

Advanced Level Species List for the 4-H State Marine Ecology Event

Youth who compete at the Advanced Level of the MEE are expected to know the following additional specimens for Sections 1, 2, and 3 of the contest, as well as the ones currently on the main Senior Species list. Where possible, a website link has been given that provides a photo of the representative specimen. If a website link is not provided, searching for the common name/scientific name on the web should bring up images. Look for reputable sources of images, as not all may be correctly identified.

Section One – Plants (9)

- Green grape algae (*Caulerpa racemosa*)
<http://www.myfwc.com/research/saltwater/codes/marine-plants/green-grape-algae/>
- Green Feather algae (*Caulerpa sertularoides*)
<http://www.myfwc.com/research/saltwater/codes/marine-plants/green-feather-algae/>
- Mermaids Wine glass (*Acetabularia sp.*)
<http://www.myfwc.com/research/saltwater/codes/marine-plants/>
- Mermaid's Fan (*Udotea sp.*)
<http://www.marineplantbook.com/marinebookmermaidsfan.htm>
- Star grass (*Halophila engelmanni*) -
<https://www.floridamuseum.ufl.edu/southflorida/habitats/seagrasses/species/>
- Sea rocket (*Cakile lanceolata*)
<http://stjohns.ifas.ufl.edu/Sea/pdf/Beach%20Plants%20of%20NE%20Florida.pdf>
<http://www.fnps.org/plants/plant/cakile-lanceolata>
- Beach Croton (*Croton punctatus*)-
<http://stjohns.ifas.ufl.edu/Sea/pdf/Beach%20Plants%20of%20NE%20Florida.pdf>
- Gumbo Limbo
<http://www.fnps.org/plants/plant/bursera-simaruba>
<https://edis.ifas.ufl.edu/pdf/ST/ST10400.pdf>
- Beach vitex (*Vitex rotundifolia*) (Invasive!)
<http://www.plantatlas.usf.edu/flip/plant.aspx?id=81>

Section Two – Invertebrates (22)

- Sea plume (*Antillogorgia* = *Pseudopterogorgia* spp.)
http://cnso.nova.edu/ncri/sofla_octocoral_guide/sp_AACE.html
http://cnso.nova.edu/ncri/sofla_octocoral_guide/sp_ARIG.html
<http://myfwc.com/research/saltwater/codes/marine-life-invertebrates/sea-plume-gorgonian/>
- Rose coral (*Manicina areolata*)
https://en.wikipedia.org/wiki/Manicina_areolata
http://species-identification.org/species.php?species_group=caribbean_diving_guide&id=319
http://www.edgeofexistence.org/coral_reef/species_info.php?id=1854
- Paper Fig shell (*Ficus communis*)
<http://www.seashells.org/fig.htm>
- Tun shell (*Tonna galea*)
<http://www.shellmuseum.org/shells/southwest-florida-shells/tonna-galea>
- Cone shell (*Conus* spp.)
<http://www.shellmuseum.org/shells/southwest-florida-shells/conus-anabathrum>
<http://www.shellmuseum.org/shells/southwest-florida-shells/conus-spurius>
<http://www.seashells.org/floridacone.htm>
- Auger shell (*Terebra* sp.)
<http://www.shellmuseum.org/shells/southwest-florida-shells/terebra-dislocata>
<http://www.seashells.org/floridaauger.htm>
- Knobby whelk (*Busycon carica*)
<http://www.seashells.org/knobbywhelk.htm>
- Seahare – Ragged seahare -*Bursatella leachii*
<http://www.shellmuseum.org/shells/southwest-florida-shells/bursatella-leachii-pleii>
http://www.sms.si.edu/irlspec/Bursatella_leachii.htm
- Seahare – Spotted Seahare (*Aplysia* spp.)
<http://www.myfwc.com/research/saltwater/codes/marine-life-invertebrates/spotted-seahare/>
<http://www.shellmuseum.org/shells/southwest-florida-shells/aplysia-fasciata>
- Turkey wing (*Arca zebra*)
<http://www.shellmuseum.org/shells/southwest-florida-shells/arca-zebra>
<http://www.seashells.org/turkeywing.htm>

