

Inter-annual variation in glass eel catch of *Anguilla japonica* in Korean estuaries

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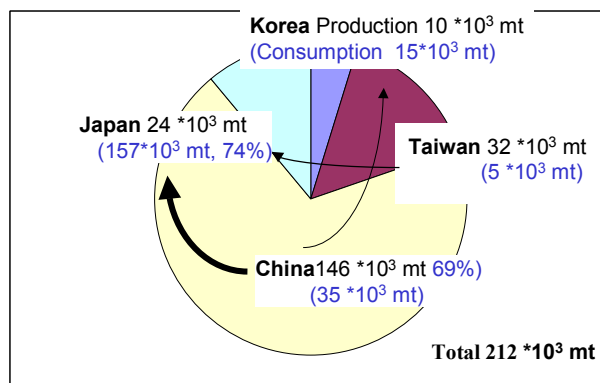
- Eel production and glass eel catch in Korea
- Source of data
- Daily variation in catch
- Factors affecting the glass eel catch
- Annual variation

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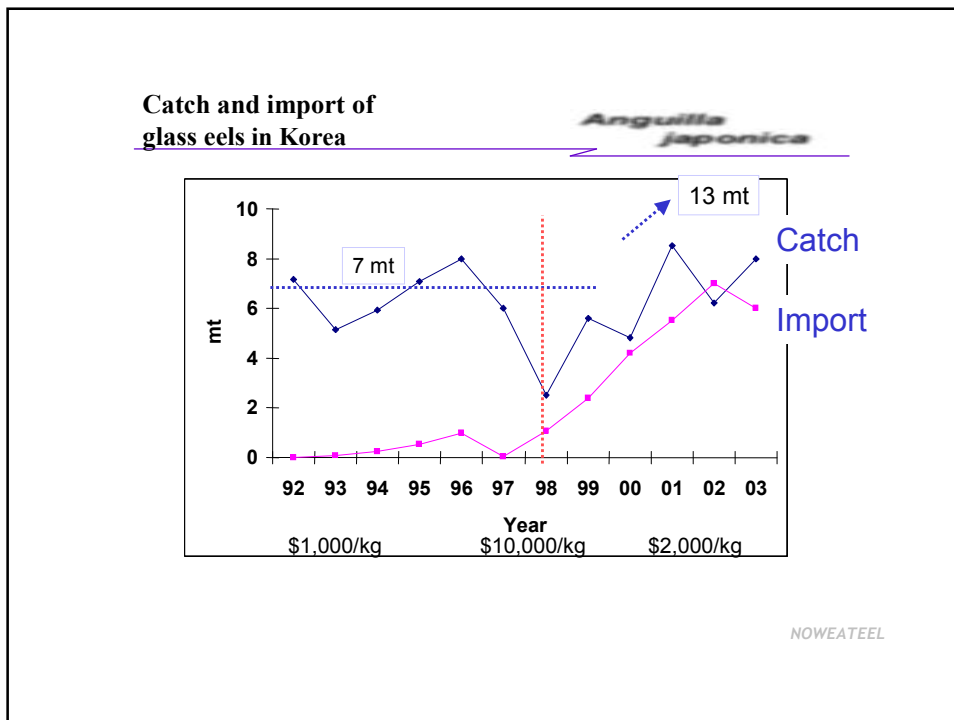
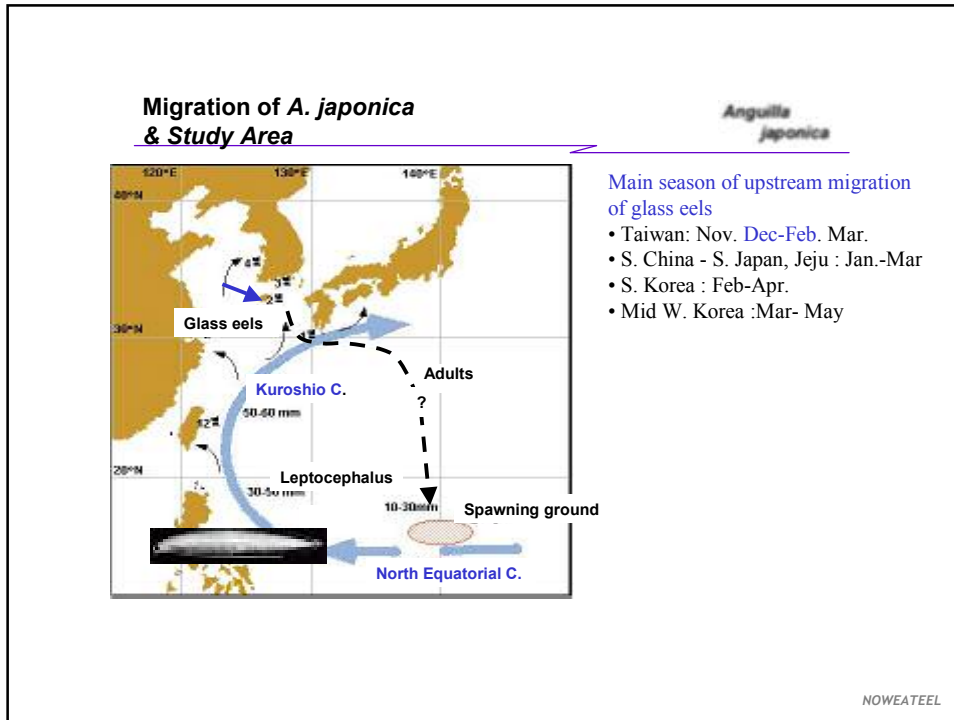
Eel production and consumption in the East Asia in 2001

