

Appendix A



| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetlands: WA-1 | Rater: H. Fogell, A. Davis |

| | |
|---|-----------------|
| 1 | Subtotal Points |
|---|-----------------|

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

| | | |
|----|----|-----------------|
| 15 | 14 | Subtotal Points |
|----|----|-----------------|

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

| | | |
|----|----|-----------------|
| 33 | 18 | Subtotal Points |
|----|----|-----------------|

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3d. Duration inundation/saturation.

(select one or double check & average)

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3c. Maximum water depth. Select only 1.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> dike | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> tile | <input checked="" type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other- list |

| | | |
|----|----|-----------------|
| 46 | 13 | Subtotal Points |
|----|----|-----------------|

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

4b. Habitat development. Select one.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetland: WA-1 | Rater: H. Fogell, A. Davis |

subtotal first page

| | |
|----------|--------|
| 46 | 0 |
| Subtotal | Points |

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- Bog (10 pts)
- Fen (10 pts)
- Old Growth Forest (10 pts)
- Mature forested wetland (5 pts)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- Lake Plain Sand Prairies (Oak Openings) (10 pts)
- Relict Wet Prairies (10 pts)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10 pts)
- Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

| | |
|----------|--------|
| 58 | 12 |
| Subtotal | Points |

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- | | |
|---|--------------|
| 0 | Aquatic bed |
| 0 | Emergent |
| 2 | Shrub |
| 1 | Forest |
| 0 | Mudflats |
| 0 | Open water |
| 0 | Other (list) |

6b. Horizontal (plan view) interspersions

Select only one

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- Extensive >75 % cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly Absent <5% cover (0)
- Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

- | | |
|---|---------------------------------|
| 1 | Vegetated hummocks/tussocks |
| 3 | Coarse woody debris >15 cm (6") |
| 0 | Standing dead > 25 cm (10") dbh |
| 2 | Amphibian breeding pools |

Vegetation Community Cover Scale

| | |
|---|---|
| 0 | Absent or comprises <0.1 ha (0.2471 acres) contiguous area |
| 1 | Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality |
| 2 | Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality |
| 3 | Present and comprises significant part, or more, of wetland's vegetation and is of high quality |

Narrative Description of Vegetation Quality

| | |
|----------|--|
| low | Low spp diversity and/or predominance of nonnative or disturbance tolerant native species |
| moderate | Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

Mudflat and Open Water Class Quality

| | |
|---|--|
| 0 | Absent <0.1 ha (0.2471 acres) |
| 1 | Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres) |
| 2 | Moderate 1 ha to <4 ha (2.47 acres 9.88 acres) |
| 3 | High 4 ha (9.88 acres) or more |


Microtopography Cover Scale

| | |
|---|--|
| 0 | Absent |
| 1 | Present very small amounts or if more common of marginal quality |
| 2 | Present in moderate amounts, but not of highest quality or in small amounts of highest quality |
| 3 | Present in moderate or greater amounts and of highest quality |

58 GRAND TOTAL (max 100 pts)

Provisional Wetland Category: **Category 2**

Background Information Form

| | | |
|--|----|--|
| Name: H. Fogell, A. Davis | | Date: February 21, 2008 |
| Affiliation: MACTEC Engineering & Consulting | | |
| User Address: 3301 Atlantic Ave, Raleigh, NC. | | |
| Phone: 919-876-0416 | | |
| e-mail address: akdavis@mactec.com | | |
| Wetlands Name: WA-1 | | |
| Location of Wetlands including address if available: See ORAM Figure in CCNPP Wetlands Master Plan/USACE IP Application available | | |
| | | Sources of information used (check all that apply) |
| Lat/Lon or UTM: 38.42463/-76.43333 | | Site Visit <input checked="" type="checkbox"/> |
| USGS Quad: Cove Point, MD | | USGS Topo <input checked="" type="checkbox"/> |
| Hydrologic Unit Code: 20600040403 | | NWI Map <input checked="" type="checkbox"/> |
| Wetland Size (acres): 0.25 | | OWI Map <input type="checkbox"/> |
| How was size estimated? | | Aerial Photo <input checked="" type="checkbox"/> |
| Wetlands Delineation/GIS | | Soil Survey <input checked="" type="checkbox"/> |
| | | ODNR - DNAP <input type="checkbox"/> |
| | | Delineation Report/Map <input checked="" type="checkbox"/> |
| Photograph | | |
|  | | |
| final score: | 58 | Provisional Wetland Category: Category 2 |

Narrative Rating Questions

| | | | |
|----------------------|---------------------|--------------|-------------------|
| Name: | H. Fogell, A. Davis | Date: | February 21, 2008 |
| Wetlands Name | WA-1 | | |

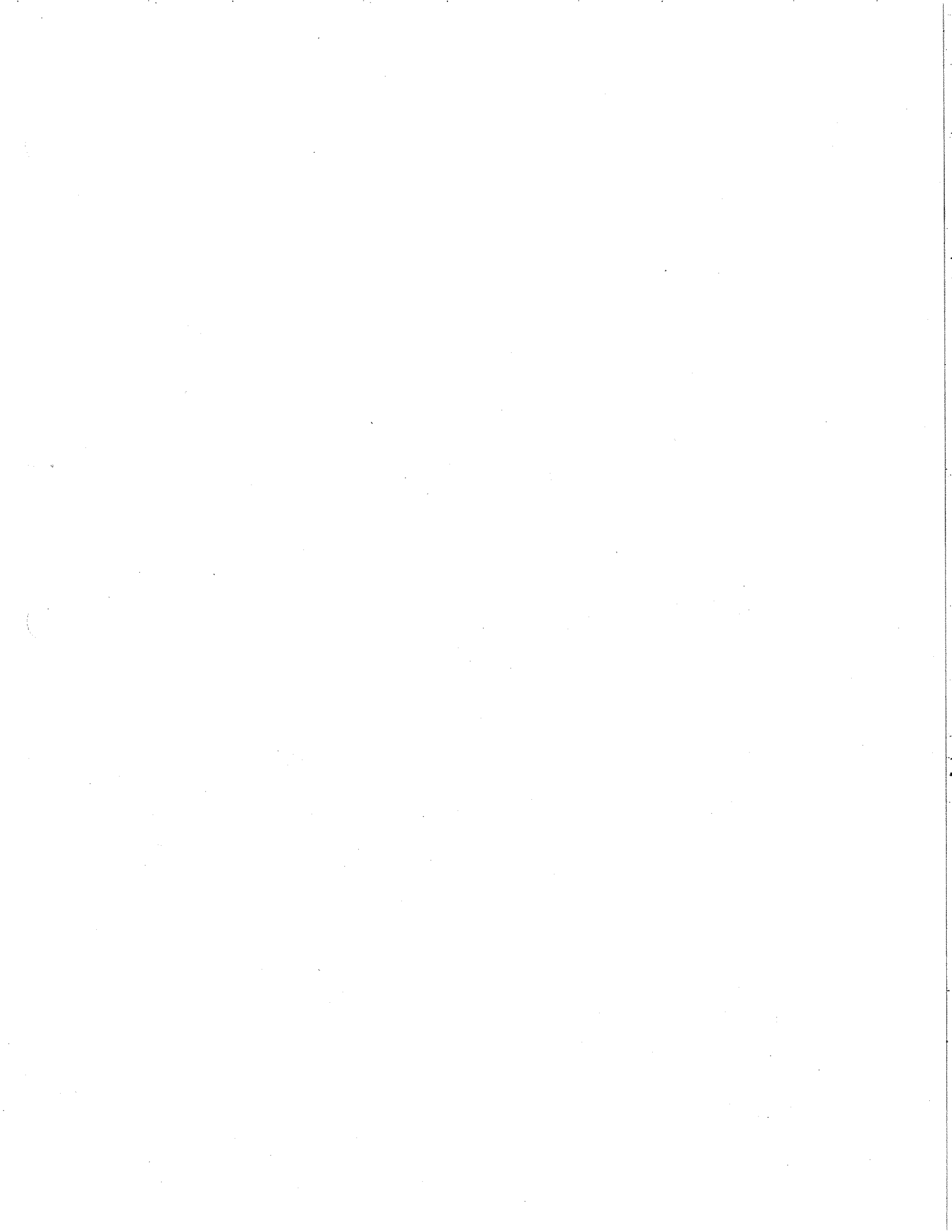
| | | |
|---|--|---|
| 1: Critical Habitat | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 2: Threatened or Endangered Species | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 3: Documented High Quality Wetland | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 4: Significant Breeding or Concentration Area (waterfowl) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 5: Category 1 Wetlands (hydrologically isolated) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 6: Bogs | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 7: Fens | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8a: "Old Growth Forest" | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8b: Mature Forested Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9a: Lake Erie Coastal and Tributary Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9b: Hydrology result of Erosion Control Measures (Lake Erie) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9c: Hydrology unrestricted | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9d: Native Species Predominate | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> YES |
| 9e: Non-native Species Predominate | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 10: Oak Openings | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 11: Relict Wet Prairies | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |

Table 2. Interim scoring breakpoints for wetland regulatory categories for ORAM 5.0 scores

| Category | ORAM 5.0 Score |
|-----------------------------|----------------|
| 1 | 0-29.9 |
| 1 or 2 gray zone modified 2 | 30-34.9 |
| 2 | 35-44.9 |
| 2 or 3 | 45-59.9 |
| 3 | 60-64.9 |
| | 65-100 |

58 Category 2

Table based on FEB 2001 OEPA Standards



| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetlands: WA-2 | Rater: H. Fogell, A. Davis |

| | |
|----------|--------|
| Subtotal | Points |
| 1 | |

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

| | |
|----------|--------|
| Subtotal | Points |
| 15 | 14 |

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

| | |
|----------|--------|
| Subtotal | Points |
| 36 | 21 |

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3d. Duration inundation/saturation.

(select one or double check & average)

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3c. Maximum water depth. Select only 1.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> dike | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> tile | <input checked="" type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other- list |

| | |
|----------|--------|
| Subtotal | Points |
| 49 | 13 |

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

4b. Habitat development. Select one.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetland: WA-2 | Rater: H. Fogell, A. Davis |

subtotal first page

| | |
|----------|--------|
| 59 | 10 |
| Subtotal | Points |

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- Bog (10 pts)
- Fen (10 pts)
- Old Growth Forest (10 pts)
- Mature forested wetland (5 pts)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- Lake Plain Sand Prairies (Oak Openings) (10 pts)
- Relict Wet Prairies (10 pts)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10 pts)
- Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

| | |
|----------|--------|
| 72 | 13 |
| Subtotal | Points |

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- 0 Aquatic bed
- 0 Emergent
- 2 Shrub
- 2 Forest
- 0 Mudflats
- 0 Open water
- 0 Other (list)

6b. Horizontal (plan view) interspersions

Select only one

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- Extensive >75 % cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly Absent <5% cover (0)
- Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

- 0 Vegetated hummocks/tussocks
- 3 Coarse woody debris >15 cm (6")
- 0 Standing dead > 25 cm (10") dbh
- 2 Amphibian breeding pools

Vegetation Community Cover Scale

| | |
|---|---|
| 0 | Absent or comprises <0.1 ha (0.2471 acres) contiguous area |
| 1 | Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality |
| 2 | Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality |
| 3 | Present and comprises significant part, or more, of wetland's vegetation and is of high quality |

Narrative Description of Vegetation Quality

| | |
|----------|--|
| low | Low spp diversity and/or predominance of nonnative or disturbance tolerant native species |
| moderate | Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

Mudflat and Open Water Class Quality

| | |
|---|--|
| 0 | Absent <0.1 ha (0.2471 acres) |
| 1 | Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres) |
| 2 | Moderate 1 ha to <4 ha (2.47 acres 9.88 acres) |
| 3 | High 4 ha (9.88 acres) or more |


Microtopography Cover Scale

| | |
|---|--|
| 0 | Absent |
| 1 | Present very small amounts or if more common of marginal quality |
| 2 | Present in moderate amounts, but not of highest quality or in small amounts of highest quality |
| 3 | Present in moderate or greater amounts and of highest quality |

72 GRAND TOTAL (max 100 pts)

Provisional Wetland Category: **Category 3**

Background Information Form

| | | | |
|---|--|---|-------------------------------------|
| Name: | H. Fogell, A. Davis | Date: | February 21, 2008 |
| Affiliation: | MACTEC Engineering & Consulting | | |
| User Address: | 3301 Atlantic Ave, Raleigh, NC. | | |
| Phone: | 919-876-0416 | | |
| e-mail address | akdavis@mactec.com | | |
| Wetlands Name | WA-2 | | |
| Location of Wetlands including address if available | See ORAM Figure in CCNPP Wetlands Master Plan/USACE IP Application | | |
| | | Sources of information used (check all that apply) | |
| Lat/Lon or UTM | 38.42448/-76.43513 | Site Visit | <input checked="" type="checkbox"/> |
| USGS Quad | Cove Point, MD | USGS Topo | <input checked="" type="checkbox"/> |
| Hydrologic Unit Code | 20600040403 | NWI Map | <input checked="" type="checkbox"/> |
| Wetland Size (acres) | 0.3 | OWI Map | <input type="checkbox"/> |
| How was size estimated? | | Aerial Photo | <input checked="" type="checkbox"/> |
| | | Soil Survey | <input checked="" type="checkbox"/> |
| | | ODNR - DNAP | <input type="checkbox"/> |
| Wetlands Delineation/GIS | | Delineation Report/Map | <input checked="" type="checkbox"/> |
| Photograph | | | |
|  | | | |
| final score: | 72 | Provisional Wetland Category: | Category 3 |

Narrative Rating Questions

| | |
|----------------------------------|--------------------------------|
| Name: H. Fogell, A. Davis | Date: February 21, 2008 |
| Wetlands Name WA-2 | |

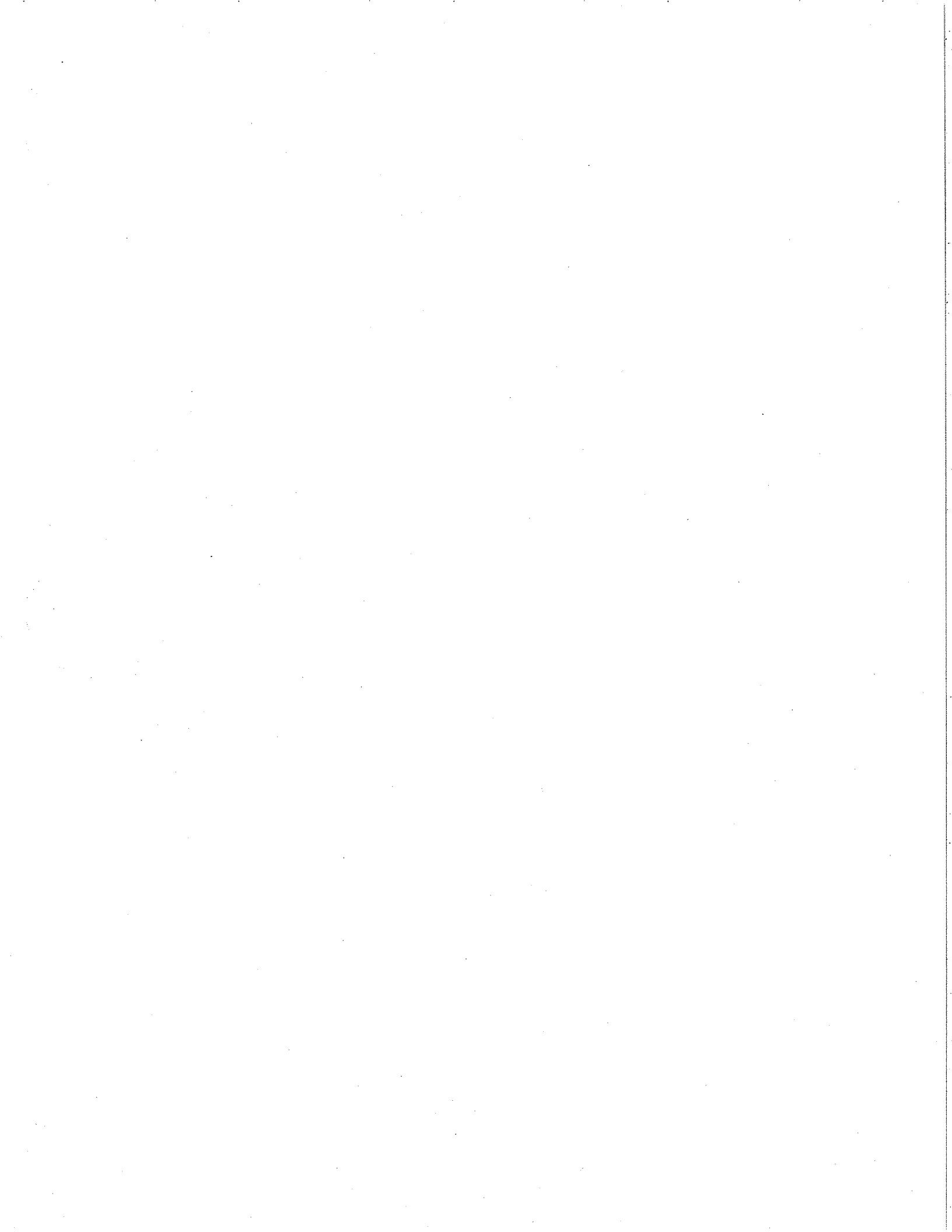
| | | |
|---|--|---|
| 1: Critical Habitat | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 2: Threatened or Endangered Species | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 3: Documented High Quality Wetland | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 4: Significant Breeding or Concentration Area (waterfowl) | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> YES |
| 5: Category 1 Wetlands (hydrologically isolated) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 6: Bogs | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 7: Fens | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8a: "Old Growth Forest" | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8b: Mature Forested Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9a: Lake Erie Coastal and Tributary Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9b: Hydrology result of Erosion Control Measures (Lake Erie) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9c: Hydrology unrestricted | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9d: Native Species Predominate | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> YES |
| 9e: Non-native Species Predominate | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 10: Oak Openings | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 11: Relict Wet Prairies | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |

Table 2. Interim scoring breakpoints for wetland regulatory categories for ORAM 5.0 scores

| Category | ORAM 5.0 Score |
|-----------------------------|----------------|
| 1 | 0-29.9 |
| 1 or 2 gray zone modified 2 | 30-34.9 |
| 2 | 35-44.9 |
| 2 or 3 | 45-59.9 |
| 3 | 60-64.9 |
| | 65-100 |

72 Category 3

Table based on FEB 2001 OEPA Standards



| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetlands: WA-3 | Rater: H. Fogell, A. Davis |

| | |
|----------|--------|
| 1 | 1 |
| Subtotal | Points |

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

| | |
|----------|--------|
| 11 | 10 |
| Subtotal | Points |

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

| | |
|----------|--------|
| 32 | 21 |
| Subtotal | Points |

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3d. Duration inundation/saturation.

(select one or double check & average)

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3c. Maximum water depth. Select only 1.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

| Check all disturbances observed | |
|--|---|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> dike | <input checked="" type="checkbox"/> filling/grading |
| <input type="checkbox"/> tile | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input checked="" type="checkbox"/> dredging |
| <input checked="" type="checkbox"/> stormwater input | <input checked="" type="checkbox"/> other- list |

| | |
|----------|--------|
| 44.5 | 12.5 |
| Subtotal | Points |

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

4b. Habitat development. Select one.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input checked="" type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

| | |
|------|--------------------|
| 44.5 | subtotal this page |
|------|--------------------|

| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetland: WA-3 | Rater: H. Fogell, A. Davis |

5 subtotal first page

| | |
|----------|--------|
| 44.5 | 0 |
| Subtotal | Points |

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- Bog (10 pts)
- Fen (10 pts)
- Old Growth Forest (10 pts)
- Mature forested wetland (5 pts)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- Lake Plain Sand Prairies (Oak Openings) (10 pts)
- Relict Wet Prairies (10 pts)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10 pts)
- Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

| | |
|----------|--------|
| 50.5 | 6 |
| Subtotal | Points |

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- 0 Aquatic bed
- 0 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other (list)

Vegetation Community Cover Scale

| | |
|---|---|
| 0 | Absent or comprises <0.1 ha (0.2471 acres) contiguous area |
| 1 | Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality |
| 2 | Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality |
| 3 | Present and comprises significant part, or more, of wetland's vegetation and is of high quality |

6b. Horizontal (plan view) interspersions

Select only one

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

Narrative Description of Vegetation Quality

| | |
|----------|--|
| low | Low spp diversity and/or predominance of nonnative or disturbance tolerant native species |
| moderate | Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- Extensive >75 % cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly Absent <5% cover (0)
- Absent (1)

Mudflat and Open Water Class Quality

| | |
|---|--|
| 0 | Absent <0.1 ha (0.2471 acres) |
| 1 | Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres) |
| 2 | Moderate 1 ha to <4 ha (2.47 acres 9.88 acres) |
| 3 | High 4 ha (9.88 acres) or more |

6d. Microtopography

Score all present using 0 to 3 scale

- 1 Vegetated hummocks/tussocks
- 2 Coarse woody debris >15 cm (6")
- 0 Standing dead > 25 cm (10") dbh
- 3 Amphibian breeding pools


Microtopography Cover Scale

| | |
|---|--|
| 0 | Absent |
| 1 | Present very small amounts or if more common of marginal quality |
| 2 | Present in moderate amounts, but not of highest quality or in small amounts of highest quality |
| 3 | Present in moderate or greater amounts and of highest quality |

5 GRAND TOTAL (max 100 pts)

Provisional Wetland Category: **Category 2**

Background Information Form

| | | | |
|---|--|-------------------------------|-------------------------------------|
| Name: | H. Fogell, A. Davis | Date: | February 21, 2008 |
| Affiliation: | MACTEC Engineering & Consulting | | |
| User Address: | 3301 Atlantic Ave, Raleigh, NC. | | |
| Phone: | 919-876-0416 | | |
| e-mail address | akdavis@mactec.com | | |
| Wetlands Name | WA-3 | | |
| Location of Wetlands including address if available | See ORAM Figure in CCNPP Wetlands Master Plan/USACE IP Application available | | |
| | Sources of information used (check all that apply) | | |
| Lat/Lon or UTM | 38.42573/-76.43598 | Site Visit | <input checked="" type="checkbox"/> |
| USGS Quad | Cove Point, MD | USGS Topo | <input checked="" type="checkbox"/> |
| Hydrologic Unit Code | 20600040403 | NWI Map | <input checked="" type="checkbox"/> |
| Wetland Size (acres) | 0.42 | OWI Map | <input type="checkbox"/> |
| How was size estimated? | | Aerial Photo | <input checked="" type="checkbox"/> |
| | | Soil Survey | <input checked="" type="checkbox"/> |
| | | ODNR - DNAP | <input type="checkbox"/> |
| Wetlands Delineation/GIS | | Delineation Report/Map | <input checked="" type="checkbox"/> |
| Photograph | | | |
|  | | | |
| final score: | 50.5 | Provisional Wetland Category: | Category 2 |

