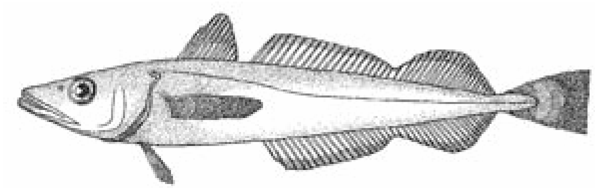
Stock Assessment of Pacific Hake, *Merluccius productus*, (a.k.a. Whiting) in U.S. and Canadian Waters in 2009



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3/16/2009

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Executive Summary

Stock

This assessment reports the status of the coastal Pacific hake (or Pacific whiting, *Merluccius productus*) resource off the west coast of the United States and Canada. The coastal stock of Pacific hake is currently the most abundant groundfish in the California Current system. Smaller populations of hake occur in the major inlets of the northeast Pacific Ocean, including the Strait of Georgia, Puget Sound, and the Gulf of California. However, the coastal stock is distinguished from the inshore populations by larger body size and seasonal migratory behavior. The coastal population is modeled as a single stock, but the United States and Canadian fishing fleets are treated separately in order to capture some of the spatial variability in Pacific hake distribution, size- and age-structure, as well as fishery selectivity.

Catches

Coast-wide fishery landings of Pacific hake averaged 222 thousand mt from 1966 to 2008, with a low of 90 thousand mt in 1980 and a peak of 361 thousand mt in 2006. Recent coast-wide landings have continued to be above the long term average, at approximately 297 and 322 thousand mt in 2007 and 2008, respectively. Landings were predominately comprised of fish from the large 1999 year class in 2007, and from that year class along with the emergent 2005 year class in 2008. The United States has averaged 166 thousand mt, or 74.7% of the total landings over the time series, with Canadian catch averaging 56 thousand mt. The 2007 and 2008 landings had similar national distributions, with 75.6% and 77.0%, respectively, harvested by the United States fishery. The current model ignores discarding of Pacific hake outside of the target fishery, where discard has been included in landings estimates; the terms catch and landings are therefore used interchangeably; total discard is estimated to be less than 1% of landings and therefore is likely to be negligible.

Table a. Recent commercial fishery landings (1000s mt).

Year	US at-sea	US shore-based	US Tribal	US total	Canadian foreign and JV	Canadian shore-based	Canadian total	Total
1999	115	83	26	225	17	70	87	312
2000	116	86	7	208	16	6	22	231
2001	102	73	7	182	22	32	54	236
2002	63	46	23	132	0	51	51	183
2003	67	51	25	143	0	62	62	206
2004	90	89	31	210	59	65	124	335
2005	150	74	35	259	15	85	100	360
2006	134	97	35	267	14	80	94	361
2007	121	73	30	225	7	66	73[1]	297
2008	166	50	32	248	4	70	74	322

[1] This value for 2007 Canadian catch was reported to us after the STAR panel and too late to be included in the MCMC analysis. The value used in the assessment is 86 thousand mt. This small difference (13 thousand mt = ~4% of total estimated catch in 2007) should have very little effect in the results.

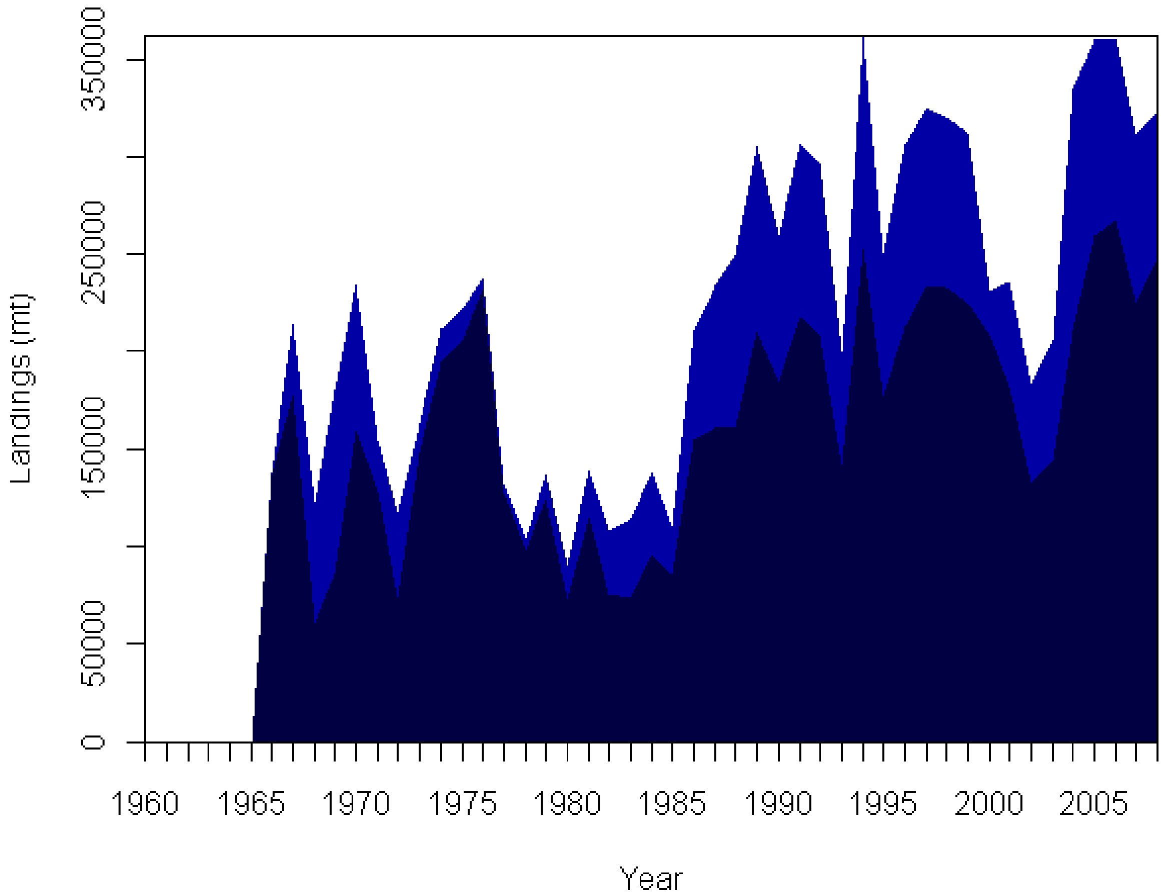

Figure a. Total Pacific hake landings used in the assessment by nation, 1960-2008 (Canadian landings are represented by the lighter region above the darker U.S. values).

Data and assessment

Age-structured assessment models of various forms have been used to assess Pacific hake since the early 1980's, using total fishery landings, fishery length and age compositions and survey abundance indices. The acoustic survey catchability coefficient (*q*) has been, and continues to be, one of the major sources of uncertainty in the model. From 2004 to 2007, assessments presented two models (which were assumed to be equally likely) in an attempt to bracket the range of uncertainty in *q*. In 2008, an effort was made to include the uncertainty in *q* as well as additional uncertainty regarding the acoustic survey selectivity and the natural mortality rate of older fish within a single model. This 2009 assessment model incorporates further uncertainty in the degree of recruitment variability as well as more flexible time-varying fishery selectivity. Uncertainty in acoustic survey catchability remains large, and is included in the base case model.

In 2006, the hake assessment model was converted from an ADMB model developed by Dorn (Dorn et al. 1998) to Stock Synthesis 2 (SS2, Methot, 2005). In the current (2009) model, conducted in SS v3.02b (Methot 2009), we have built upon the most recent model (Helser et al. 2008), adding new data and refining the modeling of ageing imprecision. New data in the 2009 assessment includes: Historical length data from Santa Barbara, California (1963-1970); 2008 catches from the U.S. and Canada; 2008 length and conditional age-at-length compositions from the U.S. and Canadian fisheries; and the 2008 juvenile index.

Stock biomass

The base model indicates that the Pacific hake female spawning biomass declined rapidly after a peak in 1984 (4.02 million mt) until 2000 (0.58 million mt). This long period of decline was followed by a brief increase to a peak of 1.39 million mt in 2003 as the large 1999 year class matured. In 2009 (beginning of year), spawning biomass is estimated to be the lowest in the time-series, 0.43 million mt, however this estimate is quite uncertain, with asymptotic 95% confidence intervals ranging from 0.20 to 0.67 million mt. This level equates to approximately 32% of the estimated unfished spawning biomass (SB_{zero}). Estimates of uncertainty in current relative depletion range from 15%-49% of unfished biomass. The estimate of spawning biomass for 2008 is 0.56 million mt, considerably lower than the estimate of 1.10 million mt from the 2008 assessment, reflecting a downward revision in the estimated absolute scale of the hake stock. However, the estimated 2008 depletion level of 41% is slightly higher than the 38% estimated by the 2008 assessment, reflecting a downward revision of the unexploited equilibrium conditions as well. The recent peak of spawning biomass in 2003 generated by the 1999 year class is now estimated to have reached 102% of the unexploited equilibrium whereas the estimate from the 2008 assessment was only 66% of that equilibrium level. These changes in the scale of the problem are mainly a function of increased flexibility in time-varying fishery selectivity and the improved ageing imprecision matrices, leading to revised year-class strengths for dominant cohorts. Unexploited equilibrium spawning biomass (SB_{zero}) is estimated to be 1.37 million mt (~95% confidence interval: 1.22-1.51).

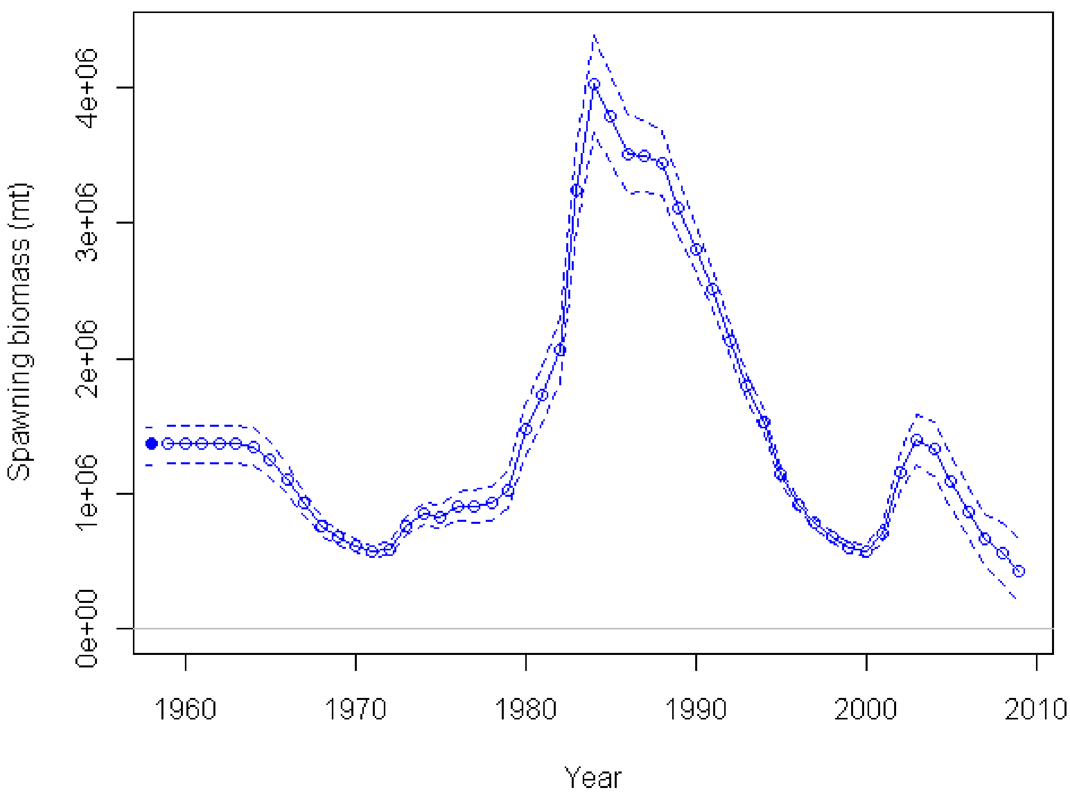

Figure b. Estimated female spawning biomass time-series with approximate asymptotic 95% confidence intervals.

Table b. Recent trend in estimated Pacific hake biomass and depletion level.

Year	Total biomass (million mt)	Age 3+ biomass (million mt)	Female spawning biomass (million mt)	~95% confidence interval	Estimated depletion	~95% confidence interval
2000	2.12	1.22	0.58	0.53 - 0.62	42%	37% - 47%
2001	2.98	1.37	0.71	0.64 - 0.78	52%	45% - 59%
2002	3.23	3.12	1.16	1.02 - 1.31	85%	73% - 98%
2003	3.19	3.05	1.39	1.21 - 1.58	102%	86% - 118%
2004	2.89	2.82	1.33	1.14 - 1.53	98%	82% - 114%
2005	2.45	2.21	1.10	0.91 - 1.28	80%	65% - 95%
2006	2.00	1.85	0.87	0.68 - 1.06	64%	49% - 78%
2007	1.67	1.34	0.66	0.47 - 0.86	49%	34% - 63%
2008	1.37	1.27	0.56	0.33 - 0.78	41%	25% - 57%
2009	1.14	0.92	0.43	0.20 - 0.67	32%	15% - 49%

Recruitment

Estimates of historical Pacific hake recruitment indicate a very large year class in 1980. Secondary large recruitment events occurred in 1977, 1984 and 1999, with 1970, 1973, 1987, 1990 and 2005 being substantially larger than adjacent years. The 1999 year class was estimated to be the largest in 15 years (12.32 billion, 95% interval: 10.79 - 14.07 billion) and has supported fishery catches since 2002. Uncertainty in estimated recruitments is substantial, especially for recent years, as indicated by the asymptotic 95% confidence intervals. Recruitment to age 0 before 1962 is assumed to be equal to the long-term mean recruitment. Age-0 recruitment in 2005 appears promising but its magnitude is still very uncertain, as the 2005 year class has only been observed in the fishery for two seasons (2007-2008) and the acoustic survey for one season (2007). The fishery catch included some fish from the 2006 year class during the 2008 fishing season, but this recruitment has yet to be observed in the acoustic survey. Recruitments subsequent to 2007 are drawn exclusively from the stock-recruit curve, with correspondingly high levels of uncertainty.

Table c. Recent estimated trend in Pacific hake recruitment.

Year	Estimated recruitment (billions age-0)	~95% confidence interval
2000	0.46	0.38 - 0.56
2001	0.98	0.80 - 1.21
2002	0.01	<0.01 - 0.03
2003	1.64	1.20 - 2.23
2004	0.33	0.22 - 0.50
2005	2.39	1.50 - 3.81
2006	0.38	0.21 - 0.69
2007	1.03	0.15 - 6.94
2008	1.90	0.29 - 12.35
2009	1.86	0.29 - 12.10

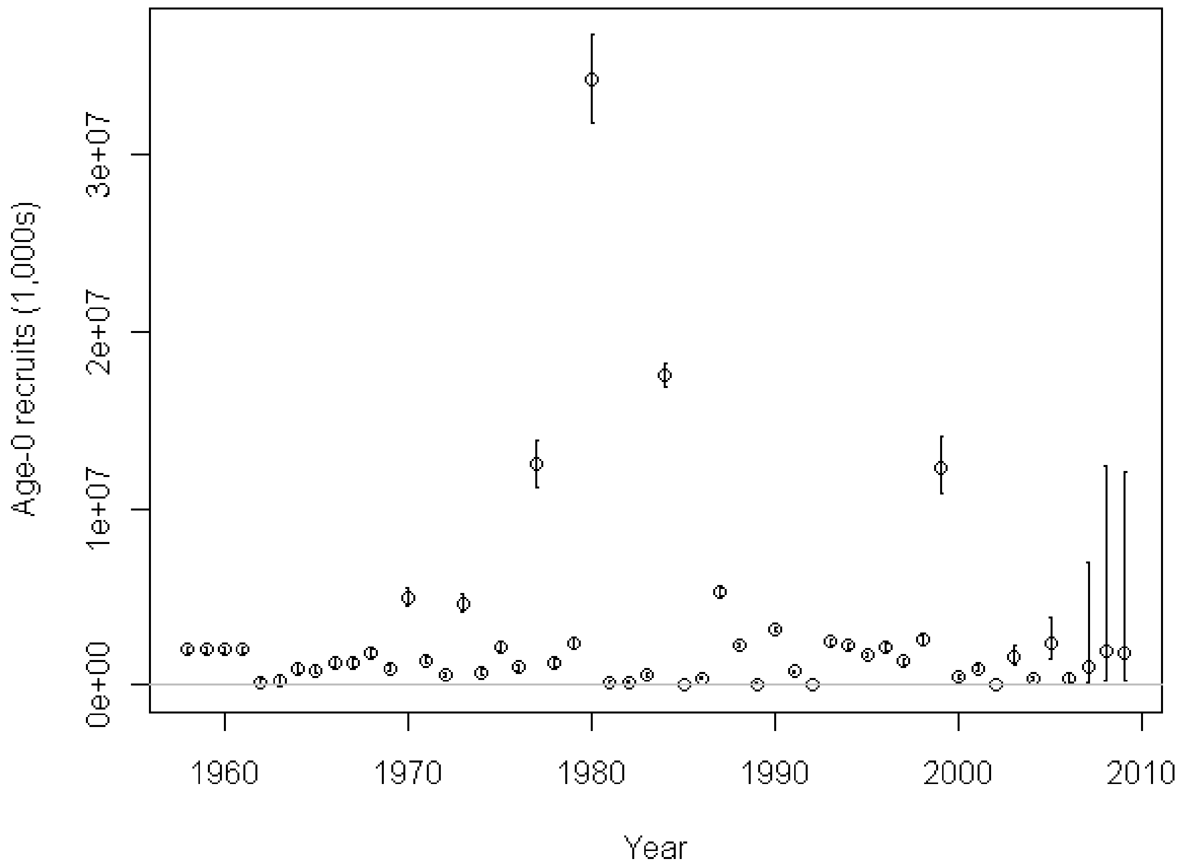

Figure c. Estimated recruitment time-series with approximate asymptotic 95% confidence intervals.

Reference points

Two types of reference points are reported in this assessment: those based on the population parameters at the beginning of the modeled time period and those based on the most recent time period in a 'forward projection' mode of calculation. This distinction is important since temporal variability in growth and other parameters can result in different biological reference point calculations across alternative chronological periods. All strictly biological reference points (e.g., unexploited spawning biomass) are calculated based on the unexploited conditions at the start of the model, whereas management quantities (MSY, SB_{msy}, etc.) are based on the current growth and maturity schedules and are marked throughout this document with an asterisk (*).

Unexploited equilibrium Pacific hake spawning biomass (SB_{zero}) is estimated to be 1.37 million mt (~ 95% confidence interval: 1.22-1.51 million mt), with a mean expected recruitment of 1.99 billion age-0 hake (~ 95% confidence interval: 1.80-2.21). Associated management reference points for target and critical biomass levels based on $SB_{40\%}$ proxy are 0.55 million mt (B40%) and 0.34 million mt (B25%), respectively. MSY is estimated to be 287,805* mt, produced by a female spawning biomass of 296,241* mt, and reflecting the high value (0.88) estimated for steepness of the stock-recruit curve. The equilibrium $F_{MSY\text{-}proxy}$ harvest rate (F40%) yield under the base model is estimated to be 270,563* mt, occurring at a spawning biomass of

466,466* mt. The biomass-based target ($SB_{40\%}$) equilibrium yield is estimated to be 254,359* mt, occurring at a spawning biomass of 546,335* mt given current life history parameters.

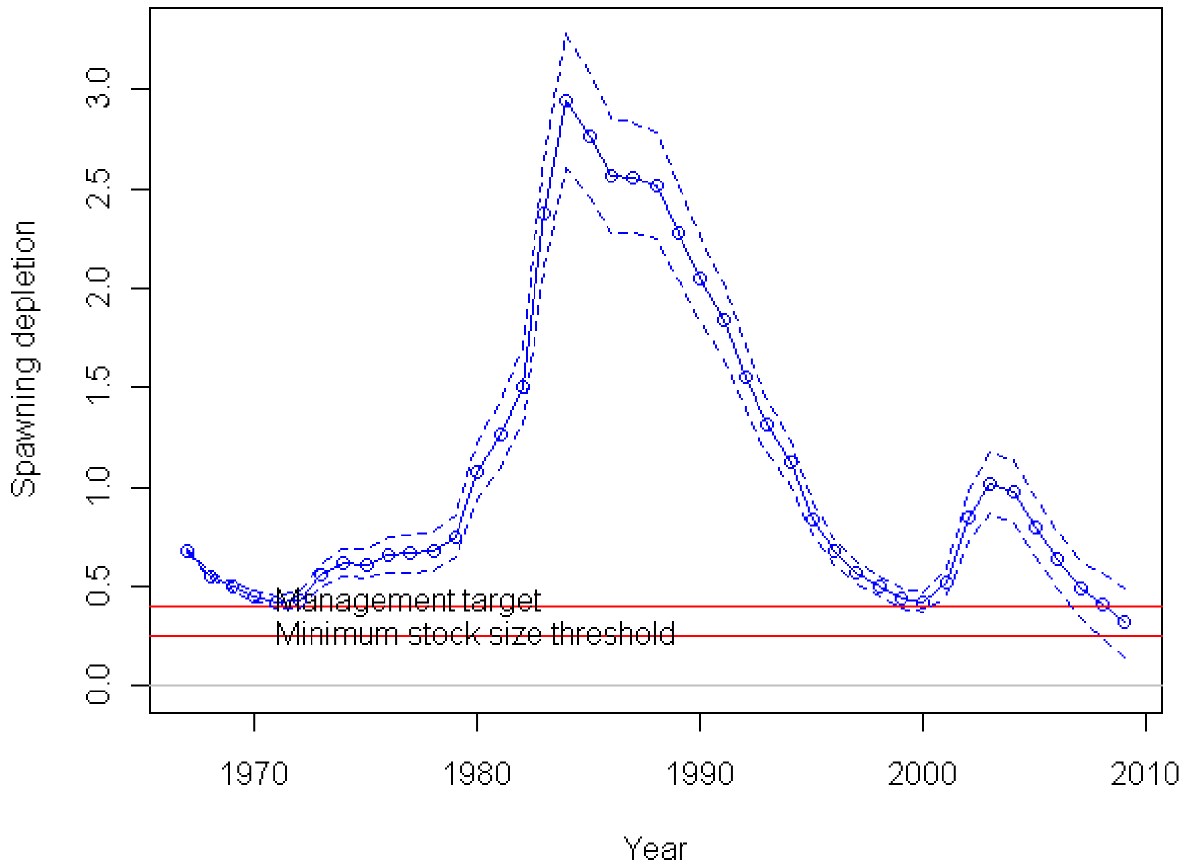

Figure d. Time-series of estimated depletion, 1967-2009.

Exploitation status

The relative spawning potential ratio (1-SPR) for Pacific hake has been below the proxy target of 40% for the history of this fishery, but the ratio is uncertain and approaching 1.0 in recent years. Pacific hake are presently in the precautionary zone with regard to biomass level (32% unfished biomass in 2009) and slightly below, at 95% of (in 2008), the target SPR rate. The full exploitation history in terms of both the biomass and F targets is portrayed graphically via a phase-plot.

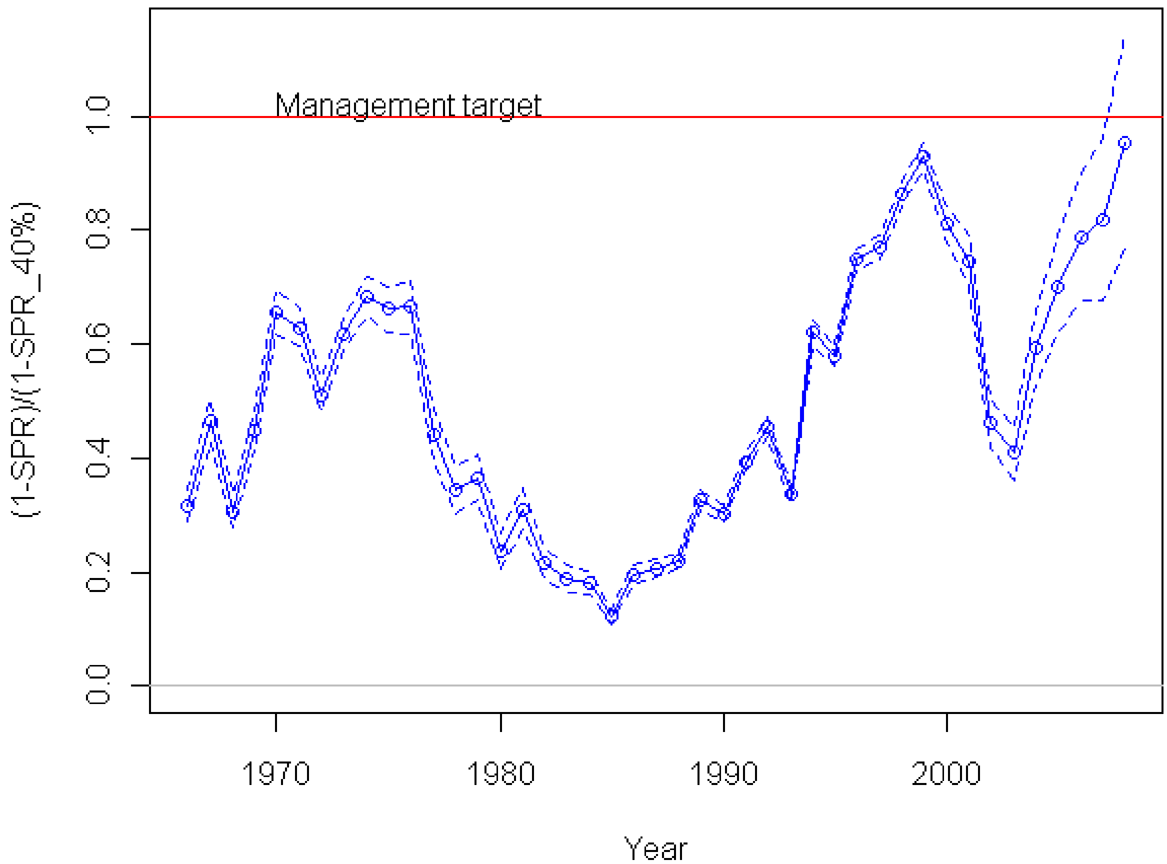

Figure e. Recent trend in relative spawning potential ratio (1-SPR/1-SPR$_{Target=0.4}$).

Table d. Recent trend in relative spawning potential ratio (1-SPR/1-SPR$_{Target=0.4}$) and exploitation fraction (catch/3+biomass). Values for 2009 are part of the forecast results.

Year	Relative SPR ratio	~95% confidence interval	Exploitation fraction	~95% confidence interval
1999	0.93	0.91 - 0.96	0.23	0.21 - 0.24
2000	0.81	0.78 - 0.84	0.19	0.17 - 0.20
2001	0.75	0.70 - 0.79	0.17	0.16 - 0.19
2002	0.46	0.42 - 0.50	0.06	0.05 - 0.07
2003	0.41	0.36 - 0.46	0.07	0.06 - 0.08
2004	0.59	0.53 - 0.66	0.12	0.10 - 0.14
2005	0.70	0.62 - 0.79	0.16	0.13 - 0.19
2006	0.79	0.68 - 0.90	0.19	0.15 - 0.24
2007	0.82	0.68 - 0.96	0.23	0.17 - 0.30
2008	0.95	0.77 - 1.14	0.25	0.15 - 0.36

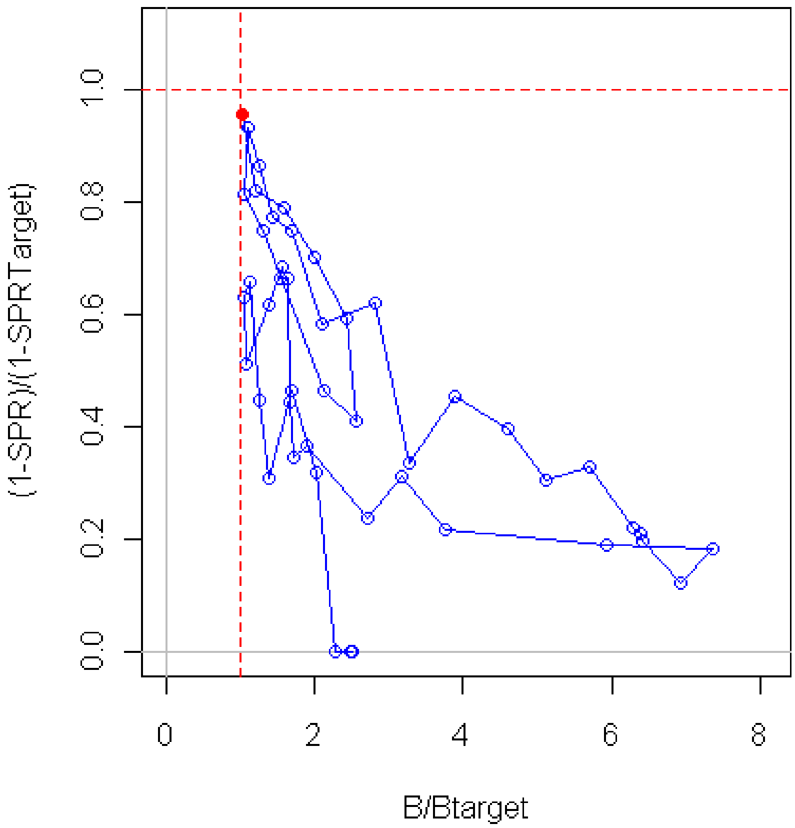

Figure f. Temporal pattern (phase plot) of relative spawning potential ratio ($1\text{-SPR}/1\text{-SPR}_{Target=0.4}$) vs. estimated spawning biomass relative to the proxy 40% level, 1960-2008. The filled circle denotes 2008 and the line connects years through the time-series.

Management performance

Since implementation of the Magnuson-Stevens Fishery Conservation and Management Act in the U.S. and the declaration of a 200 mile fishery conservation zone in Canada in the late 1970's, annual quotas have been the primary management tool used to limit the catch of Pacific hake in both zones by foreign and domestic fisheries. Scientists from both countries have collaborated through the Technical Subcommittee of the Canada-US Groundfish Committee (TSC), and there has been informal agreement on the adoption of an annual fishing policy. During the 1990s, however, disagreement between the U.S. and Canada on the division of the acceptable biological catch (ABC) between the two countries led to quota overruns; 1991-1992 quotas summed to 128% of the ABC and quota overruns averaged 114% from 1991-1999. Since 2000, total catches have been below coast-wide ABCs. A recent treaty between the United States and Canada (2003), which has not yet been fully implemented, establishes U.S. and Canadian shares of the coast-wide allowable biological catch at 73.88% and 26.12%, respectively.

In recent years, failure to extract the entire OY available to the fishery in U.S. waters has been a result of extremely restrictive bycatch limits on overfished rockfish species, particularly widow and canary rockfishes. In 2008, there was a voluntary ‘stand-down’ during the season as the fleet approached the bycatch limit, and the fishery was subsequently shut down when the limit was reached. Reallocation of quota in the fall, when bycatch levels tend to be lower, allowed for the U.S. fishery to achieve 92% of its OY.

Table e. Recent trend in Pacific hake management performance.

Year	Total landings (mt)	Coast-wide (U.S. + Canada) OY (mt)	Coast-wide (U.S. + Canada) ABC (mt)
1999	311,855	290,000	290,000
2000	230,820	290,000	290,000
2001	235,962	238,000	238,000
2002	182,911	162,000	208,000
2003	205,582	228,000	235,000
2004	334,672	501,073	514,441
2005	359,661	364,197	531,124
2006	360,683	364,842	661,680
2007	297,098	328,358	612,068
2008	322,017	364,842	400,000

Unresolved problems and major uncertainties

The acoustic survey catchability, *q*, and selectivity remain uncertain and the model results are quite sensitive to estimated values. This is largely driven by an inconsistency in the acoustic survey biomass time series and age compositions. Age-composition data suggest a large build up of stock biomass in the mid-1980s, however the acoustic survey biomass time series is relatively flat since 1977. Efforts are underway to reanalyze the historical acoustic survey time-series and provide annual variance estimates, and evaluate target-strength relationships, the sum of which could provide more information for the 2010 assessment.

Forecasts

Forecasts are generated applying the 40:10 control rule and coast-wide catch allocation of 73.88% and 26.12% to the U.S. and Canada, respectively to maximum likelihood results. Extremely wide confidence intervals for forecast quantities reflect uncertainty in recent and future year-class strengths as well as current biomass levels. Alternative management actions are presented in a decision table based on MCMC integration of the posterior distribution for model quantities.

Table f. Three-year projections of maximum likelihood-based Pacific hake ABC, OY, spawning biomass and depletion for the base case model based on the 40:10 harvest control rule and the $F_{40\%}$ overfishing limit/target.

Year	ABC (mt)	OY (mt)	Female spawning biomass (millions mt)	~95% confidence interval	Estimated depletion	~95% confidence interval
2009	291,965	253,582	0.43	0.20 - 0.67	32%	15% - 49%
2010	238,866	193,109	0.36	0.10 – 0.62	26%	7% - 45%
2011	227,178	189,054	0.36	<0.01 – 0.74	27%	<1% - 53%

Table g. Decision table with three year projections of posterior distributions for Pacific hake female spawning biomass, depletion (both of these at the beginning of the year, before fishing takes place) and relative spawning potential ratio (1-SPR/1-$SPR_{Target=0.4}$; values greater than 1.0 denote overfishing). Catch alternatives are based on: 1) arbitrary constant catch levels of 50,000, 100,000, 150,000 and 200,000 mt (rows a, b, d, and f); 2) the values estimated via the 40:10 harvest control rule and the $F_{40\%}$ overfishing limit/target for the base case MLE model (row h; from Table f above), and catch streams representing upper and lower quartiles of depletion from the MLE variance estimate (rows c and i); 3) the approximate 40:10 policy rule applied to the median of the full posterior (MCMC) distribution for 2009 (row g); and 4) the catch level that would be risk neutral in terms of avoiding being overfished (depletion >25%) in 2010 (row e).

Management Action			States of nature														
			Female spawning biomass (millions mt) posterior interval					Estimated depletion posterior interval					Relative spawning potential ratio posterior interval				
	Year	Catch	5th	25th	50th	75th	95th	5th	25th	50th	75th	95th	5th	25th	50th	75th	95th
a	2009	50,000	0.25	0.33	0.40	0.48	0.64	18%	24%	29%	34%	46%	0.24	0.31	0.36	0.42	0.52
	2010	50,000	0.23	0.33	0.41	0.50	0.69	17%	24%	29%	36%	49%	0.22	0.29	0.34	0.41	0.52
	2011	50,000	0.24	0.33	0.43	0.56	0.90	17%	24%	31%	40%	64%	0.19	0.27	0.33	0.40	0.51
b	2009	100,000	0.25	0.33	0.40	0.48	0.64	18%	24%	29%	34%	46%	0.43	0.52	0.60	0.68	0.81
	2010	100,000	0.21	0.31	0.38	0.48	0.66	15%	22%	28%	34%	47%	0.40	0.52	0.60	0.70	0.86
	2011	100,000	0.20	0.29	0.39	0.52	0.86	14%	21%	28%	37%	61%	0.37	0.50	0.60	0.72	0.89
c	2009	137,526	0.25	0.33	0.40	0.48	0.64	18%	24%	29%	34%	46%	0.54	0.65	0.73	0.82	0.96
	2010	131,109	0.19	0.29	0.37	0.46	0.65	14%	21%	26%	33%	46%	0.51	0.64	0.74	0.84	1.02
	2011	156,111	0.17	0.26	0.36	0.49	0.83	12%	19%	26%	35%	59%	0.53	0.70	0.82	0.96	1.14
d	2009	150,000	0.25	0.33	0.40	0.48	0.64	18%	24%	29%	34%	46%	0.57	0.69	0.77	0.86	1.00
	2010	150,000	0.19	0.28	0.36	0.45	0.64	14%	21%	26%	33%	46%	0.56	0.70	0.80	0.91	1.09
	2011	150,000	0.16	0.25	0.34	0.48	0.82	11%	18%	25%	34%	58%	0.52	0.70	0.82	0.97	1.16
e	2009	184,000	0.25	0.33	0.40	0.48	0.64	18%	24%	29%	34%	46%	0.65	0.77	0.86	0.95	1.08
	2010	184,000	0.17	0.27	0.35	0.48	0.63	13%	19%	25%	31%	45%	0.65	0.80	0.91	1.02	1.20
	2011	184,000	0.13	0.22	0.32	0.45	0.79	9%	16%	23%	32%	56%	0.62	0.81	0.95	1.10	1.31
f	2009	200,000	0.25	0.33	0.40	0.48	0.64	18%	24%	29%	34%	46%	0.69	0.81	0.90	0.98	1.12
	2010	200,000	0.17	0.26	0.34	0.43	0.62	12%	19%	24%	31%	44%	0.69	0.85	0.96	1.07	1.25
	2011	200,000	0.12	0.21	0.30	0.43	0.78	8%	15%	22%	31%	56%	0.66	0.86	1.00	1.16	1.37
g	2009	215,000	0.25	0.33	0.40	0.48	0.64	18%	24%	29%	34%	46%	0.71	0.84	0.93	1.02	1.15
	2010	215,000	0.16	0.25	0.33	0.42	0.61	12%	18%	24%	30%	44%	0.73	0.89	1.00	1.11	1.29
	2011	215,000	0.11	0.19	0.29	0.42	0.77	7%	14%	21%	30%	55%	0.70	0.91	1.05	1.22	1.43
h	2009	253,582	0.25	0.33	0.40	0.48	0.64	18%	24%	29%	34%	46%	0.79	0.91	1.00	1.09	1.22
	2010	193,109	0.14	0.24	0.32	0.41	0.60	10%	17%	23%	29%	43%	0.69	0.86	0.98	1.10	1.29
	2011	189,054	0.10	0.19	0.28	0.42	0.76	7%	14%	21%	30%	54%	0.65	0.86	1.01	1.18	1.40
i	2009	365,784	0.25	0.33	0.40	0.48	0.64	18%	24%	29%	34%	46%	0.95	1.07	1.15	1.23	1.35
	2010	256,993	0.09	0.18	0.27	0.36	0.55	7%	14%	19%	25%	39%	0.85	1.04	1.17	1.30	1.45
	2011	222,901	0.04	0.12	0.21	0.34	0.69	3%	9%	15%	25%	50%	0.77	1.02	1.20	1.38	1.46

Research and data needs

1) Reanalyze the historical acoustic survey time-series and calculate annual variance estimates incorporating uncertainties in spatial variability, sampling variability and target strength uncertainty.

2) Evaluate a sex-specific model and use of split-sex selectivity for the survey and the U.S. and Canadian fisheries.

3) Evaluate whether modeling the distinct at-sea and shore-based fisheries in the U.S. and Canada resolves some lack of fit in the compositional data.

4) Investigate aspects of the life history characteristics for Pacific hake and their possible effects on the interrelationship of growth rates and maturity at age. This should include additional data collection of maturity states and fecundity, as current information is limited.

5) Evaluate the quantity and quality of biological data prior to 1988 from the Canadian fishery for use in developing length and conditional age-at-length compositions.

6) Compare spatial distributions of hake across all years and between bottom trawl and acoustic surveys to estimate changes in catchability/availability across years. The two primary issues are related to the changing spatial distribution of the survey as well as the environmental factors that may be responsible for changes in the spatial distribution of hake and their influences on survey catchability and selectivity.

7) Develop an informed prior for the acoustic q. This could be done either with empirical experiments (particularly in off-years for the survey) or in a workshop format with technical experts. There is also the potential to explore putting the target strength estimation in the model directly. This prior should be used in the model when estimating the q parameter.

8) Conduct further exploration of ageing imprecision and the effects of large cohorts via simulation and blind source age-reading of samples with differing underlying age distributions – with and without dominant year classes.

9) Investigate alternative methods of parameterizing as well as alternative time blocking and/or restricted annual changes for fishery selectivity. Investigate reasons for changes in selectivity over time to validate estimated selectivity patterns.

10) Develop alternative indices for juvenile or young (1 and/or 2 year old) Pacific hake. Collect and investigate use of data on bycatch in shrimp fishery as early indicator of year class strength.

Table h. Summary of recent trends in Pacific hake exploitation and stock levels; all values reported at the beginning of the year.

Quantity	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Coast-wide landings (mt)	230,820	235,962	182,911	205,582	334,672	359,661	360,683	297,098	322,017	NA
ABC (mt)	290,000	238,000	208,000	235,000	514,441	531,124	661,680	612,068	400,000	NA
OY (1000s mt)	290,000	238,000	162,000	228,000	501,073	364,197	364,842	328,358	364,842	NA
Relative SPR: (1-SPR/1-$SPR_{Target=0.4}$)	0.81	0.75	0.46	0.41	0.59	0.7	0.79	0.82	0.95	NA
~95% interval	0.78 - 0.84	0.70 - 0.79	0.42 - 0.50	0.36 - 0.46	0.53 - 0.66	0.62 - 0.79	0.68 - 0.90	0.68 - 0.96	0.77 - 1.14	NA
Total biomass (millions mt)	2.12	2.98	3.23	3.19	2.89	2.45	2.00	1.67	1.37	1.14
3+ biomass (millions mt)	1.22	1.37	3.12	3.05	2.82	2.21	1.85	1.34	1.27	0.92
Spawning biomass (millions mt)	0.58	0.71	1.16	1.39	1.33	1.10	0.87	0.66	0.56	0.43
~95% interval	0.53 - 0.62	0.64 - 0.78	1.02 - 1.31	1.21 - 1.58	1.14 - 1.53	0.91 - 1.28	0.68 - 1.06	0.47 - 0.86	0.33 - 0.78	0.20 - 0.67
Recruitment (billions age-0)	0.46	0.98	0.01	1.64	0.33	2.39	0.38	1.03	1.9	1.86
~95% interval	0.38 - 0.56	0.80 - 1.21	<0.01 - 0.03	1.20 - 2.23	0.22 - 0.50	1.50 - 3.81	0.21 - 0.69	0.15 - 6.94	0.29 - 12.35	0.29 - 12.10
Depletion	42%	52%	85%	102%	98%	80%	64%	49%	41%	32%
~95% interval	37% - 47%	45% - 59%	73% - 98%	86% - 118%	82% - 114%	65% - 95%	49% - 78%	34% - 63%	25% - 57%	15% - 49%

Table i. Summary of Pacific hake reference points. *MSY related values reflect current growth patterns.

Quantity	Estimate	~95% Confidence interval
Unfished female spawning biomass (SB_0, millions mt)	1.37	1.22-1.51
Unfished total biomass (millions mt)	3.23	NA
Unfished 3+ biomass (millions mt)	2.87	NA
Unfished recruitment (R_0, billions)	1.99	1.80-2.21
Reference points based on $SB_{40\%}$		
MSY Proxy female spawning biomass ($SB_{40\%}$ mt)	546,335	489,456 – 603,214
SPR resulting in $SB_{40\%}$ ($SPR_{SB40\%}$)	0.46	0.43 – 0.50
Exploitation fraction resulting in $SB_{40\%}$	0.21	0.18 – 0.23
Yield with $SPR_{SB40\%}$ at $SB_{40\%}$ (mt)	254,359	212,930 – 295,788
Reference points based on SPR proxy for MSY		
Female spawning biomass at SPR (SB_{SPR} mt)	466,466	396,733 – 536,198
$SPR_{MSY\text{-}proxy}$	0.40	NA
Exploitation fraction corresponding to SPR	0.26	NA
Yield with $SPR_{MSY\text{-}proxy}$ at SB_{SPR} (mt)	270,563	229,717 – 311,409
Reference points based on estimated MSY values		
Female spawning biomass at *MSY* (SB_{MSY} mt)	296,241	185,212 – 407,269
SPR_{MSY}	0.27	0.14 – 0.40
Exploitation fraction corresponding to SPR_{MSY}	0.42	0.20 – 0.64
MSY (mt)	287,805	222,140 – 353,470

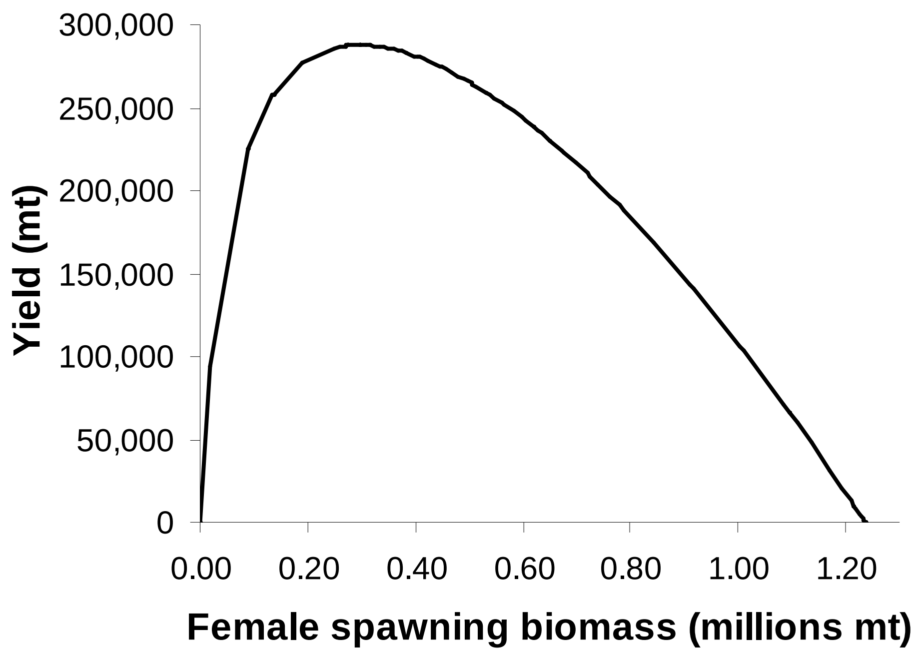

Figure h. Equilibrium yield curve for the base case model. Note that values will differ from table h above where iteration was performed to ensure that the U.S.-Canadian catch allocation was maintained.

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INTRODUCTION

The Joint US-Canada treaty on Pacific Hake was formally ratified by the United States as part of the reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act. As of this writing the treaty has not been fully implemented. Under this treaty Pacific hake (a.k.a. Pacific whiting) stock assessments are to be prepared by the Hake Technical Working Group comprised of U.S. and Canadian scientists and reviewed by a Scientific Review Group (SRG), with memberships as appointed by both parties to the agreement. While these entities have not been formally established by either nation, the 2008 assessment was cooperatively prepared by an ad hoc Technical Committee. The US and Canadian scientists met three times for the purposes of data exchange and discussion of major issues and modeling activity in preparation for the final review. The current (2009) assessment, which represents the work of a U.S. technical team, retains the basic structure of the 2008 assessment, while a number of issues were examined more deeply than had been possible in 2008. A more extensive exploration of the assessment model and data is anticipated as part of the 2010 assessment.

