**Annex:**

**Table A.1: Ecopath groups from Raoux et al. (2017) compared to LIM groups.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Ecopath compartments from Raoux et al. (2017)** | | **LIM trophic compartments** | | **LIM Symbol** |
| 1 | Bottlenose dolphins | 1 | Cetaceans | **CET** |
| 2 | Harbour porpoises |
| 3 | Harbour seals | 2 | Phocidae | **PHO** |
| 4 | Grey seals |
| 5 | Plunge and pursuit, diverse seabirds | 3 | Birds | **BIR** |
| 6 | Surface feeders, seabirds |
| 7 | Benthopelagic cephalopods | 4 | Cephalopods | **CEP** |
| 8 | Benthic cephalopods |
| 9 | Fish, mackerel | 5 | Fish, planctivorous | **FPL** |
| 10 | Fish, European pilchard |
| 11 | Fish, European sprat |
| 12 | Fish, planctivorous |
| 13 | Fish, atlantic horse mackerel |
| 14 | Fish, European seabass | 6 | Fish, benthos feeders | **FBF** |
| 15 | Fish, sharks and rays |
| 16 | Fish, gurnard |
| 17 | Fish, pouting |
| 18 | Fish, poor cod |
| 19 | Fish, benthos feeders |
| 20 | Fish, sea bream |
| 21 | Fish, Atlantic cod | 7 | Fish, piscivorous | **FPI** |
| 22 | Fish, whiting |
| 23 | Fish, piscivorous |
| 24 | Fish, sole | 8 | Fish, flat fish | **FFI** |
| 25 | Fish, European plaice |
| 26 | Fish, other flatfish |
| 27 | Benthic inv., predators | 9 | Invertebrates, predators | **IPR** |
| 28 | Benthic inv., filter feeders | 10 | Invertebrates, filter feeders | **IFF** |
| 29 | Benthic inv., bivalves | 11 | Bivalvia | **BIV** |
| 30 | King scallop | 12 | King scallops | **KSC** |
| 31 | Benthic inv., deposit feeders | 13 | Invertebrates, deposit feeders | **IDF** |
| 32 | Suprabenthos | 14 | Suprabenthos | **SUP** |
| 33 | Meiofauna | 15 | Meiofauna (Nematodes) | **NEM** |
| 34 | Zooplankton | 16 | Zooplankton | **ZOO** |
| 35 | Bacteria | 17 | Bacteria | **BAC** |
| 36 | Phytoplankton | 18 | Phytoplankton | **PHY** |
| 37 | Detritus | 19 | Detritus | **DET** |

**Table A.2: Parameters of the LIM model.**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Compartment** | **P/B** | | **P/Q** | | **R/Q** | | **U/Q** | | **Literature** |
| **min** | **max** | **min** | **max** | **min** | **max** | **min** | **max** |
| **CET**aceans | 0.04 | 0.12 | - | - | - | - | - | - | Christensen et al. (2009) |
| **PHO**cidae | 0.075 | 0.225 | - | - | - | - | - | - |
| **BIR**ds | 0.05 | 0.15 | 0.3 | 0.8 | - | - | - | - | Saint-Béat (2012), Christensen et al. (2009) |
| **CEP**halopods | 1 | 3 | 0.1 | 0.4 | - | - | - | - | Christensen et al, 2009 |
| **F**ish, **PL**anktivorous | 0.486 | 1.458 | 0.047 | 0.424 | - | - | 0.1 | 0.5 | P/B, P/Q and U/Q generated using confidence intervals around standard Ecopath parameters (Christensen and Pauly, 1993), Leguerrier et al (2004) |
| **F**ish, **B**enthos **F**eeders | 0.542 | 1.625 | 0.059 | 0.534 | - | - | 0.1 | 0.5 |
| **F**ish, **PI**scivorous | 0.450 | 1.349 | 0.059 | 0.534 | - | - | 0.1 | 0.5 |
