Comparison of ADAPT VPA and ASAP models for Gulf of Maine cod based on GARM II input data (Mayo and Col 2006)

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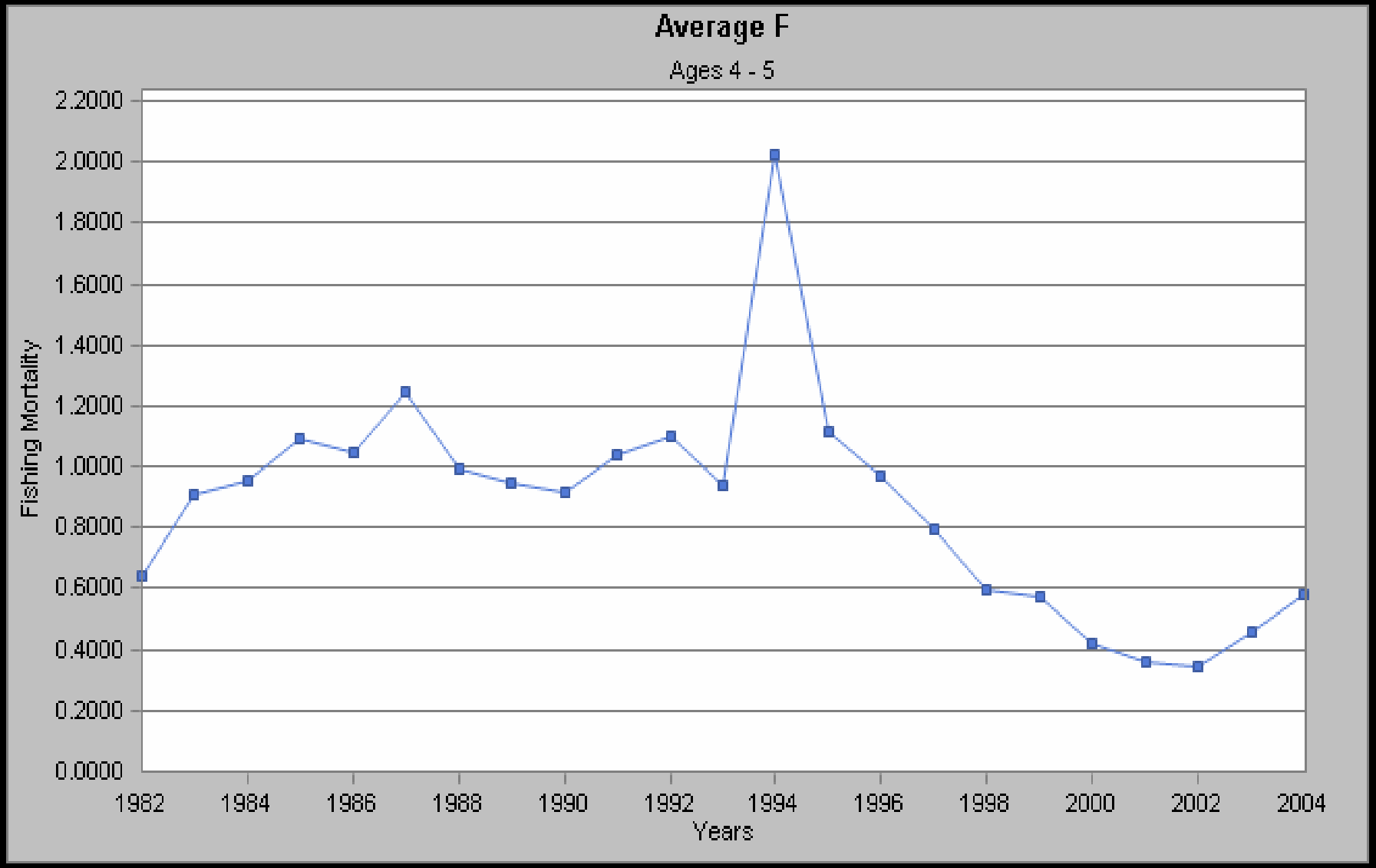
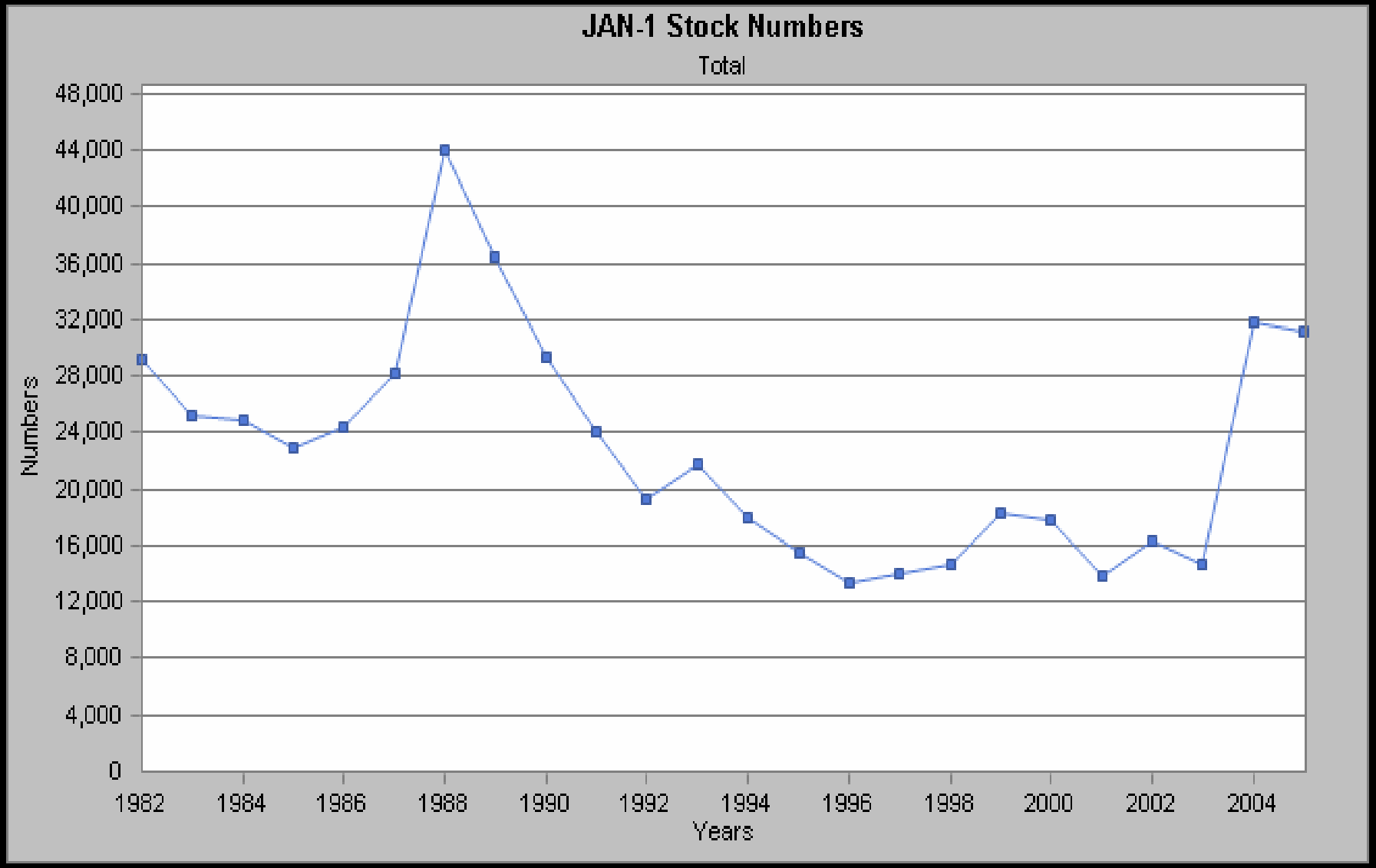
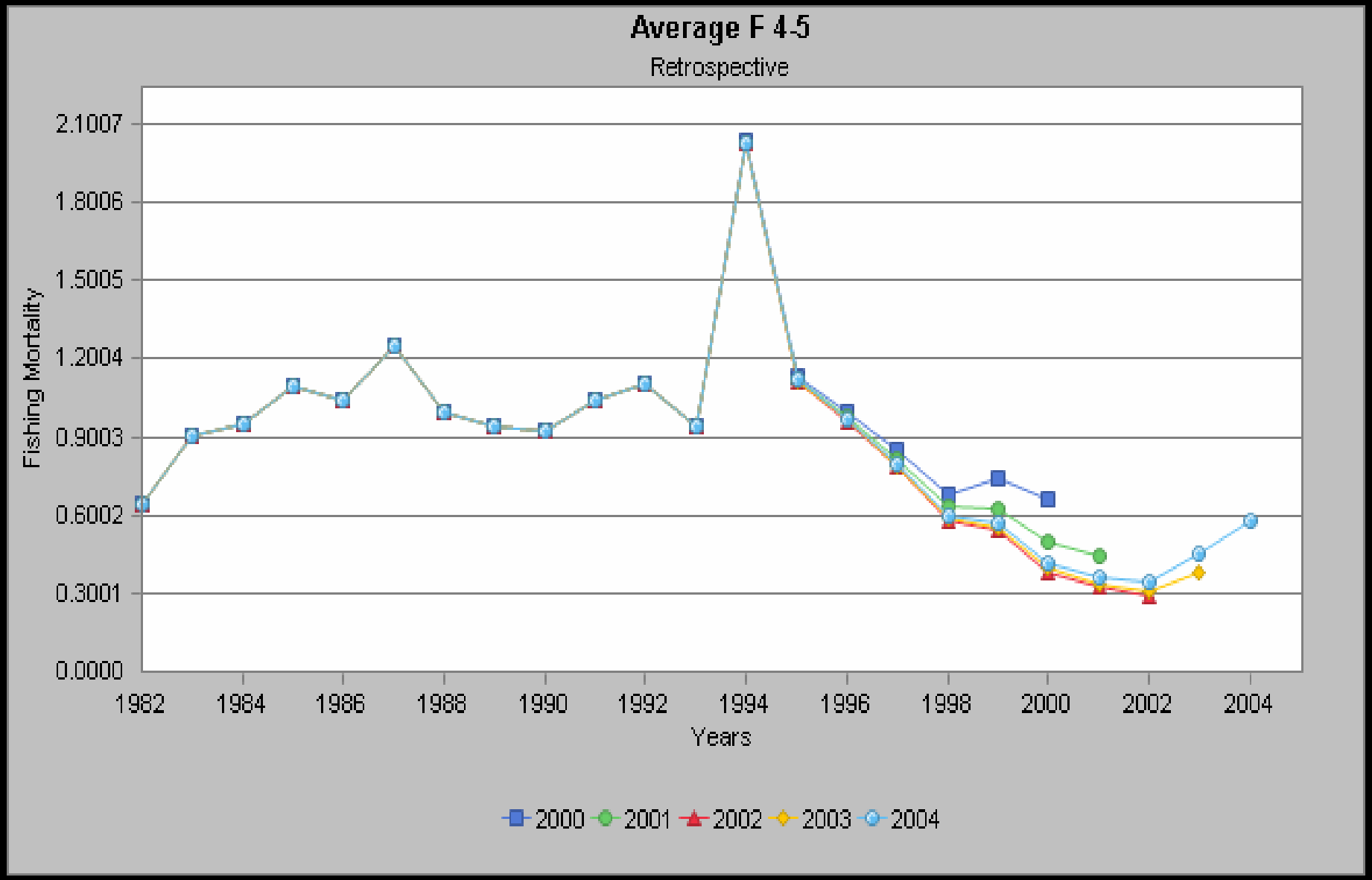
Gulf of Maine cod, GARM II VPA F



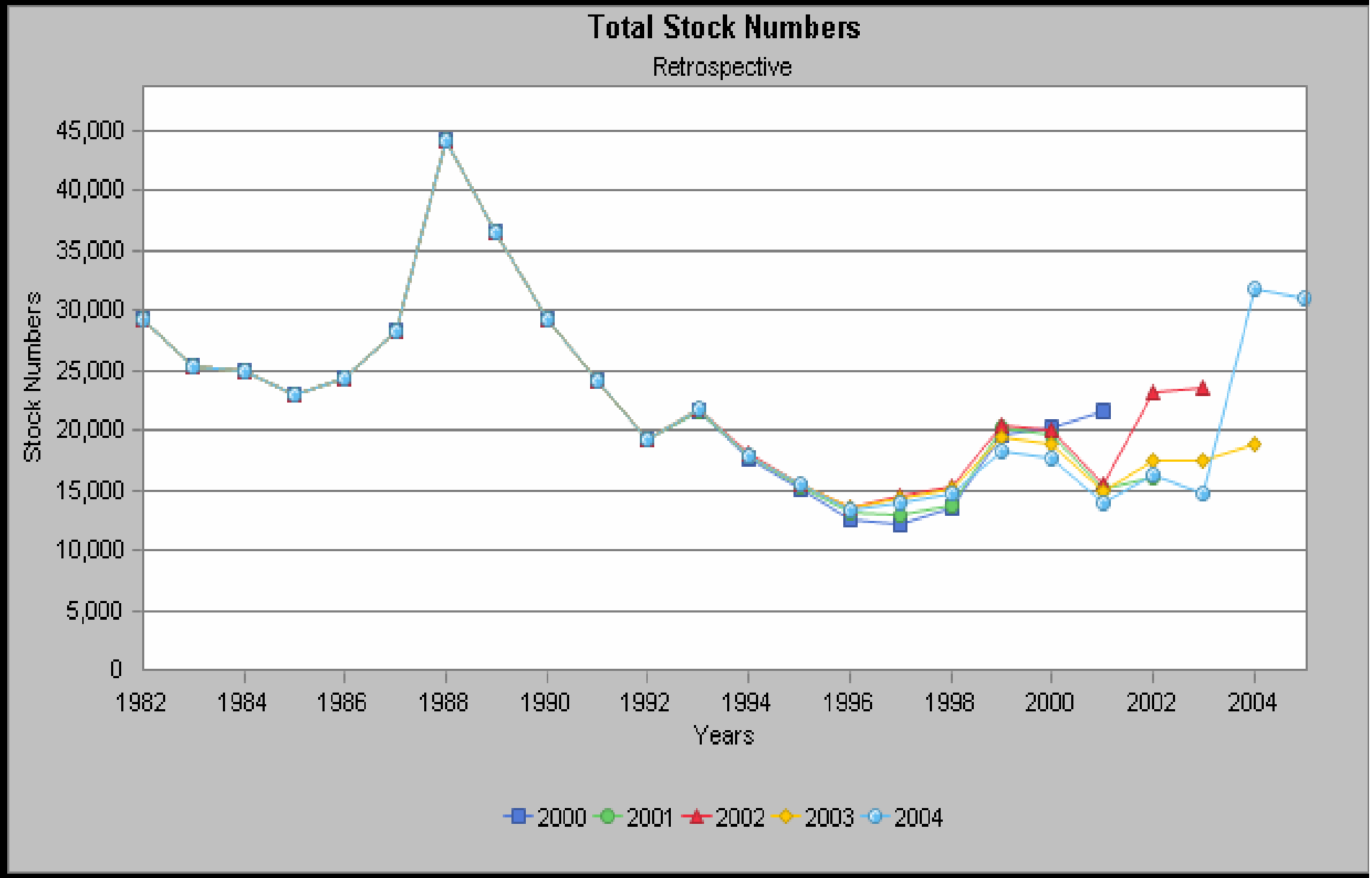
Gulf of Maine cod, GARM II VPA stock numbers