Prior to 1997, separate Canadian and U.S. assessments were submitted to each nation's assessment review process. This practice resulted in differing yield options being forwarded to each country's managers for this shared trans-boundary fish stock. Multiple interpretations of Pacific hake status made it difficult to coordinate an overall management policy. To address this problem, the working group agreed in 1997 to present scientific advice in a single collaborative assessment, with agreement officially formalized in 2003. To further advance the coordination of scientific advice on Pacific hake, the current assessment report was submitted to the Pacific Council's Stock Assessment review process for technical review in fulfillment of the agreement and to satisfy the management responsibilities of the U.S. Pacific Fisheries Management Council (PFMC). The Review Group meeting was held in Seattle, WA at the Hotel Deca, Feb 3 - 6, 2009.

Stock Structure and Life History

Pacific hake (*Merluccius productus*), also referred to as Pacific whiting, is a semi-pelagic schooling species distributed along the west coast of North America generally ranging from 25^0 N. to 51^0 N. latitude. It is among 13 species of hake from the genus, *Merluccidae*, which are distributed worldwide in both hemispheres of the Atlantic and Pacific Oceans and collectively have constituted nearly two million mt of catch annually (Alheit and Pitcher 1995). The coastal stock of Pacific hake is currently the most abundant groundfish population in the California Current system. Smaller populations of this species occur in the major inlets of the North Pacific Ocean, including the Strait of Georgia, Puget Sound, and the Gulf of California. Electrophoretic studies indicate that Strait of Georgia and the Puget Sound populations are genetically distinct from the coastal population (Utter 1971). Genetic differences have also been found between the coastal population and hake off the west coast of Baja California (Vrooman and Paloma 1977). The coastal stock is also distinguished from the inshore populations by larger body size and seasonal migratory behavior.

The coastal stock of Pacific hake typically ranges from the waters off southern California to Queen Charlotte Sound. Distributions of eggs, larvae, and infrequent observations of spawning aggregations indicate that Pacific hake spawning occurs off south-central California during January-March. Due to the difficulty of locating major offshore spawning concentrations, details of spawning behavior of hake remains poorly understood (Saunders and McFarlane 1997). In spring, adult Pacific hake migrate onshore and to the north to feed along the continental shelf and slope from northern California to Vancouver Island. In summer, Pacific hake form extensive midwater aggregations in association with the continental shelf break, with highest densities located over bottom depths of 200-300 m (Dorn 1991, 1992). Pacific hake feed on euphausiids, pandalid shrimp, and pelagic schooling fish (such as eulachon and Pacific herring) (Livingston and Bailey 1985). Larger Pacific hake become increasingly piscivorous, and Pacific herring are commonly a large component of hake diet off Vancouver Island. Although Pacific hake are cannibalistic, the geographic separation of juveniles and adults usually prevents cannibalism from being an important factor in their population dynamics (Buckley and Livingston 1997).

Older (age 5+), larger, and predominantly female hake exhibit the greatest northern migration each season. During El Niño events, a larger proportion of the stock migrates into Canadian waters, apparently due to intensified northward transport during the period of active migration (Dorn 1995, Agostini et al. 2006). El Niño conditions also result in range extensions to the north, as evidenced by reports of hake off of southeast Alaska during these warm water years. Throughout the warm period experienced in 1990s, there were changes in typical patterns of hake distribution. Spawning activity was recorded north of California. Frequent reports of unusual numbers of juveniles off of Oregon to British Columbia suggest that juvenile settlement patterns also shifted northwards in the late 1990s (Benson et al. 2002, Phillips et al. 2007). Because of this shift, juveniles may have been subjected to increased cannibalistic predation and fishing mortality. Subsequently, La Nina conditions in 2001 resulted in a southward shift in the stock's distribution, with a much smaller proportion of the population found in Canadian waters in the 2001 survey. Hake were distributed across the entire range of the survey in 2003, 2005 and 2007 (Figure 1) although absolute numbers decreased across those years.

Ecosystem Considerations

Pacific hake are an important contributor to ecosystem dynamics in the Eastern Pacific due to their relatively large total biomass and predatory behavior. The role of hake predation in the regulation of other groundfish species is likely to be important (Harvey et al. 2008), although difficult to measure. Hake migrate farther north during the summer during relatively warm water years and their local ecosystem role therefore differs year-to-year depending on environmental conditions. Recent research indicates that hake distributions may be growing more responsive to temperature, and that spawning and juvenile hake may be occurring farther north (Phillips et al. 2007; Ressler et al. 2007). Given long-term climate-change projections and changing distributional patterns, considerable uncertainty exists in any forward projections of stationary stock productivity and dynamics.

Hake are also important prey items for many piscivorous species including lingcod and jumbo flying squid. In recent years, the lingcod stock has rebuilt rapidly from an overfished level and jumbo flying squid appear to have substantially extended their range northward from more tropical waters to the west coast of North America. Although the relative biomass of these squid and the cause of this range extension are unknown, squid predation on pacific hake is likely to have increased substantially. There is evidence from the Chilean hake (a similar gadid species) fishery that squid may have a large and adverse impact on abundance, due to direct predation of individuals of all sizes.

Fisheries

The fishery for the coastal population of Pacific hake occurs primarily during April-November along the coasts of northern California, Oregon, Washington, and British Columbia. The fishery is conducted almost exclusively with midwater trawls. Most fishing activity occurs over bottom depths of 100-500 m, while offshore extensions of fishing activity have occurred in recent years to prevent bycatch of depleted rockfish and salmon. The history of the coastal hake fishery is characterized by rapid changes brought about by the development of substantial foreign fisheries in 1966, joint-venture fisheries by the early 1980's, and domestic fisheries in 1990's (Table 1).

Large-scale harvesting of Pacific hake in the U.S. zone began in 1966 when factory trawlers from the Soviet Union began targeting Pacific hake. During the mid 1970's, factory trawlers from Poland, Federal Republic of Germany, the German Democratic Republic and Bulgaria also participated in the fishery. During 1966-1979, the catch in U.S. waters is estimated to have averaged 137,000 t per year (Table 1, Figure 2). A joint-venture fishery was initiated in 1978 between two U.S. trawlers and Soviet factory trawlers acting as mother ships (the practice where the catch from several boats is brought back to the larger, slower ship for processing and storage until the return to land). By 1982, the joint-venture catch surpassed the foreign catch, and by 1989, the U.S. fleet capacity had grown to a level sufficient to harvest the entire quota, and no foreign fishing was allowed, although joint-venture fisheries continued for another two years. In the late 1980's, joint ventures involved fishing companies from Poland, Japan, former Soviet Union, Republic of Korea and the People’s Republic of China.

Historically, the foreign and joint-venture fisheries produced fillets and headed and gutted products. In 1989, Japanese mother ships began producing surimi from Pacific hake, using a newly developed process to inhibit myxozoan-induced proteolysis. In 1990, domestic catcher-processors and mother ships entered the Pacific hake fishery in the U.S. zone. Previously, these vessels had engaged primarily in Alaskan pollock fisheries. The development of surimi production techniques for walleye pollock was expanded to include Pacific hake as a viable alternative. Similarly, shore-based processors of Pacific hake had been constrained by a limited domestic market for Pacific hake fillets and headed and gutted products. The construction of surimi plants in Newport and Astoria, Oregon, led to a rapid expansion of shore-based landings in the U.S. fishery in the early 1990's. In 1991, the joint-venture fishery for Pacific hake in the U.S. zone ended because of the increased level of participation by domestic catcher-processors and mother ships, and the growth of shore-based processing capacity. In contrast, Canada allocates a portion of the Pacific hake catch to joint-venture operations once shore-side capacity is filled.

The sectors involved in the Pacific hake fishery in Canada exhibit a similar historical pattern, although phasing out of the foreign and joint-venture fisheries has lagged a few years relative to the U.S. Since 1968, more Pacific hake have been landed than any other species in the groundfish fishery on Canada's west coast (Table 1). Prior to 1977, the fishing vessels from the former Soviet Union caught the majority of Pacific hake in the Canadian zone, with Poland and Japan accounting for much smaller landings. After declaration of the 200-mile extended fishing zone in 1977, the Canadian fishery was divided among shore-based, joint-venture, and foreign fisheries. In 1992, the foreign fishery ended, but the demand of Canadian shore-based processors remained below the available yield, thus the joint-venture fishery continues today, although no joint-venture fishery took place in 2002 or 2003. The majority of the shore-based landings of the coastal hake stock is processed into surimi, fillets, or mince by processing plants at Ucluelet, Port Alberni, and Delta, British Columbia. Although significant aggregations of hake are found as far north as Queen Charlotte Sound, in most years the fishery has been concentrated below 49° N. latitude off the south coast of Vancouver Island, where there are sufficient quantities of fish in proximity to processing plants.

Management of Pacific hake

Since implementation of the Magnuson-Stevens Fishery Conservation and Management Act in the U.S. and the declaration of a 200-mile fishery conservation zone in Canada in the late 1970's, annual harvest quotas have been the primary management tool used to limit the catch of Pacific hake. Scientists from both countries have historically collaborated through the Technical Subcommittee of the Canada-U.S. Groundfish Committee (TSC), and there have been informal agreements on the adoption of annual fishing policies. During the 1990s, however, disagreements between the U.S. and Canada on the allotment of the acceptable biological catch (ABC) between U.S. and Canadian fisheries led to quota overruns; 1991-1992 quotas summed to 128% of the ABC, while the 1993-1999 combined quotas were 107% of the ABC on average. However, in 2002 and 2003 an average of only 87% of the quota was used. In the Pacific hake agreement between the United States and Canada, 73.88% and 26.12%, respectively, of the coast-wide allowable biological catch are to be allocated between the two countries. Furthermore, the agreement establishes a Joint Technical Committee to exchange data and conduct stock assessments, which will be reviewed by a Scientific Review Group.

United States

Prior to 1989, catches in the U.S. zone were substantially below the harvest guideline, but since 1989 have caught up to the harvest guideline with exceptions in 2000, 2001 and 2003 when 90%, 96% and 96% of the quota were taken, respectively, and 2007 and 2008, when bycatch-related closures (though followed by later re-openings) limited total U.S. catch. U.S. catch has not substantially exceeded the harvest guideline for the U.S. zone in any year, indicating that in-season management procedures have been effective.

In the U.S. zone, participants in the directed fishery are required to use pelagic trawls with a codend mesh that is at least 7.5 cm (3 inches). Regulations also restrict the area and season of fishing to reduce the bycatch of Chinook salmon and several depleted rockfish stocks. More recently, yields in the U.S. zone have been restricted to levels below optimum yields due to bycatch of overfished rockfish species, primarily widow and canary rockfishes, in the Pacific hake fishery. At-sea processing and night fishing (midnight to one hour after official sunrise) are prohibited south of 42° N. latitude. Fishing is prohibited in the Klamath and Columbia River Conservation zones, and a trip limit of 10,000 pounds is established for Pacific hake caught inside the 100-fathom contour in the Eureka INPFC area. During 1992-1995, the U.S. fishery opened on April 15; however in 1996 the opening date was changed to May 15. Shore-based fishing is allowed after April 1 south of 42° N. latitude, but is limited to 5% of the shore-based allocation being taken prior to the opening of the main shore-based fishery. The main shore-based fishery opens on June 15. Prior to 1997, at-sea processing was prohibited by regulation when 60 percent of the harvest guideline was reached. The current allocation agreement, effective since 1997, divides the U.S. non-tribal harvest guideline among factory trawlers (34%), vessels delivering to at-sea processors (24%), and vessels delivering to shore-based processing plants (42%). Since 1996, the Makah Indian Tribe has conducted a separate fishery with a specified allocation in its "usual and accustomed fishing area."

Shortly after the 1997 allocation agreement was approved by the PFMC, fishing companies owning factory trawlers with west coast groundfish permits established the Pacific Whiting Conservation Cooperative (PWCC). The primary role of the PWCC is to allocate the factory trawler quota among its members. Anticipated benefits of the PWCC include more efficient allocation of resources by fishing companies, improvements in processing efficiency and product quality, and a reduction in waste and bycatch rates relative to the former "derby" fishery in which all vessels competed for a fleet-wide quota. The PWCC also initiated recruitment research to support hake stock assessment. As part of this effort, PWCC sponsored a juvenile recruit survey in the summers of 1998 and 2001, which since 2002 has become an ongoing collaboration with NMFS.

Overview of Recent Fishery and Management

United States

For the years 2004-2007, the coast-wide ABC was set based upon the F_{msy} proxy harvest rate of $F_{40\%}$ applied to the output of a base model with acoustic survey catchability (q) equal to 1.0. Based on this algorithm, the ABC was set at 514,441 mt in 2004 (Helser et. al. 2004). While this ABC was larger than seen over the previous decade, reflecting substantial increases in biomass due to the strong 1999 year-class, constraints imposed by bycatch of canary and widow rockfishes limited the commercial U.S. OY to 250,000 mt. In 2005, the coast-wide OY was set at 364,197 mt. The coast-wide 2006 ABC was estimated to be 661,680 mt, with a coast-wide OY set at 364,842 mt. In 2005 and 2006 the coast-wide OY was essentially fully utilized. For the 2007 fishing season the PFMC adopted the 612,068 mt ABC and coast-wide OY of 328,358 mt. The coast-wide OY continued to be considerably below the ABC based on bycatch considerations. These same bycatch constraints caused a mid-season closure in the U.S. and resulted in final landings being considerably below the OY.

2008 Fishery

Based on the 2008 whiting assessment, the Pacific council adopted a U.S.-Canada coast-wide ABC of 400,000 mt, and a U.S. ABC of 295,520 mt. The council adopted a U.S.-Canada coast-wide OY of 364,842 mt and a U.S. OY of 269,545 mt, reflecting the agreed-upon 73.88 percent of the OY apportioned to U.S. fisheries and 26.12 percent to Canadian fisheries. Within the U.S. fishery, the 232,545 mt of the OY was divided among the target whiting sectors while the Makah tribal allocation was 35,000 mt, with the remaining 2,000 mt set aside for research catch along with bycatch in non-hake fisheries. Among U.S. sectors, at-sea catcher/processors received 34 percent (79,065 mt), motherships received 24 percent (55,811 mt), and the shore-based fishery received 42 percent (97,669 mt) of the target (non-tribal) whiting sector share. Bycatch limits for the combined non-tribal Pacific whiting sectors in 2008 were as follows: 275 mt of widow rockfish, 4.7 mt of canary rockfish, and 40 mt of darkblotched rockfish.

The official dates of fishing included a standard spring start, a mid-season closure, and continued fishing opportunity through the end of 2008. By sector, seasons were: Catcher/processor and mothership sectors, May 15 to August 19; reopening on October 12, 2008 until the end of the year; Shore-based sector: June 15 to August 19 and reopening on October 12, 2008 until the end of the year north of 42° N. latitude; April 1 to May 21, June 15 to August 19, and reopening on October 12 until the end of the year between 42°-40°30’ N. latitude; April 15 to May 21, June 15 to August 19 and reopening on October 12 until the end of the year south of 40°30’ N. latitude.

Fishermen generally reported that fishing was difficult during the spring, with aggregations of hake diffuse relative to recent years when large schools of the 1999 year class were more common. Difficulty in locating schools of hake, which produce high catch rates, coupled with very high fuel costs led to exploratory fishing in depths, areas and during times of day uncommon to the recent fishery. This change in behavior led, in turn, to an increase in bycatch rates for rockfish, particularly canary rockfish, including more than 1.5 mt of canary caught on a single day in June.

Due to high fuel costs, difficult fishing, and high bycatch levels, all U.S. fishing sectors agreed to a voluntary stand down starting about June 17, with an original end date of July 5. Participation was near complete, and the stand down continued until August 1. Much of the fishing in August was off Southern Oregon. Real-time reporting of bycatch rates and locations was made possible due to the voluntary adoption of SeaState, a program for summarizing observer data for use by the fishing fleet. The shore-based sector used this system for the first time in 2008 and it was particularly important in maintaining fishing opportunity during the period from August 1 to August 18 when the fleet was very close to bycatch limits.

The fishery was officially closed by NOAA on August 19, when it was estimated that the canary rockfish bycatch limit would be reached. When the fisheries were closed the shore-based sector had taken only 35.5 percent of its Pacific whiting allocation, the catcher/processor sector had taken 62.3 percent of its allocation, and the mothership sector had taken 84.0 percent of its allocation.

In September, the Council decided to reopen the fishery on October 12, while increasing the widow rockfish bycatch limit by 12 metric tons (to 287 mt) and the canary rockfish bycatch limit by 1.7 mt (to 6.4 mt) upon reopening and by an additional 0.3 mt (to 6.7 mt) two weeks following the re-opening, but no later than October 26, 2008. These bycatch limit increases were facilitated by lower-than-expected catches in other groundfish fisheries and research activities.

Fishermen reported good fishing during October and November, with relatively high catch per unit effort (CPUE) on schools of mixed sized fish including the 1999 year class, the 2005 year class and some smaller fish from the 2006 year class. Bycatch rates were, as is generally the case, much lower in the fall than the spring and summer fisheries. This allowed greater flexibility for fishermen to fish both at night and closer to bottom where hake aggregations may be more dense.

During November, the Pacific Council reallocated 39,000 metric tons (mt) of the 97,669 mt shore-based sector allocation to the catcher/processor (+36,724) and mothership (+2,276) sectors. This action reflected decreasing fishing effort by the shore-based sector and, at the end of November, the mothership sector as well, such that a substantial portion of the OY was projected to be left uncaught without reallocation. Bycatch rates tend to increase again toward the end of the calendar year as the hake aggregations disperse, and the few vessels still participating in the fishery near the end of 2008 reported more difficult fishing.

The shore-based sector caught 50,422 mt, or 85.9% of its remaining quota after in-season reallocations. The at-sea mothership sector caught 57,432 mt, or 98.9% of its remaining quota after in-season reallocations. The at-sea catcher/processor sector caught approximately 106,500 mt, or 92.0% of its remaining quota after in-season reallocations. Tribal catches totaled 31,829 mt, or 90.9% of the quota allocated. In total, the 2008 U.S. fishery caught approximately 246,183mt, or 92.0% of the OY.

Canada

DFO managers allow a 15% discrepancy between the quota and total catch. The quota may be exceeded by up to 15% in any given year, which is then deducted from the quota for the subsequent year. Conversely, if less than the quota is taken, up to 15% can be carried over into the next year. For instance, an apparent overage in 1998 was due to carry-over from 1997 when 9% of the quota was not taken this policy has not resulted in catch exceeding the coast-wide OY in the past 6 years (Table 2). During 1999-2001 the PSARC groundfish subcommittee recommended to DFO managers yields based on F40% (40-10) option and Canadian managers adopted allowable catches prescribed at 30% of the coast-wide ABC.

The all-nation catch in Canadian waters was 53,585 mt in 2001, up from only 22,401 mt in 2000 (Table 1). In 2000, the shore-based landings in the Canadian zone hit reached the lowest level since 1990 due to a decrease in availability. Catches in 2001 increased substantially over those of 2000 for both the joint-venture and shore-based sectors but were still below recommended Total Allowable Catch (TAC). Total Canadian catches in 2002 and 2003 were

50,769 mt and 62,090 mt, respectively, and were harvested exclusively by the shore-side sector; constituting nearly 87% of the total allocation of that country. In 2004, the allowable catch in Canada was 26.14% of the coast-wide ABC, approximately 134,000 mt. Catches were nearly split equally between the shore-based and joint venture sectors, totaling 124,000 mt. Canadian Pacific hake catches were fully utilized in the 2005 fishing season with 85,284 mt and 15,178 mt taken by the domestic and joint venture fisheries, respectively. In 2006, the joint-venture and domestic fisheries harvested 13,700 mt and 80,000 mt, respectively. During the 2007 fishing season, Canadian fisheries harvested 85% of the 85,373 mt national allocation. In 2008, Canadian fisheries harvested 78% of the 95,297 mt national allocation with joint-venture and domestic sectors catching 4,000 mt and 70,000 mt, respectively.

ASSESSMENT

Modeling Approaches

Age-structured assessment models of various forms have been used to assess Pacific hake since the early 1980s, using total fishery landings, fishery length and age compositions, and abundance indices. Modeling approaches have evolved as new analytical techniques have been developed. Initially, a cohort analysis tuned to fishery CPUE was used (Francis et al. 1982). Later, the cohort analysis was tuned to NMFS triennial acoustic survey estimates of absolute abundance at age (Francis and Hollowed 1985, Hollowed et al. 1988a). In 1989, the hake population was modeled using a statistical catch-at-age model (Stock Synthesis) that utilized fishery catch-at-age data and survey estimates of population biomass and age-composition data (Dorn and Methot, 1991). The model was then converted to AD Model Builder (ADMB) in 1999 by Dorn et al. (1999), using the same basic population dynamics equations. This allowed the assessment to take advantage of ADMB’s post-convergence routines to calculate standard errors (or likelihood profiles) for any quantity of interest. Beginning in 2001, Helser et al. (2001, 2003, 2004) used the same ADMB modeling platform to assess the hake stock and examine important assessment modifications and assumptions, including the time varying nature of the acoustic survey selectivity and catchability. The acoustic survey catchability coefficient (q) has been, and continues to be, one of the major sources of uncertainty in the model. Due to the lengthened acoustic survey biomass trends, the assessment model in 2004 was able to freely estimate the acoustic survey q. These estimates were substantially below the assumed value of q=1.0 from earlier assessments. The 2004 and 2005 assessments presented uncertainty in the final model result as a range of biomass. The lower end of the biomass range was based upon the conventional assumption that the acoustic survey q was equal to 1.0, while the higher end of the range represented a q=0.6 assumption.

In 2006, the coastal hake stock was modeled using the Stock Synthesis modeling framework (SS2 Version 1.21, December, 2006) written by Dr. Richard Methot (Northwest Fisheries Science Center) in AD Model Builder. Conversion of the previous hake model into SS2 was guided by three principles: 1) incorporate less *derived* data, favoring the inclusion of unprocessed data where possible, 2) explicitly model the underlying hake growth dynamics, and

3) achieve parsimony[2] in terms of model complexity. “Incorporating less *derived* data” entailed fitting observed data in their most elemental form. For instance, no pre-processing to convert length data to age compositional data was performed. Also, incorporating conditional age-at-length data, through age-length keys for each fishery and survey, allowed explicit estimation of expected growth, dispersion about that expectation, and its temporal variability, all conditioned on selectivity. In 2006 and 2007, as in 2004 and 2005, assessments presented two models (which were assumed equally likely) in an attempt to bracket the range of uncertainty in the acoustic survey catchability coefficient, *q*. The lower end of the biomass range was again based upon the conventional assumption that the acoustic survey *q* was equal to 1.0, while the higher end of the range allowed estimation of q with a fairly tight prior about q = 1.0 (effective q = 0.6 - 0.7). In the 2008 assessment, also conducted in SS2 (Version 2.00n), an effort was made to include the uncertainty in *q*, as well as additional uncertainty regarding the acoustic survey selectivity and the natural mortality rate (*M*) of older fish (ages 14 and 15+) within a single model. As a result, a broader range of uncertainty is presented via probability distributions and risk profiles using Markov Chain Monte Carlo simulation. Further refinements included, for the first time, incorporation of age-reading error matrices.

In the current model, conducted in SS v3.02b (Methot 2009), we have built upon the 2008 model, adding new data and refining the modeling of ageing imprecision. New data in the 2009 assessment includes: Historical length data from Santa Barbara, California (1963-1970); 2008 catches from the U.S. and Canada; 2008 length and conditional age-at-length compositions from the U.S.; and the 2008 juvenile index. The 2009 assessment model incorporates further uncertainty in the degree of recruitment variability (σ_r) as well as more flexible time-varying fishery selectivity. Additionally, the current assessment incorporates further refinements to the ageing-error matrices, including both updated data and cohort-specific reductions in ageing error to reflect “lumping” effects due to strong year classes. The current model continues to integrate uncertainty in acoustic survey *q* and selectivity and in *M* for older fish.

Data Sources

The data used in the stock assessment model includes:

- Total catch from the U.S. and Canadian fisheries (1966-2008).

- Length compositions from the U.S. fishery (1975-2008) and Canadian fishery (1988-2007).

- Age compositions from the U.S. fishery (1973-1974) and Canadian fishery (1977-1987). These are the traditional age compositional data generated by applying fishery length compositions to an age-length key. Use of this approached was necessary to fill in gaps for those years in which biological samples could not be re-acquired from standard procedures.

[2] Parsimony is defined as a balance between the number of parameters needed to represent a complex state of nature and data quality/quantity to support accurate and precise estimation of those parameters.

- Conditional age-at-length compositions from the U.S. fishery (1975-2008) and Canadian fishery (1988-2008).

- Biomass indices, length compositions and conditional age-at-length composition data from the Joint US-Canadian acoustic/midwater trawl surveys (1977, 1980, 1983, 1986, 1989, 1992, 1995, 1998, 2001, 2003, 2005, and 2007). It should be noted that this year's assessment, as in the 2008 assessment, incorporates the 1986 acoustic survey biomass estimate and compositional data which was previously removed upon recommendation by 2004 STAR review (the STAT argued that this was one of the few survey biomass estimates that provided contrast in the time series).

- NWFSC-PWCC midwater juvenile hake and rockfish surveys (2001-2008). A coast-wide index of hake recruitment was generated based on data from both the SWFSC and NWFSC-PWCC surveys to account for recent northerly extension of hake recruitment along the coast. This data was quite contradictory to the composition data and thus was effectively tuned out of the model.

- Aging error matrices based on cross-read otoliths. These included changes by ageing lab and with reduced ageing error for strong cohorts due to a "lumping" effect, the extent of which as estimated outside of the assessment model.

- Length data collected in Santa Barbara for the years 1963-1970, by season (January-Mar, April – June, etc.). 4550 lengths were recorded at Santa Barbara during this period, while only a total of 1357 were collected at three other California ports during the same period (Jow, 1973), thus only the Santa Barbara data was used.

As in the previous hake model, the U.S. and Canadian fisheries were modeled separately. The model also used biological parameters to estimate spawning and population biomass to obtain predictions of fishery and survey biomass from the parameters estimated by the model. These parameters were:

- Proportion mature at length (not estimated in model).

- Population allometric growth relationship, as estimated from the acoustic survey (not estimated in model).

- Initial estimates of growth including CVs of length at age for the youngest and oldest fish (the latter estimated in model).

- Natural mortality (*M*, not estimated in model for ages 2-13, but estimated for ages 14 and 15+).

Some sources were not included, but had been explored during the course of the 2008 assessment, including:

- CalCOFI larval hake production index, 1951-2006. The data source was previously explored and rejected as a potential index of hake spawning stock biomass, but was not revisited this year. For details see the 2008 assessment.

Total catch

The catch of Pacific hake for 1966-2008 by nation and fishery is shown in Table 1. Catches in U.S. waters for 1966-1980 are from Bailey et al. (1982). Prior to 1977, the at-sea catch was reported by foreign nationals without independent verification by observers. Bailey et al. (1982) suggest that the catch from 1968 to 1976 may have been under-reported because the apparent catch per vessel-day for the foreign fleet increased after observers were placed on foreign vessels in the late 1970's. A sensitivity to this assumption was produced for the 2008 assessment. For 1981-2008, the shore-based landings are from Pacific Fishery Information Network (PacFIN). Foreign and joint-venture catches for 1981-1990 and domestic at-sea catches for 1991-2008 are estimated from the AFSC's and, subsequently, the NWFSC's At-Sea Hake Observer Programs.

At-sea discards are included in the foreign, joint-venture, at-sea domestic landings estimates in the U.S. zone. Discards have been recently estimated for the shore-based non-whiting fishery but are nominal relative to the total fishery catch. The majority of vessels in the U.S. shore-based fishery have operated under experimental fishing permits that required them to retain all catch and bycatch for sampling by plant observers. Canadian joint-venture catches are monitored by at-sea observers, which are placed on all processing vessels. Observers use volume/density methods to estimate total catch. Domestic Canadian landings are recorded by dockside monitors using total catch weights provided by processing plants. Catch data from Canadian JV and domestic fisheries were provided by Greg Workman and Chris Grandin (DFO, Pacific Biological Station, Nanaimo, B.C.).

Fishery-dependent Data

Biological information from the U.S. at-sea commercial Pacific hake fishery was extracted from the NORPAC database. This yielded length, weight and age information from the foreign and joint venture fisheries from 1975-1990, and from the domestic at sea fishery from 1991-2008. Specifically these data included sex-specific length and age data which observers collect by selecting fish randomly from each haul for biological data collection and otolith extraction. Detailed sampling information including the numbers of hauls sampled, lengths collected, and otoliths aged in the foreign, joint-venture and domestic at-sea fisheries are presented in Table 3.

Biological samples from the U.S. shore-based fishery were collected by port samplers where there are substantial landings of Pacific hake: primarily Newport, Astoria, Crescent City, and Westport, from 1991-2008. Port samplers routinely take one sample per offload (or trip) consisting of 100 randomly selected fish for individual length and weight and 20 randomly selected fish for otolith extraction. The sampling unit for the shore-based fishery is the trip, while the haul is used for the at-sea fishery. Since detailed haul-level information is not recorded on trip landings documentation in the shore-based fishery, and hauls sampled in the at-sea fishery can not be aggregated to a comparable trip level, there is no least common denominator for aggregating at-sea and shore-based fishery samples. As a result, samples sizes are simply summed over hauls and trips for U.S. fishery length- and age-compositions, and each fishery is weighted according to the proportion of its catch.

Length data (4550 lengths) recorded at recorded at Santa Barbara between 1963 and 1970 (Jow, 1973) were included as seasonal length compositions in this assessment. As there was no information on the number of trips or hauls sampled, initial input sample sizes were set at one-tenth the number of length samples in each year and season.

The Canadian shore-based fishery is subject to 10% observer coverage. On observed trips, an both otoliths (for ageing) and lengths are sampled from Pacific hake caught in the first haul of the trip, with length samples taken on subsequent hauls. Sampled weight from which biological information is collected must be inferred from year-specific length-weight relationships. For unobserved trips, port samplers obtain biological data from the landed catch. Observed domestic haul-level information is then aggregated to the trip level to be consistent with the unobserved trips that are sampled in ports. Canadian domestic fishery biological samples are available from 1996-2007, and detailed sampling information is presented in Table 4.

For the Canadian at-sea joint-venture fishery, an observer aboard the factory ship records the codend weight for each codend transferred from a companion catcher boat. Length samples are collected every second day of fishing operations, and otoliths are collected once a week. Length and age samples are taken randomly from a given codend. Since the weight of the sample from which biological information is taken is not recorded, sample weight must be inferred from a weight-length relationship applied to all lengths taken and summed over haul. Length and age information is available from the joint-venture fishery from 1988-2007. As in the case with the U.S. at-sea fishery, the basic sampling unit in the Canadian joint-venture fishery is the haul. Detailed sampling information for the Canadian joint-venture fishery is also presented in Table 3.

Length and age data were analyzed based on the sampling protocols used to collect them, and expanded to estimate the corresponding statistic from entire landed catch by fishery and year when sampling occurred. In general, the analytical steps can be summarized as follows:

1) Count lengths (or ages) in each size (or age) bin for each haul in the at-sea fishery and for each trip in the shore-based fishery, generating "raw" frequency data.

2) Expand the raw frequencies from the haul or trip level to account for the catch weight and weight sampled in each trip.
3) Expand the summed frequencies by fishery sector to account for the total landings.
4) Calculate sample sizes (number of samples) and normalize to proportions that sum to unity within each year.

To complete step (2), it was necessary to derive a multiplicative expansion factor for the observed raw length frequencies of the sample. This expansion factor was calculated for each sample corresponding to the ratio of the total catch weight in a haul or trip divided by the total sampled weight from which biological samples were taken within the haul or trip. In cases where there was not an estimated sample weight (more common in the Canadian domestic shore-based trips), a predicted weight of the sample was computed by applying a year-specific length-weight relationship to each length in the sample, then summing these weights. Anomalies that could emerge when very small numbers of fish lengths are collected from very large landings were avoided by constraining expansion factors to not exceed the 95th percentile of all expansion factors calculated for each year and fishery. The expanded lengths (N at each length times the expansion factor for the sample) were then summed within each fishery sector, and then weighted a second time by the relative proportion of catches by fishery within each year and nation. Finally, the year-specific length frequencies were summed over fishery sector and normalized so that the sum of all lengths in a single year and nation was equal to unity.

Tables 3 and 4 provide a detailed sampling summary, by fishery and nation, including the number of unique samples (hauls in the joint-venture and at-sea fisheries and trips in the shore-based fisheries) by year and other sampling metrics of sample effort. The total sample size (# samples) from all sectors by year is used as the multinomial sample size input to the stock assessment model. In recent U.S. fisheries, between 9% and 19% of all shore-based landings has been sampled, compared to between 41% and 95% of the at-sea catch (Table 5). In both sectors, the fraction sampled has generally increased over time. The percentage of sampled harvest has been more variable in the Canadian fisheries over the same time period (Table 6). All recent age data have been included in the model as conditional age-at-length compositions. Eighteen (out of more than 2600) individual conditional age-at-length compositions were not used due to unrealistic age-at-size compositions (Pearson residuals > 50). These generally represented small samples sizes and purported very old but small or very young but large hake. Sample sizes for conditional age-at-length compositions for the U.S. and Canadian fisheries are given in Tables 7 and 8, respectively.

U.S. fishery length and implied age compositions representing fish caught in both the at-sea and shore-based fisheries are shown in Figures 3-4 and Figure 5-6, respectively. Implied age compositions are the proportions at age arrived at after collapsing the conditional age at length compositions over the length margin (appropriately weighted). There are differences between the length compositions of the at-sea and shore-based domestic fisheries, suggesting that, in the future, an attempt should be made to model them separately. In general, the composite U.S. fishery length and age compositions confirm the well known pattern of year-class strengths, including the extra-dominant 1980, dominant 1977, 1984 and 1999, and secondary 1970, 1973, 1987 and 1990 year classes moving through the size structure (Figure 6). The most recent length and age compositional data from the 2008 U.S. fishery also indicate the presence of a relatively strong 2005 year class. Conditional age-at-length compositions suggest that the sizes of hake caught in the U.S. fishery have changed over time, possibly due to growth, selectivity or both. This is particularly evident with the appearance of larger fish before 1990 and a shift to smaller fish between 1995 and 2000. These features are explored in the population dynamics model.

As with the U.S. fleet sectors, differences in length compositions between the Canadian joint-venture and domestic fleets among some of the years warrant future exploration of fitting the fisheries separately. The composite Canadian fishery length compositions (Figures 7 and 8) and age compositions (Figures 9 and 10) indicate that the Canadian fleets exploit larger and older hake. A particularly interesting feature of these length compositions is that the Canadian fleet prosecuted a seemingly fast growing 1994 year class of hake in 1995 (age 1), 1996 (age 2) and subsequent years. It is unclear whether this is due to size- vs. age-based selectivity; however, it is well known that larger (and older) hake migrate further northward annually (Dorn, 1995). The 2001 and 2002 Canadian length compositions appear to be anomalies. In recent years the 1999 year class has dominated the catch of the Canadian fleets, although there is anecdotal evidence of a relatively strong presence of the 2005 year class in the Canadian fisheries in 2008. As in the U.S. fishery, Canadian age and length compositions show some temporal pattern in the range of fish exploited by the fishery (Figures 7-10).

U.S. and Canadian fishery length and conditional age-at-length compositions constitute the bulk of compositional data in this assessment and provide information on recruitment strength, growth and growth variability. As such, the model is actually fitting the conditional age-at-length compositions, but fits are shown to the "implied" age compositions (fits are simply collapsed in the margin of proportions at age) for convenience. Since age-composition data used in the old hake assessment extended further back in time than the conditional age-at-length data generated here, the older age data are also included in the assessment model to augment information on recruitment earlier in the time series (U.S. fishery = 1973-1974, Canadian fishery = 1977-1987).

Triennial Shelf Trawl Survey

The Alaska Fisheries Science Center conducted a triennial bottom trawl survey along the west coast of North America from 1977 to 2001 (Wilkins et al. 1998). This survey was repeated for a final time by the Northwest Fisheries Science Center in 2004. In 1999, the Northwest Fisheries Science Center began to take responsibility for bottom trawl surveys off of the West Coast, and, in 2003, the Northwest Fisheries Science Center survey was extended shoreward to a depth of 30 fathoms to match the shallow limit of the triennial survey. Despite similar seasonal timing of the two surveys, the 2003 and subsequent annual surveys differ from the triennial survey in size/horsepower of the chartered fishing vessels and bottom trawl gear used. As such, the two were determined (at a workshop on the matter in 2006) to be separate surveys which cannot be combined into one. In addition, the presence of significant densities of hake both offshore and to the north of the area covered by the trawl survey, coupled with the questionable effectiveness of bottom trawls in catching mid-water schooling hake, limits the usefulness of this survey to assess the hake population. For these reasons, the neither the triennial nor the Northwest Fisheries Science Center shelf trawl survey are used in the assessment. However, age-composition data from the triennial survey are used, in conjunction with age-composition data from the acoustic survey, to evaluate the selectivity pattern associated with the acoustic survey external to the SS2 model. Results of this analysis are described below.

Acoustic Survey (Biomass, length and age composition)

Integrated acoustic and trawl surveys are used to assess the distribution, abundance and biology of coastal Pacific hake, *Merluccius productus*, along the west coasts of the United States and Canada (Fleischer et al. 2005). From 1977-1992, surveys in U.S. waters were conducted every three years by the Alaska Fisheries Science Center (AFSC). The 1995, 1998, and 2001 coast-wide surveys were carried out jointly by AFSC and the Pacific Biological Station (PBS) of the Canadian Department of Fisheries and Oceans (DFO). Following 2001, the responsibility for the U.S. portion of the survey was transferred to the Fishery Resource Analysis and Monitoring (FRAM) Division of NOAA's Northwest Fisheries Science Center (NWFSC). Following the transfer, the survey was scheduled on a biennial basis, with joint acoustic surveys conducted by FRAM and PBS in 2003, 2005 and 2007. The acoustic survey biomass estimates (age 2+) and confidence intervals for 1977-2007 are shown in Figure 11.

The 2007 survey was conducted aboard the NOAA vessel *Miller Freeman* from 20 June to 19 August, spanning the continental slope and shelf areas along the West Coast from south of Monterey California (35.7º N.) to the Dixon Entrance area (54.8º N). A total of 96 line transects, generally oriented east-west and spaced at 10 or 20 nm intervals, were completed (Figure 1). During the 2007 acoustic survey, aggregations of coastal Pacific hake were detected as far south as 37º N. (Monterey Bay) and nearly continuously from there to the furthest northerly area surveyed at Dixon Entrance. Areas of prominent concentrations of hake included the waters off Point Arena (ca. 39º N.) and north of Cape Mendocino, California (ca. 41º N.), in the area south of Heceta Bank, Oregon (ca. 44º N.). Pacific hake were relatively sparse off of Vancouver Island during the 2007 acoustic survey. Diffuse concentrations were found north of Vancouver Island within waters of the Queen Charlotte Sound (ca. 51º N.) and north to Dixon Strait. Mid-water and bottom trawls are deployed throughout the survey to verify size and species composition and collect biological information (i.e., age composition, sex). This sampling revealed that smaller individuals (age-2 fish, representing the 2005 year class) were prevalent in the southern portion of their range during the survey season. Throughout the remainder of its range the coastal Pacific hake stock continued to be dominated by the 1999 year-class (age 8), with the exception of the northernmost areas where even larger and older Pacific hake dominated.

The distribution of Pacific hake can vary greatly between acoustic surveys. It appears that northward migration patterns are related to the strength of subsurface flow of the California Current (Agostini et al. 2006) and upwelling conditions (Benson et al. 2002). Distributions of hake backscatter plotted for each acoustic survey since 1995 illustrate the variable spatial patterns (Figure 1). The 1998 acoustic survey stands out and shows an extremely northward occurrence that is thought to be tied to the strong 1997-1998 El Nino. In contrast, the distribution of hake during the 2001 survey was very compressed into the lower latitudes off the coast of Oregon and Northern California. In 2003, 2005 and 2007 the distributions generally followed the "normal" coast-wide pattern.

As with the fishery data, acoustic survey length and conditional age-at-length compositions were used to reconstruct the age structure of the hake population. In general, biological samples taken by midwater trawls were post-stratified based on geographic proximity and similarity in size composition. Estimates of numbers (or biomass) of hake at length (or age) for individual cells were summed for each transect to derive a coast-wide estimate. Details of this procedure can be found in Fleischer et al. (2005). Each sample was given equal weight without regard to the total catch weight. The composite length frequency was used to characterize the hake size distribution along each transect and predict the expected backscattering cross section for Pacific hake based on the fish size-target strength (TS) relationship TS_{db} = 20logL-68 (Traynor 1996). New target strength work (Henderson and Horne 2007), based on in-situ and ex-situ measurements, suggests a regression intercept of 4-6 dB lower than that of Traynor. A lower intercept to the TS-to-length regression suggests that an individual hake reflects 2.5-4 times less acoustic energy, implying considerably more biomass than that of Traynor's equation. Both estimates of the TS-to-length regression use night time in-situ measurements. Hake may have different behavior characteristics at night than during the daytime when the acoustic survey is conducted. The biomass estimates continue to be based on Traynor's TS-to-length regression, which has been used historically to interpret the acoustic survey data. Additional *in situ* measurements on hake TS need to be collected *during daytime*, and the depth dependence of the hake TS needs to be investigated. The uncertainty in the TS regression is not accounted for in the survey biomass uncertainty estimates.

Acoustic survey sampling information including the number of hauls, lengths taken, and hake aged are provided in Tables 9 and 10. The 2007 acoustic survey size composition shows a dominant peak at 48 cm indicating the persistence of the 1999 year class in the population, and a secondary peak around 33 cm suggests the potential of an above-average 2005 year class (Figures 12-13). Age compositions shown in Figure 14-15 confirm the presence of the strong 1999 year class and potentially a moderate to strong 2005 year class. Size and age compositions from the previous acoustic surveys also confirm the dominant 1980 and 1984 year classes present in the mid-1980s to early 1990s. Conditional age-at-length proportions are shown in Figure 16.

Based on the acoustic survey index, while not accounting for selectivity or year-to-year variability in survey *q*, Pacific hake biomass declined by 31% between 2003 and 2005, and 51% between 2003 and 2007 (from 1.84 to 1.27 to 0.88 million mt, Table 11). In general, acoustic survey indices of biomass indicate that the hake population has varied with little trend over the three decades of the survey. Estimates of variability have been calculated since the 2003 survey based on the Jolly-Hampton estimator (1989) with CVs on the order of 25%. This takes spatial variability of the acoustic backscatter into account but leaves other sources of observation error, including sampling variability (haul to haul variation in size/age) and target strength unaccounted for. Error bars shown around point estimates of biomass are not estimated but rather assumed based on reliability of the survey in a given year and are used as input in SS2 (CV=0.5 1977-1989, CV=0.25 1992-2005).

Assessment uncertainty continues to center on the acoustic survey: primarily in terms of the catchability coefficient, *q*, although the extent to which selectivity is dome-shaped provides a secondary area of uncertainty. Dome-shaped selectivity implies a greater proportion of older hake in the population than observed in the survey. Reasons for dome-shaped selectivity could be due to a number of factors including net avoidance by older hake and differential distribution of older fish near the bottom or at deeper depths. This was investigated by comparing the numbers at age in both the acoustic and bottom trawl surveys between 1977-2001, as data for these two surveys overlapped spatially and temporally. Hake catches (in number) from the triennial bottom trawl survey were summed at each age, and assumed to be representative of the underlying population age structure. These were then compared to the catch in numbers at age taken from hauls in the acoustic survey. Results indicate empirical support for a dome-shaped acoustic survey selectivity (Figure 17). A comparison of the ratio of acoustic survey numbers at age to the sum of the acoustic and triennial bottom trawl survey numbers at age (normalized to have a peak of unity), indicate that only 2 out of the nine years had asymptotic-like selectivity patterns. The remaining nine years show curves that peak at about ages 5-7, decline between 0.2-0.9 at ages 11-13, and further decline between <0.1-0.7 at ages 14-15+. For ages 14-15+ , the mean is about 0.5 (when normalized) for all years. The weight of evidence suggests dome-shaped selectivity, although the results are not definitive, as the shape of the selectivity curve for the triennial survey is not precisely known.

The acoustic survey catchability coefficient, *q*, has historically been quite uncertain. This parameter globally scales population biomass higher if *q* is lower and lower if *q* is higher, and thus uncertainty in *q* reflects the uncertainty in the absolute scale of the hake population. Early assessments that used the acoustic survey in age-structured assessments (Dorn et al. 1999) asserted *q*=1.0 and treated the parameter as a fixed quantity (In fact ABCs and OYs until 2003 were predicated upon that assumption). Helser et al. (2004) conducted a likelihood profile over the value of *q* as well as estimated it freely in the model, and found values of *q* in the range of 0.38 to 0.6, depending on model structure. In general, the best fit to the data is achieved when *q* is estimated to be low; however, allowing *q*'s for an acoustic survey to be substantially lower than 1.0 (whether through estimation or specification) has been met with some resistance. The 2004-2007 assessments presented two models with differing *q*'s in order to bracket the range of uncertainty in the acoustic survey catchability coefficient, *q*. In 2008, an attempt was made to integrate out the uncertainty in *q* while incorporating uncertainty in the shape of the acoustic survey selectivity curve. In the current assessment, a single value for *q* is assumed, with the uncertainty in the assessment focused on the degree of recruitment variability (σ_r), coupled with more flexible time-varying fishery selectivity

Aging Error

With the transfer of Pacific hake ageing to the Northwest Fisheries Science Center in 2001, an effort was made to evaluate age reader agreement and calibrate readers at the Cooperative Aging Project (CAP, Northwest Fisheries Science Center, NWFSC) and Department of Fisheries and Oceans (DFO). A total of 991 ages from otoliths collected between 2001-2007 were compared between the Cooperative Aging Project (CAP, Northwest Fisheries Science Center, NWFSC) and Department of Fisheries and Oceans (DFO) or read more than once by one lab. As expected, agreement was greater for younger fish than for older fish. This exchange was used to estimate the ageing imprecision matrix applied in the 2008 assessment. AFSC ageing prior to 2001 relied on similar protocols, but roughly 20% of the otoliths that were difficult to read were 'reconciled', or read by multiple readers and discussed before final age determination was assigned. Because no comparisons between AFSC and more recent ageing, nor duplicate reconciled ages from the AFSC were available in 2008, the level of ageing imprecision for that lab was assigned 50% of the imprecision estimated for CAP and the topic flagged for further investigation.

Subsequent to the 2008 assessment, 1,773 age estimates were compared between the CAP and AFSC for otoliths collected throughout the time-series but prior to 2001. These estimates allowed estimation of the degree of ageing imprecision for the AFSC reconciled ages. Ageing imprecision was quantified for use in the stock assessment model according to the maximum likelihood method of Punt et al. (2008), as was done in the 2008 assessment. This method estimates bias and precision of the observed age from the "true" age, assuming an unbiased sample in the observed data. There were insufficient samples to estimate bias; however, precision was estimated and quantified as the standard deviation of observed age from true age. Figure 18 shows the relationship for samples (those used in the 2008 assessment and new double-reads) from (CAP + DFO) which was applied to the model for 2001-2007. A similar relationship was estimated, with similar results, for individual age reads by AFSC, based on the new sample of historically aged otoliths re-read by CAP (Figure 18). New information this year resulted in a change to the basic ageing-error matrix used for age compositions prior to 2000 (during the AFSC ageing era). Values of imprecision at age estimated directly were found to be of similar magnitude to those from the CAP, and substantially larger then the 50% values used in the 2008 assessment.