| Fish, **F**lat **FI**sh | 0.375 | 1.126 | 0.074 | 0.670 | - | - | 0.1 | 0.5 |
| **I**nvertebrates, **PR**edators | 1 | 5 | 0.05 | 0.3 | - | - | 0.12 | 0.28 | Christensen and Pauly (1993), Brey (2001) |
| **I**nvertebrates, **F**ilter **F**eeders | 1 | 5 | 0.05 | 0.3 | - | - | 0.18 | 0.42 |
| **BIV**alvia | 1 | 5 | 0.05 | 0.3 | - | - | 0.18 | 0.42 |
| **K**ing **SC**allops | 1 | 5 | 0.05 | 0.3 | - | - | 0.18 | 0.42 |
| **I**nvertebrates, **D**eposit **F**eeders | 1 | 5 | 0.05 | 0.3 | - | - | 0.18 | 0.42 |
| **SUP**rabenthos | 0.4 | 15 | 0.1 | 0.37 | - | - | 0.2 | 0.5 | Brey (2001), Lobry et al. (2008), Lassalle et al. (2011) |
| Meiofauna (**NEM**) | 10.1 | 35 | 0.05 | 0.4 | - | - | 0.13 | 0.3 | Heip et al. (1990), Van Oevelen et al. (2006) |
| **ZOO**plankton |  |  | 0.25 | 0.5 | 0.1 | 0.3 | 0.1 | 0.5 | Vezina et al. (2000), Vézina and Savenkoff (1999) |
| **BAC**teria | - | - | 0.11 | 0.6 | - | - | 0.05 | 0.35 | Del Giorgio and Cole (1998), Danovaro et al. (2008), Tortajada et al. (2012) |
| **PHY**toplankton | - | - |  |  | 0.05 | 0.3 | 0.05 | 0.5 | Vezina et al. (2000), Vézina and Platt (1988), Vézina and Savenkoff (1999) |

**Table A.3: Diet matrix of the LIM before offshore wind farm model, including minimum and maximum values.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Prey\Predator | **CET**aceans | **PHO**cidae | **BIR**ds | **CEP**halopods | **F**ish, **B**enthos **F**eeders | **F**ish, **Pl**anktivorous | **F**ish, **PI**scivorous | **F**lat **FI**sh | **I**nvertebrates, **PR**edators | **I**nvertebrates, **F**ilter **F**eeders | **BIV**alvia | **K**ing **SC**allops | **I**nvertebrates, **D**eposit **F**eeders | **SUP**rabenthos | **ME**iofau**N**a | **ZOO**plankton | **BAC**teria |
| **IMP**ort | 0.05 | 0.05 | 0.00 | 0.00 | 0.00 | - | - | - | - | - | - | - | - | - | - | - | - |
| 0.25 | 0.25 | 0.56 | 0.30 | 0.30 | - | - | - | - | - | - | - | - | - | - | - | - |
| **CEP**halopods | 0.04 | - | - | 0.00 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 0.24 | - | - | 0.37 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **F**ish, **B**enthos  **F**eeders | 0.25 | 0.33 | 0.00 | 0.00 | 0.00 | - | 0.00 | 0.00 | - | - | - | - | - | - | - | - | - |
| 0.45 | 0.53 | 0.36 | 0.42 | 0.36 | - | 0.33 | 0.31 | - | - | - | - | - | - | - | - | - |
| **F**ish, **PL**anktivorous | 0.08 | 0.00 | 0.36 | 0.00 | 0.00 | - | 0.50 | - | - | - | - | - | - | - | - | - | - |
| 0.28 | 0.20 | 0.96 | 0.56 | 0.46 | - | 1.00 | - | - | - | - | - | - | - | - | - | - |
| **F**ish, **PI**scivorous | 0.08 | 0.20 | - | 0.00 | 0.00 | - | 0.00 | - | - | - | - | - | - | - | - | - | - |
| 0.28 | 0.40 | - | 0.34 | 0.32 | - | 0.30 | - | - | - | - | - | - | - | - | - | - |
