

9/19/2007

Modified Functions and Values Assessment for Significant Nexus Determination

Project Name: _____ Id#: _____ Date: _____

Wet ID #: _____ Weather: _____ Time Start: _____ Time Stop: _____

Site investigator: _____

Recent Precipitation: Below average Average Above Average Don't Know TBD

Wildlife Investigation method: Cover search dip netting Auditory Scat Tracks Minnow Traps

Wetland Types(s) Cowardin/Golet Classification

Class	Subclass
POW/ Open water	<i>Vegetated Non-vegetated</i>
PEM/PSS Deep Marsh	<i>Dead woody Shrub Sub-shrub Robust Narro- Leaved Broad-Leaved</i>
PAB/ Shallow Marsh	<i>Robust Narrow-leaved Broad-leaved Floating-leaved</i>
PFL/ Seasonally Flooded Flats	<i>Emergent Shrub</i>
PEM/ Wet Meadow	<i>Ungrazed Grazed</i>
PSS/ Shrub Swamp	<i>Sapling Bushy Compact Aquatic</i>
PFO/ Wooded Swamp	<i>Deciduous Evergreen</i>
Bog	<i>Compact shrub Bushy Shrub Wooded Emergent</i>

Water Regimes(Cowardin Modifier)

Permanently flooded (H) – *water covers land surface throughout year in all years*

Intermittently Exposed (Z) – *surface water present throughout year except in years of extreme drought*

Semi-permanently flooded (F) – *surface water persists throughout growing season in most years*

Seasonally flooded C – *surface water present for extended periods especially early in growing season, but is absent by end of season in most years*

Seasonally saturated (Y) – *soils saturated to surface, especially early in growing season, but are unsaturated by end of season in most years; surface water absent except for ground water seepage and overland flow*

Temporarily flooded (A) – *surface water present for brief periods during growing season, but water table usually lies well below soil surface for most of the season*

Intermittently flooded (J) – *substrate usually exposed, but surface water is present for variable periods without detectable seasonal periodicity*

Artificially flooded (K) – *amount/duration of flooding controlled by dikes, dams, pumps etc*

Hydrology

Ground water discharges present: Yes No If Present, Slope or Depressional

Surface water depth: average - _____ maximum - _____

Depth to free water: _____

Depth to saturation: _____

Signs of altered hydrology? _____

Hydrology indicators: *Inundated* *Saturated in upper 12"* *Water marks* *Drift lines*
Sediment deposits *Drainage patterns within wetland* *Other*

Plant Adaptions to Hydrology: *Pneumatophores* *Polymorphic leaves* *Buttressed trees*
Hypertrophied lenticels *Stooling* *Inflated leaves, stems or roots* *Adventitious roots*
Rhizospheric Oxidation *Shallow root systems* *floating leaves* *floating stems*

Soils

Drainage classes: Well Moderately Poorly Very Poorly
 New England Hydric soil indicators

Slope Nearly level Gentle Moderate Steep

Upland Border

Slope: Nearly level Gentle Moderate Steep

Cover Types: Mature forest Sapling forest Shrub thicket Meadow Mowed lawn Farm

Vegetation Density(S/M/D): Trees ____ Saplings ____ Shrubs ____ Herbs ____ Grass ____

Leaf litter: Well developed Moderately well developed Absent

Cover objects: Logs Bark Boulders/Rocks

Evidence of Erosion: No Yes (Explain)

GWR/GROUNDWATER RECHARGE (Excluding condition: Slope Wetland)

Criteria	+	-	Comments
Soils	Sand/gravel outwash	Hardpan, tight fine-grained soils, shallow ledge	
Wetland associated w/ perennial or seasonal watercourse	Yes	No	
Slope	Gentle	Moderate or Steep	
Function Present			
Principal Function?			

GWD/GROUNDWATER DISCHARGE

Criteria	+	-	Comments
Soils	Hardpan, shallow ledge	-----	
Seeps, springs observed?	Yes	No	
Wetland microrelief	Well developed	Non/poorly developed	
Wetland contains an outlet, no inlet	Yes	No	
Function Present			
Principal Function?			

