# Coastal systems estuarine & shoreline successions *3.1.3.3* ANSWERS

| Q1 | ***True or False?*** | |
|---|---|---|
| A | A sand dune ecosystem receives but does not lose sand | **False** |
| B | A plant succession means that as you travel along an estuary the plants change | **False** |
| C | A saltmarsh involves plants that can tolerate saline conditions | **True** |
| D | Embryo dunes are backed by yellow dunes, which turn into grey dunes in time | **True** |
| E | A dune slack is where tourists have worn the vegetation away | **False** |

| Q2 | **Match each term to the correct description** | |
|---|---|---|
| A | An intervening stage of characteristic plants on the way to a full succession | Seral community |
| B | A plant succession developing in salt water conditions | Halosere |
| C | Final stage of a fully mature succession matched to prevailing conditions | Climatic climax |
| D | A plant succession developing on unconsolidated sand leading to stability | Psammosere |
| E | The plant community that develops where human activity intervenes | Plagioclimax |

**Psammosere** **climatic climax** **plagioclimax** **halosere** **seral community**

| Q3 | **Tick which is the odd one out from each group of 6 terms** | |
|---|---|---|
| A | Grey dune | Embryo dune |
| | Mudflat ✓ | Yellow dune |
| | Dune slack | Upper beach zone |
| **Five terms refer a sand dune ecosystem (psammosere). Mudflats related to haloseres.** | | |
| B | Halosere | Marine algae |
| | Estuary shore | Low saltmarsh |
| | Foredune ✓ | Intertidal zone |
| **Five terms refer to a saltmarsh ecosystem (halosere). Foredune related to psammosere.** | | |
| C | Climatic climax | Prisere |
| | Seral community | Salt-tolerant plants ✓ |
| | Plant succession | Secondary succession |
| **Five terms refer to different stages in a plant succession. Salt-tolerant plants are not a stage.** | | |
| D | Pine | Spartina |
| | Cordgrass | Marram |
| | Mobile dune ✓ | Alder |
| **Five terms refer to types of plant found in haloseres and psammoseres. Mobile dunes are not a plant.** | | |

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| Q4 | **Number the stages to put them in the right sequence of development (1 = first)** |
|---|---|
| ***Halosere*** | ***Psammosere*** |
| **High saltmarsh (4)** | **Grey dune (4)** |
| **Climax (5)** | **Embryo dune (1)** |
| **Submerged estuary shore (1)** | **Foredune (2)** |
| **Mudflat (2)** | **Heath & woodland (5)** |
| **Low Saltmash (3)** | **Yellow dune (3)** |

| Q5 | ***Suggest what qualities the named variable requires for maximum development of the named sere*** |
|---|---|
| A | Wind – in the development of a psammosere<br><br>Consistent on-shore direction<br>Drying wind that dries lower beach rapidly at low tide to move it inland<br>Strong enough to blow sand from upper beach a little way inland<br>Not so strong that sand is dispersed over a wide area inland<br>Not so powerful to create dune blow-outs amongst established dunes |
| B | Water – in the development of a halosere<br><br>Sediment-rich estuary water<br>Gentle currents that move sediment towards the shore but don't disturb deposits<br>Predominant on-shore flow bringing more sediment onshore<br>Unpolluted water, allowing saltmarsh plants to thrive<br>Not too large an intertidal range generating powerful currents<br>Stable long-term sea level |