| **F**lat **FI**sh | - | - | - | 0.00 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | 0.35 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **I**nvertebrates, **PR**edators | - | - | 0.00 | 0.00 | 0.00 | - | 0.00 | 0.00 | - | - | - | - | - | - | - | - | - |
| - | - | 0.32 | 0.53 | 0.63 | - | 0.38 | 0.55 | - | - | - | - | - | - | - | - | - |
| **I**nvertebrates, **F**ilter **F**eeders | - | - | - | 0.00 | 0.00 | - | 0.00 | 0.00 | 0.00 | - | - | - | - | - | - | - | - |
| - | - | - | 0.31 | 0.34 | - | 0.31 | 0.31 | 0.50 | - | - | - | - | - | - | - | - |
| **BIV**alvia | - | - | - | 0.00 | 0.00 | - | - | 0.00 | - | - | - | - | - | - | - | - | - |
| - | - | - | 0.30 | 0.30 | - | - | 0.44 | - | - | - | - | - | - | - | - | - |
| **K**ing **SC**allops | - | - | - | 0.00 | 0.00 | - | - | 0.00 | - | - | - | - | - | - | - | - | - |
| - | - | - | 0.30 | 0.30 | - | - | 0.30 | - | - | - | - | - | - | - | - | - |
| **I**nvertebrates, **D**eposit **F**eeders | - | - | - | 0.00 | 0.00 | - | 0.00 | 0.21 | 0.00 | - | - | - | - | - | - | - | - |
| - | - | - | 0.41 | 0.50 | - | 0.33 | 0.81 | 0.39 | - | - | - | - | - | - | - | - |
| **SUP**rabenthos | - | - | - | 0.00 | 0.00 | - | 0.00 | 0.00 | 0.00 | - | - | - | - | 0.00 | - | - | - |
| - | - | - | 0.33 | 0.48 | - | 0.31 | 0.33 | 0.45 | - | - | - | - | 0.35 | - | - | - |
| **ME**iofau**N**a | - | - | - | 0.00 | 0.00 | - | - | 0.00 | 0.00 | 0.00 | - | - | 0.00 | - | - | - | - |
| - | - | - | 0.38 | 0.30 | - | - | 0.35 | 0.60 | 0.15 | - | - | 0.35 | - | - | - | - |
| **ZOO**plankton | - | 0.00 | 0.00 | - | 0.00 | 0.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.10 | 0.00 | 0.00 | - |
| - | 0.12 | 0.31 | - | 0.30 | 1.00 | 0.31 | 0.31 | 0.31 | 0.20 | 0.20 | 0.20 | 0.35 | 0.70 | 0.35 | 0.10 | - |
| **BAC**teria | - | - | - | - | - | - | - | - | - | 0.00 | - | - | 0.00 | 0.00 | 0.00 | - | - |
| - | - | - | - | - | - | - | - | - | 0.15 | - | - | 0.40 | 0.35 | 0.35 | - | - |
| **PHY**toplankton | - | - | - | - | - | 0.00 | - | - | - | 0.60 | 0.55 | 0.55 | 0.00 | 0.05 | 0.00 | 0.83 | 0.10 |
| - | - | - | - | - | 0.50 | - | - | - | 0.80 | 0.75 | 0.75 | 0.45 | 0.65 | 0.45 | 1.00 | 0.30 |
| **DET**ritus | - | - | - | - | - | - | - | - | 0.00 | 0.00 | 0.15 | 0.15 | 0.35 | 0.00 | 0.45 | 0.00 | 0.70 |
| - | - | - | - | - | - | - | - | 0.42 | 0.20 | 0.35 | 0.35 | 0.95 | 0.45 | 1.00 | 0.17 | 0.90 |

**Table A.4: Diet matrix of the LIM offshore wind farm model, including minimum and maximum values.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Prey\Predator | **CET**aceans | **PHO**cidae | **BIR**ds | **CEP**halopods | **F**ish, **B**enthos **F**eeders | **F**ish **Pl**anktivorous | **F**ish, **PI**scivorous | **F**lat **FI**sh | **I**nvertebrates, **PR**edators | **I**nvertebrates, **F**ilter **F**eeders | **BIV**alvia | **K**ing **SC**allops | **I**nvertebrates, **D**eposit **F**eeders | **SUP**rabenthos | Meiofauna (**NEM**) | **ZOO**plankton | **BAC**teria |
| **IMP**ort | 0.00 | 0.05 | 0.12 | 0.00 | 0.00 | - | - | - | - | - | - | - | - | - | - | - | - |