FFA/FLOODFLOW ALTERATION (Excluding condition: Slope Wetland)

Criteria	=	-	Comments
Area of wetland is relatively...	Large	Small	
Amount of impervious surface in wetland watershed	Large	Small	
Wetland slope	Gentle	Steep	
Wetland characterized by variable water level?	Yes	No	
Wetland in floodplain of adjacent watercourse?	Yes	No	

Valuable properties, structures or resources located in or near floodplain downstream from wetland?			
Watershed has a history of economic loss due to flooding?	Yes	No	
Wetland outlet restricted?	Yes	No	
Wetland vegetation density	High	Low	
Wetland microrelief	Well developed	None/poorly developed	
Function Present			
Principal Function?			

F&SH/FINFISH HABITAT: POND & LAKE (Excluding condition: Not associated with pond, lake)

Criteria	+	-	Comments
Dominant land use adjacent to waterbody	Forest, shrub, meadow	Lawn	
Shallow littoral zone with emergent vegetation present?	Yes	No	
Waterbody at least 10' deep	Yes	No	
% of pond covered by submerged or emergent vegetation	15-40%	Other	
Direct stormwater discharge via culvert?	No	Yes	
Sandbar present at inlet?	No	Yes	
Water transparency	High	Low	
Significant nutrient sources (fertilizers, waterfowl) present in watershed?	No	Yes	
Pond size \geq 0.5 acre	Yes	No	
Pond experiences dense algal blooms, nuisance aquatic vegetation or duckweed?	No	Yes	
Function Present			
Principal Function?			

F&SH/FINFISH HABITAT: STREAMS/RIVERS

(Excluding condition: wetland not associated with perennial stream)

Criteria	+	-	Comments
Channel shaded by riparian trees and/or shrubs?	Yes	No	
Gravel spawning areas present?	Yes	No	
Barriers to anadromous fish (dams/high culverts) present in stream reach	No	Yes	
Dominant bottom substrate	Gravel/cobbles	Sand/silt	
Substrate embeddedness by sand & silt	Low	High	
Instream habitat diversity (riffle, run, pool, shallow, deep)	High	Low	
Channel alterations (channelization, islands or point bars)	Absent or few	Numerous	
Bank stability	Stable	Unstable, eroding	
Bank vegetative cover	High (trees, shrubs)	Low	
Cover objects (fallen logs, boulders, undercut banks)	Many	Absent/few	
Riparian zone	Wide	Narrow	
Watershed development	Low	High	
Water quality	Good	Poor	
Pollution tolerance of benthic macro-invertebrate taxa	Mostly intolerant	Mostly tolerant	
Function Present			
Principal Function?			

S&TR/SEDIMENT/TOXICANT/PATHOGEN RETENTION

Criteria	+	-	Comments
Sources of sediment or toxicants upstream	Yes	No	
Duration of water retention in wetland	Long	Short	
Evidence of sediment trapping in wetland	Yes	No	
Vegetation density	High	Low	
Wetland edge broad and intermittently aerobic	Yes	No	
Drainage ditches in wetland	No	Yes	
Water flow through wetland	Diffuse	Channelized	
Ponded water present	Yes	No	
Wetland basin topographic gradient	Low	High	
Fine grained mineral or organic soils present	Yes	No	
Watercourse, if present has visible velocity decreases in the wetland	Yes	No	
Indicators of erosion or high water velocities are present	No	Yes	
Function Present			
Principal Function?			

N&RR/NUTRIENT REMOVAL/RETENTION/TRANSFORMATION

Criteria	+	-	Comments
Wetland size in relation to the watershed	Large	Small	
Potential sources of excess nutrients upstream	Yes	No	
Wetland is saturated for most of the season	Yes	No	
Emergent vegetation of dense woody stems are dominant	Yes	No	
Water flow through wetland	Diffuse	Channelized	
Vegetation density	High	Low	
Potential for sediment trapping exists	Yes	No	
Deep or open water habitat is present	Yes	No	
Soil type	Organic/high clay content	Sand/gravel	
Wetland basin topographic gradient	Low	High	
Wetland microrelief	Well developed	None, poorly developed	
Function Present			
Principal Function?			

