONDITIONS HGM TYPES: | D | S | L | EP | R | F |
| ndicators of disfunction | none | | | | | | |
| Direct Indicators of Function | evidence of sedimentation | 18 | 15 | 12 | 12 | 12 | 18 |
| Primary Variables | | | | | | | |
| Wetland Land Use | low intensity | 3 | 3. | 3 | 3 | (3) | 3 |
| | moderate intensity | 2 | 2 | 2 | 2 | 2 | 2 |
| | high intensity | 1 | 1 | 1 | 1 | 1 | 1 |
| Degree of Outlet | restricted outflow | 3 | 0 | 0 | 0 | 0 | 3 |
| Restriction | • no outlet | 2 | 0 | 0 | 0 | 0 | 2 |
| | unrestricted outflow | 1 | 0 | 0 | 0 | 0 | 1 |
| Inlet/Outlet Type | • no outlet | 3 | 3 | 0 | 0 | 0 | 3 |
| | • intermittent outlet | 2 | 2 | 0 | 0 | 0 | 2 |
| | • perennial outlet | 1 | 1 | 0 | 0 | 0 | 1 |
| Dominant Wetland Type | forested wetland | 3 | 3 | 3 | 3 | 3 | 3 |
| - 20111111111111111111111111111111111111 | scrub-shrub | 2 | 2 | 2 | 2 | 2 | 2 |
| | • emergent wetland | 2 | 2 | 2 | 2 | 2 2 | 2 |
| | aquatic bed | 1 | 0 | 0 | 0 | 0 | 0 |
| | • no vegetation | 0 | 0 | 0 | 0 | 0 | 0 |
| Cover Distribution | forming a continuous cover | 3 | 3 | 3 | 3 | 3 | 3 |
| Cover Distribution | growing in small scattered patches | 2 | 2 | 2 | 2 | 2 | 2 |
| | one or more large patches | 1 | 1 | 1 | 1 | 1 | 1 |
| | solitary scattered stems | 1 | 1 | 1 | 1 | 1 | 1. |
| * | • no vegetation | 0 | 0 | 0 | 0 | 0 | 0 |
| Soil Type | histosol or clayey soil | 3 | 3 | 3 | 3 | 3 | 3 |
| our type | silty soil | 2 | | 2 | 0 | 2 | 2 |
| | sandy or gravelly soil | 1 | <u>2</u> | 1 | 0 | 1 | 1 |
| | | - | n | - | + | - | - |
| | Total Score: | | 1 | | | | |
| | Model Range: | 4-18 | 3-15 | 2-12 | 1-12 | 2-12 | 4-1 |
| | Functional Capacity Index: | Total Score: 18 | 15 | 12 | 12 | 12 =1 | 18 |
| | Index Range: | 0.22- | 0.20- | 0.16- | 0.8- | 0.16- | 0.2 |

2.9.6 Export of Detritus

| | | | | WEI | | | | |
|--|---|---------------------------|---------|-------|-------|--------|-----|--|
| VARIABLES | CONDITIONS HGM TYP | ES: D | S | L | EP | R | F | |
| Indicators of disfunction | no outlet | 0 | 0 | | 0 | | 0 | |
| Direct Indicators of Function | none | | | | | | | |
| Primary Variables | | | | | | | | |
| Wetland Land Use | • moderate intensity | 3 | 3 | 3 | 3 | 3 | 3 | |
| | • low intensity | 2 | (2) | 2 | 2 | 2 | 2 | |
| | • high intensity | 1 | 1 | 1 | 1 | 1 | 1 | |
| Degree of Outlet | unrestricted outflow | 3 | 0 | 0 | 0 | 0 | 3 | |
| Restriction | • restricted outflow | i | 0 | 0 | 0 | 0 | 1 | |
| Restriction | - Itsulicios outilow | • | | | | | • | |
| Inlet/Outlet Class | perennial outlet | 3 | 3 | 0 | 0 | 0 | 3 | |
| | • intermittent outlet | 1 | 3 | 0 | 0 | 0 | 1 | |
| | | | - | | | A | | |
| Wetland Water Regime | drier: seasonally flooded, | 3 | 3 | 3 | 0 | (3) | 3 | |
| | temporarily flooded, saturated | | | | | | | |
| | wet: permanently flooded, intermittently exposed, semipermanently flooded | 1 | 1 | 1 | 1 | 1 | 1 | |
| | | | 3 | | | • | | |
| Vegetation Den- | high/very high | 3 | | 3 | 3 2 | 3 | 3 | |
| sity/Dominance | • medium | 2 | 2 | 2 | | 2 | 2 | |
| | • sparse/low | 1 0 | 1 | 0 | 1 | 1 | 0 | |
| - | no vegetation | 0 | 0 | 0 | 0 | 0 | 0 | |
| Soil Type | mineral hydric soil | 3 | (3) | 3 | 3 | (3) | 3 | |
| • Son Type | • histosol | 1 | 1 | 1 | 1 | 1 | 1 | |
| | mistosor | • | • | • | • | • | | |
| | | _ | 12 | - | - | h | - | |
| | Total Sc | core: | 12 | | | | | |
| | - Model Ra | nge: 5-18 | 4-15 | 3-12 | 2-10 | 3-12 | 5-1 | |
| | Functional Capacity In | dex: Total Score 18 | 12 =0.9 | 12 | 10 | 11 200 | 18 | |
| | Index Ra | nge: 0.27- | 0.26- | 0.25- | 0.20- | 0.25- | 0.2 | |
| | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |

2.9.6 Export of Detritus

| | | | | WEI | | | | |
|--|---|---------------------------|---------|-------|-------|--------|-----|--|
| VARIABLES | CONDITIONS HGM TYP | ES: D | S | L | EP | R | F | |
| Indicators of disfunction | no outlet | 0 | 0 | | 0 | | 0 | |
| Direct Indicators of Function | none | | | | | | | |
| Primary Variables | | | | | | | | |
| Wetland Land Use | • moderate intensity | 3 | 3 | 3 | 3 | 3 | 3 | |
| | • low intensity | 2 | (2) | 2 | 2 | 2 | 2 | |
| | • high intensity | 1 | 1 | 1 | 1 | 1 | 1 | |
| Degree of Outlet | unrestricted outflow | 3 | 0 | 0 | 0 | 0 | 3 | |
| Restriction | • restricted outflow | i | 0 | 0 | 0 | 0 | 1 | |
| Restriction | - Itsulicios outilow | • | | | | | • | |
| Inlet/Outlet Class | perennial outlet | 3 | 3 | 0 | 0 | 0 | 3 | |
| | • intermittent outlet | 1 | 3 | 0 | 0 | 0 | 1 | |
| | | | - | | | A | | |
| Wetland Water Regime | drier: seasonally flooded, | 3 | 3 | 3 | 0 | (3) | 3 | |
| | temporarily flooded, saturated | | | | | | | |
| | wet: permanently flooded, intermittently exposed, semipermanently flooded | 1 | 1 | 1 | 1 | 1 | 1 | |
| | | | 3 | | | • | | |
| Vegetation Den- | high/very high | 3 | | 3 | 3 2 | 3 | 3 | |
| sity/Dominance | • medium | 2 | 2 | 2 | | 2 | 2 | |
| | • sparse/low | 1 0 | 1 | 0 | 1 | 1 | 0 | |
| - | no vegetation | 0 | 0 | 0 | 0 | 0 | 0 | |
| Soil Type | mineral hydric soil | 3 | (3) | 3 | 3 | (3) | 3 | |
| • Son Type | • histosol | 1 | 1 | 1 | 1 | 1 | 1 | |
| | mistosor | • | • | • | • | • | | |
| | | _ | 12 | - | - | h | - | |
| | Total Sc | core: | 12 | | | | | |
| | - Model Ra | nge: 5-18 | 4-15 | 3-12 | 2-10 | 3-12 | 5-1 | |
| | Functional Capacity In | dex: Total Score 18 | 12 =0.9 | 12 | 10 | 11 200 | 18 | |
| | Index Ra | nge: 0.27- | 0.26- | 0.25- | 0.20- | 0.25- | 0.2 | |
| | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |

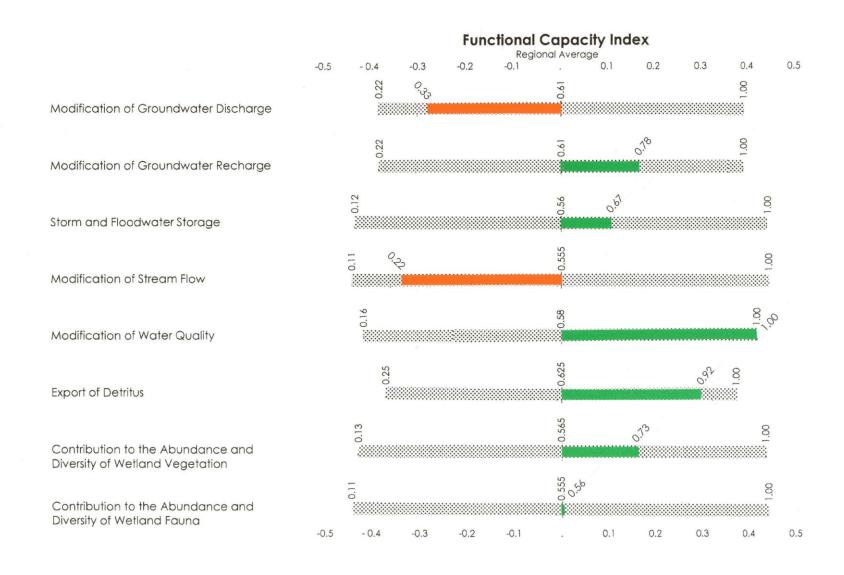
2.9.8 Contribution to Abundance and Diversity of Wetland Fauna
(This model is identical for all HGM types except Slope Wetlands for which "Interspersion of Vegetation Cover and Open Water" does not apply))