| 0.19 | 0.25 | 0.72 | 0.34 | 0.45 | - | - | - | - | - | - | - | - | - | - | - | - |
| **CEP**halopods | 0.03 | - | - | 0.00 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 0.23 | - | - | 0.38 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **F**ish, **B**enthos  **F**eeders | 0.38 | 0.36 | 0.00 | 0.00 | 0.00 | - | 0.00 | 0.00 | - | - | - | - | - | - | - | - | - |
| 0.46 | 0.56 | 0.34 | 0.49 | 0.38 | - | 0.43 | 0.31 | - | - | - | - | - | - | - | - | - |
| **F**ish,  **PL**anktivorous | 0.00 | 0.00 | 0.23 | 0.00 | 0.00 | - | 0.36 | - | - | - | - | - | - | - | - | - | - |
| 0.14 | 0.12 | 0.83 | 0.45 | 0.38 | - | 1.00 | - | - | - | - | - | - | - | - | - | - |
| **F**ish, **PI**scivorous | 0.16 | 0.26 | - | 0.00 | - | - | 0.00 | - | - | - | - | - | - | - | - | - | - |
| 0.36 | 0.46 | - | 0.35 | - | - | 0.34 | - | - | - | - | - | - | - | - | - | - |
| **F**lat **FI**sh | - | - | - | 0.00 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | 0.42 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **I**nvertebrates, **PR**edators | - | - | - | 0.00 | 0.00 | - | 0.00 | 0.00 | - | - | - | - | - | - | - | - | - |
| - | - | - | 0.47 | 0.55 | - | 0.40 | 0.48 | - | - | - | - | - | - | - | - | - |
| **I**nvertebrates, **F**ilter **F**eeders | - | - | - | 0.00 | 0.00 | - | 0.00 | 0.00 | 0.00 | - | - | - | - | - | - | - | - |
| - | - | - | 0.32 | 0.38 | - | 0.32 | 0.31 | 0.57 | - | - | - | - | - | - | - | - |
| **BIV**alvia | - | - | - | 0.00 | 0.00 | - | - | 0.08 | 0.00 | - | - | - | - | - | - | - | - |
| - | - | - | 0.31 | 0.31 | - | - | 0.68 | 0.31 | - | - | - | - | - | - | - | - |
| **K**ing **SC**allops | - | - | - | 0.00 | 0.00 | - | - | 0.00 | - | - | - | - | - | - | - | - | - |
| - | - | - | 0.10 | 0.10 | - | - | 0.30 | - | - | - | - | - | - | - | - | - |
| **I**nvertebrates, **D**eposit **F**eeders | - | - | - | 0.00 | 0.00 | - | 0.00 | 0.03 | 0.00 | - | - | - | - | - | - | - | - |
| - | - | - | 0.37 | 0.44 | - | 0.33 | 0.63 | 0.38 | - | - | - | - | - | - | - | - |
| **SUP**rabenthos | - | - | - | 0.00 | 0.00 | - | 0.00 | 0.00 | 0.00 | - | - | - | - | 0.00 | - | - | - |
| - | - | - | 0.32 | 0.32 | - | 0.31 | 0.32 | 0.40 | - | - | - | - | 0.31 | - | - | - |
| Meiofauna (**NEM**) | - | - | - | 0.00 | - | - | - | 0.00 | 0.00 | 0.00 | - | - | 0.00 | - | - | - | - |
| - | - | - | 0.38 | - | - | - | 0.36 | 0.50 | 0.16 | - | - | 0.36 | - | - | - | - |
| **ZOO**plankton | - | - | - | - | - | 0.53 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | - | - |
| - | - | - | - | - | 1.00 | 0.31 | 0.30 | 0.34 | 0.19 | 0.20 | 0.14 | 0.35 | 0.59 | 0.35 | - | - |
| **BAC**teria | - | - | - | - | - | - | - | - | - | 0.00 | - | - | 0.00 | 0.00 | 0.00 | - | - |
| - | - | - | - | - | - | - | - | - | 0.15 | - | - | 0.40 | 0.35 | 0.35 | - | - |
