

Site Name:	Investigator & Date:				
<b>Stressor (S) Data Form for Tidal Wetlands. WESPAK-SE version 2</b>					
S1	<b>Wetter Water Regime - Internal Causes</b>				
	<i>In the last column, place an X next to any item that is likely to have caused a part of the wetland to be inundated more extensively, more frequently, more deeply, and/or for longer duration than it would be without that item or activity. (The items you check are not used automatically in subsequent calculations. They are included simply so they may be considered when evaluating the factors in the table beneath them).</i>				
	an impounding dam, dike, levee, weir, berm, road fill, or tidegate -- within or downgradient from the wetland, or raising of outlet culvert elevation.				
	excavation within the wetland, e.g., artificial pond, dead-end ditch				
	excavation or reflooding of upland soils that adjoined the wetland, thus expanding the area of the wetland				
	plugging of ditches or drain tile that otherwise would drain the wetland (as part of intentional restoration, or due to lack of maintenance, sedimentation, etc.)				
	vegetation removal (e.g., logging) within the wetland				
	compaction (e.g., ruts) and/or subsidence of the wetland's substrate as a result of machinery, livestock, or off road vehicles				
	<i>If any items were checked above, then for each row of the table below, you may assign points (3, 2, or 1 as shown in header) in the last column. However, if you believe the checked items had no measurable effect in making any part of the AA wetter, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present. The sum and final score will compute automatically. If this is a created or restored wetland, only consider changes occurring since the creation/restoration.</i>				
		<b>Severe (3 points)</b>	<b>Medium (2 points)</b>	<b>Mild (1 point)</b>	<b>Points</b>
	Spatial extent of resulting wetter condition	>95% of wetland or >95% of its upland edge (if any)	5-95% of wetland or 5-95% of its upland edge (if any)	<5% of wetland and <5% of its upland edge (if any)	0
	When most of wetland's wetter condition began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	0
<i>Score the following 2 rows only if the wetter conditions began within past 10 years, and only for the part of the wetland that got wetter.</i>					
Inundation now vs. previously	persistent vs. seldom	persistent vs. seasonal	slightly longer or more often	0	
Average water level increase	>1 ft	6-12"	<6 inches	0	

S2	<b>Wetter Water Regime - External Causes</b>				
	In the last column, place an X next to any item occurring in the wetland's <b>contributing area</b> (CA) that is likely to have caused a part of the wetland to be inundated more extensively, more frequently, more deeply, and/or for longer duration than it would be without that item or activity.				
	subsidies from stormwater, wastewater effluent, or septic system leakage				
	pavement, ditches, or drain tile in the CA that incidentally increase the transport of water into the wetland				
	removal of timber in the CA or along the wetland's tributaries				
	removal of a water control structure or blockage in tributary upstream from the wetland				
	If any items were checked above, then for each row of the table below, you may assign points (3, 2, or 1 as shown in header) in the last column. However, if you believe the checked items had no measurable effect in making any part of the AA wetter, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.				
		Severe (3 pts)	Medium (2 pts)	Mild (1 pt)	Points
	Spatial extent of resulting wetter condition	>20% of the wetland	5-20% of the wetland	<5% of the wetland	0
	When most of wetland's wetter condition began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	0
Score the following 2 rows only if the wetter conditions began within past 10 years, and only for the part of the wetland that got wetter.					
Inundation now vs. previously	persistent vs. seldom	persistent vs. seasonal	slightly longer or more often	0	
Average water level increase	>1 ft	6-12"	<6 inches	0	

S3	<b>Drier Water Regime - Internal Causes</b>				
	<i>In the last column, place an X next to any item located within or immediately adjacent to the wetland, that is likely to have caused a part of the wetland to be inundated less extensively, less deeply, less frequently, and/or for shorter duration that it would be without that item.</i>				
	ditches or drain tile in the wetland or along its edge that accelerate outflow from the wetland				
	lowering or enlargement of a surface water exit point (e.g., culvert) or modification of a water level control structure, resulting in quicker drainage				
	accelerated downcutting or channelization of an adjacent or internal channel (incised below the historical water table level)				
	placement of fill material				
	withdrawals (e.g., pumping) of natural surface or ground water directly out of the wetland (not its tributaries)				
	<i>If any items were checked above, then for each row of the table below, assign points in the last column. However, if you believe the checked items had no measurable effect in making any part of the AA drier, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 pts)	Medium (2 pt)	Mild (1 pt)	Points
	Spatial extent of wetland's resulting drier condition	>95% of wetland or >95% of its upland edge (if any)	5-95% of wetland or 5-95% of its upland edge (if any)	<5% of wetland and <5% of its upland edge (if any)	0
	When most of wetland's drier condition began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	0
	<i>Score the following 2 rows only if the drier conditions began within past 10 years, and only for the part of the wetland that got drier.</i>				
Inundation now vs. previously	seldom vs. persistent	seasonal vs. persistent	slightly shorter or less often	0	
Water level decrease	>1 ft	6-12"	<6 inches	0	