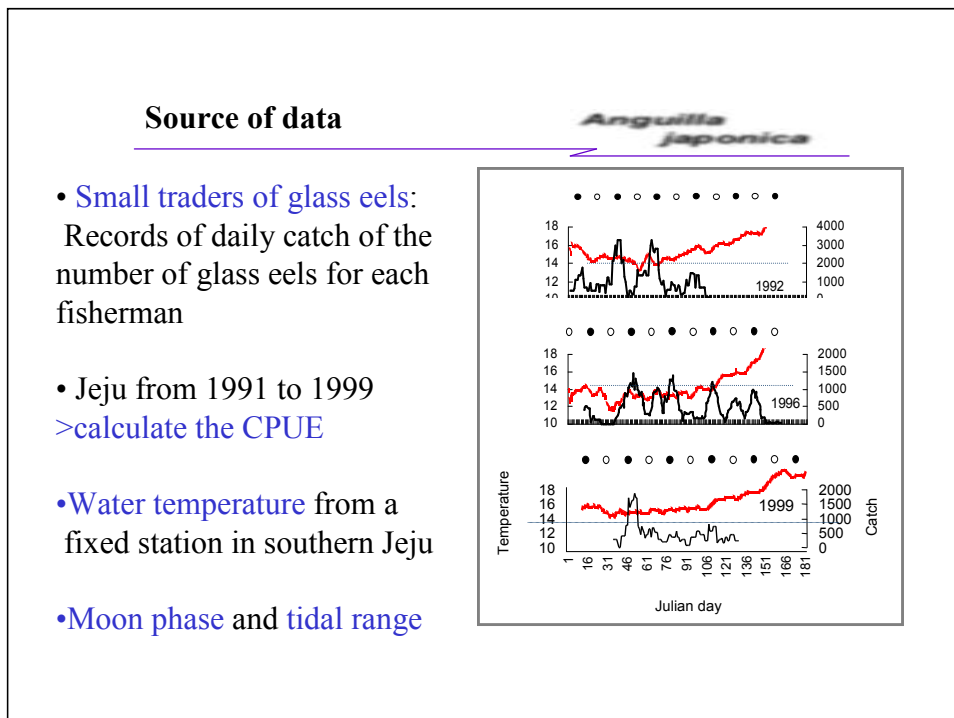
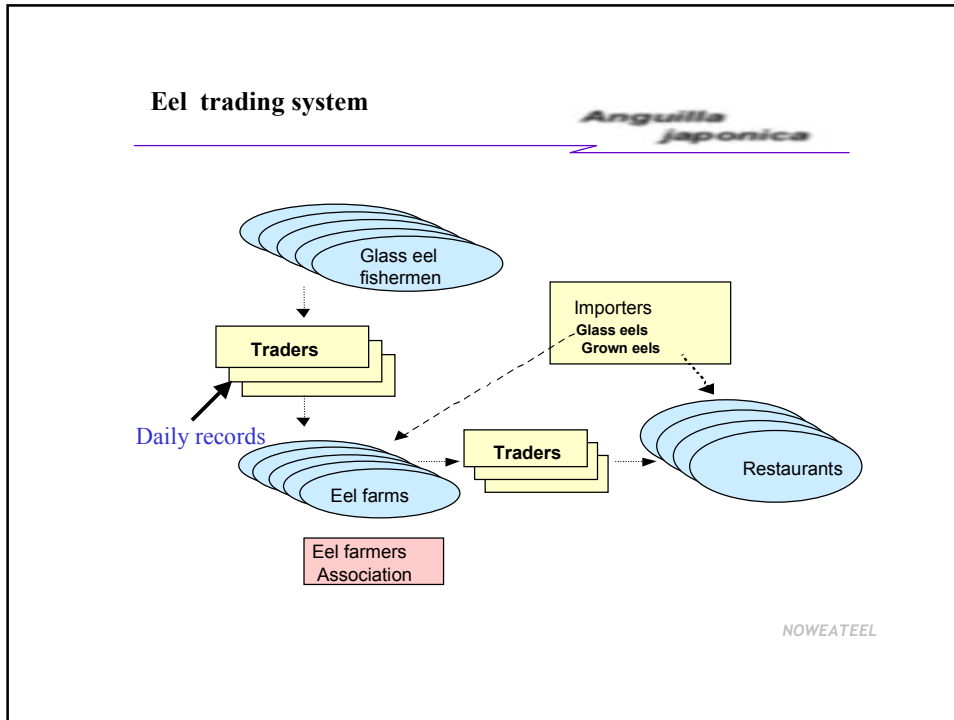