With a much larger available data set, the current assessment includes an additional process influencing the ageing of hake: cohort-specific ageing error related to the relative strength of a year-class. This process reflects a tendency for uncertain age determinations to be assigned to predominant year classes. The result is a tendency towards reduced mis-ageing of strong year classes, and perhaps increased mis-ageing of neighbor year-classes. To account for this process in the model, we simply created year-specific ageing-error matrices (or vectors of standard deviations), where the standard deviations of strong year classes were reduced by a constant proportion. In the current assessment, this proportion was determined empirically by comparing double read error rates for strong year classes with rates for other year classes (Figure 19). The result suggested that strong year classes only had 55% the standard deviation in ageing as other year classes (Figure 20). In each year, that proportion (0.55) was applied to the standard ageing error vectors for the strong year classes for ages 3-15. For relatively strong but not dominant year classes, a proportion of 0.80 was applied.

Pre-recruit surveys

NOAA's Southwest Fisheries Science Center (SWFSC) has conducted an annual survey since 1983 to estimate the relative abundance of pelagic juvenile rockfish off central California coast (36.50°–38.33° N.). The survey was designed to measure the annual relative abundance of pelagic juvenile rockfishes (*Sebastes* spp.), but also captures YOY Pacific hake (Sakuma et al. 2006). Standardized 15 minute midwater trawls with the headrope set at a depth of 30 m were conducted at a series of standard stations with a 9.5 mm mesh liner. The survey was expanded substantially in 2004 to cover a much larger spatial area (i.e., from San Diego to Point Delgada: 32.75°–40.00° N.). Since 1999, the NWFSC and Pacific Whiting Conservation Cooperative (PWCC), in coordination with the SWFSC Rockfish survey have conducted an expanded survey to improve targeting of juvenile hake and rockfish. The NWFSC-PWCC pre-recruit survey uses a midwater trawl with an 86' headrope and ½" codend with a 1/4" liner to obtain samples of juvenile hake and rockfish (identical to that used in the SWFSC Juvenile Rockfish Survey). Trawling was done at night with the head rope at 30 m at a speed of 2.7 kt. Some trawls were made before dusk to compare day/night differences in catch. Trawl tows of 15 minutes duration at target depth were conducted along transects at 30 nm intervals along the coast. Stations were located along each transect, at bottom depths of 50, 100, 200, 300, and 500 m. Since 2001, side-by-side comparisons were made between the vessels used for the NWFSC-PWCC and SWFSC survey.

In 2008 a Delta-GLM was applied to catch data from both the SWFSC and PWCC-NWFSC midwater trawl data. The Delta-GLM approach is a type of mixture distribution analysis which models zero and non-zero information from catch data separately (Pennington 1983, Stefansson 1996). However, during tuning of the model, the resultant time series was essentially tuned out of the assessment model. This year we chose to use an ANOVA as recommended by Ralston (2007). The ANOVA accounts for the year × latitude interaction, as well as depth, vessel (or survey), and period effects. The delta-GLM used last year accounted for year, depth, and latitude × survey.

The survey effect in both models accounts for potential differences between the NWFSC-PWCC survey and SWFSC survey catch data while the latitudinal effect attempts to capture changes in relative abundance of young-of-year hake. In particular, between 2001 and 2004, peak relative abundance shifted from approximately 38 to 42 degrees latitude.

Trends in the coast-wide index and associated 95% intervals are shown in Figure 21 and Table 12. While the coast-wide index does include SWFSC data, the trends in hake recruitment between the coast-wide and SWFSC index are comparable for the years of overlap, from 2001 to 2006. Specifically, both indices show large values in 2004 compared to the surrounding years, followed by very low values in 2005 through 2008. This is in stark contrast to the fishery and survey data which suggest a strong 2005 year class and a weak 2004 year class. Given the brevity of the coast-wide time series it is difficult to judge how the magnitude of the values taken from 2001 to 2008 compare on a historical basis. Details of the data used for this analysis are given in Table 11b.

Biological Parameters

Growth

There is considerable variability in length-at-age data among the 12 acoustic surveys conducted since 1977. The processes governing variation in observed length-at-age may include changes in size-selectivity over time, effects on the population due to size-selective fishing, and variation in growth rates over time. In order to explore this latter effect within a stock synthesis framework, alternative growth models were fit during the 2006 assessment to the length-at-age data collected in the acoustic surveys through 2005 (assuming size-selectivity in the acoustic surveys has been constant over time). The first of these models was a simple time-varying growth model, where the growth coefficient (K) was allowed to vary over time. This assumed that all extant cohorts are subject to the same time varying changes in metabolic rates (presumably associated with changes in available food). Two other growth models assumed that growth is density-dependent within cohort. In the second model, asymptotic size (and thus overall growth rate) was cohort specific. In the third model, K was cohort specific. Of the three alternative growth models, the model with cohort-specific L_∞ (asymptotic size) values explained more of the variation in the length-age data than the time varying K model and cohort K model (Figure 22). In particular, cohort-based L_∞ begins relatively high (> 55 cm) prior to 1980 and then appears to decline rapidly as the very large 1980 and 1984 year class grow. Expected size at age, based on the cohort based L_∞ parameter, is above the expected size for the other models in the 1977, 1980, and 1983 survey data. Likewise, cohort based K declines rapidly between the mid 1970s and mid 1980s. These cohort-based models did not assume any cumulative affects of size-selective fisheries.

A similar exploratory growth analysis was conducted on other sources of age data including the acoustic survey (1977-2007), AFSC triennial bottom trawl survey (1977-2003), and the U.S. at sea hake fishery (1973-2006). In particular, a hierarchical von Bertalanffy growth model was fit separately to each data source, which treated cohort as a random linear effect with the growth coefficients, L_∞ and K. The scale parameter, t_0, was estimated as the mean fixed effect. Markov Chain Monte Carlo simulation in WinBUGs (Bayesian inference Using Gibbs Sampling, Thomas et al. 1992; Spiegelhalter et al. 1999) was used to estimate the marginal posterior density of the cohort specific L_∞ and K parameters, which were plotted sequentially by cohort (Figure 23). The results illustrate striking consistency in the change in L_∞ and K parameters over time (by cohort) from each data source and confirm the observations described above. In the current assessment we implement time varying K and asymptotic size, but allow each to assume only two or three distinct values across the timeframe of the model to match the observed changes. In order to stabilize modeling of growth, size at age 2 is constant throughout.

A final analysis was conducted, using the same hierarchical model, to investigate differences in sex-specific growth of hake. A plot of the bivariate posterior density of 1,000 MCMC samples of L_∞ and k reveal that female hake grow to a significantly larger asymptotic size (L_∞) but at a slower rate (k) than males (Figure 24). While the present model does not model hake by sex, it is expected that the next assessment (in 2010) will be based upon a separate-sex model that will be able to account for differential fishery selectivity by sex. To properly represent the cumulative effects of size-selective fisheries in this approach, the cohort-based growth model should be integrated into the assessment model itself. This would provide a fruitful area of research for improving SS. Since this feature is not currently implemented in SS, blocks were created aggregating various years in which it was anticipated the cohort affects on growth would be manifested (See *Model Selection and Evaluation* below).

Maturity

The fraction mature by size was estimated using data from Dorn and Saunders (1997) with a logistic regression. These data consisted of 782 individual ovary collections based on visual maturity determinations by observers. The highest variability in the percentage of each length bin that was mature within an age group occurred at ages 3 and 4, with virtually all age-one fish immature and age 4+ hake mature. Within ages 3 and 4, the proportion of mature hake increased with larger sizes such that only 25% were mature at 31 cm while 100% were mature at 41 cm. Maturity in hake probably varies both as a function of length and age, however, for the purposes of SS , the logistic regression model was fit as a function of length. Maturity proportions by length are shown in Figure 25. Less then 10% of the fish smaller than 32 cm are mature, while 100% maturity is achieved by 45 cm.

Natural mortality

The natural mortality currently used for Pacific hake stock assessment and population modeling is 0.23 per year to age 13, with estimated increases in M at age 14 and 15+. The value of 0.23 was obtained by tracking the decline in abundance of a year class from one acoustic survey to the next (Dorn et. al 1994). Pacific hake longevity data, natural mortality rates reported for Merluciids in general, and previously published estimates for Pacific hake natural mortality indicate that natural morality rates in the range 0.20-0.30 could be considered plausible for Pacific hake (Dorn 1996). In the 2008 assessment, we also considered Hoenig's (1983) method for estimating natural mortality (M), assuming a maximum age of 22 (attributing a single observation at age 25 to ageing error or anomaly), The relationship between maximum age and M was recalculated using data available in Hoenig (1982) and assuming a log-log relationship (Hoenig, 1983), while forcing the exponent on maximum age to be -1. The recalculation was done so that uncertainty about the relationship could be evaluated, and the exponent was forced to be -1 because theoretically, given any proportional survival, the age at which that proportion is reached is inversely related to M (when free, the exponent is estimated to be -1.03). The median value of M via this method was 0.193. Two measures of uncertainty about the regression at the point estimate were calculated. The standard error, which one would use assuming that all error about the regression is due to observation error (and no bias occurred) and the standard deviation, which one would use assuming that the variation about the regression line was entirely due to actual variation in the relationship (and no bias occurred). The truth is undoubtedly somewhere in between these two extremes (the issue of bias not withstanding). The value of the standard error in log space was 0.094, translating to a standard error in normal space of about 0.02. The value of the standard deviation in log space was 0.571, translating to a standard deviation in normal space of about 0.1. Thus Hoenig's method suggests that a prior distribution for M with mean of 0.193 and standard deviation between 0.02 and 0.1 would be appropriate if it were possible to accurately estimate M from the data, all other parameters and priors were correctly specified, and all correlation structure was accounted for (note that SS2 does not currently allow for priors in log-normal space). The fixed value of M (through age 13) which is used in the current model (0.23) is about two standard errors from Hoenig's point estimate (0.193).

Response to 2008 STAR Recommendations

1. The Panel recommends that a Management Strategy Evaluation approach be used to evaluate whether the current 40-10 harvest control rule is sufficient to produce the management advice necessary to ensure the sustainable use of the Pacific hake stock with its dramatically episodic recruitment. The 40-10 rule assumes that simply reducing catches in a linear fashion as stock biomass declines will be sufficient to guide the fishery back towards the target spawning biomass level. However, with the fishery being dependent upon a single declining cohort just reducing the catch may achieve the status quo but it rebuilding will not occur without new recruitment.

Although the STAT agrees with this recommendation, due to changes in assessment duties and the ongoing incomplete treaty agreement this extensive analysis will be best addressed by a joint U.S.-Canadian STAT under the treaty terms of reference.

2. Related to Recommendation 1, the operating model developed for the Management Strategy Evaluation should evaluate how well the different assessment models recapture true population dynamics. At issue is whether a simpler model such as ADAPT / VPA performs better or worse than a more complex model such as SS2.

As above.

3. Female Pacific hake grow differently than male Pacific hake and many of the more influential dynamic processes that operate in the fishery are length-based but are currently considered from an age-based perspective (for example selectivity). The Panel recommends that future assessment models explore the need for including both gender- and length-based selection into the dynamics.

This goal was beyond the scope of available resources for the 2009 assessment.

4. The inclusion of ageing error was found to be influential on the model fit in the SS2 model. However, issues with ageing still remain. Further ageing error analyses are required, especially focused on estimating any bias in the ageing. It will be important to conduct a cross-validation of ageing error from the different laboratories conducting the ageing. It is especially important to include otoliths that were read by AFSC staff.

Much progress was made on this topic in 2008, see ageing error section of document.

5. In light of current acoustic survey information, re-evaluate treatment / adjustment of pre-1995 acoustic survey data and index values. For example, compare the biomass index implied by the area covered by the pre-1995 surveys with the total biomass from the full area covered by the post-1995 surveys. The difference between these two indices has implications for the magnitude of the survey catchability coefficient prior to 1995.

Acquisition of historical survey data and re-analysis of these data with regard to sampling design and variance estimates, the target strength relationship, and selection of trawl sets is ongoing and much new information is expected to be available for the 2010 assessment. Specifically, the following efforts are ongoing by the Acoustics Team at NWFSC:

1. In situ hake daytime target strength (TS) data collection using Drop Acoustic Information SYstem (DAISY). Preliminary analysis indicated that the in situ hake daytime TS data followed the regression formula (38 kHz) originally suggested by Traynor (1992) better than that suggested by Henderson and Horne (2007). However, we feel that more work is needed to make a definitive conclusion on what is the most appropriate regression formula to use for hake biomass estimate.
2. With the help from colleagues at the AFSC, we have historical acoustic data in digital form and are capable of applying the TS formula we have been used for the recent hake surveys (Traynor, 1992) to the data that used old TS formula (-35 dB per kilogram). Although we are not able to provide the re-processed historical hake biomass estimates for this years STAR panel, we should be able to provide alternative historical hake biomass estimates for the 2010 assessment.
3. It is also expected that by next year we should be able to provide the variance analysis for hake biomass estimates using Objective Mapping technique (Kriging) for both historical and recent hake acoustic data.

6. There should be further exploration of geographical variations in fish densities and relationships with average age and the different fisheries, possibly by including spatial-structure into future assessment models.

This goal was beyond the scope of available resources for the 2009 assessment.

7. There should be exploration of possible environmental effects on recruitment and the acoustic survey.

This goal was beyond the scope of available resources for the 2009 assessment.

8. There should be further investigation and resolution of possible under-reporting of foreign catch.

No progress was made on this recommendation in 2008.

Model Description

This assessment used the Stock Synthesis modeling framework written by Dr. Richard Methot at the NWFSC. The Stock Synthesis application provides a general framework for modeling fish stocks that permits the complexity of population dynamics to vary in response to the quantity and quality of available data. In the current assessment model, the Pacific hake population is assumed to be a single coast-wide stock along the Pacific coast of the United States and Canada. Sexes are combined within all data sources, including fishery and survey size/age compositions, as well as in the model structure. The accumulator age for the internal dynamics of the population is set at 15 years, well beyond the expectation of asymptotic growth. The length structure is explicitly modeled in one cm increments between 9 cm (the minus group) and 70 cm (the plus group) in the population, however the data are aggregated at a minimum value of 20 cm. The modeled period includes the years 1960-2008 (last year of available data), with forecasts extending to 2011. The population was assumed to be in equilibrium with no fishing mortality prior to the first year of the model. There were no large-scale commercial fisheries for hake until the arrival of foreign fleets in the mid to late 1960s, however the exact level of hake removals prior to 1966 (the first catches included in the assessment) is unknown.

The model structure, including parameter specifications, bounds and prior distributions (where applicable) is summarized Table 13. The assessment model includes two national fisheries: the U.S. and Canadian trawl fisheries. Although the U.S. at-sea and shore-based fisheries, as well as the Canadian JV and domestic fisheries could be modeled separately for reasons mentioned above, there was insufficient time to explore this topic for the current assessment. Therefore, in this assessment (as has been done in all recent assessments) sectors within each nation's fleets were combined; estimated selectivity changes over time will therefore reflect changes in the distribution of catch among sectors as well as fishing behavior within sectors. The selectivity curves for the acoustic survey and the U.S. and Canadian fisheries were modeled as functions of age using the double normal function (option 20 in SS). This is a change from the 2008 model which used the double logistic formulation for the fisheries; the double normal parameterization has the same number of parameters and has been found to be more stable over a range of assessment applications for U.S. west coast groundfish. Selectivity curves for all fleets are allowed to be dome-shaped (as in previous assessments) and fishery selectivity curves were allowed to vary over time to account for temporal changes in fishery operations (distant water fleets, domestic fleets, etc.) as well as shifts in selectivity as the fishery focused exploitation on abundant cohorts.

Growth is modeled as a von Bertalanffy function in this assessment. Although model misspecification is present due to sexually dimorphic growth patterns (Figure 24), there was insufficient time to develop a sex-specific model formulation for 2009. External analyses conducted as part of recent assessments (2006, 2007), as well as evaluation of model fits to conditional age-at-length data has shown strong evidence of changes in hake growth curves over time. The 2008 model allowed the size at age 12 and the von Bertalanffy *K* parameter to vary among two discrete time blocks. Specifying time-invariant growth has, and continues to result in, a decline of several hundred units in the negative log likelihood as well as marked degradation of the model residual pattern over all data sources. In this assessment, we extend the block structure used in 2008 to accommodate faster observed growth for the 1999 year class. Two blocks were used for the parameter defining length at age 12, 1960-1983 and 1984-2008, which allowed the model to account for the larger asymptotic fish size and the general prevalence of larger fish observed during the early period. Four blocks of years were used to partition the growth parameter k: a common k-value was estimated for the periods 1960-1979 and 1987-1998, with distinct k-values estimated for the periods 1980-1986 and 1999-2008. The 1980-1986 period was intended to allow the model to accommodate the slightly smaller body size of age 4-6 year old fish during those years (Figure 23). The blocks were constrained, via a relatively tight prior distribution on the temporal change in growth, so that estimated values would be time-invariant unless a strong signal was present in the data. Size at age 2 and the parameters describing the distribution of length at each age were fixed at values estimated directly from the data. These choices improved the stability of growth estimation while still allowing the model to accommodate major patterns in growth. A more rich characterization of growth will be possible only with a split-sex formulation. The temporal structure of hake growth in terms of the expected size at age is characterized as an early period from 1960 to the early 1980s where expected maximum size (i.e., length at age 12) is high relative to the subsequent period from the mid 1980s to 2008, with a decline in growth rates (i.e., smaller expected size at age for ages 4-6) during the early-to-mid 1980s. In the most recent block, 1999-2009, growth increases above baseline rates but the expected maximum size continues to be lower.

In modeling temporal changes in fishery selectivity, we employed the same approach used in recent assessments and developed a block structure consistent with the empirical data, but attempted to retain parsimony by allowing blocks only for those parameters and time periods where they made an appreciable improvement in model fit. Specifically, the U.S. fishery was allowed more flexibility, as it has been observed to target specific cohorts and have variable access to the oldest fish in the population, which frequently migrate the farthest north during the fishing season. For the U.S. fishery, both the peak and ascending width parameters were allowed to vary among 8 periods: 1960-1980, 1981-1984, 1985-1988, 1989-1992, 1993-1996, 1997-2000, 2001-2004, and 2005-2008. Final selectivity was allowed to vary among 3 periods: 1960-1983, 1984-2000, and 2001-2008. The Canadian fishery selectivity was slightly less flexible than the U.S. (as has been the case in recent assessments), given that targeting of large cohorts does not occur until the fish are several years older. The Canadian fishery ascending width parameter was allowed to vary among 5 periods: 1960-1984, 1985-1988, 1989-2000, 2001-2004 and 2005-2008. The Canadian fishery peak parameter was allowed to vary among 7 periods: 1966-1980, 1981-1984, 1985-1988, 1989-1992, 1993-2000, 2001-2004 and 2005-2008.

For the base model, the instantaneous rate of natural mortality (*M*) is assumed to be time-independent and equal to 0.23 y^{-1} for ages 2-13, and then allowed to increase linearly to a freely estimated value at age 15+. The stock-recruitment function was a Beverton-Holt parameterization, with the log of the mean unexploited recruitment freely estimated. This assessment used a beta prior for stock-recruit steepness (*h*) applied to previous assessments. This prior is based on the median (0.79), 20th (0.67) and 80th (0.87) percentiles from Myers et al. (1999) meta-analysis of the family Gadidae. Year-specific recruitment deviations were estimated from 1962-2007. This structure was based upon inspection of year-specific standard deviations relative to the estimated value of σ_R. The constraint and bias-correction standard deviation, σ_R, for recruitment variability is estimated in this assessment. Maturity and fecundity relationships are assumed to be time-invariant and fixed values remain unchanged from recent assessments (Figure 26).

Multinomial sample sizes for the length composition and conditional age-at-length data used in this assessment are based on the number of hauls or trips sampled for the commercial at-sea and shore-based fisheries, respectively, and the number of tows in the research surveys. Input sample sizes were iterated by examining the relationship between effective sample size estimated in the model and the observed input sample sizes. This process was performed prior to final model selection, but ratios of effective to input sample size remained close to, and slightly larger than 1.0, indicating the final model was fitting the data about as well, or slightly better than the input values implied. Because acoustic survey catchability was fixed, the standard deviations for the survey index were not iterated, although the RMSE from preliminary model runs was largely consistent with the mean of the input standard deviations. The base case model employed equal emphasis factors (lambdas=1.0) for all likelihood components.

Modeling Results

Model Transition

This assessment transitioned to the newest version of Stock Synthesis (SS v.3.02b) and therefore, a comparison was performed to evaluate differences in model results, if any, from the last assessment (Helser et al. 2008) using SS2 v.2.00n. The exact same model structure and data through 2007 produced no visible change in time-series of expected quantities, indicating all changes in the 2009 results were to be a function of newly included data or changes to model structure. The model using SS v.3 was then updated with data from the 2008 U.S. fishery. Again, the trend in spawning biomass and relative depletion were quite similar, except that unfished spawning biomass was slightly lower. Model runs comparing the double normal selectivity curve for the fishing fleets and the double logistic form used in the last assessment showed this to be a minor change as well.

Major changes in scale observed in this assessment were largely a result of including the improved ageing-imprecision matrix accounting for cohort effects and additional flexibility allowed for time-varying fishery selectivity. These changes resulted in large differences in scaling, as major recruitment strengths were substantially revised. Further change occurred when the modeled time period was extended to accommodate the historical California fishery data.

Model selection and evaluation

Acoustic survey catchability (*q*) has been viewed as the principal axis of uncertainty in the hake assessment for a number of years. This choice reflects that lack of clear signal for catchability in the data sets currently available to hake and the situation where very small changes in model fit and likelihood result in very dramatic changes in management advice (see sensitivity analyses below) as a function of the estimate or assumed value for *q*.

Extensive evaluation of fishery selectivity time-period blocking structure was performed. With simple time-period structures the model was found to be very sensitive to the choice of which parameters were allowed to vary over time and when the changes were allowed to occur. A general pattern emerged over hundreds of model runs that the sensitivity to these choices was reduced as more flexibility (in parameters and time-periods) was introduced. For this reason, the blocking structure in this model is somewhat more complex than in the last several assessment models (however it is more similar to the approach of smoothed annual variations in selectivity used in assessments prior to 2006).

Arbitrary constraint on the degree of recruitment variability was found to be especially important to the scale of the problem when the revised ageing-imprecision matrix was applied. For this reason, and after many model runs exploring the stability of the parameter, it was decided to freely estimate σ_R. This allowed use of the value most consist with the model time series of estimated recruitments. This choice is stable in a maximum likelihood framework only when there is sufficient signal in the data to avoid the true global minima for the parameter, zero. In the case of hake this is not a relevant concern, as the data clearly indicate the largest variability in year-class strength observed for west coast groundfish. Further, when Bayesian integration is performed, this parameter can be considered merely a hierarchical variance parameter, the integration of which incorporates uncertainty present in the data set.

Sensitivity to these major sources of uncertainty is reported below.

Assessment Model Results

The fit of the modeled time series to the acoustic survey biomass index is shown in Figure 29. Selectivity at age is estimated for the U.S. and Canadian fisheries by time block (Figures 30-31), for the Santa Barbara data by season (Figure 32), and for the acoustic survey (Figure 33).

Model fits to all length-composition data are shown via observed and predicted length frequency distributions, effective vs. input sample sizes (after tuning), and Pearson residual plots. Figures are divided by fleet: the U.S. fishery (Figures 34-36), Canadian fishery (Figures 37-39) and acoustic survey (Figures 40-42) and historical California fishery by quarter (Figures 43-46).

In general, model predictions are consistent with the observed length compositions in terms of hitting the modes of the distribution and range of sizes exploited.

The model fit the U.S. length composition data reasonably well throughout, though less well between 1997 and 2001 when the hake biomass was relatively small. Consistent patterns are present in the residuals to this fit however, and these are may be due to two (or more) factors: selectivity specifications that assume a smooth selectivity function across age, when cohort targeting is known to occur; and mis-specification of growth/sex-ratio as the assessment model is single-sex, but significant dimorphic growth is known to occur. It will be important to re-evaluate these patterns when growth is revisited in future assessments. The model also underestimated the proportion of the most frequent length classes from the 1999 year class in 2004-2007, perhaps due to its inability to model the growth process for that cohort independently from the surrounding cohorts. The historical California data tended to fit poorly, as expected by the low (and consistent) input and effective sample sizes applied.

The model fit the Canadian fishery length composition data very poorly in 2001-2002, (check years). These two anomalous observations have been the source of considerable discussion during past assessments and remain a mystery. The model was also not able to accommodate well the catches of smaller hake in 1995-1998. This suggests that hake spawned in Canadian waters in 1994 and were exploited by the Canadian fleet as young fish. Benson et al. (2002) confirm this pattern of spawning in Canadian waters. This pattern has not been observed in the Canadian fishery during any other period.

Predicted lengths for the acoustic survey were also generally on the modes with the observed size compositions. But in a number of years (1980, 1995, and 2005) the model was unable to effectively reproduce the observed bi-modal structure (Figure 40). Comparison of effective vs. input sample sizes suggest that the model fit these data as well as expected, given the observed data and input sample sizes (Figure 42). The 1999 year class in 2007 is fully selected and thus the model fits the modal structure of the size composition well. In contrast, the 2005 year class, evident as 31 cm fish in the 2007 size compositions, is not fit particularly well as these fish are not fully selected to the survey, and the model appears to be splitting the difference in an attempt to fit both the 2003 and 2005 year classes.

Given the volume of conditional age-at-length data being fit in this assessment, it is efficient to evaluate these fits via the implied fit to the aggregated marginal age compositions. In addition to being easier to inspect by eye, these plots are more familiar for those accustomed to diagnosing model fit from a variety of modeling platforms. For this reason, we plot the implied marginal fits for each data source: the U.S. fishery (Figure 47), Canadian fishery (Figures 48-50) and acoustic survey (Figure 51).

The very large dominant cohorts present in the data from all sources are tracked closely by model predictions throughout. The ability of the assessment model to match the peak observed age-frequency of the largest cohorts was substantially improved in this assessment when compared to previous hake assessments. This change is largely attributable to the accommodation of the cohort ageing effect as described above.

Sample sizes for all compositional data were iterated during early model fitting and the results reported in table 14.

The 2009 assessment model fit to the acoustic survey biomass time series is quite reasonable, given the variability assigned to each point. The RMSE was only slightly larger than the input SD (Table 14). During all survey years, the predicted biomasses are within asymptotic 95% confidence intervals, and recent residuals show no strong pattern in sign.

The acoustic survey selectivity was estimated but constrained to be time invariant (Figure 33). Although shifted somewhat toward older fish, the current dominant cohort, 1999 is fully selected. The selectivity patterns for both the U.S. and Canadian fisheries appear reasonable, tracking the entry of dominant cohorts in the late 1980s and especially the 1999 year class. U.S. fishery selectivity increased for younger aged fish as the dominant 1980 and 1984 year classes became vulnerable to exploitation during the late 1980s and early 1990s. As these cohorts grew into the older age structure and persisted in the fishable stock U.S. fishery selectivity increased on the older ages, seen as an increase in the descending limb. Canadian fishery selectivity curves also show targeting of stronger cohorts through time, the most pronounced being the 1999 year class which entered the fishery at a time of low overall biomass.

Figures 52-58 show the base model output time trajectories of total, 3+ biomass, recruitment, numbers-at-age, spawning biomass, relative depletion, relative spawning potential ratio (SPR) and exploitation fraction (see tables 15-16 as well). Summary Pacific hake biomass (age 3+) before the beginning of the model or fishing (< 1960) is estimated to be 2.9 million mt (Table 15). Summary biomass decreased to 1.2 million mt in 1972 due to poor recruitment in the early 1960s and moderate fishing from 1966-1972. It then increased to over 8.8 million mt in 1983 as the very large 1977 and 1980 classes entered the population (Figure 52, Table 15, 17). The hake population then experienced a long period of decline to a low of 1.2 million mt in 2000 as fishing intensity increased and no large and few moderate recruitment events occurred between 1985 and 1998. Age 3+ biomass more than doubled between 2001 and 2002 due to recruitment of the 1999 year class, but has subsequently declined as that year class has declined due to fishing and natural mortality.

The trend in spawning biomass is similar to that for summary biomass (Figure 54, Table 15). Spawning biomass in 1960 (SB_{zero}) is estimated to have been 1.37 million mt. Spawning biomass declined rapidly after peaking in 1984 (4.0 million mt) to the lowest point in the time series in 2000 (0.58 million mt), followed by a brief increase to 1.4 million mt in 2003. In 2009 (beginning of the year), spawning biomass is estimated to be the lowest in the time-series, 0.43 million mt, and is at 32% (~95% CI range from 15% to 49%; Figure 55, Table 16) of the unfished level. Approximate asymptotic intervals about the MLE for spawning biomass and recruitment for the entire times series are given in Table 16.

The estimated time series of hake recruitments, as well as recruitment uncertainty, recruitment deviations from the S-R curve, and yearly estimates of variability are shown in Figures 53 and 59-60. The model estimates an extra-dominant recruitment in 1980, dominant recruitment events in 1977, 1984, and 1999, and secondary recruitment events in 1970, 1973, 1987, 1990 and 2005. The 1999 year class was the single most dominant cohort since 1984. The evidence for an above-average 2005 year class is present in the 2007 and 2008 U.S. fishery compositions, as well as the 2007 acoustic survey composition, however its relative magnitude is subject to greater uncertainty than estimates for earlier year classes, due to the limited opportunities for observing it, and the reduced and uncertain selectivity on 2 and 3 year old hake. Uncertainty in recruitment can be substantial as shown by asymptotic 95% confidence intervals (Figure 54). Except for the actual magnitude of estimated recruitments, the patterns in recruitment deviations and uncertainty are qualitatively the same under the base and alternative models.

The estimate of spawning biomass for 2008 is 0.56 million mt, considerably lower than the estimate of 1.10 million mt from the 2008 assessment, reflecting a downward revision in the estimated absolute scale of the hake stock (Figure 61). However, the estimated 2008 depletion level of 32% is was not revised as much from the 38% estimated by the 2008 assessment, reflecting a downward revision of the unexploited equilibrium conditions as well. These changes in the scale of the problem are mainly a function of the improved ageing imprecision matrices, the additional flexibility allowed in time-varying fishery selectivity, and the extension of recruitment estimation back to 1962, all of which leads to revised year-class strengths.

Model Uncertainty

Uncertainty is reported via asymptotic intervals for the maximum likelihood estimates, sensitivity and retrospective analyses. Further quantification of uncertainty is provided via MCMC integration of the base case assessment model for use in the decision table of forecast projections under alternative management actions. These methods still provide an underestimate of the true uncertainty in stock size and reference points because they cannot accommodate uncertainty in structural choices or the relative weighting of data sets in addition to other known contributors to assessment uncertainty.

Reference points (biomass and exploitation rate)

Because of temporal changes in growth, there are two types of reference points reported in this assessment: those based on the assumed population parameters at the beginning of the modeled time period and those based on the most recent time period in a ‘forward projection’ mode of calculation. All strictly biological reference points (e.g., unexploited spawning biomass) are calculated based on the unexploited conditions at the start of the model, whereas management quantities (MSY, SB_{msy}, etc.) are based on the current growth and maturity schedules and are marked throughout this document with an asterisk (*).

Given the current life history parameters and long term exploitation patterns, the fishing mortality that reduces the spawning potential of the stock to 40% of the unfished level is referred to as F40%, which is the default Pacific Fishery Management Council proxy for F_{MSY} for Pacific hake. Similarly, the proxy for B_{MSY} is represented by the spawning biomass corresponding to 40% of the unfished stock size (B40%). Unexploited equilibrium Pacific hake spawning biomass (SB_{zero}) from the base model was estimated to be 1.37 million mt (~ 95% confidence interval: 1.22 - 1.51 million mt), with a mean expected recruitment of 1.99 billion age-0 hake (~ 95% confidence interval: 1.80 - 2.21). Associated management reference points for target and critical biomass levels for the base model based on $SB_{40\%}$ proxy are 0.55 million mt (B40%) and 0.34 million mt (B25%), respectively. MSY is estimated to be 287,805* mt, produced by a female spawning biomass of 296,241* mt, and reflecting the high value (0.88) estimated for steepness of the stock-recruit curve. The equilibrium $F_{MSY\text{-}proxy}$ harvest rate (F40%) yield under the base model was estimated to be 270,563* mt occurring at a spawning biomass of 466,466* mt. The biomass-based target ($SB_{40\%}$) equilibrium yield is estimated to be 254,359* mt, occurring at a spawning biomass of 546,335* mt given current life-history parameters.

The full exploitation history under the base and alternative models is portrayed graphically in Figure 58, which shows for each year (1966-2008) the calculated spawning potential ratio (1-SPR) and spawning biomass level (B) relative to their corresponding targets, F40% and B40%, respectively. As indicated in Figure 57, the estimated relative spawning potential ratio for Pacific hake has been below the target/limit value for all of the assessed years, but is now very close to this level (95%). The current spawning biomass is estimated to have dropped below the $SB_{40\%}$ reference target in 2009 as the 1999 year-class declines.

Harvest projections

Forecasts are generated applying the 40:10 control rule and coast-wide catch allocation of 73.88% and 26.12% to the U.S. and Canada, respectively to maximum likelihood results (Table 18). Stock biomass is projected to decline under the current harvest control rule as the 1999 year class declines and the smaller 2005 year class replaces it. Extremely wide confidence intervals for forecast quantities reflect uncertainty in recent and future year-class strengths as well as current biomass levels.

Alternative management actions are presented in a decision table based on MCMC integration of the posterior distribution for model quantities. Preliminary MCMC chains run on the base case model identified during the STAR panel identified a single selectivity parameter (the ascending width of U.S. fishery selectivity in 1989-1992) that was not being reliably estimated, due to a very small selectivity peak parameter estimate (making the ascending width irrelevant to the model fit). The ascending width parameter was therefore fixed at a reasonable value (this would have been done at the STAR panel had the behavior been identified) which resulted in no change to the MLE anywhere near the significant digits reported throughout this analysis. The final MCMC chain was run for 10,000,000 iterations and the first 1,000,000 were removed to eliminate 'burn-in' effects of initial conditions. Every 9,000th subsequent value was retained from the remaining iterations, resulting in 1000 samples from the posterior distributions for model parameters and derived quantities.

Stationarity of the posterior distribution for model parameters and quantities of interest was assessed via a suite of standard diagnostic tests. All derived time-series quantities, including spawning biomass, recruitment, depletion and relative SPR had maximum autocorrelation at lag-1 values < 9%, and correlation-corrected effective sample sizes ranged from 705-1000, indicating that Monte-Carlo error in posterior interval estimates should be minimal. Neither the Geweke nor the Hiedelberger and Welch statistics for derived quantities exceeded critical values more frequently than expected via random chance. The objective function, as well as growth, mortality, stock-recruit (including recruitment deviations) and catchability parameters all had maximum autocorrelation at lag-1 values < 7%, and correlation-corrected effective sample sizes ranged from 844-1000. Neither the Geweke nor the Hiedelberger and Welch statistics for these parameters exceeded critical values more frequently than expected via random chance (Figure 62). Selectivity parameters showed mixed results, with 3 parameters (3^{rd} quarter historical California ascending width, U.S. peak fishery selectivity in 2001 and U.S. ascending width of fishery selectivity in 2001) exhibiting autocorrelation > 8% (37%, 59%, 73%) and correspondingly low correlation-corrected effective sample sizes (Figure 63). Trace plots of thinned samples from the posterior revealed that longer MCMC chains with additional thinning would correct these issues (Figure 64). This behavior is attributable to: 1) the very small likelihood contribution of the 3^{rd} quarter historical California data making the parameter largely uncorrelated with all other model quantities, 2) the high degree of correlation between the ascending limb and peak value for U.S. fishery selectivity during the 2001 block, when either parameter could be sufficient to represent strong targeting of very young fish. In lieu of a longer MCMC chain, subsets of the existing chain were evaluated to explore the effect of these three parameters on management results; this exercise revealed no substantive change to model results at the level of significant digits reported throughout.

Time-series plots of the posterior distributions for female spawning biomass, age-0 recruitment, relative depletion and relative SPR are shown in Figures 65-68. Interval widths are generally quite similar to those based on the MLE values, although there is no imposed constraint on symmetry and so quantities like female spawning biomass tend to have a larger upper interval than lower. The median of the posterior distribution for current (2009) reference points is slightly more pessimistic than the MLE values; the median value of the 2009 relative depletion is 29%, compared to 32% from the MLE. The ~95% credibility interval for current depletion, 18-46%, is also quite close to the confidence interval based on the Hessian matrix of 15%-49%. Table 19 presents 3-year stochastic projections using the MLE-based OY catch-stream (40:10 correction applied to the $SPR_{Target=0.4}$ harvest rate accounting for the U.S. to Canadian catch allocation, 73.88%/26.12%) and upper and lower catch streams representing the upper and lower quartiles of depletion from the base model along with arbitrary constant catch levels of 50,000 to 200,000 mt, as well as 2009 catch level from the 40-10 rule applied to the median MCMC results and the level that would be risk neutral with respect to being below 25% B_{zero} at the beginning of 2010. The results of the MCMC posterior sample were combined with the 2009-2011 catch streams and results summarized as posterior intervals of spawning biomass, relative depletion, and relative spawning potential ratio, $1\text{-}SPR/1\text{-}SPR_{Target=0.4}$, where values greater than 1.0 denote overfishing. Spawning biomass has a 50% chance of decreasing slightly over the next three years if coast-wide catches are roughly 100,000 per year or more. When the projected OY is removed, forecasted spawning biomass has a 50% chance of declining from 0.40 million mt in 2009 to 0.32 million mt in 2011. This corresponds to spawning depletion declining, with a 50% probability, to 23%, just below the 25% minimum spawning biomass threshold relative to unfished conditions. The 50% probability of achieving values for relative spawning potential ratio very close to 1.0 reflect that the posterior interval for spawning biomass is slightly more pessimistic than the MLE estimate on which the OY is based.

Sensitivity and retrospective analyses

A number of sensitivity analyses and likelihood profiles were conducted to test the effect of select assumptions on the model results. Two of these: survey catchability and natural mortality as well as retrospective analyses (within and among assessments) are presented below.

The current biomass estimates were found to be extremely sensitive to the value estimated for survey catchability (0.85) when compared with alternate values (0.4 and 1.0; Figure 69). There was very little information in the available data to inform the estimation of q over a range of reasonable values (Figure 70). However, there are very large management ramifications among those values (Figure 71). By estimating the parameter, and integrating over it during MCMC, this source of uncertainty is captured in the model results, however, given the relatively flat likelihood surface it should not be surprising if the estimated value is substantially updated in future assessments as model structure changes and the acoustic survey time-series becomes longer.

The profile over M (through age 13) shows a flat likelihood surface between $M = 0.17$ and $M = 0.26$, with less than a 6-point change in log-likelihood over that range (Figure 72). For that range, estimates of current spawning biomass range from 0.28 to 0.56 million mt, depletion estimates range from 0.25 to 0.34, and estimates of q range from 1.06 to 0.73. Expansion of the range of M up to 0.27 results in a change of nearly 100 points in log-likelihood. When (early) M is estimated freely in the current assessment model, it converges to 0.200. When using the tighter or wider prior described above, M converges to 0.197 and 0.200, respectively.

The retrospective analysis was conducted by systematically removing the terminal years' data sequentially for eight years. Results of this analysis do not show consistent trends in the estimate of 2009 spawning stock biomass (Figure 73), although the current model estimate is among the lowest. As has been observed in previous assessments, the strength of the 1999 year class appears somewhat revised downward through time by sequentially adding new data and this has an appreciable effect on spawning biomass estimates for recent years.

A comparison of the models put forward for management since 1995 clearly shows that there has been considerable uncertainty in the Pacific hake stock biomass and status (Figure 74). Model-to-model variability (especially in the early portion of the time-series) is larger than the uncertainty reported in any single model, and this pattern does not appear to dampen as subsequent assessments are developed.

ACKNOWLEDGMENTS

We thank the following individuals who contributed technical assistance, analysis tools, data, or comments to this assessment: Dezhang Chu, Chris Grandin, Jim Hastie, Thomas Helser, Beth Horness, Mark Karnowski, Bob Lugoff, Patrick McDonald, Richard Methot, Stacey Miller, Andre Punt, Steven Ralston, Becky Renko, Omar Rodriguez, Ian Taylor, Doug Turnbull, and Vanessa Tuttle. Thank you to Dan Waldeck, Chip Dodge, Jan Jacobs, Allen Kimball, and Ole Knotten for taking the time to provide industry perspective on the 2008 fishery. We thank David Sampson (STAR Panel Chair), Norm Hall, Jon Vølstad, Tom Carruthers, John Wallace and Dan Waldeck for their insights and critical evaluation during the STAR Panel review, held in Seattle, 3-6 February, 2009. Also thank you to those we missed in this list due to the rigors of stock assessment production.

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Table 1. Annual catches of Pacific hake (1000s mt) in U.S. and Canadian waters by foreign, joint venture (JV), and domestic at-sea, shore-based and tribal fisheries, 1966-2008.

	U.S						Canada				
Year	Foreign	JV	At-sea	Shore-based	Tribal	Total U.S.	Foreign	JV	Domestic	Total Canada	Total
1966	137.00	0.00	0.00	0.00	0.00	137.00	0.70	0.00	0.00	0.70	137.70
1967	168.70	0.00	0.00	8.96	0.00	177.66	36.71	0.00	0.00	36.71	214.38
1968	60.66	0.00	0.00	0.16	0.00	60.82	61.36	0.00	0.00	61.36	122.18
1969	86.19	0.00	0.00	0.09	0.00	86.28	93.85	0.00	0.00	93.85	180.13
1970	159.51	0.00	0.00	0.07	0.00	159.58	75.01	0.00	0.00	75.01	234.58
1971	126.49	0.00	0.00	1.43	0.00	127.91	26.70	0.00	0.00	26.70	154.61
1972	74.09	0.00	0.00	0.04	0.00	74.13	43.41	0.00	0.00	43.41	117.55
1973	147.44	0.00	0.00	0.07	0.00	147.51	15.13	0.00	0.00	15.13	162.64
1974	194.11	0.00	0.00	0.00	0.00	194.11	17.15	0.00	0.00	17.15	211.26
1975	205.65	0.00	0.00	0.00	0.00	205.66	15.70	0.00	0.00	15.70	221.36
1976	231.33	0.00	0.00	0.22	0.00	231.55	5.97	0.00	0.00	5.97	237.52
1977	127.01	0.00	0.00	0.49	0.00	127.50	5.19	0.00	0.00	5.19	132.69
1978	96.83	0.86	0.00	0.69	0.00	98.37	3.45	1.81	0.00	5.27	103.64
1979	114.91	8.83	0.00	0.94	0.00	124.68	7.90	4.23	0.30	12.44	137.12
1980	44.02	27.54	0.00	0.79	0.00	72.35	5.27	12.21	0.10	17.58	89.94
1981	70.37	43.56	0.00	0.84	0.00	114.76	3.92	17.16	3.28	24.36	139.12
1982	7.09	67.46	0.00	1.02	0.00	75.58	12.48	19.68	0.00	32.16	107.73
1983	0.00	72.10	0.00	1.05	0.00	73.15	13.12	27.66	0.00	40.77	113.92
1984	14.72	78.89	0.00	2.72	0.00	96.33	13.20	28.91	0.00	42.11	138.44
1985	49.85	31.69	0.00	3.89	0.00	85.44	10.53	13.24	1.19	24.96	110.40
1986	69.86	81.64	0.00	3.46	0.00	154.96	23.74	30.14	1.77	55.65	210.62
1987	49.66	106.00	0.00	4.80	0.00	160.45	21.45	48.08	4.17	73.70	234.15
1988	18.04	135.78	0.00	6.88	0.00	160.70	38.08	49.24	0.83	88.16	248.86
1989	0.00	203.58	0.00	7.42	0.00	211.00	29.75	62.62	2.56	94.93	305.93
1990	0.00	170.97	4.71	8.12	0.00	183.80	3.81	68.31	4.02	76.15	259.95
1991	0.00	0.00	196.91	20.60	0.00	217.51	5.61	68.13	16.18	89.92	307.42
1992	0.00	0.00	152.45	56.13	0.00	208.58	0.00	68.78	20.05	88.83	297.40
1993	0.00	0.00	99.10	42.12	0.00	141.22	0.00	46.42	12.36	58.78	200.00
1994	0.00	0.00	179.07	73.66	0.00	252.73	0.00	85.16	23.78	108.94	361.67
1995	0.00	0.00	102.62	74.97	0.00	177.59	0.00	26.19	46.19	72.38	249.97
1996	0.00	0.00	112.78	85.13	15.00	212.90	0.00	66.78	26.40	93.17	306.08
1997	0.00	0.00	121.17	87.41	24.84	233.42	0.00	42.57	49.23	91.79	325.22
1998	0.00	0.00	120.45	87.86	24.51	232.82	0.00	39.73	48.07	87.80	320.62
1999	0.00	0.00	115.26	83.42	25.84	224.52	0.00	17.20	70.13	87.33	311.86
2000	0.00	0.00	116.09	85.83	6.5	208.42	0.96	15.06	6.38	22.4	230.82
2001	0.00	0.00	102.13	73.47	6.77	182.38	0.00	21.65	31.94	53.59	235.96
2002	0.00	0.00	63.26	45.71	23.15	132.11	0.00	0.00	50.77	50.77	182.91
2003	0.00	0.00	67.47	51.26	24.76	143.49	0.00	0.00	62.09	62.09	205.58
2004	0.00	0.00	90.26	89.38	30.85	210.48	0.00	58.89	65.35	124.24	334.67
2005	0.00	0.00	150.4	74.15	35.3	259.84	0.00	15.18	85.28	100.46	360.68
2006	0.00	0.00	134	97.23	35.47	267	0.00	13.71	80.01	93.76	361
2007	0.00	0.00	121	73	29.85	225	0.00	7	66	73	297
2008	0.00	0.00	166	50	32	248	0.00	3.59	70.15	73.74	320.22
Average:						166				56	222

Table 2. Recent trend in Pacific hake management performance.

Year	Total landings (mt)	Coast-wide (U.S. + Canada) OY (mt)	Coast-wide (U.S. + Canada) ABC (mt)
1999	311,855	290,000	290,000
2000	230,820	290,000	290,000
2001	235,962	238,000	238,000
2002	182,911	162,000	208,000
2003	205,582	228,000	235,000
2004	334,672	501,073	514,441
2005	359,661	364,197	531,124
2006	360,683	364,842	661,680
2007	297,098	328,358	612,068
2008	322,017	364,842	400,000

Table 3. U.S. fishery sampling information by sector showing the number of hauls or trips, lengths and ages sampled each year. Note that only the 2008 values have been updated for this assessment.

