

# JEEP 92 MAST PROJECT

*Joint European Estuarine research Project*

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| <p>Gironde estuary<br/>List of species</p> |
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# Gironde estuary

## List of species

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| PHYTOPLANKTON |
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| <b>Diatoms (=Bacillariophyta)</b>   | <b>Diatoms (freshwater)</b>     |
|-------------------------------------|---------------------------------|
| <i>Actinoptychus sp</i>             | <i>Amphora coffaeiformis</i>    |
| <i>Biddulphia sp</i>                | <i>Amphora ovalis</i>           |
| <i>Chaetoceros sp</i>               | <i>Asterionella gracillima</i>  |
| <i>Coscinodiscus centralis</i>      | <i>Ceratoneis arcus</i>         |
| <i>Coscinodiscus commutatus</i>     | <i>Cyclotella comta</i>         |
| <i>Diatoma sp</i>                   | <i>Cymatopleura solea</i>       |
| <i>Ditylium brightwelli</i>         | <i>Cymbella lanceolata</i>      |
| <i>Fragilaria sp</i>                | <i>Diatoma vulgare</i>          |
| <i>Guinardia flaccida</i>           | <i>Fragilaria crotonensis</i>   |
| <i>Gyrosigma sp</i>                 | <i>Genphonema constrictum</i>   |
| <i>Leptocylindrus sp</i>            | <i>Gyrosigma accuminatum</i>    |
| <i>Licmophora sp</i>                | <i>Gyrosigma aculeata</i>       |
| <i>Melosira sulcata</i>             | <i>Gyrosigma attenuatum</i>     |
| <i>Navicula sp (pelagica ?)</i>     | <i>Melosira italica</i>         |
| <i>Nitzschia longissima</i>         | <i>Melosira varians</i>         |
| <i>Pleurosigma sp</i>               | <i>Navicula placentula</i>      |
| <i>Pleurosira laevis</i>            | <i>Nitzschia sigmoidea</i>      |
| <i>Prorocentrum micans</i>          | <i>Nitzschia vermicularis</i>   |
| <i>Raphoneis amphiceros</i>         | <i>Surirella biseriata</i>      |
| <i>Rhizosolenia setigera</i>        | <i>Surirella elegans</i>        |
| <i>Rhizosolenia delicatula</i>      | <i>Synedra acus</i>             |
| <i>Skeletonema costatum</i>         | <i>Synedra ulna</i>             |
| <i>Thalassiosira sp</i>             | <i>Tabellaria flocculosa</i>    |
| <i>Trachyneis sp</i>                |                                 |
| <hr/>                               |                                 |
| <b>Peridinians (=Dinophyta)</b>     | <b>Peridinians (freshwater)</b> |
| <i>Gymnodinium sp</i>               | <i>Peridinium cinctum</i>       |
| <i>Noctiluca scintillans</i> Surir. |                                 |
| <hr/>                               |                                 |
| <b>Green algae (=Chlorophyta)</b>   | <b>Green algae (freshwater)</b> |
| <i>Pediastrum sp</i>                | <i>Chlamydomonas sp</i>         |
| <i>Scenedesmus quadricauda</i>      | <i>Chlorella sp</i>             |
|                                     | <i>Chlorogonium elongatum</i>   |
|                                     | <i>Closterium diana</i>         |
|                                     | <i>Closterium moniliferum</i>   |
|                                     | <i>Closterium nilsonii</i>      |
|                                     | <i>Cosnarium reniforme</i>      |
|                                     | <i>Cosnarium tinctum</i>        |
|                                     | <i>Keratococcus candatus</i>    |
|                                     | <i>Palmella sp</i>              |
|                                     | <i>Pandorina morum</i>          |
|                                     | <i>Pediastrum biradiatum</i>    |
|                                     | <i>Pediastrum boryanum</i>      |
|                                     | <i>Pteromonas sinuosa</i>       |
|                                     | <i>Scenedesmus armatus</i>      |
|                                     | <i>Scenedesmus falcatus</i>     |
|                                     | <i>Scenedesmus lefrevei</i>     |

*Sorastrum americanum*  
*Sphaerocystis schroeteri*  
*Synedra ulvella*  
*Tetraspora gelatinosa*  
*Trachelomonas sp*