PE/PRODUCTION EXPORT (Excluding Condition: No outlet)

Criteria	+	-	Comments
Wildlife food sources in wetland	Abundant	Few	
Vegetation density	High	Low	
Nutrients and/or organic matter flushed out of wetland into watercourse?	Yes	No	
Wetland has high degree of plant community structure and species diversity	Yes	No	
Detritus development is present within this wetland	Yes	No	
Flowering plants used by nectar gatherers present	Yes	No	
Evidence of wildlife use in wetland?	Yes	No	
Fish or shellfish develop/occur in wetland	Yes	No	
Function Present			
Principal Function?			

S&SS/SEDIMENT/SHORELINE STABILIZATION

Criteria	+	-	Comments
Topographical gradient in wetland	Yes	No	
Potential sediment sources upstream or upslope	Yes	No	
Wetland border > 10' adjacent to pond or water	Yes	No	
Distinct shoreline or bank evident between wetland and water	No	Yes	
Open water fetch present	Yes	No	
Boating activity present	Yes	No	
Floodplain stabilizing trees and shrubs present	Yes	No	
Indications of erosion or siltation present	Yes	No	
Function Present			
Principal Function?			

REC/RECREATION

Criteria	+	-	Comments
Wetland is part of a recreation area, park, refuge etc	Yes	No	
Fishing is available in or from the wetland	Yes	No	
Hunting is permitted in wetland	Yes	No	
Hiking occurs or has potential to occur in wetland	Yes	No	
Wetland is a valuable wildlife habitat	Yes	No	
Wetland has high visual/aesthetic quality	Yes	No	
Boating or canoeing feasible in wetland	Yes	No	
Off-road public parking near wetland available	Yes	No	
Safety hazards (if present list them)			
Function Present			
Principal Function?			

WLH/WILDLIFE HABITAT

Criteria	+	-	Comments
Wetland degradation by human activity	Little or none	Mod to high	
Wetland fragmentation by development	Little or none	Mod to high	
Buffer Exists (F= forest M= Meadow S=sapling/shrub thicket L=lawn A=agriculture)	Yes	No	
Buffer width	Good to excellent	Fair to poor	
Connectivity with other wetlands	Yes	No	
Size of landscape block in which wetland is located	Large	Small	
Wildlife food sources in wetland	Abundant	Few	
Interspersion of vegetation and open water	High	Low	
Upland islands	Present	Absent	
Wetland class diversity (W=wooded swamp SS=shrub swamp M=marsh WM=wet meadow OW=open water)	High	low	
Vegetation density	High	Low	
Vegetation strata (T=tree S=sapling SH=shrub V=vine H=herb LL=leaf litter)			
Wetland plant species diversity	High	Low	Mod
Vernal pool	Yes	No	
Edge diversity (list types)			
Water regime	Wetter	Drier	
Habitat features (S=snags L=fallen logs SE= seep/spring)	Abundant	Few	
Cover objects (L=logs/branches R=rocks B=bark)	Abundant	Few	
Flat rocks in/near watercourse (stream	Present	Absent	

salamanders)			
Sphagnum hummocks next to shallow pools	Present	Absent	
Bare well drained sandy soils near wetland (turtle nest site)	Present	Absent	
Abundance of invasive exotic flora	None or low	high	
Function Present			
Principal Function?			

E&SV/EDUCATIONAL/SCIENTIFIC VALUE

Criteria	+	-	Comments
Wetland contains listed species	Yes	No	
Wetland provides valuable wildlife habitat	Yes	No	
Wetland class diversity	High	Low	
Adjacent upland cover types (F=forest M=meadow S=sapling/shrub thicket A=agriculture)	High	Low	
Off road parking near wetland available	Yes	No	
Proximity to schools	Near	Far	
Wetland contains perennial watercourse	Yes	No	
Wetland contains pond/lake	Yes	No	
Safety hazards (if present list them)			
Site currently used for educational/scientific purposes	yes	No	
Function Present			
Principal Function?			