Narrative Rating Questions

| | |
|----------------------------------|--------------------------------|
| Name: H. Fogell, A. Davis | Date: February 21, 2008 |
| Wetlands Name WA-3 | |

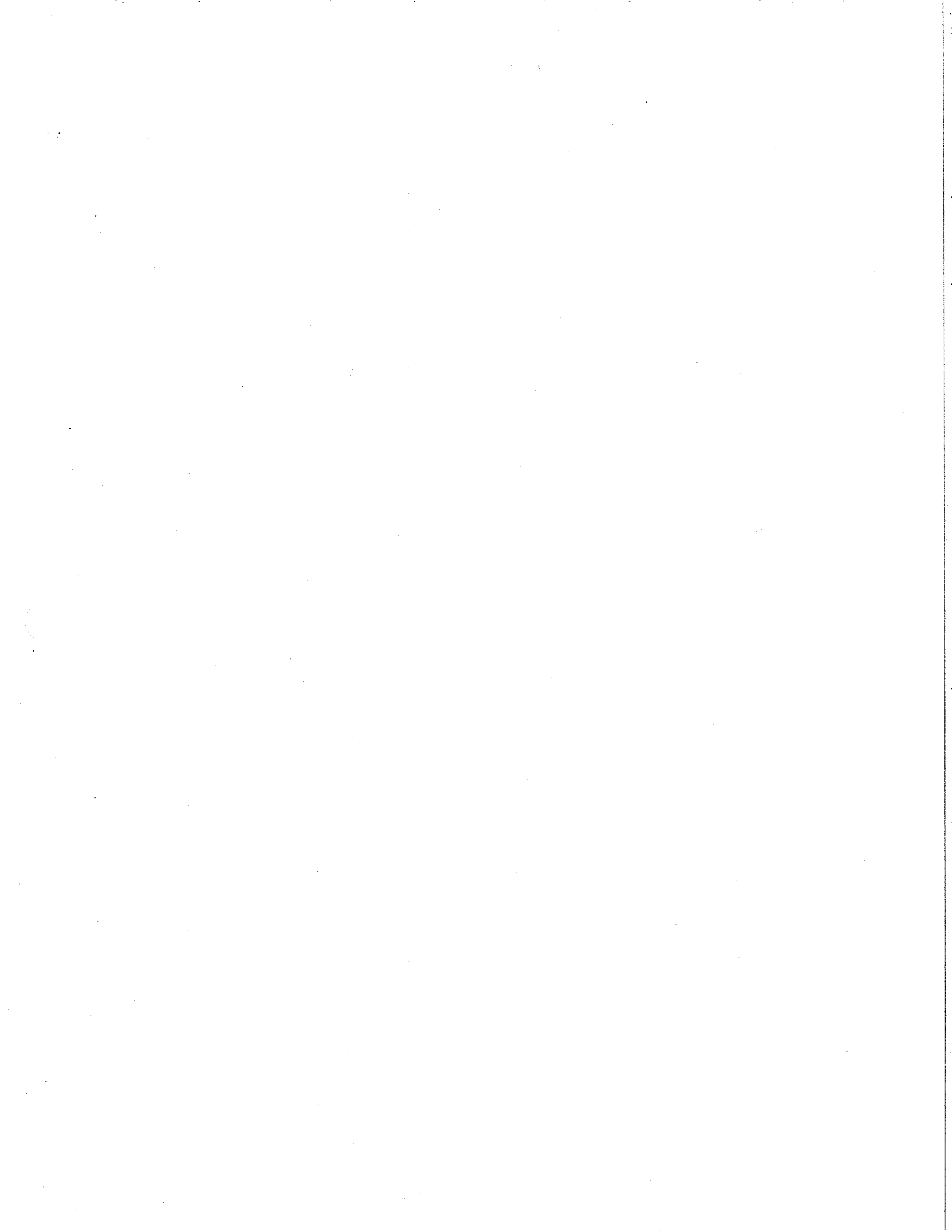
| | | |
|---|--|---|
| 1: Critical Habitat | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 2: Threatened or Endangered Species | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 3: Documented High Quality Wetland | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 4: Significant Breeding or Concentration Area (waterfowl) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 5: Category 1 Wetlands (hydrologically isolated) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 6: Bogs | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 7: Fens | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8a: "Old Growth Forest" | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8b: Mature Forested Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9a: Lake Erie Coastal and Tributary Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9b: Hydrology result of Erosion Control Measures (Lake Erie) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9c: Hydrology unrestricted | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9d: Native Species Predominate | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9e: Non-native Species Predominate | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> YES |
| 10: Oak Openings | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 11: Relict Wet Prairies | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |

Table 2. Interim scoring breakpoints for wetland regulatory categories for ORAM 5.0 scores

| Category | ORAM 5.0 Score |
|-----------------------------|----------------|
| 1 | 0-29.9 |
| 1 or 2 gray zone modified 2 | 30-34.9 |
| 2 | 35-44.9 |
| 2 or 3 | 45-59.9 |
| 3 | 60-64.9 |
| | 65-100 |

50.5 Category 2

Table based on FEB 2001 OEPA Standards



| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetlands: WA-4 North | Rater: H. Fogell, A. Davis |

| | |
|----------|--------|
| 1 | 1 |
| Subtotal | Points |

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

| | |
|----------|--------|
| 14 | 13 |
| Subtotal | Points |

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

| | |
|----------|--------|
| 29 | 15 |
| Subtotal | Points |

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only 1.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3d. Duration inundation/saturation.

(select one or double check & average)

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

| Check all disturbances observed | |
|--|---|
| <input checked="" type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input checked="" type="checkbox"/> dike | <input checked="" type="checkbox"/> filling/grading |
| <input type="checkbox"/> tile | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input checked="" type="checkbox"/> dredging |
| <input checked="" type="checkbox"/> stormwater input | <input type="checkbox"/> other- list |

| | |
|----------|--------|
| 37 | 8 |
| Subtotal | Points |

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

4b. Habitat development. Select one.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input checked="" type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

| | |
|----|--------------------|
| 37 | subtotal this page |
|----|--------------------|

| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetland: WA-4 North | Rater: H. Fogell, A. Davis |

subtotal first page

| | |
|----------|--------|
| 37 | 0 |
| Subtotal | Points |

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- Bog (10 pts)
- Fen (10 pts)
- Old Growth Forest (10 pts)
- Mature forested wetland (5 pts)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- Lake Plain Sand Prairies (Oak Openings) (10 pts)
- Relict Wet Prairies (10 pts)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10 pts)
- Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

| | |
|----------|--------|
| 44 | 7 |
| Subtotal | Points |

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- 0 Aquatic bed
- 0 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other (list)

6b. Horizontal (plan view) interspersions

Select only one

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- Extensive >75 % cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly Absent <5% cover (0)
- Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

- 0 Vegetated hummocks/tussocks
- 2 Coarse woody debris >15 cm (6")
- 0 Standing dead > 25 cm (10") dbh
- 3 Amphibian breeding pools

Vegetation Community Cover Scale

| | |
|---|---|
| 0 | Absent or comprises <0.1 ha (0.2471 acres) contiguous area |
| 1 | Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality |
| 2 | Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality |
| 3 | Present and comprises significant part, or more, of wetland's vegetation and is of high quality |

Narrative Description of Vegetation Quality

| | |
|----------|--|
| low | Low spp diversity and/or predominance of nonnative or disturbance tolerant native species |
| moderate | Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

Mudflat and Open Water Class Quality

| | |
|---|--|
| 0 | Absent <0.1 ha (0.2471 acres) |
| 1 | Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres) |
| 2 | Moderate 1 ha to <4 ha (2.47 acres 9.88 acres) |
| 3 | High 4 ha (9.88 acres) or more |


Microtopography Cover Scale

| | |
|---|--|
| 0 | Absent |
| 1 | Present very small amounts or if more common of marginal quality |
| 2 | Present in moderate amounts, but not of highest quality or in small amounts of highest quality |
| 3 | Present in moderate or greater amounts and of highest quality |

GRAND TOTAL (max 100 pts)

Provisional Wetland Category: modified 2

Background Information Form

| | | | |
|--|--|---|-------------------------------------|
| Name: | H. Fogell, A. Davis | Date: | February 21, 2008 |
| Affiliation: | MACTEC Engineering & Consulting | | |
| User Address: | 3301 Atlantic Ave, Raleigh, NC. | | |
| Phone: | 919-876-0416 | | |
| e-mail address | akdavis@mactec.com | | |
| Wetlands Name | WA-4 North | | |
| Location of Wetlands including address if available | See ORAM Figure in CCNPP Wetlands Master Plan/USACE IP Application available | | |
| | | Sources of information used (check all that apply) | |
| Lat/Lon or UTM | 38.42671/-76.43335 | Site Visit | <input checked="" type="checkbox"/> |
| USGS Quad | Cove Point, MD | USGS Topo | <input checked="" type="checkbox"/> |
| Hydrologic Unit Code | 20600040403 | NWI Map | <input checked="" type="checkbox"/> |
| Wetland Size (acres) | 0.16 | OWI Map | <input type="checkbox"/> |
| How was size estimated? | | Aerial Photo | <input checked="" type="checkbox"/> |
| | | Soil Survey | <input checked="" type="checkbox"/> |
| | | ODNR - DNAP | <input type="checkbox"/> |
| | Wetlands Delineation/GIS | Delineation Report/Map | <input checked="" type="checkbox"/> |
| Photograph | | | |
|  | | | |
| final score: | 44 | Provisional Wetland Category: | modified 2 |

Narrative Rating Questions

| | |
|----------------------------------|--------------------------------|
| Name: H. Fogell, A. Davis | Date: February 21, 2008 |
| Wetlands Name WA-4 North | |

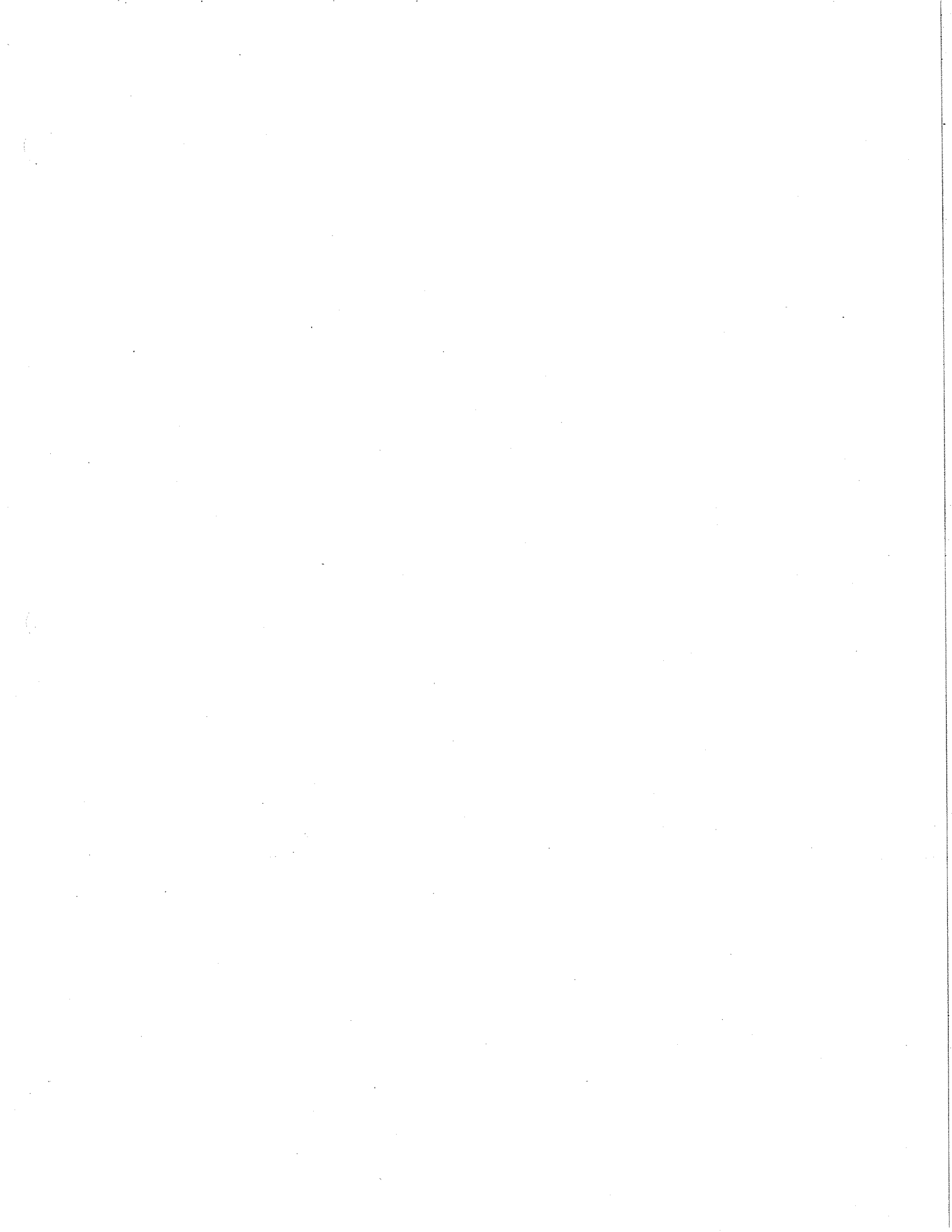
| | | |
|---|--|---|
| 1: Critical Habitat | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 2: Threatened or Endangered Species | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 3: Documented High Quality Wetland | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 4: Significant Breeding or Concentration Area (waterfowl) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 5: Category 1 Wetlands (hydrologically isolated) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 6: Bogs | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 7: Fens | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8a: "Old Growth Forest" | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8b: Mature Forested Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9a: Lake Erie Coastal and Tributary Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9b: Hydrology result of Erosion Control Measures (Lake Erie) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9c: Hydrology unrestricted | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9d: Native Species Predominate | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> YES |
| 9e: Non-native Species Predominate | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 10: Oak Openings | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 11: Relict Wet Prairies | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |

Table 2. Interim scoring breakpoints for wetland regulatory categories for ORAM 5.0 scores

| Category | ORAM 5.0 Score |
|-----------------------------|----------------|
| 1 | 0-29.9 |
| 1 or 2 gray zone modified 2 | 30-34.9 |
| 2 | 35-44.9 |
| 2 or 3 | 45-59.9 |
| 3 | 60-64.9 |
| | 65-100 |

44 modified 2

Table based on FEB 2001 OEPA Standards



| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetlands: WA-4 South | Rater: H. Fogell, A. Davis |

| | |
|----------|--------|
| 2 | 2 |
| Subtotal | Points |

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

| | |
|----------|--------|
| 11 | 9 |
| Subtotal | Points |

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

| | |
|----------|--------|
| 29 | 18 |
| Subtotal | Points |

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only 1.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3d. Duration inundation/saturation.

(select one or double check & average)

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

| Check all disturbances observed | |
|--|--|
| <input type="checkbox"/> ditch | <input checked="" type="checkbox"/> point source (nonstormwater) |
| <input checked="" type="checkbox"/> dike | <input checked="" type="checkbox"/> filling/grading |
| <input type="checkbox"/> tile | <input checked="" type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input checked="" type="checkbox"/> stormwater input | <input type="checkbox"/> other- list |

| | |
|----------|--------|
| 39 | 10 |
| Subtotal | Points |

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

4b. Habitat development. Select one.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input checked="" type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

| | |
|----|--------------------|
| 39 | subtotal this page |
|----|--------------------|

| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetland: WA-4 South | Rater: H. Fogell, A. Davis |

subtotal first page

| | |
|----------|--------|
| 39 | 0 |
| Subtotal | Points |

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- Bog (10 pts)
- Fen (10 pts)
- Old Growth Forest (10 pts)
- Mature forested wetland (5 pts)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- Lake Plain Sand Prairies (Oak Openings) (10 pts)
- Relict Wet Prairies (10 pts)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10 pts)
- Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

| | |
|----------|--------|
| 52 | 13 |
| Subtotal | Points |

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- | | |
|---|--------------|
| 0 | Aquatic bed |
| 0 | Emergent |
| 1 | Shrub |
| 2 | Forest |
| 0 | Mudflats |
| 0 | Open water |
| 0 | Other (list) |

6b. Horizontal (plan view) interspersions

Select only one

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- Extensive >75 % cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly Absent <5% cover (0)
- Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

- | | |
|---|---------------------------------|
| 2 | Vegetated hummocks/tussocks |
| 2 | Coarse woody debris >15 cm (6") |
| 0 | Standing dead > 25 cm (10") dbh |
| 3 | Amphibian breeding pools |

Vegetation Community Cover Scale

| | |
|---|---|
| 0 | Absent or comprises <0.1 ha (0.2471 acres) contiguous area |
| 1 | Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality |
| 2 | Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality |
| 3 | Present and comprises significant part, or more, of wetland's vegetation and is of high quality |

Narrative Description of Vegetation Quality

| | |
|----------|--|
| low | Low spp diversity and/or predominance of nonnative or disturbance tolerant native species |
| moderate | Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

Mudflat and Open Water Class Quality

| | |
|---|--|
| 0 | Absent <0.1 ha (0.2471 acres) |
| 1 | Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres) |
| 2 | Moderate 1 ha to <4 ha (2.47 acres 9.88 acres) |
| 3 | High 4 ha (9.88 acres) or more |


Microtopography Cover Scale

| | |
|---|--|
| 0 | Absent |
| 1 | Present very small amounts or if more common of marginal quality |
| 2 | Present in moderate amounts, but not of highest quality or in small amounts of highest quality |
| 3 | Present in moderate or greater amounts and of highest quality |

GRAND TOTAL (max 100 pts)

Provisional Wetland Category: **Category 2**

Background Information Form

| | | | |
|--|--|--|--|
| Name: H. Fogell, A. Davis | | Date: February 21, 2008 | |
| Affiliation: MACTEC Engineering & Consulting | | | |
| User Address: 3301 Atlantic Ave, Raleigh, NC. | | | |
| Phone: 919-876-0416 | | | |
| e-mail address: akdavis@mactec.com | | | |
| Wetlands Name: WA-4 South | | | |
| Location of Wetlands including address if available | | See ORAM Figure in CCNPP Wetlands Master Plan/USACE IP Application | |
| | | Sources of information used (check all that apply) | |
| Lat/Lon or UTM: 38.42603/-76.43367 | | Site Visit <input checked="" type="checkbox"/> | |
| USGS Quad: Cove Point, MD | | USGS Topo <input checked="" type="checkbox"/> | |
| Hydrologic Unit Code: 20600040403 | | NWI Map <input checked="" type="checkbox"/> | |
| Wetland Size (acres): 0.6 | | OWI Map <input type="checkbox"/> | |
| How was size estimated? Wetlands Delineation/GIS | | Aerial Photo <input checked="" type="checkbox"/> | |
| | | Soil Survey <input checked="" type="checkbox"/> | |
| | | ODNR - DNAP <input type="checkbox"/> | |
| | | Delineation Report/Map <input checked="" type="checkbox"/> | |
| Photograph | | | |
|  | | | |
| final score: 52 | | Provisional Wetland Category: Category 2 | |

Narrative Rating Questions

| | |
|----------------------------------|--------------------------------|
| Name: H. Fogell, A. Davis | Date: February 21, 2008 |
| Wetlands Name WA-4 South | |

| | | |
|---|--|---|
| 1: Critical Habitat | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 2: Threatened or Endangered Species | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 3: Documented High Quality Wetland | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 4: Significant Breeding or Concentration Area (waterfowl) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 5: Category 1 Wetlands (hydrologically isolated) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 6: Bogs | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 7: Fens | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8a: "Old Growth Forest" | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8b: Mature Forested Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9a: Lake Erie Coastal and Tributary Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9b: Hydrology result of Erosion Control Measures (Lake Erie) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9c: Hydrology unrestricted | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9d: Native Species Predominate | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> YES |
| 9e: Non-native Species Predominate | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 10: Oak Openings | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 11: Relict Wet Prairies | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |

Table 2. Interim scoring breakpoints for wetland regulatory categories for ORAM 5.0 scores

| Category | ORAM 5.0 Score |
|------------------|----------------|
| 1 | 0-29.9 |
| 1 or 2 gray zone | 30-34.9 |
| modified 2 | 35-44.9 |
| 2 | 45-59.9 |
| 2 or 3 | 60-64.9 |
| 3 | 65-100 |

52 Category 2

Table based on FEB 2001 OEPA Standards

| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetlands: WA-5 | Rater: H. Fogell, A. Davis |

| | |
|----------|--------|
| 2 | 2 |
| Subtotal | Points |

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

| | |
|----------|--------|
| 16 | 14 |
| Subtotal | Points |

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

| | |
|----------|--------|
| 36 | 20 |
| Subtotal | Points |

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3d. Duration inundation/saturation.