Gulf of Maine cod, GARM II VPA retrospective F



Gulf of Maine cod, GARM II VPA retrospective abundance



ASAP model using VPA input file; selectivity changes among models:

Model 1: geometric mean selectivity of last three years in VPA

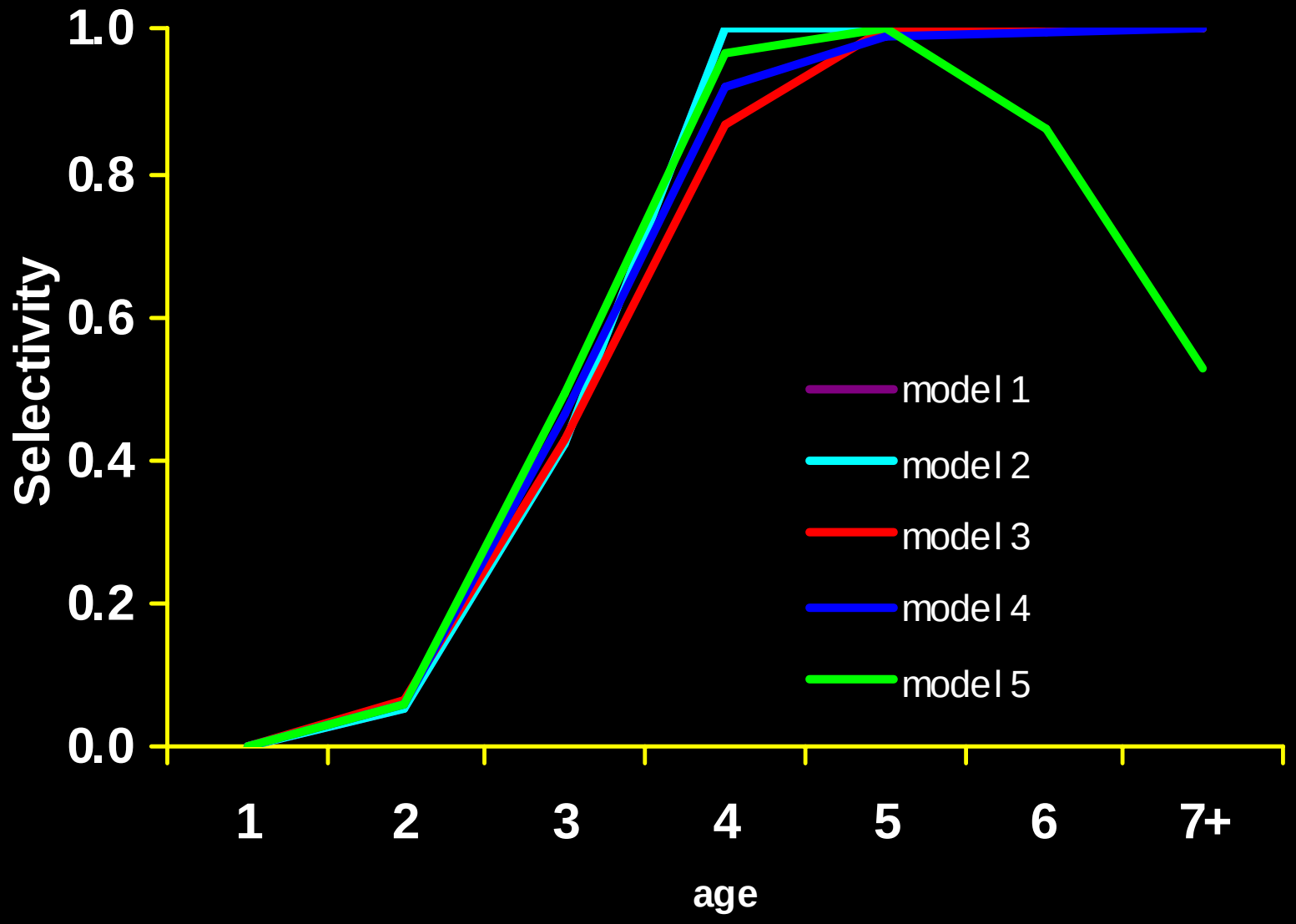
Model 2: equilibrium selectivity as used in YPR model

Model 3: age-specific selectivity fitted within ASAP

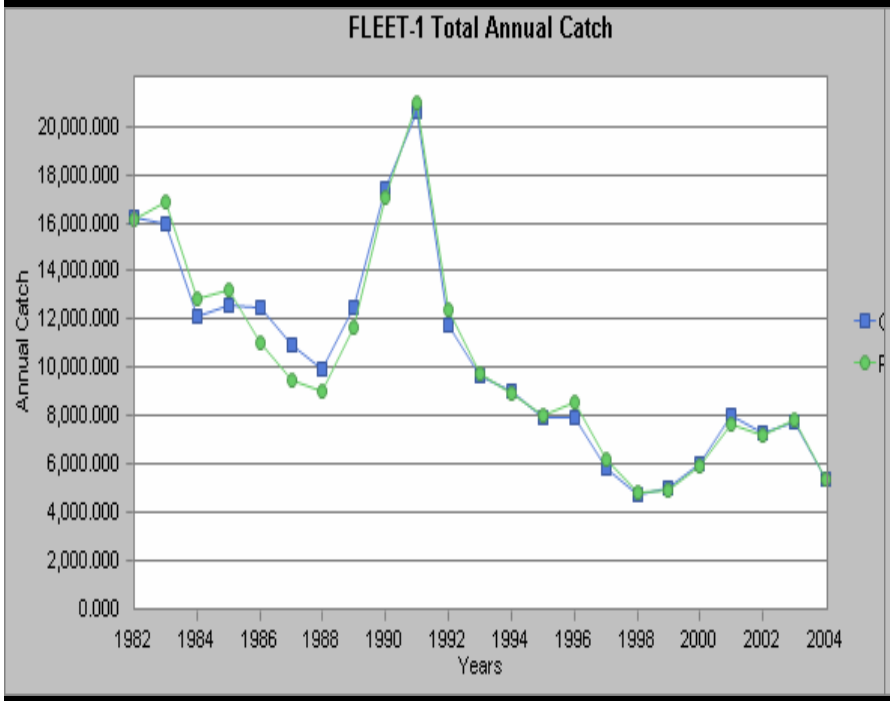
Model 4: single-logistic fitted model

Model 5: double-logistic fitted model

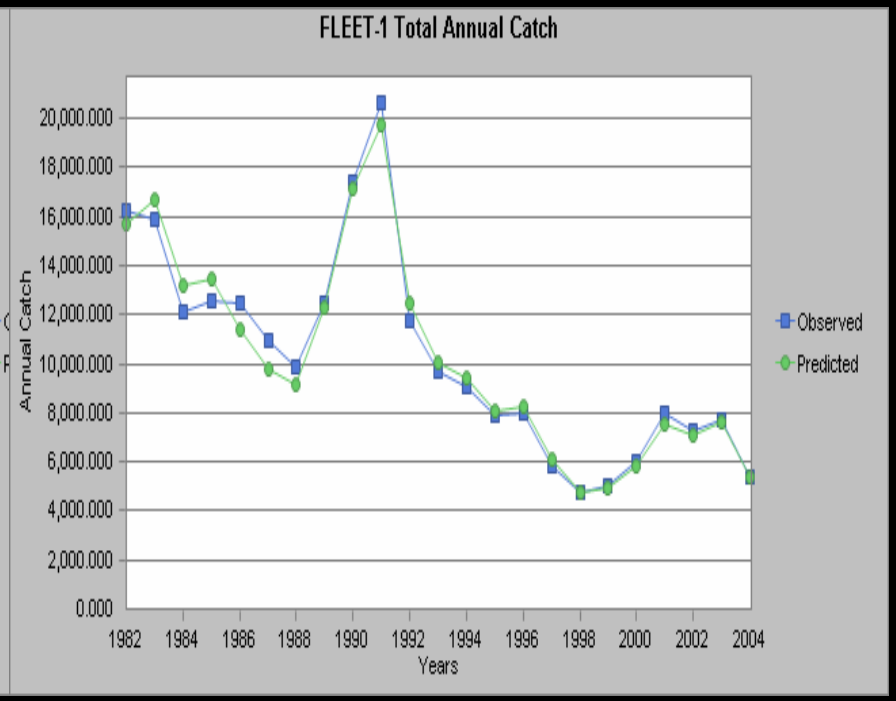
Selectivity patterns used in ASAP model comparisons



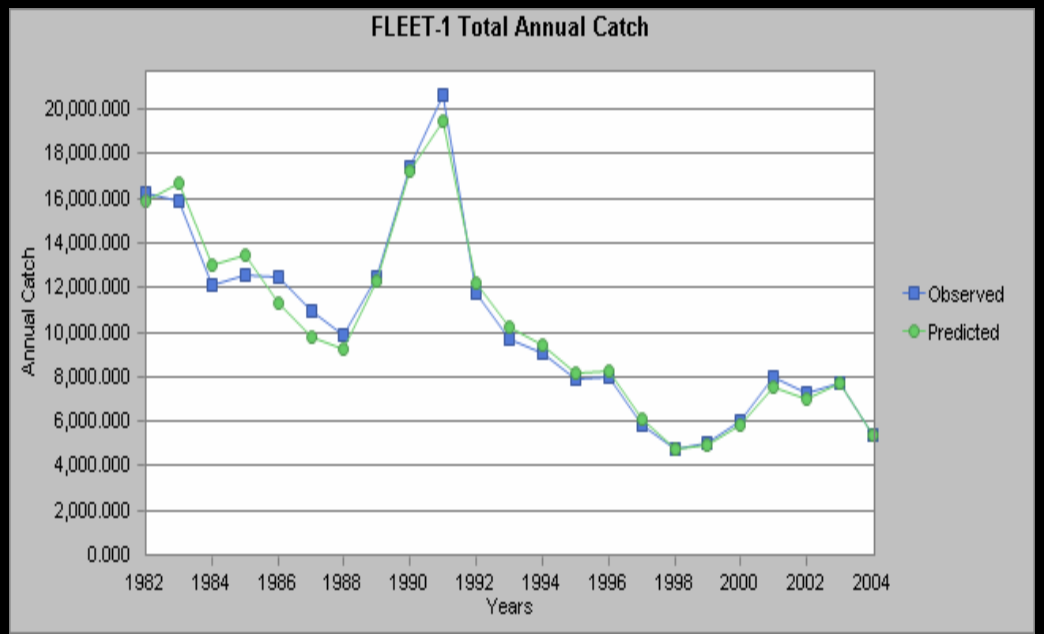
	model 1	model 2	model 3	model 4	model 5
Objective function	1883.5	786.417	749.44	772.34	771.1
Catch_Fleet_total	182.74	181.954	182.04	182.11	182.27
Index_Fit_Total	170.96	179.661	161.01	161.46	163.06
Catch_age_Comps	1413	307.621	300.69	308.4	306.11
Sel_Params_Total	0	0	-11.25	3.9635	6.6958
Recruit_devs	116.83	117.181	116.96	116.4	112.97