**Blue-green algae**

**Blue-green algae (freshwater)**

*Anabaena oscillarioides*  
*Lyngbia aerugineacoerulea*  
*Nodularia harveya*  
*Oscillatoria anguinis*  
*Oscillatoria limosa*

**Chrysomonadina**

**Chrysomonadina (freshwater)**

*Synura uvella*

**Euglenophyta**

**Euglenophyta (freshwater)**

*Euglena acus*  
*Euglena viridis*  
*Trachelomonas sp*

**References on phytoplankton determination:**

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HUMM H.J. & WICKS S.R. (1980). Introduction and guide to the marine blue-green algae. *Wiley Interscience, New York.*

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**MICROPHYTOBENTHOS**

**Diatoms**

*Amphora sp*  
*Bacteriosira sp*  
*Diploneis sp*  
*Paralia sulcata*  
*Plagiogramma sp*  
*Raphoneis sp*  
*Rhizosolenia sp*

**References:**

See Phytoplankton

## MICROFAUNA

### Thecamoebia

### Thecamoebia (freshwater)

*Centropyxis compressa* (Cushman)  
*Centropyxis ecornis* (Ehrenberg)  
*Diffugia acuminata* Ehrenberg  
*Diffugia capreolata* Penard  
*Diffugia corona* Wallich  
*Diffugia lageniformis* Wallich  
*Diffugia mitriformis* Wallich  
*Diffugia pyriformis parva* Perty  
*Diffugia pyriformis typica* Perty  
*Pontigulasia compressa* Rhumbler

### Foraminifera

*Ammonia beccarii* (L.) *tepida* Cushman  
*Ammonia beccarii* (L.) *flevensis* Hofker  
*Asterigerinata mamilla* (Williamson)  
*Bolivina difformis* (Williamson)  
*Bolivina striatula* Cushman  
*Bulimina elongata* d'Orbigny *subulata* Cushman & Parker  
*Cassidula crassa* d'Orbigny  
*Cibicides lobatulus* (Walker & Jacob)  
*Cibicides cf. ungerianus* (d'Orbigny)  
*Cribronion excavatum* (Terquem) *clavatum* (Cushman)  
*Cribronion lidoense* (Cushman)  
*Cribronion magellanicum* (Heron-Allen & Earland)  
*Cribrostomoides jeffreysii* (Williamson)  
*Crithionina goesii* Høglund  
*Cyclogyra planorbis* (Schultze)  
*Elphidium advenum* (Cushman)  
*Elphidium advenum depressulum* Cushman  
*Elphidium gerthi* Van Voorthuysen  
*Elphidium macellum* (Fichtel & Moll) *aculeatum* d'Orbigny  
*Elphidium umbilicatum* (Williamson)  
*Gavelinopsis praegeri* (Heron-Allen & Earland)  
*Glabretella baccata* (Heron-Allen & Earland)  
*Globulina gibba* (d'Orbigny) *myristiformis* (Williamson)  
*Halophragmoides wilberti* Andersen  
*Jadammina polystoma* Bartenstein & Brand  
*Lagena semistriata* Williamson  
*Miliammina fusca* (Brady)  
*Miliolinella circularis* (Bornemann) *elongata* Kruit  
*Neoconorbina nitida* (Williamson)  
*Nonion depressulum* (Walker & Jacob)  
*Nonion orbiculare* (Brady)  
*Nonionella cf. turgida* (Williamson)  
*Pateoris hauerinoides* (Rhumbler)  
*Planorbulina mediterraneensis* d'Orbigny  
*Protelphidium paraliium* (Tintant)  
*Quinqueloculina cliarensis* Heron-Allen & Earland  
*Quinqueloculina seminulum* (Linné)  
*Rectuvigerina phlegeri* Le Calvez  
*Remaneica helgolandica* Rhumbler  
*Rosalina globularis* d'Orbigny

*Rosalina wrightii* (Brady)  
*Scutuloris tegminis* Loeblich & Tappan  
*Stainforthia complanata* (Egger)  
*Textularia truncata* Hoglund  
*Trochammina advena* Cushman  
*Trochammina astrifica* Rhumbler  
*Trochammina inflata* (Montagu)  
*Trochammina ochracea* (Willamson)  
*Trochammina pacifica* Cushman

