

Wildlife Habitat Evaluation Guide (WHEG) for the Mottled Duck (MODU) in the coastal Louisiana January 2013

This Wildlife Habitat Evaluation Guide (WHEG) is based on the habitat requirements of the mottled duck (*Anas fulvigula*). It is accepted that managing for this species benefits other Gulf coastal marsh habitat-dependent species (e.g., clapper rail, king rail black-necked stilt, willet, American avocet, seaside sparrow, etc.). This model can be applied to all ecological sites with the potential to support a full range of *Spartina* species even if mottled ducks do not currently occupy the habitat. Mottled ducks in the Western Gulf Coast must meet all their life cycle requirements from their year-round home of Gulf Coastal marshes and associated habitats.

Mottled ducks occupy a wide range of marsh and Gulf Coast prairie/marsh interface habitat types including range and crop (rice) production. The following physical and biotic features characterize most suitable habitats:

1. The presence of brood rearing wetlands;
2. Adjacent to an abundance of species rich, diverse herbaceous ground cover; and
3. a generally open canopy and little or no shrub cover.

The traditional habitats of the mottled duck comprise Gulf Coastal marshes with native range and combinations of fallow and rice producing croplands. Mottled ducks utilize well drained cordgrass ridges located immediately adjacent to permanently wet marsh as nesting habitat. Nesting areas within the cattle/pasture and rice producing areas are used when a mix of prairie grasses dominated by bunch grasses (e.g., native bluestems, switchgrass, etc.). The most desirable wetland areas in the prairie sites are the natural shallow depressions which hold water during most of the year. These ponded sites produce stands of emergent vegetation and offer all necessities for breeding, brood-rearing, and molting.

General Directions to the MODU WHEG: Mark as “N/A” (not applicable) if a habitat factor is absent due to normal seasonal dynamics. If a factor is unknown, mark it with “unknown” and provide a brief explanation in the Additional Notes section. If multiple tracts/fields exist with different conditions and management, score each tract/field separately and prorate totals by acres. Choose best choice for “Existing Condition Value” and “Planned Value” (where applicable). Attach a map(s) showing fields, fences, water locations, forage, brood-rearing, nesting, resting areas, on and off-site (if possible) and other features if needed (e.g., impediments to movement).

On a wildlife habitat assessment/evaluation scale of 0 – 1.0 with 1.0 being an optimum score, NRCS Policy requires a 0.5 minimum to meet quality criteria for wildlife habitat. In conservation planning, the alternative that maximizes habitat quality should be considered.

Owner/Operator:	State & Field Office:
Parish (T/R/Sec.)	Ecological Site(s) (ES) [list mapped ES (using official County/Parish Soil Survey (digital copy) or Web Soil Survey); Note: some states may not have ESDs, if so, list soils for this site(s).
WHEG completed by:	
Farm Number: Tract Number: Field(s):	Acres (Total):
Contract Period:	Evaluation Date(s):

User Notes:

1. Each *Project Area (PA)* shall be identified on a base map.
2. The PA is the portion of the FSA Tract where treatment for Mottled Duck (MODU) is planned.
3. The PA boundary shall be identified using a thick black line, then the PA shall be subdivided into unique *Assessment Areas (AA)* and the delineation of the AA shall be shown on the base map.
4. Each AA shall be delineated with a dark red line and acres shall be determined and shown on the base map.
5. Portions of the tract and areas on adjoining tracts where treatment for MODU are not planned shall not be assessed, regardless of ecological value to the MODU, except on portions of the tract or whole tract(s) where treatments are not planned due to optimum existing conditions for the MODU.
6. Each AA should be similar enough in ecological condition (soils, stand density, stand age, etc.) that a single *Representative Observation Point (ROP)* can be selected and used to score the AA.
7. Each ROP should be documented with GPS, and time-stamped digital photograph(s).
8. Data from each ROP represents the condition of the AA as a whole.
9. Locations of ROPs are determined with the aid of remote sensed data (e.g., quad maps, soils maps, aerial imagery, etc.) as well as an onsite reconnaissance.
10. Subdivision of the project area into AAs need not follow common land unit boundaries nor do AAs have to be contiguous. For example, if two non-contiguous areas have similar characteristics (i.e., would score the same), a single ROP is identified. If two non-contiguous areas are determined to be similar enough for a single ROP they shall be numbered as alpha then numeric (e.g., C-1, C-2, C-3, etc.).
11. Each ROP shall be identified on a base map with a black dot.
12. The acres of each AA shall be identified on the base map.
13. Following scoring of each AA, a weighted average by acres shall be conducted to determine the total score for the project area (see worksheet).
14. To not conflict with CLU numbering, AA numbering shall be alpha characters.
15. Additional evaluation beyond the minimum criteria provided (e.g., conducting more than one ROP evaluation in an AA) is allowable for any of the vegetative factors (1-5) within this WHEG to accurately measure the existing condition without approval. Variant methods of data collection for factors (1-5) must be approved by your NRCS State Biologist.