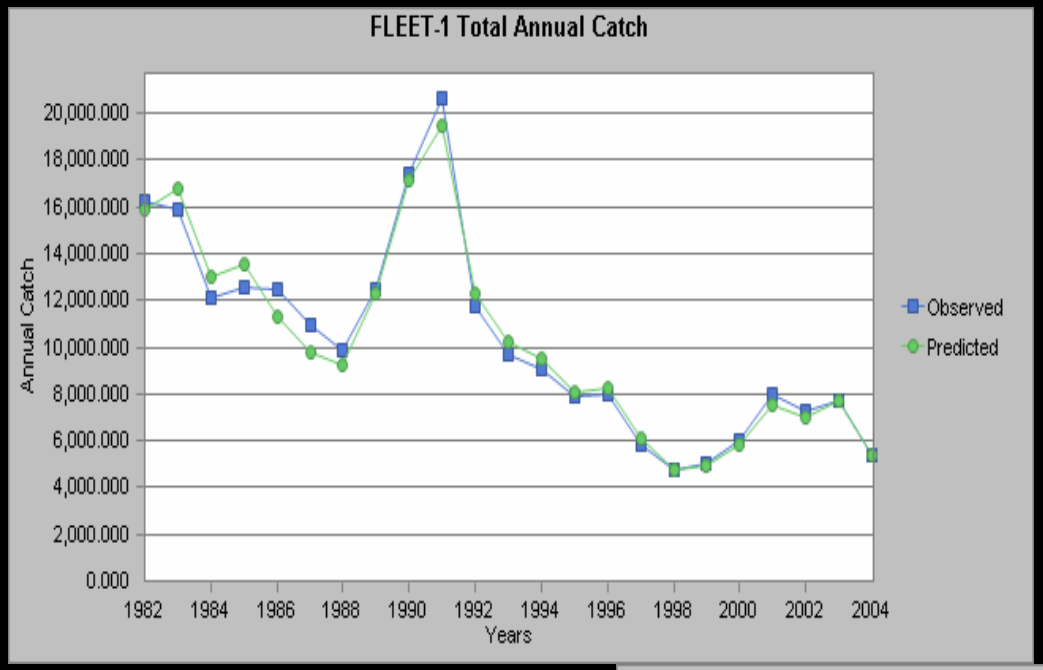
Model 1



Model 2

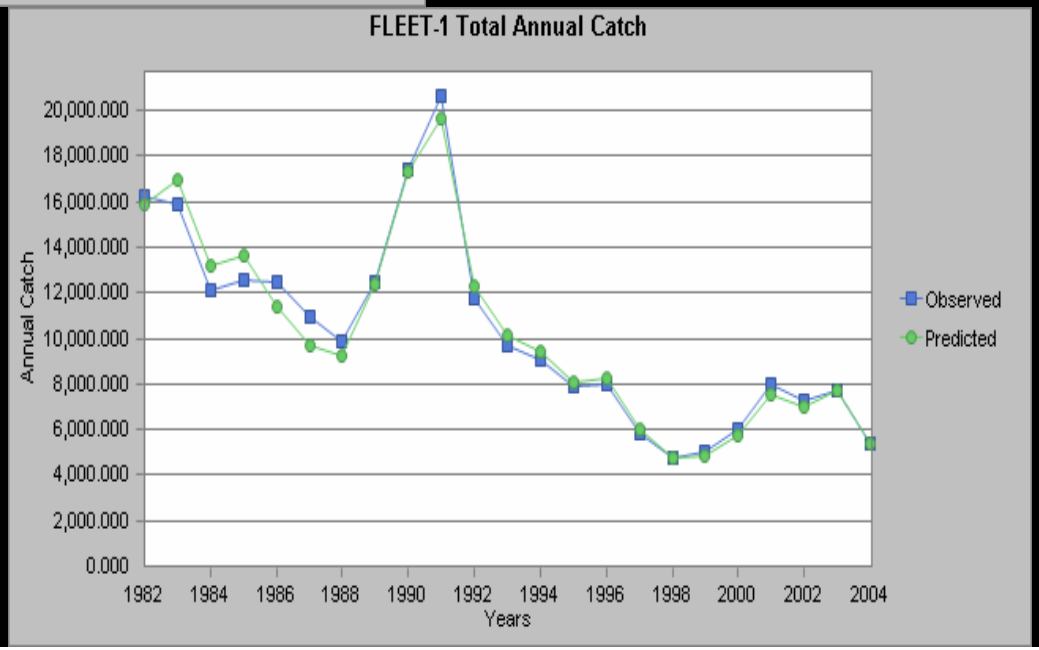


Model 3

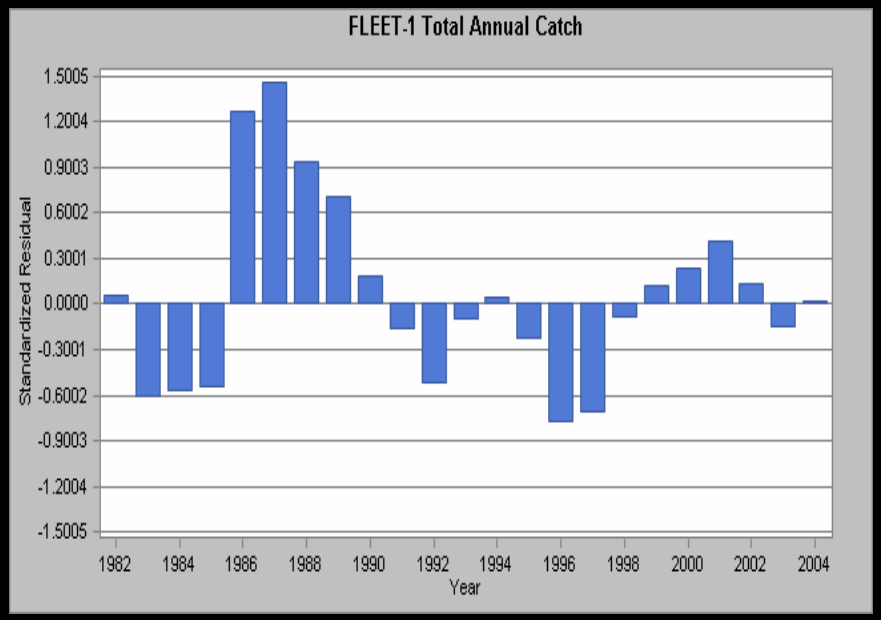


Model 4

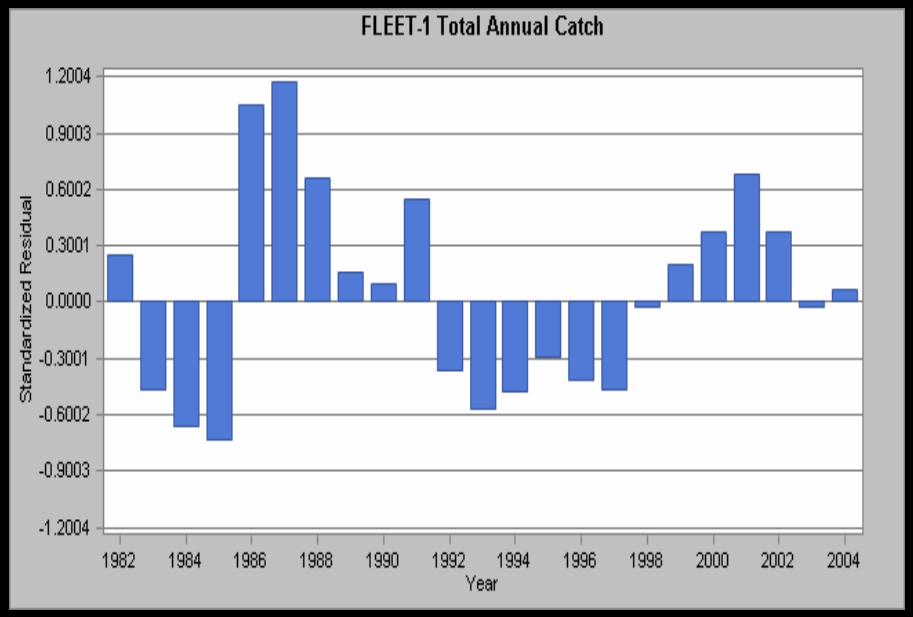
Model 5



Model 1



Model 2



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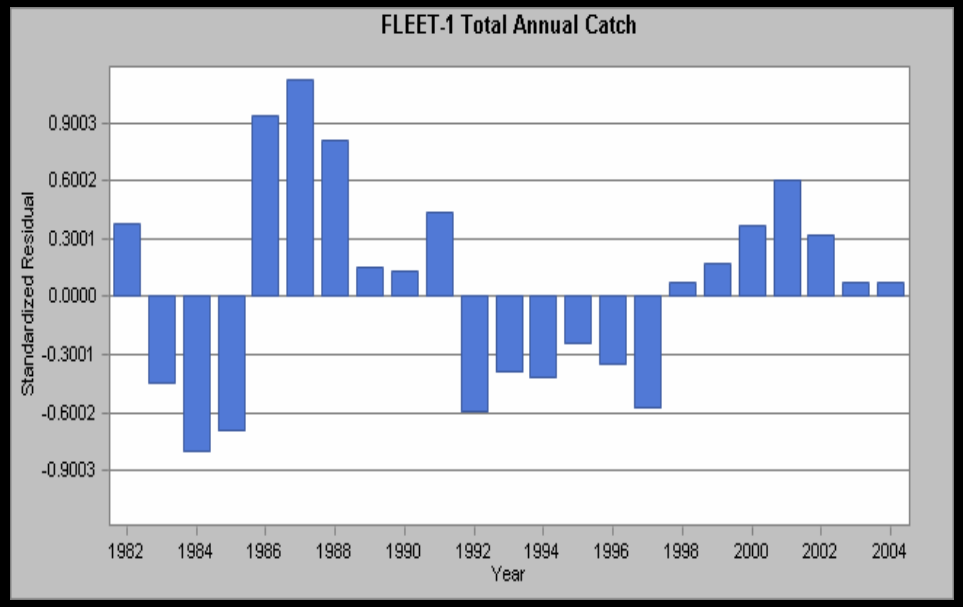

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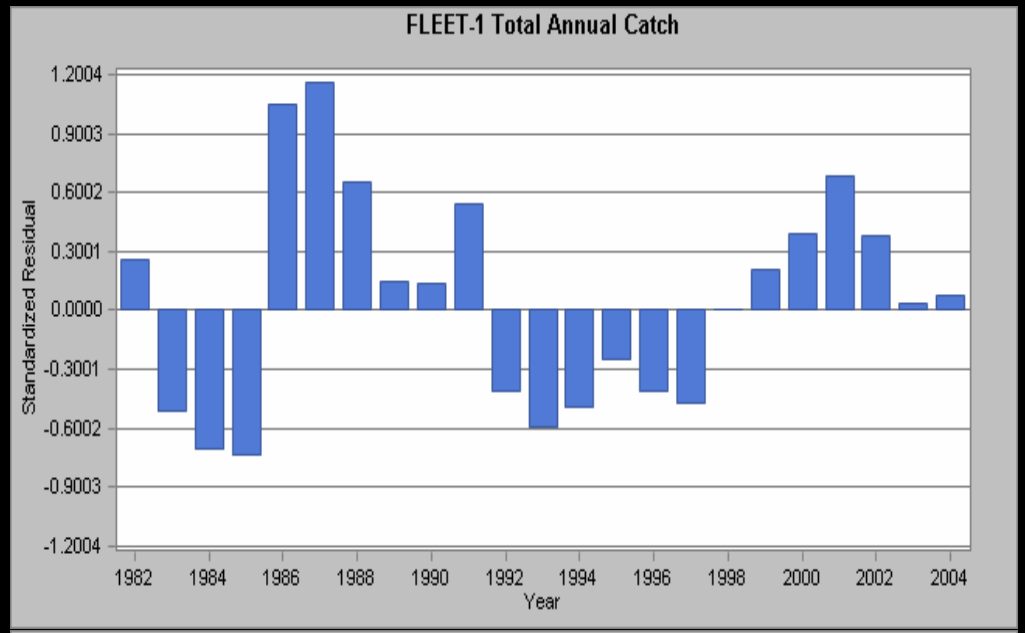
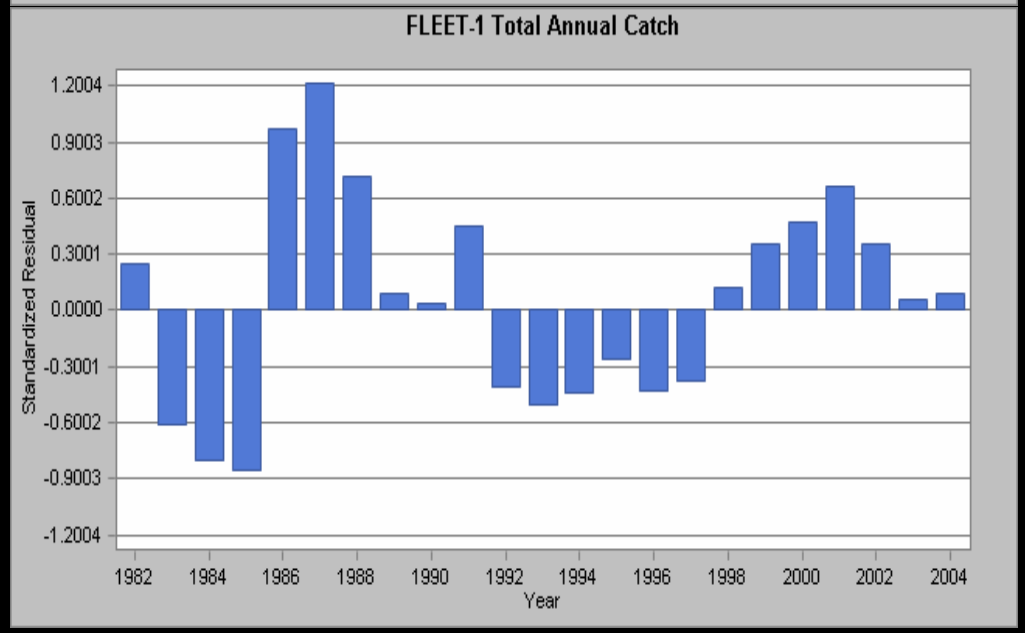
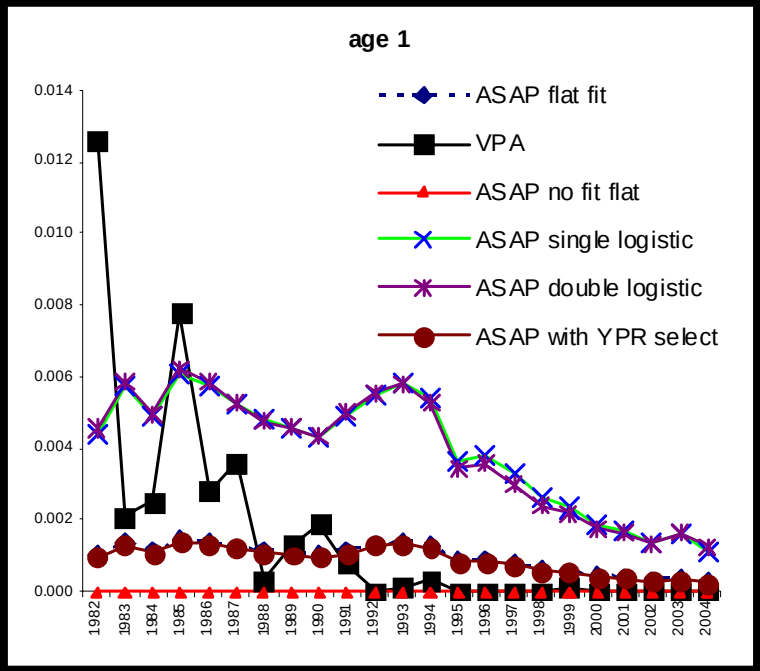
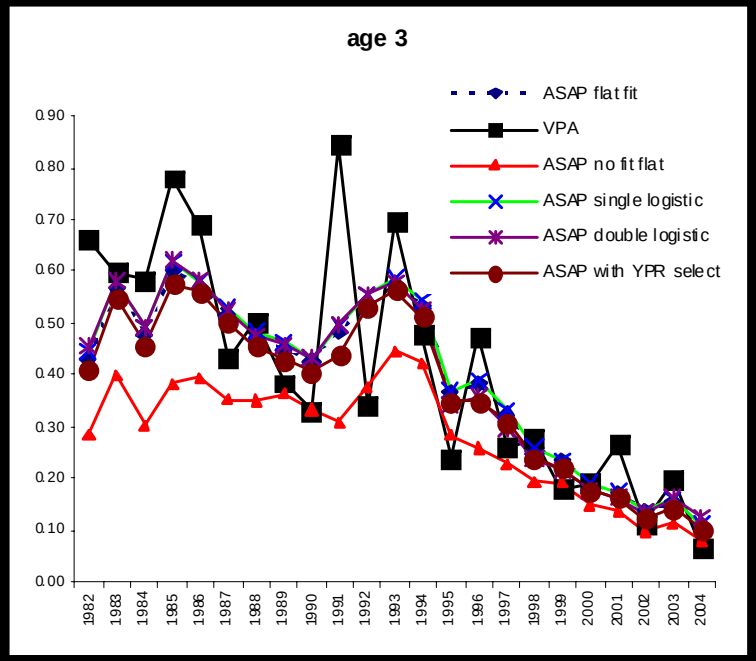