**Ciliata** (non determined)

**Ciliata** (freshwater)

*Aspidisca sp*  
*Aspidisca costata*  
*Aspidisca marsupialis*  
*Chilodon cucullulus*  
*Cinethochilum impatiens*  
*Colpidium colpoda*  
*Euplotes charon*  
*Lionotus sp*  
*Loxophyllum meleagris*  
*Ophridium versatile*  
*Tintinnopsis sp*  
*Vorticella cratera*  
*Vorticella natans*

**Flagellates** (non determined)  
(freshwater)

**Flagellates**

*Bodo obovatus*

**Tintinnoids**

*Tintinnopsis beroidea*

**References:**

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LOEBLICH A.R. & TAPPAN A., 1964- Treatise on invertebrate paleontology. Pt C/ Protista. *Geol. Soc. Amer.*, New York & Univ. Kansas Press, Lawrence, 2 vol., 900 pp.

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ZOOPLANKTON

**Coelenterata** (Anthomedusae)

*Nemopsis bachei* Agassiz

**Ctenophora**

*Pleurobrachia pileus* (O.F. Müller)

**Chaetogatha**

*Sagitta sp*

### **Rotifera**

*Brachionus calcyflorus* (Pallas)  
*Brachionus plicatilis* O.F. Müller

### **Cladocera**

*Bosmina maritima* P.E. Müller  
*Evadne nordmanni* (Loven)  
*Penilia avirostris* Dana  
*Podon* sp

### **Calanoida**

*Acartia bifilosa* (Giesbrecht)  
*Acartia clausi* Giesbrecht  
*Acartia* (*Paracartia*) *grani* Sars  
*Acartia tonsa* Dana  
*Calanus helgolandicus* (Claus)  
*Centropages hamatus* (Lilljeborg)  
*Centropages typicus* Kröyer  
*Eurytemora affinis* (Poppe) = *hirundoides*  
*Isias clavipes* Boeck  
*Paracalanus parvus* (Claus)  
*Pseudocalanus elongatus* (Boeck)  
*Temora longicornis* (O.F. Müller)  
*Temora stylifera* (Dana)

### **Cyclopoida**

*Corycaeus anglicus* Lubbock  
*Oithona helgolandica* Claus  
*Oithona nana* Giesbrecht  
*Oncaea* sp

### **Harpacticoida**

*Euterpina acutifrons* (Dana)

### **Appendicularians**

*Oikopleura dioica* Fol

### **References:**

DUSSART B., 1967 - Les copépodes des eaux continentales. Tome I: Calanoïdes et Harpacticoïdes. *N. Boubée, Paris*, 500 pp.

DUSSART B., 1969 - Les copépodes des eaux continentales. Tome II: Cyclopoïdes et biologie. *N. Boubée, Paris*, 292 pp.

### **Rotifera** (freshwater)

*Anurea cochlearis*  
*Brachionus pala*  
*Cathypna luna*  
*Cephalodella auriculata*  
*Macrotrachela habita*  
*Monostyla hamata*  
*Polyarthra platyptera*  
*Rattulus cylindricus*  
*Rotifer vulgaris*  
*Synchaeta pectinata*

### **Cladocera** (freshwater)

*Alona rectangula* Sars  
*Bosmina longirostris* (Jurine)  
*Ceriodaphnia reticulata* (Jurine)  
*Ceriodaphnia* sp  
*Daphnia* sp  
*Ilyocryptus sordidus* (Lieven)

### **Calanoida** (freshwater)

*Eudiaptomus gracilis* (Sars)

### **Cyclopoida** (freshwater)

*Acanthocyclops robustus* (Sars)  
*Cyclops* spp  
*Eucyclops serratulus* (Fischer)  
*Macrocyclops albidus* (Jurine)  
*Paracyclops fimbriatus* (Fischer)