| VARIABLES | CONDITIONS | WEIG | GHTS |
|--|---|------|------|
| Direct Indicators of Disfunction | none | | |
| Direct Indicators of Function | none | | |
| Primary Variables | | | |
| Watershed Land Use | • low intensity (0-25% urbanized) | | 3 |
| | moderate intensity (25-50% urbanized) | | 2 |
| | • high intensity (>50% urbanized) | . (1 | Ď |
| Wetland Land Use | • low intensity | (3 | 3) |
| Wellalid Land Ose | moderate intensity | | 2 |
| | • high intensity | | 1 |
| a Walland Water Denima | • wet: permanently flooded, intermittently | | 3 |
| Wetland Water Regime | exposed, semipermanently flooded | | • |
| | drier: seasonally flooded, temporarily | | |
| | flooded, saturated | 0 | D |
| Microrelief of Wetland Surface | • pronounced | (4 | 3) |
| Microrener of Wettand Surface | • well developed | | 2 |
| | • poorly developed | 6 | D |
| | • absent | (3 | 0 |
| * | - 200011 | | |
| Number of Wetland types and Relative | 5 or more types | | 3 |
| Proportions | • 3-4 types | | |
| | • 1-2 types | | 1 |
| | • no vegetation | C | 0 |
| | • even distribution | 3 | 3 |
| | moderately even distribution | | 2 |
| | highly uneven distribution | Ú | D |
| | • no vegetation | C | 0 |
| Vegetation Interspersion | high interspersion | 3 | 3 |
| | moderate interspersion | | |
| | low interspersion | | 1 |
| | • ho vegetation | 0 | 0 |
| Number of Layers and Percent Cover | • 5 or more layers | 3 | 3 |
| | • 3-4 layers | 2 | 2 |
| | • 1-2 layers | | 1 |
| | • no vegetation | 0 |) |
| | • layers well developed (>50% cover) | (3 | 3) |
| | • layers with moderate cover (26-50% | (3) | 2 |
| | cover) | 1 | 1 |
| | • layers poorly distinguishable (<25% | 0 |) |
| | cover) | | |
| | • no vegetation | 0 |) |

2.9.8 Contribution to Abundance and Diversity of Wetland Fauna (Continued)

| VARIABLES | CONDITIONS | | WEIGHTS |
|---|---|-----------------------------|----------------------|
| Interspersion of Vegetation Cover and Open Water | 26-75% scattered or peripheral >75% scattered or peripheral <25% scattered or peripheral 100% cover or open water no vegetation | | 3 2 1 0 |
| • Size | • large (> 100 acres) • medium (10-100 acres) • small (< 10 acres) | | 3 2 1 |
| Wetland Juxtaposition | other wetlands within 400 m and connected above or below other wetlands within 400 m but not connected wetland isolated | | 1 0 |
| Slope Wetlands: | All Other HGM Types: | Total Score: | ZI + 1= ZZ 3 = Z4 |
| Model Range: 4-33 | | Model Range: | 4-36 |
| Functional Capacity Index = Total Score 33 | | Functional Capacity Index = | Total Score = 0.6 |
| Index Range: 0.12-1.0 | | Index Range | 0.11-1.0 |

1.7 ac. - 74% of total 2.3 ac. wetlands



WETLAND INVENTORY DATA

50-5 Slape (19%) Riverine

Date: Mt4 12, 2009 Project Number: Wetland Number: Aerial Photo Numbers: MOHELIALL USGS Quadrangle: Field Investigators: . PART 1 - CHARACTERIZATION of WETLAND PLANT SPECIES SURFACE WATER FLOW VECTORS 00W FW FU DOOM COOM OCC C C C S S Percent/Acreage Condition Depressional 00000085000 Slope abbaa Flat Extensive Peatland relweed Mustard Gartic Lacustrine Fringe Riverine SILY DOGWOOD **VEGETATION TYPES** Type Percent/Acreage SOIL TYPES Forested Wetland Evergreen Histosol Needle-leaved · Fibric Deciduous · Hemic Broad-leaved · Sapric Needle-leaved Mineral Scrub Shrub Hydric Soil Evergreen · Gravelly Broad-leaved · Sandy Needle-leaved · Silty Deciduous · Clayey Common COM Broad-leaved Obligate Wetland OW Needle-leaved OCC Occasional Facultative Wetland FW GEOLOGY C Canopy Facultative Emergent Wetland F Sapling S Surficial: Facultative Upland FU Persistent Tall Shrub TS Lyaquent Obligate Upland OU Non-persistent Low Shrub Udifluvents compla IS Dominant DOM H Herb Aquatic Bed Bedrock: PRE-EMPTIVE STATUS Total Documented habitat for Public ownership Comments: state or federal listed Wildlife management species area Regionally scarce Fisheries management wetland category area Historic/archaeologic Designated State or Federal protected wetland

WETLAND INVENTORY DATA (continued)