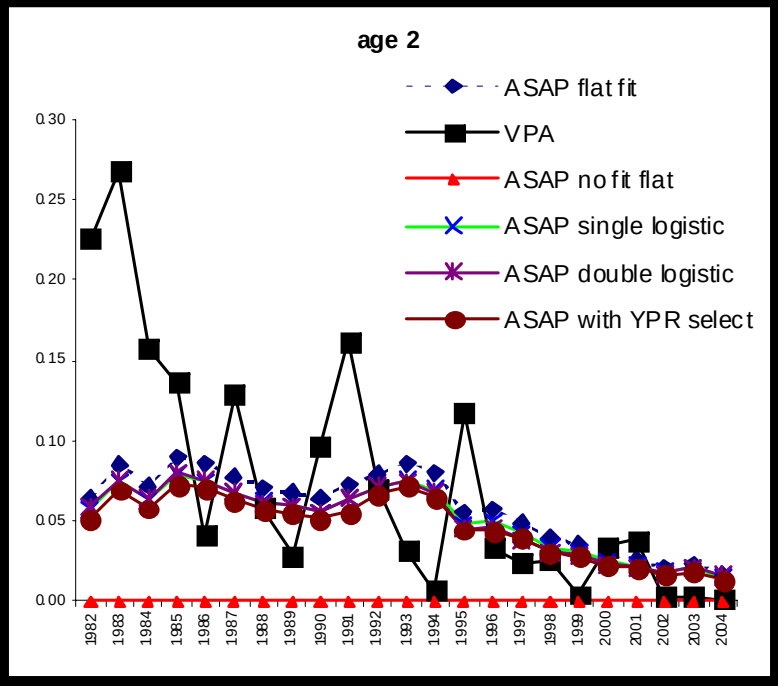
Model 5

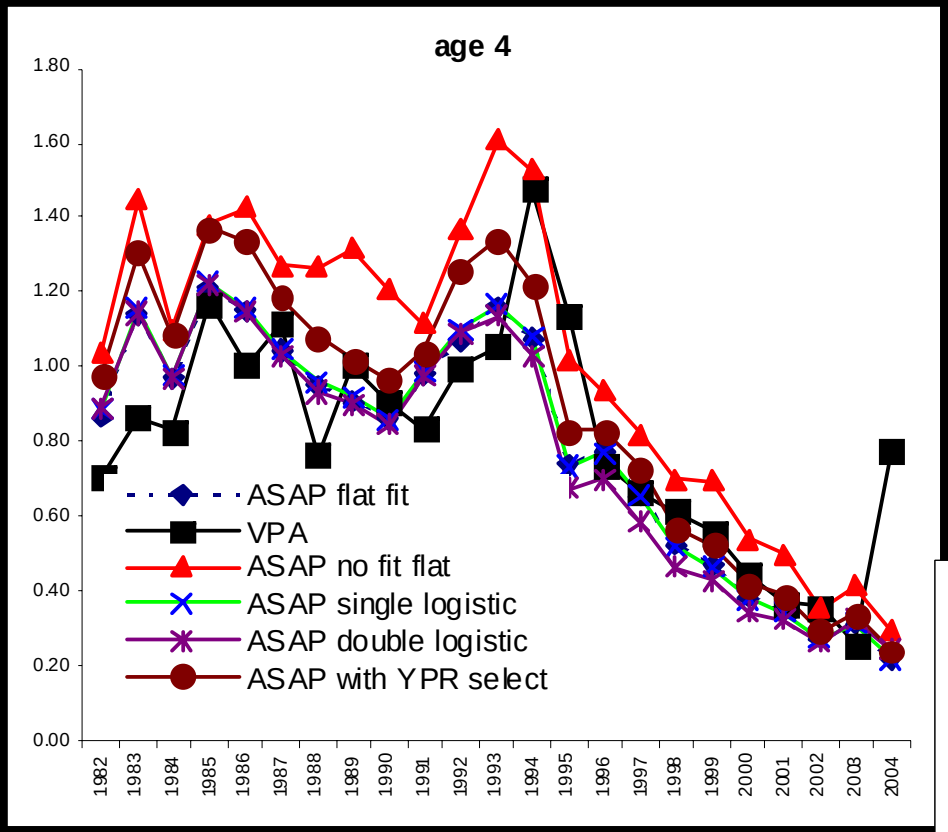


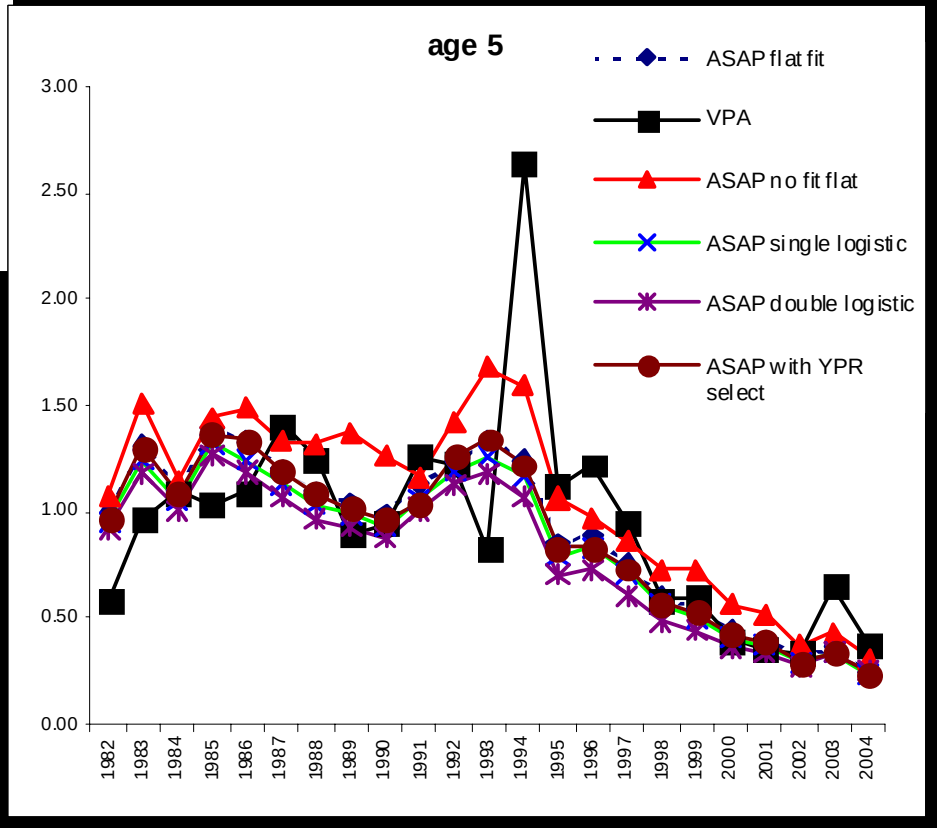




Comparison of F estimates among models and VPA







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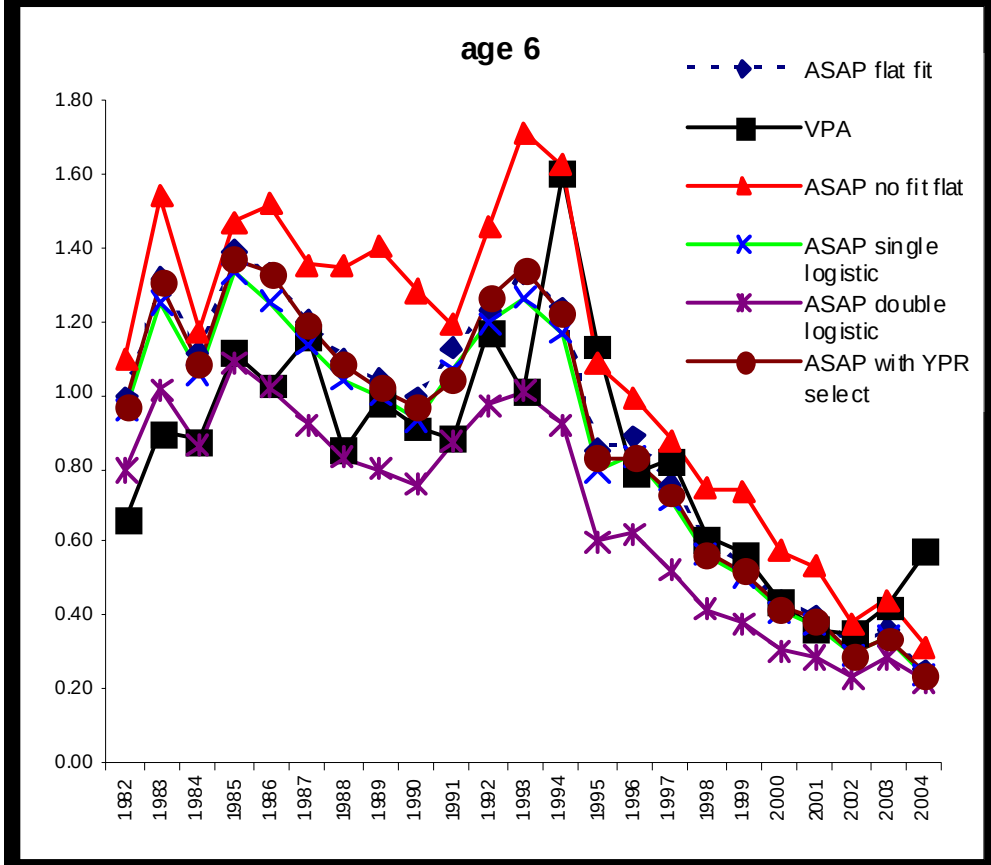