### **Harpacticoida** (freshwater)

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## MEIOFAUNA

### **Nematoda** (non determined)

### **Tardigrada**

### **Tardigrada** (freshwater)

*Macrobotus lacustris*

### **Copepoda**

### **Copepoda** (freshwater)

*Amphiascoides limicolus* (Brady)  
*Amphiascoides subdebilis* (Willey)  
*Altheuta* sp  
*Asellopsis intermedia* (T. Scott)  
*Canuella perplexa* T. & A. Scott  
*Dactylopodia vulgaris* Sars  
*Ectinosoma melaniceps* Boeck  
*Enhydrosoma buccholtzi* (Boeck)  
*Enhydrosoma caeni* Raibaut  
*Enhydrosoma gariene* Gurney  
*Enhydrosoma propinquum* (Brady)  
*Halectinosoma curticorne* (Boeck)  
*Halectinosoma* sp  
*Halicyclops magniceps* (Lilljeborg)  
*Halicyclops neglectus* Kiefer  
*Harpacticus littoralis* Sars  
*Microarthridion fallax* Perkins  
*Microarthridion littorale* (Poppe)  
*Nannopus palustris* Brady  
*Nitocra lacustris* (Schmankevitch)  
*Onychocamptus* sp  
*Paracyclopsina nana* Smirnov  
*Paraleptastacus* sp  
*Parathalestris intermedia* Gurney  
*Paronychocamptus nanus* (Sars)  
*Platyhelipus littoralis* Brady  
*Pseudobradya minor* (T. & A. Scott)  
*Psyllocamptus propinquus* (T. Scott)  
*Stenhelia palustris* Brady  
*Schizopera pratensis* Noodt  
*Schizopera* cf. *compacta* Lint  
*Tachidius discipes* Giesbrecht

*Attheyella crassa* (Sars)  
*Elaphoidella bidens* (Schmeil)  
*Phyllognathopus viguieri* (Maupas)

## Ostracoda

*Aurilia convexa* (Baird)  
*Candona* sp  
*Cushmanidea elongata* (Brady)  
*Cyprideis torosa* (Jones)  
*Cyprinotus salinus* (O.F. Müller)  
*Cytherois fischeri* (Sars)  
*Heterocythereis albomaculata* (Baird)  
*Ilyocypris gibba* (Ramdohr)  
*Leptocythere castanea* Sars  
*Loxoconcha elliptica* Brady  
*Paradoxostoma* sp  
*Semicytherura sella* (Sars)  
*Urocythereis oblonga* (Brady)  
*Xestoleberis aurantia* (Baird)

### References:

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WELLS J.B.J., 1976 - Keys to aid in the identification of marine harpacticoid copepods. *Depart. Zool. Univ. Aberdeen, U.K., Publ.* : 1-215.

## MACROFAUNA

### CNIDARIA

*Actinia equina* (L.)  
*Anemonia viridis* (Forsk.)  
*Hartlaubella* (= *Laomedea*) *gelatinosa* (Pallas)

### ANNELIDA

#### Class OLIGOCHAETA

*Nais elinguis* Müller  
*Tubificoides benedeni* (Udekem) (= *Peloscolex*)  
*Tubificoides pseudogaster* (Dahl)  
*Tubificoides brownae* Brinkhurst & Baker  
*Tubificoides heterochaetus* (Michaelsen)  
*Tubifex tubifex* (Müller)  
*Limnodrillus hoffmeisteri* Claparède  
*Marionina* sp

#### Class POLYCHAETA

*Arenicola marina* (L.)

*Boccardiella ligerica* (Keferstein) (=Boccardia, =Polydora)  
*Caulleriella bioculata* (Keferstein) (=Heterocirrus)  
*Hediste diversicolor* (O.F. Müller) (=Nereis)  
*Heteromastus filiformis* (Claparède)  
*Lanice conchilega* (Pallas)  
*Magelona mirabilis* (Johnston) (=M. papillicornis Müller)  
*Manayunkia aestuarina* (Bourne)  
*Mysta picta* Quatrefages (=Eteone)  
*Neanthes succinea* (Frey & Leuckart)  
*Nephtys hombergii* Savigny  
*Pectinaria koreni* Malmgren (=Lagis)  
*Polydora ligni* Webster  
*Pomatoceros triqueter* (L.)  
*Pseudopolydora pulchra* (Carazzi)  
*Pygospio elegans* Claparède  
*Scolelepis foliosa* (Aud. & M. Edw.) (=Nerine)  
*Scolelepis squamata* (O.F. Müller) (=Nerine cirratulus (delle Chiaje))  
*Streblospio shrubsolii* (Buchanan) (=S. dekhuyzeni Horst)  
*Tharyx marioni* (Saint-Joseph)

## MOLLUSCA

### Class POLYPLACOPHORA

*Acanthochitona fascicularis* (L.)  
*Lepidochitona cinerea* (L.)

