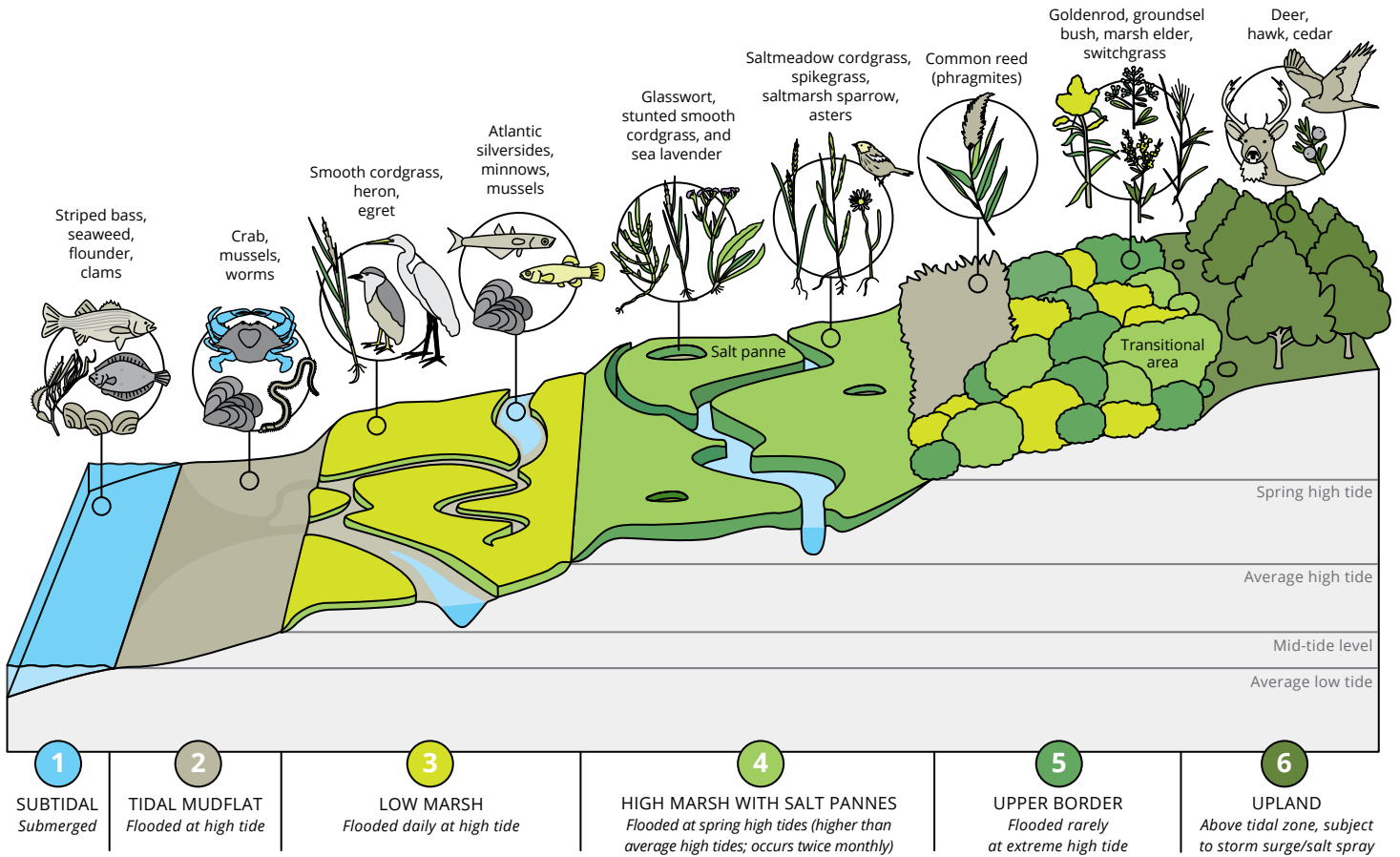


Salt Marsh Response to Sea Level Rise



Profile of a Long Island Sound Salt Marsh Ecosystem (Illustration by Lucy Reading-Ikkanda/LISS)

A **SALT MARSH**, a type of tidal marsh or tidal wetland, is a band of vegetation along coastal waters influenced by saltwater tidal flooding. It generally includes three ecologically distinct vegetation zones shown here as **low marsh**, **high marsh** and **upper border**. These zones, largely defined by the frequency of saltwater tidal flooding, are determined by small differences in the marsh surface's elevation relative to normal or mean high water. As sea level rises, the elevation of the marsh can normally keep pace with rising water levels by accumulating sediment and organic material. However, if sea level rises at a rate that exceeds the marsh's ability to increase its elevation by accumulating sediment and organic material, then the marsh becomes wetter (begins to 'drown') and can change.

For example, it can change from an infrequently flooded *high marsh* to a frequently flooded *low marsh*. Such changes will eventually alter the ecological functions the marsh provides. If undeveloped upland exists along the marsh's Upper Border suitable for saltmarsh plant growth, the marsh will, given appropriate elevations, likely migrate upland, shifting the marsh plant communities' shown here upslope.

The Sea Level Affecting Marshes Model (SLAMM) is used to predict changes in the Long Island Sound marsh ecosystem caused by sea level rise and demonstrates how marshes may change under alternative sea level rise scenarios. More about SLAMM is available at www.longislandsoundstudy.net/SLAMM/.



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For more information, visit www.longislandsoundstudy.net/slamm.

For questions on the SLAMM project, the SLAMM Viewer tools, or on how SLAMM can help your community plan for the future, contact David Kozak (david.kozak@ct.gov; 860.424.3608) or Victoria O'Neill (victoria.oneill@dec.ny.gov; 631.444.0441).