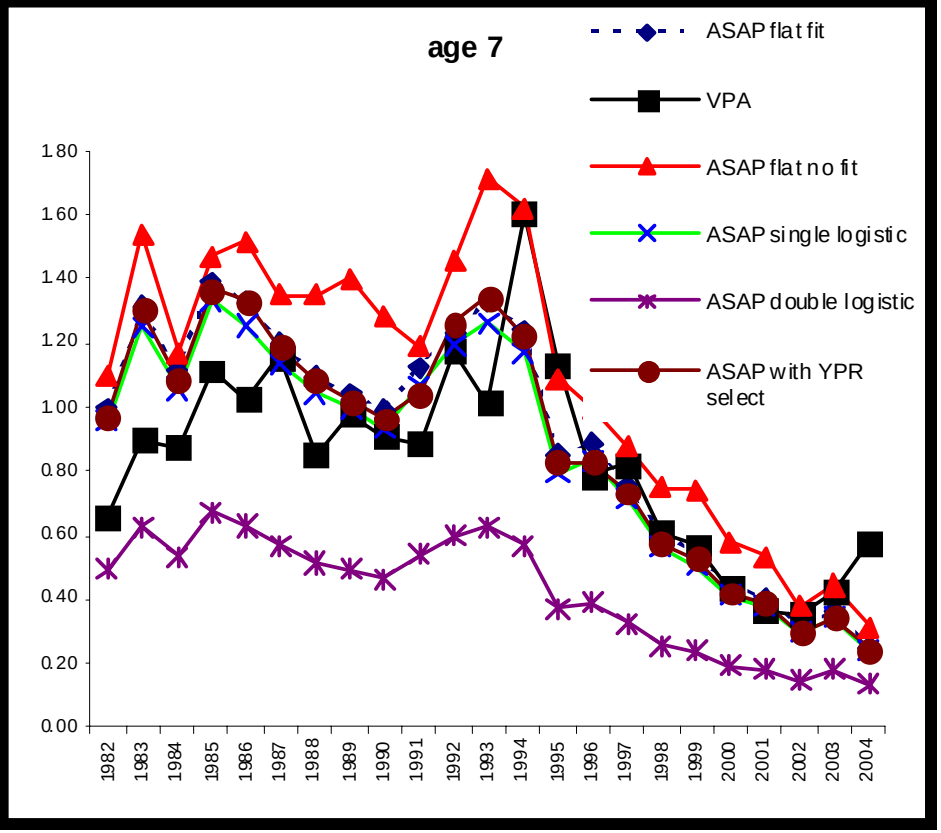

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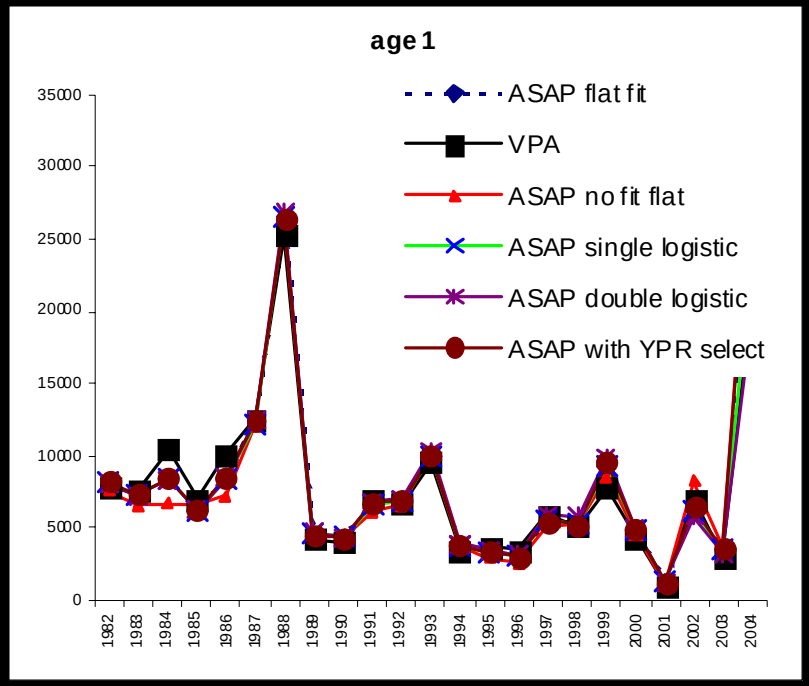
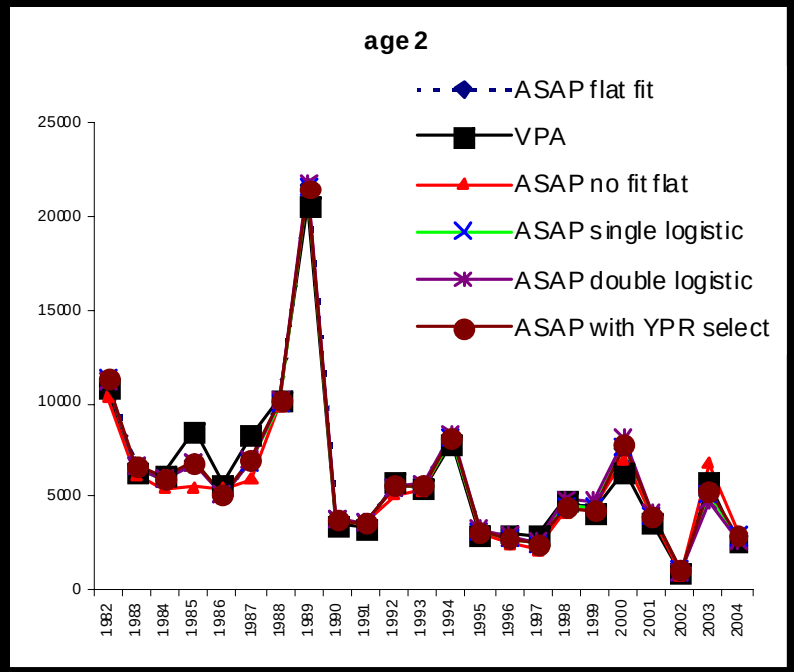
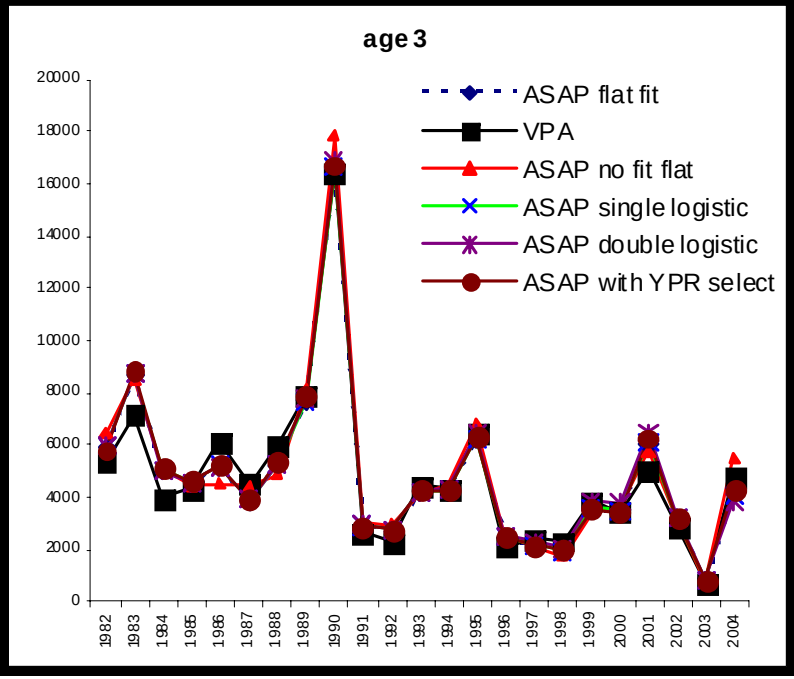
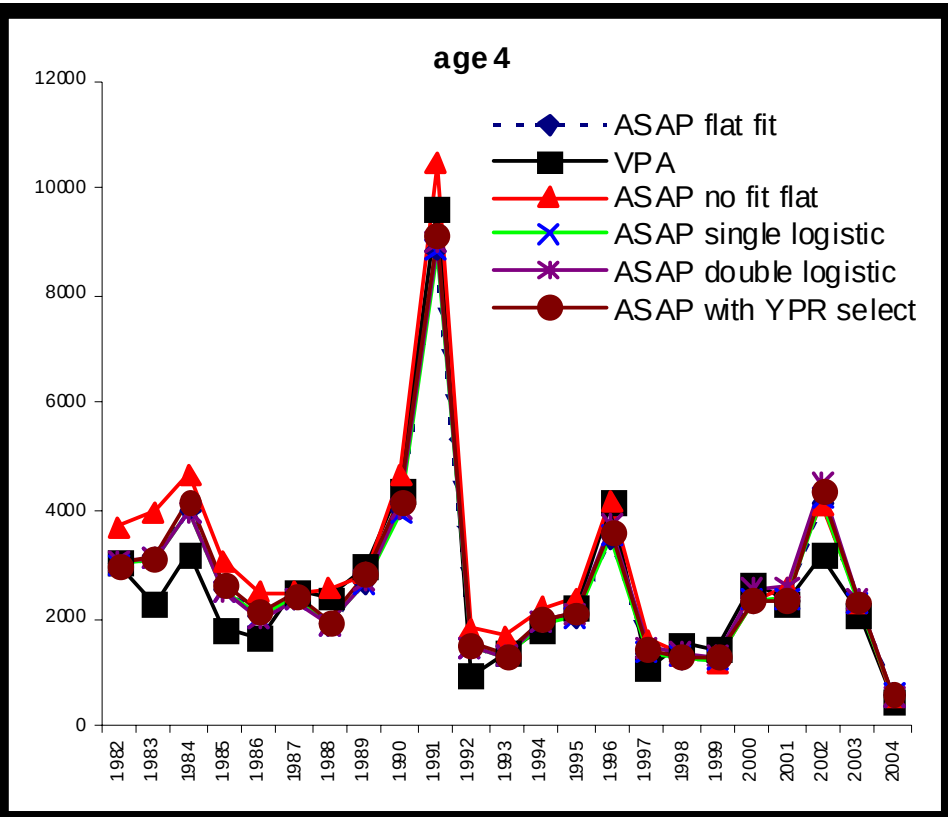
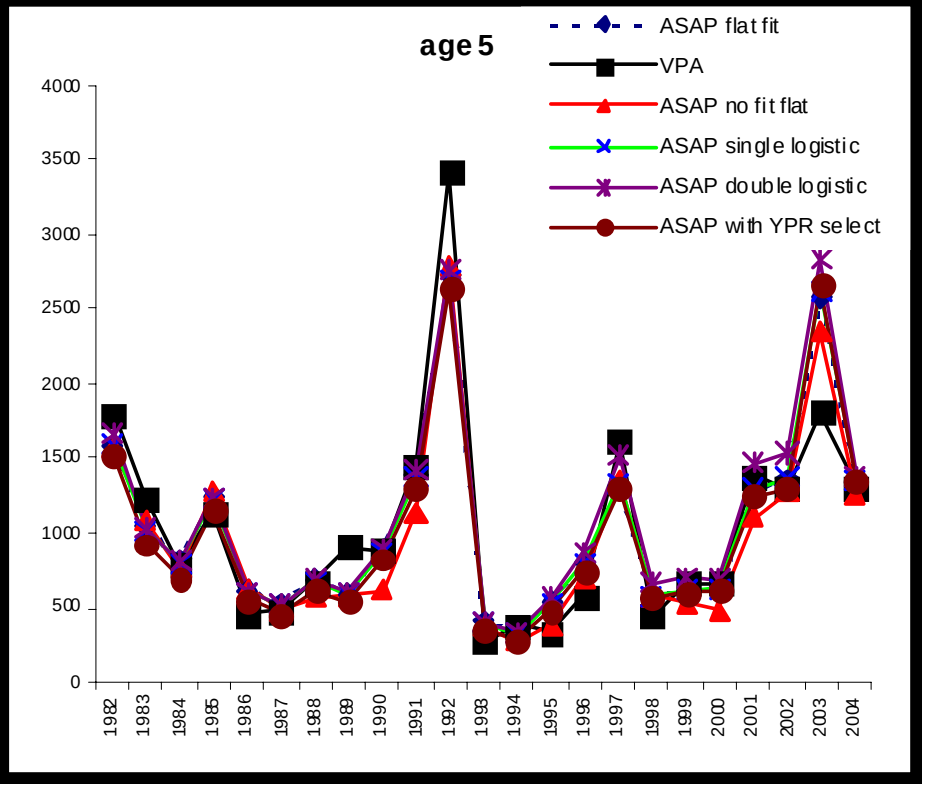




Comparison of N estimates among models and VPA







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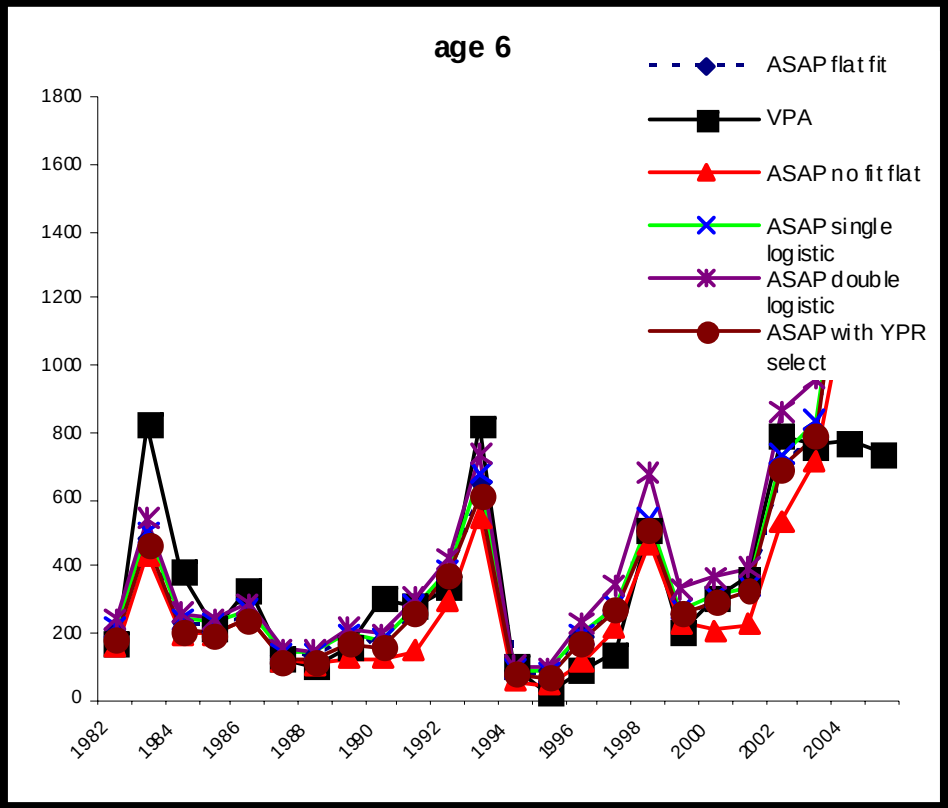