### Class GASTROPODA

*Assimineia eliae* Paladilhe  
*Bittium reticulatum* (da Costa)  
*Gibbula umbilicalis* (da Costa)  
*Haliotis tuberculata* L.  
*Haminea navicula* (da Costa)  
*Helcion pellucidum* (L.)  
*Hydrobia acuta* (Draparnaud)  
*Hydrobia ulvae* (Pennant)  
*Limapontia nigra* (O.F. Müller)  
*Littorina littorea* (L.)  
*Littorina neritoides* (L.)  
*Littorina obtusata* (L.)  
*Littorina saxatilis rudis* Maton  
*Nassarius incrassatus* (Ström) (=Hinia, =Nassa)  
*Nucella lapillus* (L.)  
*Ocenebra erinacea* (L.)  
*Ovatella myosotis* (Draparnaud)  
*Patella athletica* Bean  
*Patella intermedia* Jeffreys  
*Patella vulgata* L.  
*Trivia europaea* (Montagu)

### Class BIVALVIA

*Abra tenuis* (Montagu)  
*Angulus incarnatus* (L.)  
*Barnea candida* (L.)  
*Barnea parva* (Pennant)

*Cerastoderma edule* (L.) (=Cardium)  
*Corbicula philippinensis*  
*Crassostrea angulata* (Lamarck)  
*Crassostrea gigas* (Thunberg)  
*Hiatella rugosa* (Pennant)  
*Macoma balthica* (L.)  
*Mya arenaria* (L.)  
*Mytilus edulis* L.  
*Ostrea edulis* L.  
*Petricola lithophaga* (Retzius)  
*Pholas dactylus* L.  
*Scrobicularia plana* (da Costa)  
*Tellina tenuis* da Costa  
*Venerupis decussata* (L.)

## ARTHROPODA

### Class PYCNOGONIDA

*Nymphon brevirostris*

### Class CRUSTACEA

#### Subclass CIRRIPEDA

*Balanus crenatus* Bruguière  
*Balanus improvisus* Darwin  
*Balanus perforatus* Bruguière  
*Chthamalus stellatus* (Poli)  
*Elminius modestus* Darwin  
*Semibalanus balanoides* (L.)

#### Subclass MALACOSTRACA

#### Order MYSIDACEA

*Gastrosaccus spinifer* (Goës)  
*Mesopodopsis slabberi* (Van Beneden)  
*Neomysis integer* (Leach)  
*Schistomysis kervillei* (Sars)  
*Schistomysis spiritus* (Norman)

#### Order CUMACEA

*Cumopsis longipes* (A. Dohrn)  
*Iphinoe trispinosa* (Goodsir)

#### Order TANAIIDACEA

*Apseudes latreillei* (M. Edw.)

#### Order ISOPODA

*Anilocra physodes* M. Edw.  
*Cirolana cranchi* Leach  
*Cyathura carinata* (Kröyer)  
*Eurydice pulchra* Leach  
*Idotea emarginata* (Fabricius)

*Idotea linearis* (L.)  
*Jaera prae-hirsuta* Forsman  
*Lekanesphaera rugicauda* Leach (= *Sphaeroma*)

Order AMPHIPODA

*Atylus swammerdami* (M. Edw.)  
*Bathyporeia pelagica* Bate  
*Bathyporeia pilosa* Lindström  
\* *Caprella aequilibra* Say  
*Chaetogammarus marinus* (Leach)  
*Corophium acutum* Chevreux  
*Corophium volutator* (Pallas)  
*Gammarus crinicornis* Stock  
*Gammarus locusta* (L.)  
*Gammarus salinus* Spooner  
*Gammarus zaddachi* Sexton  
*Haustorius arenarius* (Slabber)  
*Hyale nilssoni* (Rathke)  
*Leucothoe lilljeborgi* Boeck  
*Melita palmata* (Montagu)  
*Pariambus typicus* (Kröyer)  
*Phtisica marina* Slabber  
*Pontocrates arenarius* (Bate)  
*Talorchestia brito* Stebbing  
*Urothoe pulchella* (A. Costa)