S4	<b>Drier Water Regime - External Causes</b>				
	In the last column, place an X next to any item within the wetland's CA (including channels flowing into the wetland) that is likely to have caused a part of the wetland to be inundated less extensively, less deeply, less frequently, and/or for shorter duration that it would be without those.				
	a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the wetland				
	relocation of natural tributaries whose water would otherwise reach the wetland				
	instream water withdrawals from tributaries whose water would otherwise reach the wetland				
	groundwater withdrawals that divert water that would otherwise reach the wetland				
	If any items were checked above, then for each row of the table below assign points that describe the combined maximum effect of those items in creating a drier water regime in the AA. To estimate that, contrast it with the condition if checked items never occurred or were no longer present.				
		Severe (3 pts)	Medium (2 pts)	Mild (1 pt)	Points
	Spatial extent of wetland's resulting drier condition	>20% of the wetland	5-20% of the wetland	<5% of the wetland	0
	When most of wetland's drier condition began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	0
	Score the following 2 rows only if the drier conditions began within past 10 years, and only for the part of the wetland that got drier.				
	Inundation now vs. previously	seldom vs. persistent	seasonal vs. persistent	slightly shorter or less often	0
Water level decrease	>1 ft	1-12"	<1 inch	0	

S5	<b>Altered Timing of Water Inputs</b>				
	In the last column, place an X next to any item that is likely to have caused the <b>timing</b> of water inputs (but not necessarily their volume) to shift by hours, days, or weeks, becoming either <b>more muted</b> (smaller or less frequent peaks spread over longer times, more temporal homogeneity of flow or water levels) or <b>more flashy</b> (larger or more frequent spikes but over shorter times).				
	flow regulation in tributaries or water level regulation in adjoining water body, or tidegate or other control structure at water entry points that regulates inflow to the wetland				
	snow storage areas that drain directly to the wetland				
	increased pavement and other impervious surface in the CA				
	straightening, ditching, dredging, and/or lining of tributary channels in the CA				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items had no measurable effect on the timing of water conditions in any part of the AA, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 pts)	Medium (2 pts)	Mild (1 pt)	Points
	Spatial extent within the wetland of timing shift	>95% of wetland	5-95% of wetland	<5% of wetland	0
	When most of the timing shift began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	0
	<i>Score the following 2 rows only if the altered inputs began within past 10 years, and only for the part of the wetland that experiences those.</i>				
	Input timing now vs. previously	shift of weeks	shift of days	shift of hours or minutes	0
Flashiness or muting	became very flashy or controlled	intermediate	became mildly flashy or controlled	0	

S6	<b>Accelerated Inputs of Contaminants</b>				
	<i>In the last column, place an X next to any item -- occurring in either the wetland, its CA, or nearby tidal waters -- that is likely to have accelerated the inputs of contaminants to the AA.</i>				
	stormwater or wastewater effluent (including failing septic systems), landfills, industrial facilities				
	metals & chemical wastes from mining, shooting ranges, snow storage areas, oil/ gas extraction, other sources (see: <a href="http://map.dec.state.ak.us/apps/">http://map.dec.state.ak.us/apps/</a> )				
	oil or chemical spills (not just chronic inputs) from nearby roads				
	spraying of pesticides, as applied to lawns, croplands, roadsides, or other areas in the CA				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not cumulatively expose the AA to significantly higher levels of contaminants and/or salts, then leave the "0's" for the scores in the following rows.</i>				
		Severe (3 pts)	Medium (2 pts)	Mild (1 pt)	Points
	Usual toxicity of most toxic contaminants	industrial effluent or 303d* for toxics	active mine, mid-sized town, cropland	mildly impacting (reclaimed mine, low density residential)	0
	Frequency & duration of input	frequent and year-round	frequent but mostly seasonal	infrequent & during high runoff events mainly	0
AA proximity to main sources (actual or potential)	0-50 ft	50-300 ft or in groundwater	in other part of the CA	0	
S7	<b>Accelerated Inputs of Nutrients</b>				
	<i>In the last column, place an X next to any item -- occurring in either the wetland, its CA, or nearby tidal waters -- that is likely to have accelerated the inputs of nutrients to the wetland.</i>				
	stormwater or wastewater effluent (including failing septic systems), landfills				
	fertilizers applied to lawns, ag lands, or other areas in the CA				
	livestock, dogs				
	artificial drainage of upslope lands				
	<i>If any items were checked above, then for each row of the table below, assign points. However, if you believe the checked items did not cumulatively expose the AA to significantly more nutrients, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 pts)	Medium (2 pts)	Mild (1 pt)	Points
	Type of loading	high density of unmaintained septic, some types of industrial sources	moderate density septic, cropland, secondary wastewater treatment plant	livestock, pets, low density residential	0
	Frequency & duration of input	frequent and year-round	frequent but mostly seasonal	infrequent & during high runoff events mainly	0
Proximity to main sources (actual or potential)	0-50 ft	50-300 ft or in groundwater	in other part of the CA	0	