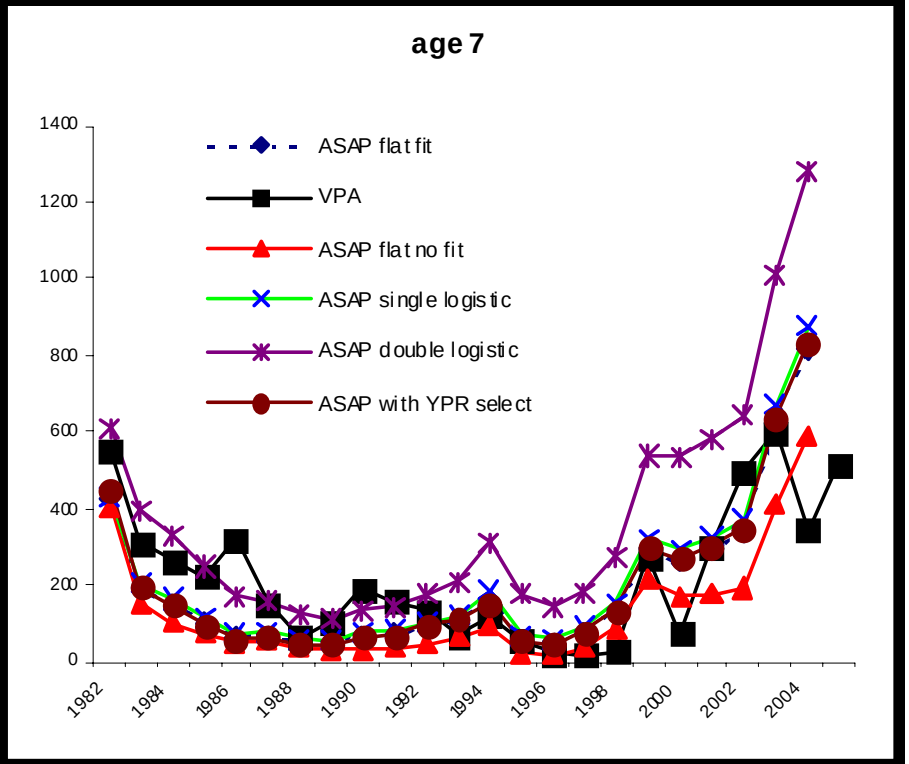

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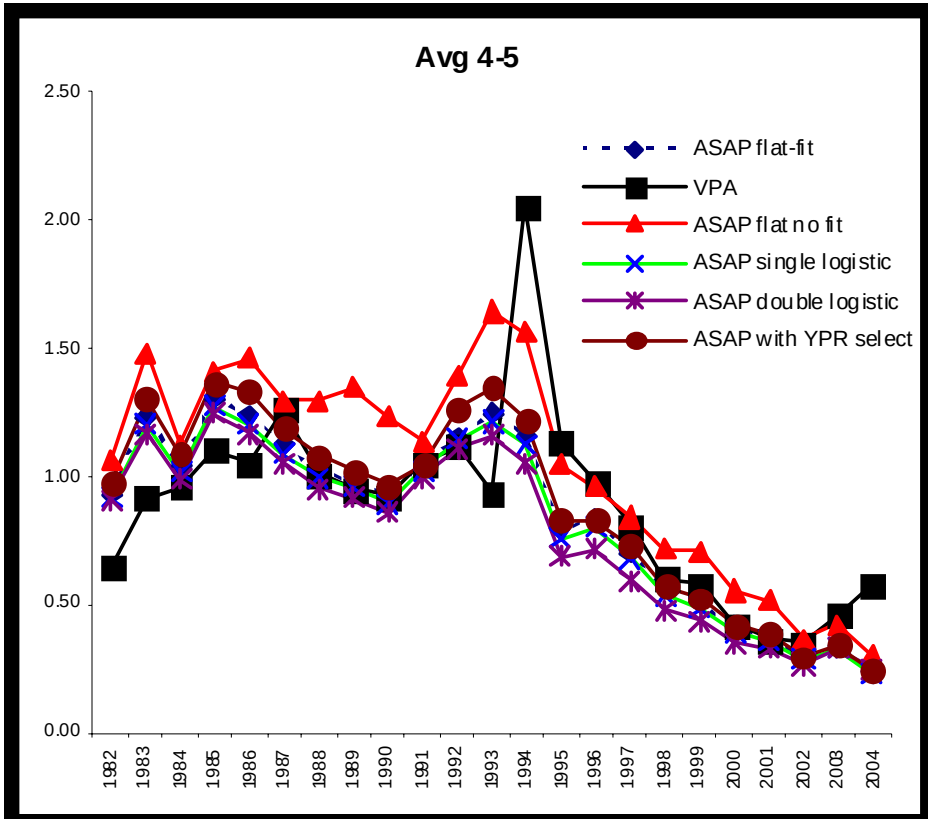
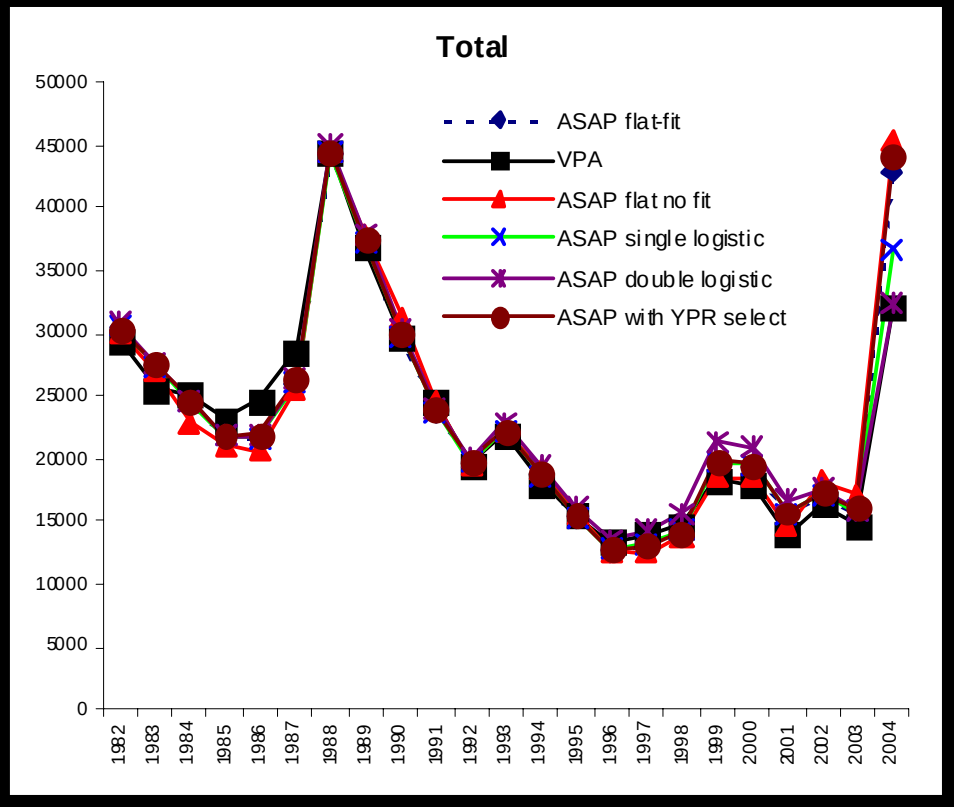
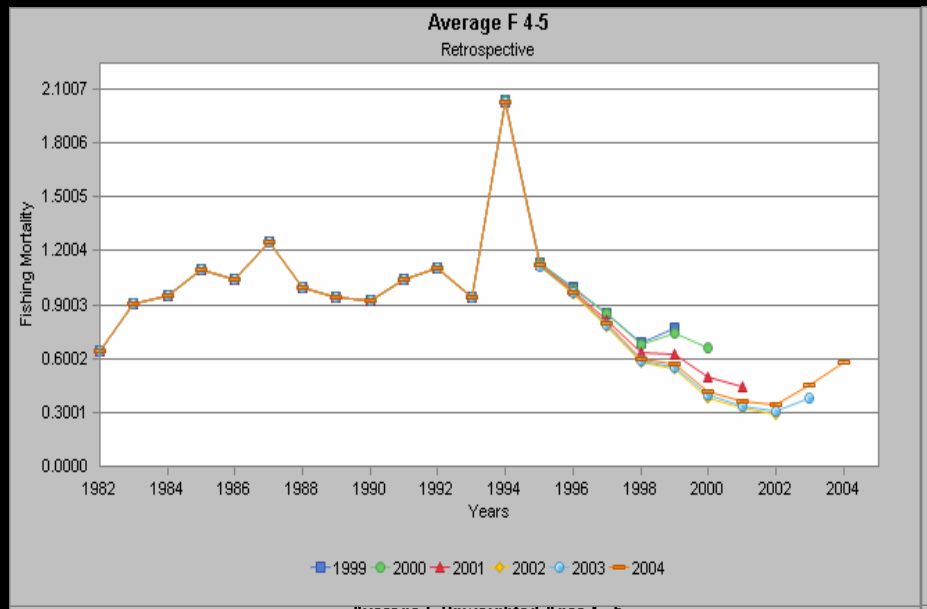


