**LOWLANDS LANDFORM ASSOCIATIONS**

**Eolian Processes**

**Dune Fields** on National Forest lands are found adjacent to the Klamath Marsh. The dune sediments are uniformly sand texture and are sourced from fluvial montane erosion as well as the pluvial and lacustrine deposits of Pleistocene lakes. This phenomenon is not uncommon in intermountain basins in the western United States. The dunes will range from a meter to tens of meters in height. The well-drained soils may be droughty yet produce well when irrigated. Soils on dunes vary from Entisols, Inceptisols to Mollisols in xeric moisture regimes.

**Glacial Processes**

***Glacial***

**Glacialscoured Lowlands** are low relief areas that have been subject to the powerful and concentrated clearing and digging action continental icesheet and its meltwaters. In the area of the Puget Sound, the advancing Puget Lobe of the Cordilleran Icesheet was responsible for the scour. Soil depths and textures are highly variable depending on the area and scour process. The area can be scoured to bedrock, or incredibly deep. Soil textures will vary depending on the particle size caught up in the glacier or floodwaters. Internal ponding of meltwater would have left areas of deep, finely textured soil as well.

**Icesheet Lowlands** are low lying landscapes that have been overrun by the Cordilleran Continental Icesheet. Lowlands do not have glacial valleys mapped in them. They tend to be lower than Icesheet Uplands and Icesheet Mountains. They represent old piedmont that fronts the icesheet mountains that were then overrun by the continental icesheet. Low relief and undulating terrain dominate. They have quite a bit of compacted bottom till in places from the icesheet. Water will stay on landscape due to low slope angles. The drainage networks may not be fully integrated; as a result, some areas will be moist. In pockets there may be lakes and ponds, soils may not be so drought prone. There may be drainages with no outlets that are filled with till deposition.

**Lacustrine Processes**

**Peat Lowlands** are areas of low topographical relief with internal drainage and high water table or surface water evident. Peat or muck accumulation is known or likelihood is high. Peat Lowlands occur in ancient or current marshes and bogs or lakes trapped in glacial valleys which have accumulated marsh or bog vegetation for long periods. Under high water table, anerobic, and acidic conditions the marsh vegetation fails to decay fully turning to peat. Soils are dominantly Histosols, with local inclusions of Entisols and Inceptisols.

**Marine Processes**

**Marine Terraces**

Marine Terraces are wave cut bences on the seaward side of adjoining coastal foothills and mountains. They can be a single terrace or a series of treads (gentle slopes) and risers (steep slopes) stacked up away from the coastline. Though some marine terraces they can be traced as a series parallel to the coast for miles. The uplift of beveled bedrock with marine cover sediments characterizes a terrace. The planar unconformity between sediments and bedrock has a shallow dip to the sea called an abrasion platformand represents and ancient beach . Older, higher terraces have thicker mature Ultisols, richer in clay whilst closer to the shore Inceptisols, Andisols, and Spodosols are more prevalent. The oldest terraces are higher up with the marine terraces closest to modern sea level being younger.

The lower terraces that have encroaching dunes covering them which alter water flows, resulting in streams or rivers that run parallel to the beach before entering the ocean. The encroaching dunes also create lakes perched on the bedrock of the terraces. The habitats in these areas are unique with a diversity of food sources and water availability.