	At-sea			Shore-based		
Year	Number of hauls with lengths	Number of lengths	Number of ages	Number of trips with lengths	Number of lengths	Number of ages
1975	13	486	332	NA	NA	NA
1976	249	48,433	4,077	NA	NA	NA
1977	1,071	140,338	7,693	NA	NA	NA
1978	1,135	122,531	5,926	NA	NA	NA
1979	1,539	170,951	3,132	NA	NA	NA
1980	811	101,528	4,442	NA	NA	NA
1981	1,093	135,333	4,273	NA	NA	NA
1982	1,142	169,525	4,601	NA	NA	NA
1983	1,069	163,992	3,219	NA	NA	NA
1984	2,035	237,004	3,300	NA	NA	NA
1985	2,061	259,583	2,450	NA	NA	NA
1986	3,878	467,932	3,136	NA	NA	NA
1987	3,406	428,732	3,185	NA	NA	NA
1988	3,035	412,277	3,214	NA	NA	NA
1989	2,581	354,890	3,041	NA	NA	NA
1990	2,039	260,998	3,112	NA	NA	NA
1991	817	94,685	1,333	17	1,273	934
1992	836	72,294	2,175	49	3,152	1,062
1993	442	31,887	1,196	36	1,919	845
1994	649	41,143	1,775	80	4,939	1,457
1995	470	29,035	690	57	3,388	1,441
1996	557	32,133	1,333	47	3,330	1,123
1997	681	47,863	1,147	67	4,272	1,759
1998	803	47,511	1,158	63	3,979	2,021
1999	2,268	49,192	1,047	92	4,280	1,452
2000	2,199	48,153	1,257	81	2,490	1,314
2001	2,239	48,426	2,111	106	4,290	1,983
2002	1,821	39,485	1,695	94	3,890	1,582
2003	1,915	37,772	1,761	101	3,866	1,561
2004	2,797	57,014	1,875	129	7,170	1,440
2005	3,064	62,944	2,451	108	6,166	1,160
2006	2,824	58,094	2,058	156	8,974	1,547
2007	2,810	57,817	2,094	126	7,035	1,398
2008	3,403	55,330	1,779	99	4,924	1,009

Table 4. Canadian fishery sampling information by sector showing the number of hauls or trips, lengths and ages sampled each year. Note that 2008 values represent the sum of sampling for both sectors.

	Joint-venture			Domestic		
Year	Number of hauls with lengths	Number of lengths	Number of ages	Number of trips with lengths	Number of lengths	Number of ages
1988	129	75,767	1,557	NA	NA	NA
1989	157	56,202	1,353	NA	NA	NA
1990	152	33,312	1,024	NA	NA	NA
1991	567	97,205	1,057	NA	NA	NA
1992	429	60,391	1,786	NA	NA	NA
1993	500	70,522	1,228	NA	NA	NA
1994	875	122,871	2,196	NA	NA	NA
1995	183	20,552	1,747	NA	NA	NA
1996	813	99,228	1,526	10	449	0
1997	414	16,957	1,430	297	42,296	150
1998	468	45,117	1,113	265	29,850	454
1999	66	8,663	812	314	42,119	1,568
2000	352	45,946	1,536	23	2,151	0
2001	284	26,817	1,424	126	14,937	111
2002	NA	NA	NA	1890	13,611	1,831
2003	NA	NA	NA	338	24,898	1,386
2004	595	60,025	1,102	124	7,716	1,581
2005	58	5,206	292	267	17,252	1,415
2006	126	9,417	334	212	15,576	1,170
2007	47	4,050	0	172	8,991	965
2008				188	12,281	1,950

Table 5. U.S. fishery sampling information by sector showing the sampled catch weight, total fishery catch weight each year. Note that only 2008 values have been updated for this assessment.

	At-sea			Shore-based		
Year	Sampled weight (mt)	Total weight (mt)	Percent sampled	Sampled weight (mt)	Total weight (mt)	Percent sampled
1975	47	205,654	<0.1%	NA	NA	NA
1976	4,165	231,331	1.8%	NA	NA	NA
1977	4,239	127,013	3.3%	NA	NA	NA
1978	4,769	97,683	4.9%	NA	NA	NA
1979	6,797	123,743	5.5%	NA	NA	NA
1980	10,074	71,560	14.1%	NA	NA	NA
1981	9,846	113,921	8.6%	NA	NA	NA
1982	23,956	74,553	32.1%	NA	NA	NA
1983	27,110	72,100	37.6%	NA	NA	NA
1984	13,603	93,611	14.5%	NA	NA	NA
1985	11,842	81,545	14.5%	NA	NA	NA
1986	24,602	151,501	16.2%	NA	NA	NA
1987	22,349	155,653	14.4%	NA	NA	NA
1988	21,499	153,822	14.0%	NA	NA	NA
1989	20,560	203,578	10.1%	NA	NA	NA
1990	16,264	175,685	9.3%	NA	NA	NA
1991	15,833	196,905	8.0%	683	20,600	3.3%
1992	17,781	152,449	11.7%	1,964	56,127	3.5%
1993	11,306	99,103	11.4%	1,619	42,119	3.8%
1994	13,959	179,073	7.8%	4,461	73,656	6.1%
1995	9,833	102,624	9.6%	3,224	74,965	4.3%
1996	13,813	112,776	12.2%	3,036	85,127	3.6%
1997	17,264	121,173	14.2%	4,670	87,410	5.3%
1998	17,370	120,452	14.4%	4,231	87,856	4.8%
1999	47,541	115,259	41.2%	6,740	83,419	8.1%
2000	48,482	116,090	41.8%	7,735	85,828	9.0%
2001	43,459	102,129	42.6%	8,524	73,474	11.6%
2002	37,252	63,258	58.9%	7,089	45,708	15.5%
2003	38,067	67,473	56.4%	7,676	55,335	13.9%
2004	53,411	90,258	59.2%	10,918	96,229	11.3%
2005	66,356	150,400	44.1%	8,997	85,914	10.5%
2006	60,435	97,403	62.0%	13,646	115,980	11.8%
2007	64,230	107,489	59.8%	12,231	72,663	16.8%
2008	155,617	166,000	93.7%	9,488	50,000	19.0%

Table 6. Canadian fishery sampling information by sector showing the sampled catch weight, total fishery catch weight each year. Table from 2008 assessment.

	Joint-venture			Domestic		
Year	Sampled weight (mt)	Total weight (mt)	Percent sampled	Sampled weight (mt)	Total weight (mt)	Percent sampled
1988	2,210	49,243	4.5%	NA	NA	NA
1989	2,767	62,618	4.4%	NA	NA	NA
1990	3,078	68,313	4.5%	NA	NA	NA
1991	11,840	68,133	17.4%	NA	NA	NA
1992	8,901	68,779	12.9%	NA	NA	NA
1993	8,929	46,422	19.2%	NA	NA	NA
1994	15,387	85,162	18.1%	NA	NA	NA
1995	3,770	26,191	14.4%	NA	NA	NA
1996	14,863	66,779	22.3%	388	26,395	1.5%
1997	8,325	42,565	19.6%	267	49,227	0.5%
1998	9,638	39,728	24.3%	337	48,074	0.7%
1999	1,970	17,201	11.5%	462	70,132	0.7%
2000	5,762	15,059	38.3%	298	6,382	4.7%
2001	6,072	21,650	28.0%	5,961	31,935	18.7%
2002	NA	NA	NA	9,353	50,769	18.4%
2003	NA	NA	NA	14,474	62,090	23.3%
2004	14,620	58,892	24.8%	3,605	65,345	5.52%
2005	1,630	15,178	10.7%	7,650	85,284	9.0%
2006	2,702	13,715	19.7%	8,005	80,011	10.0%
2007	1,043	14,980	7.0%	4,972	79,535	6.23%
2008	636	3,592	17.7%	2,784	70,150	4.0%

Table 7. U.S. fishery sample sizes for conditional age-at-length data. Values represent the number of hauls contributing from the at-sea sector and the number of trips from the shore-based fishery. Note: only the 2008 values have been updated for this assessment.

Length (cm)	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
20			1		1	1	5				
21			1	2		3	9				
22		1		2		2	13				
23	1	1		4		1	23				
24	1	1		4		2	25	2			
25	1	3		10	1	1	29	5			
26	2	1		10	2		40	11	1		1
27	2	4		9	2	1	34	9		1	
28	1	5		14	4	1	22	12			1
29	3	4		7	10	1	21	18	6		2
30	5	4		4	21	1	16	37	10		1
31	3	6	2	2	27		12	38	11	3	3
32	5	8			30	3	6	52	23	1	3
33	2	9	4		46	4	9	62	23	2	3
34	4	10	5		33	9	12	66	35	6	2
35	4	7	12		24	19	16	62	39	12	1
36	5	13	28	3	17	38	28	55	51	25	1
37	5	23	56	7	19	66	49	59	55	41	2
38	3	26	71	17	12	74	59	48	62	72	7
39	2	45	99	51	11	84	78	50	58	112	16
40	6	58	114	88	17	89	94	62	62	121	43
41	10	53	146	129	25	83	84	66	69	135	78
42	9	55	141	176	36	93	85	86	77	125	107
43	9	56	160	171	44	88	88	94	72	112	121
44	10	54	160	158	65	100	101	99	69	93	124
45	8	47	147	165	72	111	101	100	69	82	115
46	9	47	142	148	74	114	107	99	75	83	101
47	7	39	132	144	84	96	114	103	74	74	79
48	10	42	128	154	83	90	122	111	70	67	63
49	8	44	136	143	76	85	122	116	69	66	58
50	4	57	123	147	83	90	105	101	71	50	52
51	5	62	135	156	89	87	113	112	59	49	25
52	6	60	140	184	85	92	107	100	66	43	24
53		69	146	178	86	94	116	106	66	28	17
54	2	64	147	186	78	105	96	104	61	20	15
55	4	58	161	176	70	102	80	86	57	11	11
56		67	139	156	66	102	65	85	44	5	3
57	1	65	131	115	58	102	56	81	32	5	4
58	1	62	94	103	41	88	39	48	32	4	3
59	2	57	95	60	47	52	34	53	17	7	
60	1	56	73	60	22	60	36	37	22	2	1
61		48	60	45	26	39	30	28	15		1
62		45	52	41	16	27	20	17	9	4	
63		30	46	27	12	25	20	21	12	4	
64		36	42	26	8	26	16	21	6	2	
65		33	23	18	13	19	8	18	6	1	
66		33	17	14	11	12	10	9	4		
67		33	15	18	6	11	10	10	4	1	
68	1	28	18	13	8	9	5	6	5	2	1
69	1	25	17	10	4	7	7	6	1	3	
70		71	62	60	16	14	15	14	12	9	

Table 7. Continued.

Length (cm)	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
20						2				1	
21						2					
22						1					
23						1					
24	1										
25											
26			1								
27							1				
28					2		2				
29	1		1	2	6		5				
30	5			3	5	1	6		1		1
31	8		1	9	15	2	8	4			6
32	19		2	15	22	5	5	1		1	9
33	22	3	2	15	24	13	3	5	1		17
34	49	6	3	8	45	23	4	5		1	23
35	41	16	3	10	51	32	3	17	3		30
36	42	29	3	13	76	33	6	31	9		30
37	40	60	15	9	84	39	22	42	19	2	23
38	39	79	56	17	94	37	23	45	42	4	27
39	36	88	101	40	98	46	58	49	64	2	33
40	51	97	129	79	104	50	66	44	70	6	38
41	85	104	141	120	95	55	78	38	66	18	35
42	114	112	141	129	96	59	84	50	73	31	36
43	119	121	145	125	93	58	82	57	81	33	50
44	110	117	153	127	91	54	81	64	99	38	65
45	113	113	152	125	82	53	81	65	99	37	73
46	105	106	150	130	88	53	81	63	98	36	74
47	100	102	137	133	82	47	84	58	95	39	72
48	83	92	123	118	84	48	84	62	90	38	64
49	67	83	81	98	73	44	82	46	91	37	59
50	77	59	68	74	72	36	73	30	63	33	47
51	59	40	45	49	74	18	59	22	34	25	30
52	51	31	34	40	58	9	39	9	25	23	29
53	52	18	22	35	43	6	35	4	15	13	10
54	44	14	15	27	34	6	26	7	13	10	12
55	27	8	14	14	20	7	20	6	8	8	7
56	31	5	8	15	15	2	15	1	4	6	4
57	24	5	13	8	14	3	15	2	5	4	1
58	11	3	11	8	14	2	9		6	6	3
59	11	2	4	7	11	3	9	1	2	3	3
60	7	5	6	3	14		7		3	1	1
61	8	3	5	6	15	3	5	2	1	1	2
62	7	6	1		9	3	5		1	2	2
63	3	1		3	9	3	2		1	1	1
64	6	2	4	1	8		3		1		1
65	5	3	3	1	8	2	2		2		1
66	6	1	4	2	8	5	2				
67	4	2			6	2			1		1
68	3	3	2	4	6	2	2		1		
69	4	1	3		7	1		1	1		
70	25	5	12	4	20	8	6	1	3	1	2

Table 7. Continued.

Length (cm)	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
20										1	4	
21										1		
22										1	1	
23										2	1	1
24										4		3
25										6		2
26										7	1	6
27					1					11	3	7
28				2						11	6	6
29			2	2						10	8	7
30			8	3	6					9	11	3
31			8	3	7	1		1		7	17	11
32		2	9	2	15					14	39	11
33		4	19	1	19				1	28	41	11
34	1	1	29	2	28	1			2	51	41	20
35	1	5	41	2	32	2			4	96	57	23
36	7	13	38	6	50	11	2			107	45	28
37	16	17	41	18	55	19	2	1	2	128	49	48
38	32	30	54	16	61	45	6	7	3	187	60	78
39	47	36	60	24	56	80	25	23	6	275	42	72
40	59	50	53	36	61	113	61	45	25	298	46	77
41	77	56	59	43	97	128	133	90	49	328	72	84
42	83	73	49	56	100	117	199	133	125	248	126	56
43	84	97	77	85	100	100	227	216	242	187	155	62
44	70	102	70	86	112	85	203	227	309	112	235	95
45	71	90	84	89	121	63	156	225	318	72	319	121
46	57	77	63	106	136	53	106	177	267	45	332	155
47	53	51	63	120	136	61	67	105	199	18	315	183
48	41	43	47	100	153	65	49	79	114	8	259	165
49	28	25	31	95	118	74	33	39	72	2	173	181
50	27	17	17	75	86	76	33	26	46	8	124	132
51	21	7	13	55	59	68	17	8	31	3	74	112
52	11	3	9	34	50	55	15	12	9	6	53	85
53	11	3	6	17	37	48	5	5	11	4	31	64
54	5	2	3	17	34	38	7	3	6	1	19	36
55	1	4		9	10	27	4	2	3	2	14	30
56	3	1		12	8	17	3	2	4	1	9	21
57	1		3	4	11	13		2	3	1	16	13
58	1	1	2	3	1	7		2	1	2	4	10
59	1	1		5	2	4	1	1	2	1	6	6
60	1		1	4	4	4		2		3	6	6
61	1		2	2	1	2			1	2	2	4
62		1	1	4		3		1		5	1	4
63	1			1		1					5	2
64						2					1	
65		1		2	1	1	1				1	1
66	1					1			1		1	2
67								1				
68									1			1
69												
70	2					1					4	

Table 8. Canadian fishery sample sizes for conditional age-at-length data. Values represent the number of hauls contributing from the joint-venture sector and the number of trips from the domestic fishery. Table from 2008 assessment.

Length (cm)	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
20										
21										
22										
23								1		
24								2		
25								2		
26								1		
27								1		
28								1		
29										
30										
31									2	
32									2	
33							1	1	3	
34						1			3	
35	1						1		4	
36						1	1		8	
37	1				1		1		9	
38	1		2		1				12	1
39	3		3	1	2				7	7
40	4	2	3	1	3	5			8	10
41	4	5	4	1	9	10	6	1	6	17
42	4	6	5	3	15	14	10	6	14	21
43	5	6	6	6	22	17	20	11	15	22
44	5	6	4	14	27	17	24	18	22	22
45	5	6	4	16	29	18	28	21	24	23
46	5	6	4	16	29	18	29	21	24	23
47	5	6	4	16	29	18	30	21	24	23
48	5	6	4	16	29	18	31	21	24	23
49	5	6	4	16	29	18	30	21	23	22
50	5	6	5	16	27	17	28	21	23	22
51	5	6	5	16	28	13	28	21	22	18
52	5	6	6	13	16	12	27	17	17	18
53	5	6	4	13	15	4	23	17	11	14
54	5	4	5	8	12	5	18	14	12	9
55	4	5	3	4	7	1	21	11	4	5
56	4	4	4	8	4		12	7	7	2
57	4	4	4	3	4		9	5	7	3
58	4	3	3	5	4	5	6	9	6	
59	3	2	4	3	1		8	6	1	1
60	3	2	3	2	3		6	4	4	1
61	2	1	2	2			5	4	4	
62	1	3	4	2	1		3	1	1	
63	1	3	4		2		2	2		
64	1	2	2	1			3	3		1
65	1	1	2				5	1	2	
66		1	1	1			1	1	1	
67		2	2					1		
68				1					1	1
69			1	1				1		
70	1	4	1	1	1		2	1		

Table 8. Continued.

Length (cm)	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
20	1									1	
21		1									
22		1									
23		2									1
24											1
25											1
26		2									1
27											2
28	1										2
29		1					1				2
30		1					1				2
31		3	1	1							4
32		5				2	1				6
33		10				2	1				7
34	1	7	1				2			1	7
35		10	3				1			2	8
36	4	16	4			1	1				7
37	8	17	5		1		2				7
38	10	19	6				2	2		1	8
39	17	26	5				3		1	1	12
40	18	27	9			1	11	1	2	4	7
41	19	30	13	1		3	20	3	5	7	12
42	25	35	14	3		11	26	12	13	13	11
43	24	36	14	4	8	14	31	17	16	15	20
44	25	35	17	6	3	14	32	19	41	19	27
45	25	37	16	11	5	15	32	20	51	24	36
46	25	38	18	15	11	15	32	20	73	26	41
47	25	38	19	18	15	15	32	20	82	29	42
48	23	34	19	20	22	15	31	19	81	30	40
49	21	35	19	20	24	15	31	17	71	33	45
50	22	31	20	20	25	15	31	12	70	31	40
51	17	27	18	20	26	13	27	12	59	23	42
52	8	22	16	20	26	13	18	2	45	23	34
53	8	14	17	19	26	11	17	5	24	17	29
54	6	11	15	18	26	11	13	7	26	21	21
55	2	9	9	19	26	9	11	6	10	10	22
56	2	6	10	17	25	7	5	4	12	12	13
57	3	2	6	17	25	6	7	2	6	9	17
58	2	4	6	17	21	8	3	2	6	12	7
59	1	4	8	12	13	5	1	1	7	8	8
60		1	4	9	18	5	5		7	6	3
61		1	4	7	12	3	2	1	6	2	7
62		1		4	12	1	1			4	3
63	1		2	2	7	1	2		1	2	1
64		1	1	2	2	1		1	2	3	2
65				3	1	1	1	1	2	2	
66		2	1	1	2		1		1	2	
67			1	2	1						1
68					1	1	1			3	
69							1			1	
70			1						1	2	

Table 9. Acoustic survey sampling information, 1977-2007. Table from 2008 assessment.

Year	Number of hauls	Number of lengths	Number of ages
1977	85	11,695	4,262
1980	49	8,296	2,952
1983	35	8,614	1,327
1986	43	12,702	2,074
1989	22	5,606	1,730
1992	43	15,852	2,184
1995	69	22,896	2,118
1998	84	33,347	2,417
2001	49	16,442	2,536
2003	71	19,357	3,007
2005	49	13,644	1,905
2007	130	15,756	2,915

Table 10. Acoustic survey sample sizes for conditional age-at-length data. Values represent the number of hauls. Table from 2008 assessment.

Length (cm)	1977	1980	1983	1986	1989	1992	1995	1998	2001	2003	2005	2007
20												
21												
22												
23												
24						2		1				3
25						2		3		1		2
26	1					2		2				4
27					1	4		4	2			7
28	1					2	2	10		1	1	8
29	1	1		2		5	1	13			1	15
30	1			3		7	2	16	3	2	4	17
31	2			6		7	4	20	8	2	6	18
32	3			8		8	9	23	14	4	7	17
33	4		2	8	1	8	13	23	17	4	10	20
34	3	4	4	9	3	8	15	31	20	8	8	20
35	9	7	3	9	4	7	21	31	20	8	10	16
36	14	9	5	11	6	6	20	30	20	8	9	15
37	16	10	7	8	8	6	17	36	17	9	10	13
38	14	12	8	10	7	5	14	39	13	14	8	11
39	17	10	9	5	9	8	6	50	10	14	10	10
40	20	12	13	6	10	7	11	44	17	29	6	16
41	22	11	11	12	15	10	15	55	14	43	22	14
42	24	10	11	21	20	24	26	62	18	56	28	27
43	29	12	9	21	20	28	40	66	22	55	36	36
44	34	13	13	20	20	36	45	64	17	59	41	38
45	40	16	12	21	20	38	49	57	29	61	42	43
46	41	18	13	21	20	39	53	49	29	53	41	44
47	45	19	12	17	18	37	50	51	30	55	39	54
48	48	21	13	18	16	34	47	46	30	43	32	49
49	48	24	12	16	16	30	38	31	28	41	27	46
50	45	22	12	16	10	22	27	22	27	32	23	37
51	47	22	11	16	8	18	17	9	25	28	12	30
52	46	21	10	11	9	14	14	5	26	24	12	22
53	44	19	9	13	6	6	10	6	24	19	9	22
54	40	18	8	8	5	3	7	4	25	12	5	12
55	38	17	6	9	2	4	5	2	18	12	3	12
56	31	19	5	4	2	5	6	2	13	7	5	6
57	33	16	7	4		4	3	3	10	6	2	6
58	27	11	2	3	3	3	5	5	10	5	1	7
59	19	14	3	3	2	1	2		7	3	1	5
60	18	7	1	4	2	1	2	1	8	6		6
61	16	4	2	3		1	1	2	5	2		3
62	11	3	2	2		2	4		3	5		
63	11	2	1		1	3	2		2			
64	10	2		3	1		1		4	2	1	4
65	8	3	1	1	1		2		3	2	1	
66	8	2	1				2		2	2		2
67	8	2		1			2		1	2		
68	7	4		1					2		1	
69	4	3	1	1	1		1	1	4	2	1	
70	7	3		1	2		3		4	6	6	2

Table 11. Acoustic survey biomass estimates (excluding fish of age-0 and age-1, and including all post-survey spatial expansion correction factors) and assumed SDs of the log-index, 1977-2007. Values are unchanged from 2008 assessment.

Year	Biomass estimate (1000s mt)	SD ln(value)
1977	1,915	0.50
1980	2,115	0.50
1983	1,647	0.50
1986	2,857	0.50
1989	1,238	0.50
1992	2,169	0.25
1995	1,385	0.25
1998	1,185	0.25
2001	737	0.25
2003	1,840	0.25
2005	1,265	0.25
2007	879	0.25

Table 12. Pre-recruit survey relative estimates of numbers at age-0 and SDs of the log-index based on a jackknife variance estimation procedure.

Year	Numbers age-0	SD ln(value)
2001	820.81	0.42
2002	357.08	0.23
2003	791.57	0.31
2004	1,659.21	0.28
2005	383.40	0.27
2006	208.59	0.18
2007	68.38	0.13
2008	138.36	0.17

Table 13. Summary of key model parameters in the base case assessment model (excluding forecasts).

Parameter	Number estimated	Bounds (low, high)	Prior (Mean, SD) (single value = fixed)	Value
		Stock and recruitment		
Ln(R_0)	1	(11,21)	uniform	14.506
Steepness (*h*)	1	(0.2,1.0)	~Beta(0.777,0.113)	0.883
σ_r	1	(1.0,2.0)	uniform	1.22
Ln(Recruitment deviations): 1962-2007	46	(-7, 7)	~Ln(N(0, σ_r))	*
Ln(Forecast recruitment deviations): 2008	1	(-7,7)	~Ln(N(0, σ_r))	*
		Individual growth and mortality		
Natural mortality (*M*, to age 13)	-	NA	0.23	0.23
Natural mortality (*M*, ramp to value at age 15)	1	(0.2,0.8)	uniform	0.623
Length at age 2 (cm)	-	NA	32	32
von Bertalanffy *K*	1	(0.1,0.7)	uniform	0.299
Exponential offset to *K*, 1980-1986	1	(-2,2)	~N(0,0.01)	-0.135
Exponential offset to *K*, 1999-2008	1	(-2,2)	~N(0,0.01)	0.207
Length at age 12 (cm)	1	(30,70)	uniform	53.40
Exponential offset to length at age 12, 1984-2008	1	(-2,2)	~N(0,0.01)	-0.057
CV of length at age 2	-	NA	0.066	0.066
CV of length at age 12	-	NA	0.062	0.062
Weight-length slope	-	NA	0.000007	0.000007
Weight-length exponent	-	NA	2.9624	2.9624
Length at 50% maturity (cm)	-	NA	36.89	36.89
Logistic maturity slope	-	NA	-0.48	-0.48
Eggs produced per gram intercept	-	NA	1.0	1.0
Eggs produced per gram slope	-	NA	0.0	0.0
		Catchability and selectivity (double normal)		
Acoustic survey:				
Ln(*Q*) - catchability	1	(-5,0.5)	uniform	-0.166
Time-invariant age-based selectivity	3	varied	uniform	**
U.S. Fishery:				
Time-invariant age-based selectivity	3	varied	uniform	**
Additive offsets to ascending, peak and final parameters	16	(-10,10)	uniform	**
Canadian Fishery:				
Time-invariant age-based selectivity	3	varied	uniform	**
Additive offsets to ascending, and peak parameters	10	(-10,10)	uniform	**
Historical California fishery (4 separate seasons):				
Time-invariant age-based selectivities	3	varied	uniform	**

Total: 48 + 47 recruitment deviations = 95 estimated parameters (98 in Appendix B include 2009-2011 recruitment forecasts).
* See tables below for recruitment estimates. ** Too many to report here, see Appendix B for all parameter estimates.

Table 14. Model tuning specifications by source.

Type of data	Source	Input adjustment	Average input after adjustment	Average effective N or RMSE
Survey	Acoustic	+0.0	0.35	0.52
	Pre-recruit (*removed from base*)	+1.5	1.75	>1.75
Length	Acoustic	x 1.41	78.5	83.3
	U.S. fishery	x 0.09	155.8	158.5
	Canadian fishery	x 1.04	90.4	96.3
	Historical California fishery 1st qtr.	x 1.40	24.0	28.7
	Historical California fishery 2nd qtr.	x 1.40	14.7	19.8
	Historical California fishery 3rd qtr.	x 1.40	32.2	48.8
	Historical California fishery 4th qtr.	x 1.40	31.8	34.8
Age	Acoustic	x 3.27	47.0	51.1
	U.S. fishery	x 1.70	75.6	98.6
	Canadian fishery	x 1.78	21.0	27.4

Table 15. Time-series of population estimates from the base case model.

Year	Total biomass (millions mt)	Age 3+ biomass (millions mt)	Female spawning biomass (millions mt)	Depletion	Age-0 recruits (billions)	1-SPR	Exploitation fraction
1960	3.23	2.87	1.37	100%	1.99	0.00	0.00
1961	3.23	2.87	1.37	100%	1.99	0.00	0.00
1962	3.22	2.87	1.37	100%	0.10	0.00	0.00
1963	3.14	2.87	1.37	100%	0.23	0.00	0.00
1964	2.90	2.87	1.35	99%	0.98	0.00	0.00
1965	2.63	2.56	1.25	91%	0.88	0.00	0.00
1966	2.40	2.23	1.11	81%	1.30	0.19	0.06
1967	2.09	1.91	0.93	68%	1.28	0.28	0.11
1968	1.80	1.57	0.76	55%	1.83	0.18	0.08
1969	1.69	1.44	0.68	50%	0.96	0.27	0.12
1970	1.62	1.31	0.62	45%	4.92	0.39	0.18
1971	1.62	1.27	0.57	42%	1.41	0.38	0.12
1972	1.90	1.20	0.59	44%	0.55	0.31	0.10
1973	2.05	1.82	0.76	56%	4.63	0.37	0.09
1974	2.15	1.87	0.85	62%	0.75	0.41	0.11
1975	2.31	1.67	0.83	61%	2.21	0.40	0.13
1976	2.29	2.09	0.90	66%	1.02	0.40	0.11
1977	2.31	1.91	0.91	67%	12.45	0.26	0.07
1978	2.70	2.02	0.93	68%	1.23	0.21	0.05
1979	3.62	1.95	1.03	75%	2.36	0.22	0.07
1980	4.18	3.73	1.47	108%	34.16	0.14	0.02
1981	5.54	3.77	1.73	127%	0.10	0.19	0.04
1982	8.18	3.77	2.06	151%	0.17	0.13	0.03
1983	8.90	8.87	3.24	238%	0.58	0.11	0.01
1984	8.99	8.84	4.02	294%	17.55	0.11	0.02
1985	8.71	7.88	3.78	277%	0.01	0.07	0.01
1986	9.14	6.88	3.50	256%	0.40	0.12	0.03
1987	8.41	8.36	3.49	256%	5.30	0.12	0.03
1988	7.70	7.41	3.44	252%	2.23	0.13	0.03
1989	7.14	6.36	3.11	228%	0.08	0.20	0.05
1990	6.33	6.02	2.80	205%	3.19	0.18	0.04
1991	5.50	5.35	2.51	184%	0.79	0.24	0.06
1992	4.76	4.31	2.12	155%	0.02	0.27	0.07
1993	3.96	3.84	1.79	131%	2.45	0.20	0.05
1994	3.34	3.22	1.53	112%	2.24	0.37	0.11
1995	2.73	2.31	1.15	84%	1.67	0.35	0.11
1996	2.36	1.99	0.92	67%	2.16	0.45	0.15
1997	2.07	1.76	0.78	57%	1.34	0.46	0.19
1998	1.86	1.51	0.68	50%	2.58	0.52	0.21
1999	1.74	1.38	0.60	44%	12.32	0.56	0.23
2000	2.12	1.22	0.58	42%	0.46	0.49	0.19
2001	2.98	1.37	0.71	52%	0.98	0.45	0.17
2002	3.23	3.12	1.16	85%	0.01	0.28	0.06
2003	3.19	3.05	1.39	102%	1.64	0.25	0.07
2004	2.89	2.82	1.33	98%	0.33	0.36	0.12
2005	2.45	2.21	1.10	80%	2.39	0.42	0.16
2006	2.00	1.85	0.87	64%	0.38	0.47	0.19
2007	1.67	1.34	0.66	49%	1.03	0.49	0.23
2008	1.37	1.27	0.56	41%	1.90	0.57	0.25
2009	1.14	0.92	0.43	32%	1.86	NA	NA

Table 16. Time-series of ~95% confidence intervals for female spawning biomass, relative depletion estimates, age-0 recruits, relative spawning potential ratio (1-SPR/1-SPR$_{Target=0.4}$) and exploitation fraction (catch/3+biomass) from the base case model.

Year	Female spawning biomass (millions mt)	Depletion	Age-0 recruits (billions)	(1-SPR) / (1-SPR$_{target}$)	Exploitation fraction
1960	1.22 - 1.51	NA	1.80 - 2.21	NA	NA
1961	1.22 - 1.51	NA	1.80 - 2.21	NA	NA
1962	1.22 - 1.51	NA	0.03 - 0.36	NA	NA
1963	1.22 - 1.51	NA	0.09 - 0.61	NA	NA
1964	1.21 - 1.49	NA	0.74 - 1.30	NA	NA
1965	1.12 - 1.38	NA	0.66 - 1.17	NA	NA
1966	1.00 - 1.22	NA	1.10 - 1.55	0.29 - 0.34	0.06 - 0.07
1967	0.84 - 1.01	0.66 - 0.69	1.09 - 1.50	0.43 - 0.50	0.10 - 0.12
1968	0.69 - 0.82	0.54 - 0.57	1.63 - 2.07	0.28 - 0.34	0.07 - 0.08
1969	0.63 - 0.73	0.48 - 0.52	0.82 - 1.13	0.41 - 0.48	0.12 - 0.13
1970	0.58 - 0.66	0.43 - 0.48	4.45 - 5.45	0.62 - 0.70	0.17 - 0.19
1971	0.53 - 0.61	0.39 - 0.45	1.24 - 1.60	0.60 - 0.66	0.11 - 0.13
1972	0.55 - 0.64	0.40 - 0.48	0.46 - 0.66	0.48 - 0.54	0.09 - 0.11
1973	0.69 - 0.82	0.50 - 0.61	4.12 - 5.20	0.59 - 0.65	0.08 - 0.10
1974	0.77 - 0.93	0.55 - 0.69	0.64 - 0.88	0.65 - 0.72	0.10 - 0.12
1975	0.75 - 0.92	0.54 - 0.69	1.95 - 2.51	0.62 - 0.70	0.12 - 0.15
1976	0.79 - 1.01	0.57 - 0.75	0.87 - 1.20	0.62 - 0.71	0.10 - 0.13
1977	0.79 - 1.03	0.57 - 0.76	11.2 - 13.84	0.39 - 0.49	0.06 - 0.08
1978	0.80 - 1.06	0.58 - 0.78	1.05 - 1.45	0.30 - 0.39	0.04 - 0.06
1979	0.89 - 1.17	0.65 - 0.86	2.07 - 2.68	0.33 - 0.41	0.06 - 0.08
1980	1.29 - 1.66	0.93 - 1.23	31.77 - 36.72	0.21 - 0.27	0.02 - 0.03
1981	1.52 - 1.94	1.10 - 1.44	0.04 - 0.24	0.27 - 0.35	0.03 - 0.04
1982	1.82 - 2.29	1.31 - 1.70	0.11 - 0.25	0.19 - 0.24	0.03 - 0.03
1983	2.93 - 3.55	2.10 - 2.65	0.48 - 0.69	0.16 - 0.21	0.01 - 0.01
1984	3.66 - 4.37	2.61 - 3.28	16.89 - 18.22	0.16 - 0.20	0.01 - 0.02
1985	3.45 - 4.11	2.45 - 3.08	<0.01 - 0.04	0.11 - 0.13	0.01 - 0.02
1986	3.21 - 3.80	2.28 - 2.85	0.34 - 0.46	0.18 - 0.21	0.03 - 0.03
1987	3.23 - 3.76	2.28 - 2.84	5.11 - 5.51	0.19 - 0.22	0.03 - 0.03
1988	3.20 - 3.67	2.25 - 2.78	2.11 - 2.36	0.20 - 0.23	0.03 - 0.04
1989	2.91 - 3.32	2.04 - 2.52	0.05 - 0.12	0.31 - 0.34	0.04 - 0.05
1990	2.62 - 2.97	1.84 - 2.26	3.07 - 3.32	0.29 - 0.32	0.04 - 0.05
1991	2.36 - 2.66	1.65 - 2.03	0.73 - 0.87	0.38 - 0.41	0.05 - 0.06
1992	2.00 - 2.24	1.39 - 1.71	0.01 - 0.05	0.44 - 0.47	0.07 - 0.07
1993	1.70 - 1.89	1.18 - 1.45	2.32 - 2.58	0.32 - 0.35	0.05 - 0.05
1994	1.46 - 1.61	1.01 - 1.23	2.10 - 2.39	0.60 - 0.64	0.11 - 0.12
1995	1.09 - 1.20	0.76 - 0.93	1.55 - 1.81	0.56 - 0.60	0.10 - 0.11
1996	0.88 - 0.96	0.61 - 0.74	1.98 - 2.35	0.73 - 0.77	0.15 - 0.16
1997	0.75 - 0.82	0.52 - 0.63	1.20 - 1.49	0.75 - 0.79	0.18 - 0.19
1998	0.65 - 0.71	0.45 - 0.55	2.31 - 2.88	0.84 - 0.88	0.20 - 0.22
1999	0.56 - 0.64	0.39 - 0.49	10.79 - 14.07	0.91 - 0.96	0.21 - 0.24
2000	0.53 - 0.62	0.37 - 0.47	0.38 - 0.56	0.78 - 0.84	0.17 - 0.20
2001	0.64 - 0.78	0.45 - 0.59	0.80 - 1.21	0.70 - 0.79	0.16 - 0.19
2002	1.02 - 1.31	0.73 - 0.98	<0.01 - 0.03	0.42 - 0.50	0.05 - 0.07
2003	1.21 - 1.58	0.86 - 1.18	1.20 - 2.23	0.36 - 0.46	0.06 - 0.08
2004	1.14 - 1.53	0.82 - 1.14	0.22 - 0.50	0.53 - 0.66	0.10 - 0.14
2005	0.91 - 1.28	0.65 - 0.95	1.50 - 3.81	0.62 - 0.79	0.13 - 0.19
2006	0.68 - 1.06	0.49 - 0.78	0.21 - 0.69	0.68 - 0.90	0.15 - 0.24
2007	0.47 - 0.86	0.34 - 0.63	0.15 - 6.94	0.68 - 0.96	0.17 - 0.30
2008	0.33 - 0.78	0.25 - 0.57	0.29 - 12.35	0.77 - 1.14	0.15 - 0.36
2009	0.20 - 0.67	0.15 - 0.49	0.29 - 12.10	NA	NA

Table 17. Estimated numbers at age (millions).

Year	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1960	1,994	1,585	1,259	1,000	795	632	502	399	317	252	200	159	126	100	80	112
1961	1,994	1,585	1,259	1,000	795	632	502	399	317	252	200	159	126	100	80	112
1962	99	1,585	1,259	1,000	795	632	502	399	317	252	200	159	126	100	80	112
1963	229	79	1,259	1,000	795	632	502	399	317	252	200	159	126	100	80	112
1964	982	182	63	1,000	795	632	502	399	317	252	200	159	126	100	80	112
1965	876	781	144	50	795	632	502	399	317	252	200	159	126	100	80	112
1966	1,304	696	620	115	40	632	502	399	317	252	200	159	126	100	80	112
1967	1,280	1,036	553	488	90	31	483	378	296	231	182	143	114	90	73	109
1968	1,834	1,017	823	433	378	68	23	353	268	203	154	118	92	72	58	97
1969	964	1,457	808	650	340	295	53	17	264	196	144	106	78	60	47	81
1970	4,924	766	1,158	635	507	263	224	39	13	181	127	87	60	43	33	61
1971	1,406	3,913	609	898	484	378	189	154	25	8	99	63	40	26	19	43
1972	549	1,117	3,109	472	686	361	273	131	101	16	4	55	33	20	14	30
1973	4,631	436	887	2,438	367	526	272	199	92	67	10	2	28	16	10	20
1974	754	3,679	347	689	1,864	274	381	189	132	57	39	5	1	14	9	15
1975	2,212	599	2,923	268	523	1,375	195	258	120	78	32	20	3	1	7	11
1976	1,024	1,757	476	2,263	204	387	983	133	166	73	44	17	10	1	0	9
1977	12,452	814	1,396	368	1,716	150	275	667	86	101	42	25	9	6	1	5
1978	1,231	9,894	646	1,093	285	1,312	113	202	477	60	69	28	16	6	4	3
1979	2,357	978	7,861	508	854	220	1,000	85	149	345	42	48	20	11	4	4
1980	34,157	1,873	777	6,179	397	659	168	749	62	107	242	29	33	13	8	5
1981	102	27,139	1,488	614	4,864	311	512	129	569	46	78	175	21	23	9	7
1982	169	81	21,563	1,178	484	3,804	240	389	96	411	33	54	120	14	16	9
1983	575	134	64	17,096	931	381	2,974	186	296	72	302	24	39	86	10	15
1984	17,546	457	107	51	13,535	735	299	2,312	142	224	53	221	17	28	63	14
1985	13	13,941	363	84	40	10,679	576	232	1,776	108	167	39	162	13	21	46
1986	395	10	11,076	287	67	32	8,383	451	181	1,378	83	129	30	125	10	37
1987	5,302	314	8	8,726	225	52	25	6,484	346	138	1,049	64	98	23	96	26
1988	2,233	4,212	250	6	6,852	176	41	19	4,962	263	105	795	48	74	18	74
1989	78	1,774	3,347	196	5	5,352	137	31	15	3,753	199	79	599	36	56	49
1990	3,193	62	1,409	2,635	150	4	4,045	103	23	11	2,822	149	60	453	28	61
1991	794	2,537	50	1,111	2,012	114	3	3,061	78	18	8	2,135	113	45	346	49
1992	17	631	2,016	39	835	1,508	85	2	2,269	58	13	6	1,590	85	34	240
1993	2,446	13	501	1,580	29	619	1,111	62	2	1,657	42	10	4	1,174	63	143
1994	2,239	1,944	10	392	1,223	22	468	830	46	1	1,227	31	7	3	879	113
1995	1,673	1,779	1,544	8	293	892	16	323	562	31	1	826	21	5	2	564
1996	2,157	1,329	1,413	1,186	6	216	639	11	222	385	21	1	567	15	3	279
1997	1,337	1,714	1,056	1,067	870	4	147	418	7	140	243	13	0	365	10	133
1998	2,577	1,062	1,362	810	796	623	3	93	249	4	76	130	7	0	205	62
1999	12,321	2,047	844	1,034	594	554	404	2	51	124	2	35	61	3	0	114
2000	463	9,790	1,627	636	747	403	345	226	1	22	51	1	14	25	2	42
2001	980	368	7,778	1,241	470	526	265	209	124	0	11	23	0	7	12	17
2002	10	779	293	6,072	881	316	340	172	135	80	0	7	16	0	4	15
2003	1,636	8	619	231	4,621	648	226	243	123	97	58	0	5	11	0	10
2004	333	1,300	6	488	175	3,431	473	165	178	90	71	42	0	4	8	5
2005	2,387	264	1,033	5	360	125	2,372	327	114	123	62	49	30	0	3	8
2006	376	1,897	210	784	4	258	86	1,577	210	71	75	37	29	18	0	5
2007	1,029	299	1,507	158	570	3	172	55	967	125	41	42	21	16	10	2
2008	1,903	817	237	1,126	114	393	2	108	33	562	71	23	23	11	9	6
2009	1,862	1,512	649	173	780	74	239	1	58	17	279	34	11	11	6	6

Table 18. Three-year projections of maximum likelihood-based Pacific hake ABC, OY, spawning biomass and depletion for the base case model based on the 40:10 harvest control rule and the $F_{40\%}$ overfishing limit/target.

Year	ABC (mt)	OY (mt)	Female spawning biomass (millions mt)	~95% confidence interval	Estimated depletion	~95% confidence interval
2009	291,965	253,582	0.43	0.20 - 0.67	32%	15% - 49%
2010	238,866	193,109	0.36	0.10 – 0.62	26%	7% - 45%
2011	227,178	189,054	0.36	<0.01 – 0.74	27%	<1% - 53%

Table 19. Decision table with three year projections of posterior distributions for Pacific hake female spawning biomass, depletion (both of these at the beginning of the year, before fishing takes place) and relative spawning potential ratio (1-SPR/1-$SPR_{Target=0.4}$; values greater than 1.0 denote overfishing). Catch alternatives are based on: 1) arbitrary constant catch levels of 50,000, 100,000, 150,000 and 200,000 mt (rows a, b, d, and f); 2) the values estimated via the 40:10 harvest control rule and the $F_{40\%}$ overfishing limit/target for the base case MLE model (row h; from Table 18 above), and catch streams representing upper and lower quartiles of depletion from the MLE variance estimate (rows c and i); 3) the approximate 40:10 policy rule applied to the median of the full posterior (MCMC) distribution for 2009 (row g); and 4) the catch level that would be risk neutral in terms of avoiding being overfished (depletion >25%) in 2010 (row e).