S8	<b>Excessive Sediment Loading from Contributing Area (CA)</b>				
	In the last column, place an X next to any item present in the CA that is likely to have elevated the load of waterborne or windborne sediment reaching the wetland from its CA.				
	erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, fires				
	erosion from construction, in-channel machinery in the CA				
	erosion from off-road vehicles in the CA				
	erosion from livestock or foot traffic in the CA				
	stormwater or wastewater effluent				
	sediment from gravel mining, other mining, oil/ gas extraction				
	accelerated channel downcutting or headcutting of tributaries due to altered land use				
	other human-related disturbances within the CA				
	If any items were checked above, then for each row of the table below, assign points (3, 2, or 1 as shown in header) in the last column. However, if you believe the checked items did not cumulatively add significantly more sediment or suspended solids to the AA, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.				
		Severe (3 pts)	Medium (2 pts)	Mild (1 pt)	Points
	Erosion in CA	extensive evidence, high intensity*	potentially (based on high-intensity* land use) or scattered evidence	potentially (based on low-intensity* land use) with little or no direct evidence	0
	Recentness of significant soil disturbance in the CA	current & ongoing	1-12 months ago	>1 yr ago	0
	Duration of sediment inputs to the wetland	frequent and year-round	frequent but mostly seasonal	infrequent & during high runoff events mainly	0
AA proximity to actual or potential sources	0-50 ft, or farther but on steep erodible slopes	50-300 ft	in other part of the CA	0	
* <b>high</b> -intensity= extensive off-road vehicle use, plowing, grading, excavation, erosion with or without veg removal; <b>low</b> -intensity= veg removal only with little or no apparent erosion or disturbance of soil or sediment					

S9	<b>Soil or Sediment Alteration <i>Within the Assessment Area</i></b>				
	<i>In the last column, place an X next to any item present in the wetland that is likely to have compacted, eroded, or otherwise altered the wetland's soil.</i>				
	compaction from machinery, off-road vehicles, or mountain bikes, especially during wetter periods				
	leveling or other grading not to the natural contour				
	tillage, plowing (but excluding disking for enhancement of native plants)				
	fill or riprap, excluding small amounts of upland soils containing organic amendments (compost, etc.) or small amounts of topsoil imported from another wetland				
	excavation				
	dredging in or adjacent to the wetland				
	boat traffic in or adjacent to the wetland and sufficient to cause shore erosion or stir bottom sediments				
	artificial water level or flow manipulations sufficient to cause erosion or stir bottom sediments				
	<i>If any items were checked above, then for each row of the table below, assign points (3, 2, or 1 as shown in header) in the last column. However, if you believe the checked items did not measurably alter the soil structure and/or topography, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.</i>				
		Severe (3 pts)	Medium (2 pts)	Mild (1 pt)	Points
	Spatial extent of altered soil	>95% of wetland or >95% of its upland edge (if any)	5-95% of wetland or 5-95% of its upland edge (if any)	<5% of wetland and <5% of its upland edge (if any)	0
	Recentness of significant soil alteration in wetland	current & ongoing	1-12 months ago	>1 yr ago	0
	Duration	long-lasting, minimal veg recovery	long-lasting but mostly revegetated	short-term, revegetated, not intense	0
Timing of soil alteration	frequent and year-round	frequent but mostly seasonal	infrequent & mainly during a single or scattered events	0	

END.