Variable(s) (if not used in this State, enter NA in Existing Condition Value column)	Value Range	Existing Condition Value	Recommended Conservation Practice(s)	Planned Value
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General Conditions Variables (includes nesting and brood rearing habitats) – assign value if habitat is present or potentially present

Section A. NESTING (GRASSLAND) VEGETATION – total value for all 5 variables = 0.15

(1) Nesting Habitat (grassland) Area e.g., b) $0.75 \times 0.15 = 0.12$

User Notes:

1. GPS or GIS map should be used to determine size and shall not be visually estimated. Generally there should be 0.5 to 1 (quality brood rearing) wetland habitat :1 (quality nesting) grassland habitat ratio although exceptions may exist.
2. The grassland must be within a mile distance (without barriers) from the suitable brood-rearing wetland area. Barriers could include roads, urban land, or impenetrable vegetation.
3. The wetland must provide at least 1 acre of water ≤ 6 inches in depth from March through July
4. The brood-rearing wetland must also contain a near 1:1 ratio of emergent vegetation to submergent vegetation to/open water.

a) >1000 acres	1.0			
b) >500 acres	0.75			
c) >100 acres	0.5			
d) >50 acres	0.5			
e) >40 acres	0.25			

Field Notes:				
<p>(2) Non-herbaceous Foliar Cover (%) within the grassland = 0.15 e.g., c) $0.5 \times 0.15 = 0.08$</p>				
User Notes:				
<ol style="list-style-type: none"> Percent canopy/foliar cover is determined by conducting a visual estimate using a 37.25 ft. radius plot (1/10 acre) with the ROP as the plot center. Cover is visually estimated as relative canopy/foliar cover or converted to relative if absolute cover is used. Shrubs are all woody species (including woody vines) ≤ 3" DBH and regardless of height. Mid-season leaf-on condition will be used or predicted. 				
a) <10%	1.0			
b) 10-39%	0.75			
c) 40-59%	0.5			
d) 60-79%	0.25			
e) >80%	0.0			
Field Notes:				
<p>(3) Herbaceous ground cover (%) within the grassland = 0.25 e.g., a) $1.0 \times 0.25 = 0.25$</p>				
User Notes:				
<ol style="list-style-type: none"> Values represent relative cover determined with visual estimates. If absolute cover estimates are used, the results will be converted to relative cover. Species used for this variable must be herbaceous (grasses, grass-like, and forbs). There is no maximum height limitation for a plant to be included. Herbaceous vines (annual or perennial should be counted e.g., <i>Cocculus</i>, <i>Ipomoea</i>, <i>Mikania</i>). Woody seedlings and young woody vines are not considered in this measure. Mid-season leaf-on conditions will be used or predicted if the assessment is conducted during the dormant season. 				
a) >80%	1.0			
b) 60-79%	0.75			
c) 40-59%	0.5			
d) 20-39%	0.25			
e) <20%	0.10			
Field Notes:				
<p>(4) Bunch grass species richness above 15 inches in height (e.g., Gulf cordgrass, switchgrass, smutgrass, Eastern gamma, bushy bluestem, etc.) within the grassland = 0.1 e.g., e) $0.0 \times 0.1 = 0$</p>				
User Notes:				
<ol style="list-style-type: none"> A 37.25 ft. radius plot will be used with the ROP being the center of the plot. The number of different species will be inventoried. 				
a) >8	1.0			
b) 6-8	0.75			
c) 4-5	0.50			
d) 2-3	0.25			
e) <2	0.0			
Field Notes:				