Management Action			States of nature														
			Female spawning biomass (millions mt) posterior interval					Estimated depletion posterior interval					Relative spawning potential ratio posterior interval				
	Year	Catch	5th	25th	50th	75th	95th	5th	25th	50th	75th	95th	5th	25th	50th	75th	95th
a	2009	50,000	0.25	0.33	0.40	0.48	0.64	18%	24%	29%	34%	46%	0.24	0.31	0.36	0.42	0.52
	2010	50,000	0.23	0.33	0.41	0.50	0.69	17%	24%	29%	36%	49%	0.22	0.29	0.34	0.41	0.52
	2011	50,000	0.24	0.33	0.43	0.56	0.90	17%	24%	31%	40%	64%	0.19	0.27	0.33	0.40	0.51
b	2009	100,000	0.25	0.33	0.40	0.48	0.64	18%	24%	29%	34%	46%	0.43	0.52	0.60	0.68	0.81
	2010	100,000	0.21	0.31	0.38	0.48	0.66	15%	22%	28%	34%	47%	0.40	0.52	0.60	0.70	0.86
	2011	100,000	0.20	0.29	0.39	0.52	0.86	14%	21%	28%	37%	61%	0.37	0.50	0.60	0.72	0.89
c	2009	137,526	0.25	0.33	0.40	0.48	0.64	18%	24%	29%	34%	46%	0.54	0.65	0.73	0.82	0.96
	2010	131,109	0.19	0.29	0.37	0.46	0.65	14%	21%	26%	33%	46%	0.51	0.64	0.74	0.84	1.02
	2011	156,111	0.17	0.26	0.36	0.49	0.83	12%	19%	26%	35%	59%	0.53	0.70	0.82	0.96	1.14
d	2009	150,000	0.25	0.33	0.40	0.48	0.64	18%	24%	29%	34%	46%	0.57	0.69	0.77	0.86	1.00
	2010	150,000	0.19	0.28	0.36	0.45	0.64	14%	21%	26%	33%	46%	0.56	0.70	0.80	0.91	1.09
	2011	150,000	0.16	0.25	0.34	0.48	0.82	11%	18%	25%	34%	58%	0.52	0.70	0.82	0.97	1.16
e	2009	184,000	0.25	0.33	0.40	0.48	0.64	18%	24%	29%	34%	46%	0.65	0.77	0.86	0.95	1.08
	2010	184,000	0.17	0.27	0.35	0.48	0.63	13%	19%	25%	31%	45%	0.65	0.80	0.91	1.02	1.20
	2011	184,000	0.13	0.22	0.32	0.45	0.79	9%	16%	23%	32%	56%	0.62	0.81	0.95	1.10	1.31
f	2009	200,000	0.25	0.33	0.40	0.48	0.64	18%	24%	29%	34%	46%	0.69	0.81	0.90	0.98	1.12
	2010	200,000	0.17	0.26	0.34	0.43	0.62	12%	19%	24%	31%	44%	0.69	0.85	0.96	1.07	1.25
	2011	200,000	0.12	0.21	0.30	0.43	0.78	8%	15%	22%	31%	56%	0.66	0.86	1.00	1.16	1.37
g	2009	215,000	0.25	0.33	0.40	0.48	0.64	18%	24%	29%	34%	46%	0.71	0.84	0.93	1.02	1.15
	2010	215,000	0.16	0.25	0.33	0.42	0.61	12%	18%	24%	30%	44%	0.73	0.89	1.00	1.11	1.29
	2011	215,000	0.11	0.19	0.29	0.42	0.77	7%	14%	21%	30%	55%	0.70	0.91	1.05	1.22	1.43
h	2009	253,582	0.25	0.33	0.40	0.48	0.64	18%	24%	29%	34%	46%	0.79	0.91	1.00	1.09	1.22
	2010	193,109	0.14	0.24	0.32	0.41	0.60	10%	17%	23%	29%	43%	0.69	0.86	0.98	1.10	1.29
	2011	189,054	0.10	0.19	0.28	0.42	0.76	7%	14%	21%	30%	54%	0.65	0.86	1.01	1.18	1.40
i	2009	365,784	0.25	0.33	0.40	0.48	0.64	18%	24%	29%	34%	46%	0.95	1.07	1.15	1.23	1.35
	2010	256,993	0.09	0.18	0.27	0.36	0.55	7%	14%	19%	25%	39%	0.85	1.04	1.17	1.30	1.45
	2011	222,901	0.04	0.12	0.21	0.34	0.69	3%	9%	15%	25%	50%	0.77	1.02	1.20	1.38	1.46

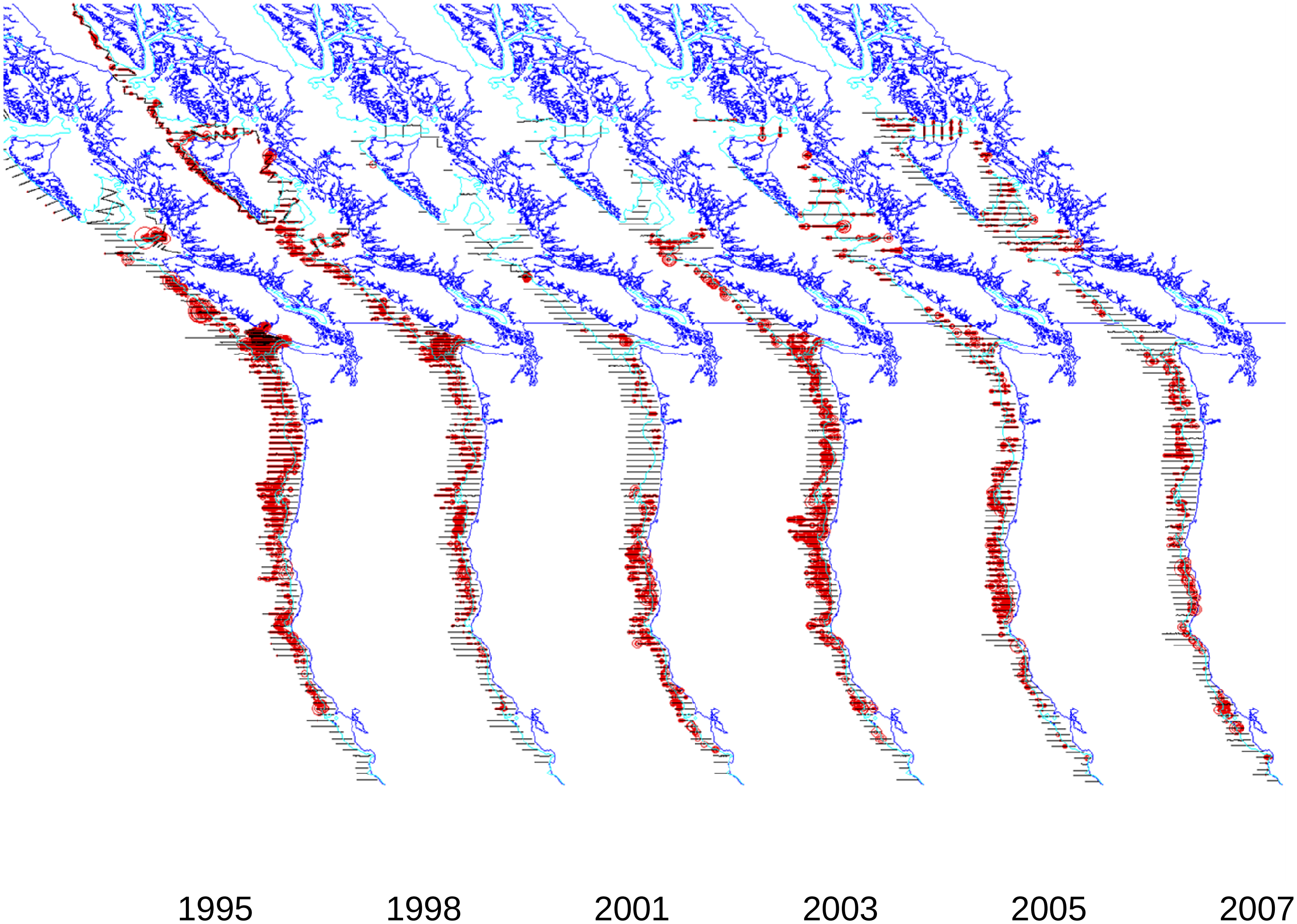

Figure 1. Occurrence of acoustic area backscattering attributable to Pacific hake in the last six (1995-2007) joint US-Canada acoustic surveys. Diameter of circles is proportional to measured backscatter levels.

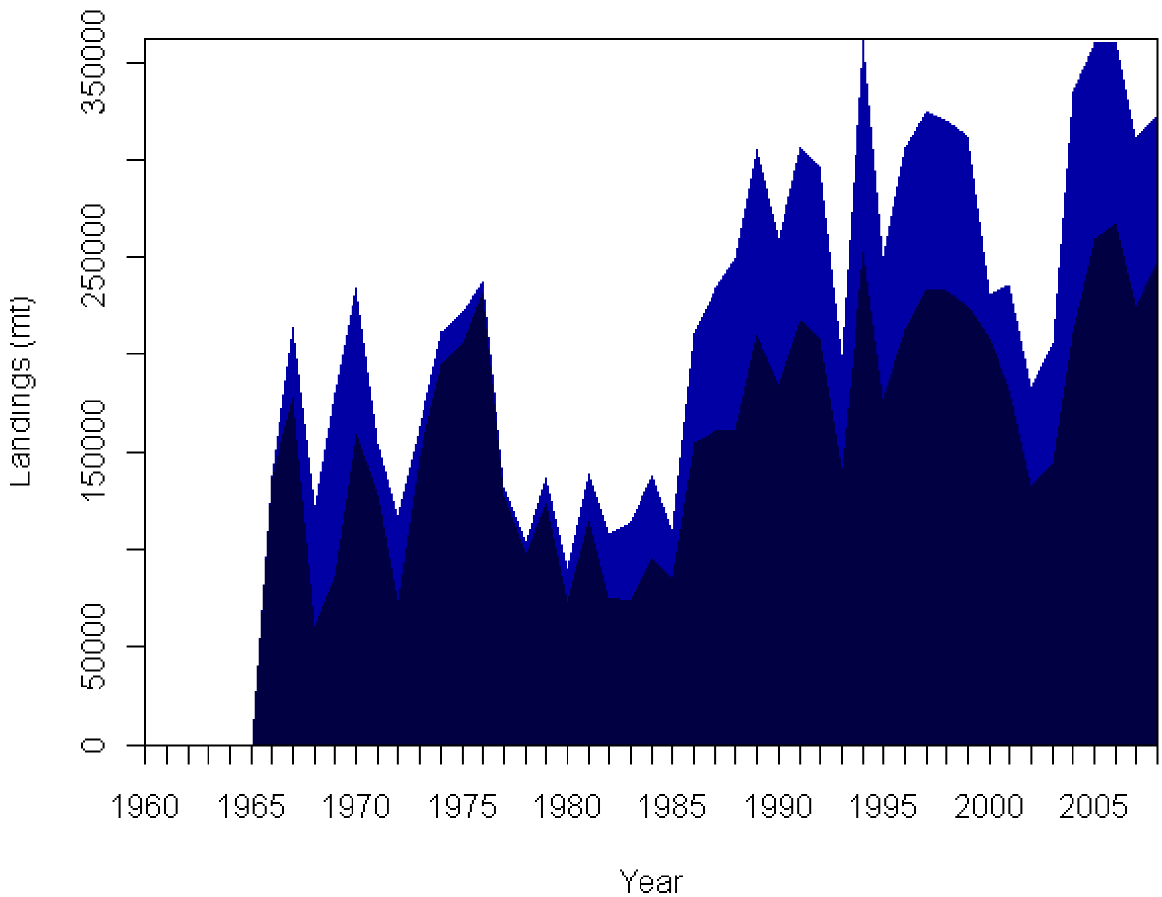

Figure 2. Total Pacific hake landings used in the assessment by nation, 1960-2008 (Canadian landings are represented by the lighter region above the darker U.S. values).

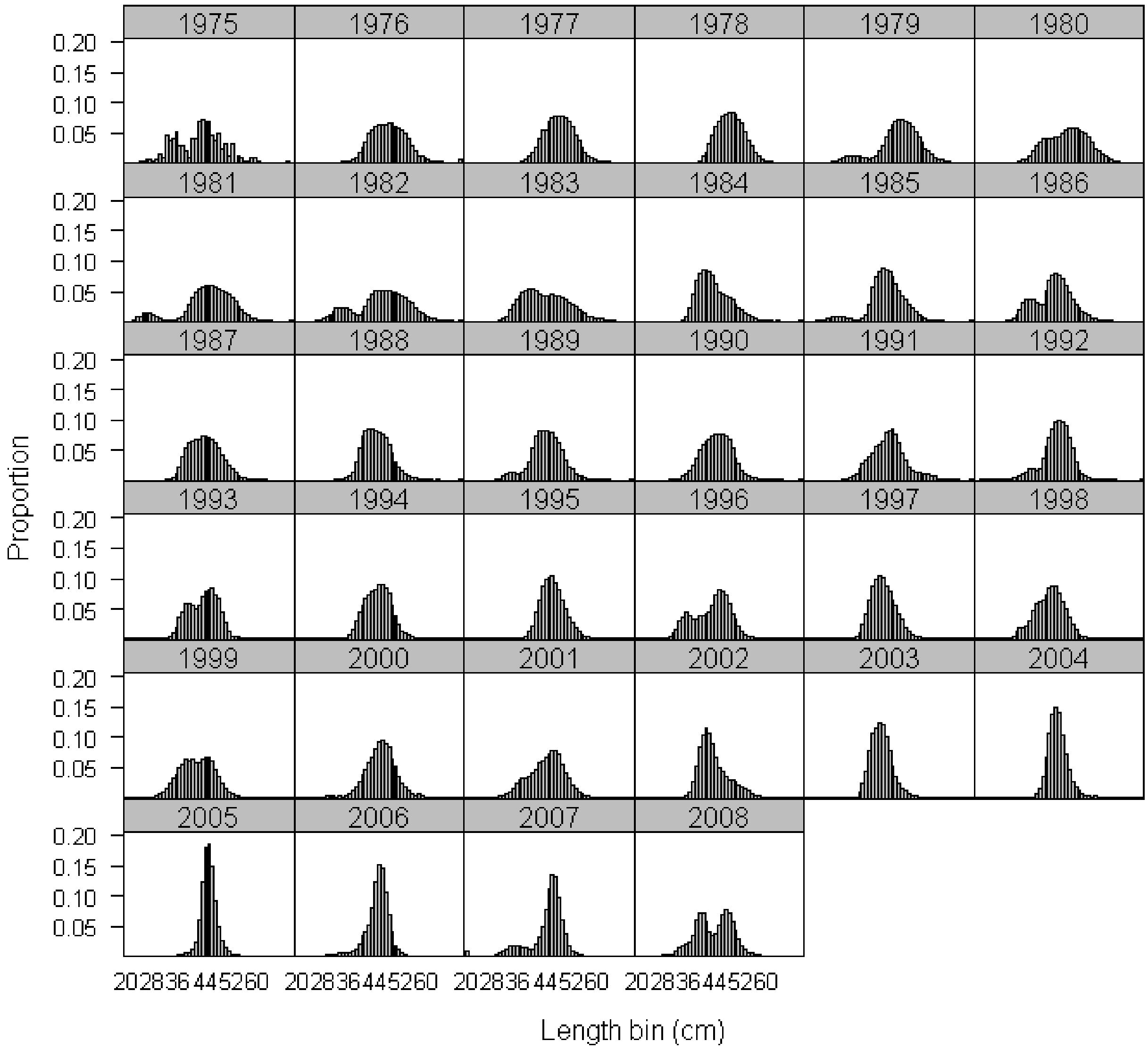

Figure 3. Plot of U.S. fishery (at-sea and shore-based combined) length compositions, 1975-2008.

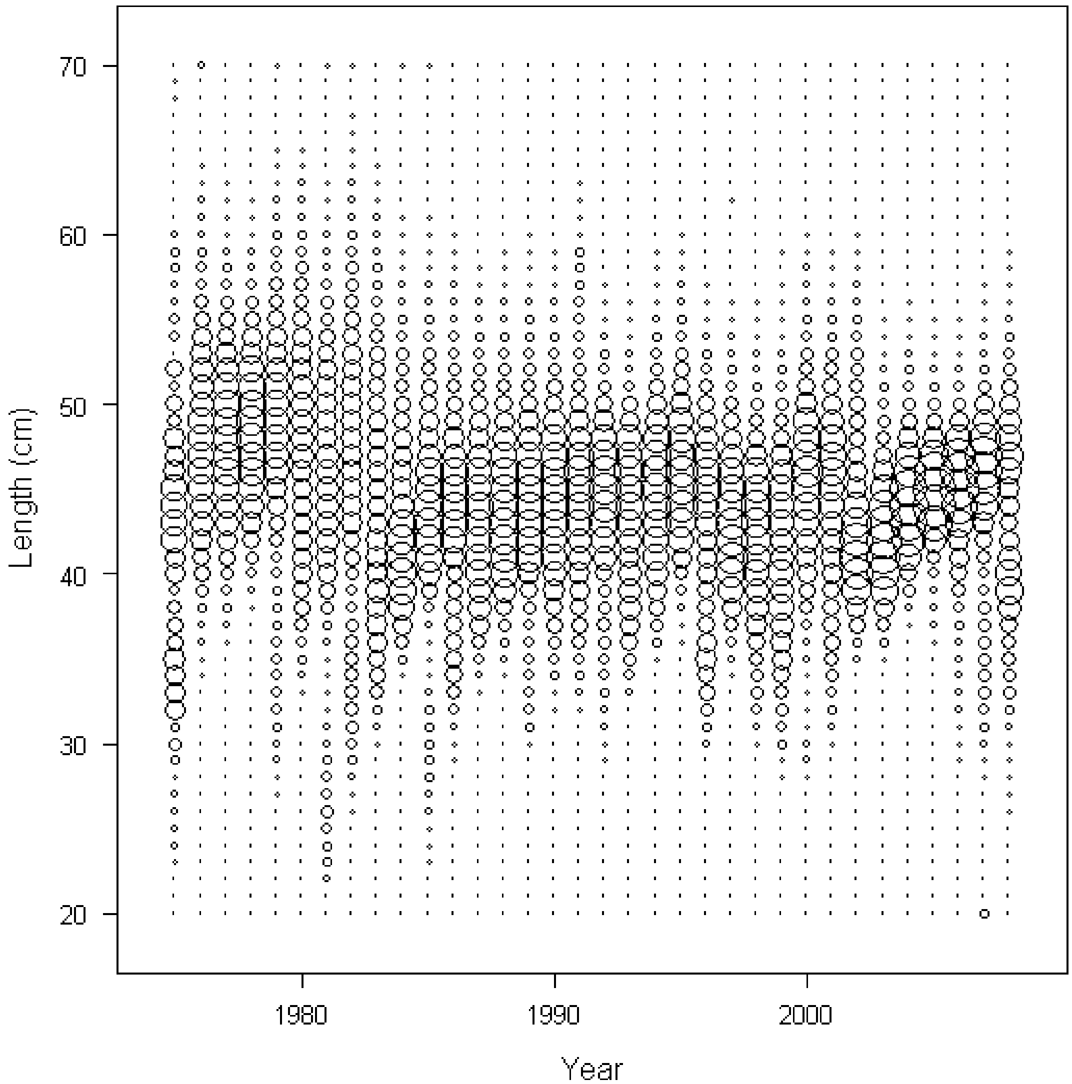

Figure 4. Plot of U.S. fishery (at-sea and shore-based combined) length compositions, 1975-2008. Diameter of circles is scaled to a maximum proportion of 0.19 and proportions sum to 1.0 in each year.

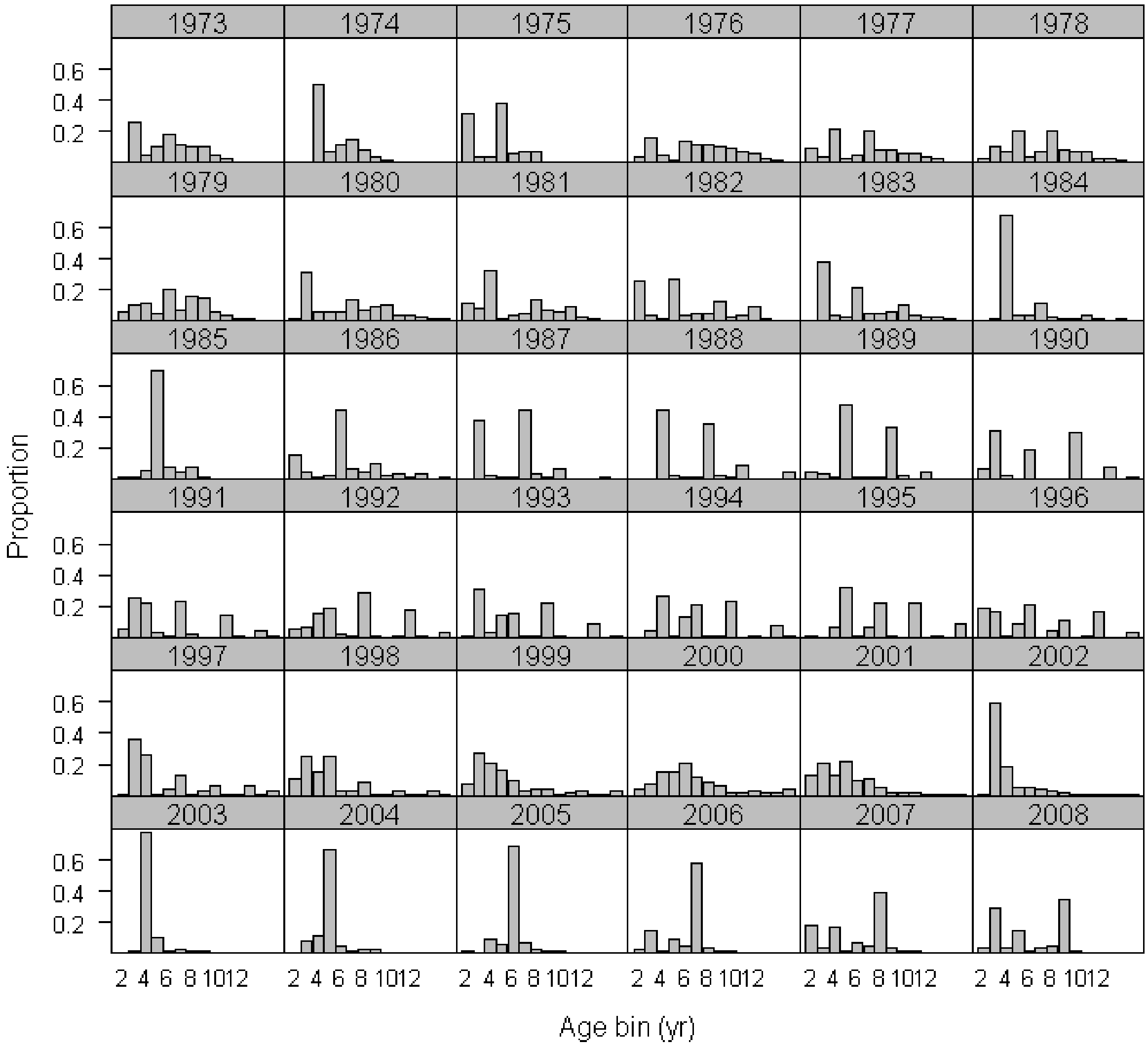

Figure 5. Plot of U.S. fishery (at-sea and shore-based combined) age compositions, 1973-2008.

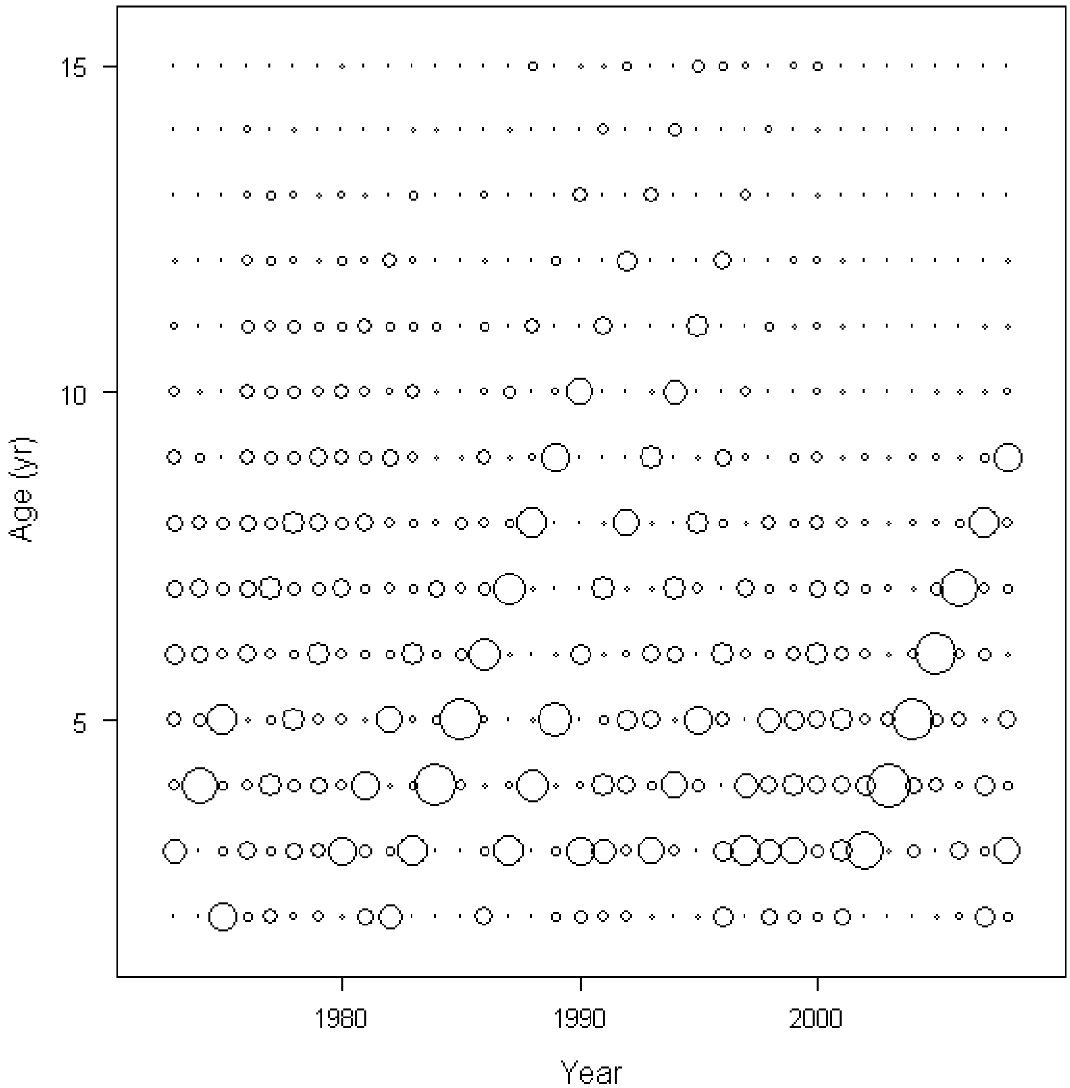

Figure 6. Plot of U.S. fishery (at-sea and shore-based combined) age compositions, 1973-2008. Diameter of circles is scaled to a maximum proportion of 0.78 and proportions sum to 1.0 in each year.

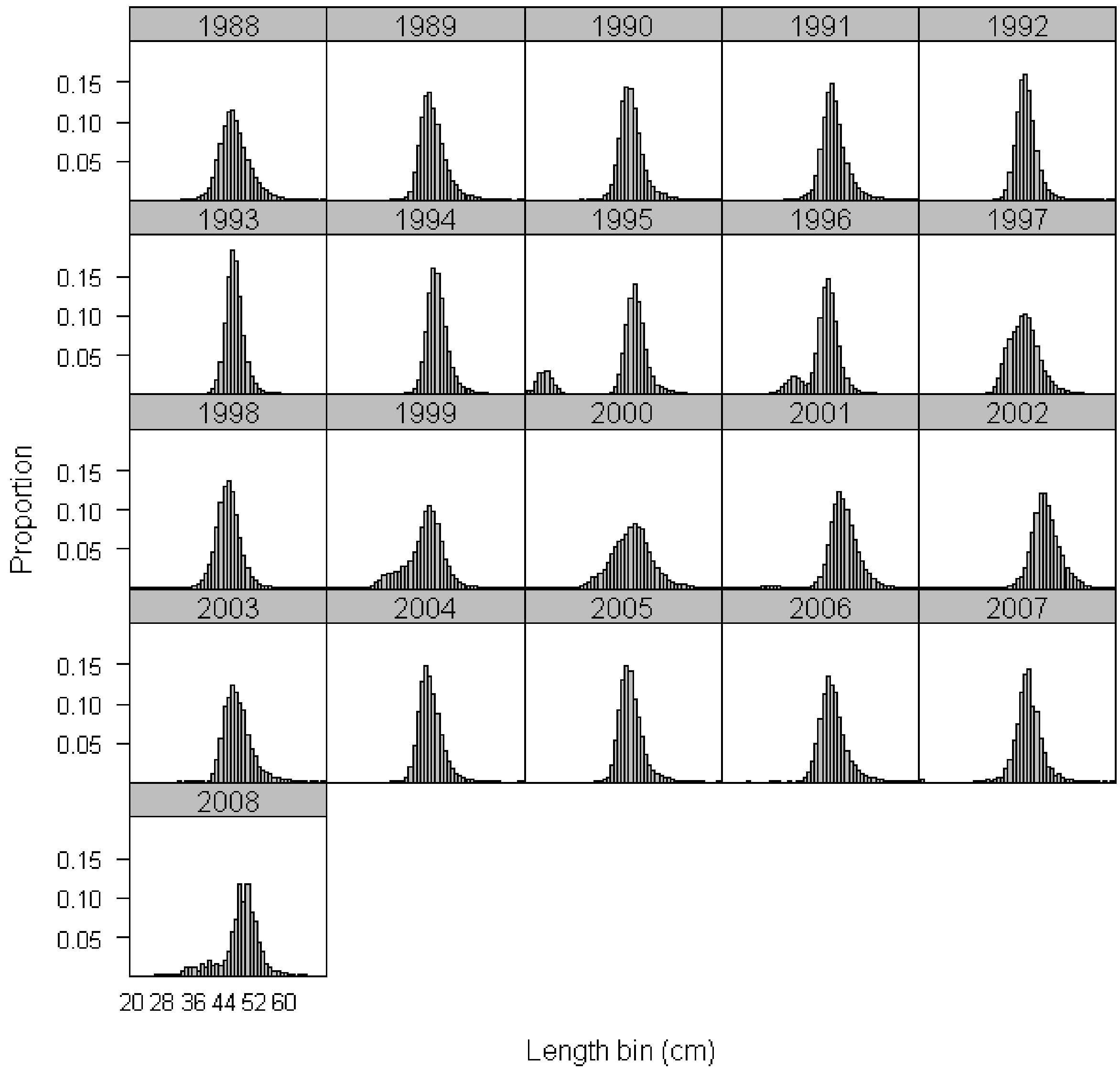

Figure 7. Plot of Canadian fishery (joint-venture and domestic combined) length compositions, 1988-2008.

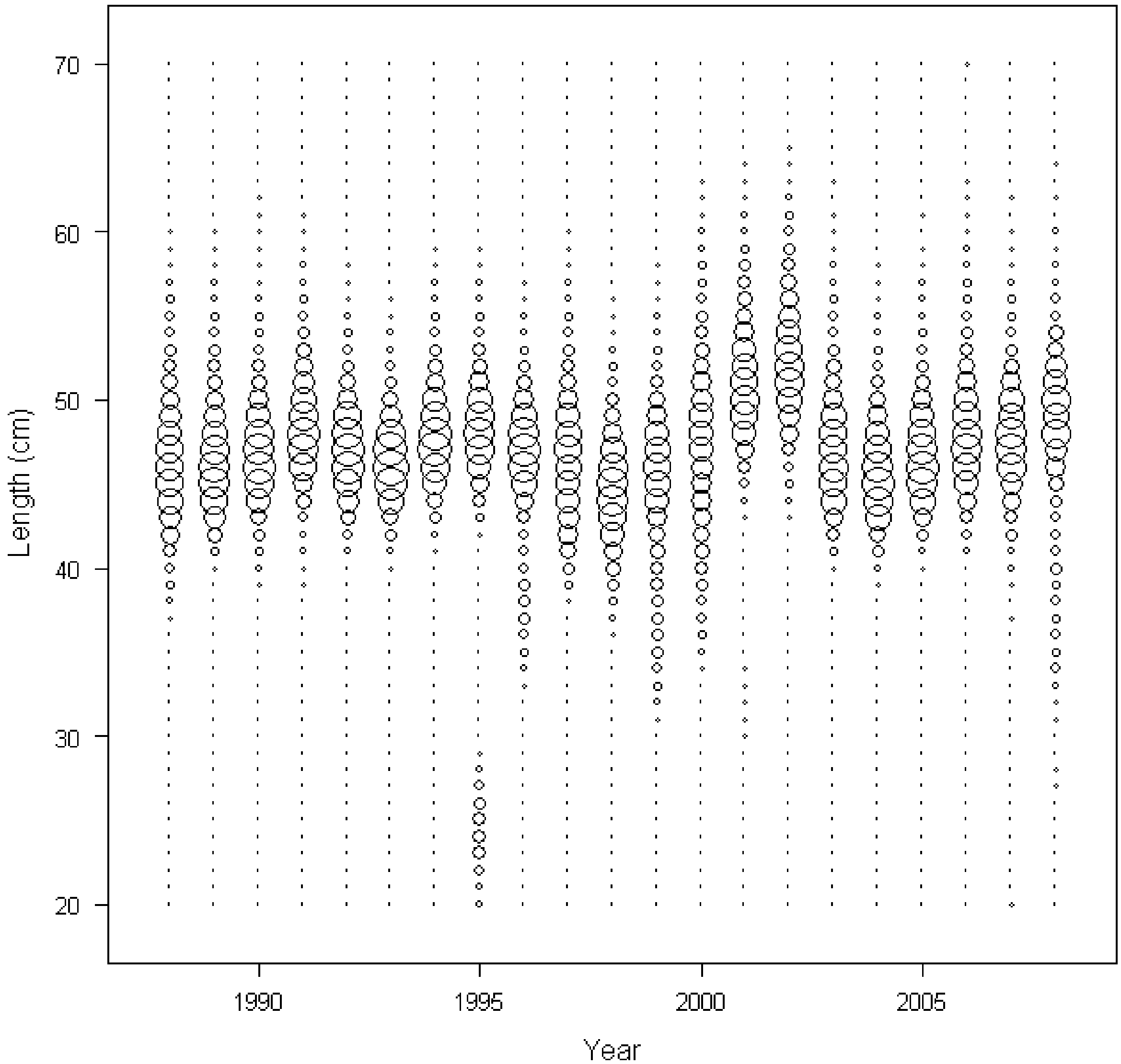

Figure 8. Plot of Canadian fishery (joint-venture and domestic combined) length compositions, 1988-2008. Diameter of circles is scaled to a maximum proportion of 0.18 and proportions sum to 1.0 in each year.

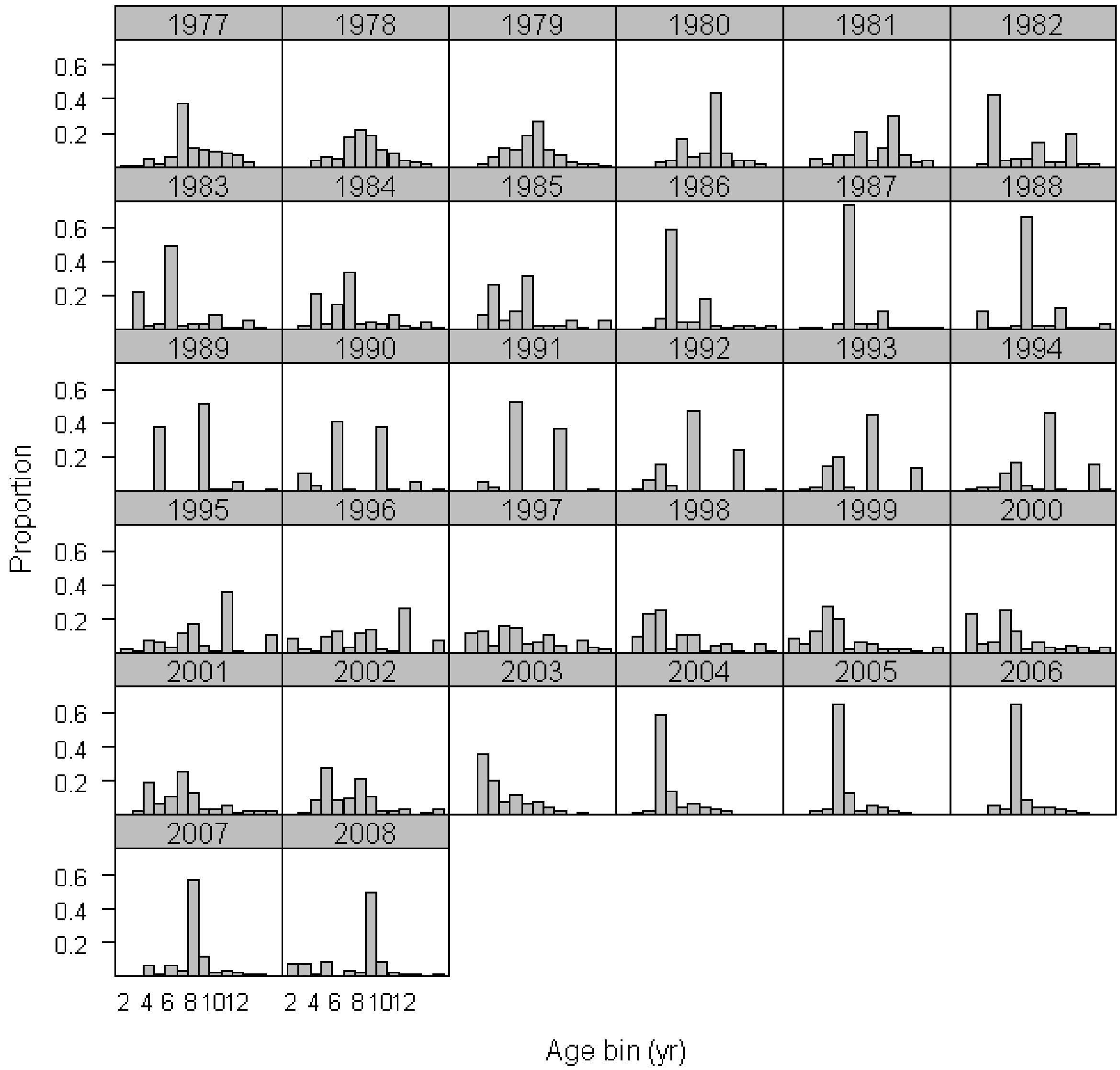

Figure 9. Plot of Canadian fishery (joint-venture and domestic combined) age compositions, 1988-2008.

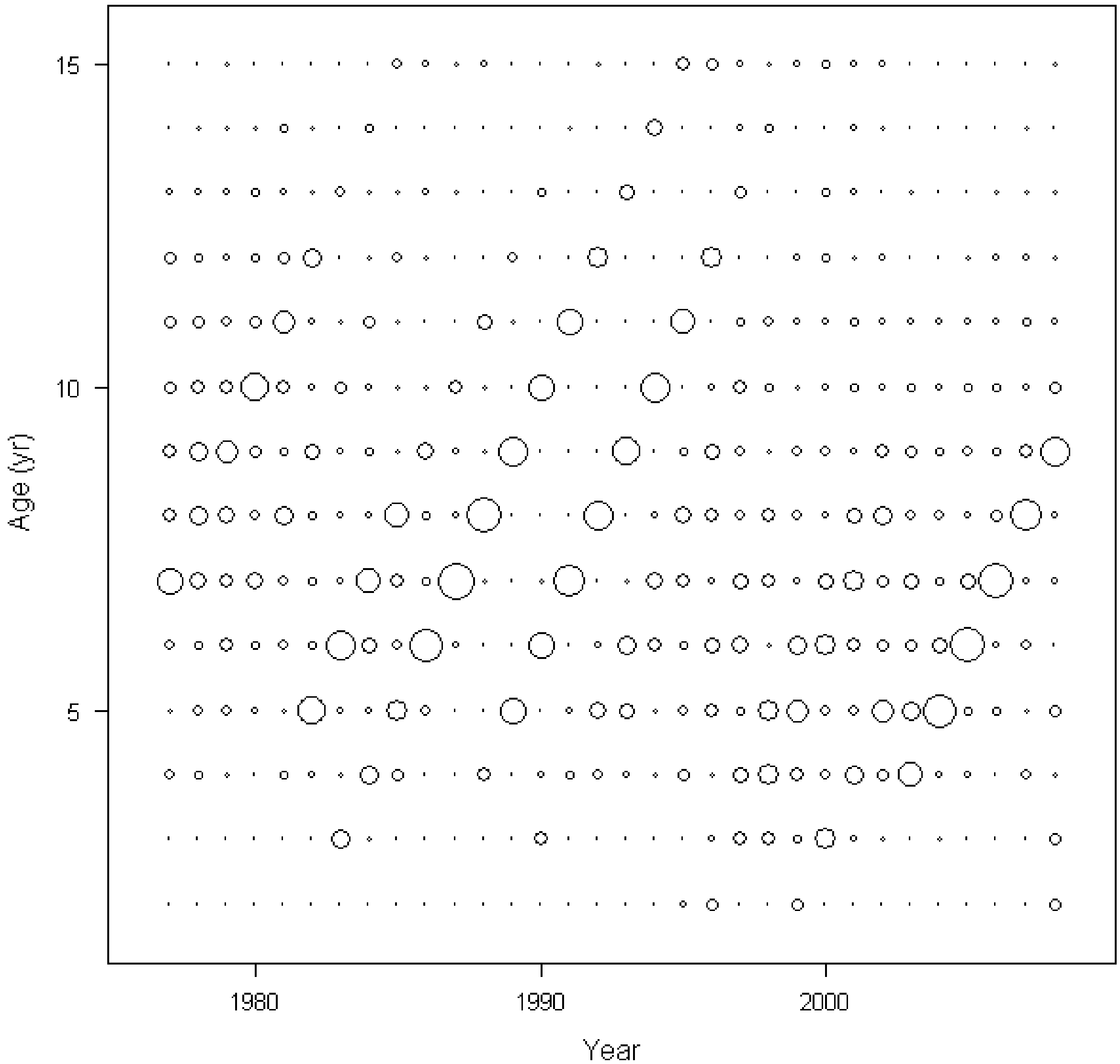

Figure 10. Plot of Canadian fishery (joint-venture and domestic combined) age compositions, 1988-2008. Diameter of circles is scaled to a maximum proportion of 0.73 and proportions sum to 1.0 in each year.

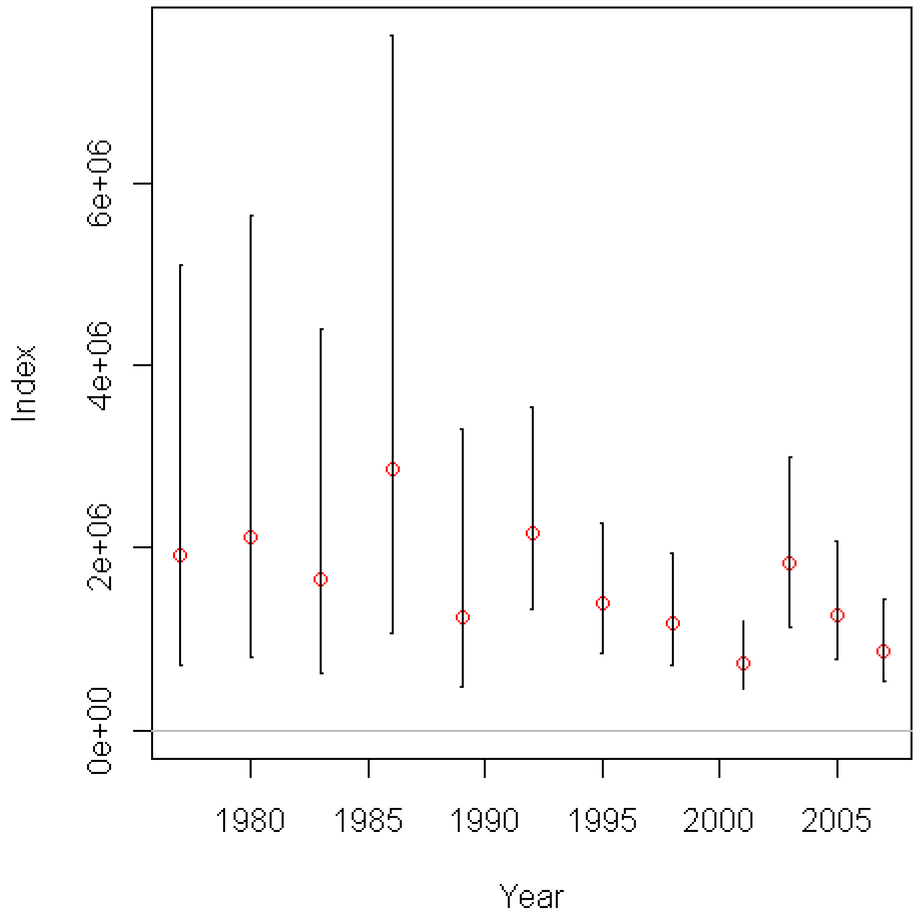

Figure 11. Time series of acoustic survey age 2+ biomass estimates, 1977-2007. Confidence intervals are based on assumed SE log(value) = 0.50: 1977-1989 and SE log(value) = 0.25: 1992-2007.

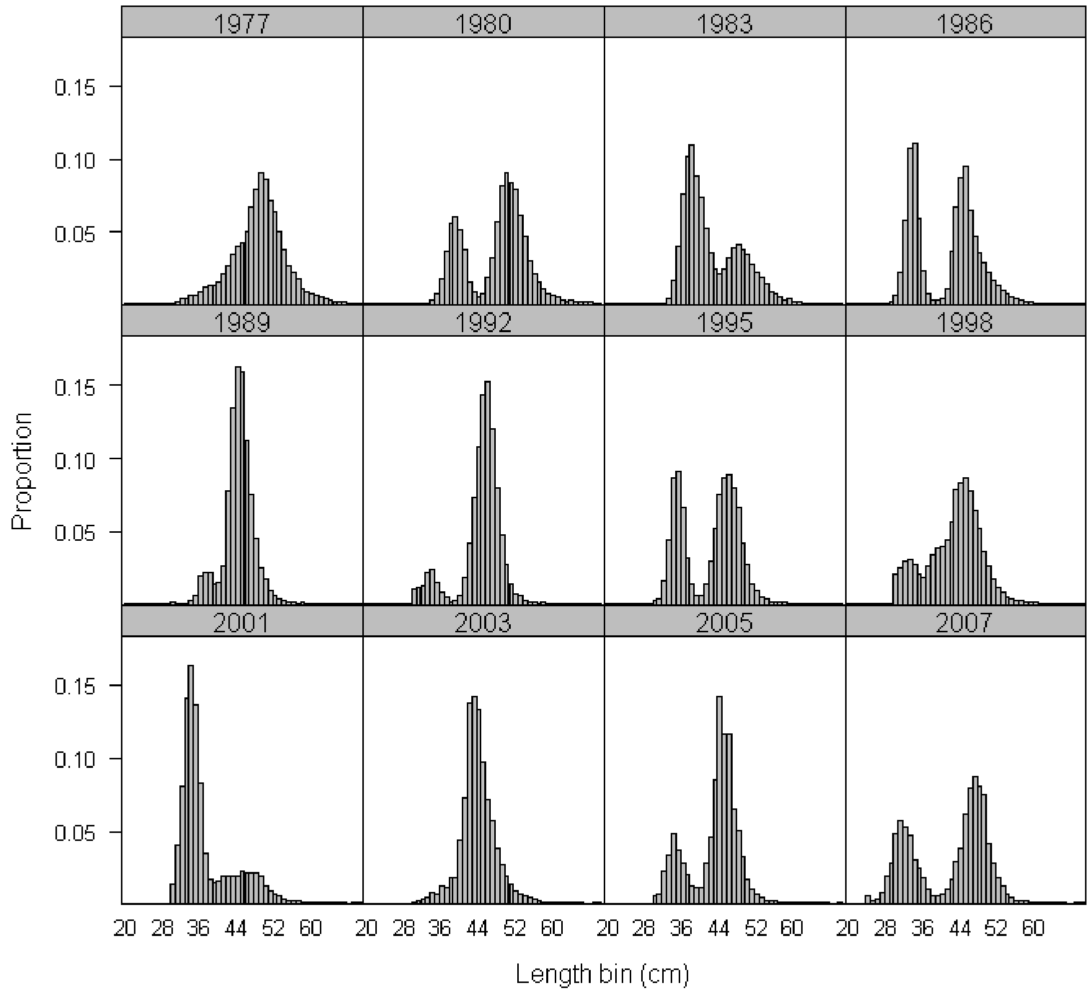

Figure 12. Plot of acoustic survey size compositions of coastal Pacific hake off the west coast of the U.S. and Canada, 1977-2007.