| **PHY**toplankton | - | - | - | - | - | 0.00 | - | - | - | 0.48 | 0.52 | 0.60 | 0.00 | 0.04 | 0.00 | 0.78 | 0.09 |
| - | - | - | - | - | 0.47 | - | - | - | 0.68 | 0.72 | 0.80 | 0.44 | 0.64 | 0.44 | 1.00 | 0.29 |
| **DET**ritus | - | - | - | - | - | - | - | - | 0.00 | 0.12 | 0.19 | 0.16 | 0.35 | 0.01 | 0.46 | 0.00 | 0.71 |
| - | - | - | - | - | - | - | - | 0.60 | 0.32 | 0.39 | 0.36 | 1.00 | 0.61 | 1.00 | 0.22 | 0.91 |

**Table A.5: Biomass modifications caused by the climate change effect (RCP 8.5).**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Compartment \ Biomass** | **BOWF** | **REEF** | **BOWF with RCP 8.5** | **REEF with RCP 8.5** |
| **CEP** | 1.98E-02 | 2.46E-02 | 6.60E-03 | 8.18E-03 |
| **FPL** | 5.92E+00 | 4.76E+00 | 2.53E+00 | 2.01E+00 |
| **FBF** | 3.20E+00 | 6.69E+00 | 6.25E-01 | 9.29E-01 |
| **FPI** | 2.68E-01 | 1.02E-01 | 1.81E-02 | 4.40E-03 |
| **FFI** | 7.85E-02 | 1.78E-01 | 3.07E-02 | 6.06E-02 |
| **KSC** | 7.70E-01 | 7.43E-01 | 3.31E-03 | 3.20E-03 |

**Table A.6: P/B ratio modifications as a result of climate change effect modeled over the 2091-2100 period (RCP 8.5).**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Group** | **Scientific name** | **P/B current** | **ecology** | **T° current** | **Linf** | **M** | **F** | **T° RCP 8,5** | **M RCP 8,5** | **P/B RCP 8,5** |
| **Fish, Benthos Feeders** | *Mullus surmuletus* | 1.42 | Demersal | 13.01 | 46.83 | 0.20 | 1.22 | 15.30 | 0.21 | **1.43** |
| *Mustelus mustelus* | 0.37 | Demersal | 13.01 | 175.00 | 0.12 | 0.25 | 15.30 | 0.13 | **0.38** |
| *Labrus bergylta* | 1.42 | Demersal | 13.01 | 59.45 | 0.19 | 1.23 | 15.30 | 0.20 | **1.43** |
| *Zeus faber* | 0.86 | Benthopelagic | 13.01 | 69.30 | 0.25 | 0.61 | 15.40 | 0.26 | **0.87** |
| *Scyliorhinus canicula* | 0.44 | Demersal | 13.01 | 81.25 | 0.22 | 0.22 | 15.30 | 0.23 | **0.45** |
| *Trigloporus lastoviza* | 0.55 | Demersal | 13.01 | 39.50 | 0.77 | -0.22 | 15.30 | 0.82 | **0.60** |
| *Scyliorhinus stellaris* | 0.44 | Demersal | 13.01 | - | - | - | 15.30 | - | **0.45** |
| *Raja montagui* | 0.44 | Demersal | 13.01 | 78.02 | 0.33 | 0.11 | 15.30 | 0.35 | **0.46** |
| *Callionymus lyra* | 0.82 | Demersal | 13.01 | 21.25 | 0.92 | -0.10 | 15.30 | 0.97 | **0.87** |
| *Dicentrarchus labrax* | 0.54 | Demersal | 13.01 | 82.70 | 0.20 | 0.34 | 15.30 | 0.21 | **0.55** |
| *Trisopterus luscus* | 1.32 | Benthopelagic | 13.01 | 41.00 | 0.79 | 0.53 | 15.40 | 0.83 | **1.36** |
| *Spondyliosoma cantharus* | 0.58 | Demersal | 13.01 | 42.20 | 0.36 | 0.22 | 15.30 | 0.38 | **0.60** |
| *Trisopterus minutus* | 1.50 | Benthopelagic | 13.01 | 22.00 | 0.71 | 0.79 | 15.40 | 0.75 | **1.54** |
| **Fish, Piscivorous** | *Pollachius pollachius* | 0.62 | Benthopelagic | 13.01 | 85.60 | 0.27 | 0.35 | 15.40 | 0.29 | **0.64** |
| *Gadus morhua* | 1.20 | Benthopelagic | 13.01 | 123.67 | 0.18 | 1.02 | 15.40 | 0.19 | **1.21** |