(5) Noxious and or Invasive plant species % Cover impacting MODU nesting (e.g., Chinese tallowtree, saltbush, wax myrtle, privet, wesatch, etc.) = 0.1 within the area. , Federal and State lists; **e.g., d) $0.25 \times 0.1 = 0.03$**

User Note:
 1. **For each AA, estimate the percent coverage of noxious and or invasive species.**
 2. **This will be done with a visual estimation of each AA and not done within the 37.25 foot radius plot located at the ROP.**

a) 0 -5%	1.0			
b) 6-19 %	0.75			
c) 20-39 %	0.5			
d) 30-49%	0.25			
e) > 50 %	0.0			

Field Notes:

B. Management

(1) Prescribed Burning total value = 0.25
e.g., b) $0.75 \times 0.25 = 0.19$

a) Prescribed burning applied in the growing season on a historic fire return interval (state determined).	1.0			
b) Prescribed burning applied in the dormant season on a historic fire return interval (state determined).	0.75			
c) Prescribed burning applied in the growing season, less frequently than historic fire return interval (state determined).	0.50			
d) Prescribed burning applied in the dormant season, less frequently than historic fire return interval (state determined).	0.25			
e) No prescribed burning	0.0			

Field Notes:

(7) Grazing Management (management that best fits the last 3 years)
If grazed, direct bonus is applied to score
a) 0.05
b) 0.025
c) No bonus applied

	Bonus		Bonus
a) Livestock use exclusion, or prescribed grazing designed and applied to enhance the majority (.50%) MODU habitat characteristics in the WHEG	0.05		0.05
b) Prescribed grazing designed and applied, beneficially impacting some but less than 50% of MODU habitat characteristics in the WHEG	0.025		0.025
c) No grazing, or uncontrolled and/or season-long livestock access with detrimental impacts or no impact or prescribed grazing is applied without MODU objectives			

Field Notes:		
<p>Note: Variables 1 – 6 = 1.0 Maximum score is set at 1.0 regardless of bonus</p>		
<p>General Conditions score = SUM(Existing Condition Values)</p>		
<p>General Conditions score = SUM(Planned Values) = FINAL WHEG score</p>		<p>Final WHEG Score</p>
<p>Computation from above examples: Section A. Vegetation (1) Size b) $0.75 \times 0.15 = 0.12 +$ (2) Non-herb foliar cover c) $0.5 \times 0.15 = 0.08 +$ (3) Herb ground cover a) $1.0 \times 0.25 = 0.25 +$ (4) Herb species richness e) $0.0 \times 0.1 = 0 +$ (5) Noxious plant d) $0.25 \times 0.1 = 0.03 +$ Section B. Management (6) Prescribed Burning $0.75 \times 0.25 = 0.19 +$ (7) Grazing a) $+ 0.05$ Grazing b) $+ 0.025$</p> <p>With Prescribed Grazing a) $0.12 + 0.08 + 0.25 + 0 + 0.03 + 0.19 + 0.05 = 0.70$</p> <p>With Prescribed Grazing b) $0.12 + 0.08 + 0.25 + 0 + 0.03 + 0.19 + 0.025 = 0.695$</p> <p>No grazing or no grazing plan: c) $0.12 + 0.08 + 0.25 + 0 + 0.03 + 0.19 = 0.65$</p>		

Summary Computation Area: If needed, to combine multiple Assessment Areas (AA) into a summarized score by acres assessed.

e.g., AA-A = 200 acres Gulf Coastal marsh WHEG score = 0.4

AA-B = 100 acres open range WHEG score = 0.85

$$((200/300) \times 0.4) + ((100/300) \times 0.85) = (.667 \times 0.4) + (.333 \times 0.85) = 0.267 + 0.283 = 0.55$$

WHEG total for Project Area (PA) = 0.55

WHEG Scores from each Assessment Area (as applicable)

