Table Formatting for the Santa Barbara HGM Guidebook
October 25, 2000

In an effort to stay consistent and readable within the Santa Barbara HGM Guidebook, I have used the following examples from the Alaska Interior HGM Guidebook to provide guidelines for the creation of tables. My comments are in italics. - Cory

Example 1

A table from the Alaska Interior HGM Guidebook illustrates the heavy use of line and the lack of white space that prevents the reader from quickly finding a definition.

Table 4. HGM Reference System Definitions.

TERM	DEFINITION
Reference Domain	All wetlands within a defined geographic region that belong to a single hydrogeomorphic subclass.
Reference Sites	Sites within the reference domain that encompass the known variation of the regional subclass. Reference sites are used to establish the ranges of functions within the regional subclass, including functional changes resulting from site alteration (human-induced perturbation).
Reference Standard Sites	The sites within a reference wetland data set from which reference standards are developed. Among all reference wetlands, reference standard sites are judged by an interdisciplinary team to have the highest level of functioning.
Reference Standards	Conditions exhibited by a group of reference sites that correspond to the highest level of functioning (highest sustainable capacity) across the suite of functions of the subclass.
Site Potential	The highest level of functioning possible given local constraints of disturbance history, land use, and other factors. Site potential may be equal to or less than levels of functioning established by reference standards.
Subclass Profile	The highest organizational element of an HGM reference system and is defined as a narrative and quantitative description of at least, the subclass geomorphic setting, climate, hydrology, geology, soils and biotic communities.
Project Targets	The level of functioning identified or negotiated for a restoration or creation project. Must be based on reference standards and/or site potential and consistent with restoration or creation goals. Used to evaluate whether a project is developing toward reference standards and/or site potential.
Project Standards	Performance criteria and/or specifications used to guide the restoration or creation activities towards the project targets. Project standards should include and specify reasonable contingency measures if the project targets are not being achieved.

Here is the same content in an easier to read format. Note the terms on the left can now be read horizontally, which is much easier than reading vertically.

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Project Standards	Performance criteria and/or specifications used to guide the restoration or creation activities towards the project targets. Project standards should include and specify reasonable contingency measures if the project targets are not being achieved.

Example 2

The following text from the Alaska Interior HGM document refers to a table that is not a table, but a list with lines around it.

Other wetlands of minor extent exhibit similar processes and ecosystem functions and thus are included within the regional subclass (Table 7). One such wetland type occurs on portions of low stream terraces with thick silty or loamy soil mantles and persistent annual frost. Some of the wetlands in the reference set for precipitation-driven wetlands on discontinuous permafrost in Interior Alaska occurred in thawed soils on abandoned floodplains near the Tanana River. These sites overlie a large aquifer and have high water tables. In many cases, land clearing or fire has thawed thin permafrost layers between the aquifer and the surface. Sites closer to points of aquifer discharge may be thawed in their unperturbed state. These sites obviously lie on or near class boundaries between HGM flats and slopes. Nevertheless, ecological communities present on these thawed sites, if unaltered, are the same as, or very similar to, those on permafrost sites without groundwater influence. Upward groundwater head gradients appear insufficient to overpower the influences of precipitation and lingering seasonal frost layers in these boundary wetlands. The nonvascular mat and root zone in these sites appear to be predominantly influenced by precipitation. For this reason, the authors chose to include them in the precipitation-driven regional subclass.

Table 7. Water/Wetland Types of Minor Extent That Are Included In The Regional Subclass.

WATER/WETLAND TYPE OR DESCRIPTION
Thawed terraces with deep groundwater discharge but precipitation-driven surface characteristics.
Low terrace positions adjacent to floodplains (rarely flooded).
Sites with a thick silty or loamy mantle but with only sporadic permafrost.
Sites with no apparent permafrost within 60 inches of the surface.
Dwarf spruce forest/woodland vegetation on shallow permafrost.
Collapse scar bogs <40 acres in size (thermokarst feature).
Subsidence features resulting from melting of massive ground ice (thermokarst feature).
Sphagnum bogs or shrub-sphagnum bogs, often in collapse scar landforms.