• Glass eels demand for culture : production /10³

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GLM ANOVA Log (7_day CPUE)

Data Description	Variables in the model	N	R-value	R-squared
<i>All</i>	Year (1991-1999)	835	0.57	0.32
	Year, Moonphase	834	0.69	0.48
	Year, Moonphase,Tidal Range	827	0.70	0.50
	Year, Moonphase,Tidal Range,Temp,Temp^2	825	0.71	0.50
<i>1-100 days after first new moon</i>	Year (1991-1999)	722	0.66	0.43
	Year, Moonphase	721	0.76	0.57
	Year, Moonphase,Tidal Range	716	0.77	0.60
	Year, Moonphase,Tidal Range,Temp,Temp^2	716	0.78	0.60

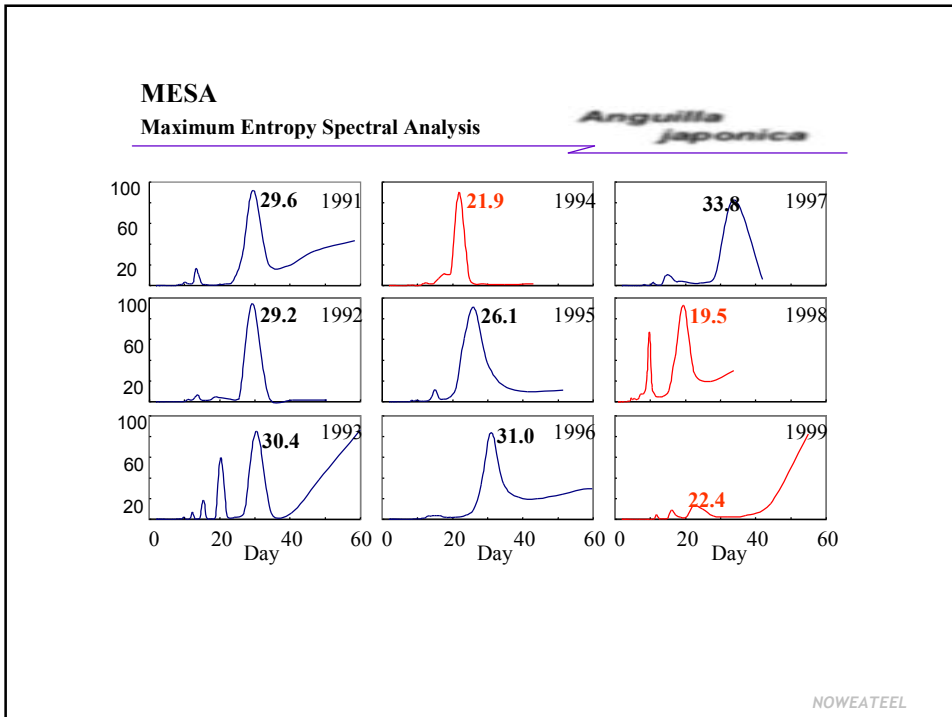
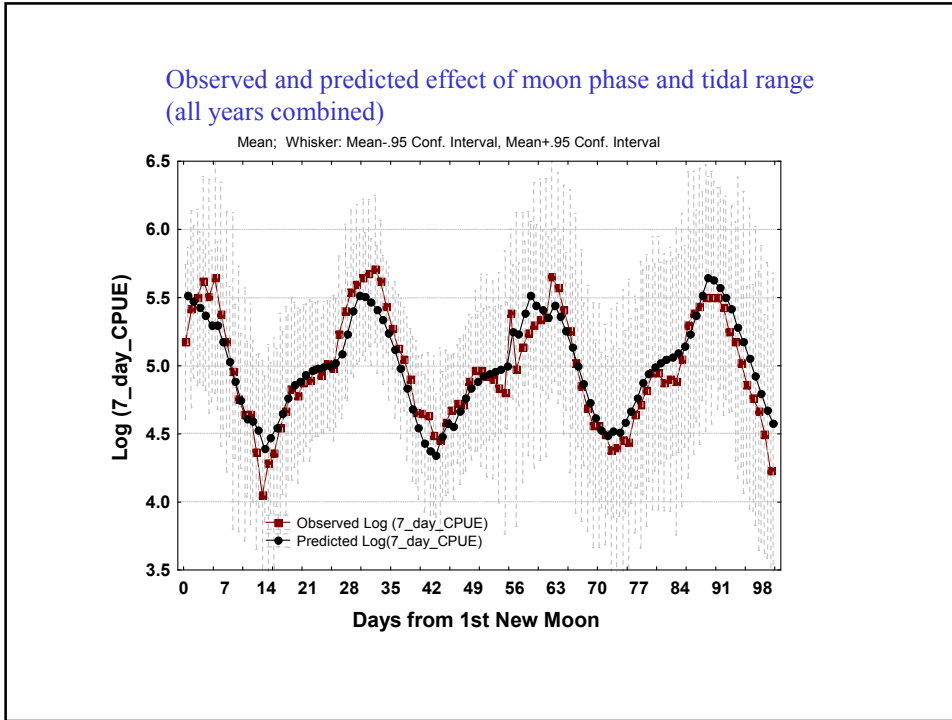
Factors affecting the glass eel catch