Average age 4-5 F

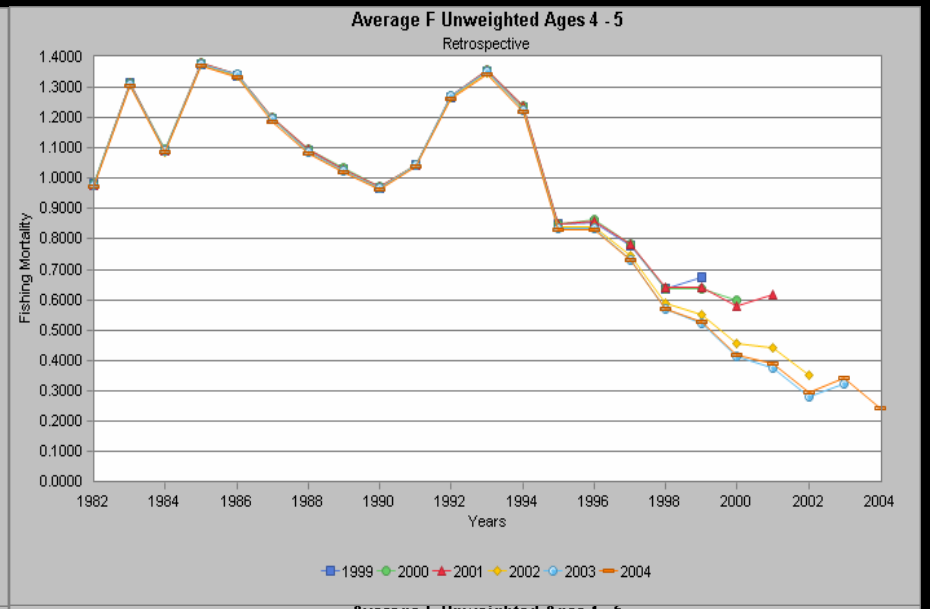
Total Stock number

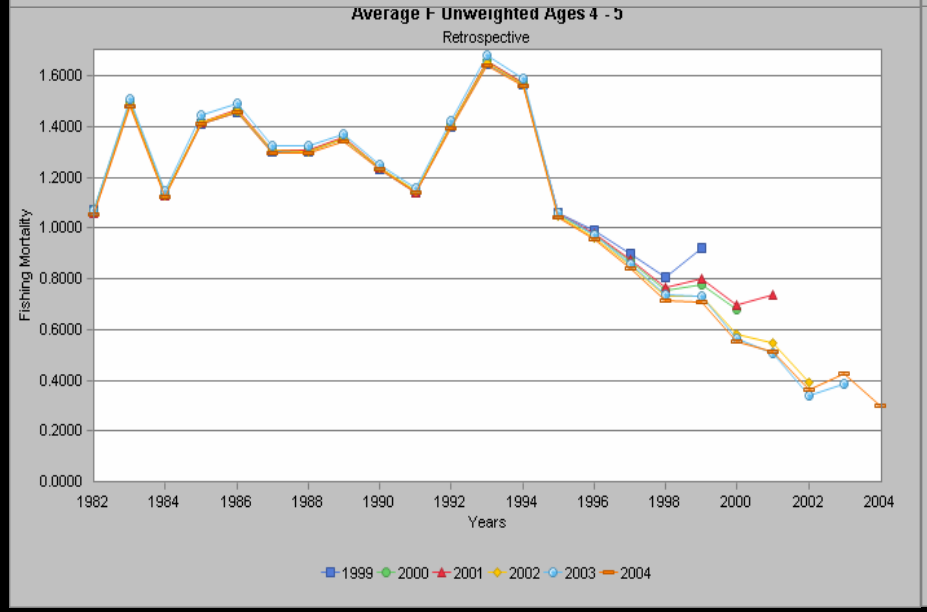


VPA avg. F

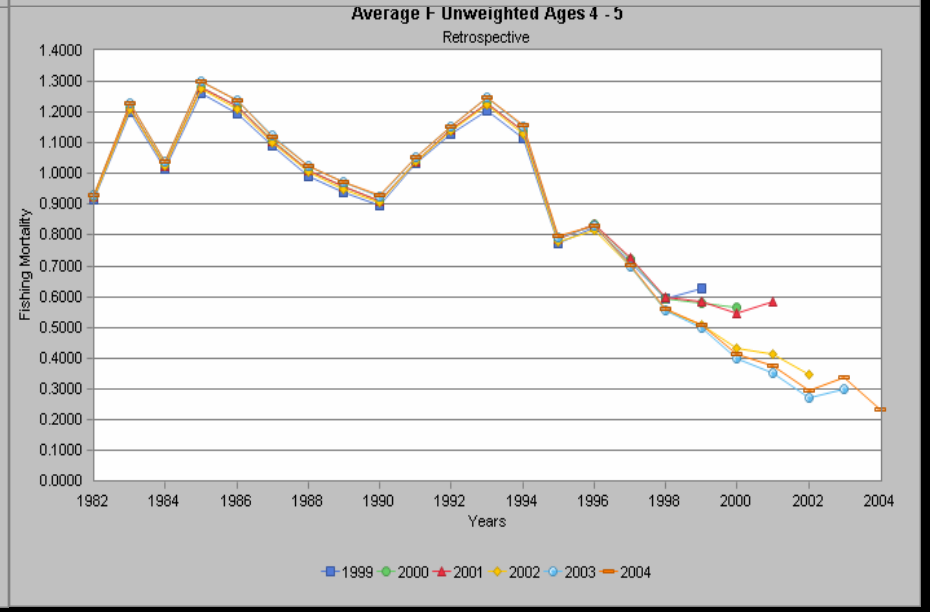


Model 2 avg. F

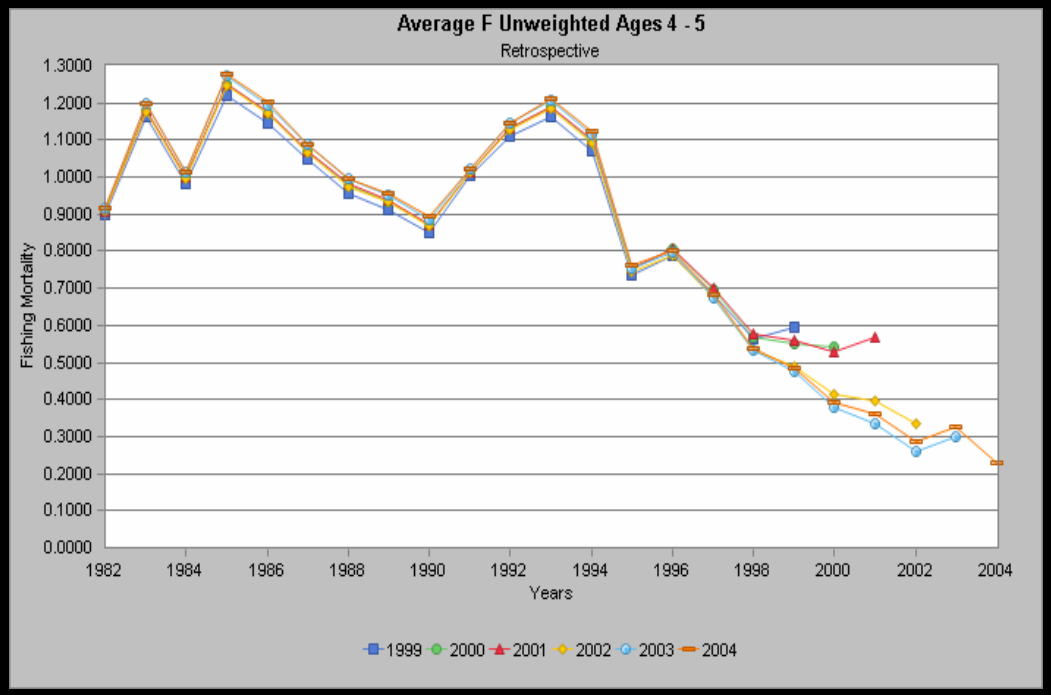




Model 1 avg. F

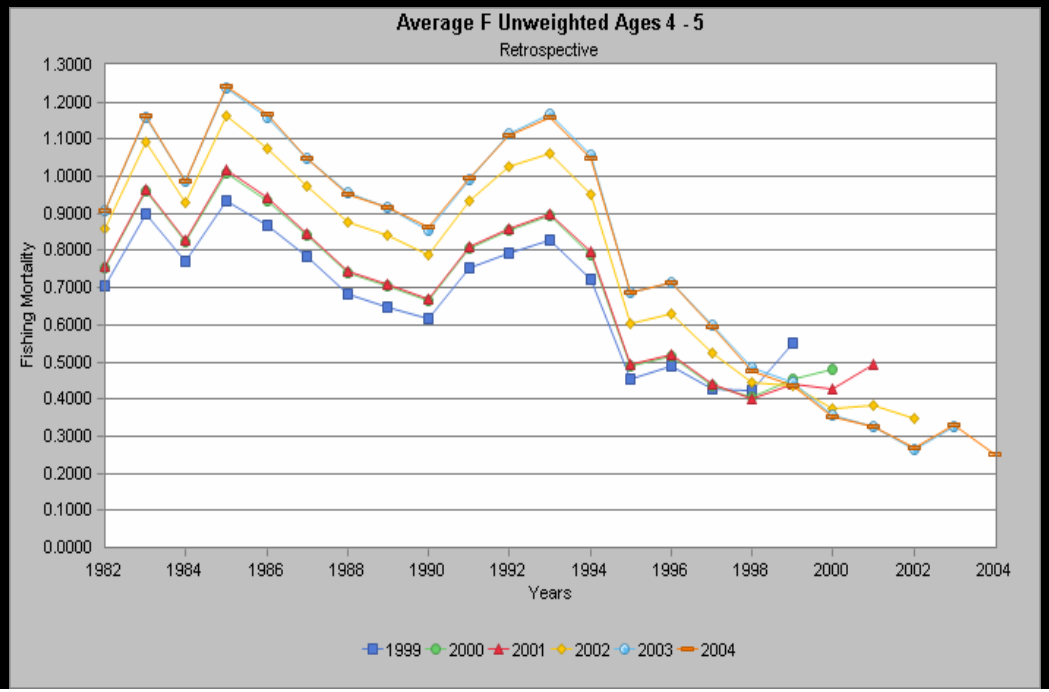


Model 3 avg. F

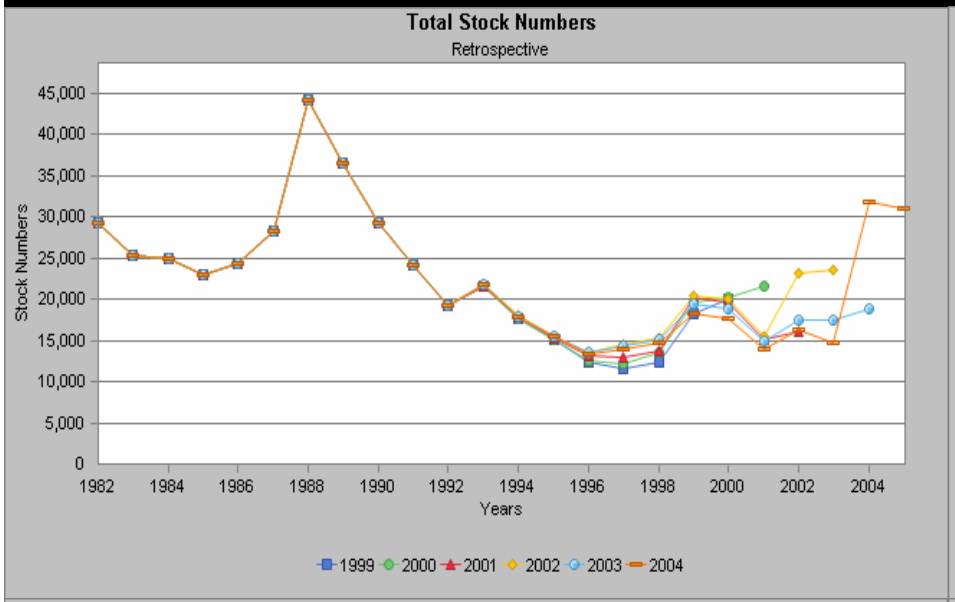


Model 4 avg. F

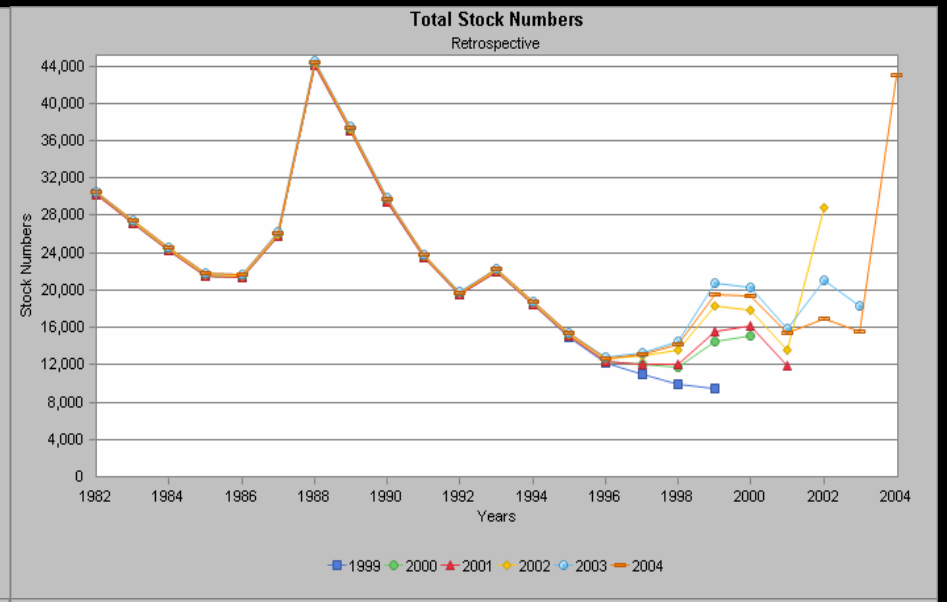
Model 5 avg. F

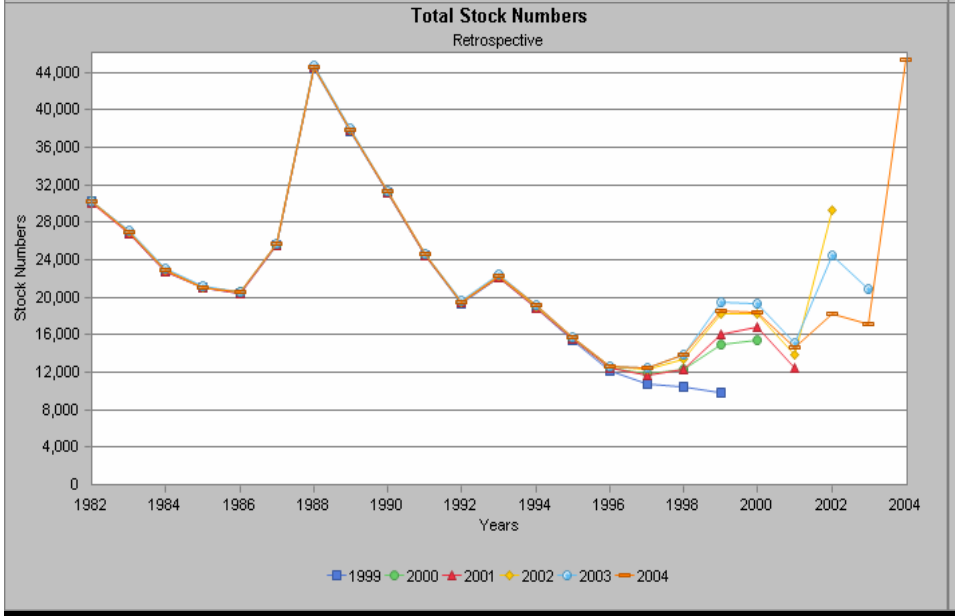


VPA abundance

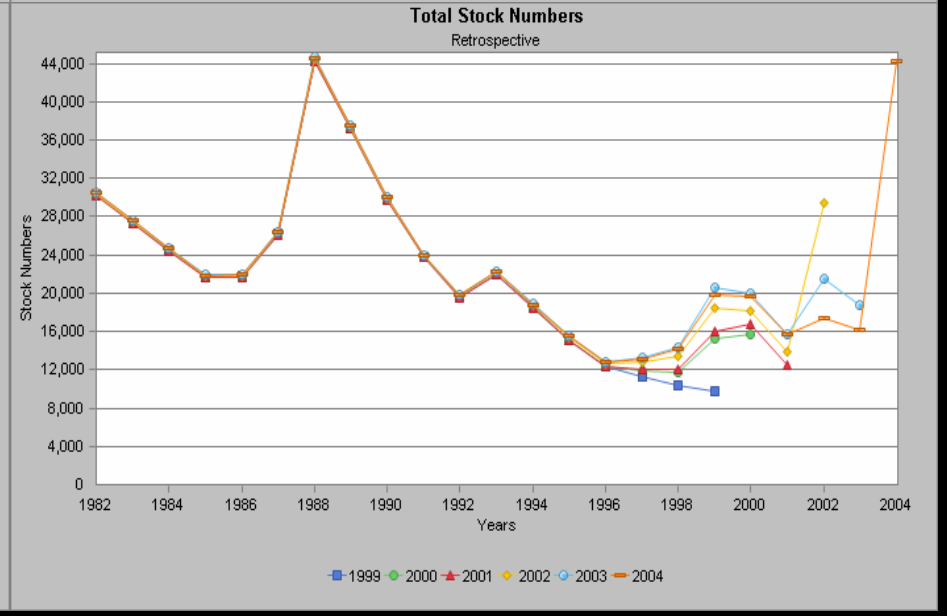


Model 2 abundance

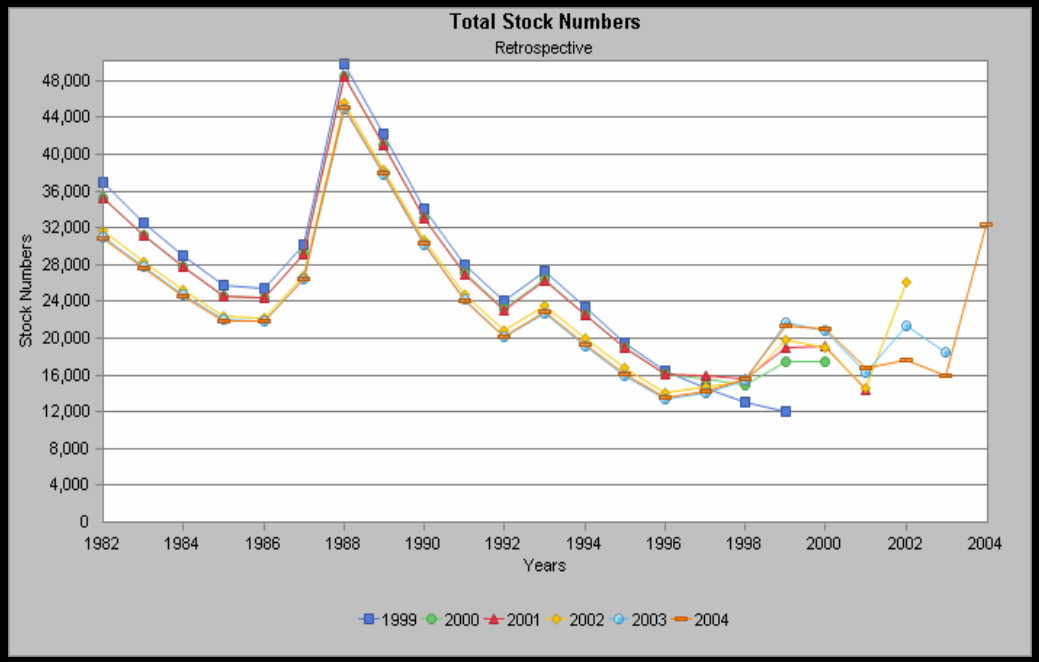




Model 1 abundance