- Jingle shell (*Anomia simplex*)
<http://www.seashells.org/jingles.htm>
- Lion's Paw (*Lyropecten nodosus*)
<http://www.seashells.org/lionspaw.htm>
- Kitten's Paw (*Plicatula gibbosa*)
<http://www.shellmuseum.org/shells/southwest-florida-shells/plicatula-gibbosa>
- Prickly cockle (*Trachycardium egmontianum*)
<http://www.shellmuseum.org/shells/southwest-florida-shells/trachycardium-egmontianum>
- Pistol or snapping shrimp (*Synalpheus spp.* OR *Alpheus spp.*)
http://www.sevolusiaudubon.org/eskimmer/nov2012_sjrwmd.html
<http://ocr.org/sounds/snapping-shrimp/>
- Flat-clawed hermit crab (*Pagurus pollicaris*)
<http://txmarspecies.tamug.edu/invertdetails.cfm?scinameID=Pagurus%20pollicaris>
<http://myfwc.com/research/saltwater/crustaceans/stone-crabs/gallery/bycatch-flat-clawed-hermit-crab/>
- Giant red hermit crab (*Petrochirus diogenes*)
http://www.sms.si.edu/IRLSpec/Petroc_diogen.htm
- Mangrove tree crab (*Aratus pisonii*)
http://www.sms.si.edu/irlspec/Aratus_pisoni.htm
<http://www.jaxshells.org/manc.htm>
- Depressed or flatback mud crab (*Eurypanopeus depressus*)
<http://txmarspecies.tamug.edu/invertdetails.cfm?scinameID=Eurypanopeus%20depressus>
http://www.sms.si.edu/IRLSpec/Eurypanopeus_depressus.htm
- Porcelain crab (*Petrolisthes sp.*)
<http://www.myfwc.com/research/saltwater/codes/marine-life-invertebrates/green-porcelain-crab/>
http://www.sms.si.edu/IRLSpec/Petrolisthes_armatus.htm
- Margined sea star (*Astropecten articulatus*)
<http://www.jaxshells.org/wmf52.htm>
<http://jaxshells.org/sliffe49ui.htm>

- Lined Sea Star or Striped Luidia (*Luidia clathrata*)
<http://www.jaxshells.org/p39fs.htm>
<http://jaxshells.org/slife49ui.htm>

Section Three - Vertebrates

FISH (25)

- Bonfish (*Albula vulpes*)
<http://myfwc.com/wildlifehabitats/profiles/saltwater/bonfish/>
<https://www.floridamuseum.ufl.edu/fish/discover/species-profiles/albula-vulpes/>
- Lady fish (*Elops saurus*)
<http://myfwc.com/wildlifehabitats/profiles/saltwater/tarpon/ladyfish/>
<https://www.floridamuseum.ufl.edu/fish/discover/species-profiles/elops-saurus/>
- Cobia (*Rachycentron canadum*)
<http://myfwc.com/wildlifehabitats/profiles/saltwater/cobia/>
<https://www.floridamuseum.ufl.edu/fish/discover/species-profiles/rachycentron-canadum/>
- Silver perch (Drum) (*Bairdiella chrysoura*)
<http://myfwc.com/wildlifehabitats/profiles/saltwater/drums/silver-perch/>
- Black grouper (*Mycteroperca bonaci*)
<http://myfwc.com/wildlifehabitats/profiles/saltwater/grouper/black-grouper/>
<https://www.floridamuseum.ufl.edu/fish/discover/species-profiles/mycteroperca-bonaci/>
- Blue runner (different from blue fish!) (*Caranx crysos*)
<http://myfwc.com/wildlifehabitats/profiles/saltwater/jacks/blue-runner/>
- Lane snapper (*Lutjanus synagris*)
<http://myfwc.com/wildlifehabitats/profiles/saltwater/snapper/lane-snapper/>
<https://www.floridamuseum.ufl.edu/fish/discover/species-profiles/lutjanus-synagris/>
- Mutton snapper (*Lutjanus analis*)
<http://myfwc.com/wildlifehabitats/profiles/saltwater/snapper/mutton-snapper/>
<https://www.floridamuseum.ufl.edu/fish/discover/species-profiles/lutjanus-analis/>
- Silk snapper (*Lutjanus vivanus*)
<http://myfwc.com/wildlifehabitats/profiles/saltwater/snapper/silk-snapper/>