(select one or double check & average)

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3c. Maximum water depth. Select only 1.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> dike | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> tile | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other- list |

| | |
|----------|--------|
| 49 | 13 |
| Subtotal | Points |

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

4b. Habitat development. Select one.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

| | |
|----|--------------------|
| 49 | subtotal this page |
|----|--------------------|

| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetland: WA-5 | Rater: H. Fogell, A. Davis |

subtotal first page

| | |
|----------|--------|
| 49 | 0 |
| Subtotal | Points |

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- Bog (10 pts)
- Fen (10 pts)
- Old Growth Forest (10 pts)
- Mature forested wetland (5 pts)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- Lake Plain Sand Prairies (Oak Openings) (10 pts)
- Relict Wet Prairies (10 pts)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10 pts)
- Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

| | |
|----------|--------|
| 61 | 12 |
| Subtotal | Points |

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- | | |
|---|--------------|
| 0 | Aquatic bed |
| 0 | Emergent |
| 2 | Shrub |
| 1 | Forest |
| 0 | Mudflats |
| 0 | Open water |
| 0 | Other (list) |

6b. Horizontal (plan view) interspersions

Select only one

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- Extensive >75 % cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly Absent <5% cover (0)
- Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

- 2 Vegetated hummocks/tussocks
- 1 Coarse woody debris >15 cm (6")
- 0 Standing dead > 25 cm (10") dbh
- 2 Amphibian breeding pools

Vegetation Community Cover Scale

| | |
|---|---|
| 0 | Absent or comprises <0.1 ha (0.2471 acres) contiguous area |
| 1 | Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality |
| 2 | Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality |
| 3 | Present and comprises significant part, or more, of wetland's vegetation and is of high quality |

Narrative Description of Vegetation Quality

| | |
|----------|--|
| low | Low spp diversity and/or predominance of nonnative or disturbance tolerant native species |
| moderate | Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

Mudflat and Open Water Class Quality

| | |
|---|--|
| 0 | Absent <0.1 ha (0.2471 acres) |
| 1 | Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres) |
| 2 | Moderate 1 ha to <4 ha (2.47 acres 9.88 acres) |
| 3 | High 4 ha (9.88 acres) or more |


Microtopography Cover Scale

| | |
|---|--|
| 0 | Absent |
| 1 | Present very small amounts or if more common of marginal quality |
| 2 | Present in moderate amounts, but not of highest quality or in small amounts of highest quality |
| 3 | Present in moderate or greater amounts and of highest quality |

GRAND TOTAL (max 100 pts)

Provisional Wetland Category: Category 2 or 3

Background Information Form

| | | |
|--|--------------------|--|
| Name: H. Fogell, A. Davis | | Date: February 21, 2008 |
| Affiliation: MACTEC Engineering & Consulting | | |
| User Address: 3301 Atlantic Ave, Raleigh, NC. | | |
| Phone: 919-876-0416 | | |
| e-mail address: akdavis@mactec.com | | |
| Wetlands Name: WA-5 | | |
| Location of Wetlands including address if available: See ORAM Figure in CCNPP Wetlands Master Plan/USACE IP Application | | |
| | | Sources of information used (check all that apply) |
| Lat/Lon or UTM | 38.42157/-76.43643 | Site Visit <input checked="" type="checkbox"/> |
| USGS Quad | Cove Point, MD | USGS Topo <input checked="" type="checkbox"/> |
| Hydrologic Unit Code | 20600060706 | NWI Map <input checked="" type="checkbox"/> |
| Wetland Size (acres) | 0.32 | OWI Map <input type="checkbox"/> |
| How was size estimated? Wetlands Delineation/GIS | | Aerial Photo <input checked="" type="checkbox"/> |
| | | Soil Survey <input checked="" type="checkbox"/> |
| | | ODNR - DNAP <input type="checkbox"/> |
| | | Delineation Report/Map <input checked="" type="checkbox"/> |
| Photograph | | |
|  | | |
| final score: | 61 | Provisional Wetland Category: Category 2 or 3 |

Narrative Rating Questions

| | |
|----------------------------------|--------------------------------|
| Name: H. Fogell, A. Davis | Date: February 21, 2008 |
| Wetlands Name WA-5 | |

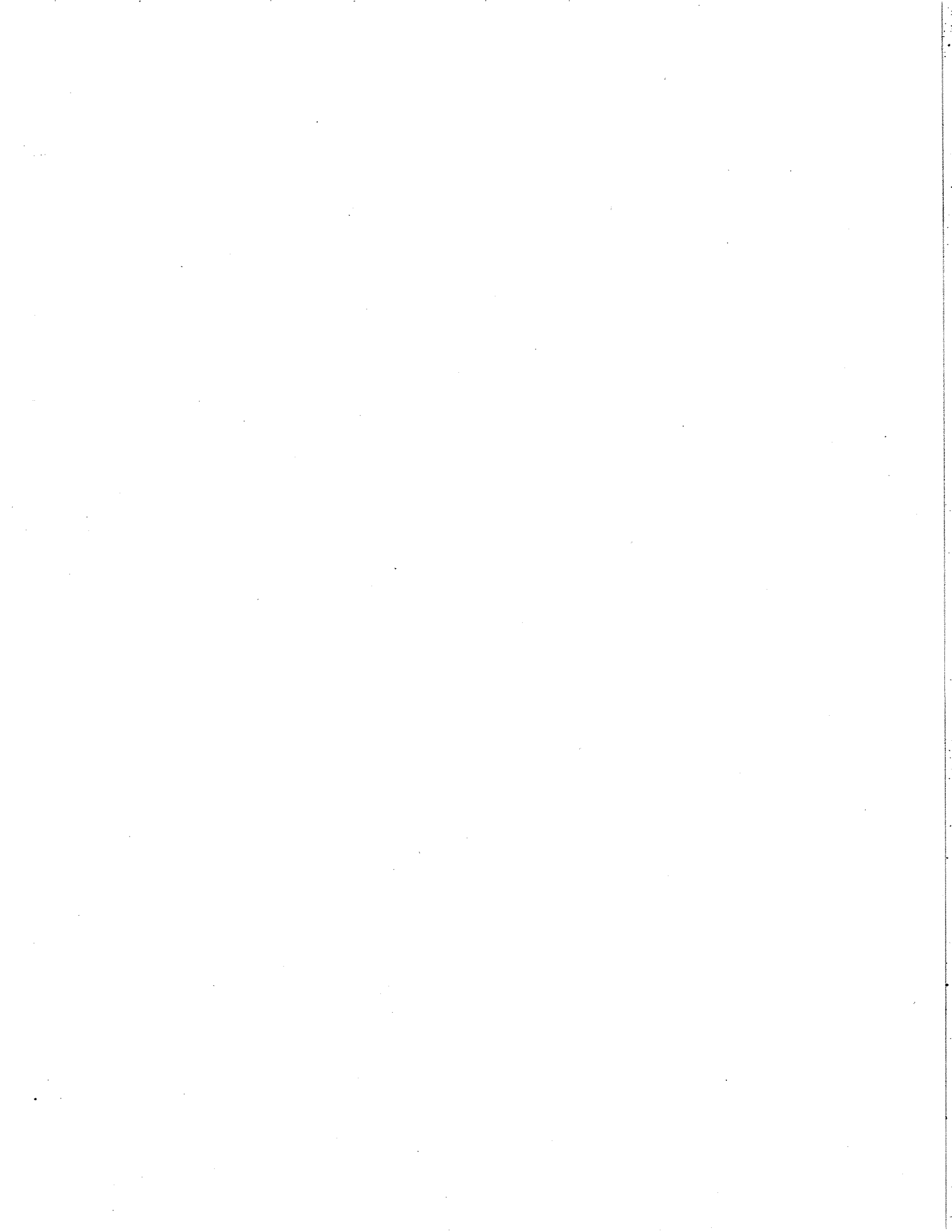
| | | |
|---|--|---|
| 1: Critical Habitat | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 2: Threatened or Endangered Species | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 3: Documented High Quality Wetland | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 4: Significant Breeding or Concentration Area (waterfowl) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 5: Category 1 Wetlands (hydrologically isolated) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 6: Bogs | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 7: Fens | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8a: "Old Growth Forest" | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8b: Mature Forested Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9a: Lake Erie Coastal and Tributary Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9b: Hydrology result of Erosion Control Measures (Lake Erie) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9c: Hydrology unrestricted | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9d: Native Species Predominate | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> YES |
| 9e: Non-native Species Predominate | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 10: Oak Openings | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 11: Relict Wet Prairies | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |

Table 2. Interim scoring breakpoints for wetland regulatory categories for ORAM 5.0 scores

| Category | ORAM 5.0 Score |
|-----------------------------|----------------|
| 1 | 0-29.9 |
| 1 or 2 gray zone modified 2 | 30-34.9 |
| 2 | 35-44.9 |
| 2 or 3 | 45-59.9 |
| 3 | 60-64.9 |
| | 65-100 |

61 Category 2 or 3

Table based on FEB 2001 OEPA Standards



| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetlands: WA-6 | Rater: H. Fogell, A. Davis |

| | |
|----------|--------|
| 0 | 0 |
| Subtotal | Points |

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

| | |
|----------|--------|
| 14 | 14 |
| Subtotal | Points |

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

| | |
|----------|--------|
| 34 | 20 |
| Subtotal | Points |

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3d. Duration inundation/saturation.

(select one or double check & average)

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3c. Maximum water depth. Select only 1.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> dike | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> tile | <input checked="" type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other- list |

| | |
|----------|--------|
| 47 | 13 |
| Subtotal | Points |

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

4b. Habitat development. Select one.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

| | |
|----|--------------------|
| 47 | subtotal this page |
|----|--------------------|

| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetland: WA-6 | Rater: H. Fogell, A. Davis |

subtotal first page

| | |
|----------|--------|
| 47 | 0 |
| Subtotal | Points |

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- Bog (10 pts)
- Fen (10 pts)
- Old Growth Forest (10 pts)
- Mature forested wetland (5 pts)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- Lake Plain Sand Prairies (Oak Openings) (10 pts)
- Relict Wet Prairies (10 pts)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10 pts)
- Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

| | |
|----------|--------|
| 56 | 9 |
| Subtotal | Points |

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- | | |
|---|--------------|
| 0 | Aquatic bed |
| 0 | Emergent |
| 1 | Shrub |
| 1 | Forest |
| 0 | Mudflats |
| 0 | Open water |
| 0 | Other (list) |

6b. Horizontal (plan view) interspersions

Select only one

- | | |
|-------------------------------------|---------------------|
| <input type="checkbox"/> | High (5) |
| <input type="checkbox"/> | Moderately high (4) |
| <input type="checkbox"/> | Moderate (3) |
| <input type="checkbox"/> | Moderately low (2) |
| <input checked="" type="checkbox"/> | Low (1) |
| <input type="checkbox"/> | None (0) |

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- | | |
|-------------------------------------|-----------------------------|
| <input type="checkbox"/> | Extensive >75 % cover (-5) |
| <input type="checkbox"/> | Moderate 25-75% cover (-3) |
| <input type="checkbox"/> | Sparse 5-25% cover (-1) |
| <input type="checkbox"/> | Nearly Absent <5% cover (0) |
| <input checked="" type="checkbox"/> | Absent (1) |

6d. Microtopography

Score all present using 0 to 3 scale

- | | |
|---|---------------------------------|
| 1 | Vegetated hummocks/tussocks |
| 2 | Coarse woody debris >15 cm (6") |
| 0 | Standing dead > 25 cm (10") dbh |
| 2 | Amphibian breeding pools |

Vegetation Community Cover Scale

| | |
|---|---|
| 0 | Absent or comprises <0.1 ha (0.2471 acres) contiguous area |
| 1 | Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality |
| 2 | Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality |
| 3 | Present and comprises significant part, or more, of wetland's vegetation and is of high quality |

Narrative Description of Vegetation Quality

| | |
|----------|--|
| low | Low spp diversity and/or predominance of nonnative or disturbance tolerant native species |
| moderate | Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

Mudflat and Open Water Class Quality

| | |
|---|--|
| 0 | Absent <0.1 ha (0.2471 acres) |
| 1 | Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres) |
| 2 | Moderate 1 ha to <4 ha (2.47 acres 9.88 acres) |
| 3 | High 4 ha (9.88 acres) or more |


Microtopography Cover Scale

| | |
|---|--|
| 0 | Absent |
| 1 | Present very small amounts or if more common of marginal quality |
| 2 | Present in moderate amounts, but not of highest quality or in small amounts of highest quality |
| 3 | Present in moderate or greater amounts and of highest quality |

GRAND TOTAL (max 100 pts)

Provisional Wetland Category: Category 2

Background Information Form

| | | |
|--|--------------------|--|
| Name: H. Fogell, A. Davis | | Date: February 21, 2008 |
| Affiliation: MACTEC Engineering & Consulting | | |
| User Address: 3301 Atlantic Ave, Raleigh, NC. | | |
| Phone: 919-876-0416 | | |
| e-mail address akdavis@mactec.com | | |
| Wetlands Name WA-6 | | |
| Location of Wetlands including address if available | | See ORAM Figure in CCNPP Wetlands Master Plan/USACE IP Application |
| | | Sources of information used (check all that apply) |
| Lat/Lon or UTM | 38.42040/-76.43811 | Site Visit <input checked="" type="checkbox"/> |
| USGS Quad | Cove Point, MD | USGS Topo <input checked="" type="checkbox"/> |
| Hydrologic Unit Code | 20600060706 | NWI Map <input checked="" type="checkbox"/> |
| Wetland Size (acres) | 0.08 | OWI Map <input type="checkbox"/> |
| How was size estimated? Wetlands Delineation/GIS | | Aerial Photo <input checked="" type="checkbox"/> |
| | | Soil Survey <input checked="" type="checkbox"/> |
| | | ODNR - DNAP <input type="checkbox"/> |
| | | Delineation Report/Map <input checked="" type="checkbox"/> |
| Photograph | | |
|  | | |
| final score: | 56 | Provisional Wetland Category: Category 2 |

Narrative Rating Questions

| | | | |
|----------------------|---------------------|--------------|-------------------|
| Name: | H. Fogell, A. Davis | Date: | February 21, 2008 |
| Wetlands Name | WA-6 | | |

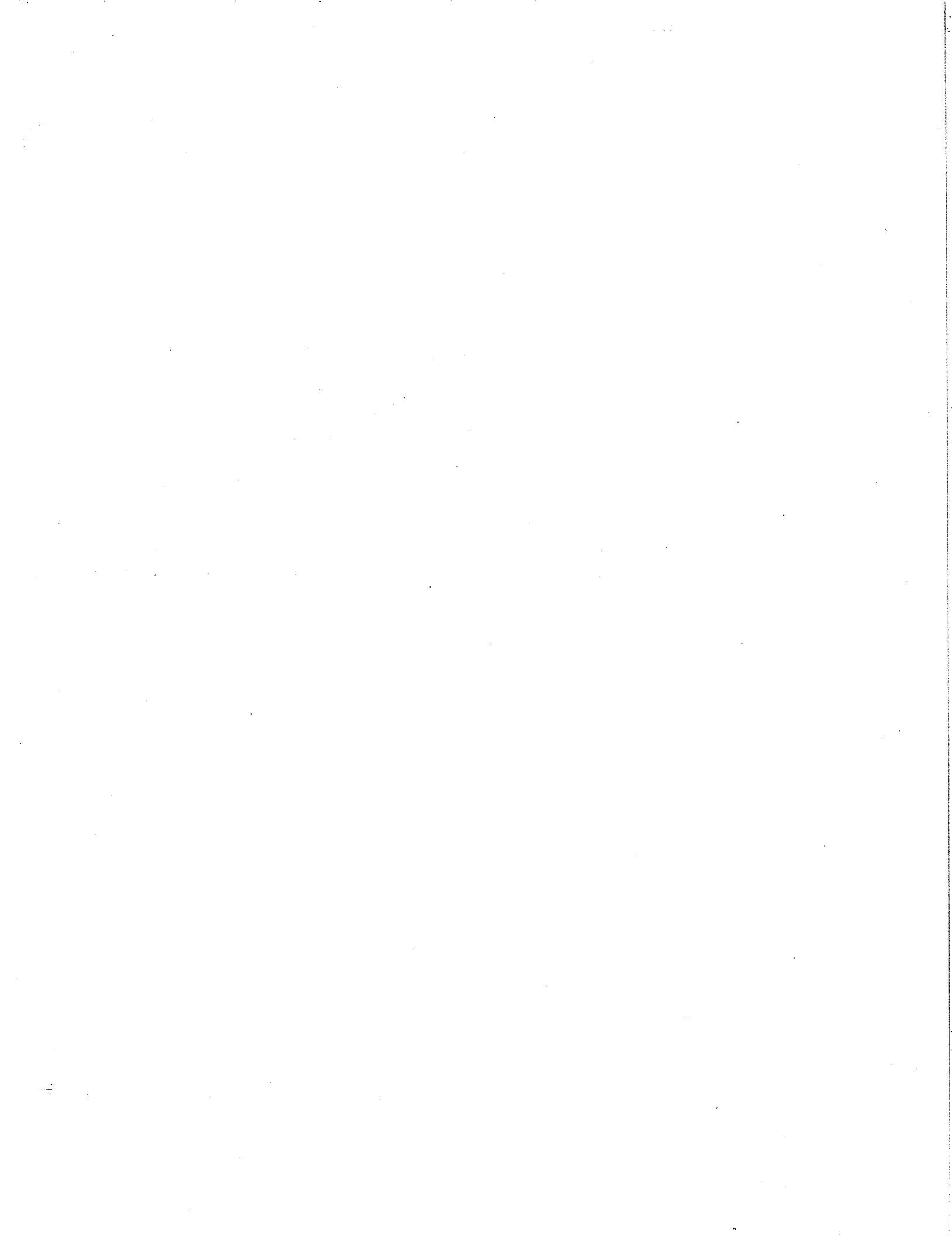
| | | |
|---|--|---|
| 1: Critical Habitat | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 2: Threatened or Endangered Species | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 3: Documented High Quality Wetland | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 4: Significant Breeding or Concentration Area (waterfowl) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 5: Category 1 Wetlands (hydrologically isolated) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 6: Bogs | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 7: Fens | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8a: "Old Growth Forest" | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8b: Mature Forested Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9a: Lake Erie Coastal and Tributary Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9b: Hydrology result of Erosion Control Measures (Lake Erie) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9c: Hydrology unrestricted | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9d: Native Species Predominate | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> YES |
| 9e: Non-native Species Predominate | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 10: Oak Openings | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 11: Relict Wet Prairies | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |

Table 2. Interim scoring breakpoints for wetland regulatory categories for ORAM 5.0 scores

| Category | ORAM 5.0 Score |
|-----------------------------|----------------|
| 1 | 0-29.9 |
| 1 or 2 gray zone modified 2 | 30-34.9 |
| 2 | 35-44.9 |
| 2 or 3 | 45-59.9 |
| 3 | 60-64.9 |
| | 65-100 |

56 Category 2

Table based on FEB 2001 OEPA Standards



| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetlands: WA-7 | Rater: H. Fogell, A. Davis |

| | |
|-----------------|---|
| 2 | 2 |
| Subtotal Points | |

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

| | |
|-----------------|----|
| 16 | 14 |
| Subtotal Points | |

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

| | |
|-----------------|----|
| 39 | 23 |
| Subtotal Points | |

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3d. Duration inundation/saturation.

(select one or double check & average)

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3c. Maximum water depth. Select only 1.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> dike | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> tile | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other- list |

| | |
|-----------------|----|
| 58 | 19 |
| Subtotal Points | |

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

4b. Habitat development. Select one.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

| | |
|----|--------------------|
| 58 | subtotal this page |
|----|--------------------|

| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetland: WA-7 | Rater: H. Fogell, A. Davis |

subtotal first page

| | |
|----------|--------|
| 63 | 5 |
| Subtotal | Points |

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- Bog (10 pts)
- Fen (10 pts)
- Old Growth Forest (10 pts)
- Mature forested wetland (5 pts)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- Lake Plain Sand Prairies (Oak Openings) (10 pts)
- Relict Wet Prairies (10 pts)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10 pts)
- Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

| | |
|----------|--------|
| 81 | 18 |
| Subtotal | Points |

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- | | |
|---|--------------|
| 2 | Aquatic bed |
| 0 | Emergent |
| 0 | Shrub |
| 2 | Forest |
| 0 | Mudflats |
| 0 | Open water |
| 0 | Other (list) |

6b. Horizontal (plan view) interspersions

Select only one

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- Extensive >75 % cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly Absent <5% cover (0)
- Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

- | | |
|---|---------------------------------|
| 2 | Vegetated hummocks/tussocks |
| 3 | Coarse woody debris >15 cm (6") |
| 2 | Standing dead > 25 cm (10") dbh |
| 3 | Amphibian breeding pools |

Vegetation Community Cover Scale

| | |
|---|---|
| 0 | Absent or comprises <0.1 ha (0.2471 acres) contiguous area |
| 1 | Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality |
| 2 | Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality |
| 3 | Present and comprises significant part, or more, of wetland's vegetation and is of high quality |

Narrative Description of Vegetation Quality

| | |
|----------|--|
| low | Low spp diversity and/or predominance of nonnative or disturbance tolerant native species |
| moderate | Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

Mudflat and Open Water Class Quality

| | |
|---|--|
| 0 | Absent <0.1 ha (0.2471 acres) |
| 1 | Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres) |
| 2 | Moderate 1 ha to <4 ha (2.47 acres 9.88 acres) |
| 3 | High 4 ha (9.88 acres) or more |


Microtopography Cover Scale

| | |
|---|--|
| 0 | Absent |
| 1 | Present very small amounts or if more common of marginal quality |
| 2 | Present in moderate amounts, but not of highest quality or in small amounts of highest quality |
| 3 | Present in moderate or greater amounts and of highest quality |

GRAND TOTAL (max 100 pts)

Provisional Wetland Category: **Category 3**

Background Information Form

| | | | |
|---|--|-------------------------------|-------------------------------------|
| Name: | H. Fogell, A. Davis | Date: | February 21, 2008 |
| Affiliation: | MACTEC Engineering & Consulting | | |
| User Address: | 3301 Atlantic Ave, Raleigh, NC. | | |
| Phone: | 919-876-0416 | | |
| e-mail address | akdavis@mactec.com | | |
| Wetlands Name | WA-7 | | |
| Location of Wetlands including address if available | See ORAM Figure in CCNPP Wetlands Master Plan/USACE IP Application | | |
| | Sources of information used (check all that apply) | | |
| Lat/Lon or UTM | 38.42200/-76.43982 | Site Visit | <input checked="" type="checkbox"/> |
| USGS Quad | Cove Point, MD | USGS Topo | <input checked="" type="checkbox"/> |
| Hydrologic Unit Code | 20600060706 | NWI Map | <input checked="" type="checkbox"/> |
| Wetland Size (acres) | 1.66 | OWI Map | <input type="checkbox"/> |
| How was size estimated? | | Aerial Photo | <input checked="" type="checkbox"/> |
| | | Soil Survey | <input checked="" type="checkbox"/> |
| | | ODNR - DNAP | <input type="checkbox"/> |
| Wetlands Delineation/GIS | | Delineation Report/Map | <input checked="" type="checkbox"/> |
| Photograph | | | |
|  | | | |
| final score: | 81 | Provisional Wetland Category: | Category 3 |

Narrative Rating Questions

| | |
|----------------------------------|--------------------------------|
| Name: H. Fogell, A. Davis | Date: February 21, 2008 |
| Wetlands Name WA-7 | |