PART 2 - CHARACTERIZATION of MODEL VARIABLES

| LANDSCAPE VARIABLES | Microrelief of Wetland Surface: | Number of Types & Relative Proportions: |
|--|--|--|
| Size: | ☐ Pronsenced >45 cm ☐ Well Developed 15-45 cm | Number of Types Evenness of Distribution Actual 6 Even Distribution |
| Small (<10 acres) | Poorty Developed <15 cm | 5 Moderately Even Distribution |
| Medium (10-100 scres) | About | 4 Highly Uneven Distribution |
| Large (>100 scres) | Inlet/Outlet Class: | 2 Everine |
| Wetland Juxiaposition: | ☐ No Injet/No Outlet | 1 DI Slope |
| Connected Upstream and Downstream | ☐ No Injet/Intermittent Outlet | Vegetation Density/Dominance: |
| Only Connected Above | No Injet/Perennial Outlet | |
| Only Connected Below Other Wetlands Nearby but not Connected | Intermittent Inlet/No Outlet | Sparse (0-20%) Low Density (20-40%) |
| Other Wetlands Nearby but not Connected Wetland Isolated | Intermittent Outlet/Perennial Outlet | Medium Density (40-60%) |
| | Perennial Inlet/No Outlet | High Density (60-80%) |
| Fire Occurence and Frequency: | Perennial Inlet/ Intermittent Outlet | Very High Density (80-100%) |
| Natural; Predictable Frequency | Perennial Inlet/Perennial Outlet | Vegetative Interspersion: |
| ☐ Natural; Sporadic Frequency ☐ Human-caused; Predictable | Nested Plezometer Data: | High (small groupings, diverse and interspersed |
| Human-caused; Sporadic | Recharge | Moderate (broken irregular rings) |
| Rare Event | ☐ Discharge | Low (large patches, concentric rings) |
| No Evidence | Horizontal Flow Not Available | Number of Layers and Percent Cover: |
| Decimal Secretar | Not Available | Number of Layers % Cover |
| Regional Scarcity: Not Scarce (>5% of total wetland area of region) | Relationship of Wetlands' Substrate Elevation | 6 or > (actual #) 1. submergents: |
| Scarce (<5% of total wetland area of region) | to Regional Plezometric Surface: | 5 2 floating: |
| | Piez. Surface Above or at Substrate elev. | 3. moss-lichen: |
| Watershed Land Use: | Piez, Surface below Substrate elev. | 3 4. short herb: |
| > 50% urbanized | Not Available | 6. dwarf shrub: |
| O-25% urbanized | Evidence of Sedimentation: | 3. short shrub: |
| | ☐ No Evidence Observed | 8. tall shrub: |
| HYDROLOGIC VARIABLES | Sediment Observed on Wetland Substrate | 9 sapling: 10. tree: |
| The State of Watlands | Fluvaquent Soi is | |
| Surface Water Level Fluctuation of Wetland: | Evidence of Seeps and Springs: | Plant Species Diversity: |
| High Fluctuation | No Seeps or Springs | Low 1-2 plots sampled |
| Never Inundated | Seeps Observed | Medium 3-4 plots sampled |
| A STATE OF THE PERSON NAMED OF THE PERSON NAME | Perennial Spring | High 5 or more plots sampled |
| Frequency of Overbank Flooding: | ☐ Intermittent Spring | Proportion of Animal Food Plants: |
| Return Interval > 5 yrs. Return Interval 2-5 yrs. | SOIL VARIABLES | |
| Return Interval 1-2 yrs. | A.1.1.1.1. | Low (5-25% cover) Medium (25-50% cover) |
| ☐ No Overbank Flooding | Soil Lacking: | High (>50% cover) |
| pH: | | |
| ☐ Acid <5.5 | Histosol: | Cover Distribution: |
| Circumneutral 5.5-7.4 | ☐ Fibric | Continuous Cover |
| ☐ Alksline >7.4 | ☐ Hemic | Small Scattered Patches |
| ☐ No Water | Sapric | 1 or More Large Patches; Parts of Site Open |
| Surficial Geologic Deposit Under Wetland | Mineral Hydric Soil: | Solitary, Scattered Stems |
| Low Permeability Stratified Deposits | ☐ Gravelly | Dead Woody Material: |
| High Permeability Stratified Deposits | Sandy | |
| Glacial Till | Silty Clayey | Abrundant (>50 of wetland surface) Moderately Abrundant (25-50% of surface) |
| Wetland Land Use: | | Low Abrundance (0-25% of surface) |
| ☐ High Intensity (ie. agriculture) | VEGETATION VARIABLES | |
| Moderate Intensity (ie. forestry) | Vegetation Lacking: | Interspersion of Cover and Open Water: |
| Low Intensity (ie. open space) | regeration Dacking. | 26-75% Scattered or Peripheral |
| Wetland Water Regime: | | >75% Scattered or Peripheral <25% Scattered or Peripheral |
| Wet: Perm Flooded, Intermittently Exposed, | Dominant Wetland Type: | 25% Scattered or Peripheral |
| Semiperm, Flooded | Forested - Evergreen - Needle-leaved | |
| Drier: Sessonally Flooded, Temporarily Flooded, | Forested - Deciduous - Broad-leaved Forested - Deciduous - Needle-leaved | Stream Sinuosity: |
| Saturated | Scrub Shrub - Evergreen - Broad-leaved | Highly Convoluted (index 1.50 or >) |
| Basin Topographic Gradient: | Scrub Shrub - Evergreen - Needle-leaved | Moderately Convoluted (index 1.25-1.50) |
| ☐ High Gradient >2% | Scrub Shrub - Deciduous - Broad-leaved | Straight/Slightly Irreg. (index) 1.10-1.25 |
| Low Gradient 2% | Scrub Shrub - Deciduous - Needle-leaved | Presence of Islands: |
| Degree of Outlet Restriction: | Emergent - Persistent Emergent - Non-persistent | |
| Restricted Outflow | Aquatic Bed | Several to Many One or Few |
| Unrestricted Outflow | The state of the s | One or rew Absent |
| □ No Outflow | | NA. |
| Ratio of Wetland Area to Watershed Area: | | MIT |
| ☐ High >10% | | |
| High >10% | | |