U/H/UNIQUENESS/HERITAGE

Criteria	+	-	Comments
Wetland contains listed species	Yes	No	
Wetland identified as exemplary natural community	Yes	No	
Wetland locally/regionally significant (explain)	Yes	No	
Function Present			
Principal Function?			

VQA/VISUAL QUALIT/AESTHETICS

Criteria	+	-	Comments
Visible from primary viewing locations	Yes	No	
Views absent trash, debris, sign of degradation	Yes	No	
Low noise level	Yes	No	
Visual landuse contrast with wetland	Yes	No	
Function Present			
Principal Function?			

ESH/ENDANGERED SPECIES HABITAT

Criteria	+	-	Comments
Wetland contains or known to contain federal listed species or habitat	Yes	No	
Wetland contains critical habitat for state or federal listed species	Yes	No	
Area appears in state or national database	Yes	No	
Function Present			
Principal Function?			

CONCLUSION: SUMMARY TABLE (X = present, P = Principle Wetland Function)

GWR/D	FFA	F&SH	S&TR	NR&R	PE	REC	WLH	ED/S	U/H	S&S	ESH

SUMMARY OF FUNCTIONS

Groundwater Recharge/Discharge: This function considers the potential for a wetland to serve as a groundwater recharge and/or discharge area and refers to the fundamental interaction between wetlands and aquifers, regardless of the size or importance of either

Floodflow Alteration (Storage & Desynchronization): This function considers the effectiveness of the wetland in reducing flood damage by water retention for prolonged periods following precipitation events and the gradual release of floodwaters. It adds to the stability of the wetland ecological system or its buffering characteristics and provides social or economic value relative to erosion and/or flood prone areas

Fish and Shellfish Habitat: For freshwater systems, this function considers the effectiveness of seasonal or permanent watercourses associated with the wetland in question for fish and shellfish habitat.

Sediment/Toxicant/Pathogen Retention: This function reduces or prevents degradation of water quality. It relates to the effectiveness of the wetland as a trap for sediments, toxicants, or pathogens in runoff water from surrounding uplands or upstream eroding wetland areas.

Nutrient Removal/Retention/Transformation: This function considers the effectiveness of the wetland as a trap for nutrients in runoff water from surrounding uplands or contiguous wetlands and the ability of the wetland to process these nutrients into other forms or trophic levels. One aspect of this function is to prevent ill effects of nutrients entering aquifers or TNW such as ponds, lakes, streams, rivers or estuaries.

Production Export: This function evaluates the effectiveness of the wetland to produce food or usable products for humans or other living organisms.

Sediment/Shoreline Stabilization: This function considers the effectiveness of a wetland to stabilize streambanks and shorelines against erosion.

Wildlife Habitat: This function considers the effectiveness of the wetland to provide habitat for various types and populations of animals typically associated with wetlands and the wetland edge. Both resident and/or migrating species must be considered.

Recreation(Consumptive and Non-consumptive): This value considers the suitability of the wetland and associated watercourses to provide recreational opportunities such as hiking, canoeing, boating, fishing, hunting or other active or passive recreational activities. Consumptive opportunities consume or diminish the plants, animals or other resources that are intrinsic to the wetland. Non-consumptive opportunities do not consume or diminish the resources of the wetland.

Educational/Scientific Value: This value considers the suitability of the wetland as a site for an “outdoor classroom” or as a location for scientific study or research.

Uniqueness/Heritage: This value considers the effectiveness of the wetland or its associated waterbodies to provide certain special values. These may include archaeological sites, critical habitat for endangered species, its overall health and appearance, its role in the ecological system of the area, its relative importance as a typical wetland class for this geographic location. These functions are clearly valuable wetland attributes relative to aspects of public health, recreation and habitat diversity.

Visual Quality/Aesthetics: This value considers the visual and aesthetic quality or usefulness of the wetland.

Endangered Species Habitat: This value considers the suitability of the wetland to support threatened or endangered species (either federal or state listed).