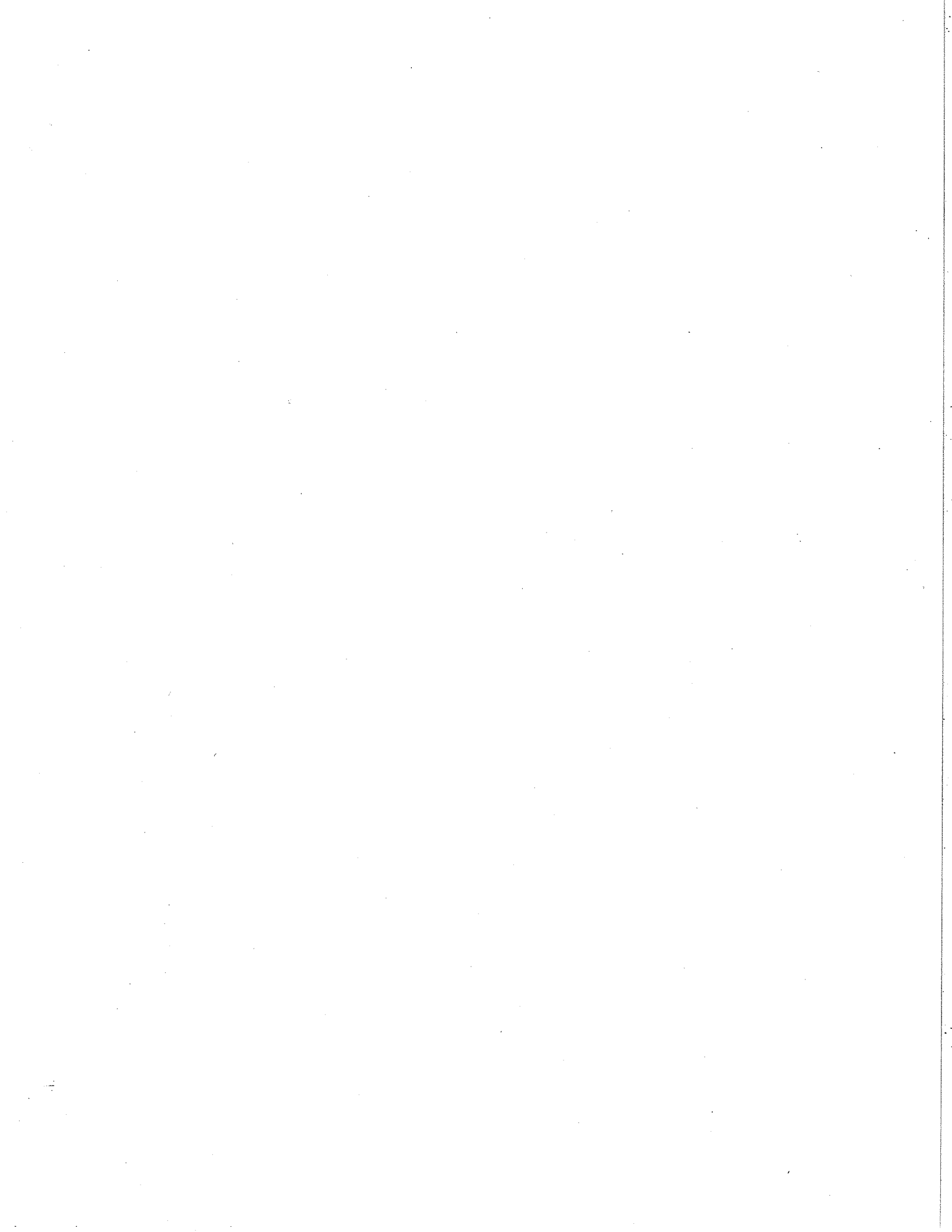
| | | |
|---|--|---|
| 1: Critical Habitat | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 2: Threatened or Endangered Species | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 3: Documented High Quality Wetland | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 4: Significant Breeding or Concentration Area (waterfowl) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 5: Category 1 Wetlands (hydrologically isolated) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 6: Bogs | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 7: Fens | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8a: "Old Growth Forest" | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8b: Mature Forested Wetlands | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> YES |
| 9a: Lake Erie Coastal and Tributary Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9b: Hydrology result of Erosion Control Measures (Lake Erie) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9c: Hydrology unrestricted | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9d: Native Species Predominate | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> YES |
| 9e: Non-native Species Predominate | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 10: Oak Openings | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 11: Relict Wet Prairies | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |

Table 2. Interim scoring breakpoints for wetland regulatory categories for ORAM 5.0 scores

| Category | ORAM 5.0 Score |
|------------------|----------------|
| 1 | 0-29.9 |
| 1 or 2 gray zone | 30-34.9 |
| modified 2 | 35-44.9 |
| 2 | 45-59.9 |
| 2 or 3 | 60-64.9 |
| 3 | 65-100 |

81 Category 3

Table based on FEB 2001 OEPA Standards



| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetlands: WA-8 [Did Not Score] | Rater: H. Fogell, A. Davis |

| | |
|----------|--------|
| 0 | 0 |
| Subtotal | Points |

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

| | |
|----------|--------|
| 0 | 0 |
| Subtotal | Points |

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

| | |
|----------|--------|
| 0 | 0 |
| Subtotal | Points |

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3d. Duration inundation/saturation.

(select one or double check & average)

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3c. Maximum water depth. Select only 1.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> dike | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> tile | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other- list |

| | |
|----------|--------|
| 0 | 0 |
| Subtotal | Points |

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

4b. Habitat development. Select one.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

| | |
|---|--------------------|
| 0 | subtotal this page |
|---|--------------------|

| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetland: WA-8 [Did Not Score] | Rater: H. Fogell, A. Davis |

subtotal first page

| | |
|----------|--------|
| 0 | 0 |
| Subtotal | Points |

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- Bog (10 pts)
- Fen (10 pts)
- Old Growth Forest (10 pts)
- Mature forested wetland (5 pts)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- Lake Plain Sand Prairies (Oak Openings) (10 pts)
- Relict Wet Prairies (10 pts)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10 pts)
- Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

| | |
|----------|--------|
| 0 | 0 |
| Subtotal | Points |

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other (list)

6b. Horizontal (plan view) interspersions

Select only one

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- Extensive >75 % cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly Absent <5% cover (0)
- Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

- Vegetated hummocks/tussocks
- Coarse woody debris >15 cm (6")
- Standing dead > 25 cm (10") dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

| | |
|---|---|
| 0 | Absent or comprises <0.1 ha (0.2471 acres) contiguous area |
| 1 | Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality |
| 2 | Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality |
| 3 | Present and comprises significant part, or more, of wetland's vegetation and is of high quality |

Narrative Description of Vegetation Quality

| | |
|----------|--|
| low | Low spp diversity and/or predominance of nonnative or disturbance tolerant native species |
| moderate | Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

Mudflat and Open Water Class Quality

| | |
|---|--|
| 0 | Absent <0.1 ha (0.2471 acres) |
| 1 | Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres) |
| 2 | Moderate 1 ha to <4 ha (2.47 acres 9.88 acres) |
| 3 | High 4 ha (9.88 acres) or more |


Microtopography Cover Scale

| | |
|---|--|
| 0 | Absent |
| 1 | Present very small amounts or if more common of marginal quality |
| 2 | Present in moderate amounts, but not of highest quality or in small amounts of highest quality |
| 3 | Present in moderate or greater amounts and of highest quality |

GRAND TOTAL (max 100 pts)

Provisional Wetland Category: Category 1

Background Information Form

| | | | |
|---|--|-------------------------------|-------------------------------------|
| Name: | H. Fogell, A. Davis | Date: | February 21, 2008 |
| Affiliation: | MACTEC Engineering & Consulting | | |
| User Address: | 3301 Atlantic Ave, Raleigh, NC. | | |
| Phone: | 919-876-0416 | | |
| e-mail address | akdavis@mactec.com | | |
| Wetlands Name | WA-8 [Did Not Score] | | |
| Location of Wetlands including address if available | See ORAM Figure in CCNPP Wetlands Master Plan/USACE IP Application. Did not score this area, because it was an incised stream. | | |
| | Sources of information used (check all that apply) | | |
| Lat/Lon or UTM | 38.42233/-76.44245 | Site Visit | <input checked="" type="checkbox"/> |
| USGS Quad | Cove Point, MD | USGS Topo | <input checked="" type="checkbox"/> |
| Hydrologic Unit Code | 20600060706 | NWI Map | <input checked="" type="checkbox"/> |
| Wetland Size (acres) | N/A | OWI Map | <input type="checkbox"/> |
| How was size estimated? | | Aerial Photo | <input checked="" type="checkbox"/> |
| | | Soil Survey | <input checked="" type="checkbox"/> |
| | | ODNR - DNAP | <input type="checkbox"/> |
| | N/A | Delineation Report/Map | <input checked="" type="checkbox"/> |
| Photograph | | | |
|  | | | |
| final score: | 0 | Provisional Wetland Category: | Category 1 |

Narrative Rating Questions

| | | | |
|----------------------|----------------------|--------------|-------------------|
| Name: | H. Fogell, A. Davis | Date: | February 21, 2008 |
| Wetlands Name | WA-8 [Did Not Score] | | |

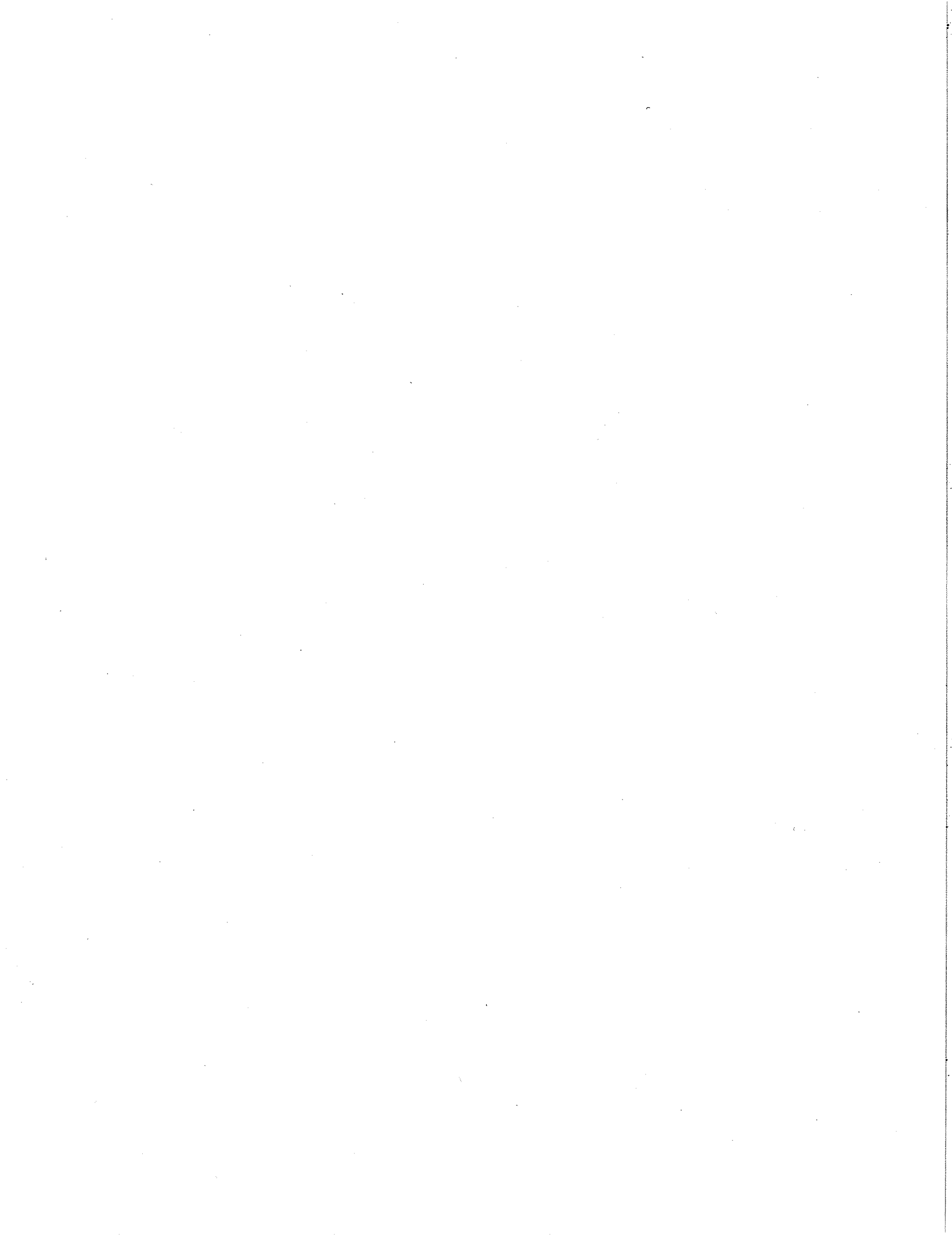
| | | |
|---|--|------------------------------|
| 1: Critical Habitat | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 2: Threatened or Endangered Species | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 3: Documented High Quality Wetland | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 4: Significant Breeding or Concentration Area (waterfowl) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 5: Category 1 Wetlands (hydrologically isolated) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 6: Bogs | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 7: Fens | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8a: "Old Growth Forest" | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8b: Mature Forested Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9a: Lake Erie Coastal and Tributary Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9b: Hydrology result of Erosion Control Measures (Lake Erie) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9c: Hydrology unrestricted | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9d: Native Species Predominate | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9e: Non-native Species Predominate | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 10: Oak Openings | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 11: Relict Wet Prairies | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |

Table 2. Interim scoring breakpoints for wetland regulatory categories for ORAM 5.0 scores

| Category | ORAM 5.0 Score |
|------------------|----------------|
| 1 | 0-29.9 |
| 1 or 2 gray zone | 30-34.9 |
| modified 2 | 35-44.9 |
| 2 | 45-59.9 |
| 2 or 3 | 60-64.9 |
| 3 | 65-100 |

0 Category 1

Table based on FEB 2001 OEPA Standards



| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetlands: WA-9 | Rater: H. Fogell, A. Davis |

| | |
|-----------------|---|
| 2 | 2 |
| Subtotal Points | |

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

| | |
|-----------------|----|
| 16 | 14 |
| Subtotal Points | |

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

| | |
|-----------------|----|
| 44 | 28 |
| Subtotal Points | |

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3d. Duration inundation/saturation.

(select one or double check & average)

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3c. Maximum water depth. Select only 1.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> dike | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> tile | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other- list |

| | |
|-----------------|----|
| 58 | 14 |
| Subtotal Points | |

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

4b. Habitat development. Select one.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetland: WA-9 | Rater: H. Fogell, A. Davis |

Subtotal first page

| | |
|----------|--------|
| 58 | 0 |
| Subtotal | Points |

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- Bog (10 pts)
- Fen (10 pts)
- Old Growth Forest (10 pts)
- Mature forested wetland (5 pts)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- Lake Plain Sand Prairies (Oak Openings) (10 pts)
- Relict Wet Prairies (10 pts)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10 pts)
- Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

| | |
|----------|--------|
| 67 | 9 |
| Subtotal | Points |

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 2 Forest
- 0 Mudflats
- 0 Open water
- 0 Other (list)

6b. Horizontal (plan view) interspersions

Select only one

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- Extensive >75 % cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly Absent <5% cover (0)
- Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

- 2 Vegetated hummocks/tussocks
- 2 Coarse woody debris >15 cm (6")
- 1 Standing dead > 25 cm (10") dbh
- 3 Amphibian breeding pools

Vegetation Community Cover Scale

| | |
|---|---|
| 0 | Absent or comprises <0.1 ha (0.2471 acres) contiguous area |
| 1 | Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality |
| 2 | Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality |
| 3 | Present and comprises significant part, or more, of wetland's vegetation and is of high quality |

Narrative Description of Vegetation Quality

| | |
|----------|--|
| low | Low spp diversity and/or predominance of nonnative or disturbance tolerant native species |
| moderate | Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

Mudflat and Open Water Class Quality

| | |
|---|--|
| 0 | Absent <0.1 ha (0.2471 acres) |
| 1 | Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres) |
| 2 | Moderate 1 ha to <4 ha (2.47 acres 9.88 acres) |
| 3 | High 4 ha (9.88 acres) or more |

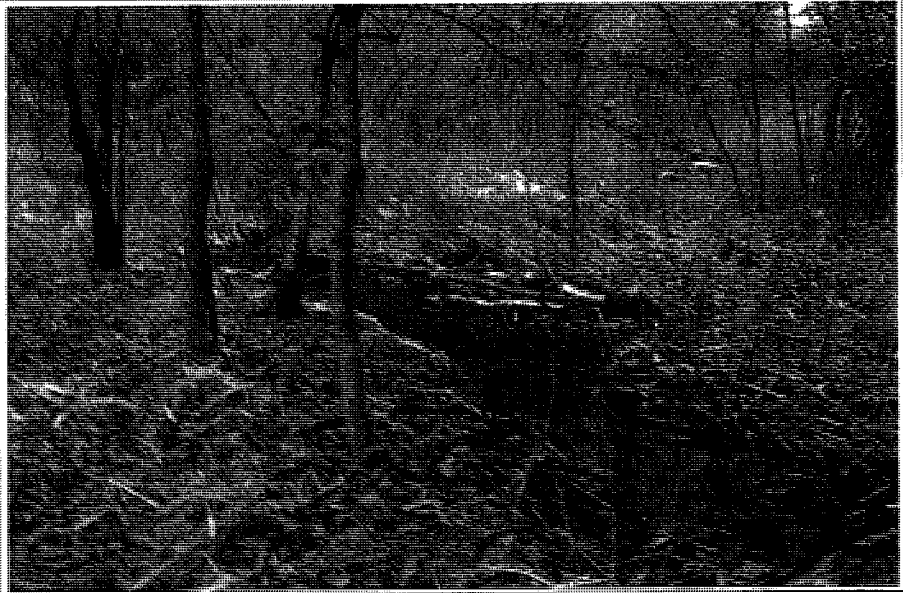
Microtopography Cover Scale

| | |
|---|--|
| 0 | Absent |
| 1 | Present very small amounts or if more common of marginal quality |
| 2 | Present in moderate amounts, but not of highest quality or in small amounts of highest quality |
| 3 | Present in moderate or greater amounts and of highest quality |

GRAND TOTAL (max 100 pts)

Provisional Wetland Category: **Category 3**

Background Information Form

| | | | |
|--|--|---|-------------------------------------|
| Name: | H. Fogell, A. Davis | Date: | February 21, 2008 |
| Affiliation: | MACTEC Engineering & Consulting | | |
| User Address: | 3301 Atlantic Ave, Raleigh, NC. | | |
| Phone: | 919-876-0416 | | |
| e-mail address | akdavis@mactec.com | | |
| Wetlands Name | WA-9 | | |
| Location of Wetlands including address if available | See ORAM Figure in CCNPP Wetlands Master Plan/USACE IP Application | | |
| | | Sources of information used (check all that apply) | |
| Lat/Lon or UTM | 38.42359/-76.44224 | Site Visit | <input checked="" type="checkbox"/> |
| USGS Quad | Cove Point, MD | USGS Topo | <input checked="" type="checkbox"/> |
| Hydrologic Unit Code | 20600060706 | NWI Map | <input checked="" type="checkbox"/> |
| Wetland Size (acres) | 0.7 | OWI Map | <input type="checkbox"/> |
| How was size estimated? Wetlands Delineation/GIS | Aerial Photo | <input checked="" type="checkbox"/> | |
| | Soil Survey | <input checked="" type="checkbox"/> | |
| | ODNR - DNAP | <input type="checkbox"/> | |
| | Delineation Report/Map | <input checked="" type="checkbox"/> | |
| Photograph | | | |
|  | | | |
| final score: | 67 | Provisional Wetland Category: | Category 3 |

Narrative Rating Questions

| | |
|----------------------------------|--------------------------------|
| Name: H. Fogell, A. Davis | Date: February 21, 2008 |
| Wetlands Name WA-9 | |

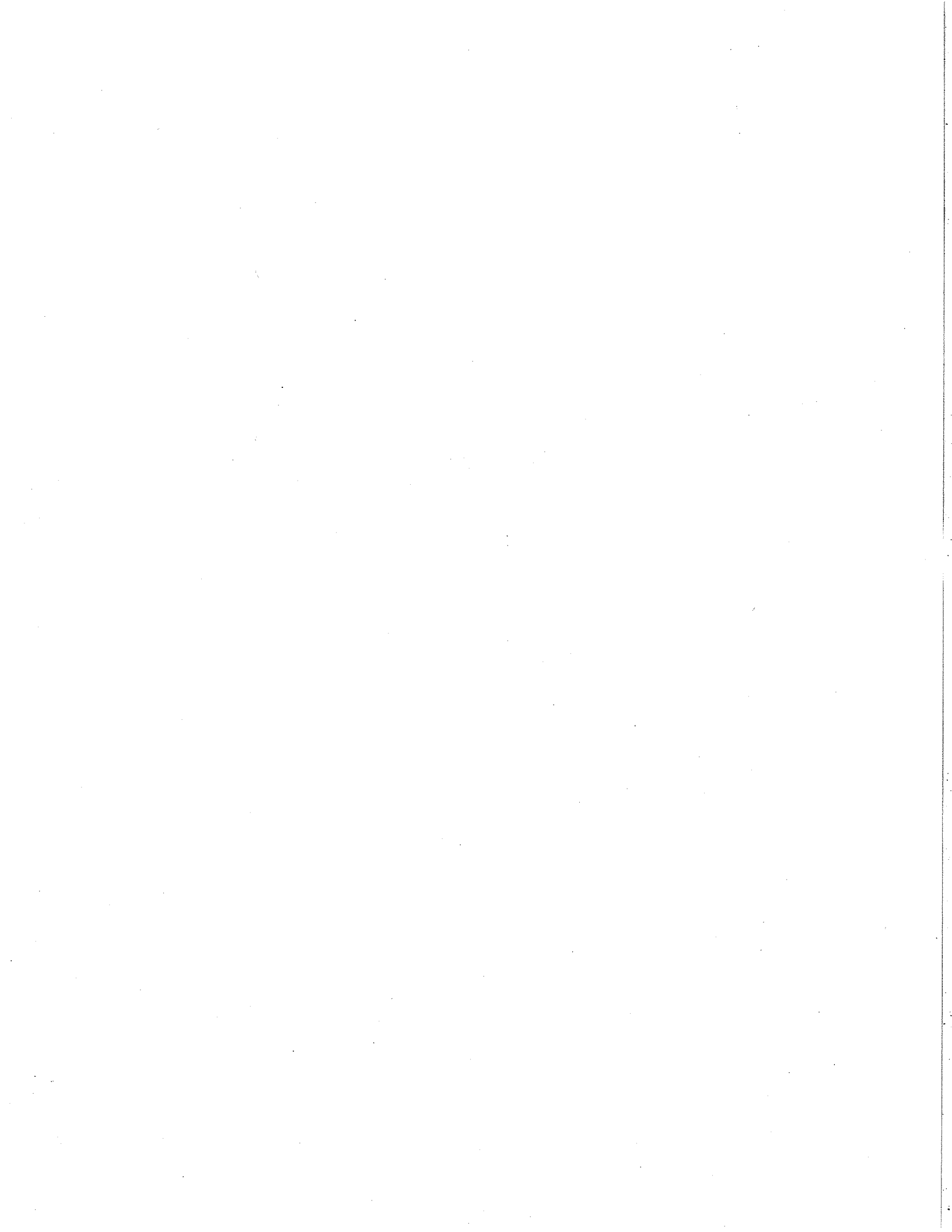
| | | |
|---|--|---|
| 1: Critical Habitat | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 2: Threatened or Endangered Species | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 3: Documented High Quality Wetland | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 4: Significant Breeding or Concentration Area (waterfowl) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 5: Category 1 Wetlands (hydrologically isolated) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 6: Bogs | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 7: Fens | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8a: "Old Growth Forest" | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8b: Mature Forested Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9a: Lake Erie Coastal and Tributary Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9b: Hydrology result of Erosion Control Measures (Lake Erie) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9c: Hydrology unrestricted | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9d: Native Species Predominate | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9e: Non-native Species Predominate | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> YES |
| 10: Oak Openings | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 11: Relict Wet Prairies | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |

Table 2. Interim scoring breakpoints for wetland regulatory categories for ORAM 5.0 scores

| Category | ORAM 5.0 Score |
|--------------------------------|----------------|
| 1 | 0-29.9 |
| 1 or 2 gray zone modified 2 | 30-34.9 |
| 2 | 35-44.9 |
| 2 or 3 | 45-59.9 |
| 3 | 60-64.9 |
| | 65-100 |

67 Category 3

Table based on FEB 2001 OEPA Standards



| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetlands: WA-10 | Rater: H. Fogell, A. Davis |

| | |
|----------|--------|
| 2 | 2 |
| Subtotal | Points |

Metric 1. Wetland Area (size). (max 6 pts)

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

| | |
|----------|--------|
| 16 | 14 |
| Subtotal | Points |

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

| | |
|----------|--------|
| 36 | 20 |
| Subtotal | Points |

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3d. Duration inundation/saturation.