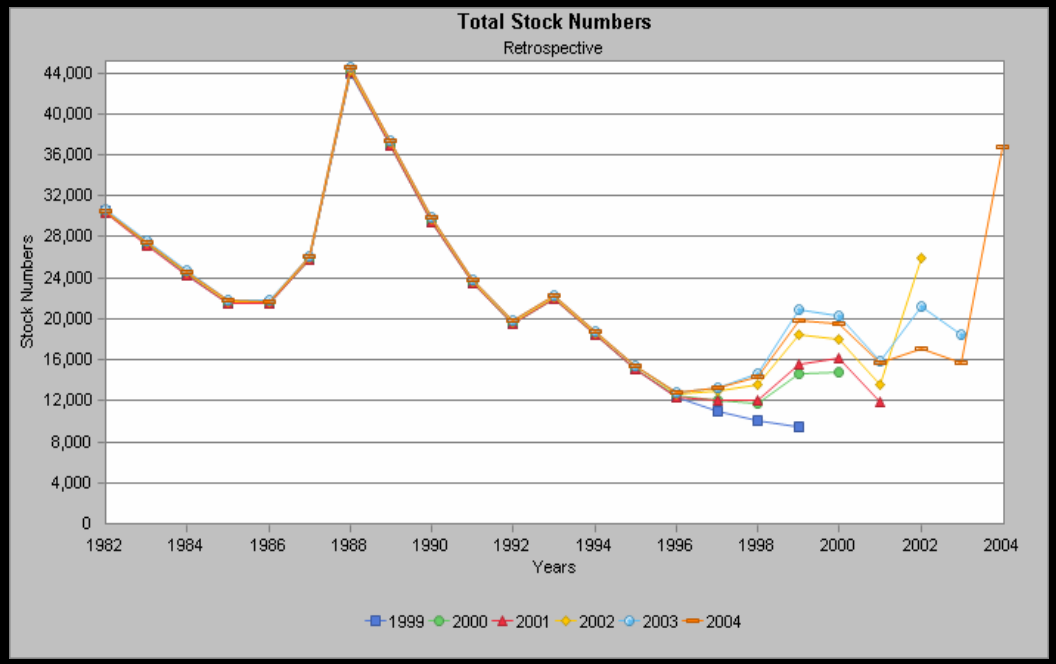


Model 3 abundance

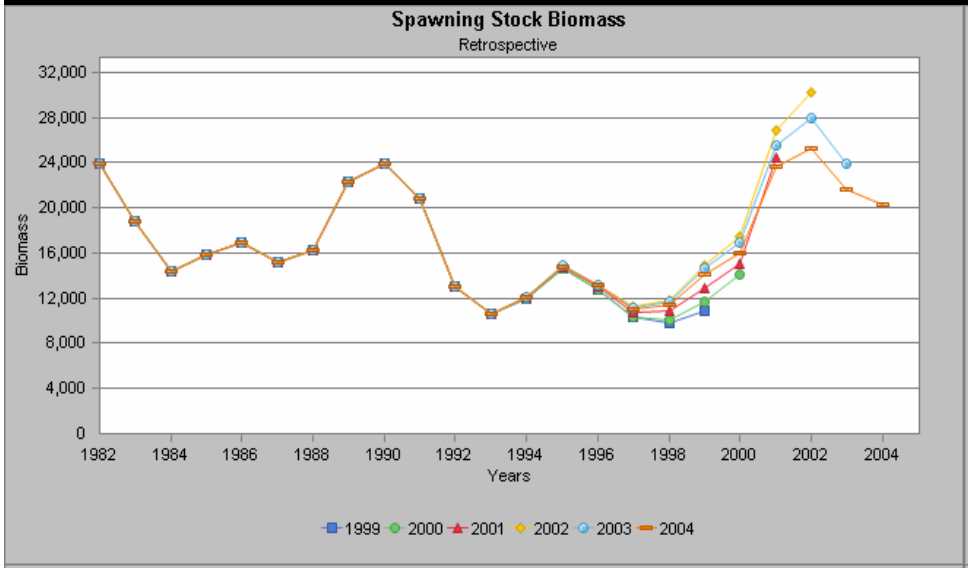


Model 4
abundance

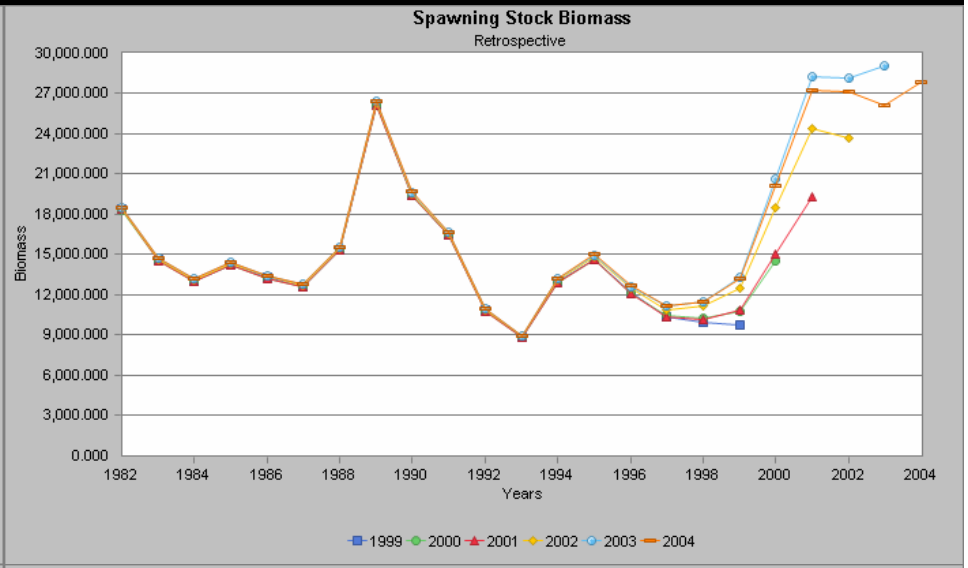
Model 5
abundance

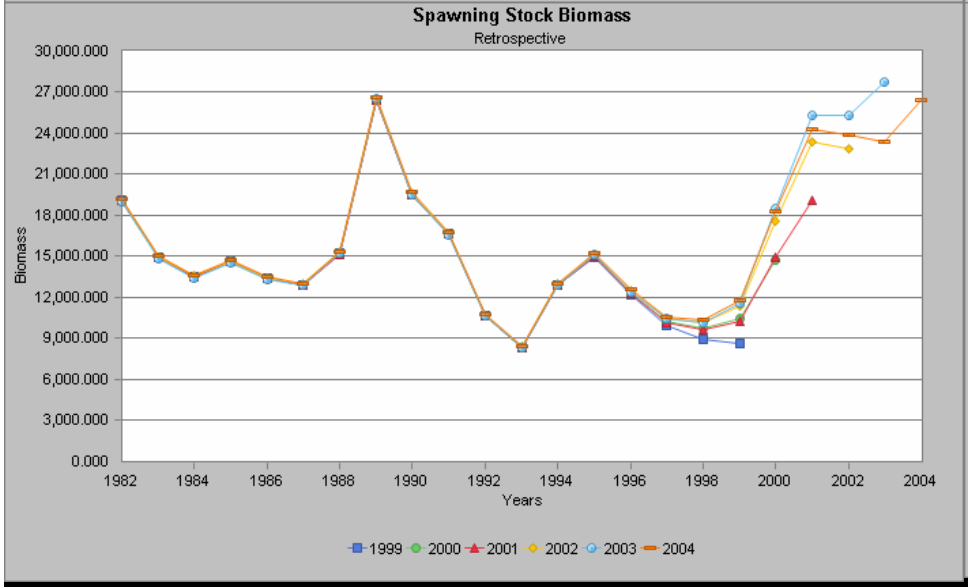


VPA SSB

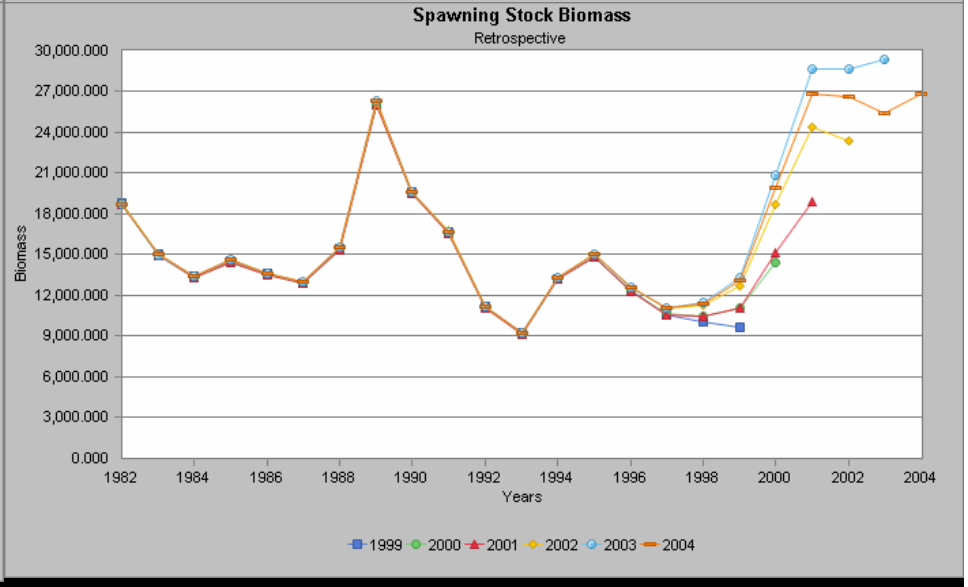


Model 2 SSB

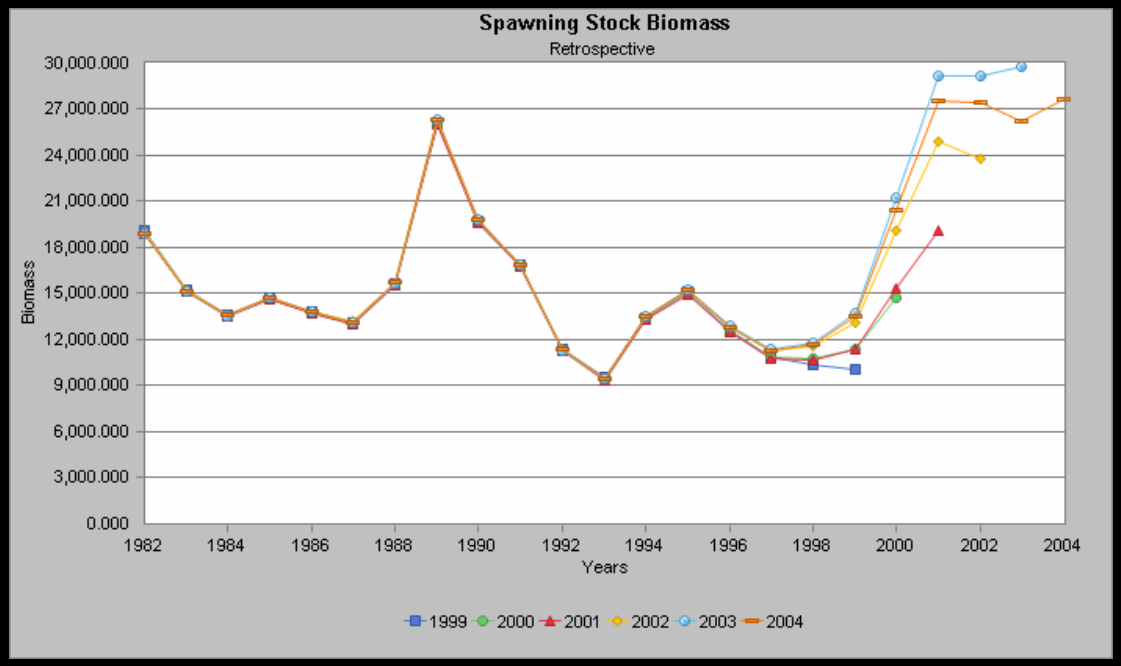




Model 1 SSB

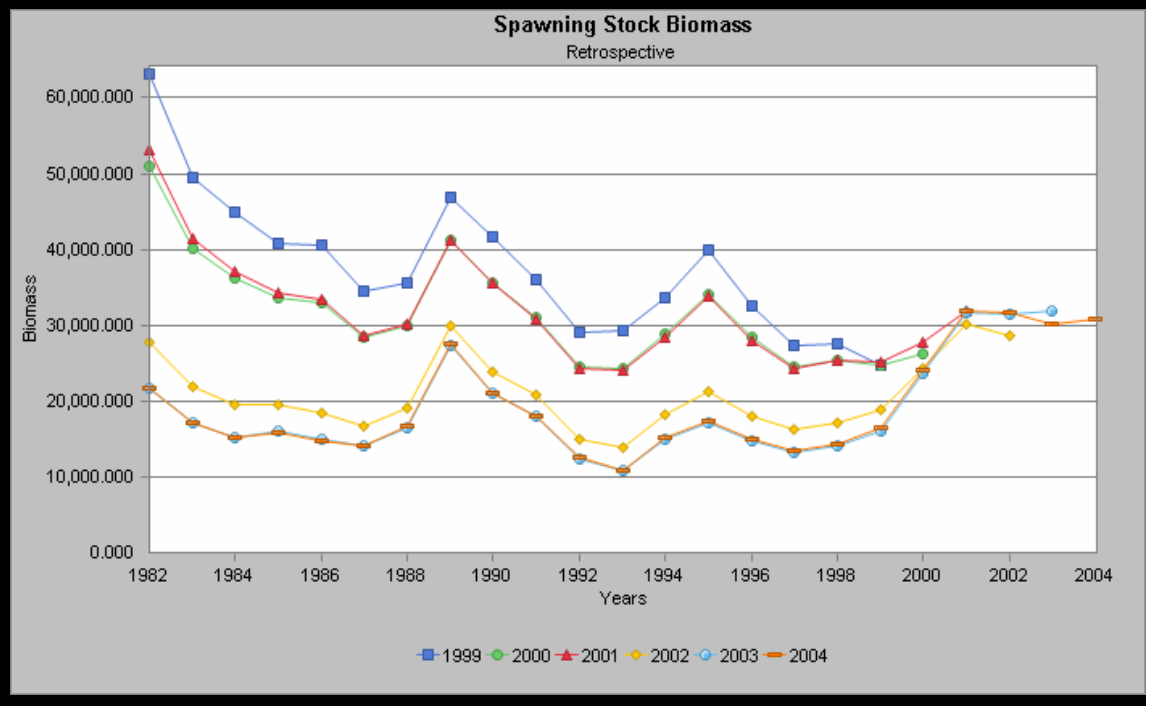


Model 3 SSB



Model 4 SSB

Model 5 SSB



Conclusions:

- ASAP model provides a viable alternative to the VPA model.

- Single logistic selectivity model appears to appropriate.

- Retrospective issues remain