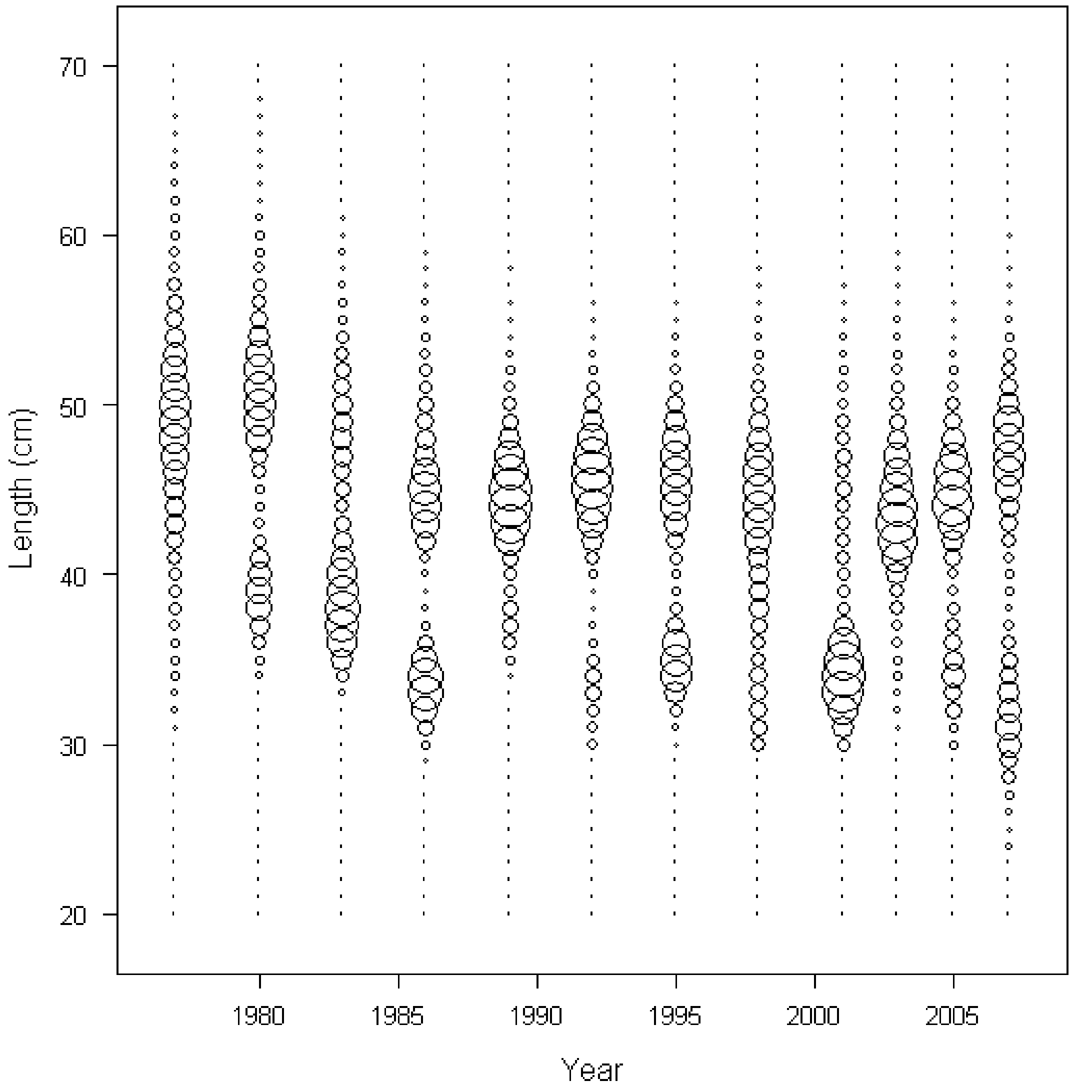

Figure 13. Plot of acoustic survey size compositions of coastal Pacific hake off the west coast of the U.S. and Canada, 1977-2007. Diameter of circles is scaled to a maximum proportion of 0.16 and proportions sum to 1.0 in each year.

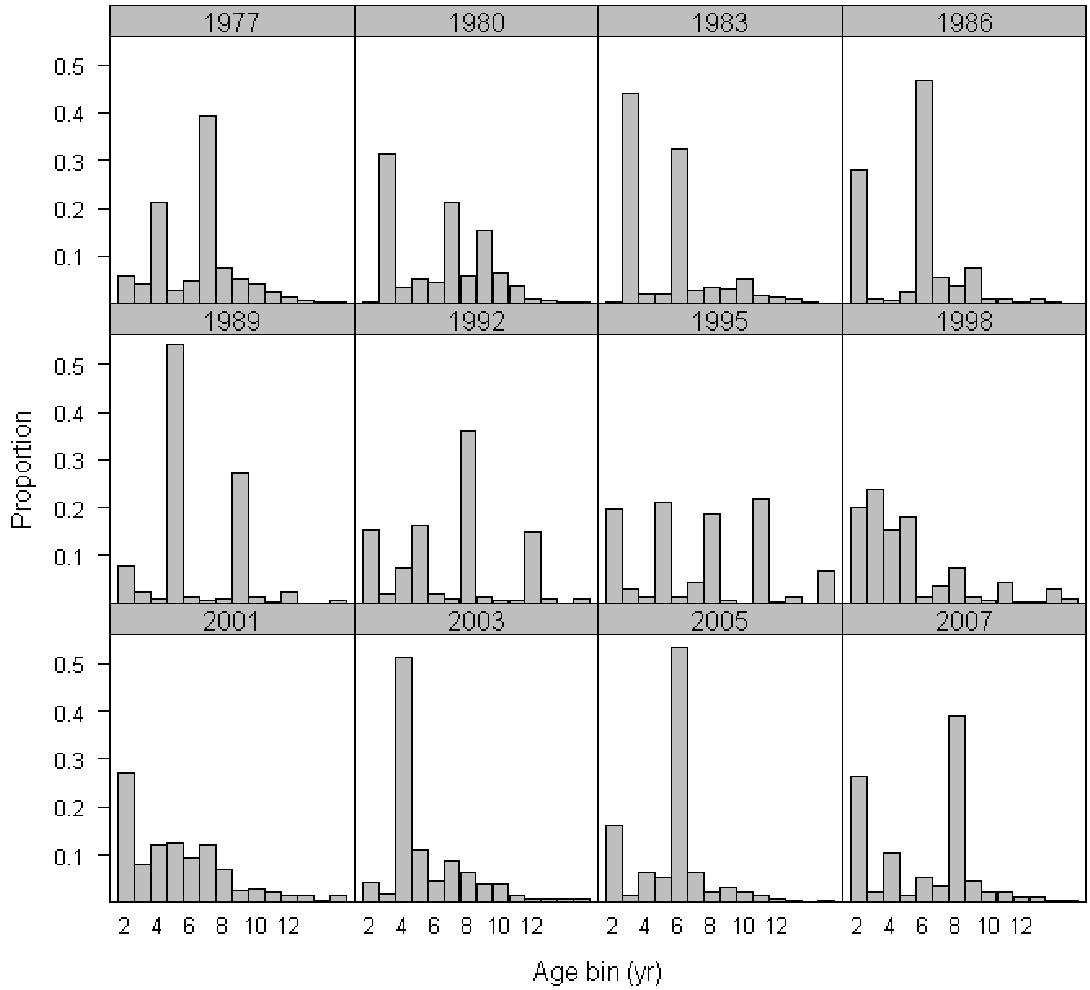

Figure 14. Plot of acoustic survey age compositions of Pacific hake off the west coast of the U.S and Canada, 1977-2007.

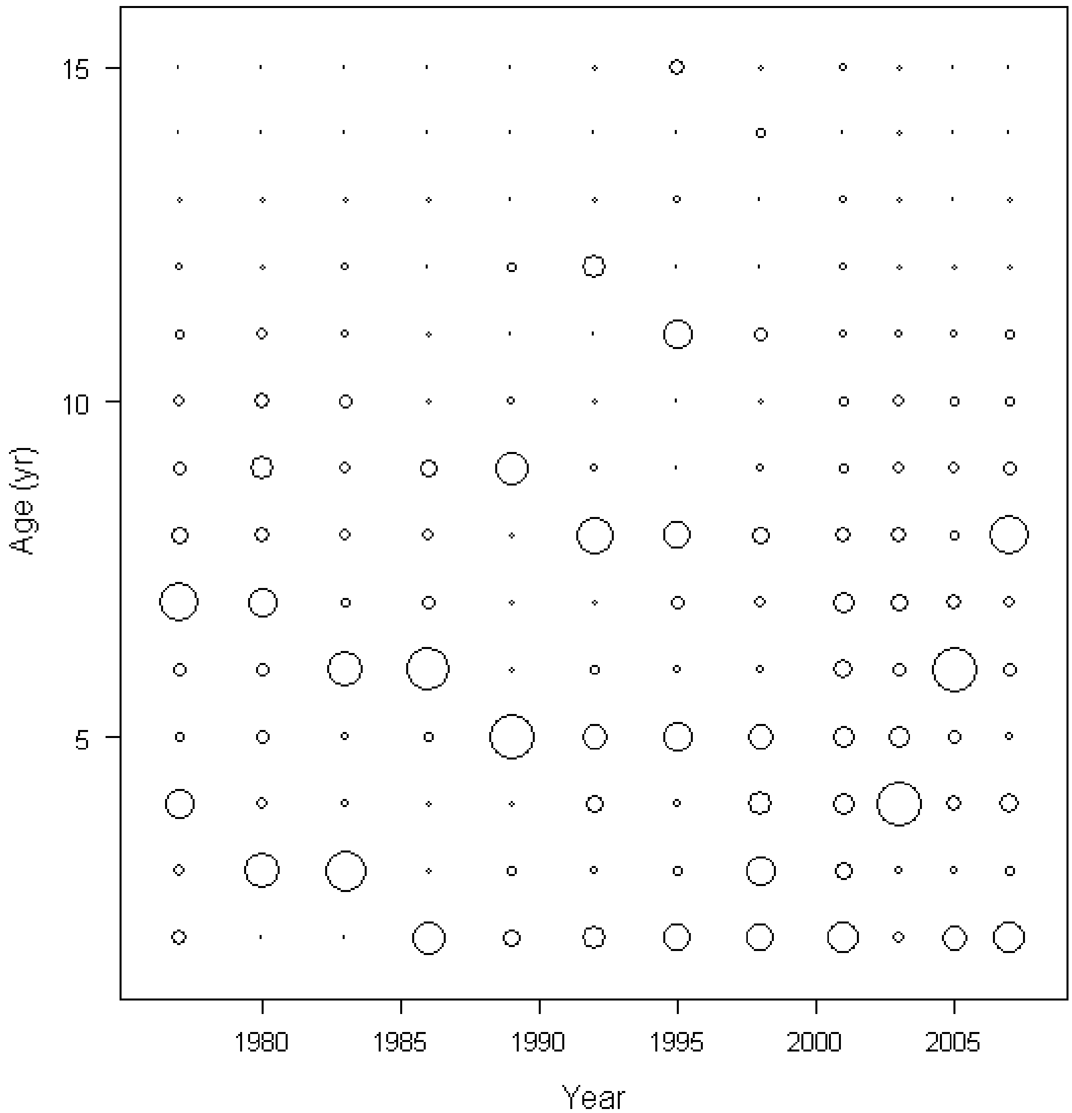

Figure 15. Plot of acoustic survey age compositions of coastal Pacific hake off the west coast of the U.S. and Canada, 1977-2007. Diameter of circles is scaled to a maximum proportion of 0.54 and proportions sum to 1.0 in each year.

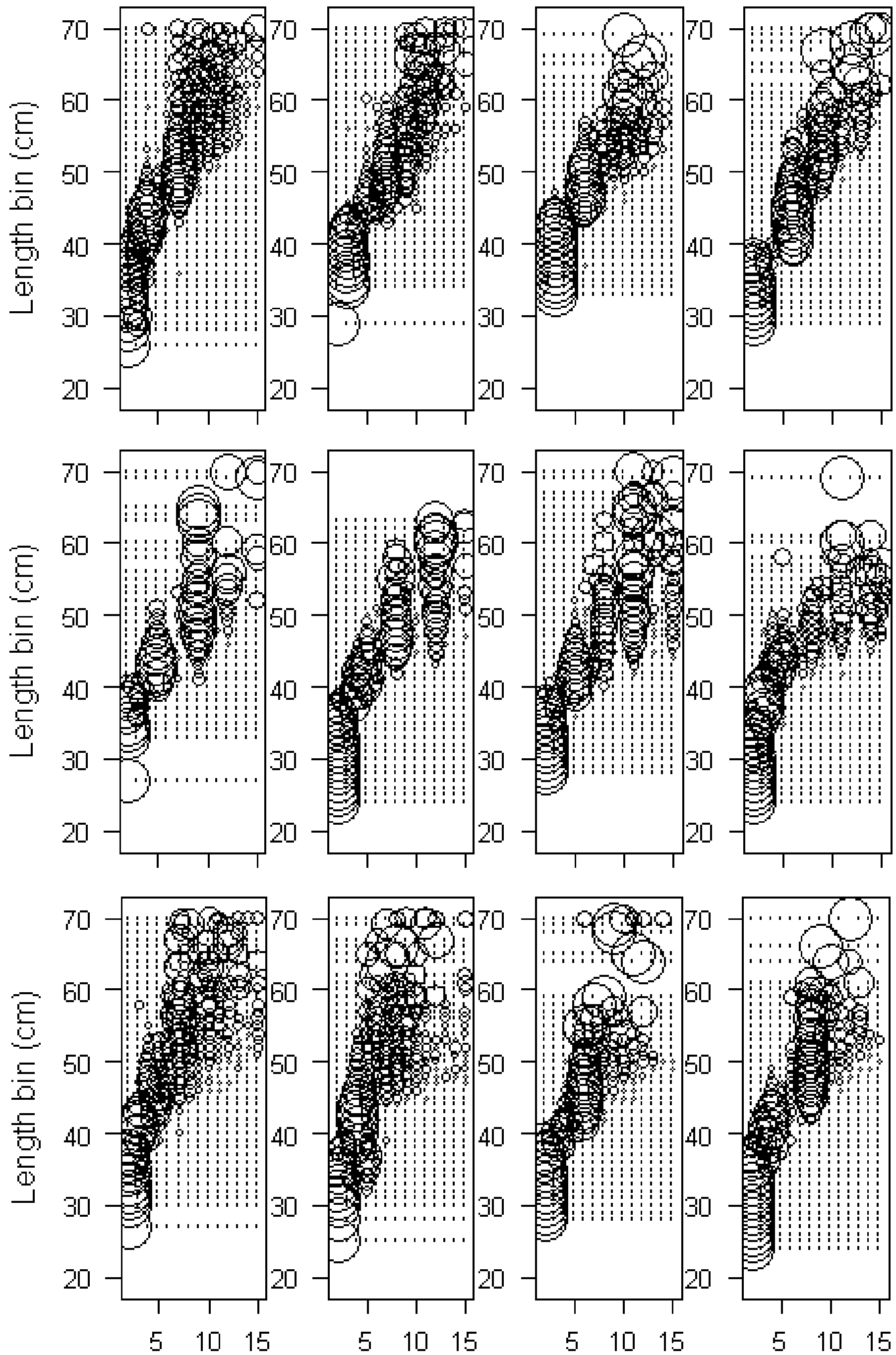

Figure 16. Conditional age-at-length compositions from the acoustic survey. Diameter of circles is scaled to a maximum proportion of 0.99 and proportions sum to 1.0 in each length. Top row: 1977, 1980, 1983, 1986; Middle row: 1989, 1992, 1995, 1998; Bottom row: 2001, 2003, 2005, 2007.

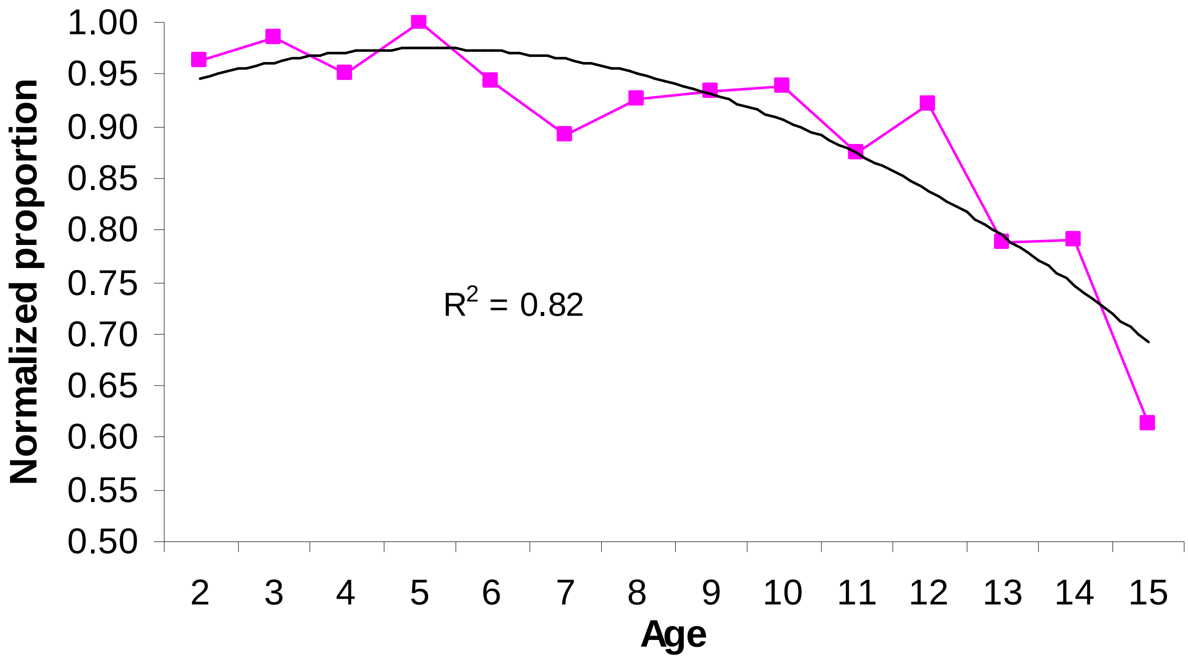

Figure 17. Plot of normalized (divided by maximum value) average (1977-2001) ratio of expanded acoustic survey numbers at age to the sum of acoustic survey and triennial bottom trawl survey expanded numbers at age. This analysis was conducted to explore empirical evidence for dome-shaped selectivity in the acoustic survey.

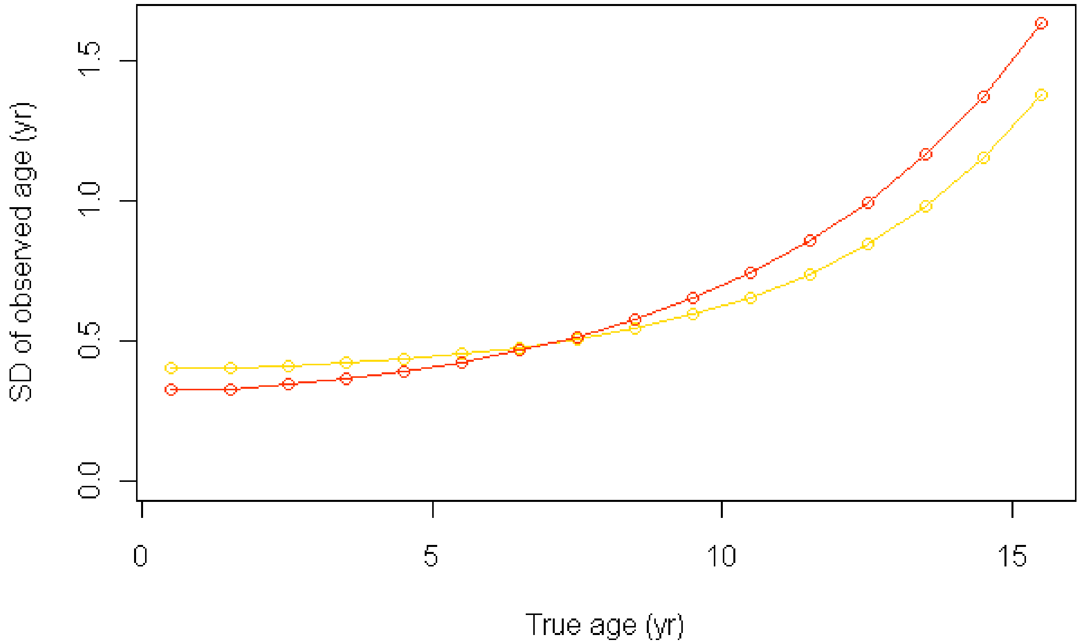

Figure 18. The estimated standard deviation of observed age as a function of true age for the pre-2001 AFSC ageing lab (upper line for younger ages and lower line for older ages) and the Cooperative Ageing Program and Department of Fisheries and Oceans Canada which have read all ages since 2001.

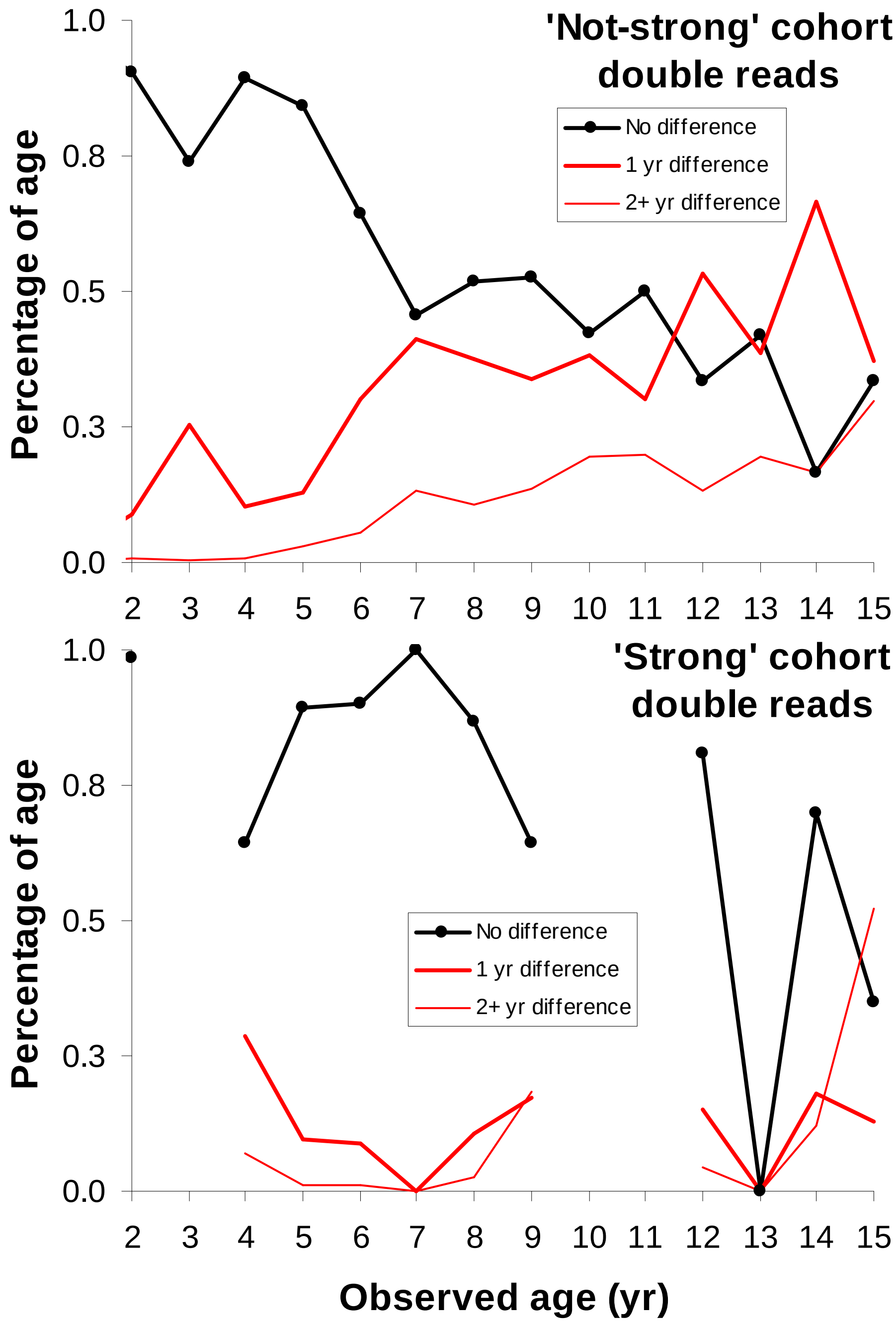

Figure 19. Comparison of age-reading agreement from 2,820 double-read otoliths collected between 1986 and 2008. 'Strong' cohorts included 1977, 1980, 1984 and 1999.

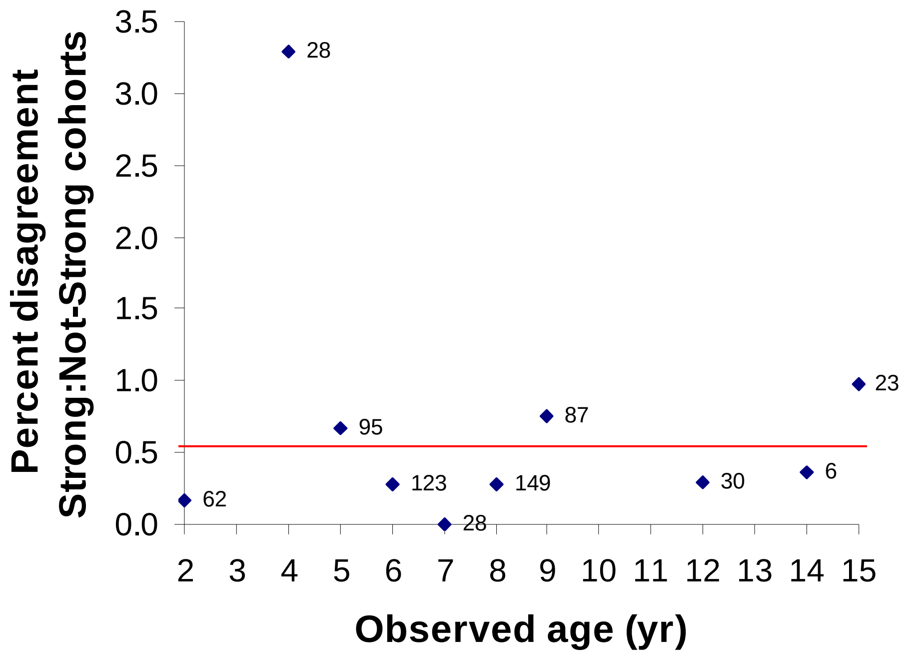

Figure 20. Comparison of age-reading percent disagreement for 'strong' cohorts (1977, 1980, 1984 and 1999) and weaker cohorts. Horizontal line indicates the weighted regression estimated using the minimum sample size (shown next to the points) between the two types of cohorts for each age.

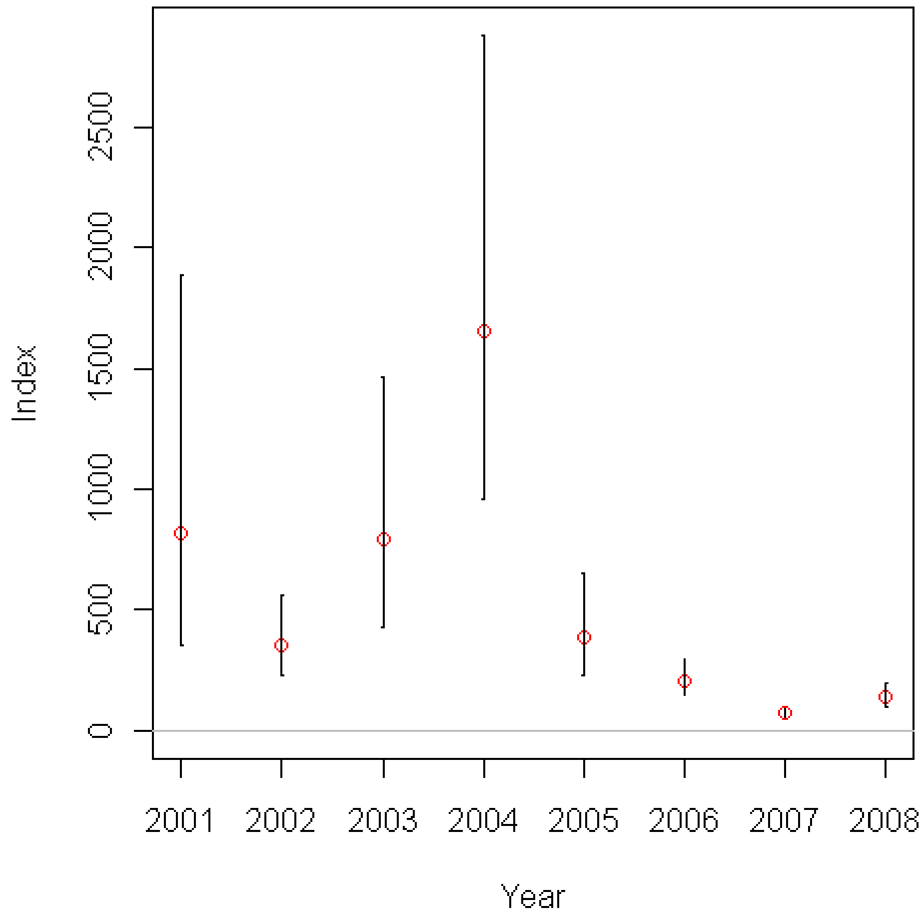

Figure 21. Time-series of the coast-wide Pacific hake pre-recruit survey indices based on data collected from SWFSC Santa Cruz and the joint PWCC-NMFS surveys.

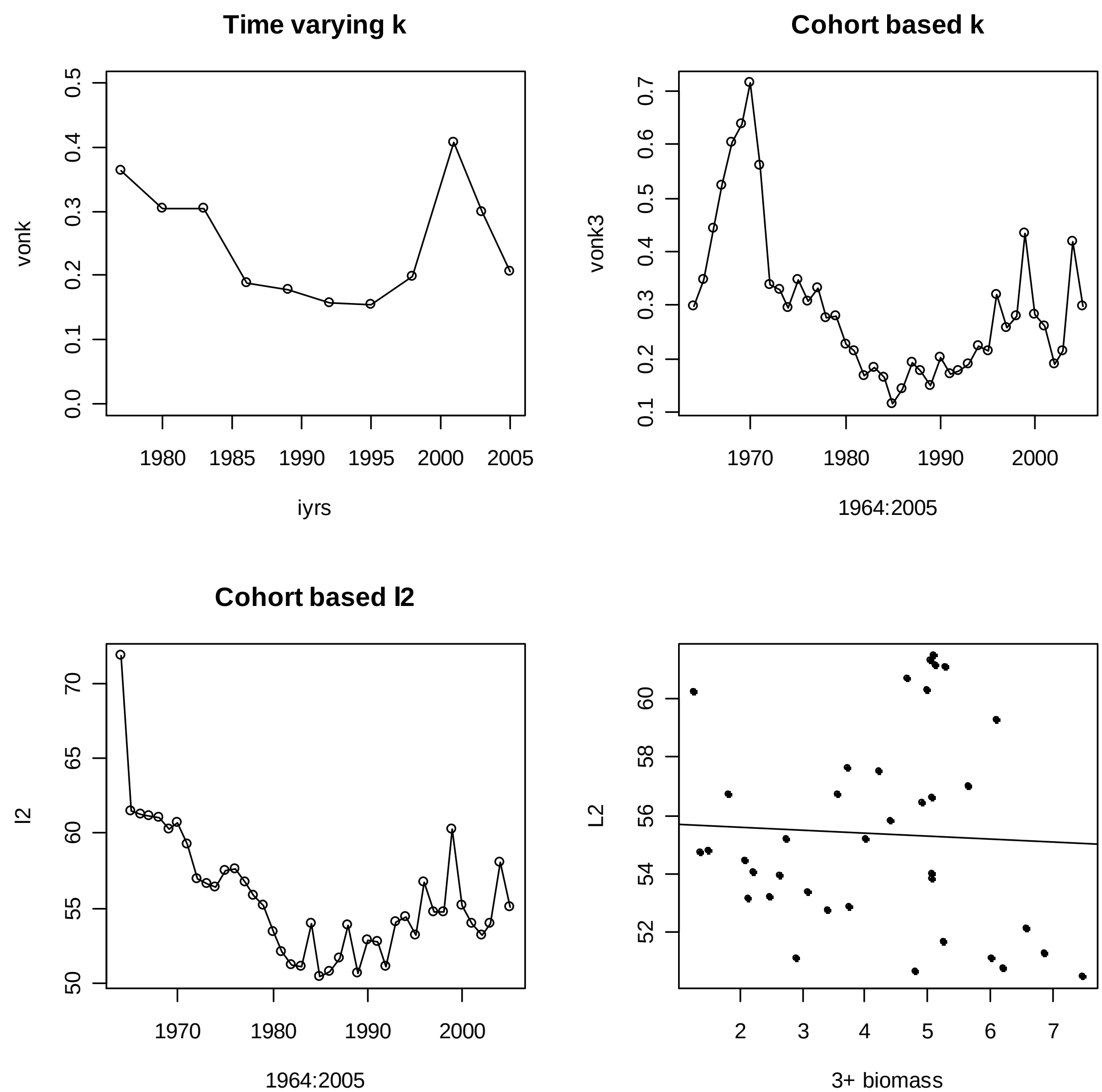

Figure 22. Time varying and cohort based fits (external to the assessment model) of the von Bertalanffy growth model to Pacific hake age data from the acoustic survey, 1977-2005. Analyses were conducted as part of the 2006 assessment.

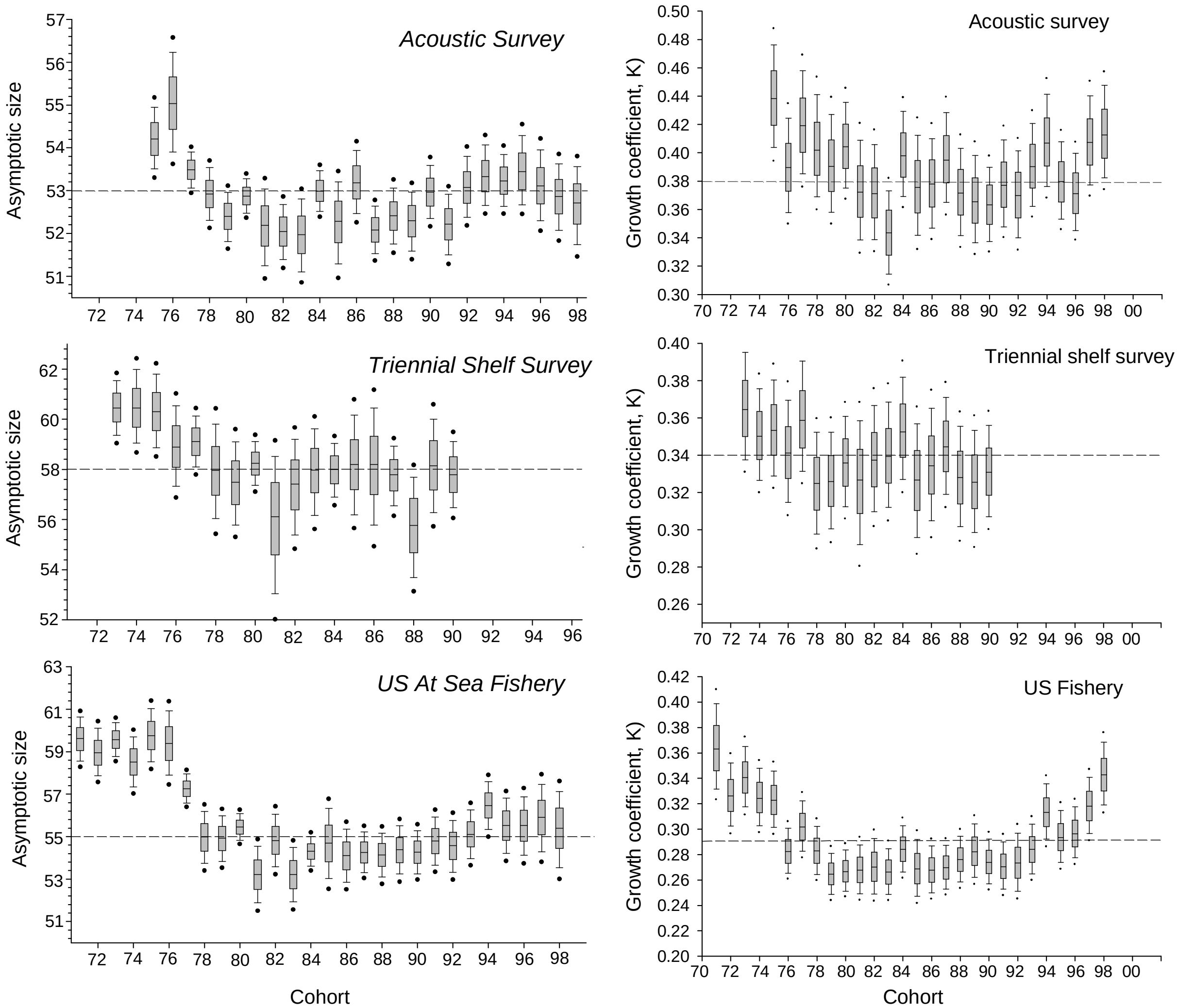

Figure 23. Results of a hierarchical von Bertalanffy growth model fit to three difference sources of Pacific hake growth data. A von Bertalanffy growth model was fit to each of the three data sources with age at length data combined and cohort treated as a random variable. The results show an early consistent decline in asymptotic size and instantaneous growth coefficient, k, in the early 1980s. Box whisker plots show the marginal posterior density of growth parameters, L_{max} and K, for each cohort and the dotted line gives the overall mean parameter estimate.

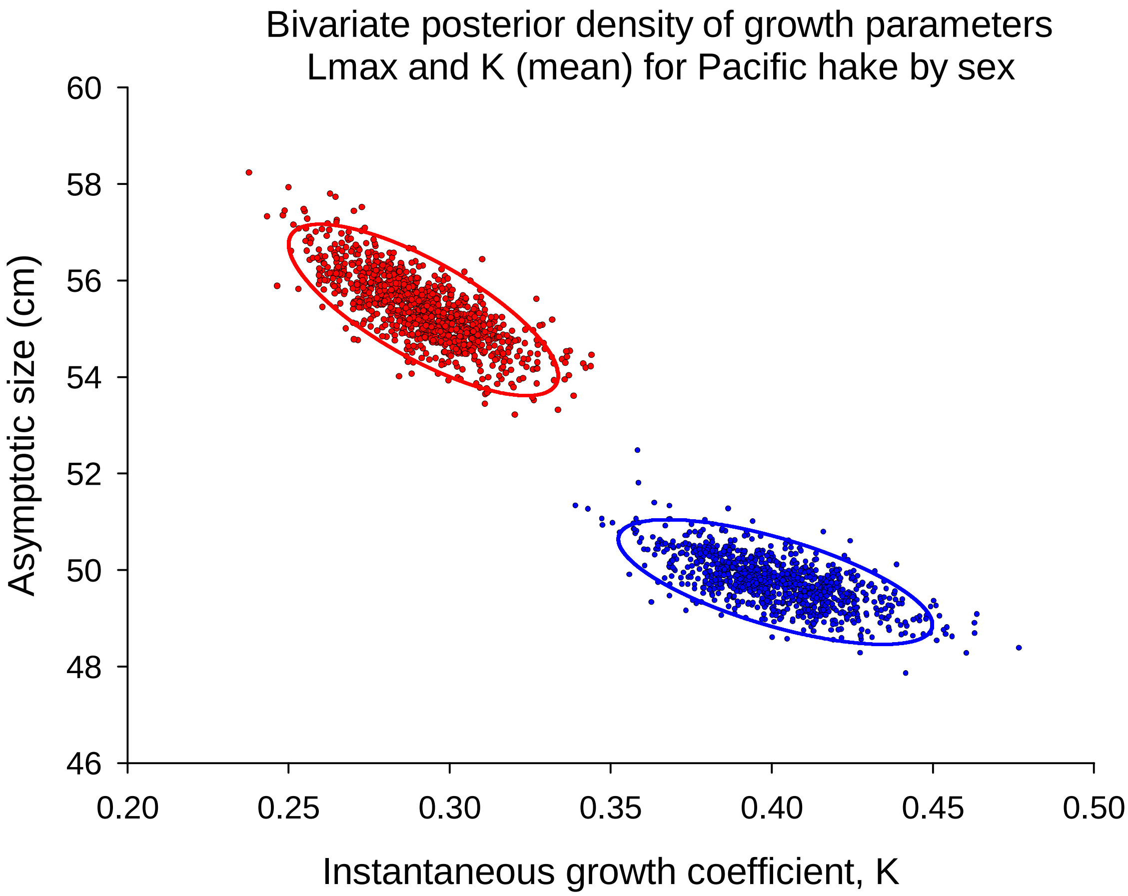

Figure 24. Results of a hierarchical von Bertalanffy growth model fit to Pacific hake growth data from the acoustic survey (all years, 1977-2007). A von Bertalanffy growth model was fit separately to each sex and cohort treated as a random variable. The results show that female pacific hake achieve a significantly larger size the males, but also growth at a slower rate. The dots show the bivariate distribution of L_{max} and K from a sample of 1,000 draws from the joint posterior density and the solid ellipses give the 95% posterior interval.

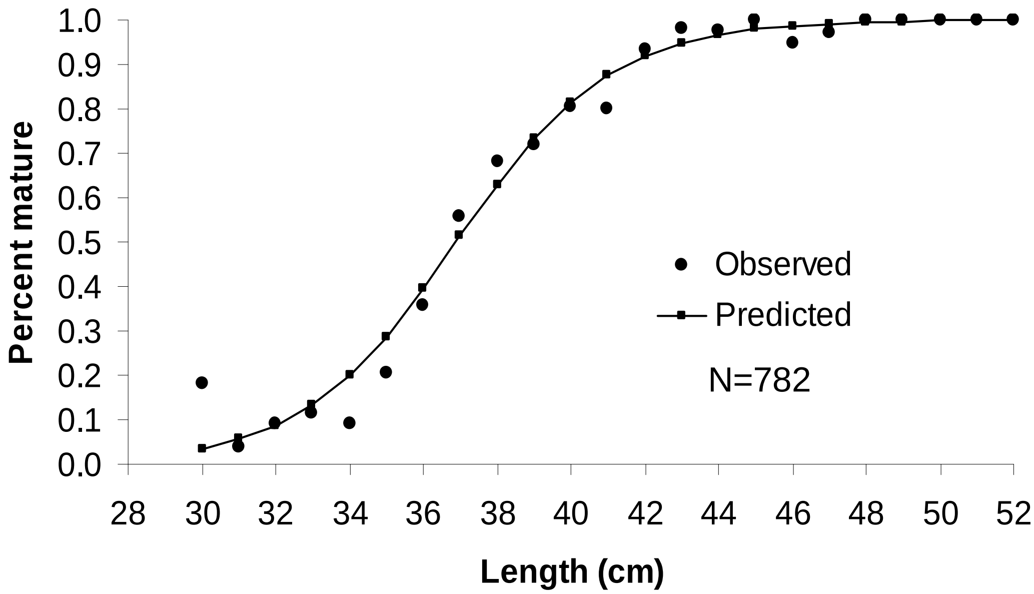

Figure 25. Observed and fitted values for percent mature at length.

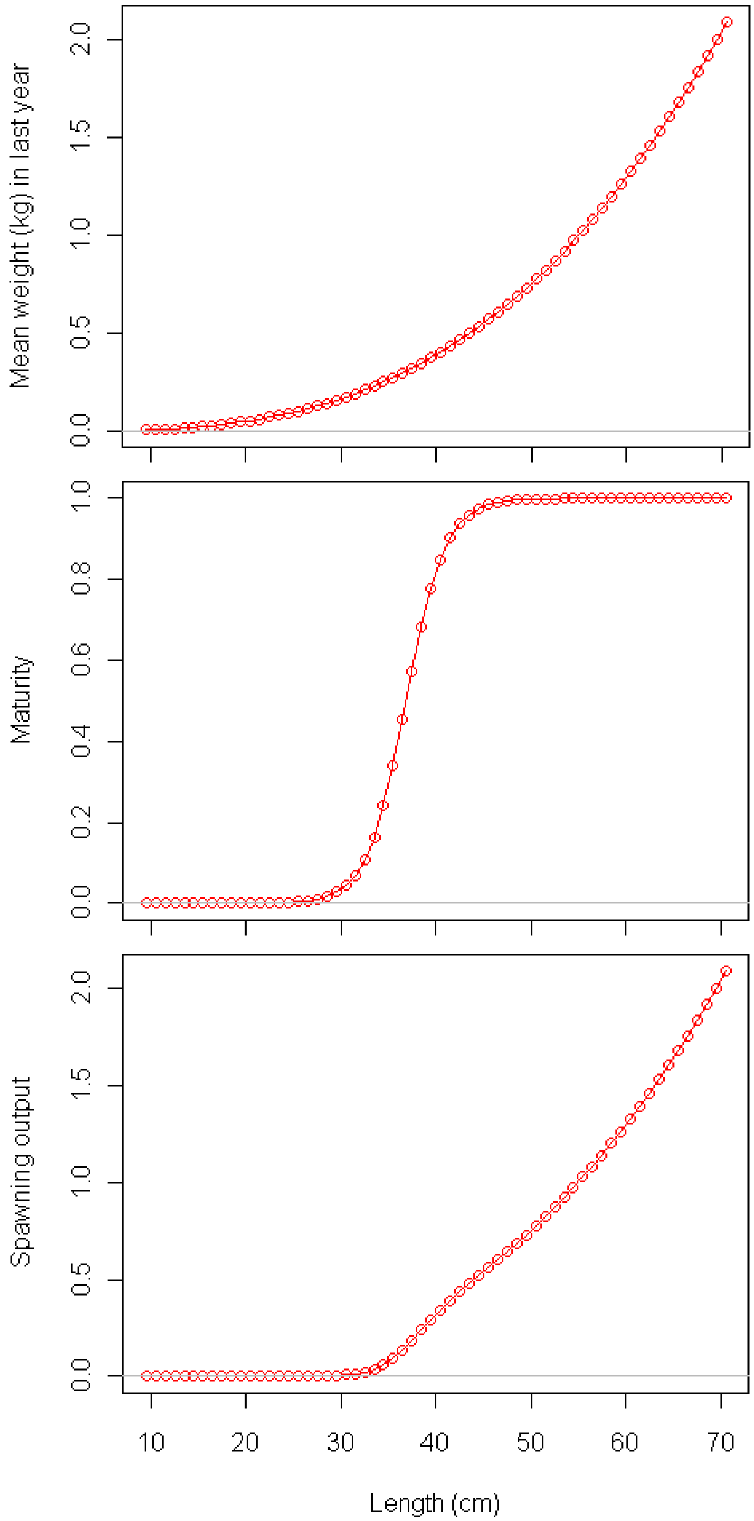

Figure 26. Biological relationships assumed in the hake model.

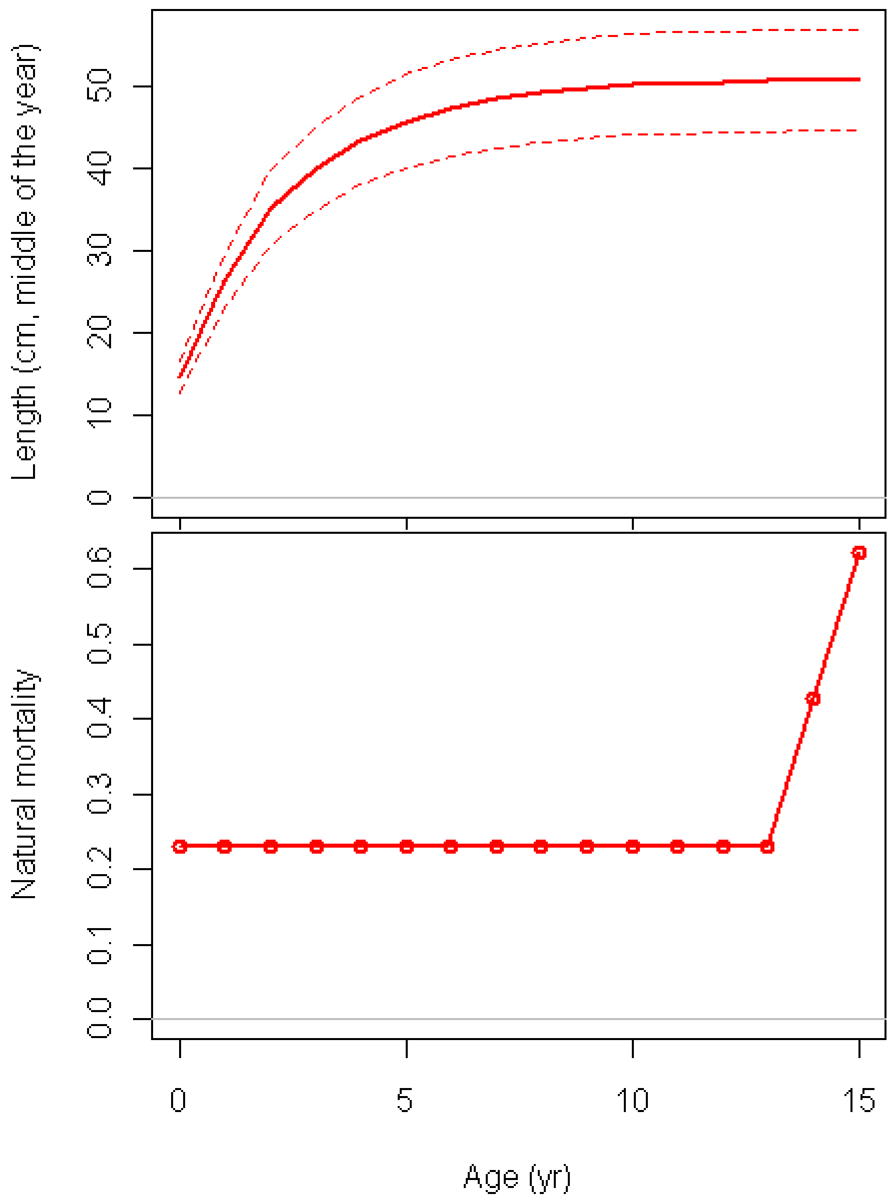

Figure 27. Current growth (2008) and mortality (time-invariant) relationships estimated in the hake model.