(select one or double check & average)

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3c. Maximum water depth. Select only 1.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

| Check all disturbances observed | |
|--|---|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> dike | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> tile | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input checked="" type="checkbox"/> stormwater input | <input checked="" type="checkbox"/> other- list |

| | |
|----------|--------|
| 49 | 13 |
| Subtotal | Points |

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

4b. Habitat development. Select one.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

| | |
|----|--------------------|
| 49 | subtotal this page |
|----|--------------------|

| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetland: WA-10 | Rater: H. Fogell, A. Davis |

subtotal first page

| | |
|----------|--------|
| 49 | 0 |
| Subtotal | Points |

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- Bog (10 pts)
- Fen (10 pts)
- Old Growth Forest (10 pts)
- Mature forested wetland (5 pts)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- Lake Plain Sand Prairies (Oak Openings) (10 pts)
- Relict Wet Prairies (10 pts)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10 pts)
- Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

| | |
|----------|--------|
| 56 | 7 |
| Subtotal | Points |

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- | | |
|---|--------------|
| 0 | Aquatic bed |
| 1 | Emergent |
| 0 | Shrub |
| 1 | Forest |
| 0 | Mudflats |
| 0 | Open water |
| 0 | Other (list) |

6b. Horizontal (plan view) interspersions

Select only one

- | | |
|-------------------------------------|---------------------|
| <input type="checkbox"/> | High (5) |
| <input type="checkbox"/> | Moderately high (4) |
| <input type="checkbox"/> | Moderate (3) |
| <input type="checkbox"/> | Moderately low (2) |
| <input checked="" type="checkbox"/> | Low (1) |
| <input type="checkbox"/> | None (0) |

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- | | |
|-------------------------------------|-----------------------------|
| <input type="checkbox"/> | Extensive >75 % cover (-5) |
| <input checked="" type="checkbox"/> | Moderate 25-75% cover (-3) |
| <input type="checkbox"/> | Sparse 5-25% cover (-1) |
| <input type="checkbox"/> | Nearly Absent <5% cover (0) |
| <input type="checkbox"/> | Absent (1) |

6d. Microtopography

Score all present using 0 to 3 scale

- | | | |
|-------------------------------------|---|---------------------------------|
| <input checked="" type="checkbox"/> | 2 | Vegetated hummocks/tussocks |
| <input checked="" type="checkbox"/> | 2 | Coarse woody debris >15 cm (6") |
| <input type="checkbox"/> | 1 | Standing dead > 25 cm (10") dbh |
| <input checked="" type="checkbox"/> | 2 | Amphibian breeding pools |

Vegetation Community Cover Scale

| | |
|---|---|
| 0 | Absent or comprises <0.1 ha (0.2471 acres) contiguous area |
| 1 | Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality |
| 2 | Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality |
| 3 | Present and comprises significant part, or more, of wetland's vegetation and is of high quality |

Narrative Description of Vegetation Quality

| | |
|----------|--|
| low | Low spp diversity and/or predominance of nonnative or disturbance tolerant native species |
| moderate | Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

Mudflat and Open Water Class Quality

| | |
|---|--|
| 0 | Absent <0.1 ha (0.2471 acres) |
| 1 | Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres) |
| 2 | Moderate 1 ha to <4 ha (2.47 acres 9.88 acres) |
| 3 | High 4 ha (9.88 acres) or more |


Microtopography Cover Scale

| | |
|---|--|
| 0 | Absent |
| 1 | Present very small amounts or if more common of marginal quality |
| 2 | Present in moderate amounts, but not of highest quality or in small amounts of highest quality |
| 3 | Present in moderate or greater amounts and of highest quality |

GRAND TOTAL (max 100 pts)

Provisional Wetland Category: Category 2

Background Information Form

| | | |
|--|--------------------|--|
| Name: H. Fogell, A. Davis | | Date: February 21, 2008 |
| Affiliation: MACTEC Engineering & Consulting | | |
| User Address: 3301 Atlantic Ave, Raleigh, NC. | | |
| Phone: 919-876-0416 | | |
| e-mail address: akdavis@mactec.com | | |
| Wetlands Name: WA-10 | | |
| Location of Wetlands including address if available: See ORAM Figure in CCNPP Wetlands Master Plan/USACE IP Application | | |
| | | Sources of information used (check all that apply) |
| Lat/Lon or UTM | 38.42564/-76.44304 | Site Visit <input checked="" type="checkbox"/> |
| USGS Quad | Cove Point, MD | USGS Topo <input checked="" type="checkbox"/> |
| Hydrologic Unit Code | 20600060706 | NWI Map <input checked="" type="checkbox"/> |
| Wetland Size (acres) | 1 | OWI Map <input type="checkbox"/> |
| How was size estimated? Wetlands Delineation/GIS | | Aerial Photo <input checked="" type="checkbox"/> |
| | | Soil Survey <input checked="" type="checkbox"/> |
| | | ODNR - DNAP <input type="checkbox"/> |
| | | Delineation Report/Map <input checked="" type="checkbox"/> |
| Photograph | | |
|  | | |
| final score: | 56 | Provisional Wetland Category: Category 2 |

Narrative Rating Questions

| | |
|----------------------------------|--------------------------------|
| Name: H. Fogell, A. Davis | Date: February 21, 2008 |
| Wetlands Name WA-10 | |

| | | |
|---|--|---|
| 1: Critical Habitat | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 2: Threatened or Endangered Species | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 3: Documented High Quality Wetland | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 4: Significant Breeding or Concentration Area (waterfowl) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 5: Category 1 Wetlands (hydrologically isolated) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 6: Bogs | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 7: Fens | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8a: "Old Growth Forest" | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8b: Mature Forested Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9a: Lake Erie Coastal and Tributary Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9b: Hydrology result of Erosion Control Measures (Lake Erie) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9c: Hydrology unrestricted | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9d: Native Species Predominate | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9e: Non-native Species Predominate | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> YES |
| 10: Oak Openings | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 11: Relict Wet Prairies | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |

Table 2. Interim scoring breakpoints for wetland regulatory categories for ORAM 5.0 scores

| Category | ORAM 5.0 Score |
|------------------|----------------|
| 1 | 0-29.9 |
| 1 or 2 gray zone | 30-34.9 |
| modified 2 | 35-44.9 |
| 2 | 45-59.9 |
| 2 or 3 | 60-64.9 |
| 3 | 65-100 |

56 Category 2

Table based on FEB 2001 OEPA Standards

| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 22, 2008 |
| Wetlands: WA-11 | Rater: H. Fogell, A. Davis |

| | |
|-----------------|---|
| 1 | 1 |
| Subtotal Points | |

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

| | |
|-----------------|----|
| 15 | 14 |
| Subtotal Points | |

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

| | |
|-----------------|----|
| 35 | 20 |
| Subtotal Points | |

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3d. Duration inundation/saturation.

(select one or double check & average)

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3c. Maximum water depth. Select only 1.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> dike | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> tile | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other- list |

| | |
|-----------------|----|
| 48 | 13 |
| Subtotal Points | |

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

4b. Habitat development. Select one.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

| | |
|----|--------------------|
| 48 | subtotal this page |
|----|--------------------|

| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetland: WA-11 | Rater: H. Fogell, A. Davis |

subtotal first page

| | |
|----------|--------|
| 48 | 0 |
| Subtotal | Points |

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- Bog (10 pts)
- Fen (10 pts)
- Old Growth Forest (10 pts)
- Mature forested wetland (5 pts)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- Lake Plain Sand Prairies (Oak Openings) (10 pts)
- Relict Wet Prairies (10 pts)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10 pts)
- Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

| | |
|----------|--------|
| 59 | 11 |
| Subtotal | Points |

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- 0 Aquatic bed
- 0 Emergent
- 1 Shrub
- 2 Forest
- 0 Mudflats
- 0 Open water
- 0 Other (list)

Vegetation Community Cover Scale

| | |
|---|---|
| 0 | Absent or comprises <0.1 ha (0.2471 acres) contiguous area |
| 1 | Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality |
| 2 | Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality |
| 3 | Present and comprises significant part, or more, of wetland's vegetation and is of high quality |

6b. Horizontal (plan view) interspersions

Select only one

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

Narrative Description of Vegetation Quality

| | |
|----------|--|
| low | Low spp diversity and/or predominance of nonnative or disturbance tolerant native species |
| moderate | Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- Extensive >75 % cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly Absent <5% cover (0)
- Absent (1)

Mudflat and Open Water Class Quality

| | |
|---|--|
| 0 | Absent <0.1 ha (0.2471 acres) |
| 1 | Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres) |
| 2 | Moderate 1 ha to <4 ha (2.47 acres 9.88 acres) |
| 3 | High 4 ha (9.88 acres) or more |

6d. Microtopography

Score all present using 0 to 3 scale

- 1 Vegetated hummocks/tussocks
- 2 Coarse woody debris >15 cm (6")
- 0 Standing dead > 25 cm (10") dbh
- 1 Amphibian breeding pools


Microtopography Cover Scale

| | |
|---|--|
| 0 | Absent |
| 1 | Present very small amounts or if more common of marginal quality |
| 2 | Present in moderate amounts, but not of highest quality or in small amounts of highest quality |
| 3 | Present in moderate or greater amounts and of highest quality |

GRAND TOTAL (max 100 pts)

Provisional Wetland Category: **Category 2**

Background Information Form

| | | | |
|---|--|-------------------------------------|-------------------------------------|
| Name: | H. Fogell, A. Davis | Date: | February 22, 2008 |
| Affiliation: | MACTEC Engineering & Consulting | | |
| User Address: | 3301 Atlantic Ave, Raleigh, NC. | | |
| Phone: | 919-876-0416 | | |
| e-mail address | akdavis@mactec.com | | |
| Wetlands Name | WA-11 | | |
| Location of Wetlands including address if available | See ORAM Figure in CCNPP Wetlands Master Plan/USACE IP Application | | |
| | Sources of information used (check all that apply) | | |
| Lat/Lon or UTM | 38.43123/-76.45678 | Site Visit | <input checked="" type="checkbox"/> |
| USGS Quad | Cove Point, MD | USGS Topo | <input checked="" type="checkbox"/> |
| Hydrologic Unit Code | 20600060706 | NWI Map | <input checked="" type="checkbox"/> |
| Wetland Size (acres) | 0.16 | OWI Map | <input type="checkbox"/> |
| How was size estimated? Wetlands Delineation/GIS | Aerial Photo | <input checked="" type="checkbox"/> | |
| | Soil Survey | <input checked="" type="checkbox"/> | |
| | ODNR - DNAP | <input type="checkbox"/> | |
| | Delineation Report/Map | <input checked="" type="checkbox"/> | |
| Photograph | | | |
|  | | | |
| final score: | 59 | Provisional Wetland Category: | Category 2 |

Narrative Rating Questions

| | |
|----------------------------------|--------------------------------|
| Name: H. Fogell, A. Davis | Date: February 22, 2008 |
| Wetlands Name WA-11 | |

| | | |
|---|--|---|
| 1: Critical Habitat | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 2: Threatened or Endangered Species | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 3: Documented High Quality Wetland | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 4: Significant Breeding or Concentration Area (waterfowl) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 5: Category 1 Wetlands (hydrologically isolated) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 6: Bogs | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 7: Fens | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8a: "Old Growth Forest" | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8b: Mature Forested Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9a: Lake Erie Coastal and Tributary Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9b: Hydrology result of Erosion Control Measures (Lake Erie) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9c: Hydrology unrestricted | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9d: Native Species Predominate | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> YES |
| 9e: Non-native Species Predominate | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 10: Oak Openings | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 11: Relict Wet Prairies | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |

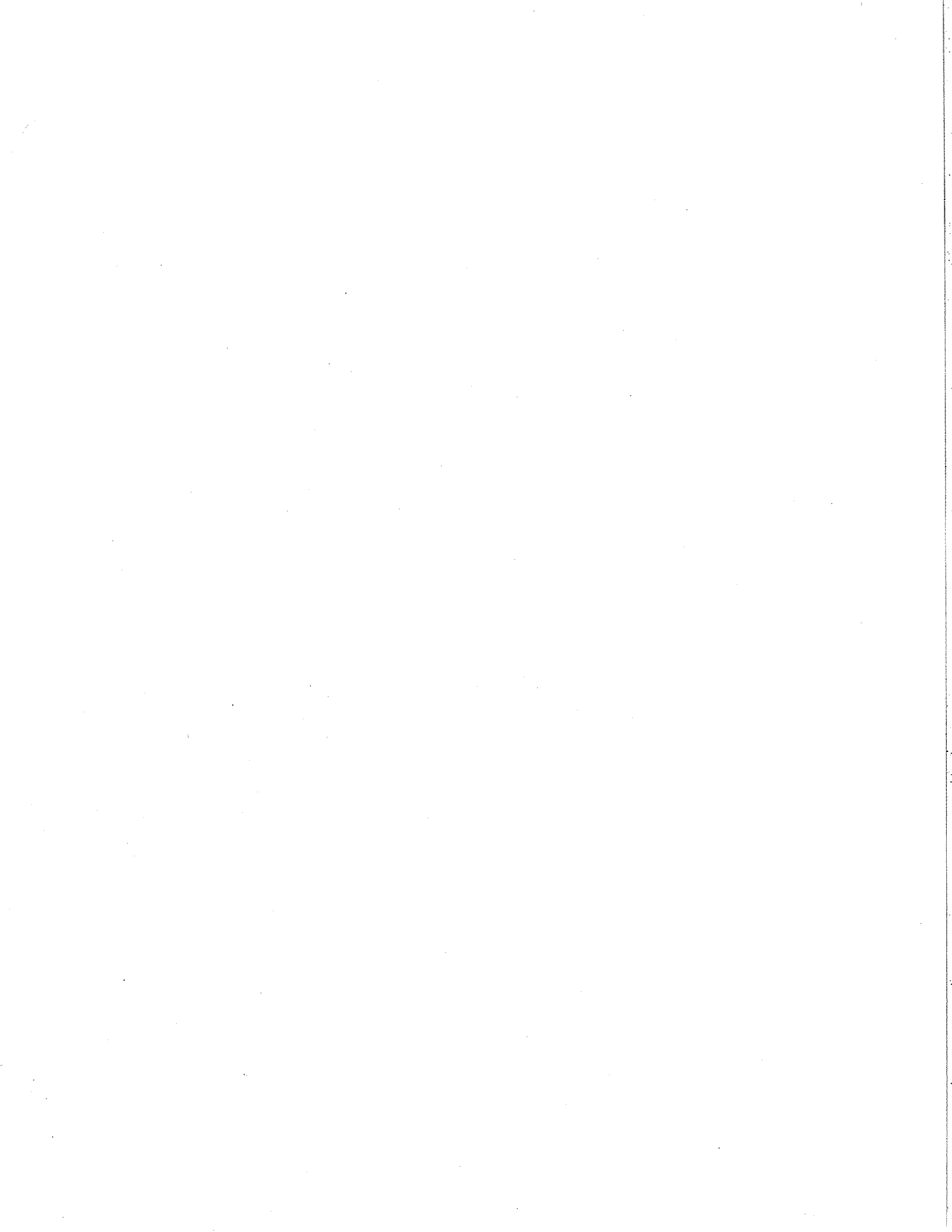
Table 2. Interim scoring breakpoints for wetland regulatory categories for ORAM 5.0 scores

| Category | ORAM 5.0 Score |
|------------------|----------------|
| 1 | 0-29.9 |
| 1 or 2 gray zone | 30-34.9 |
| modified 2 | 35-44.9 |
| 2 | 45-59.9 |
| 2 or 3 | 60-64.9 |
| 3 | 65-100 |

59

Category 2

Table based on FEB 2001 OEPA Standards



| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 22, 2008 |
| Wetlands: WA-12 | Rater: H. Fogell, A. Davis |

| | |
|-----------------|---|
| 1 | 1 |
| Subtotal Points | |

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

| | |
|-----------------|----|
| 12 | 11 |
| Subtotal Points | |

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

| | |
|-----------------|----|
| 31 | 19 |
| Subtotal Points | |

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3d. Duration inundation/saturation.

(select one or double check & average)

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3c. Maximum water depth. Select only 1.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

| Check all disturbances observed | |
|--|---|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> dike | <input checked="" type="checkbox"/> filling/grading |
| <input type="checkbox"/> tile | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input checked="" type="checkbox"/> stormwater input | <input type="checkbox"/> other- list |

| | |
|-----------------|----|
| 43 | 12 |
| Subtotal Points | |

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

4b. Habitat development. Select one.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

| | |
|----|--------------------|
| 43 | subtotal this page |
|----|--------------------|

| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetland: WA-12 | Rater: H. Fogell, A. Davis |

3 subtotal first page

| | |
|----------|--------|
| 43 | 0 |
| Subtotal | Points |

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- Bog (10 pts)
- Fen (10 pts)
- Old Growth Forest (10 pts)
- Mature forested wetland (5 pts)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- Lake Plain Sand Prairies (Oak Openings) (10 pts)
- Relict Wet Prairies (10 pts)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10 pts)
- Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

| | |
|----------|--------|
| 51 | 8 |
| Subtotal | Points |

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- | | |
|---|--------------|
| 0 | Aquatic bed |
| 1 | Emergent |
| 1 | Shrub |
| 2 | Forest |
| 0 | Mudflats |
| 0 | Open water |
| 0 | Other (list) |

Vegetation Community Cover Scale

| | |
|---|---|
| 0 | Absent or comprises <0.1 ha (0.2471 acres) contiguous area |
| 1 | Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality |
| 2 | Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality |
| 3 | Present and comprises significant part, or more, of wetland's vegetation and is of high quality |

6b. Horizontal (plan view) interspersions

Select only one

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

Narrative Description of Vegetation Quality

| | |
|----------|--|
| low | Low spp diversity and/or predominance of nonnative or disturbance tolerant native species |
| moderate | Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- Extensive >75 % cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly Absent <5% cover (0)
- Absent (1)

Mudflat and Open Water Class Quality

| | |
|---|--|
| 0 | Absent <0.1 ha (0.2471 acres) |
| 1 | Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres) |
| 2 | Moderate 1 ha to <4 ha (2.47 acres 9.88 acres) |
| 3 | High 4 ha (9.88 acres) or more |

6d. Microtopography

Score all present using 0 to 3 scale

- 1 Vegetated hummocks/tussocks
- 2 Coarse woody debris >15 cm (6")
- 1 Standing dead > 25 cm (10") dbh
- 1 Amphibian breeding pools


Microtopography Cover Scale

| | |
|---|--|
| 0 | Absent |
| 1 | Present very small amounts or if more common of marginal quality |
| 2 | Present in moderate amounts, but not of highest quality or in small amounts of highest quality |
| 3 | Present in moderate or greater amounts and of highest quality |

GRAND TOTAL (max 100 pts)

Provisional Wetland Category: **Category 2**

Background Information Form

| | | | |
|---|--|-------------------------------|-------------------------------------|
| Name: | H. Fogell, A. Davis | Date: | February 22, 2008 |
| Affiliation: | MACTEC Engineering & Consulting | | |
| User Address: | 3301 Atlantic Ave, Raleigh, NC. | | |
| Phone: | 919-876-0416 | | |
| e-mail address | akdavis@mactec.com | | |
| Wetlands Name | WA-12 | | |
| Location of Wetlands including address if available | See ORAM Figure in CCNPP Wetlands Master Plan/USACE IP Application | | |
| | Sources of information used (check all that apply) | | |
| Lat/Lon or UTM | 38.43020/-76.45462 | Site Visit | <input checked="" type="checkbox"/> |
| USGS Quad | Cove Point, MD | USGS Topo | <input checked="" type="checkbox"/> |
| Hydrologic Unit Code | 20600060706 | NWI Map | <input checked="" type="checkbox"/> |
| Wetland Size (acres) | 0.28 | OWI Map | <input type="checkbox"/> |
| How was size estimated? | Aerial Photo | | <input checked="" type="checkbox"/> |
| | Soil Survey | | <input checked="" type="checkbox"/> |
| | ODNR - DNAP | | <input type="checkbox"/> |
| Wetlands Delineation/GIS | Delineation Report/Map | | <input checked="" type="checkbox"/> |
| Photograph | | | |
|  | | | |
| final score: | 51 | Provisional Wetland Category: | Category 2 |

Narrative Rating Questions

| | |
|----------------------------------|--------------------------------|
| Name: H. Fogell, A. Davis | Date: February 22, 2008 |
| Wetlands Name WA-12 | |