2.9.1 Modification of Ground Water Discharge

| | | WEIGHTS | | | | | |
|---|---|------------------|------------------|-------------|------------------|--|--|
| VARIABLES | CONDITIONS HGM TYPES: | D | S | R, | F | | |
| Indicators of Disfunction Inlet/Outlet Class | perennial inlet/no outlet | 0 | 0 | 0 | 0 | | |
| Nested Piezometer Data | • recharge condition | 0 | 0 | 0 | 0 | | |
| Relationship to Regional Piezo- metric Surface | wetland substrate elevation above piezometric surface | 0 | 0 | 0 | 0 | | |
| Direct Indicators of Function Presence of Springs and Seeps | evidence of perennial seeps or springs | 18 | 15 | 15 | 18 | | |
| Nested Piezometer Data | discharge condition | 18 | 15 | 15 | 18 | | |
| Relationship to Regional Peizometeric Surface | wetland substrate elevation below piezometric surface | 18 | 15 | 15 | 18 | | |
| Inlet/Outlet Class | • no inlet/perennial outlet | 18 | 15 | 15 | 18 | | |
| Primary Variables • Microrelief of Wetland Surface | pronounced well developed poorly developed absent | 3 2 1 0 | 3 2 1 0 | 3 2 1 | 3 2 1 0 | | |
| Inlet/Outlet Class | perennial inlet/perennial outlet intermittent inlet/perennial outlet all other classes | 3 2 0 | 3 2 0 | 000 | 3 2 0 | | |
| • pH | alkaline circumneutral acid no water present | 3 2 0 0 | 3 2 0 0 | 3000 | 3 2 0 0 | | |
| Surficial Geologic Deposit Under Wetland | high permeability stratified deposits low permeability stratified deposits glacial till | 3 2 1 | 3 2 1 | 3 2 ① | 3 2 1 | | |
| Wetland Water Regime | wet; permanently flooded, inter- mittently exposed, semipermanently flooded | 3 | 0 | 3 | . 3 | | |
| | drier; seasonally flooded, temporarily flooded, saturated | 1 | 0 | Ó | 1 | | |

2.9.1 Modification of Ground Water Discharge (Continued)

| | | | | WEI | GHTS | |
|-----------|---|-------|----------|-------|-------|-------|
| VARIABLES | CONDITIONS HGM TYP | es: | D | S | R | E |
| Soil Type | • histosol | | 3 | 3 | 3 | 3 |
| 30 m 2/pc | mineral hydric soil | | 1 | 1 | | 1 |
| | | | _ | - | - | - |
| | Total So | ore: | 25 25 | | | |
| | Model Ra | inge: | 3-18 | 2-15 | 3-15 | 3-18 |
| | Functional Capacity In | dex: | Total | | | a 7 |
| | • | | Score | | 5 =0 | .">> |
| | | | 18 | 15 | 15 | 18 |
| | Index Ra | inge: | 0.19-1.0 | 0.16- | 0.22- | 0.19- |
| | IIIdex Au | | | 1.0 | 1.0 | 1.0 |

Note: This model can be applied to both year long and seasonal discharge wetlands.

If the wetland is seasonally fluctuating between recharge and discharge, then reduce the above score by one half (1/2), because the wetland only functions in a discharge mode for roughly half the year.

2.9.2 Modification of Ground Water Recharge

| ~ | | | | | WEIGH | ITS | |
|---|--|--|---|---|--|-----|---|
| VARIABLES | CONDITIONS HGM TYPES: | | D | L | EP | R | F |
| Indicators of Disfunction Inlet/Outlet Class | no inlet/perenn tent inlet/perer | nial outlet; intermit- nnial outlet | 0 | | A 10 10 10 10 10 10 10 10 10 10 10 10 10 | | 0 |
| Nested Piezometer Data | discharge cond | lition | 0 | 0 | 0 | 0 | 0 |
| Relationship to Regional Piezo- metric Surface | wetland substroor at piezomet | ate elevation above | 0 | 0 | 0 | 0 | 0 |
| • Presence of Seeps and Springs | • presence of sec | eps or springs | 0 | 0 | 0 | 0 | 0 |

| | | | | | WEIGH | ITS | |
|---|--|--|-----------------|---------------------------------|--------------|----------------|-------------|
| VARIABLES | CONDITIONS | HGM TYPES: | D | L | EP | R. | F |
| Direct Indicators of Function Inlet/Outlet Class | perennial inlet/ | no outlet | 21 | Act on Common females for | | | 21 |
| Nested Piezometer Data | • recharge condi | tion | 21 | and the real | | | 21 |
| Relationship to Regional Peizometeric Surface | wetland substra piezometric sur | nte elevation below rface | 21 | yolin der efterer errere ummaka | | | 21 |
| rimary Variables | | 14 v | | | | | |
| Microrelief of Wetland Surface | Poorly Develor Absent | ped . | 3 | 3 | 1 1 | 3 | 3 2 |
| | Well Develope | d | 3 2 | 2 | 2 | 2 | 2 |
| | Pronounced | - | 1 | ī | 3 | ī | ī |
| Inlet/Outlet Class | Perennial Inlet All Other Class | Intermittent Outlet ses | 3 | 0 | 0 | 8 | 3 |
| ● pH | • Acid | | 3 | 3 | 3 | 3 | 3 |
| • | Circumneutral | | 2 | 2 | 2 | 3 | 3 2 1 |
| | • Alkaline | | 1 | 1 | 1 | 1 | 1 |
| | No water prese | | 0 | 0 | 0 | 0 | 0 |
| Surficial Geologic Deposit Under Wetland | Glacial Till Low Permeabil its | ity Stratified Depos- | 3 2 | 1 2 | 1 2 | (1) 2 | 3 |
| | | ity Stratified Depos- | 1 | 3 | 3 | 3 | 1 |
| Surface Water Level Fluctuation | High Fluctuation | n | 3 | 3 | o` | 3 | 3 |
| of the Wetland | Low Fluctuation | n | 2 | 2 | Ŏ | 3 | 2 |
| | Never Inundate | d | 1 | 1 | 0 | 1 | 1 |
| Wetland Water Regime | Drier: Seasona porarily Floode | lly Flooded, Tem- d, Saturated ttly Flooded, Inter- | 3 | 3 | 0 | 3 | 3 |
| | Wet: Permaner | tly Flooded, Inter- | 1 | 1 | 0 | 1 | 1 |
| | mittently Expos manently Flood | ed, Semiper- ed | - | - | | _ | <u></u> |
| Soil Type | Gravelly or San | dy Mineral Hydric | 3 | 3 | 0 | 3 | 3 |
| T T | Silty or Clayey | Mineral Hydric | 2 | 2 | 0 | $\binom{3}{2}$ | 3 |
| | Sapric Histosol Fibric or Hemio | : Histosol | 0 | 0 | 0 | 0 | 0 |
| | | Total Score: | | | | 14 | |
| | 1 | Model Range: | 4- 21 | 4-18 | 2-12 | 4-18 | 4-2 |
| | Function | onal Capacity Index: | То- | | | <u>14 = 0</u> | 18 |
| | | The second secon | tal | | | 14=0 | · |
| | | | Sco ' | 18 | 12 | 18 | 21 |
| | | | <u>re</u> 21 | | | | |
| | | Tada - N | | | 0 | 0.55 | |
| | | Index Range: | 0.1 9- | 0.22- 1.0 | 0.16- 1.0 | 0.22- | 0.19 |
| | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |

Note: This model should be applied to both year long and seasonal recharge wetlands.

If the wetland is seasonally fluctuating between recharge and discharge, then reduce the above score by one half (1/2), because the wetland only functions in a recharge mode for roughly half the year.

| | 1 | | | WEI | GHTS | | 77.22 |
|--|---|----|----|-----|------|-------------|-------|
| VARIABLES | CONDITIONS HGM TYPES: | D | s | L | EP | R | F |
| Indicators of disfunction | none | | | | | | |
| Direct Indicators of Function | no outlet | 27 | 21 | | | | 30 |
| Primary Variables | | | - | | | • | • |
| Inlet/Outlet Class | perennial inlet/intermittent outlet | 3 | 3 | 0 | 0 | 0 | 3 |
| | intermittent inlet/intermittent outlet | 2 | 2 | 0 | 0 | 0 | 2 |
| | no inlet/intermittent outlet | 1 | 1 | 0 | 0 | 0 | 1 |
| | non inlet/perennial outlet | 1 | 1 | 0 | 0 | 0 | 1 |
| | intermittent inlet/perennial outlet | 1 | 1 | 0 | 0 | 0 | 1 |
| | perennial inlet/perennial outlet | 1 | 1 | 0 | 0 | 0 | 1 |
| Degree of Outlet | • restricted | 3 | 0 | 0 | 0 | 0 | 3 |
| Restriction | • unrestricted | 0 | 0 | 0 | 0 | O | 0 |
| - P-:- Tonographia | low gradient | 3 | 3 | 0 | 3 | 3 | 3 |
| Basin Topographic Gradient | high gradient | 1 | 1 | 0 | 0 | 1 | 1 |
| Wetland Water Regime | Drier: seasonally flooded, temporarily flooded, saturated | 3 | 3 | 3 | 0 | (3) | 3 |
| | Wet: permanently flooded, intermit- tently exposed, semipermanently flooded | 1 | 1 | į | 0 | 1 | 1 |
| Surface Water Level | high fluctuation | 3 | 0 | 3 | 0 | (3) | 3 |
| | low fluctuation | 2 | 0 | 2 | 0 | 2 | 2 |
| Fluctuation of the Wetland | • never inundated | ō | 0 | 0 | 0 | 0 | 0 |
| Ratio of Wetland Area to | • large | 3 | 3 | 3 | 0 | 3 | 3 |
| Watershed Area | • small | 1 | 1 | 1 | 0 | 1 | 1 |
| Microrelief of Wetland | • pronounced | 3 | 3 | 3 | 3 | 3 | 3 |
| Surface | well developed | 2 | 2 | 2 | 2 | 2 | 2 |
| Surface | poorly developed | 1 | 1 | 1 | 1 | 1 | . I |
| | • absent | 0 | 0 | 0 | 0 | (0) | 0 |
| Frequency of Overbank | overbank flooding absent | 0 | 0 | 0 | 0 | 0 | 0 |
| Flooding | return interval of >5 yrs | 0 | 0 | 1 | 0 | 1 | 1 |
| | return interval of 2-5 yrs | 0 | 0 | 2 | 0 | (2) | 2 |
| | • return interval of 1-2 yrs | 0 | 0 | 3 | 0 | 3 | 3 |
| Vegetation | • high/very high | 3 | 3 | 3 | 3 | (3) | 3 |
| Density/Dominance | • moderate | 2 | 2 | 2 | 2 | 2 | 2 |
| Delisity. Delitination | • sparse/low | 1 | 1 | 1 | 1 | 1 | 1 |
| • | • no vegetation | 0 | 0 | 0 | 0 | 0 | 0 |
| | • no vegetation | V | U | U | | | J |