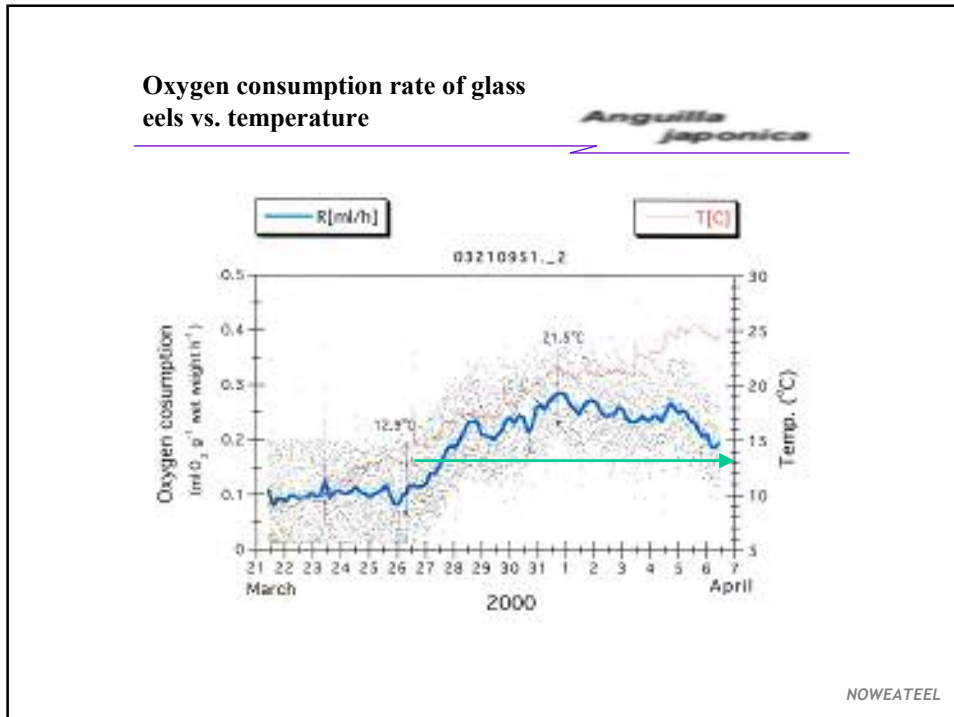
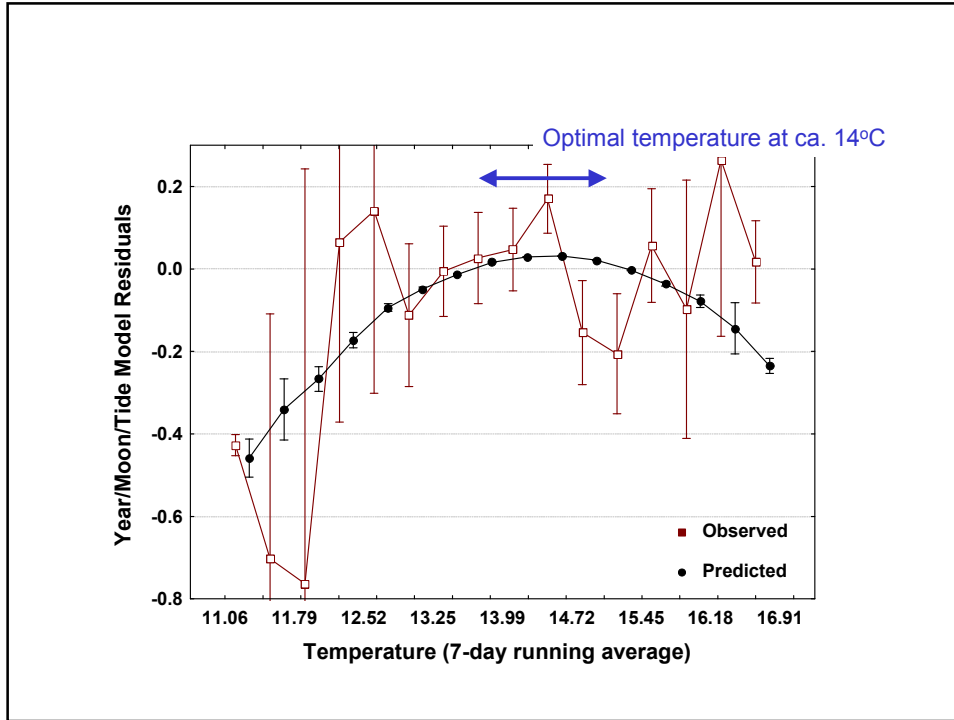
Anguilla japonica