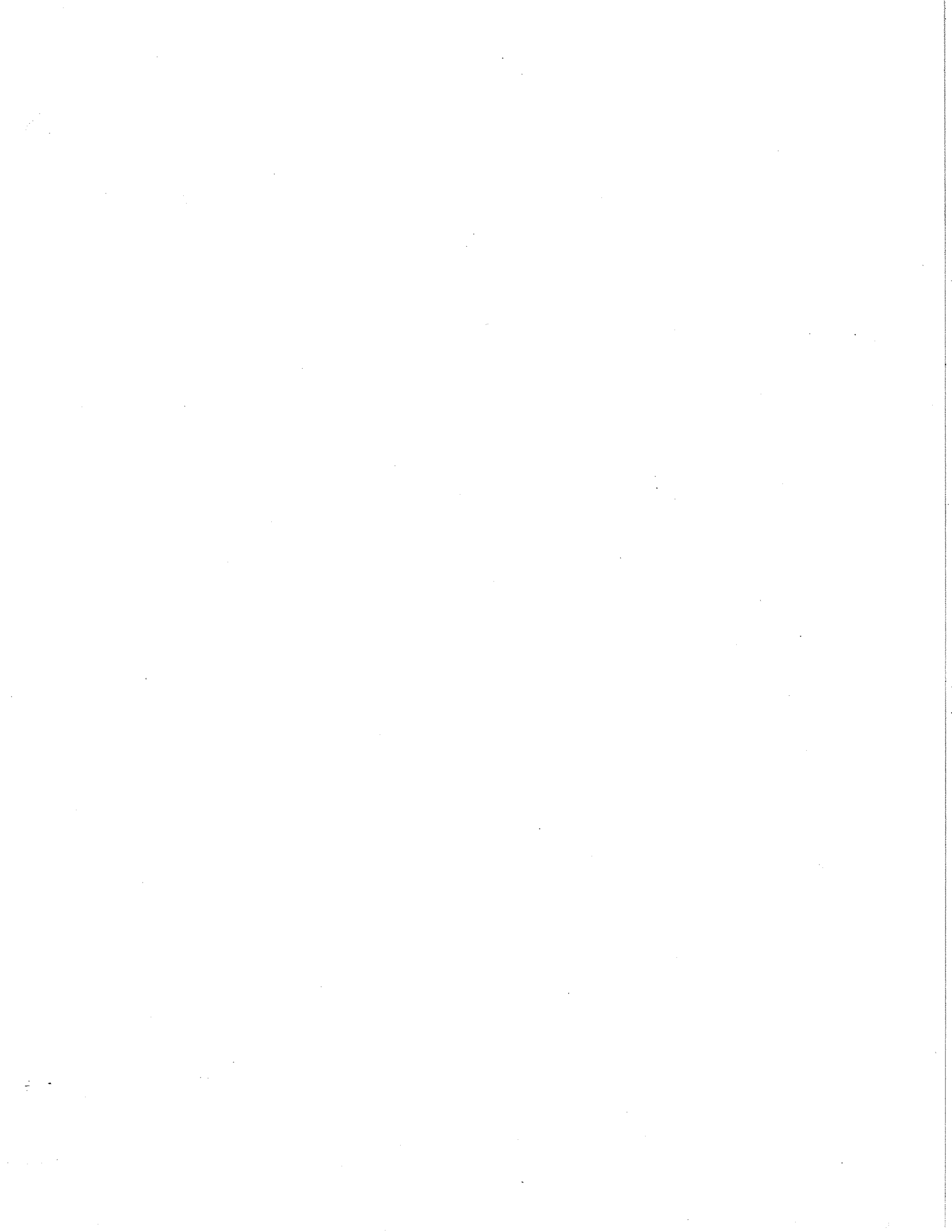
| | | |
|---|--|---|
| 1: Critical Habitat | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 2: Threatened or Endangered Species | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 3: Documented High Quality Wetland | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 4: Significant Breeding or Concentration Area (waterfowl) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 5: Category 1 Wetlands (hydrologically isolated) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 6: Bogs | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 7: Fens | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8a: "Old Growth Forest" | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8b: Mature Forested Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9a: Lake Erie Coastal and Tributary Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9b: Hydrology result of Erosion Control Measures (Lake Erie) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9c: Hydrology unrestricted | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9d: Native Species Predominate | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9e: Non-native Species Predominate | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> YES |
| 10: Oak Openings | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 11: Relict Wet Prairies | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |

Table 2. Interim scoring breakpoints for wetland regulatory categories for ORAM 5.0 scores

| Category | ORAM 5.0 Score |
|------------------|----------------|
| 1 | 0-29.9 |
| 1 or 2 gray zone | 30-34.9 |
| modified 2 | 35-44.9 |
| 2 | 45-59.9 |
| 2 or 3 | 60-64.9 |
| 3 | 65-100 |

51 Category 2

Table based on FEB 2001 OEPA Standards



| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 22, 2008 |
| Wetlands: WA-12 | Rater: H. Fogell, A. Davis |

| | |
|---|---|
| 1 | 1 |
|---|---|

Subtotal Points

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

| | |
|----|----|
| 12 | 11 |
|----|----|

Subtotal Points

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

| | |
|----|----|
| 31 | 19 |
|----|----|

Subtotal Points

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3d. Duration inundation/saturation.

(select one or double check & average)

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3c. Maximum water depth. Select only 1.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

| Check all disturbances observed | |
|--|---|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> dike | <input checked="" type="checkbox"/> filling/grading |
| <input type="checkbox"/> tile | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input checked="" type="checkbox"/> stormwater input | <input type="checkbox"/> other- list |

| | |
|----|----|
| 43 | 12 |
|----|----|

Subtotal Points

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

4b. Habitat development. Select one.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

| | |
|----|--------------------|
| 43 | subtotal this page |
|----|--------------------|

| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetland: WA-12 | Rater: H. Fogell, A. Davis |

3 subtotal first page

| | |
|----------|--------|
| 43 | 0 |
| Subtotal | Points |

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- Bog (10 pts)
- Fen (10 pts)
- Old Growth Forest (10 pts)
- Mature forested wetland (5 pts)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- Lake Plain Sand Prairies (Oak Openings) (10 pts)
- Relict Wet Prairies (10 pts)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10 pts)
- Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

| | |
|----------|--------|
| 51 | 8 |
| Subtotal | Points |

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- 0 Aquatic bed
- 1 Emergent
- 1 Shrub
- 2 Forest
- 0 Mudflats
- 0 Open water
- 0 Other (list)

6b. Horizontal (plan view) interspersions

Select only one

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- Extensive >75 % cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly Absent <5% cover (0)
- Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

- 1 Vegetated hummocks/tussocks
- 2 Coarse woody debris >15 cm (6")
- 1 Standing dead > 25 cm (10") dbh
- 1 Amphibian breeding pools

Vegetation Community Cover Scale

| | |
|---|---|
| 0 | Absent or comprises <0.1 ha (0.2471 acres) contiguous area |
| 1 | Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality |
| 2 | Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality |
| 3 | Present and comprises significant part, or more, of wetland's vegetation and is of high quality |

Narrative Description of Vegetation Quality

| | |
|----------|--|
| low | Low spp diversity and/or predominance of nonnative or disturbance tolerant native species |
| moderate | Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

Mudflat and Open Water Class Quality

| | |
|---|--|
| 0 | Absent <0.1 ha (0.2471 acres) |
| 1 | Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres) |
| 2 | Moderate 1 ha to <4 ha (2.47 acres 9.88 acres) |
| 3 | High 4 ha (9.88 acres) or more |


Microtopography Cover Scale

| | |
|---|--|
| 0 | Absent |
| 1 | Present very small amounts or if more common of marginal quality |
| 2 | Present in moderate amounts, but not of highest quality or in small amounts of highest quality |
| 3 | Present in moderate or greater amounts and of highest quality |

GRAND TOTAL (max 100 pts)

Provisional Wetland Category: **Category 2**

Background Information Form

| | | |
|--|--------------------|--|
| Name: H. Fogell, A. Davis | | Date: February 22, 2008 |
| Affiliation: MACTEC Engineering & Consulting | | |
| User Address: 3301 Atlantic Ave, Raleigh, NC. | | |
| Phone: 919-876-0416 | | |
| e-mail address: akdavis@mactec.com | | |
| Wetlands Name: WA-12 | | |
| Location of Wetlands including address if available: See ORAM Figure in CCNPP Wetlands Master Plan/USACE IP Application | | |
| | | Sources of information used (check all that apply) |
| Lat/Lon or UTM | 38.43020/-76.45462 | Site Visit <input checked="" type="checkbox"/> |
| USGS Quad | Cove Point, MD | USGS Topo <input checked="" type="checkbox"/> |
| Hydrologic Unit Code | 20600060706 | NWI Map <input checked="" type="checkbox"/> |
| Wetland Size (acres) | 0.28 | OWI Map <input type="checkbox"/> |
| How was size estimated? Wetlands Delineation/GIS | | Aerial Photo <input checked="" type="checkbox"/> |
| | | Soil Survey <input checked="" type="checkbox"/> |
| | | ODNR - DNAP <input type="checkbox"/> |
| | | Delineation Report/Map <input checked="" type="checkbox"/> |
| Photograph | | |
|  | | |
| final score: | 51 | Provisional Wetland Category: Category 2 |

Narrative Rating Questions

| | |
|----------------------------------|--------------------------------|
| Name: H. Fogell, A. Davis | Date: February 22, 2008 |
| Wetlands Name WA-12 | |

| | | |
|---|--|---|
| 1: Critical Habitat | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 2: Threatened or Endangered Species | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 3: Documented High Quality Wetland | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 4: Significant Breeding or Concentration Area (waterfowl) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 5: Category 1 Wetlands (hydrologically isolated) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 6: Bogs | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 7: Fens | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8a: "Old Growth Forest" | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8b: Mature Forested Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9a: Lake Erie Coastal and Tributary Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9b: Hydrology result of Erosion Control Measures (Lake Erie) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9c: Hydrology unrestricted | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9d: Native Species Predominate | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9e: Non-native Species Predominate | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> YES |
| 10: Oak Openings | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 11: Relict Wet Prairies | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |

Table 2. Interim scoring breakpoints for wetland regulatory categories for ORAM 5.0 scores

| Category | ORAM 5.0 Score |
|------------------|----------------|
| 1 | 0-29.9 |
| 1 or 2 gray zone | 30-34.9 |
| modified 2 | 35-44.9 |
| 2 | 45-59.9 |
| 2 or 3 | 60-64.9 |
| 3 | 65-100 |

51 Category 2

Table based on FEB 2001 OEPA Standards



| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 22, 2008 |
| Wetlands: WA-13 | Rater: H. Fogell, A. Davis |

| | |
|----------|--------|
| 2 | 2 |
| Subtotal | Points |

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

| | |
|----------|--------|
| 16 | 14 |
| Subtotal | Points |

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

| | |
|----------|--------|
| 36 | 20 |
| Subtotal | Points |

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3d. Duration inundation/saturation.

(select one or double check & average)

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3c. Maximum water depth. Select only 1.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> dike | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> tile | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other- list |

| | |
|----------|--------|
| 49 | 13 |
| Subtotal | Points |

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

4b. Habitat development. Select one.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetland: WA-13 | Rater: H. Fogell, A. Davis |

9 subtotal first page

| | |
|----------|--------|
| 49 | 0 |
| Subtotal | Points |

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- Bog (10 pts)
- Fen (10 pts)
- Old Growth Forest (10 pts)
- Mature forested wetland (5 pts)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- Lake Plain Sand Prairies (Oak Openings) (10 pts)
- Relict Wet Prairies (10 pts)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10 pts)
- Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

| | |
|----------|--------|
| 57 | 8 |
| Subtotal | Points |

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- | | |
|---|--------------|
| 0 | Aquatic bed |
| 0 | Emergent |
| 2 | Shrub |
| 1 | Forest |
| 0 | Mudflats |
| 0 | Open water |
| 0 | Other (list) |

6b. Horizontal (plan view) interspersions

Select only one

- | | |
|-------------------------------------|---------------------|
| <input type="checkbox"/> | High (5) |
| <input type="checkbox"/> | Moderately high (4) |
| <input type="checkbox"/> | Moderate (3) |
| <input type="checkbox"/> | Moderately low (2) |
| <input checked="" type="checkbox"/> | Low (1) |
| <input type="checkbox"/> | None (0) |

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- | | |
|-------------------------------------|-----------------------------|
| <input type="checkbox"/> | Extensive >75 % cover (-5) |
| <input type="checkbox"/> | Moderate 25-75% cover (-3) |
| <input type="checkbox"/> | Sparse 5-25% cover (-1) |
| <input checked="" type="checkbox"/> | Nearly Absent <5% cover (0) |
| <input type="checkbox"/> | Absent (1) |

6d. Microtopography

Score all present using 0 to 3 scale

- | | |
|---|---------------------------------|
| 1 | Vegetated hummocks/tussocks |
| 2 | Coarse woody debris >15 cm (6") |
| 0 | Standing dead > 25 cm (10") dbh |
| 1 | Amphibian breeding pools |

Vegetation Community Cover Scale

| | |
|---|---|
| 0 | Absent or comprises <0.1 ha (0.2471 acres) contiguous area |
| 1 | Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality |
| 2 | Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality |
| 3 | Present and comprises significant part, or more, of wetland's vegetation and is of high quality |

Narrative Description of Vegetation Quality

| | |
|----------|--|
| low | Low spp diversity and/or predominance of nonnative or disturbance tolerant native species |
| moderate | Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

Mudflat and Open Water Class Quality

| | |
|---|--|
| 0 | Absent <0.1 ha (0.2471 acres) |
| 1 | Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres) |
| 2 | Moderate 1 ha to <4 ha (2.47 acres 9.88 acres) |
| 3 | High 4 ha (9.88 acres) or more |

Microtopography Cover Scale

| | |
|---|--|
| 0 | Absent |
| 1 | Present very small amounts or if more common of marginal quality |
| 2 | Present in moderate amounts, but not of highest quality or in small amounts of highest quality |
| 3 | Present in moderate or greater amounts and of highest quality |

7 GRAND TOTAL (max 100 pts)

Provisional Wetland Category: **Category 2**

Background Information Form

| | |
|---|--------------------------------|
| Name: H. Fogell, A. Davis | Date: February 22, 2008 |
| Affiliation: MACTEC Engineering & Consulting | |
| User Address: 3301 Atlantic Ave, Raleigh, NC. | |
| Phone: 919-876-0416 | |
| e-mail address: akdavis@mactec.com | |

Wetlands Name: WA-13

Location of Wetlands including address if available: See ORAM Figure in CCNPP Wetlands Master Plan/USACE IP Application

| | Sources of information used (check all that apply) |
|--|--|
| Lat/Lon or UTM 38.42987/-76.45614 | Site Visit <input checked="" type="checkbox"/> |
| USGS Quad Cove Point, MD | USGS Topo <input checked="" type="checkbox"/> |
| Hydrologic Unit Code 20600060706 | NWI Map <input checked="" type="checkbox"/> |
| Wetland Size (acres) 0.3 | OWI Map <input type="checkbox"/> |
| How was size estimated? Wetlands Delineation/GIS | Aerial Photo <input checked="" type="checkbox"/> |
| | Soil Survey <input checked="" type="checkbox"/> |
| | ODNR - DNAP <input type="checkbox"/> |
| | Delineation Report/Map <input checked="" type="checkbox"/> |

Photograph



| | | | |
|--------------|----|-------------------------------|------------|
| final score: | 57 | Provisional Wetland Category: | Category 2 |
|--------------|----|-------------------------------|------------|

Narrative Rating Questions

| | |
|----------------------------------|--------------------------------|
| Name: H. Fogell, A. Davis | Date: February 22, 2008 |
| Wetlands Name WA-13 | |

| | | |
|---|--|---|
| 1: Critical Habitat | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 2: Threatened or Endangered Species | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 3: Documented High Quality Wetland | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 4: Significant Breeding or Concentration Area (waterfowl) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 5: Category 1 Wetlands (hydrologically isolated) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 6: Bogs | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 7: Fens | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8a: "Old Growth Forest" | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8b: Mature Forested Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9a: Lake Erie Coastal and Tributary Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9b: Hydrology result of Erosion Control Measures (Lake Erie) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9c: Hydrology unrestricted | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9d: Native Species Predominate | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> YES |
| 9e: Non-native Species Predominate | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 10: Oak Openings | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 11: Relict Wet Prairies | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |

Table 2. Interim scoring breakpoints for wetland regulatory categories for ORAM 5.0 scores

| Category | ORAM 5.0 Score |
|------------------|----------------|
| 1 | 0-29.9 |
| 1 or 2 gray zone | 30-34.9 |
| modified 2 | 35-44.9 |
| 2 | 45-59.9 |
| 2 or 3 | 60-64.9 |
| 3 | 65-100 |

57

Category 2

Table based on FEB 2001 OEPA Standards

| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 22, 2008 |
| Wetlands: WA-14 | Rater: H. Fogell, A. Davis |

| | |
|----------|--------|
| 1 | 1 |
| Subtotal | Points |

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

| | |
|----------|--------|
| 10 | 9 |
| Subtotal | Points |

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

| | |
|----------|--------|
| 25 | 15 |
| Subtotal | Points |

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3d. Duration inundation/saturation.

(select one or double check & average)

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3c. Maximum water depth. Select only 1.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

| Check all disturbances observed | |
|--|---|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> dike | <input checked="" type="checkbox"/> filling/grading |
| <input type="checkbox"/> tile | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input checked="" type="checkbox"/> stormwater input | <input type="checkbox"/> other- list |

| | |
|----------|--------|
| 29 | 4 |
| Subtotal | Points |

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

4b. Habitat development. Select one.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

| | |
|----|--------------------|
| 29 | subtotal this page |
|----|--------------------|

| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetland: WA-14 | Rater: H. Fogell, A. Davis |

9 subtotal first page

| | |
|----------|--------|
| 29 | 0 |
| Subtotal | Points |

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- Bog (10 pts)
- Fen (10 pts)
- Old Growth Forest (10 pts)
- Mature forested wetland (5 pts)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- Lake Plain Sand Prairies (Oak Openings) (10 pts)
- Relict Wet Prairies (10 pts)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10 pts)
- Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

| | |
|----------|--------|
| 34 | 5 |
| Subtotal | Points |

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- | | |
|---|--------------|
| 0 | Aquatic bed |
| 1 | Emergent |
| 0 | Shrub |
| 1 | Forest |
| 0 | Mudflats |
| 0 | Open water |
| 0 | Other (list) |

6b. Horizontal (plan view) interspersions

Select only one

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- Extensive >75 % cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly Absent <5% cover (0)
- Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

- | | |
|---|---------------------------------|
| 1 | Vegetated hummocks/tussocks |
| 2 | Coarse woody debris >15 cm (6") |
| 0 | Standing dead > 25 cm (10") dbh |
| 1 | Amphibian breeding pools |

Vegetation Community Cover Scale

| | |
|---|---|
| 0 | Absent or comprises <0.1 ha (0.2471 acres) contiguous area |
| 1 | Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality |
| 2 | Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality |
| 3 | Present and comprises significant part, or more, of wetland's vegetation and is of high quality |

Narrative Description of Vegetation Quality

| | |
|----------|--|
| low | Low spp diversity and/or predominance of nonnative or disturbance tolerant native species |
| moderate | Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

Mudflat and Open Water Class Quality

| | |
|---|--|
| 0 | Absent <0.1 ha (0.2471 acres) |
| 1 | Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres) |
| 2 | Moderate 1 ha to <4 ha (2.47 acres 9.88 acres) |
| 3 | High 4 ha (9.88 acres) or more |


Microtopography Cover Scale

| | |
|---|--|
| 0 | Absent |
| 1 | Present very small amounts or if more common of marginal quality |
| 2 | Present in moderate amounts, but not of highest quality or in small amounts of highest quality |
| 3 | Present in moderate or greater amounts and of highest quality |

4 GRAND TOTAL (max 100 pts)

Provisional Wetland Category: 1 or 2 gray zone

Background Information Form

| | | | |
|--|--|-------------------------------------|-------------------------------------|
| Name: | H. Fogell, A. Davis | Date: | February 22, 2008 |
| Affiliation: | MACTEC Engineering & Consulting | | |
| User Address: | 3301 Atlantic Ave, Raleigh, NC. | | |
| Phone: | 919-876-0416 | | |
| e-mail address | akdavis@mactec.com | | |
| Wetlands Name | WA-14 | | |
| Location of Wetlands including address if available | See ORAM Figure in CCNPP Wetlands Master Plan/USACE IP Application | | |
| | Sources of information used (check all that apply) | | |
| Lat/Lon or UTM | 38.42822/-76.45391 | Site Visit | <input checked="" type="checkbox"/> |
| USGS Quad | Cove Point, MD | USGS Topo | <input checked="" type="checkbox"/> |
| Hydrologic Unit Code | 20600060706 | NWI Map | <input checked="" type="checkbox"/> |
| Wetland Size (acres) | 0.37 | OWI Map | <input type="checkbox"/> |
| How was size estimated? Wetlands Delineation/GIS | Aerial Photo | <input checked="" type="checkbox"/> | |
| | Soil Survey | <input checked="" type="checkbox"/> | |
| | ODNR - DNAP | <input type="checkbox"/> | |
| | Delineation Report/Map | <input checked="" type="checkbox"/> | |
| Photograph | | | |
|  | | | |
| final score: | 34 | Provisional Wetland Category: | 1 or 2 gray zone |

Narrative Rating Questions

| | |
|----------------------------------|--------------------------------|
| Name: H. Fogell, A. Davis | Date: February 22, 2008 |
| Wetlands Name WA-14 | |

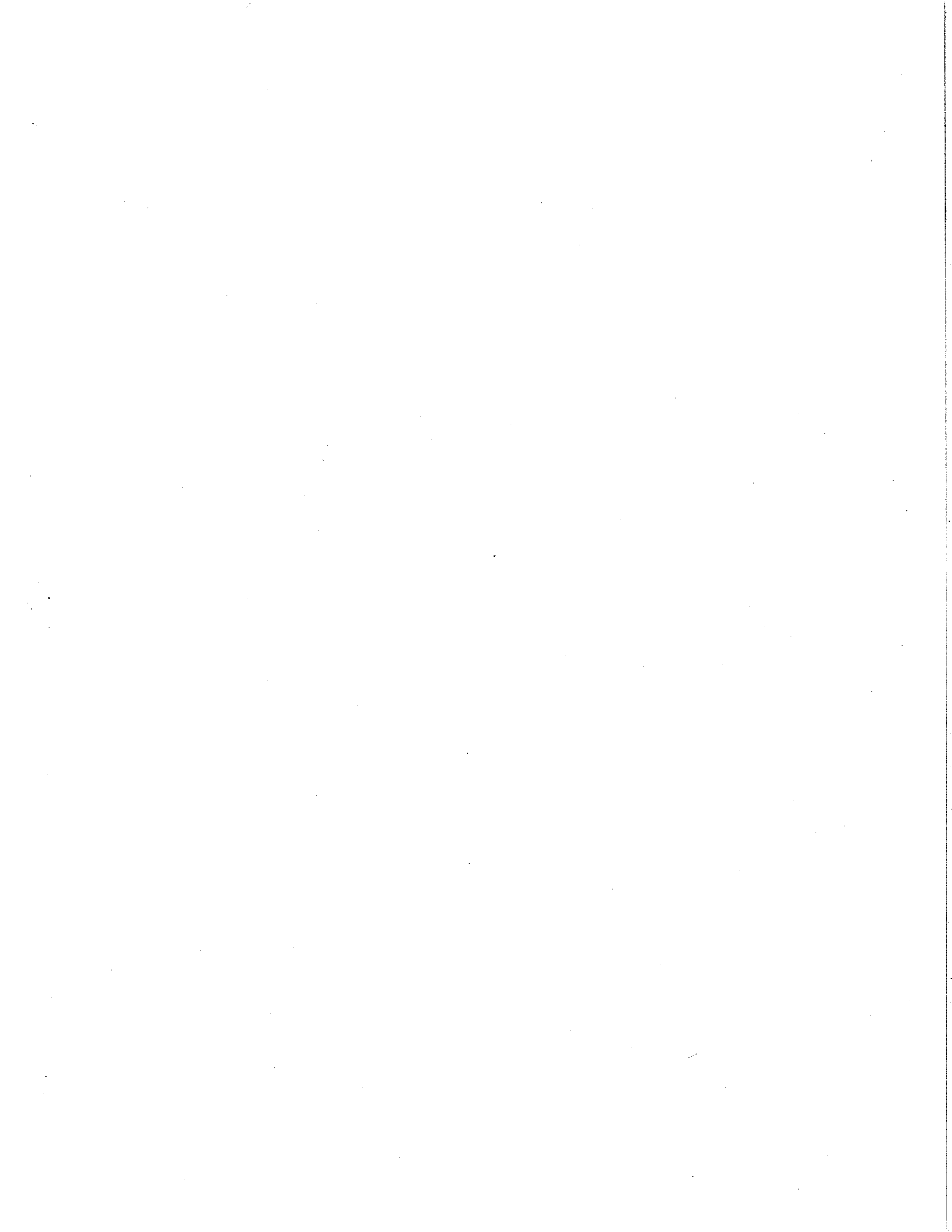
| | | |
|---|--|---|
| 1: Critical Habitat | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 2: Threatened or Endangered Species | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 3: Documented High Quality Wetland | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 4: Significant Breeding or Concentration Area (waterfowl) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 5: Category 1 Wetlands (hydrologically isolated) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 6: Bogs | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 7: Fens | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8a: "Old Growth Forest" | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8b: Mature Forested Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9a: Lake Erie Coastal and Tributary Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9b: Hydrology result of Erosion Control Measures (Lake Erie) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9c: Hydrology unrestricted | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9d: Native Species Predominate | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9e: Non-native Species Predominate | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> YES |
| 10: Oak Openings | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 11: Relict Wet Prairies | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |

Table 2. Interim scoring breakpoints for wetland regulatory categories for ORAM 5.0 scores

| Category | ORAM 5.0 Score |
|------------------|----------------|
| 1 | 0-29.9 |
| 1 or 2 gray zone | 30-34.9 |
| modified 2 | 35-44.9 |
| 2 | 45-59.9 |
| 2 or 3 | 60-64.9 |
| 3 | 65-100 |

34 1 or 2 gray zone

Table based on FEB 2001 OEPA Standards



| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 22, 2008 |
| Wetlands: WA-15 | Rater: H. Fogell, A. Davis |

| | |
|-----------------|---|
| 2 | 2 |
| Subtotal Points | |

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

| | |
|-----------------|----|
| 16 | 14 |
| Subtotal Points | |

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

| | |
|-----------------|----|
| 32 | 16 |
| Subtotal Points | |

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only 1.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3d. Duration inundation/saturation.