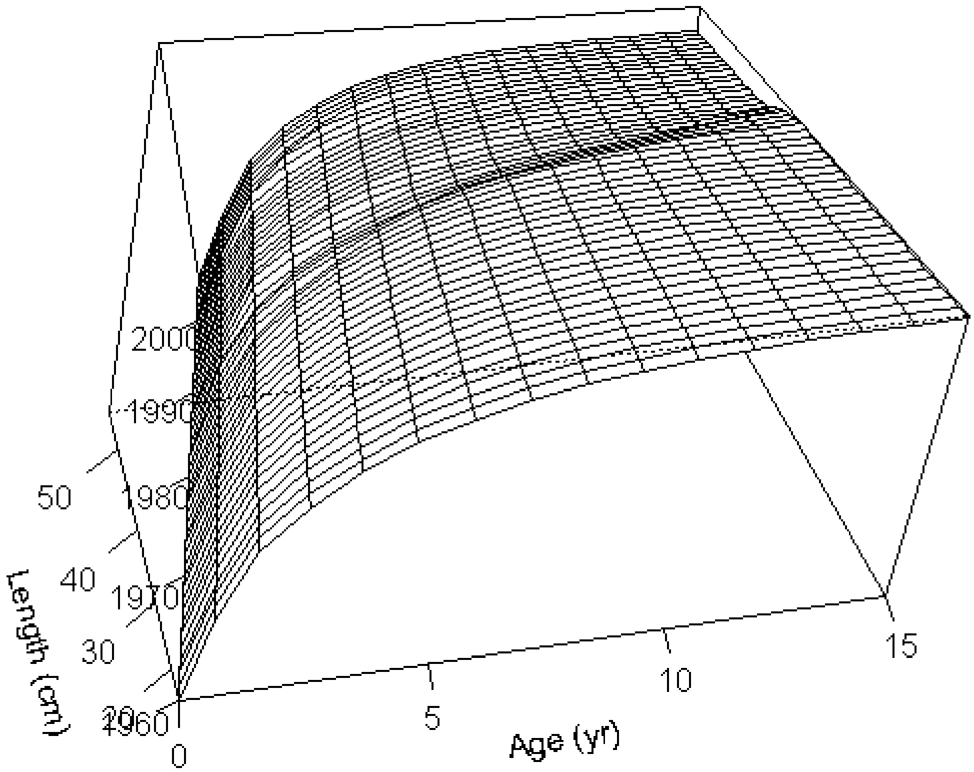

Figure 28. Time-varying growth estimated in the hake model.

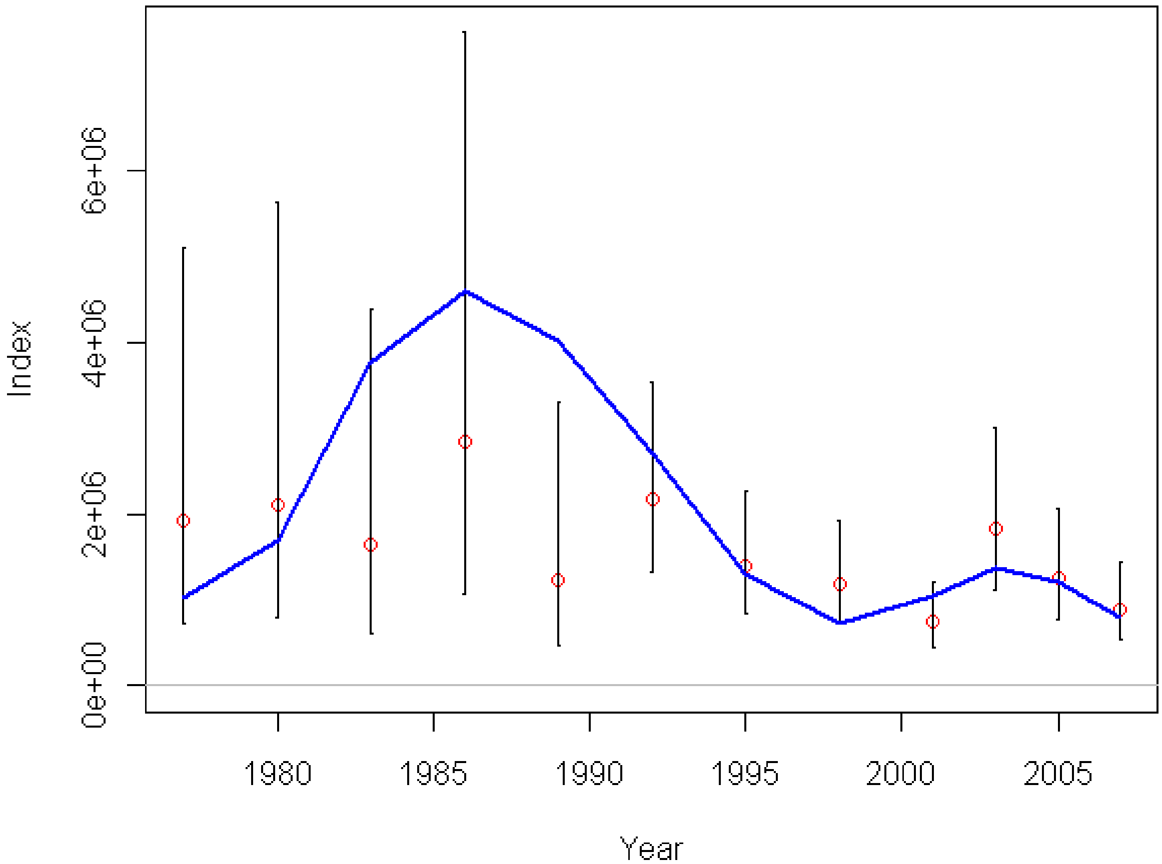

Figure 29. Predicted fit of acoustic survey biomass to the modeled time series.

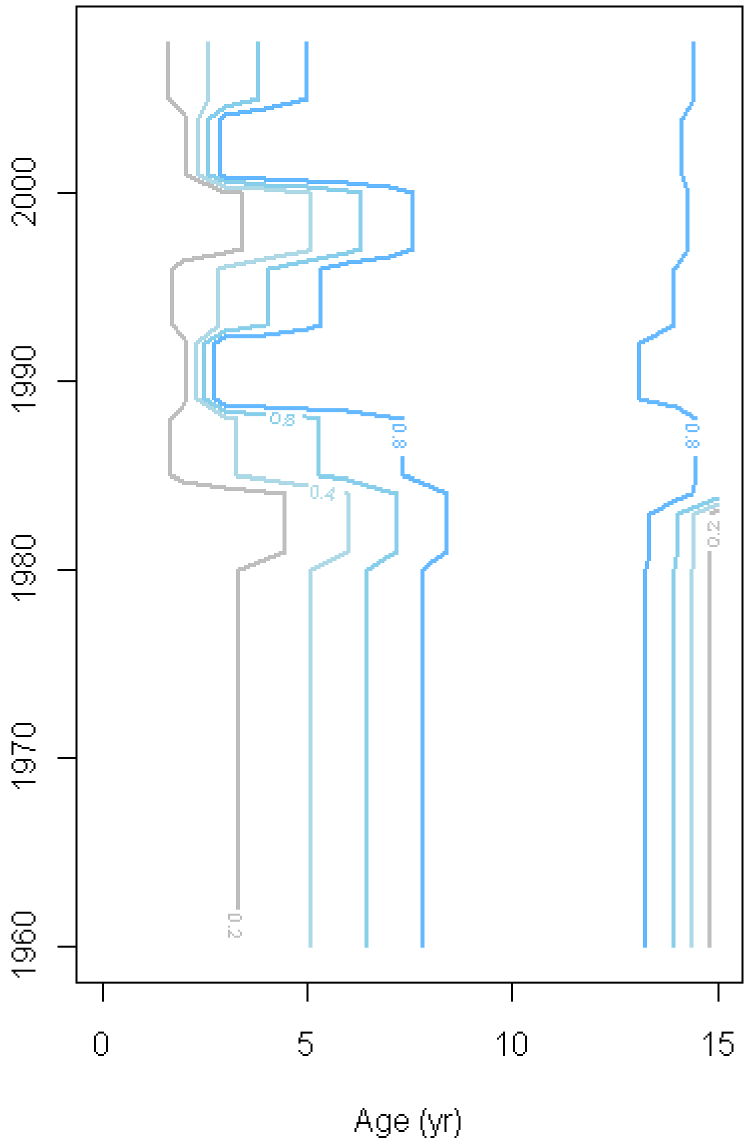

Figure 30. Estimated selectivity curves (contours indicate relative selectivity at age and year, each year has at least one age that is fully selected) for different time blocks in the U.S. fishery. Ascending width, peak, and final parameters were estimated, and ascending width, peak, and final parameters were allowed to vary among time-blocks.

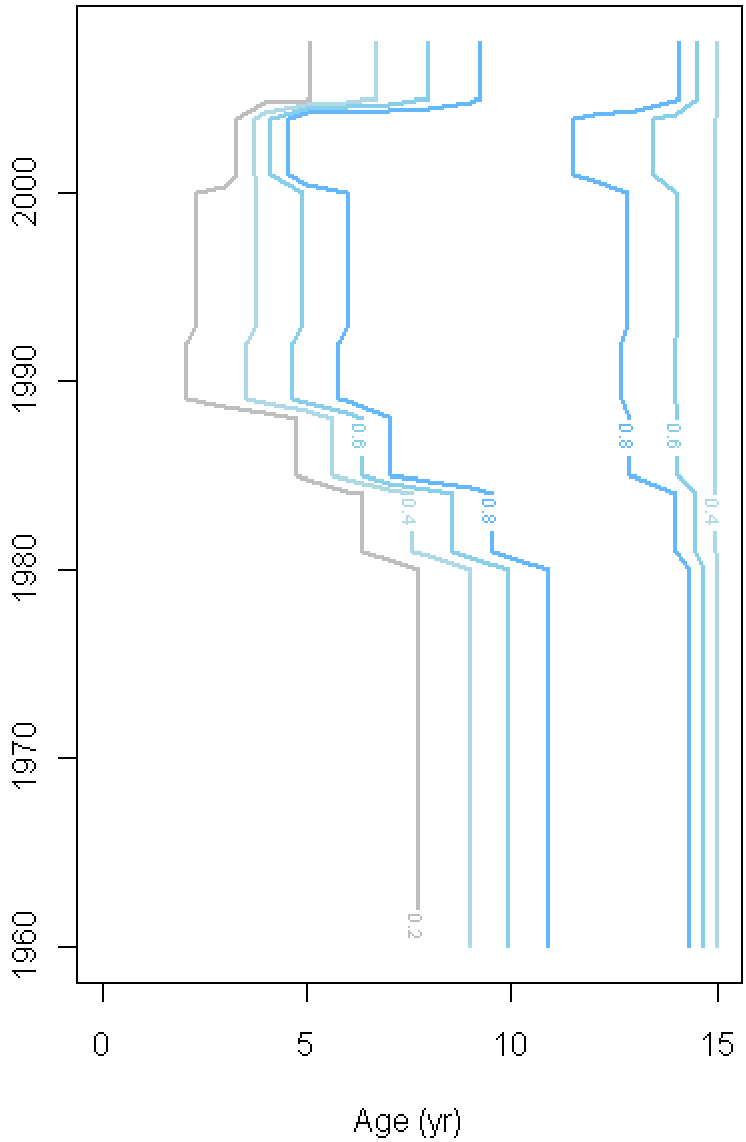

Figure 31. Estimated selectivity curves (contours indicate relative selectivity at age and year, each year has at least one age that is fully selected) for different time blocks in the Canadian fishery. Ascending width, peak, and final parameters were estimated, and ascending width, and peak parameters were allowed to vary among time-blocks.

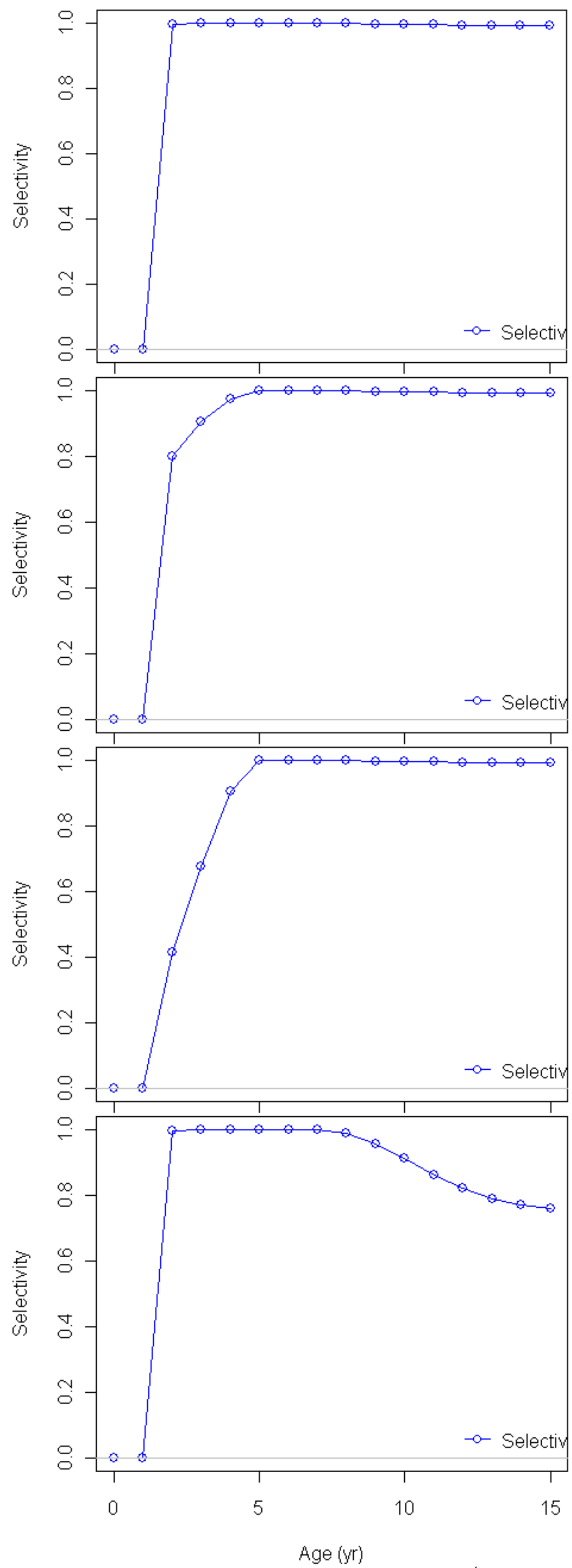

Figure 32. Estimated time-invariant selectivity curves for the 1st quarter (top), 2nd quarter (second row), 3rd quarter (third row) and 4th quarter (bottom) historical California fisheries.

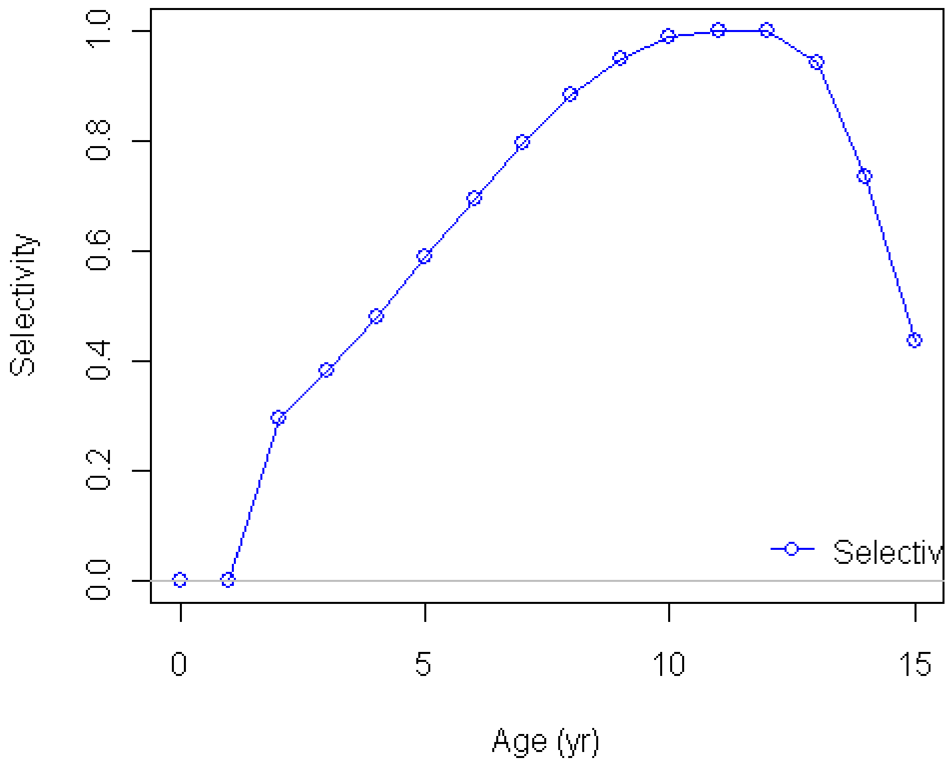

Figure 33. Estimated time-invariant selectivity curve for the acoustic survey. The ascending width, location of the peak and selectivity at age 15 were freely estimated.

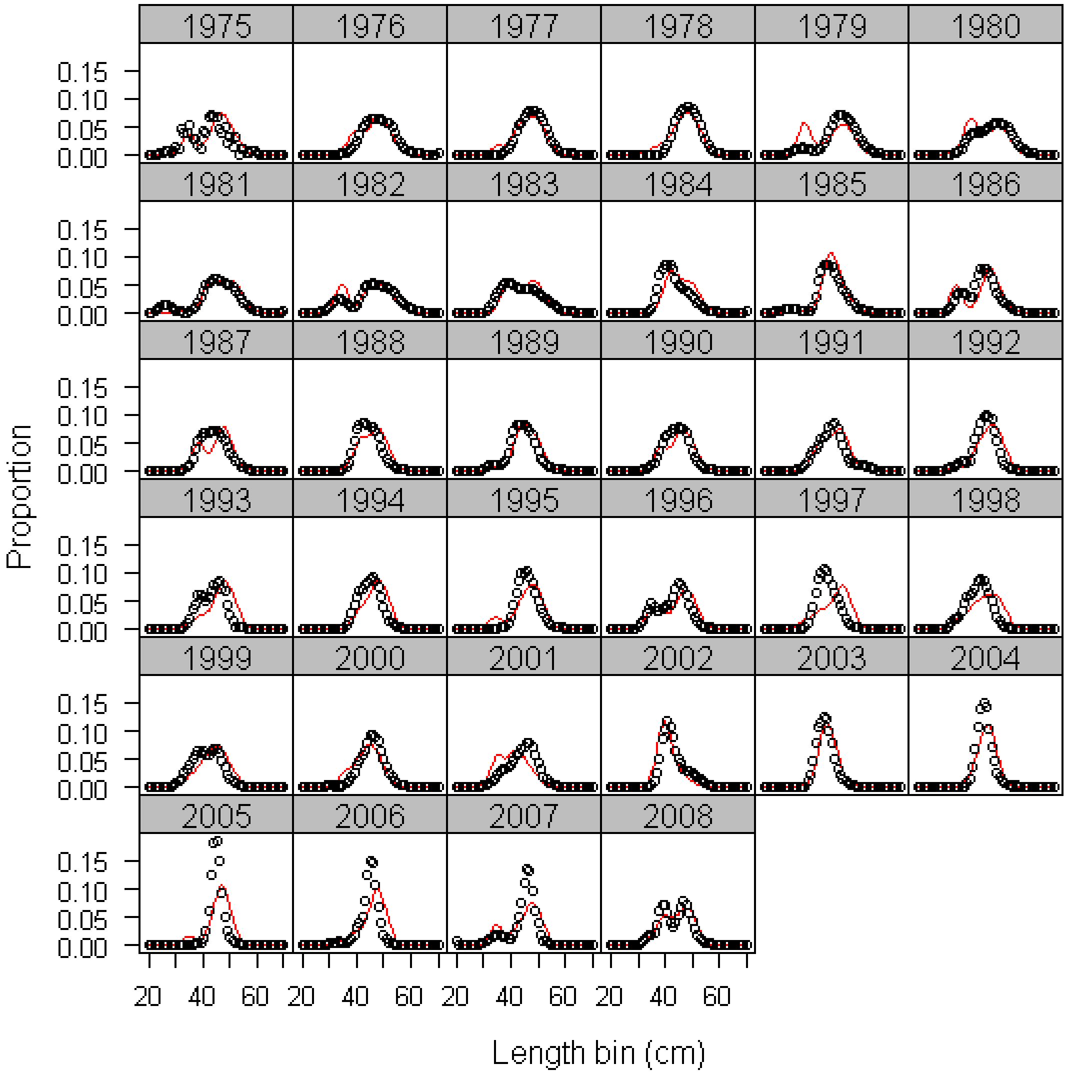

Figure 34. Predicted fits to the observed U.S. fishery length composition data.

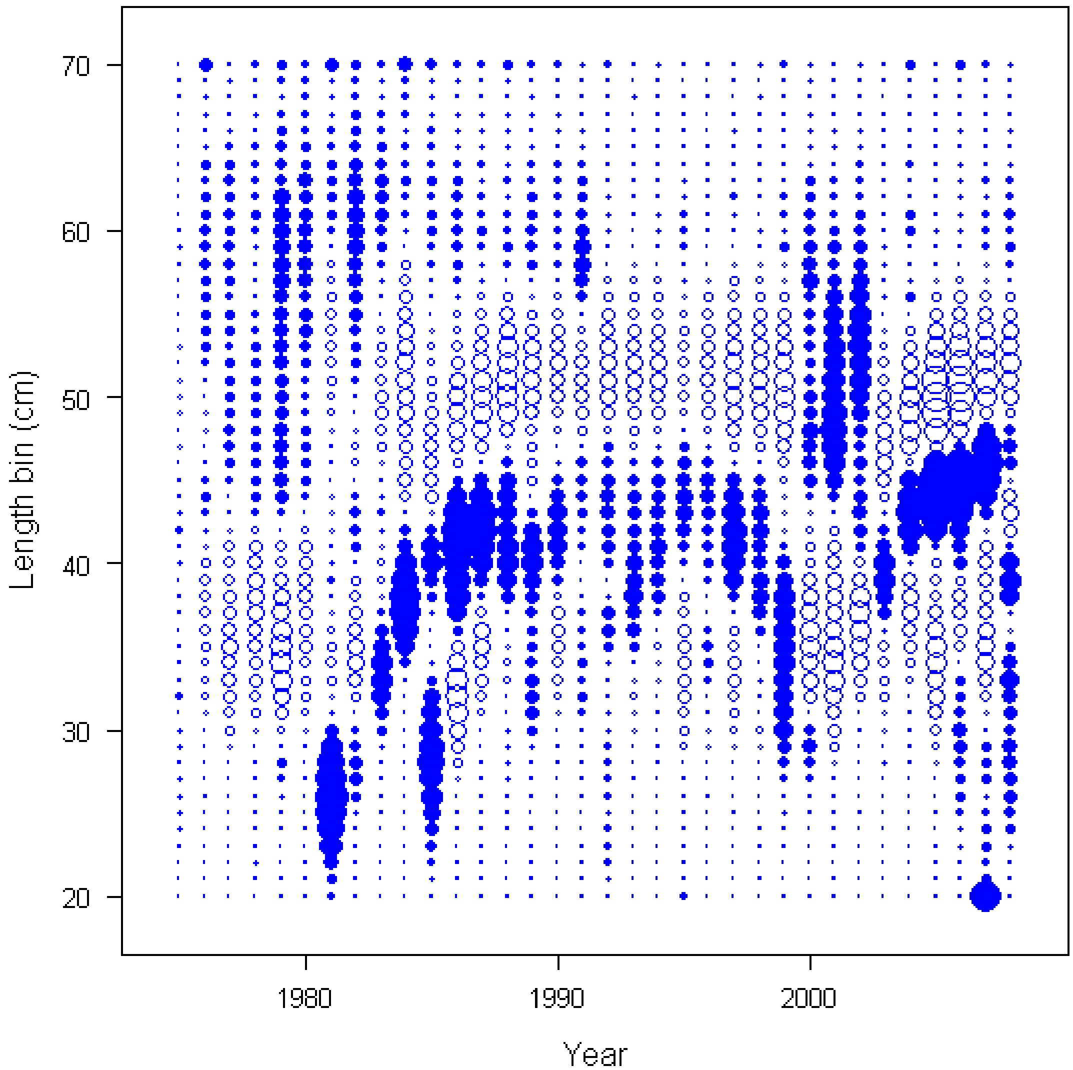

Figure 35. Pearson standardized residuals (observed - predicted) for model fits to the U.S. fishery length composition data. Maximum bubble size = 7.05; filled circles represent positive values.

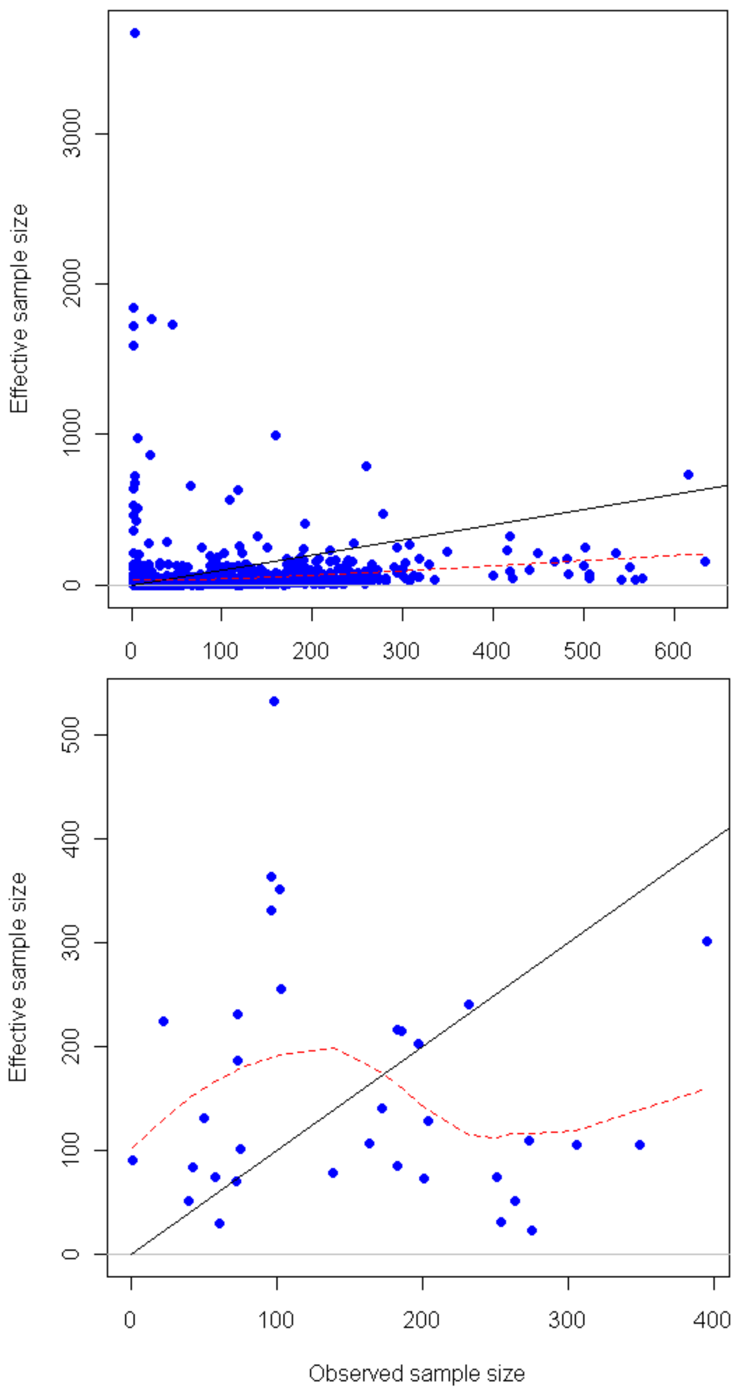

Figure 36. Plot of effective vs. observed input sample sizes for the U.S. fishery conditional age at length compositions (top) and length compositions (bottom). Solid line indicates a 1:1 relationship, dashed line is a loess smoother.

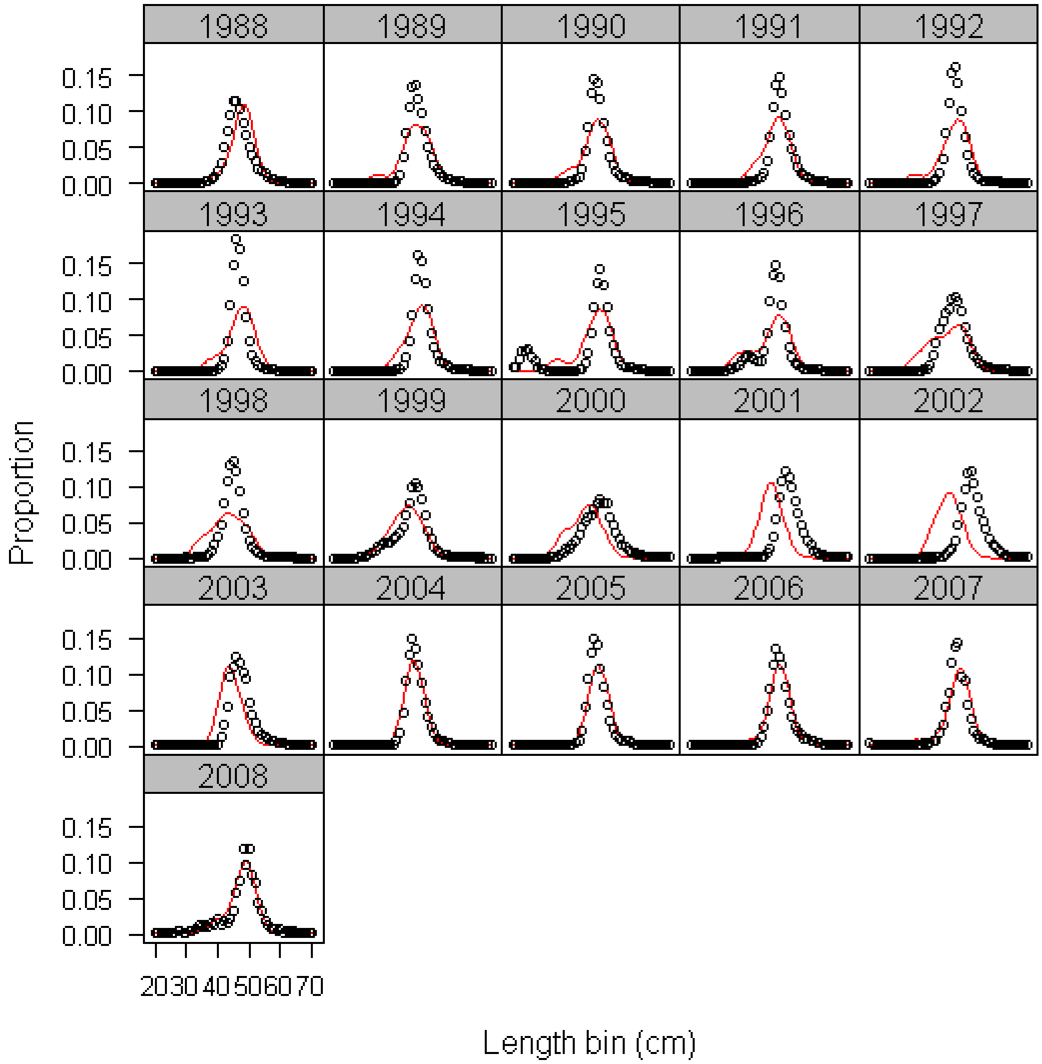

Figure 37. Predicted fits to the observed Canadian fishery length composition data.

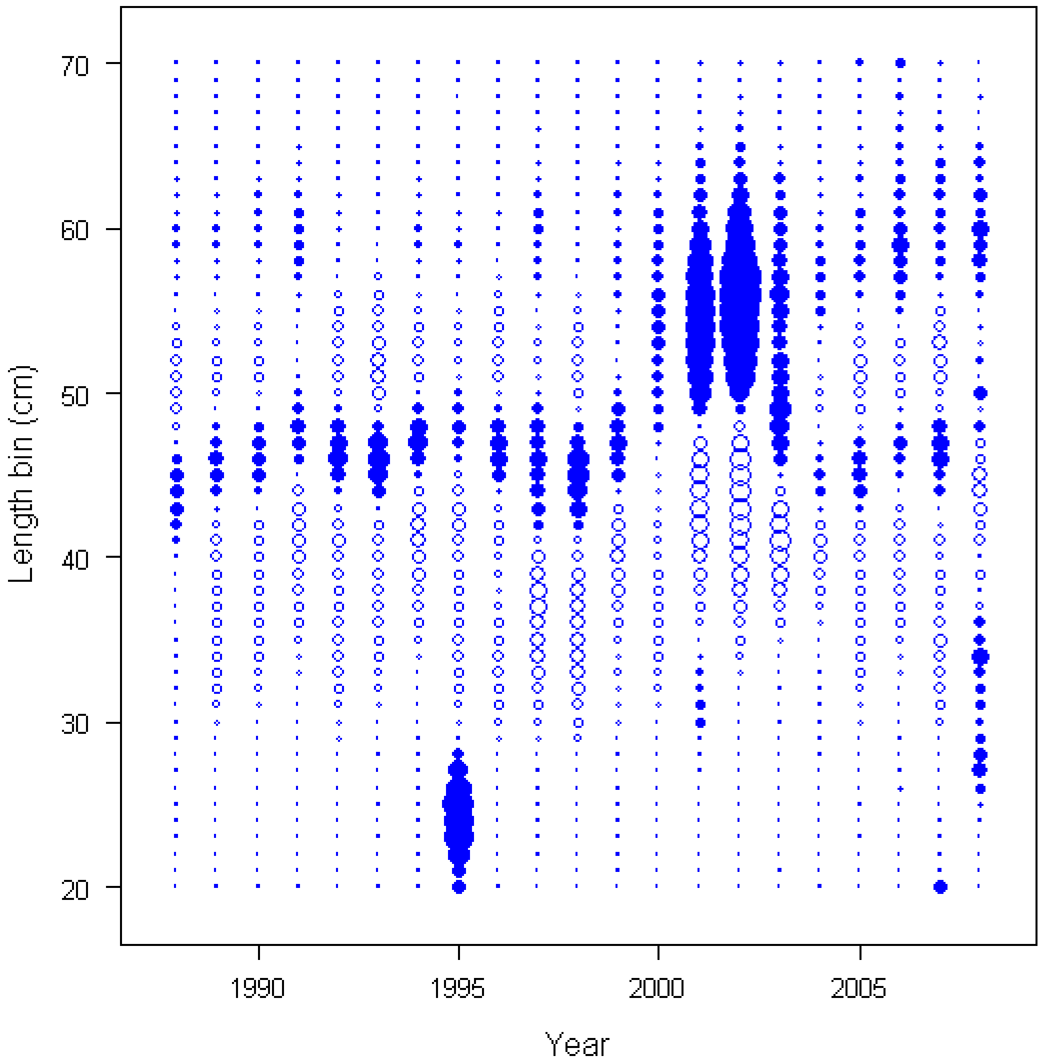

Figure 38. Pearson standardized residuals (observed - predicted) for model fits to the Canadian fishery length composition data. Maximum bubble size = 10.74; filled circles represent positive values.

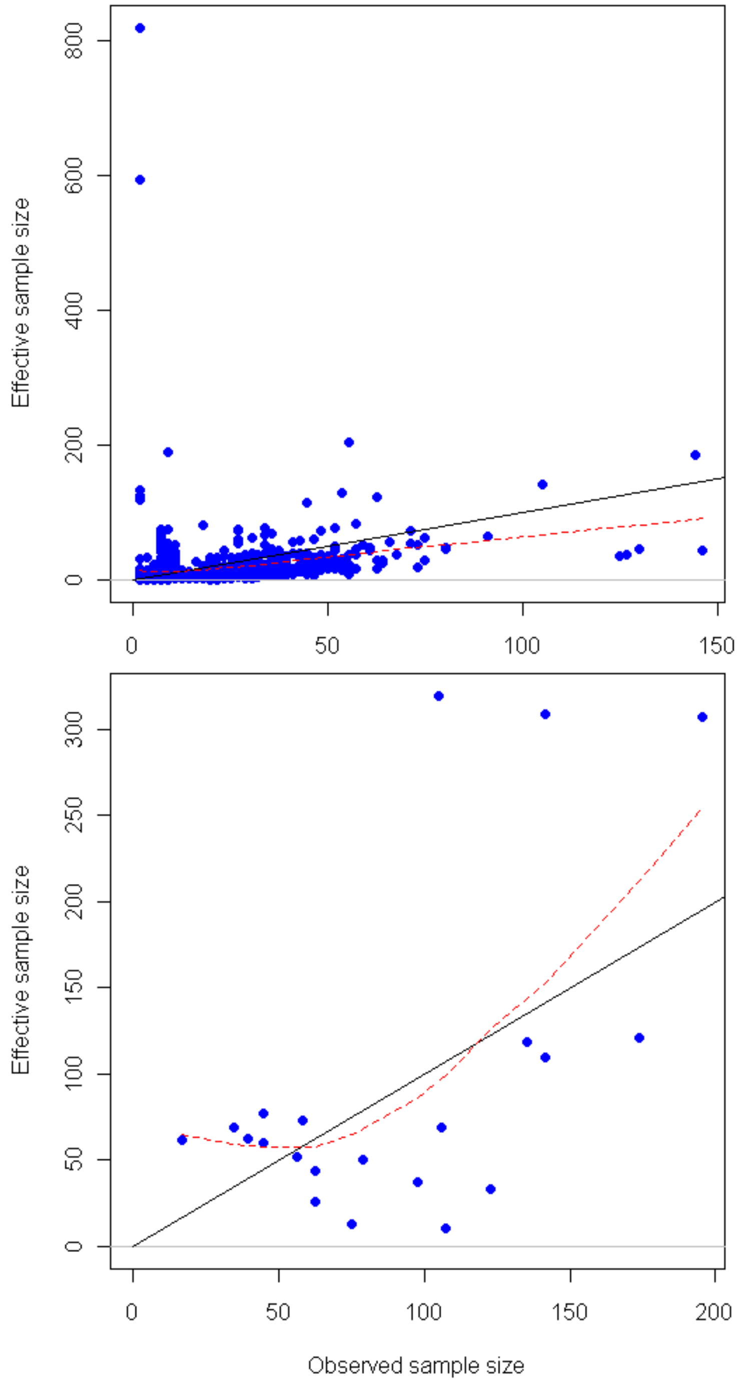

Figure 39. Plot of effective vs. observed input sample sizes for the Canadian fishery conditional age at length compositions (top) and length compositions (bottom). Solid line indicates a 1:1 relationship, dashed line is a loess smoother.

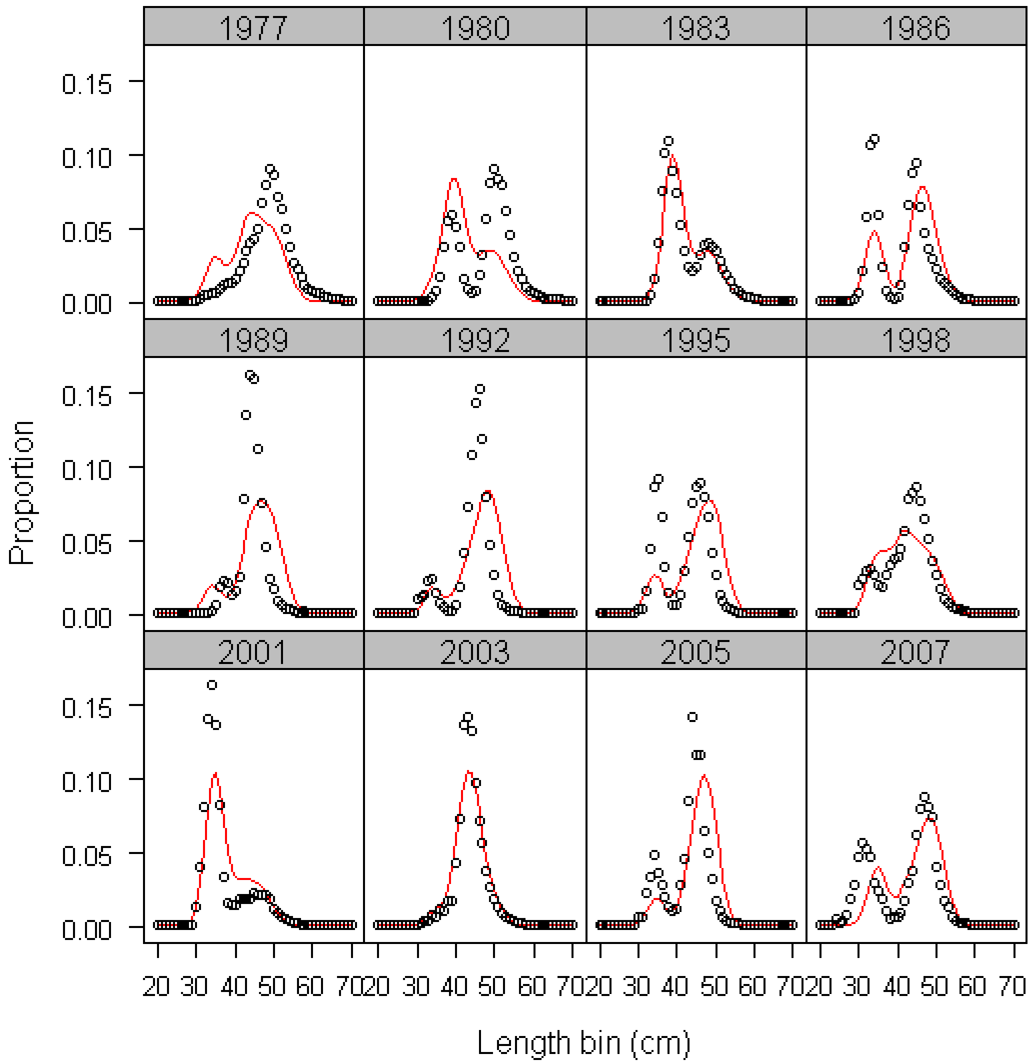

Figure 40. Predicted fits to the observed acoustic survey length composition data.

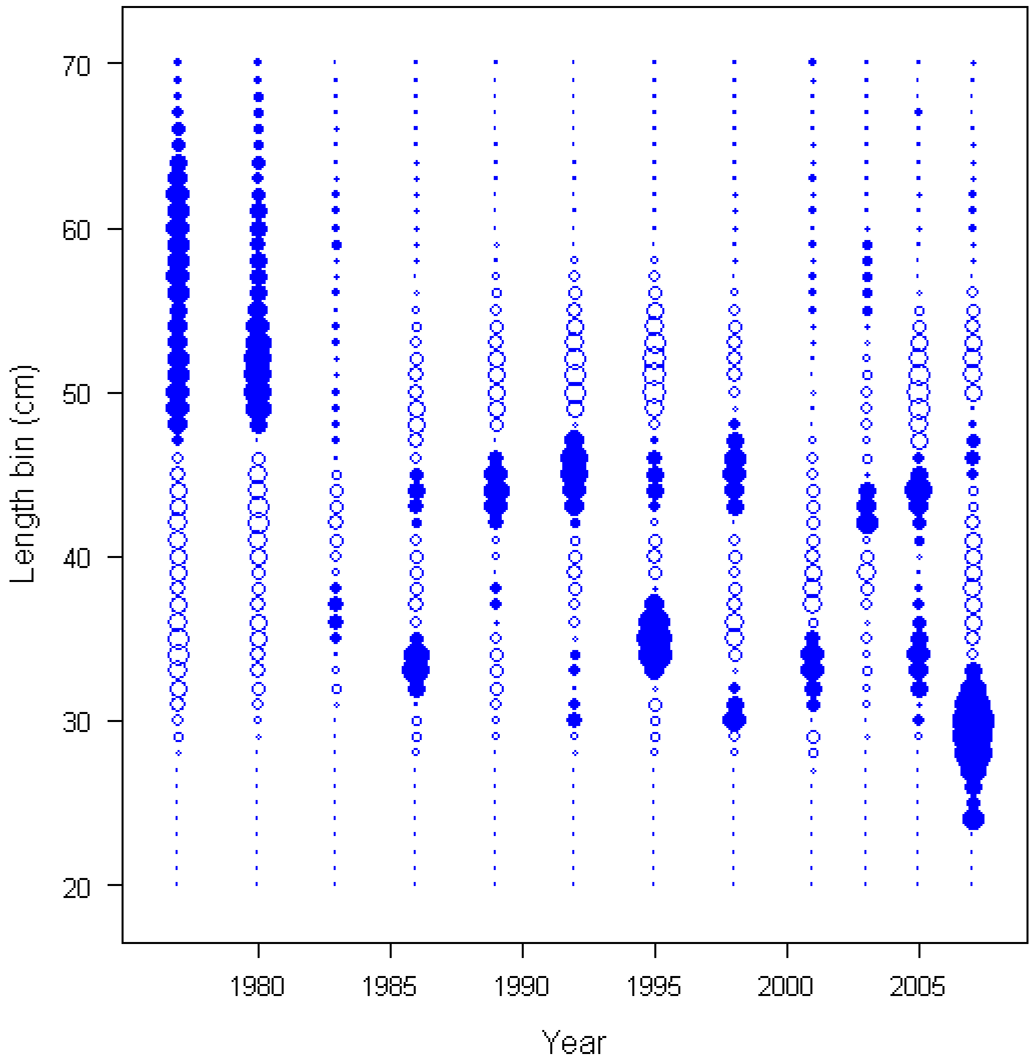

Figure 41. Pearson standardized residuals (observed - predicted) for model fits to the acoustic survey length composition data. Maximum bubble size = 5.43; filled circles represent positive values.