Put the list within the text where it belongs.

Other wetlands of minor extent exhibit similar processes and ecosystem functions and thus are included within the regional subclass (Table 7). These water/wetland types include:

- Thawed terraces with deep groundwater discharge but precipitation-driven surface characteristics.
- Low terrace positions adjacent to floodplains (rarely flooded).
- Sites with a thick silty or loamy mantle but with only sporadic permafrost.
- Sites with no apparent permafrost within 60 inches of the surface.
- Dwarf spruce forest/woodland vegetation on shallow permafrost.
- Collapse scar bogs <40 acres in size (thermokarst feature).
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- Sphagnum bogs or shrub-sphagnum bogs, often in collapse scar landforms.

One such wetland type occurs on portions of low stream terraces with thick silty or loamy soil mantles and persistent annual frost. Some of the wetlands in the reference set for precipitation-driven wetlands on discontinuous permafrost in Interior Alaska occurred in thawed soils on abandoned floodplains near the Tanana River. These sites overlie a large aquifer and have high water tables. In many cases, land clearing or fire has thawed thin permafrost layers between the aquifer and the surface. Sites closer to points of aquifer discharge may be thawed in their unperturbed state. These sites obviously lie on or near class boundaries between HGM flats and slopes. Nevertheless, ecological communities present on these thawed sites, if unaltered, are the same as, or very similar to, those on permafrost sites without groundwater influence. Upward groundwater head gradients appear insufficient to overpower the influences of precipitation and lingering seasonal frost layers in these boundary wetlands. The nonvascular mat and root zone in these sites appear to be predominantly influenced by precipitation. For this reason, the authors chose to include them in the precipitation-driven regional subclass.

The text is confusing even within the context of the document and should be rewritten. If a table is absolutely necessary, it could compare the wetland types of major extent to wetland types of minor extent. ***All tables show relationships****: between different categories, between a term and its definition, or between variables and data.*

Example 3

Tables with numbers can also be simplified to conserve space and make them easier to read. This table from the guidebook only needs minimal modification to make it clear. The category "Other Sites" should be on the same line as "Reference Standard Sites."

Table 17. All Reference Sites: Density and Cover

	REFERENCE STANDARD SITES			OTHER
VARIABLE	**Forest**	**Shrub**	**Sedge-Tussock**	**SITES**
Density (Number per Acre)				
Tree Density	1,042	39	2	197
Small Tree Density	1,278	194	146	868
Seedling Density	1,923	126	178	3,394
Snag Density	261	28	0	4
Total Tree Percent Cover	24	4	0	5
Betula papyrifera	4	0	0	1
Larix laricina	1	1	0	0
Picea glauca	1	0	0	0
Picea mariana	19	3	3	3
Populus tremuloides	0	0	0	1
Total Small Tree Percent Cover	18	7	9	12
Betula papyrifera	1	0	0	2
Picea glauca	1	4	0	0
Picea mariana	15	3	5	5
Populus tremuloides	0	0	0	2
Total Seedling Percent Cover	7	1	5	8
Betula papyrifera	0	0	1	1
Picea glauca	0	1	1	1
Picea mariana	6	0	0	4
Populus tremuloides	0	0	0	1
Total Shrub Percent Cover	45	74	34	39
Alnus crispa	1	0	0	0
Betula glandulosa	10	52	7	11
Betula nana	0	0	13	0
Chamaedaphne calyculata	0	10	14	0
Ledum groenlandicum	22	9	10	10
Rosa acicularis	2	0	0	1
Rubus Chamaemorus	6	0	7	3
Salix spp.	4	1	4	22
Vaccinium uliginosum	9	12	7	7
Vaccinium vitis-idaea	17	17	7	4
Total Herbaceaous Percent Cover	26	31	86	53
Agrostis scabra	0	0	0	5
Calamagrostis canadensis	6	5	5	16
Carex spp.	0	1	21	5
Eriophorum spp.	5	3	71	2

Here is a version after minor clean-up.

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