

LEVEL 2 STRESSOR CHECKLIST for Human Stressor Index (HSI)

Stressors: *direct threats*; “the proximate (human) activities or processes that have caused, are causing, or may cause the destruction, degradation, and/or impairment of biodiversity and natural processes” or altered disturbance regime (e.g. flooding, fire, or browse).

Some Important Points about Stressors Checklists:

1. The Stressors Checklist must be completed for the 0.5ha AA (Veg, Soils, Hydro) and the Buffer (0-100m)
2. Assessment is of stressors found only within the AA and in the buffer, not outer landscape (GIS L1). Rely on imagery in combination with what you can field check.
3. Assess Buffer stressors and their effects within the Buffer 0-100m (*NOT how buffer stressors may impact the AA*)
4. Stressors for Vegetation, Soils, and Hydrology are assessed across the full 0.5ha assessment area (AA)
5. Some stressors may overlap. E.g. 10 (Passive recreation) may overlap with 24 (Trampling). Choose only 1 and note the overlap.

SCOPE of Threat (% of AA or Buffer affected by direct threat)	
1 = Small	Affects a small (1-10%) proportion of the AA or Buffer
2 = Restricted	Affects some (11-30%)
3 = Large	Affects much (31-70%)
4 = Pervasive	Affects all or most (71-100%)
SEVERITY of Threat within the defined Scope (degree of degradation to AA or Buffer)	
1 = Slight	Likely to only slightly degrade/reduce
2 = Moderate	Likely to moderately degrade/reduce
3 = Serious	Likely to seriously degrade/reduce
4 = Extreme	Likely to extremely degrade/destroy or eliminate

	STRESSORS CHECKLIST	BUFFER (100 m)			ASSESSMENT AREA (0.5 ha)									Comments (circle stressor #)		
		Scope	Severity	IMPACT	Vegetation MEF			Soil / Subs MEF			Hydrology MEF					
					Scope	Severity	IMPACT	Scope	Severity	IMPACT	Scope	Severity	IMPACT			
D	1. Residential, recreational buildings, associated pavement		4													1
	2. Industrial, commercial, military buildings, associated pavement		4													2
E	3. Utility/powerline corridor		1,2,3			1,2,3										3
V	4. Sports field, golf course, urban parkland, expansive lawns		2													4
E	5. Row-crop agriculture, orchard, nursery		3													5
L	6. Hay field		2,3													6
O	7. Livestock grazing (low=2, mod=3, high=4), excessive herbivory (deer =3)		2,3,4			2,3,4										7
P	8. Roads (gravel = 1, paved=3, highway=4), Railroad=3		2,3,4													8
	9. Other [specify]:															9
R	10. Low impact recreation (hunting, fishing, camping, hiking, bird-watching, canoe/kayak)		1			1										10
E	11. High impact recreation (ATV, mountain biking, motor boats)		3			3										11
C	12. Other [specify]:															12
V	13a. Tree resource extraction (e.g., Clearcut = 3 for Buffer or =4 for AA; Selective cut = 2 or 3)		2,3,4			2,3,4										13a
	13 b. Shrub / Herb resource extraction (e.g. medicine, horticulture)		2,3			2,3										13b
V	14. Vegetation management: cutting, mowing		2			2										14
E	15. Excessive animal herbivory or insect pest damage		1,2,3			1,2,3										15
G	16. Invasive plant species (SEE LIST)		3,4			3,4										16
G	17. Pesticide or vector control, chemicals (give onsite evidence)		2,3			2,3										17
	18. Other [specify]:															18
Nat	19. Altered natural disturb regime [specify expected regime]		1,2,3			1,2,3										19
Dis	20. Other [specify]:															20

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NJ Wetland Condition Assessment Site Code: _____ L2. Date: ____/____/____

STRESSORS CHECKLIST	BUFFER (100 m)			ASSESSMENT AREA (0.5 ha)									Comments (circle stressors)		
	Scope	Severity	IMPACT	Vegetation MEF			Soil / Subs MEF			Hydrology MEF					
				Scope	Severity	IMPACT	Scope	Severity	IMPACT	Scope	Severity	IMPACT			
S	21. Excessive sediment or organic debris (recently logged sites), gullyng, excessive erosion, excessive loss of organic matter		3							3					21
O	22. Trash or refuse dumping														22
I	23. Filling, spoils, excavation														23
L	24. Soil disturbance: trampling (2), livestock (3), skidding (3), Vehicle (4)		2,3,4						2,3,4						24
	25. Grading, compaction, plowing, discing, fire lines		4						4						25
	26. Physical resource extraction: rock, sand, gravel, etc		3						3						26
	27. Other [specify]: e.g., landfill, soil loss/root exposure														27
H	28. PS discharge (wastewater treatment water, non-storm discharge, septic)		3								3				28
Y	29. NPS discharge (urban/storm water runoff, agricultural drainage or excess manure, mine runoff, oil/gas discharge)		3								3				29
D	30. Dam, ditch, diversion, dike, levee, unnatural inflow, reservoir		3,4								3,4				30
R	31. Groundwater extraction (small well=2, several wells=3, extensive extraction causing significant lowering of water table =4)		2,3,4								2,3,4				31
O	32. Flow obstructions (culverts, paved stream crossings)		4								4				32
L	33. Engineered channel (riprap, armored channel bank, bed)		4								4				33
O	34. Actively managed hydrology (e.g., lake levels controlled)		3								3				34
G	35. Tide gate, weir/drop structure, dredged inlet/channel		3								3				35
Y*	36. Other [specify]: e.g., wall/ riprap, impervious surface														36
Stressors Very Minimal or Not Evident (check box, if true)		<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>				
SUM OF Stressor IMPACTS -- Score & Rating by MEF (Buffer, Veg, Soils, Hydro)		B. Sum Score:	C. Rating Point:	Sum Score:	Rating Point:	Sum Score:	Rating Point:	Sum Score:	Rating Point:	Sum Score:	Rating Point:	D. HSII Total SITE RATING:			
TOTAL (Site) HSII: Multiply each MEF Impact Sum Score by the following weights then sum them to calculate the HSII Rating. See Table for HSII Site Rating		A. _____ x 0.3 =		_____ x 0.3 =		_____ x 0.1 =		_____ x 0.3 =		HSII Total Score:					

*Hydrology stressors will often cross between buffer and AA. E.g., ditches in the buffer may directly impact hydrology of the AA. Minimize listing in both columns unless you are sure of the impacts. If ditches occur in both the buffer and the AA, then both should be listed.

HSI Site Score	D. HSI Site Rating
3.5-4.0	Very High
2.5-3.4	High
1.5-2.4	Medium
0.5-1.4	Low
0.0-0.4	Absent

A. Stressor IMPACT Calculator		Stressor SCOPE			
		Pervasive = 4	Large = 3	Restricted = 2	Small = 1
Stressor SEVERITY	Extreme = 4	VERY HIGH = 10	High = 7	Medium = 4	Low = 1
	Serious = 3	High = 7	High = 7	Medium = 4	Low = 1
	Moderate = 2	Medium = 4	Medium = 4	Low = 1	Low = 1
	Slight = 1	Low = 1	Low = 1	Low = 1	Low = 1

STRESSOR RATING Summary for Major Ecological Factor (MEF)	Orig Sum of Impact Scores	B. Rescaled NJ Sum of Impact Scores	Stressor RATING	C. Pts
	10+	18+	Very High	4
	7 - 9.9	10 - 17.9	High	3
	4 - 6.9	4 - 9.9	Medium	2
	1 - 3.9	1 - 3.9	Low	1
0 - 0.9	0 - 0.9	Absent	0	