- Vermillion snapper (*Rhomboplites aurorubens*)
<http://myfwc.com/wildlifehabitats/profiles/saltwater/snapper/vermilion-snapper/>
- Spotfin butterflyfish (*Chaetodon ocellatus*)
<https://www.floridamuseum.ufl.edu/fish/discover/species-profiles/chaetodon-ocellatus/>
- Four-eye butterflyfish (*Chaetodon capistratus*)
<https://www.floridamuseum.ufl.edu/fish/discover/species-profiles/chaetodon-capistratus/>
- Porcupinefish or Balloonfish (*Diodon holcanthus*)
<https://www.floridamuseum.ufl.edu/fish/discover/species-profiles/diodon-holcanthus/>
- Band-tail puffer (*Sphoeroides spengleri*)
<http://myfishgallery.com/marine-life/bandtail-puffer/>
<https://www.youtube.com/watch?v=jkSF1rJpMG8>
http://flowergarden.noaa.gov/image_library/fish/bandtailpuffergps.jpg
- Southern puffer (*Sphoeroides nephelus*)
http://www.sms.si.edu/IRLSpec/Sphoeroides_nephelus.htm
<http://www.inaturalist.org/observations/5486950>
- French grunt (*Haemulon flavolineatum*)
<https://www.floridamuseum.ufl.edu/fish/discover/species-profiles/haemulon-flavolineatum/>
- Porkfish (*Anisotremus virginicus*)
<https://www.floridamuseum.ufl.edu/fish/discover/species-profiles/anisotremus-virginicus/>
- Tripletail (*Lobotes surinamensis*)
<http://myfwc.com/wildlifehabitats/profiles/saltwater/tripletail/>
<https://www.floridamuseum.ufl.edu/fish/discover/species-profiles/lobotes-surinamensis/>
- Sargassumfish (*Histrion histrio*)
<https://www.floridamuseum.ufl.edu/fish/discover/species-profiles/histrio-histrio/>
- Sand perch (*Diplectrum formosum*)
<https://www.floridamuseum.ufl.edu/fish/discover/species-profiles/diplectrum-formosum/>
- Gray angelfish (*Pomacanthus arcuatus*)
<https://www.floridamuseum.ufl.edu/fish/discover/species-profiles/pomacanthus-arcuatus/>

- French angelfish (*Pomacanthus paru*)
<https://www.floridamuseum.ufl.edu/fish/discover/species-profiles/pomacanthus-paru/>
- Pigfish (*Orthopristis chrysoptera*)
<http://floridasportfishing.com/pigfish/>
<http://fishbase.org/Summary/SpeciesSummary.php?ID=5&AT=pigfish>
- Porgy (*Calamus spp.*)
<http://myfwc.com/wildlifehabitats/profiles/saltwater/porgy/knobbed-porgy/>
- Tonguefish (*Symphurus spp.*)
<http://www.dnr.sc.gov/cwcs/pdf/Tonguefish.pdf>

BIRDS (5): To help you identify the birds below, go to the Audubon online field guide at:
<http://www.audubon.org/bird-guide>

- Tri-colored heron (*Egretta tricolor*)
<http://www.audubon.org/field-guide/bird/tricolored-heron>
- Reddish egret (*Egretta rufescens*)
<http://www.audubon.org/field-guide/bird/reddish-egret>
- Wilson's plover (*Charadrius wilsonia*)
<http://www.audubon.org/field-guide/bird/wilsons-plover>
- Royal tern (*Thalasseus maximus*)
<http://www.audubon.org/field-guide/bird/royal-tern>
- Sanderling (*Calidris alba*)
<http://www.audubon.org/field-guide/bird/sanderling>

There are no additional reptiles or marine mammals at this time.