GLM ANOVA (7-day CPUE) by year and all years combined

Year	N	Moon phase	Std. Err	Tidal Range	Std. Err	Temp	Std. Err	Temp^2	Std. Err.	Whole Model (R-squared)
1991	96	-1.2600	0.1737	0.0022	0.0006	1.8185	0.8262	-0.0609	0.0304	0.45
1992	96	-1.6003	0.1424	0.0034	0.0005	10.1624	2.4358	-0.3394	0.0827	0.68
1993	89	-2.1237	0.2286	0.0011	0.0008	5.6745	3.6944	-0.2131	0.1308	0.50
1994	55	-0.1241	0.2474	-0.0017	0.0008	47.9814	15.5471	-1.6524	0.5339	0.19
1995	88	-0.9225	0.1178	0.0021	0.0004	-1.4535	2.9632	0.0351	0.1024	0.71
1996	88	-0.9343	0.1905	0.0018	0.0006	2.0135	1.5255	-0.0685	0.0556	0.43
1997	55	-1.1947	0.4340	0.0037	0.0012	45.6807	10.1568	-1.6180	0.3501	0.53
1998	43	-1.1504	0.2728	0.0008	0.0008	103.5571	18.8706	-3.6178	0.6639	0.53
1999	74	-1.1594	0.2133	0.0010	0.0007	3.0459	4.6814	-0.0944	0.1485	0.34
Combined	716	-1.1429	0.0744	0.0015	0.0003	1.6230	0.5005	-0.0563	0.0176	0.61

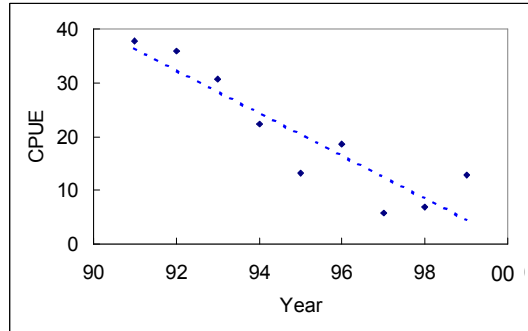
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**Annual variation of glass eel catch
in the Jeju estuaries**

Anguilla japonica



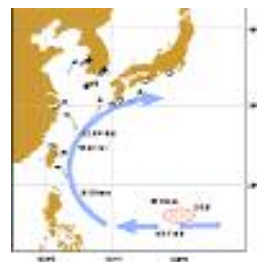
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**Factors affecting the variation of
glass eel abundance**

Anguilla japonica

- Spawning and larval migration
 << Oceanic circulation, El Nino
- Migration over continental shelf of glass eels
 << Temperature, circulation
- Migration into estuaries
 << Tides+Moon Phase
 << Temperature, wind, rainfall

>>> Prediction of glass eel catch ?



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