(__ (AA-A acres) / __ (Project Area Acres)) x __ (AA-A score) = _____

(__ (AA-B acres) / __ (Project Area Acres)) x __ (AA-B score) = _____

(__ (AA-C acres) / __ (Project Area Acres)) x __ (AA-C score) = _____

(__ (AA-D acres) / __ (Project Area Acres)) x __ (AA-D score) = _____

(__ (AA-E acres) / __ (Project Area Acres)) x __ (AA-E score) = _____

(__ (AA-F acres) / __ (Project Area Acres)) x __ (AA-F score) = _____

Total WHEG Score for Project Area (PA) = _____
 (Summary of Weighted AA Scores)

Variables	Suggested Conservation Practices for Resource Concerns
<p>(1) Size of Nesting Habitat</p>	<p>Areas rating 0.5 or less, consider the following Conservation Practices</p>
	<p>Conservation Cover 327 Plant agricultural area to diverse mix of native bunch grasses</p>
	<p>Range and Biomass Planting 550 Return terrestrial herbaceous ecosystems to their original or usable and functioning condition and to improve biodiversity by providing and maintaining habitat for wildlife species</p>
	<p>Restoration and Management of Rare or Declining Habitats 643: Return aquatic or terrestrial ecosystems to their original or usable and functioning condition and to improve biodiversity by providing and maintaining habitat for fish and wildlife species associated with the ecosystem.</p>
	<p>Early Successional Habitat Development 647: Manage plant succession to develop and maintain early successional habitat to benefit desired wildlife and/or natural communities.</p>
	<p>Prescribed Burning 338: Use prescribed burning to remove duff layer and set back wood vegetation to an early succession stage of adjacent areas</p>
<p>(2) Non-herbaceous Foliar Cover (%)</p>	<p>Areas rating 0.5 or less, consider the following Conservation Practices</p>
	<p>Brush Management 314: Plan brush management to control woody species and provide for an early succession habitat designed to meet landowners' goals.</p>
	<p>Prescribed Burning 338: Use prescribed burning to remove duff layer and set back wood vegetation to an early succession stage.</p>
	<p>Integrated Pest Management 595: A site-specific combination of pest prevention, pest avoidance, pest monitoring, and pest suppression strategies.</p>
	<p>Restoration and Management of Rare or Declining Habitats 643: Return aquatic or terrestrial ecosystems to their original or usable and functioning condition and to improve biodiversity by providing and maintaining habitat for fish and wildlife species associated with the ecosystem.</p>
	<p>Early Successional Habitat Development 647: Manage plant succession to develop and maintain early successional habitat to benefit desired wildlife and/or natural communities.</p>
<p>(3) Herbaceous Ground Cover (%)</p>	<p>Areas rating 0.5 or less, consider the following Conservation Practices</p>
	<p>Brush Management 314: plan brush management to control Woody species and allow for an early succession habitat on rangeland.</p>
	<p>Prescribed Burning 338: Use prescribed burning to remove duff layer and set back woody vegetation to an early succession stage.</p>
	<p>Prescribed Grazing 528: Exclude cattle grazing during spring months (March – May) to allow forbs/legumes to flower & fruit before grazing.</p>
	<p>Range and Biomass Planting 550: Use range planting following ground disturbing conservation practices as needed and incorporate forbs/legumes into the seed mixture.</p>
	<p>Integrated Pest Management 595: A site-specific combination of pest prevention, pest avoidance, pest</p>

