Table 7. The major parameters and input required to initialize and execute the energy transfer class of models, with notations of the major structural features.

		Data description	Inputs Static (S) or Dynamic (D)	Spatially resolved (Y or N) [does not mean it is not done for different regions, but directly in the model]	units	Origin, source, or method for derivation of value	Variance incorporated (Y or N)	Timeframe for derivation of value
Model Class	Energy Transfers (TL transfer, food web, network, etc.)							
	Model	Linear Production Potential		N				1997-2002
	Required Inputs							
	PP	Primary Production	S		biomass per unit area per year	Satellite Imagery, VGPM2 model	Y	1997-2002
	TL_i	Mean trophic level of the catch	S		unitless	food habits data	N	Based on data from 1973-2008
	Required Parameters							
	R	Retention Rate; Fraction of photosynthetic products retained within the system	S		unitless (proportion)	Literature	N	
	f	Fraction of new production	S		unitless	Literature, process studies, satellite imagery	N	
	TE_i	Transfer efficiencies between successive trophic levels	S		unitless (proportion)	NEUS FW Models; Literature	N	

		Data description	Inputs Static (S) or Dynamic (D)	Spatially resolved (Y or N) [does not mean it is not done for different regions, but directly in the model]	units	Origin, source, or method for derivation of value	Variance incorporated (Y or N)	Timeframe for derivation of value
Model Class	Energy Transfers							
Model	Stochastic Production Potential			N				1997-2002
	Required Inputs							
PP	Primary Production	D		biomass per unit area per year	Satellite Imagery, VGPM2 model (w/ normal distribution instead of one value)	Y	1997-2002
TL_i	Mean trophic level of the catch	S		unitless	food habits data	Y	Based on data from 1973-2008
	Required Parameters							
R	Retention Rate; Fraction of photosynthetic products retained within the system	S		unitless (proportion)	Literature	N	
f	Fraction of new production	S		unitless	Literature, process studies, satellite imagery	N	
TE_i	Transfer efficiencies between successive trophic levels	D		unitless (proportion)	NEUS FW Models; Literature (w/ Beta distribution instead of one value)	Y	

Table 7, continued. The major parameters and input required to initialize and execute the energy transfer class of models, with notations of the major structural features.

		Data description	Inputs Static (S) or Dynamic (D)	Spatially resolved (Y or N) [does not mean it is not done for different regions, but directly in the model]	units	Origin, source, or method for derivation of value	Variance incorporated (Y or N)	Timeframe for derivation of value
Model Class	Energy Transfers							
Model	Ecopath			Possible, but not in NEUS				
	Required Inputs							1996-2000
	B_i	Biomass	S		biomass	Survey data, process studies	Y	
	C_i/B_i	Consumption to biomass	S		unitless	food habits data, Literature	Y	
	P_i/B_i	Production to biomass	S		unitless	Survey data, age data, Literature	Y	
	DC_{ij}	Diet composition	S		unitless	food habits data	Y	
	L_i	Landings	S		biomass per yr	Landings data	Y	
	AE_i	Assimilation efficiency	S		unitless	Literature	N	
	Required Parameters							
	EE_i	Ecotrophic effiecieny	S		unitless	derived	Y	
	Det_i	flow to detritus	S		biomass per yr	Survey data, process studies, Literature	N	
		Data pedigree	S		unitless	User Sets	Y	
	TL_i	trophic level	S		unitless	derived; food habits data	N	
	R_i/B_i	Respiration to biomass	S		unitless	Survey data, process studies, Literature	N	
	UAC_i	Unassimilated consumption	S		unitless	derived	N	
	Z_i	Total mortality	S		biomass per year; partionable	derived	N	

Table 7, continued. The major parameters and input required to initialize and execute the energy transfer class of models, with notations of the major structural features.

Model Class		Data description		Inputs Static (S) or Dynamic (D)	Spatially resolved (Y or N) [does not mean it is not done for different regions, but directly in the model]	units	Origin, source, or method for derivation of value	Variance incorporated (Y or N)	Timeframe for derivation of value
	Energy Transfers								
Model Class									
	Model	Econetwrk			N				1996-2000
		Required Inputs							
		B_i	Biomass	S		biomass	Survey data, process studies	Y	
		C_i/B_i	Consumption to biomass	S		unitless	food habits data, Literature	Y	
		P_i/B_i	Production to biomass	S		unitless	Survey data, age data, Literature	Y	
		R_i/B_i	Respiration to biomass	S		unitless	Survey data, process studies, Literature	N	
		DC_{ij}	Diet composition	S		unitless	food habits data	Y	
		L_i	Landings	S		biomass per yr	Landings data	Y	
		AE_i	Assimilation efficiency	S		unitless	Literature	N	
		Required Parameters							
		EE_i	Ecotrophic effiecieny	S		unitless	derived	Y	
		Det_i	flow to detritus	S		biomass per yr	Survey data, process studies, Literature	N	
			Data pedigree	S		unitless	User Sets	Y	
		TL_i	trophic level	S		unitless	derived; food habits data	N	
		UAC_i	Unassimilated consumption	S		unitless	derived	N	
		Z_i	Total mortality	S		biomass per year; partionable	derived	N	

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Table 7, continued. The major parameters and input required to initialize and execute the energy transfer class of models, with notations of the major structural features.

			Data description	Inputs Static (S) or Dynamic (D)	Spatially resolved (Y or N) [does not mean it is not done for different regions, but directly in the model]	units	Origin, source, or method for derivation of value	Variance incorporated (Y or N)	Timeframe for derivation of value
Model Class	Energy Transfers								
	Model	GOMAGG			N				Variable, is a simulator, but typically based on data from 1963-2008; 20 yr runs
		Required Inputs							
		DC_{ij}	Diet composition	S		unitless	food habits data	N	
		B_i	Biomass	S		biomass	Survey data	N	
		G_{ij}	Flow of biomass	D		biomass per yr	Survey data, Landings data, food habits data, NEUS FW Models	N	
		Required Parameters							
		P_i/C_i	production to consumption rate	S		unitless	Age data, food habits data	N	
		b_k	transfer rate	S		biomass per yr	food habits data, NEUS FW models	N	
		M_i	other mortality	S		unitless	food habits data, NEUS FW models, Landings data	N	
Model Class	Energy Transfers								
	Model	Topological Webs			N				1973-1999
		Required Inputs							
		S	Number of spp	S		unitless	food habits data	N	
		L	Identifed linkages per spp (i.e., species interactions)	S		unitless	food habits data	N	
		Required Parameters							
		C	Connectivity	S		unitless	derived	N	