Order EUPHAUSIACEA

*Nyctiphanes couchii* (Bell)

Order DECAPODA

*Athanas nitescens* (Leach)  
*Callinectes sapidus* Rathbun  
*Carcinus maenas* (L.)  
*Crangon crangon* (L.)  
*Eriocheir sinensis* (H. Milne-Edwards)  
*Eriphia verrucosa* (Forsk.)  
*Liocarcinus holsatus* (Fabricius)  
*Macropipus* sp  
*Macropodia* sp  
*Pachygrapsus marmoratus* (Fabricius)  
*Palaemon edwardsi* Heller  
*Palaemon longirostris* M. Edw.  
*Palaemon serratus* (Pennant)  
*Palaemonetes varians* (Leach)  
*Pilumnus hirtellus* (L.)  
*Pinnotheres pisum* (L.)  
*Processa parva* Holthuis  
*Rithropanopeus harrisi* tridentatus (Maitland)  
*Thorulus cranchii* (Leach)  
*Xantho incisus* (Leach)

DECAPODA (freshwater)

*Atyaephyra desmaresti* (Millet)

Class INSECTA

Chironomid larvae

## ECHINODERMATA

Class ASTEROIDEA

*Asterias rubens* (L.)

### References:

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## FISH (including Agnaths)

### Fish

*Acipenser sturio* L.  
*Alosa alosa* (L.)  
*Alosa fallax fallax* (Lacepède)  
*Ammodytes tobianus* L.  
*Argyrosomus regius* (Asso)  
*Atherina presbyter* Cuvier  
*Belone belone* (L.)  
*Buglossidium luteum* (Risso)  
*Chelon labrosus* (Risso)  
*Ciliata mustela* (L.)  
*Clupea harengus* L.  
*Dicentrarchus labrax* (L.)

### Fish (freshwater)

*Abramis brama* (L.)  
*Anguilla anguilla* (L.)  
*Cyprinus carpio* L.  
*Gambusia affinis* (Baird & Girard)  
*Gasterosteus aculeatus* L.  
*Ictalurus melas* Lesueur  
*Lampreta fluviatilis* (L.)  
*Rutilus rutilus* (L.)  
*Salmo salar* L.  
*Salmo trutta trutta* L.  
*Stizostedion lucioperca* (L.)

*Dicentrarchus punctatus* (Bloch)  
*Engraulis encrasicolus* (L.)  
*Gobius niger* L.  
*Liza aurata* (Risso)  
*Liza ramada* (Risso)  
*Merlangius merlangus* (L.)  
*Osmerus eperlanus* (L.)  
*Petromyzon marinus* L.  
*Platichthys flesus* (L.)  
*Pomatoschistus microps* (Kröyer)  
*Pomatoschistus minutus* (Pallas)  
*Raja brachyura* Lafont  
*Sardina pilchardus* (Walbaum)  
*Solea vulgaris* Quensel  
*Sparus aurata* L.  
*Sprattus sprattus* (L.)  
*Syngnathus rostellatus* Nilsson  
*Trachurus trachurus* (L.)  
*Trigla* sp  
*Trisopterus luscus* (L.)

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| MACROPHYTES |
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**Algae**

*Ceramium flabelligerum*  
*Chondrus crispus*  
*Codium* sp  
*Enteromorpha* sp  
*Fucus serratus*  
*Fucus spiralis*  
*Fucus vesiculosus*  
*Gelidium crinale*  
*Gelidium pusillum pulginatum*  
*Laurencia pinnatifida*  
*Lithophyllum incrustans*  
*Polysiphonia nigrescens*  
*Porphyra* sp  
*Rhodomenia palmata*  
*Ulva* sp

**Seagrasses**

*Angelica heterocarpa*  
*Aster tripolium*  
*Atriplex halinus*  
*Azolla filiculoides*  
*Carex divisa*  
*Glaux maritima*  
*Juncus gerardi*

*Juncus maritimus*  
*Scirpus americanus*  
*Scirpus striatulus*  
*Spartina townsendi*  
*Phragmites australis*  
*Triglochin maritima*