(select one or double check & average)

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> dike | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> tile | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input checked="" type="checkbox"/> other- list |

| | |
|-----------------|----|
| 42 | 10 |
| Subtotal Points | |

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3) Active beaver dam
- Recent or no recovery (1)

4b. Habitat development. Select one.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

| | |
|----|--------------------|
| 42 | subtotal this page |
|----|--------------------|

| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetland: WA-15 | Rater: H. Fogell, A. Davis |

2 subtotal first page

| | |
|----------|--------|
| 42 | 0 |
| Subtotal | Points |

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- Bog (10 pts)
- Fen (10 pts)
- Old Growth Forest (10 pts)
- Mature forested wetland (5 pts)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- Lake Plain Sand Prairies (Oak Openings) (10 pts)
- Relict Wet Prairies (10 pts)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10 pts)
- Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

| | |
|----------|--------|
| 54 | 12 |
| Subtotal | Points |

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- | | |
|---|--------------|
| 0 | Aquatic bed |
| 2 | Emergent |
| 1 | Shrub |
| 2 | Forest |
| 0 | Mudflats |
| 0 | Open water |
| 0 | Other (list) |

6b. Horizontal (plan view) interspersions

Select only one

- | | |
|--------------------------|---------------------|
| <input type="checkbox"/> | High (5) |
| <input type="checkbox"/> | Moderately high (4) |
| X | Moderate (3) |
| <input type="checkbox"/> | Moderately low (2) |
| <input type="checkbox"/> | Low (1) |
| <input type="checkbox"/> | None (0) |

6c. Coverage of invasive plants

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- | | |
|--------------------------|-----------------------------|
| <input type="checkbox"/> | Extensive >75 % cover (-5) |
| X | Moderate 25-75% cover (-3) |
| <input type="checkbox"/> | Sparse 5-25% cover (-1) |
| <input type="checkbox"/> | Nearly Absent <5% cover (0) |
| <input type="checkbox"/> | Absent (1) |

6d. Microtopography

Score all present using 0 to 3 scale

- | | |
|---|---------------------------------|
| 2 | Vegetated hummocks/tussocks |
| 2 | Coarse woody debris >15 cm (6") |
| 0 | Standing dead > 25 cm (10") dbh |
| 3 | Amphibian breeding pools |

Vegetation Community Cover Scale

| | |
|---|---|
| 0 | Absent or comprises <0.1 ha (0.2471 acres) contiguous area |
| 1 | Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality |
| 2 | Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality |
| 3 | Present and comprises significant part, or more, of wetland's vegetation and is of high quality |

Narrative Description of Vegetation Quality

| | |
|----------|--|
| low | Low spp diversity and/or predominance of nonnative or disturbance tolerant native species |
| moderate | Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

Mudflat and Open Water Class Quality

| | |
|---|--|
| 0 | Absent <0.1 ha (0.2471 acres) |
| 1 | Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres) |
| 2 | Moderate 1 ha to <4 ha (2.47 acres 9.88 acres) |
| 3 | High 4 ha (9.88 acres) or more |


Microtopography Cover Scale

| | |
|---|--|
| 0 | Absent |
| 1 | Present very small amounts or if more common of marginal quality |
| 2 | Present in moderate amounts, but not of highest quality or in small amounts of highest quality |
| 3 | Present in moderate or greater amounts and of highest quality |

4 GRAND TOTAL (max 100 pts)

Provisional Wetland Category: Category 2

Background Information Form

| | | | |
|---|--|-------------------------------------|-------------------------------------|
| Name: | H. Fogell, A. Davis | Date: | February 22, 2008 |
| Affiliation: | MACTEC Engineering & Consulting | | |
| User Address: | 3301 Atlantic Ave, Raleigh, NC. | | |
| Phone: | 919-876-0416 | | |
| e-mail address | akdavis@mactec.com | | |
| Wetlands Name | WA-15 | | |
| Location of Wetlands including address if available | See ORAM Figure in CCNPP Wetlands Master Plan/USACE IP Application | | |
| | Sources of information used (check all that apply) | | |
| Lat/Lon or UTM | 38.42583/-76.45718 | Site Visit | <input checked="" type="checkbox"/> |
| USGS Quad | Cove Point, MD | USGS Topo | <input checked="" type="checkbox"/> |
| Hydrologic Unit Code | 20600060706 | NWI Map | <input checked="" type="checkbox"/> |
| Wetland Size (acres) | 0.84 | OWI Map | <input type="checkbox"/> |
| How was size estimated? Wetlands Delineation/GIS | Aerial Photo | <input checked="" type="checkbox"/> | |
| | Soil Survey | <input checked="" type="checkbox"/> | |
| | ODNR - DNAP | <input type="checkbox"/> | |
| | Delineation Report/Map | <input checked="" type="checkbox"/> | |
| Photograph | | | |
|  | | | |
| final score: | 54 | Provisional Wetland Category: | Category 2 |

Narrative Rating Questions

| | |
|----------------------------------|--------------------------------|
| Name: H. Fogell, A. Davis | Date: February 22, 2008 |
| Wetlands Name WA-15 | |

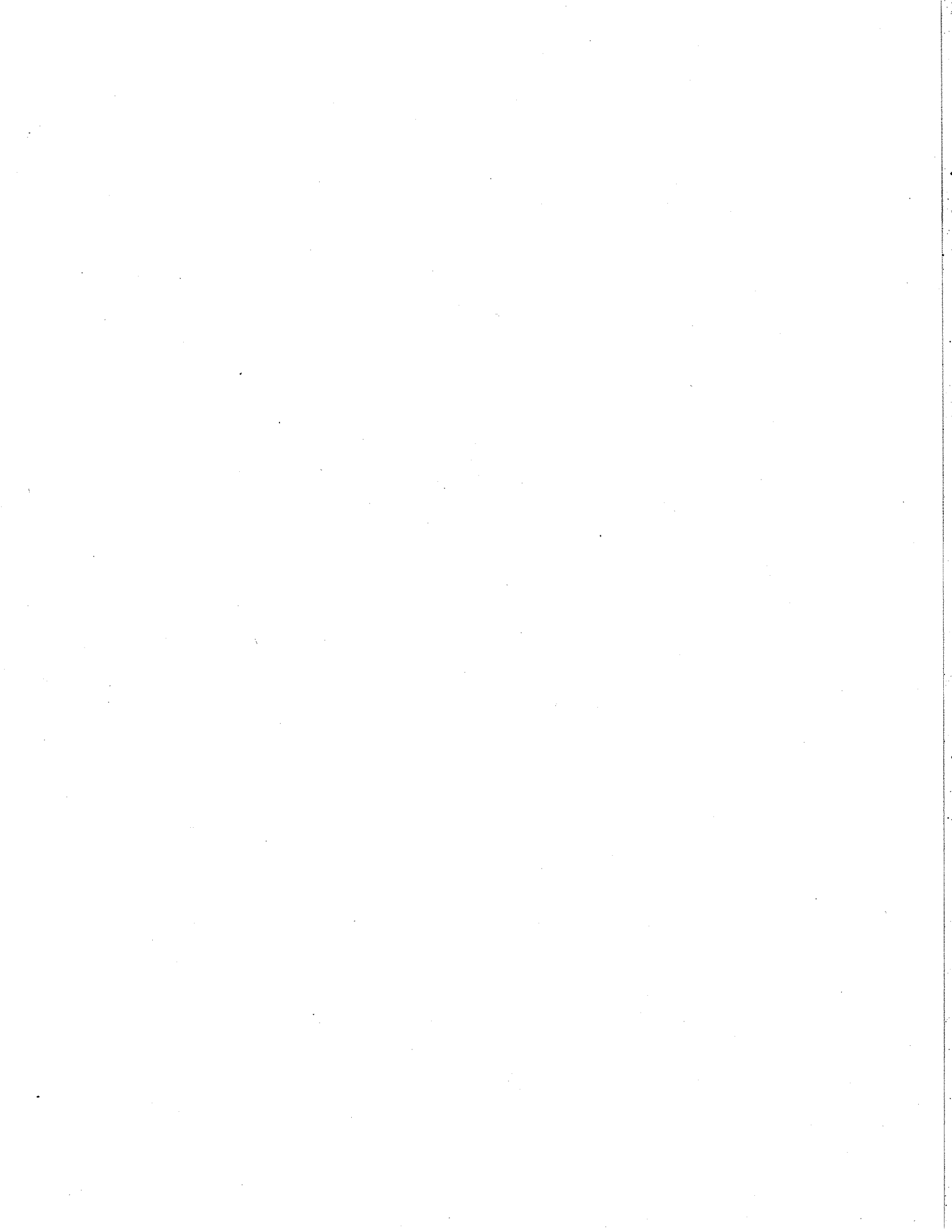
| | | |
|---|--|---|
| 1: Critical Habitat | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 2: Threatened or Endangered Species | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 3: Documented High Quality Wetland | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 4: Significant Breeding or Concentration Area (waterfowl) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 5: Category 1 Wetlands (hydrologically isolated) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 6: Bogs | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 7: Fens | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8a: "Old Growth Forest" | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8b: Mature Forested Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9a: Lake Erie Coastal and Tributary Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9b: Hydrology result of Erosion Control Measures (Lake Erie) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9c: Hydrology unrestricted | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9d: Native Species Predominate | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9e: Non-native Species Predominate | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> YES |
| 10: Oak Openings | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 11: Relict Wet Prairies | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |

Table 2. Interim scoring breakpoints for wetland regulatory categories for ORAM 5.0 scores

| Category | ORAM 5.0 Score |
|-----------------------------|----------------|
| 1 | 0-29.9 |
| 1 or 2 gray zone modified 2 | 30-34.9 |
| 2 | 35-44.9 |
| 2 or 3 | 45-59.9 |
| 3 | 60-64.9 |
| | 65-100 |

54 Category 2

Table based on FEB 2001 OEPA Standards



| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 22, 2008 |
| Wetlands: WA-16A | Rater: H. Fogell, A. Davis |

| | |
|----------|--------|
| 1 | 1 |
| Subtotal | Points |

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

| | |
|----------|--------|
| 9 | 8 |
| Subtotal | Points |

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

| | |
|----------|--------|
| 28 | 19 |
| Subtotal | Points |

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3d. Duration inundation/saturation.

(select one or double check & average)

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3c. Maximum water depth. Select only 1.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> dike | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> tile | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other- list |

| | |
|----------|--------|
| 37.5 | 9.5 |
| Subtotal | Points |

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

4b. Habitat development. Select one.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetland: WA-16A | Rater: H. Fogell, A. Davis |

subtotal first page

| | |
|-------------|----------|
| 37.5 | 0 |
| Subtotal | Points |

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- Bog (10 pts)
- Fen (10 pts)
- Old Growth Forest (10 pts)
- Mature forested wetland (5 pts)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- Lake Plain Sand Prairies (Oak Openings) (10 pts)
- Relict Wet Prairies (10 pts)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10 pts)
- Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

| | |
|-------------|----------|
| 45.5 | 8 |
| Subtotal | Points |

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other (list)

6b. Horizontal (plan view) interspersions

Select only one

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- Extensive >75 % cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly Absent <5% cover (0)
- Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

- Vegetated hummocks/tussocks
- Coarse woody debris >15 cm (6")
- Standing dead > 25 cm (10") dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

| | |
|---|---|
| 0 | Absent or comprises <0.1 ha (0.2471 acres) contiguous area |
| 1 | Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality |
| 2 | Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality |
| 3 | Present and comprises significant part, or more, of wetland's vegetation and is of high quality |

Narrative Description of Vegetation Quality

| | |
|----------|--|
| low | Low spp diversity and/or predominance of nonnative or disturbance tolerant native species |
| moderate | Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

Mudflat and Open Water Class Quality

| | |
|---|--|
| 0 | Absent <0.1 ha (0.2471 acres) |
| 1 | Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres) |
| 2 | Moderate 1 ha to <4 ha (2.47 acres 9.88 acres) |
| 3 | High 4 ha (9.88 acres) or more |


Microtopography Cover Scale

| | |
|---|--|
| 0 | Absent |
| 1 | Present very small amounts or if more common of marginal quality |
| 2 | Present in moderate amounts, but not of highest quality or in small amounts of highest quality |
| 3 | Present in moderate or greater amounts and of highest quality |

GRAND TOTAL (max 100 pts)

Provisional Wetland Category: Category 2

Background Information Form

| | | | |
|---|--|-------------------------------------|-------------------------------------|
| Name: | H. Fogell, A. Davis | Date: | February 22, 2008 |
| Affiliation: | MACTEC Engineering & Consulting | | |
| User Address: | 3301 Atlantic Ave, Raleigh, NC. | | |
| Phone: | 919-876-0416 | | |
| e-mail address | akdavis@mactec.com | | |
| Wetlands Name | WA-16A | | |
| Location of Wetlands including address if available | See ORAM Figure in CCNPP Wetlands Master Plan/USACE IP Application | | |
| | Sources of information used (check all that apply) | | |
| Lat/Lon or UTM | 38.43001/-76.44411 | Site Visit | <input checked="" type="checkbox"/> |
| USGS Quad | Cove Point, MD | USGS Topo | <input checked="" type="checkbox"/> |
| Hydrologic Unit Code | 20600060706 | NWI Map | <input checked="" type="checkbox"/> |
| Wetland Size (acres) | 0.29 | OWI Map | <input type="checkbox"/> |
| How was size estimated? Wetlands Delineation/GIS | Aerial Photo | <input checked="" type="checkbox"/> | |
| | Soil Survey | <input checked="" type="checkbox"/> | |
| | ODNR - DNAP | <input type="checkbox"/> | |
| | Delineation Report/Map | <input checked="" type="checkbox"/> | |
| Photograph | | | |
|  | | | |
| final score: | 45.5 | Provisional Wetland Category: | Category 2 |

Narrative Rating Questions

| | |
|----------------------------------|--------------------------------|
| Name: H. Fogell, A. Davis | Date: February 22, 2008 |
| Wetlands Name WA-16A | |

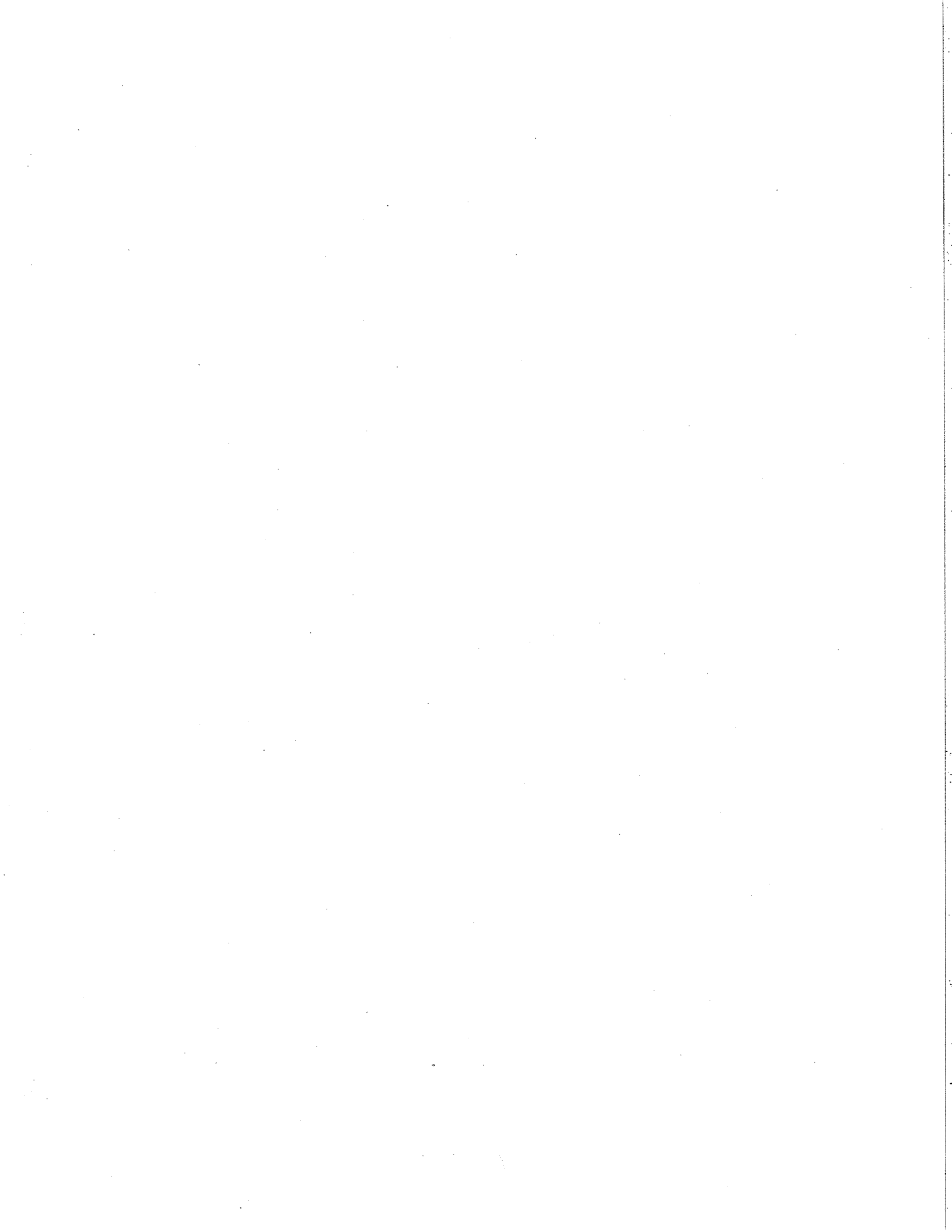
| | | |
|---|--|---|
| 1: Critical Habitat | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 2: Threatened or Endangered Species | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 3: Documented High Quality Wetland | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 4: Significant Breeding or Concentration Area (waterfowl) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 5: Category 1 Wetlands (hydrologically isolated) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 6: Bogs | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 7: Fens | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8a: "Old Growth Forest" | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8b: Mature Forested Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9a: Lake Erie Coastal and Tributary Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9b: Hydrology result of Erosion Control Measures (Lake Erie) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9c: Hydrology unrestricted | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9d: Native Species Predominate | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9e: Non-native Species Predominate | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> YES |
| 10: Oak Openings | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 11: Relict Wet Prairies | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |

Table 2. Interim scoring breakpoints for wetland regulatory categories for ORAM 5.0 scores

| Category | ORAM 5.0 Score |
|-----------------------------|----------------|
| 1 | 0-29.9 |
| 1 or 2 gray zone modified 2 | 30-34.9 |
| 2 | 35-44.9 |
| 2 or 3 | 45-59.9 |
| 3 | 60-64.9 |
| | 65-100 |

45.5 Category 2

Table based on FEB 2001 OEPA Standards



| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 22, 2008 |
| Wetlands: WA-16B | Rater: H. Fogell, A. Davis |

| | |
|-----------------|---|
| 2 | 2 |
| Subtotal Points | |

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

| | |
|-----------------|---|
| 10 | 8 |
| Subtotal Points | |

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

| | |
|-----------------|----|
| 26 | 16 |
| Subtotal Points | |

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3d. Duration inundation/saturation.

