Designations for HMM generation and counts of HMMs produced from 0.8 alignment column occupancy alignments of Parks, Wickett and Alverson (in prep).

|  |  |  |  |
| --- | --- | --- | --- |
| Morphological clade | # genera in clade | Subclades represented by at least one genus in HMM modeling | # HMMs generated |
| radial centric | 7 | (*Corethron*, *Leptocylindrus*),  (*Aulacosira*, *Coscinodiscus*, *Proboscia*, *Rhizosolenia*, *Stephanopyxis*) | 1031 |
| polar centric | 15 | (*Chaetoceros*, *Dactyliosolen*, *Eucampia*, *Extubocellulus*, *Hemiaulus*, *Minutocellus*, *Odontella*, *Triceratium*),  (*Cyclotella*, *Detonula*, *Ditylum*, *Helicotheca*, *Skeletonema*, *Thalassiosira*) | 1258 |
| araphid pennate | 10 | (*Asterionellopsis*, *Staurosira*, *Striatella*),  (*Astrosyne*, *Cyclophora*, *Grammatophora*, *Licmophora*, *Synedropsis*, *Thalassionema*, *Thalassiothrix*) | 1358 |
| raphid pennate | 11 | (*Amphiprora*, *Amphora*, *Entomoneis*, *Phaeodactylum*),  (*Craspedostauros*, *Cylindrotheca*, *Fragilariopsis*, *Nitzschia*, *Pseudo*-*nitzschia*, *Stauroneis*, *Tryblionella*) | 1260 |