2.9.3 Storm and Flood-Water Storage (Continued)

| | ~ | | | | WEI | GHTS | | 15 32 |
|---------------------|---|----------------|-------|-------|-------|-------|-------|----------|
| VARIABLES | CONDITIONS HG | M TYPES: | D | s | L | EP | R | F |
| Dead Woody Material | • abundant | | 3 | 3 | 3 | 3 | 3 | 3 |
| | moderately abundant | | 2 | 2 | 2 | 2 | 2 | 2 |
| | • sparse | | 1 | 1 | 1 | 1 | | 1 |
| | absent | | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | - | 16 | _ |
| | | Total Score: | 10 | | | | 10 | |
| | | Model Range: | 4-27 | 4-21 | 2-21 | 0-12 | 3-24 | 4-30 |
| | Functional C | apacity Index: | Total | | | | | |
| | | | Score | _ | | | 16 | |
| | | | 27 | 21 | 21 | 12 | 24 | 30 |
| | | | | | | | _(| 0,61 |
| | | Index Range: | 0.15- | 0.19- | 0.09- | 0-1.0 | 0.12- | 0.13 |
| | | | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |

2.9.4 Modification of Stream Flow

(This model is identical for all HGM types)

| | VARIABLES | | CONDITIONS | | WEIGHTS |
|--|---|-------------------------------|--|------------------------------|---------|
| Indicators | of Disfunction | no outlet | | | 0 |
| Direct Inc | dicators of Function | none | | | |
| Storm and Function | Variables I Flood Water Storas Model Score | Modification Discharge F | bn of Groundwater unction Model Score | | |
| High Mod Low High Mod Low High Mod Low | 3 x 2 x 1 x 3 x 2 x 1 x 3 x 2 x 1 x | High High Mod Mod Mod Low Low | 3 # # # # # # # # # # # # # # # # # # # | 9 6 3 6 4 2 5 2 1 2 | |
| • | | | Model Range: Functional Capacity Index: Index Range: | 1-9 Total 2 Score 7 0.11-1.0 | |

^{&#}x27;High = FCI of 0.67-1.0, Mod = FCI of 0.34-0.66, Low = FCI of 0-0.33 for the Storm and Flood Water Storage and Modification of Ground Water Discharge Function Model Scores.

2.9.5 Modification of Water Quality

| | | | | WEI | GHTS | | |
|--|--|-----------------------|-----------------------|-----------------------|-----------------------|------------------------|-----------------------|
| VARIABLES | CONDITIONS HGM TYPES: | D | s | L | EP | R. | F |
| Indicators of disfunction | none | | | | | | |
| Direct Indicators of Function | evidence of sedimentation | 18 | 15 | 12 | 12 | 12 | 18 |
| Primary Variables • Wetland Land Use | low intensity moderate intensity high intensity | 3 2 1 | 3 2· 1 | 3 2 1 | 3 2 1 | ③ 2 1 | 3 2 1 |
| Degree of Outlet Restriction | restricted outflow no outlet unrestricted outflow | 3 2 1 | . 0 0 0 | 0 0 0 | 0 0 0 | 0 0 © | 3 2 1 |
| • Inlet/Outlet Type | no outlet intermittent outlet perennial outlet | 3 2 1 | 3 2 1 | 0 0 0 | 0 0 0 | 000 | 3 2 1 |
| Dominant Wetland Type | forested wetland scrub-shrub emergent wetland aquatic bed no vegetation | 3 2 2 1 0 | 3 2 2 0 0 | 3 2 2 0 0 | 3 2 2 0 0 | 3 2 2 0 0 | 3 2 2 0 0 |
| Cover Distribution | forming a continuous cover growing in small scattered patches one or more large patches solitary scattered stems no vegetation | 3 2 1 1 0 | 3 2 1 1 0 | 3 2 1 1 0 | 3 2 1 1 0 | 3) 2 1 1 0 | 3 2 1 1 0 |
| • Soil Type | histosol or clayey soil silty soil sandy or gravelly soil | 3 2 1 | 3 2 1 | 3 2 1 | 3 0 0 | 2 1 | 3 2 1 |
| | Total Score: | | | | | | |
| | Model Range: | 4-18 | 3-15 | 2-12 | 1-12 | 2-12 | 4-18 |
| | Functional Capacity Index: | Total Score 18 | 15 | 12 | 12 | 12 = 10 | 18 |
| | Index Range: | 0.22- 1.0 | 0.20- 1.0 | 0.16- 1.0 | 0.8- 1.0 | 0.16- 1.0 | 0.22 - 1.0 |

2.9.6 Export of Detritus

| | | | | | WEI | GHTS | | |
|--------------------------------------|--|----------------------|-------|-------|--------------------------|-------|------------|-----|
| VARIABLES | CONDITIONS HGM TYPES | HGM TYPES: | D | s | L | EP | R ' | F |
| Indicators of disfunction | no outlet | | 0 | 0 | | 0 | | 0 |
| Direct Indicators of Function | none | | | | | | | |
| Primary Variables | | | | | | | | |
| Wetland Land Use | moderate intensity | | 3 | 3 | 3 | 3 | 3 | 3 |
| | low intensity | | 2 | 2 | 2 | 2 | 2 | 2 |
| | high intensity | | 1 | 1 | 1 | 1 | 1 | 1 |
| Degree of Outlet | unrestricted outflow | v | 3 | 0 | 0 | 0 | (6) | 3 |
| Restriction | restricted outflow | | 1 | 0 | 0 | 0 | ŏ | 1 |
| Inlet/Outlet Class | • perennial outlet | | 3 | 3 | 0 | 0 | 0 | 3 |
| | • intermittent outlet | | 1 | 1 | 0 | Ŏ | <u>(0)</u> | 1 |
| Wetland Water Regime | • drier: seasonally fl | coded | 3 | 3 | 3 | 0 | (3) | 3 |
| | temporarily floo | | | • | | Y | have a | - |
| | • wet: permanently i | | 1 | 1 | 1 | 1 | 1 | 1 |
| | intermittently ex semipermanently | | | | delination of the second | | | |
| Vegetation Den- | • high/very high | | 3 | 3 | 3 | 3 | 3 | 3 |
| sity/Dominance | • medium | | 2 | 2 | 2 | 2 | 2 | 2 |
| , | • sparse/low | | 1 | 1 | 1 | 1 | ī | ī |
| | no vegetation | | Ō | 0 | 0 | Ō | 0 | 0 |
| Soil Type | • mineral hydric soil | | 3 | 3 | 3 | 3 | 3) | 3 |
| | • histosol | | 1 | 1 | 1 | 1 | i | 1 |
| | | | - | _ | - | _ | <u> </u> | _ |
| | | Total Score: | | | | | ,, | |
| | | - Model Range: | 5-18 | 4-15 | 3-12 | 2-10 | 3-12 | 5-1 |
| | Functio | onal Capacity Index: | Total | | | | | 07 |
| | - uncert | Capacity andex. | Score | | | | 11 =0 | 40 |
| | | | 18 | 15 | 12 | 10 | 12 | 18 |
| | | Index Range: | 0.27- | 0.26- | 0.25- | 0.20- | 0.25- | 0.2 |
| | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |

2.9.7 Contribution to Abundance and Diversity of Wetland Vegetation (This model is identical for all HGM types)

| VARIABLES | e. | CONDITIONS | WEIGHTS |
|---------------------------|-------------------------------------|--|--|
| Indicators of Disfunction | | no vegetation | 0 |
| Direct Indicators of | Function | none | |
| Primary Variables | Plant Species Diversity | high diversity medium diversity low diversity | 5 3 ① |
| • | Vegetation Density/Do minance | high/very high medium sparse/low | 3 1 |
| • | Wetland Juxtapositio n | connected upstream and downstream connected above or below other wetlands nearby but not | (5) 3 1 |
| | <u>.</u> | connected (400 m or closer) isolated | 0 1 |
| | | | Total Score: |
| | | - T. C. | Model Range: 2-15 |
| * | | | Functional Capacity = Total Index: Score 15 5 5 |
| | | | Index Range: 0.13-1.0 |

2.9.8 Contribution to Abundance and Diversity of Wetland Fauna

(This model is identical for all HGM types except Slope Wetlands for which "Interspersion of Vegetation Cover and Open Water" does not apply))

| VARIABLES | CONDITIONS | WEIGHTS |
|--|--|------------|
| Direct Indicators of Disfunction | none | |
| Direct Indicators of Function | none | · |
| Primary Variables | | 4 |
| Watershed Land Use | • low intensity (0-25% urbanized) | 3 |
| | • moderate intensity (25-50% urbanized) | . 2 |
| | • high intensity (> 50% urbanized) | . W |
| Wetland Land Use | • low intensity | 3 |
| Welland Land Ose | moderate intensity | 2 |
| | • high intensity | ī |
| | - mga mensay | • |
| Wetland Water Regime | • wet: permanently flooded, intermittently | 3 |
| 1 | exposed, semipermanently flooded | |
| | drier: seasonally flooded, temporarily | 1 |
| | flooded, saturated | (1) |
| | | |
| Microrelief of Wetland Surface | • pronounced | 3 |
| | well developed | 2 |
| | poorly developed | 1 |
| | • absent | 0 |
| A CHI I I I I I I I I I I I I I I I I I I | | 3 |
| Number of Wetland types and Relative | • 5 or more types | |
| Proportions | • 3-4 types | 2 |
| | • 1-2 types | 0 |
| | • no vegetation | , v |
| | • even distribution | 7 3 |
| | moderately even distribution | 2 |
| | highly uneven distribution | · • |
| | • no vegetation | 0 |
| | | |
| Vegetation Interspersion | • high interspersion | 3 |
| | moderate interspersion | 2 |
| | • low interspersion | - 0 |
| | • ho vegetation | U |
| Number of Layers and Percent Cover | • 5 or more layers | 3 |
| • | • 3-4 layers | 2 |
| | • 1-2 layers | 1 |
| | • no vegetation | 0 |
| | | , |
| | • layers well developed (>50% cover) | 3 |
| | • layers with moderate cover (26-50% | 2 |
| | cover) | 1 |
| | • layers poorly distinguishable (<25% | 0 |
| | cover) | |
| | • no vegetation | 0 |

2.9.8 Contribution to Abundance and Diversity of Wetland Fauna (Continued)

| VARIABLES | CONDITIONS | w | EIGHTS |
|---|--|-----------------------------|------------------|
| Interspersion of Vegetation Cover and Open Water | 26-75% scattered or peripheral >75% scattered or peripheral <25% scattered or peripheral 100% cover or open water no vegetation | | 3 2 1 ① |
| • Size | • large (> 100 acres) • medium (10-100 acres) • small (< 10 acres) | | 3 2 1) |
| Wetland Juxtaposition | other wetlands within 400 m and connected above or below other wetlands within 400 m but not connected wetland isolated | | (3) 1 |
| Slope Wetlands: | All Other HGM Types: | Total Score: | 20 |
| Model Range: 4-33 | | Model Range: | 4-36 |
| Functional Capacity Index = Total Score 33 | A STATE OF THE STA | Functional Capacity Index = | 36 34 0.56 |
| Index Range: 0.12-1.0 | | Index Range | 0.11-1.0 |