(select one or double check & average)

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3c. Maximum water depth. Select only 1.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> dike | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> tile | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other- list |

| | |
|-----------------|----|
| 39 | 13 |
| Subtotal Points | |

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

4b. Habitat development. Select one.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetland: WA-16B | Rater: H. Fogell, A. Davis |

9 subtotal first page

| | |
|----------|--------|
| 39 | 0 |
| Subtotal | Points |

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- Bog (10 pts)
- Fen (10 pts)
- Old Growth Forest (10 pts)
- Mature forested wetland (5 pts)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- Lake Plain Sand Prairies (Oak Openings) (10 pts)
- Relict Wet Prairies (10 pts)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10 pts)
- Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

| | |
|----------|--------|
| 49 | 10 |
| Subtotal | Points |

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- 0 Aquatic bed
- 0 Emergent
- 1 Shrub
- 2 Forest
- 0 Mudflats
- 0 Open water
- 0 Other (list)

6b. Horizontal (plan view) interspersions

Select only one

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- Extensive >75 % cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly Absent <5% cover (0)
- Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

- 1 Vegetated hummocks/tussocks
- 2 Coarse woody debris >15 cm (6")
- 0 Standing dead > 25 cm (10") dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

| | |
|---|---|
| 0 | Absent or comprises <0.1 ha (0.2471 acres) contiguous area |
| 1 | Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality |
| 2 | Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality |
| 3 | Present and comprises significant part, or more, of wetland's vegetation and is of high quality |

Narrative Description of Vegetation Quality

| | |
|----------|--|
| low | Low spp diversity and/or predominance of nonnative or disturbance tolerant native species |
| moderate | Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

Mudflat and Open Water Class Quality

| | |
|---|--|
| 0 | Absent <0.1 ha (0.2471 acres) |
| 1 | Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres) |
| 2 | Moderate 1 ha to <4 ha (2.47 acres 9.88 acres) |
| 3 | High 4 ha (9.88 acres) or more |


Microtopography Cover Scale

| | |
|---|--|
| 0 | Absent |
| 1 | Present very small amounts or if more common of marginal quality |
| 2 | Present in moderate amounts, but not of highest quality or in small amounts of highest quality |
| 3 | Present in moderate or greater amounts and of highest quality |

9 GRAND TOTAL (max 100 pts)

Provisional Wetland Category: Category 2

Background Information Form

| | | | |
|--|--|---|-------------------------------------|
| Name: | H. Fogell, A. Davis | Date: | February 22, 2008 |
| Affiliation: | MACTEC Engineering & Consulting | | |
| User Address: | 3301 Atlantic Ave, Raleigh, NC. | | |
| Phone: | 919-876-0416 | | |
| e-mail address | akdavis@mactec.com | | |
| Wetlands Name | WA-16B | | |
| Location of Wetlands including address if available | See ORAM Figure in CCNPP Wetlands Master Plan/USACE IP Application | | |
| | | Sources of information used (check all that apply) | |
| Lat/Lon or UTM | 38.42938/-76.44330 | Site Visit | <input checked="" type="checkbox"/> |
| USGS Quad | Cove Point, MD | USGS Topo | <input checked="" type="checkbox"/> |
| Hydrologic Unit Code | 20600060706 | NWI Map | <input checked="" type="checkbox"/> |
| Wetland Size (acres) | 0.36 | OWI Map | <input type="checkbox"/> |
| How was size estimated? Wetlands Delineation/GIS | Aerial Photo | <input checked="" type="checkbox"/> | |
| | Soil Survey | <input checked="" type="checkbox"/> | |
| | ODNR - DNAP | <input type="checkbox"/> | |
| | Delineation Report/Map | <input checked="" type="checkbox"/> | |
| Photograph | | | |
|  | | | |
| final score: | 49 | Provisional Wetland Category: | Category 2 |

Narrative Rating Questions

| | |
|----------------------------------|--------------------------------|
| Name: H. Fogell, A. Davis | Date: February 22, 2008 |
| Wetlands Name WA-16B | |

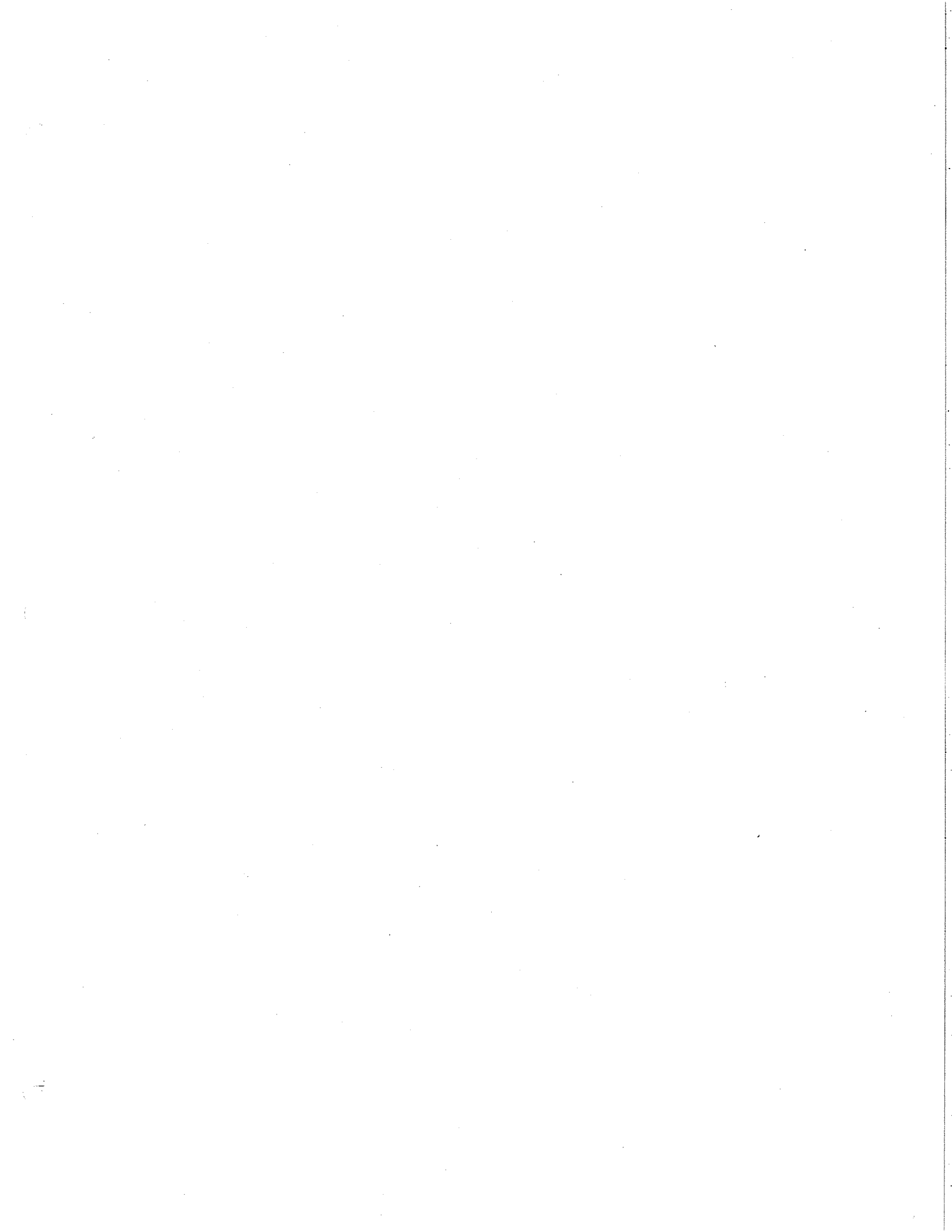
| | | |
|---|--|---|
| 1: Critical Habitat | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 2: Threatened or Endangered Species | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 3: Documented High Quality Wetland | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 4: Significant Breeding or Concentration Area (waterfowl) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 5: Category 1 Wetlands (hydrologically isolated) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 6: Bogs | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 7: Fens | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8a: "Old Growth Forest" | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8b: Mature Forested Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9a: Lake Erie Coastal and Tributary Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9b: Hydrology result of Erosion Control Measures (Lake Erie) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9c: Hydrology unrestricted | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9d: Native Species Predominate | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> YES |
| 9e: Non-native Species Predominate | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 10: Oak Openings | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 11: Relict Wet Prairies | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |

Table 2. Interim scoring breakpoints for wetland regulatory categories for ORAM 5.0 scores

| Category | ORAM 5.0 Score |
|--------------------------------|--------------------|
| 1 | 0-29.9 |
| 1 or 2 gray zone modified 2 | 30-34.9 35-44.9 |
| 2 | 45-59.9 |
| 2 or 3 | 60-64.9 |
| 3 | 65-100 |

49 Category 2

Table based on FEB 2001 OEPA Standards



| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 22, 2008 |
| Wetlands: WA-16C | Rater: H. Fogell, A. Davis |

| | |
|-----------------|---|
| 2 | 2 |
| Subtotal Points | |

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

| | |
|-----------------|---|
| 4 | 2 |
| Subtotal Points | |

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

| | |
|-----------------|----|
| 20 | 16 |
| Subtotal Points | |

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3d. Duration inundation/saturation.

(select one or double check & average)

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3c. Maximum water depth. Select only 1.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

| Check all disturbances observed | |
|--|---|
| <input checked="" type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> dike | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> tile | <input checked="" type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input checked="" type="checkbox"/> stormwater input | <input checked="" type="checkbox"/> other- list |

| | |
|-----------------|---|
| 23 | 3 |
| Subtotal Points | |

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

4b. Habitat development. Select one.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input checked="" type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetland: WA-16C | Rater: H. Fogell, A. Davis |

3 subtotal first page

| | |
|----------|--------|
| 23 | 0 |
| Subtotal | Points |

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- Bog (10 pts)
- Fen (10 pts)
- Old Growth Forest (10 pts)
- Mature forested wetland (5 pts)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- Lake Plain Sand Prairies (Oak Openings) (10 pts)
- Relict Wet Prairies (10 pts)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10 pts)
- Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

| | |
|----------|--------|
| 30 | 7 |
| Subtotal | Points |

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- | | |
|---|--------------|
| 0 | Aquatic bed |
| 1 | Emergent |
| 1 | Shrub |
| 0 | Forest |
| 0 | Mudflats |
| 1 | Open water |
| 0 | Other (list) |

6b. Horizontal (plan view) interspersions

Select only one

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- Extensive >75 % cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly Absent <5% cover (0)
- Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

- 2 Vegetated hummocks/tussocks
- 2 Coarse woody debris >15 cm (6")
- 0 Standing dead > 25 cm (10") dbh
- 1 Amphibian breeding pools

Vegetation Community Cover Scale

| | |
|---|---|
| 0 | Absent or comprises <0.1 ha (0.2471 acres) contiguous area |
| 1 | Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality |
| 2 | Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality |
| 3 | Present and comprises significant part, or more, of wetland's vegetation and is of high quality |

Narrative Description of Vegetation Quality

| | |
|----------|--|
| low | Low spp diversity and/or predominance of nonnative or disturbance tolerant native species |
| moderate | Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

Mudflat and Open Water Class Quality

| | |
|---|--|
| 0 | Absent <0.1 ha (0.2471 acres) |
| 1 | Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres) |
| 2 | Moderate 1 ha to <4 ha (2.47 acres 9.88 acres) |
| 3 | High 4 ha (9.88 acres) or more |

Microtopography Cover Scale

| | |
|---|--|
| 0 | Absent |
| 1 | Present very small amounts or if more common of marginal quality |
| 2 | Present in moderate amounts, but not of highest quality or in small amounts of highest quality |
| 3 | Present in moderate or greater amounts and of highest quality |

30 GRAND TOTAL (max 100 pts)

Provisional Wetland Category: 1 or 2 gray zone

Background Information Form

| | |
|---|--------------------------------|
| Name: H. Fogell, A. Davis | Date: February 22, 2008 |
| Affiliation: MACTEC Engineering & Consulting | |
| User Address: 3301 Atlantic Ave, Raleigh, NC. | |
| Phone: 919-876-0416 | |
| e-mail address: akdavis@mactec.com | |

Wetlands Name: WA-16C

Location of Wetlands including address if available: See ORAM Figure in CCNPP Wetlands Master Plan/USACE IP Application

| | Sources of information used (check all that apply) |
|--|--|
| Lat/Lon or UTM 38.42982/-76.44318 | Site Visit <input checked="" type="checkbox"/> |
| USGS Quad Cove Point, MD | USGS Topo <input checked="" type="checkbox"/> |
| Hydrologic Unit Code 20600060706 | NWI Map <input checked="" type="checkbox"/> |
| Wetland Size (acres) 0.51 | OWI Map <input type="checkbox"/> |
| How was size estimated? Wetlands Delineation/GIS | Aerial Photo <input checked="" type="checkbox"/> |
| | Soil Survey <input checked="" type="checkbox"/> |
| | ODNR - DNAP <input type="checkbox"/> |
| | Delineation Report/Map <input checked="" type="checkbox"/> |

Photograph



| | | | |
|--------------|----|-------------------------------|------------------|
| final score: | 30 | Provisional Wetland Category: | 1 or 2 gray zone |
|--------------|----|-------------------------------|------------------|

Narrative Rating Questions

| | | | |
|----------------------|---------------------|--------------|-------------------|
| Name: | H. Fogell, A. Davis | Date: | February 22, 2008 |
| Wetlands Name | WA-16C | | |

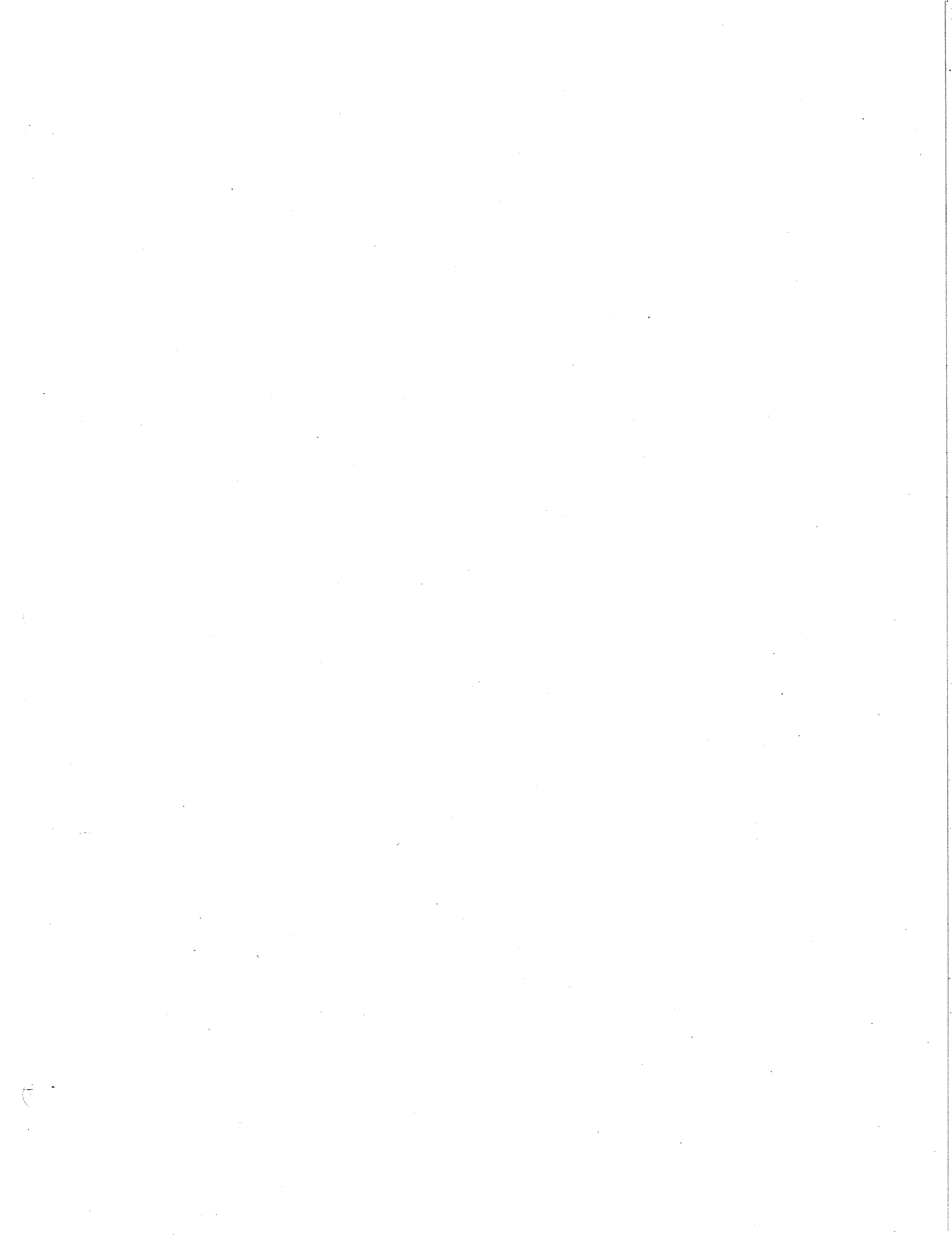
| | | |
|---|--|---|
| 1: Critical Habitat | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 2: Threatened or Endangered Species | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 3: Documented High Quality Wetland | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 4: Significant Breeding or Concentration Area (waterfowl) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 5: Category 1 Wetlands (hydrologically isolated) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 6: Bogs | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 7: Fens | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8a: "Old Growth Forest" | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8b: Mature Forested Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9a: Lake Erie Coastal and Tributary Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9b: Hydrology result of Erosion Control Measures (Lake Erie) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9c: Hydrology unrestricted | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9d: Native Species Predominate | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9e: Non-native Species Predominate | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> YES |
| 10: Oak Openings | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 11: Relict Wet Prairies | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |

Table 2. Interim scoring breakpoints for wetland regulatory categories for ORAM 5.0 scores

| Category | ORAM 5.0 Score |
|------------------|----------------|
| 1 | 0-29.9 |
| 1 or 2 gray zone | 30-34.9 |
| modified 2 | 35-44.9 |
| 2 | 45-59.9 |
| 2 or 3 | 60-64.9 |
| 3 | 65-100 |

30 1 or 2 gray zone

Table based on FEB 2001 OEPA Standards



| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 22, 2008 |
| Wetlands: WA-17 | Rater: H. Fogell, A. Davis |

| | |
|-----------------|---|
| 2 | 2 |
| Subtotal Points | |

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

| | |
|-----------------|----|
| 16 | 14 |
| Subtotal Points | |

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

| | |
|-----------------|----|
| 38 | 22 |
| Subtotal Points | |

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3d. Duration inundation/saturation.

(select one or double check & average)

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3c. Maximum water depth. Select only 1.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

| Check all disturbances observed | |
|--|---|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> dike | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> tile | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input checked="" type="checkbox"/> stormwater input | <input type="checkbox"/> other- list |

| | |
|-----------------|----|
| 51 | 13 |
| Subtotal Points | |

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

4b. Habitat development. Select one.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

| Check all disturbances observed | |
|---|---|
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

| | |
|---|-----------------------------------|
| Site: Calvert Cliffs Nuclear Power Plant | Date: February 21, 2008 |
| Wetland: WA-17 | Rater: H. Fogell, A. Davis |

1 subtotal first page

| | |
|----------|--------|
| 51 | 0 |
| Subtotal | Points |

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- Bog (10 pts)
- Fen (10 pts)
- Old Growth Forest (10 pts)
- Mature forested wetland (5 pts)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- Lake Plain Sand Prairies (Oak Openings) (10 pts)
- Relict Wet Prairies (10 pts)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10 pts)
- Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

| | |
|----------|--------|
| 62 | 11 |
| Subtotal | Points |

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- | | |
|---|--------------|
| 0 | Aquatic bed |
| 0 | Emergent |
| 2 | Shrub |
| 2 | Forest |
| 0 | Mudflats |
| 0 | Open water |
| 0 | Other (list) |

6b. Horizontal (plan view) interspersions

Select only one

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- Extensive >75 % cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly Absent <5% cover (0)
- Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

- | | |
|---|---------------------------------|
| 0 | Vegetated hummocks/tussocks |
| 1 | Coarse woody debris >15 cm (6") |
| 1 | Standing dead > 25 cm (10") dbh |
| 3 | Amphibian breeding pools |

Vegetation Community Cover Scale

| | |
|---|---|
| 0 | Absent or comprises <0.1 ha (0.2471 acres) contiguous area |
| 1 | Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality |
| 2 | Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality |
| 3 | Present and comprises significant part, or more, of wetland's vegetation and is of high quality |

Narrative Description of Vegetation Quality

| | |
|----------|--|
| low | Low spp diversity and/or predominance of nonnative or disturbance tolerant native species |
| moderate | Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

Mudflat and Open Water Class Quality

| | |
|---|--|
| 0 | Absent <0.1 ha (0.2471 acres) |
| 1 | Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres) |
| 2 | Moderate 1 ha to <4 ha (2.47 acres 9.88 acres) |
| 3 | High 4 ha (9.88 acres) or more |


Microtopography Cover Scale

| | |
|---|--|
| 0 | Absent |
| 1 | Present very small amounts or if more common of marginal quality |
| 2 | Present in moderate amounts, but not of highest quality or in small amounts of highest quality |
| 3 | Present in moderate or greater amounts and of highest quality |

32 GRAND TOTAL (max 100 pts)

Provisional Wetland Category: Category 2 or 3

Background Information Form

| | | | |
|---|--|-------------------------------|-------------------------------------|
| Name: | H. Fogell, A. Davis | Date: | February 22, 2008 |
| Affiliation: | MACTEC Engineering & Consulting | | |
| User Address: | 3301 Atlantic Ave, Raleigh, NC. | | |
| Phone: | 919-876-0416 | | |
| e-mail address | akdavis@mactec.com | | |
| Wetlands Name | WA-17 | | |
| Location of Wetlands including address if available | See ORAM Figure in CCNPP Wetlands Master Plan/USACE IP Application | | |
| | Sources of information used (check all that apply) | | |
| Lat/Lon or UTM | 38.42677/-76.45499 | Site Visit | <input checked="" type="checkbox"/> |
| USGS Quad | Cove Point, MD | USGS Topo | <input checked="" type="checkbox"/> |
| Hydrologic Unit Code | 20600060706 | NWI Map | <input checked="" type="checkbox"/> |
| Wetland Size (acres) | 0.3 | OWI Map | <input type="checkbox"/> |
| How was size estimated? | | Aerial Photo | <input checked="" type="checkbox"/> |
| | | Soil Survey | <input checked="" type="checkbox"/> |
| | | ODNR - DNAP | <input type="checkbox"/> |
| Wetlands Delineation/GIS | | Delineation Report/Map | <input checked="" type="checkbox"/> |
| Photograph | | | |
|  | | | |
| final score: | 62 | Provisional Wetland Category: | Category 2 or 3 |

Narrative Rating Questions

| | |
|----------------------------------|--------------------------------|
| Name: H. Fogell, A. Davis | Date: February 22, 2008 |
| Wetlands Name WA-17 | |

| | | |
|---|--|---|
| 1: Critical Habitat | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 2: Threatened or Endangered Species | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 3: Documented High Quality Wetland | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 4: Significant Breeding or Concentration Area (waterfowl) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 5: Category 1 Wetlands (hydrologically isolated) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 6: Bogs | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 7: Fens | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8a: "Old Growth Forest" | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 8b: Mature Forested Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9a: Lake Erie Coastal and Tributary Wetlands | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9b: Hydrology result of Erosion Control Measures (Lake Erie) | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9c: Hydrology unrestricted | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 9d: Native Species Predominate | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> YES |
| 9e: Non-native Species Predominate | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 10: Oak Openings | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |
| 11: Relict Wet Prairies | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> YES |

Table 2. Interim scoring breakpoints for wetland regulatory categories for ORAM 5.0 scores

| Category | ORAM 5.0 Score |
|------------------|----------------|
| 1 | 0-29.9 |
| 1 or 2 gray zone | 30-34.9 |
| modified 2 | 35-44.9 |
| 2 | 45-59.9 |
| 2 or 3 | 60-64.9 |
| 3 | 65-100 |

62 Category 2 or 3

Table based on FEB 2001 OEPA Standards