| *Merlangius merlangus* | 1.07 | Benthopelagic | 13.01 | 42.70 | 0.52 | 0.55 | 15.40 | 0.55 | **1.10** |
| **Flat Fish** | *Limanda limanda* | 1.14 | Demersal | 13.01 | 25.60 | 0.79 | 0.35 | 15.30 | 0.84 | **1.19** |
| *Platichthys flesus* | 0.56 | Demersal | 13.01 | 40.80 | 0.49 | 0.07 | 15.30 | 0.51 | **0.58** |
| *Solea solea* | 0.70 | Demersal | 13.01 | 42.40 | 0.44 | 0.26 | 15.30 | 0.46 | **0.72** |
| *Pleuronectes platessa* | 0.85 | Demersal | 13.01 | 59.40 | 0.22 | 0.63 | 15.30 | 0.23 | **0.86** |
| **Fish, Planctivorous** | *Clupea harengus* | 0.75 | Benthopelagic | 13.01 | 33.10 | 0.50 | 0.25 | 15.40 | 0.53 | **0.78** |
| *Engraulis encrasicolus* | 0.58 | Pelagic | 13.02 | 18.60 | 0.79 | -0.21 | 15.40 | 0.84 | **0.63** |
| *Hyperoplus lanceolatus* | 1.12 | Benthopelagic | 13.01 | 29.40 | 0.64 | 0.48 | 15.40 | 0.67 | **1.15** |
| *Ammodytes tobianus* | 1.12 | Benthopelagic | 13.01 | 19.70 | 1.08 | 0.04 | 15.40 | 1.14 | **1.18** |
| *Scomber scombrus* | 0.83 | Pelagic | 13.02 | 39.40 | 0.57 | 0.26 | 15.40 | 0.61 | **0.87** |
| *Trachurus trachurus* | 0.55 | Pelagic | 13.02 | 40.20 | 0.37 | 0.18 | 15.40 | 0.39 | **0.57** |
| *Chelidonichthys lucernus* | 0.55 | Demersal | 13.01 | 48.40 | 0.34 | 0.21 | 15.30 | 0.36 | **0.57** |
| *Sardina pilchardus* | 0.99 | Pelagic | 13.02 | 19.50 | 0.64 | 0.35 | 15.40 | 0.68 | **1.03** |
| *Sprattus sprattus* | 1.34 | Pelagic | 13.02 | 17.50 | 0.59 | 0.75 | 15.40 | 0.62 | **1.37** |

**Table A.7: Keystoneness values for each compartment of the model as computed in Libralato et al. (2006).**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Compartments** | **Mean BOWF keystoneness** | **Mean BOWF biomass** | **Mean REEF keystoneness** | **Mean REEF biomass** |
| **FBF** | 1.75E-01 | 3.19E+00 | 1.87E-01 | 6.69E+00 |
| **BAC** | 4.48E-02 | 7.50E-01 | 5.26E-02 | 7.70E-01 |
| **IPR** | 1.20E-02 | 2.94E+00 | 2.47E-02 | 3.01E+00 |
| **PHY** | -1.82E-03 | 3.24E+00 | 4.16E-03 | 3.24E+00 |
| **FPI** | -2.28E-02 | 2.68E-01 | -8.60E-03 | 1.02E-01 |
| **ZOO** | -4.53E-02 | 1.72E+00 | -3.80E-02 | 1.79E+00 |
| **PHO** | -1.77E-01 | 9.41E-04 | -1.62E-01 | 2.76E-03 |
| **NEM** | -1.97E-01 | 9.70E-01 | -1.89E-01 | 1.06E+00 |
| **CEP** | -3.06E-01 | 1.98E-02 | -2.94E-01 | 2.47E-02 |
| **DET** | -3.62E-01 | 1.90E+01 | -3.57E-01 | 1.90E+01 |
| **FPL** | -3.64E-01 | 5.92E+00 | -3.57E-01 | 4.76E+00 |
| **KSC** | -3.70E-01 | 7.70E-01 | -3.61E-01 | 7.43E-01 |
| **FFI** | -3.94E-01 | 7.86E-02 | -3.85E-01 | 1.78E-01 |
| **BIV** | -4.11E-01 | 1.95E+01 | -4.53E-01 | 4.29E+01 |
| **SUP** | -4.14E-01 | 2.00E+00 | -4.06E-01 | 1.71E+00 |
| **BIR** | -4.89E-01 | 1.70E-02 | -4.75E-01 | 2.25E-02 |
| **IFF** | -6.21E-01 | 3.12E+00 | -6.18E-01 | 4.78E+00 |
| **IDF** | -6.21E-01 | 3.57E+00 | -6.16E-01 | 2.98E+00 |
| **CET** | -6.61E-01 | 4.29E-04 | -6.47E-01 | 1.51E-04 |