	<p>monitoring, and pest suppression strategies.</p> <p>Restoration and Management of Rare or Declining Habitats 643: Return aquatic or terrestrial ecosystems to their original or usable and functioning condition and to improve biodiversity by providing and maintaining habitat for fish and wildlife species associated with the ecosystem.</p> <p>Early Successional Habitat Development 647: Maintain plant succession to develop and maintain early successional habitat to benefit desired wildlife and/or natural communities.</p>
<p>(4) Herbaceous Species Richness (grasses, grass-likes, and forbs)</p>	<p>Areas rating 0.5 or less, consider the following Conservation Practices</p> <p>Brush Management 314: plan brush management to control Woody species and allow for an early succession habitat on rangeland.</p> <p>Prescribed Burning 338: Use prescribed burning to remove duff layer and set back woody vegetation to an early succession stage.</p> <p>Prescribed Grazing 528: Exclude cattle grazing during spring months (March – May) to allow forbs/legumes to flower & fruit before grazing.</p> <p>Range and Biomass Planting 550: Use range planting following ground disturbing conservation practices as needed and incorporate forbs/legumes into the seed mixture.</p> <p>Integrated Pest Management 595: A site-specific combination of pest prevention, pest avoidance, pest monitoring, and pest suppression strategies.</p> <p>Early Successional Habitat Development 647: Maintain plant succession to develop and maintain early successional habitat to benefit desired wildlife and/or natural communities.</p>
<p>(5) Noxious and or Invasive plant species</p>	<p>Areas rating 0.5 or less, consider the following Conservation Practices</p> <p>Brush Management 314: Plan brush management to control wood species and provide for an early succession habitat designed to meet landowner’s goals.</p> <p>Herbaceous Weed Control 315: Removal or control of herbaceous weeds including invasive, noxious and prohibited plants.</p> <p>Fence 382: use cross fence to reduce pasture size and make fields more uniform in size and/or production to allow for more uniform grazing.</p> <p>Prescribed Grazing 528: Plan rotational grazing to allow more adequate rest time between grazing events and reevaluate stocking rates.</p> <p>Heavy Use Area Protection 561: Plan Heavy Use Area Protection around conservation livestock areas (CLA) to minimize impacts of soil compaction and runoff.</p> <p>Integrated Pest Management 595: A site-specific combination of pest prevention, pest avoidance, pest monitoring, and pest suppression strategies.</p> <p>Watering Facility 614: use watering facilities to reduce CLA impacts to ecologically sensitive areas (e.g., wetlands) along with Heavy Use Area Protection to reduce or eliminate CLA.</p> <p>Early Successional Habitat Development 647: Manage</p>

	<p>plant succession to develop and maintain early successional habitat to benefit desired wildlife and/or natural communities.</p>
<p>(6) Prescribed Burning</p>	<p>Areas rating 0.5 or less, consider the following Conservation Practices</p>
	<p>Prescribed Burning 338: Use prescribed burning to remove duff layer and set back woody vegetation to an early succession stage.</p>
	<p>Fire Break 394: A permanent or temporary strip of bare or vegetated land constructed to minimize the spread of wildfire or to contain prescribed burns.</p>
	<p>Integrated Pest Management 595: A site-specific combination of pest prevention, pest avoidance, pest monitoring, and pest suppression strategies.</p>
	<p>Restoration and Management of Rare or Declining Habitats 643: Return aquatic or terrestrial ecosystems to their original or usable and functioning condition and to improve biodiversity by providing and maintaining habitat for fish and wildlife species associated with the ecosystem.</p>
	<p>Wetland Wildlife Habitat Management 644: Provide and manage wetland habitats and connectivity within the landscape for wildlife.</p>
	<p>Early Successional Habitat Development 647: Maintain plant succession to develop and maintain early successional habitat to benefit desired wildlife and/or natural communities</p>
<p>(7) Grazing Management</p>	<p>Areas rating 0.5 or less, consider the following Conservation Practices</p>
	<p>Brush Management 314: plan brush management to control Woody species and allow for an early succession habitat on rangeland.</p>
	<p>Prescribed Burning 338: Use prescribed burning to remove duff layer and set back woody vegetation to an early succession stage.</p>
	<p>Fence 382: use cross fence to reduce pasture size and make fields more uniform in size and/or production to allow for more uniform grazing.</p>
	<p>Prescribed Grazing 528: Exclude cattle grazing during spring months (March – May) to allow forbs/legumes to flower & fruit before grazing.</p>
	<p>Range Planting 550: Use range planting following ground disturbing conservation practices as needed and incorporate forbs/legumes into the seed mixture.</p>
	<p>Integrated Pest Management 595: A site-specific combination of pest prevention, pest avoidance, pest monitoring, and pest suppression strategies.</p>
	<p>Watering Facility 614: use watering facilities to reduce Concentrated Livestock Activity (CLA) impacts to ecologically sensitive areas (e.g., wetlands) along with Heavy Use Area Protection to reduce or eliminate CLA.</p>
	<p>Early Successional Habitat Development 647: Maintain plant succession to develop and maintain early successional habitat to benefit desired wildlife and/or natural communities.</p>
<p>Additional Notes:</p>	