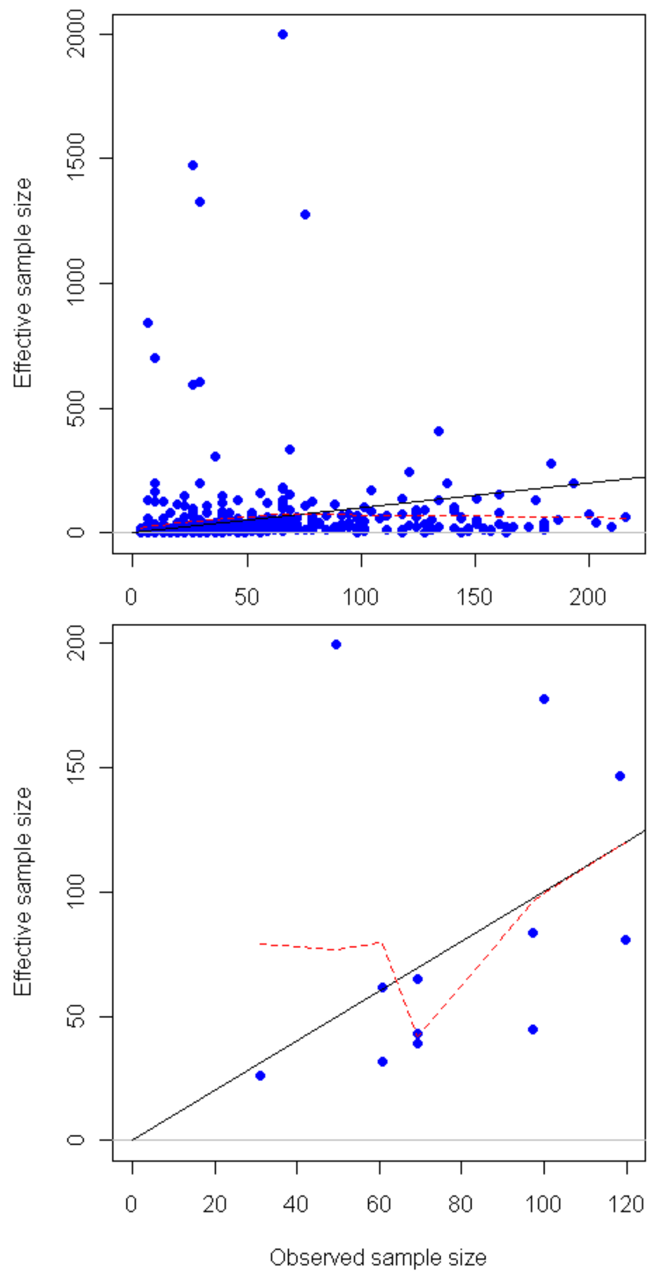

Figure 42. Plot of effective vs. observed input sample sizes for the acoustic survey conditional age at length compositions (top) and length compositions (bottom). Solid line indicates a 1:1 relationship, dashed line is a loess smoother.

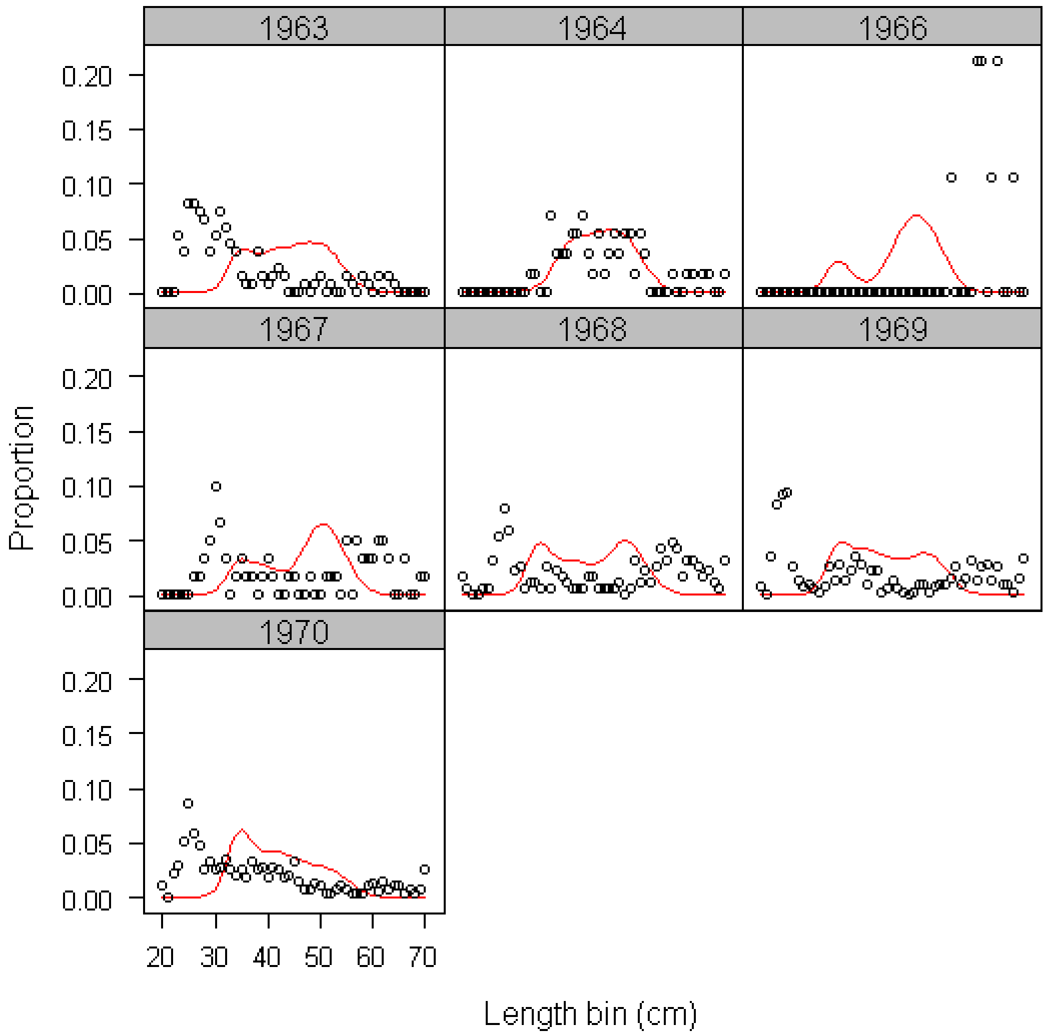

Figure 43. Predicted fits to the observed historical 1st quarter California fishery length composition data.

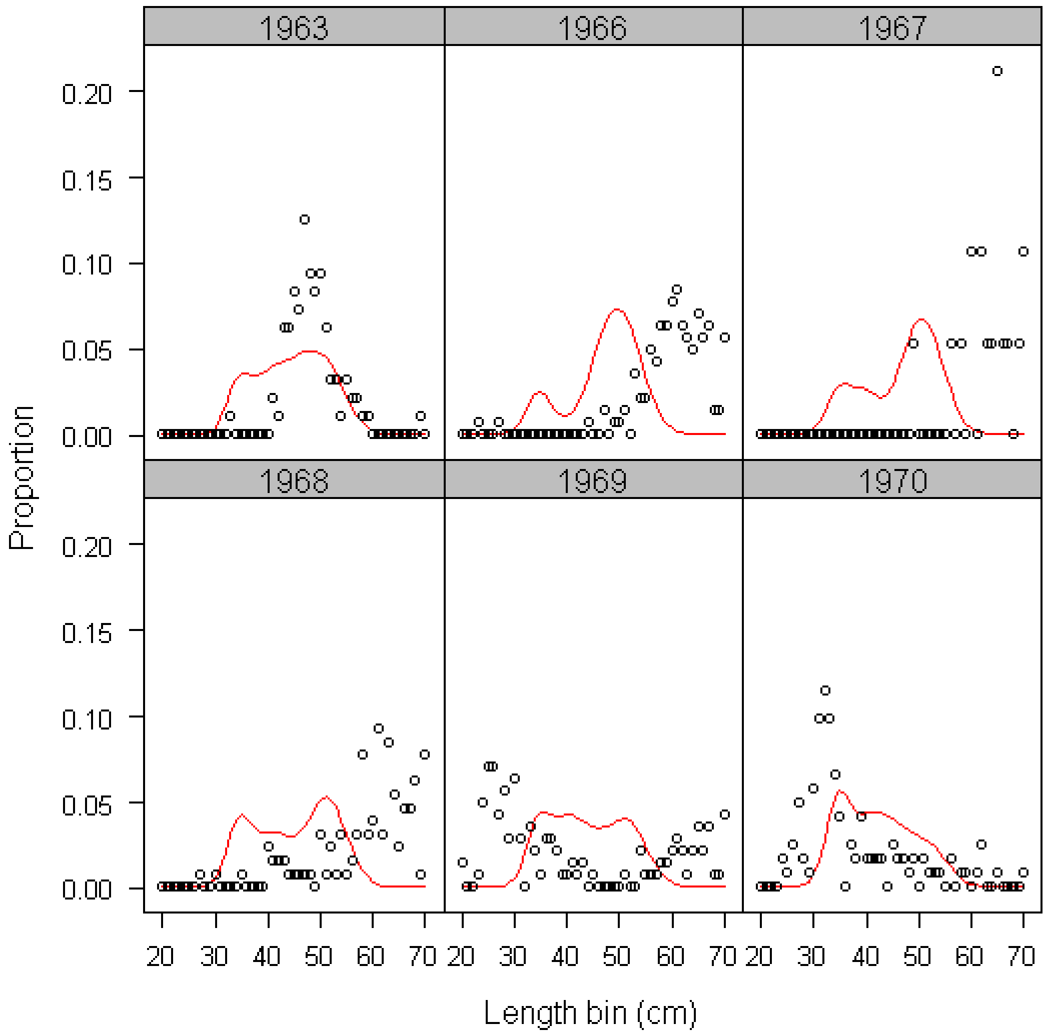

Figure 44. Predicted fits to the observed historical 2nd quarter California fishery length composition data.

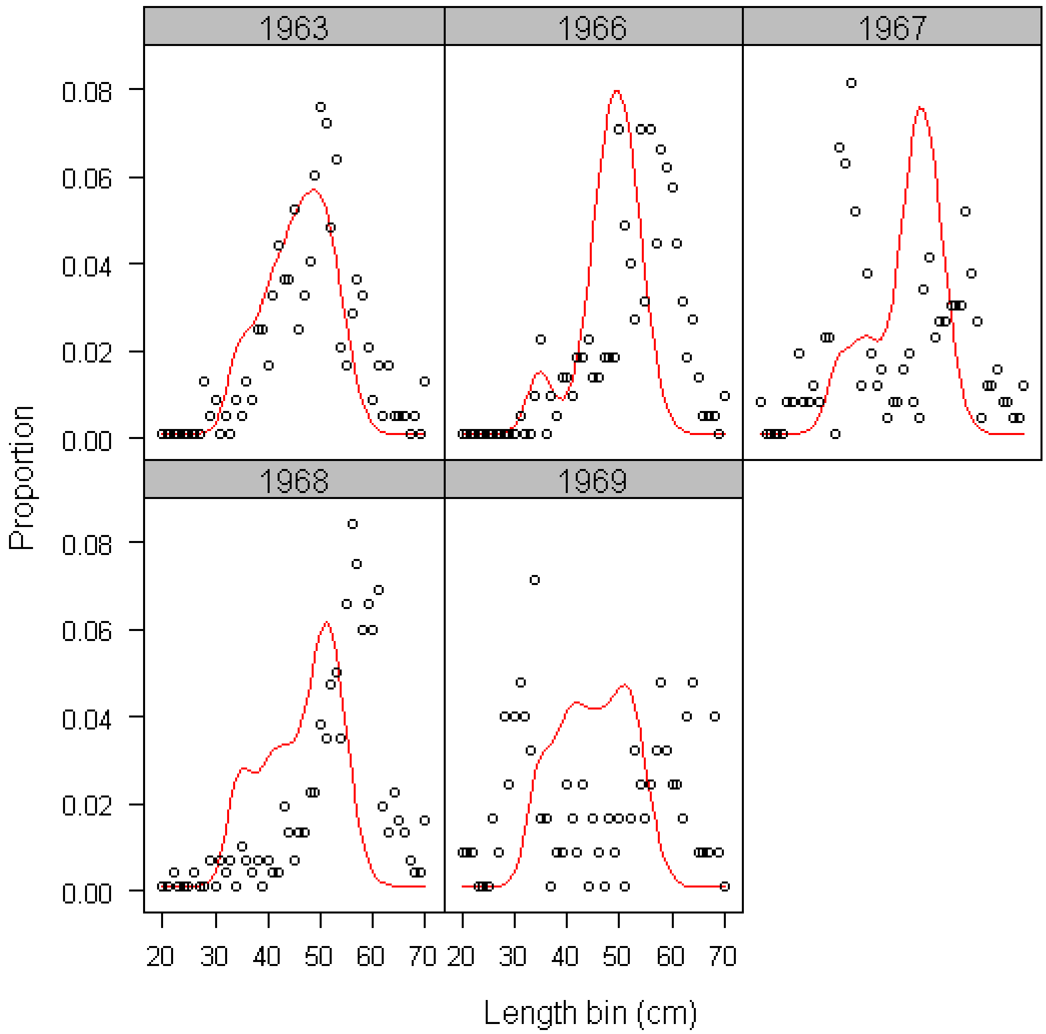

Figure 45. Predicted fits to the observed historical 3rd quarter California fishery length composition data.

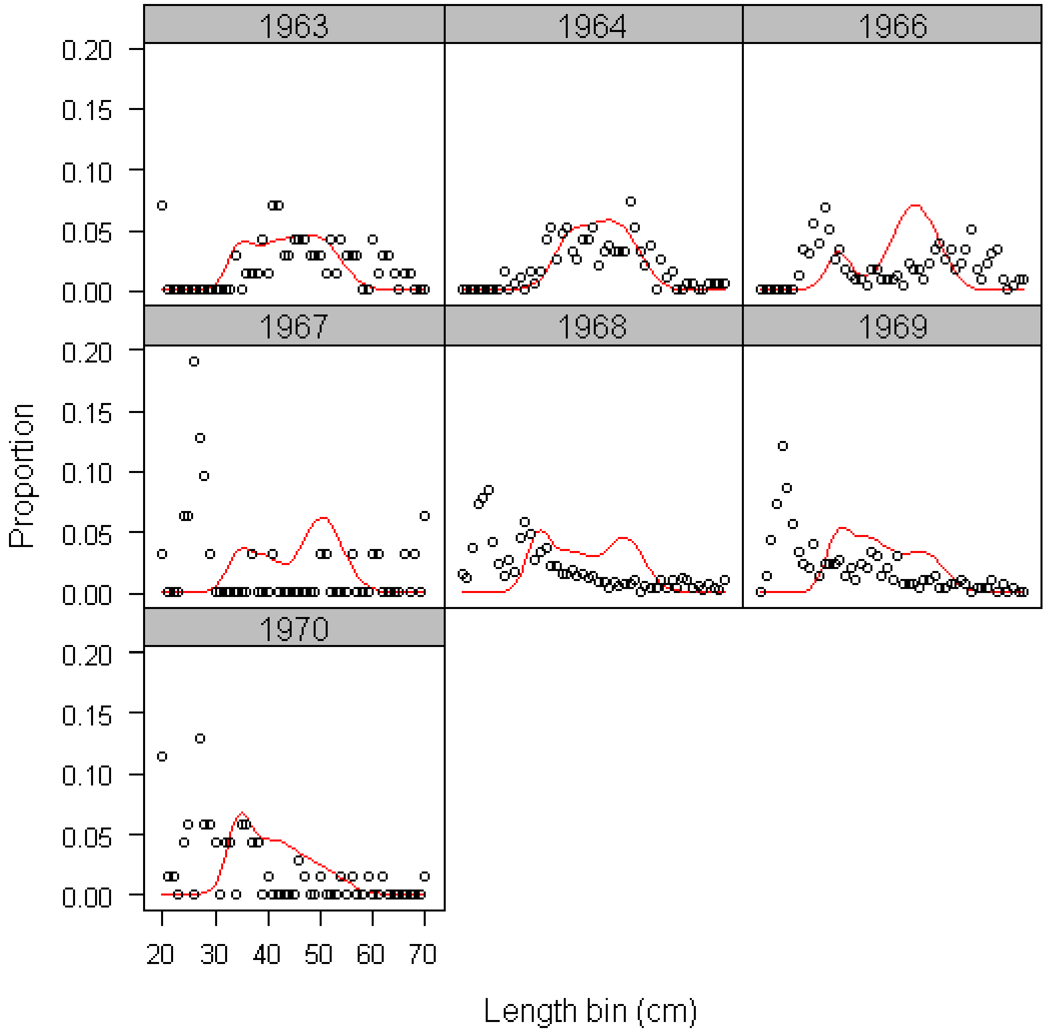

Figure 46. Predicted fits to the observed historical 4th quarter California fishery length composition data.

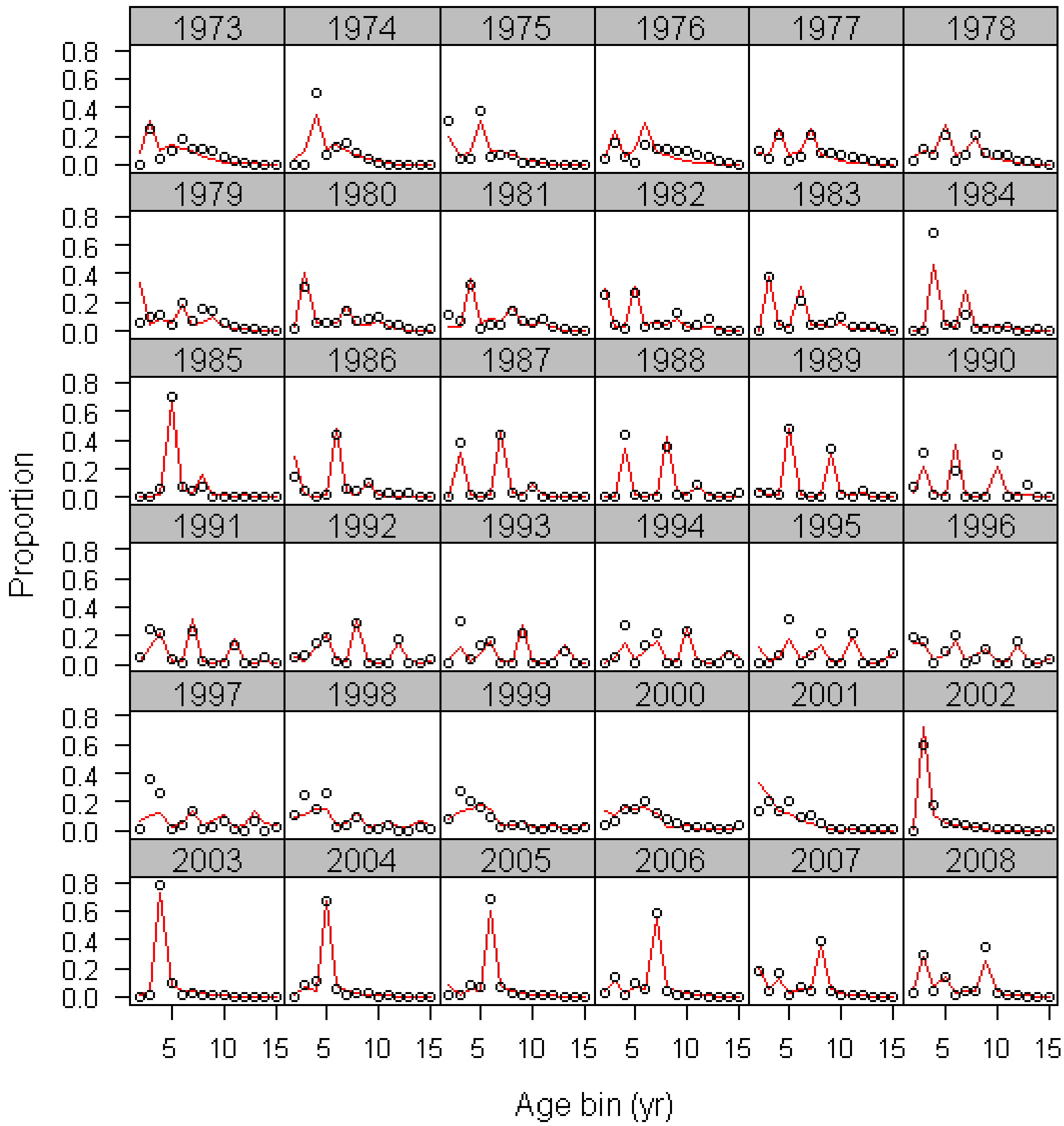

Figure 47. Predicted (implied) fits to the observed U.S. fishery age composition data.

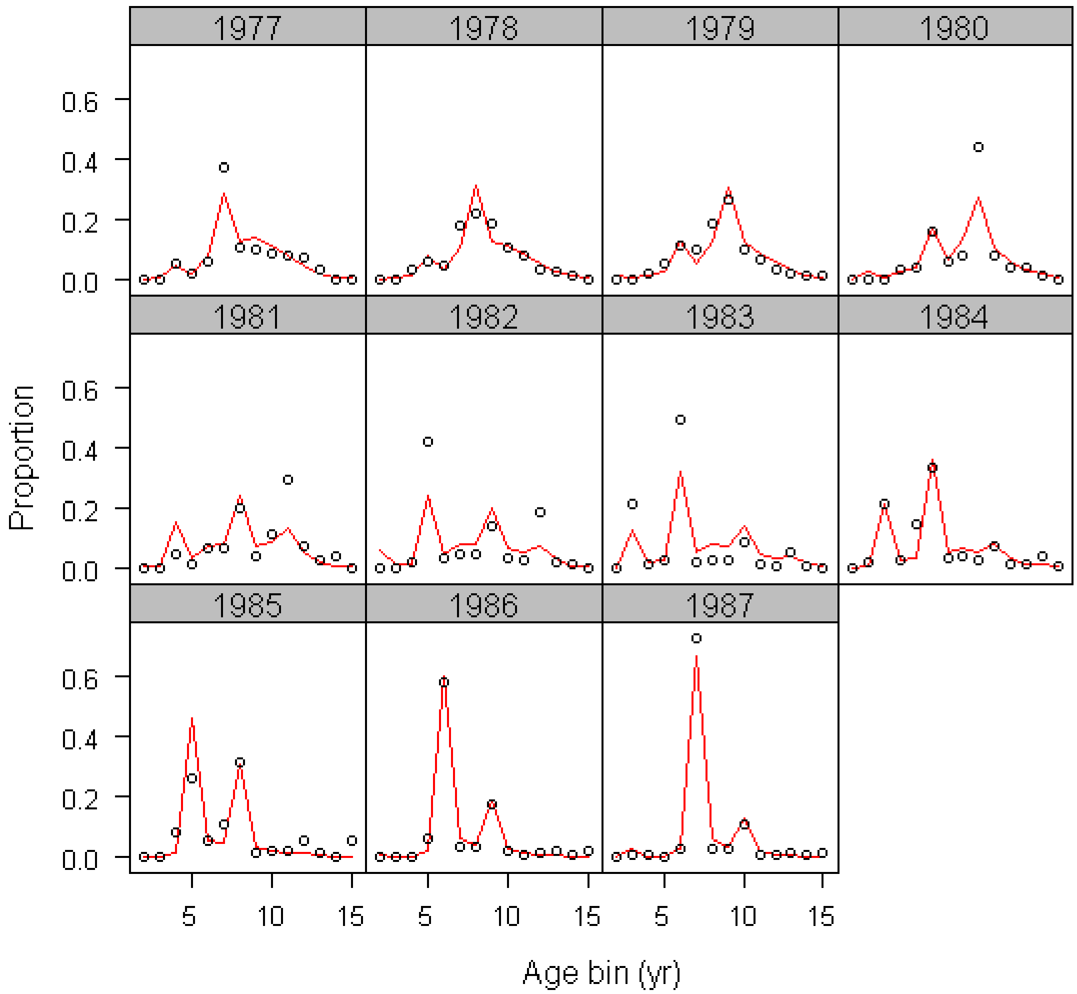

Figure 48. Predicted fits to the early observed Canadian fishery age composition data, where conditional age-at-length could not be calculated.

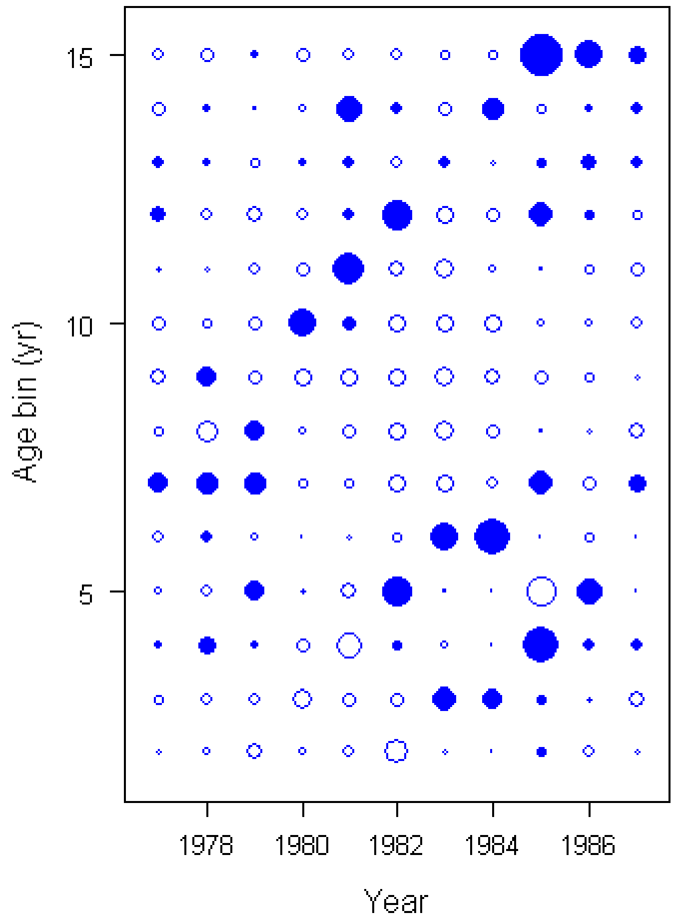

Figure 49. Pearson standardized residuals (observed - predicted) for model fits to the early observed Canadian fishery age composition data. Maximum bubble size = 8.33; filled circles represent positive values.

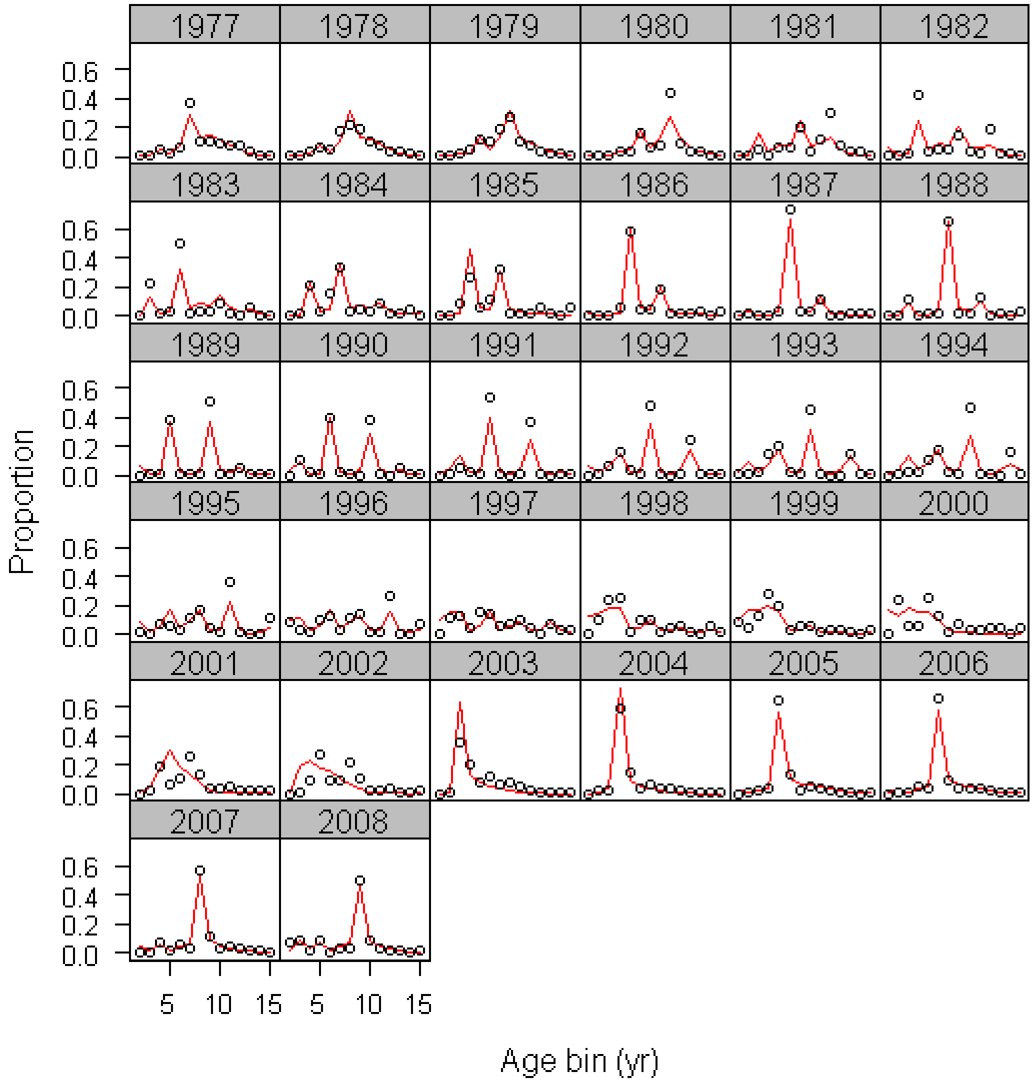

Figure 50. Predicted fits (implied) to the observed Canadian fishery age composition data.

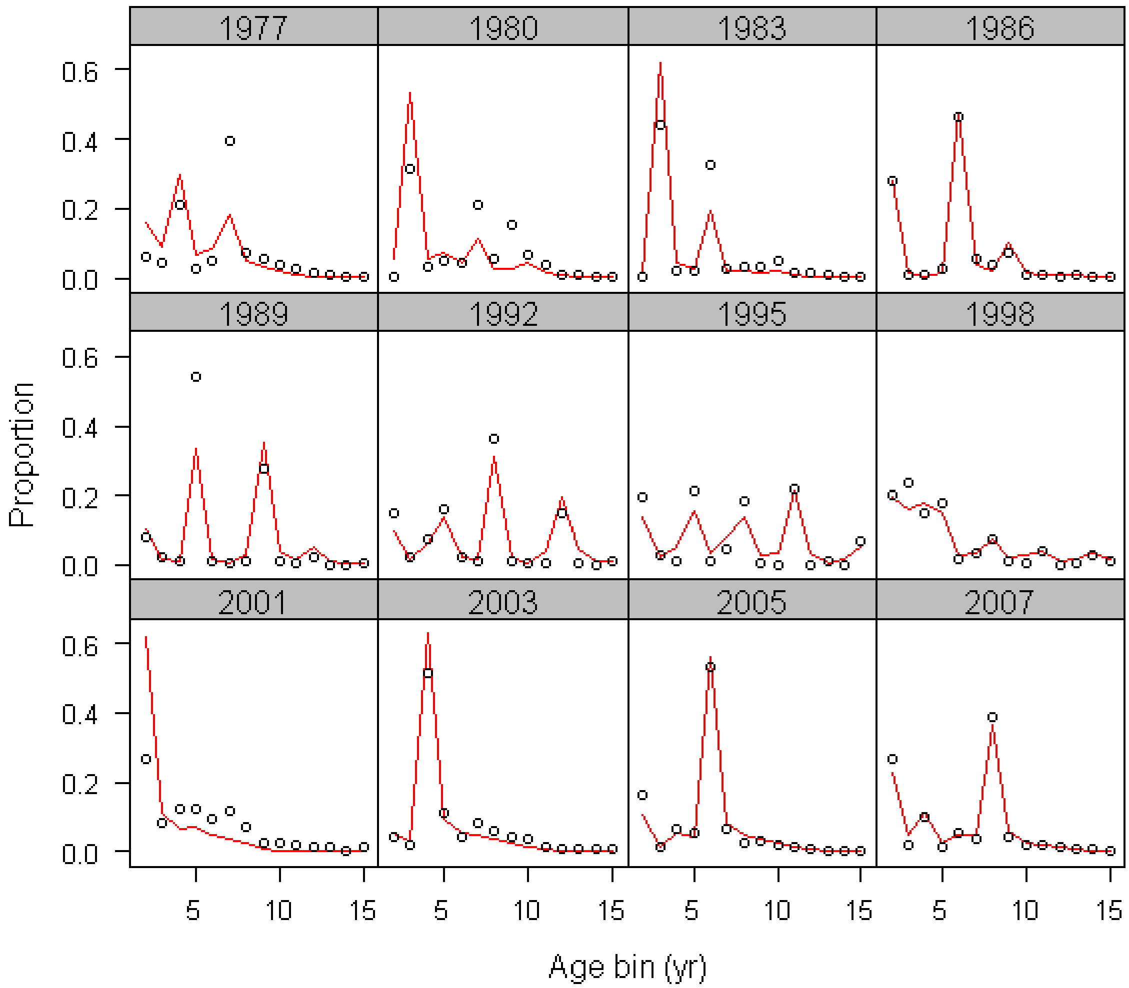

Figure 51. Predicted (implied) fits to the observed acoustic survey age composition data.

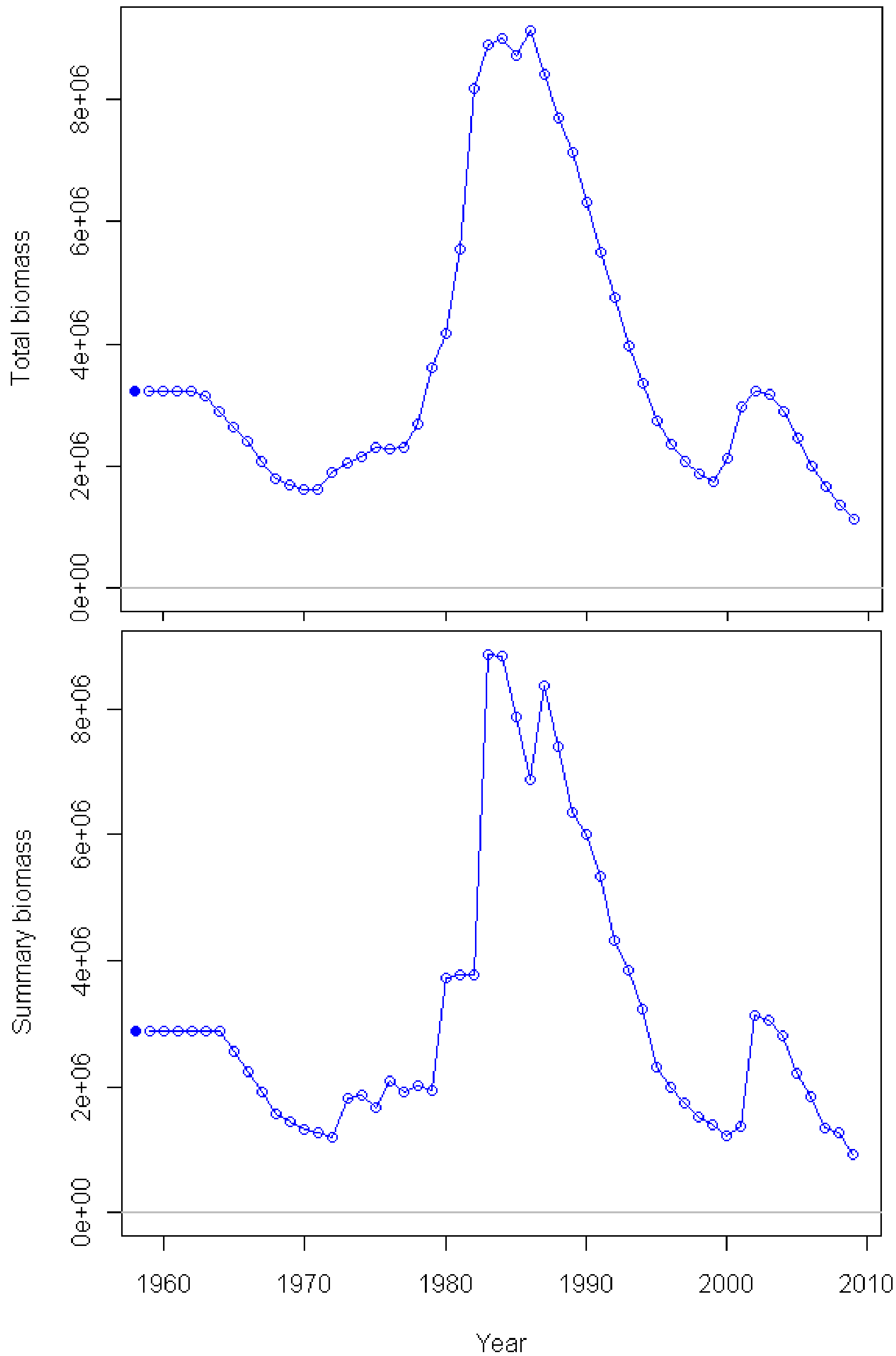

Figure 52. Estimated time-series of Pacific hake total (top panel) and summary biomass (age 3+; bottom panel).

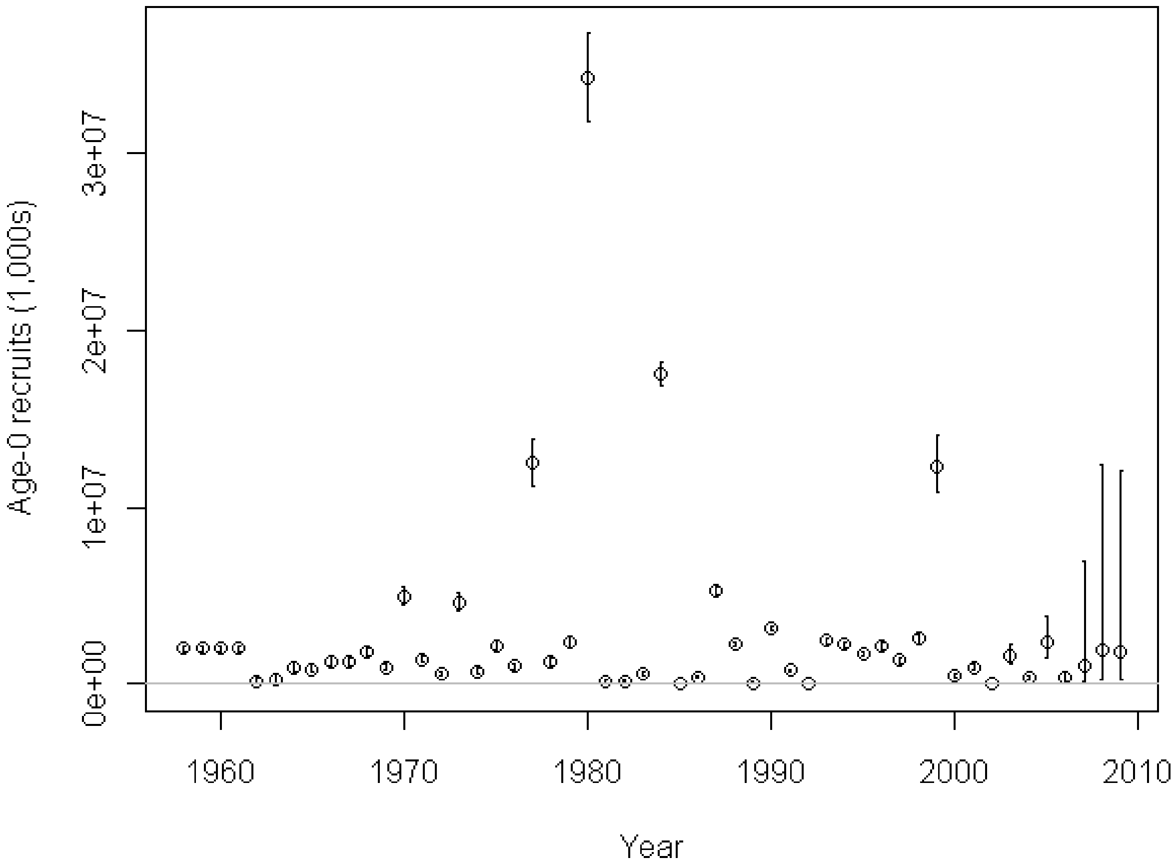

Figure 53. Estimated recruitment time-series with approximate asymptotic 95% confidence intervals.

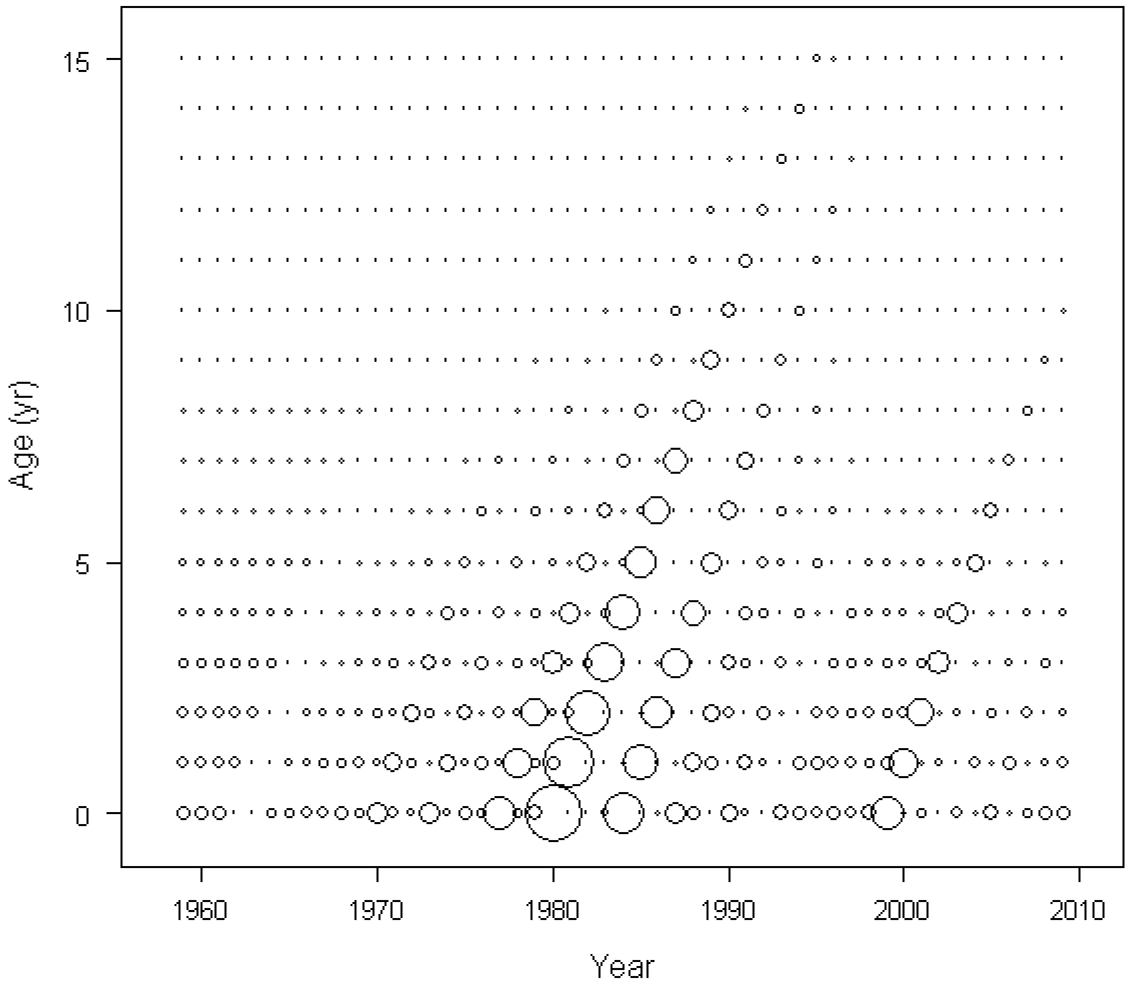

Figure 54. Estimated numbers at age time-series in the base case model.

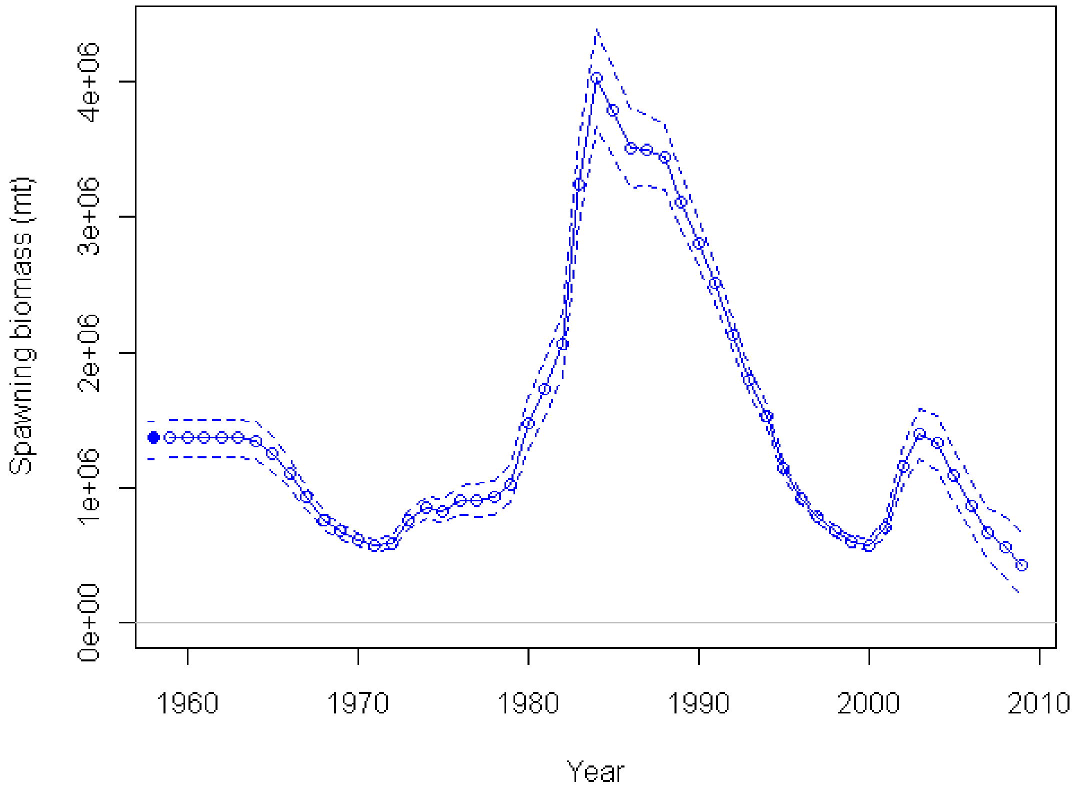

Figure 55. Estimated female spawning biomass time-series with approximate asymptotic 95% confidence intervals.

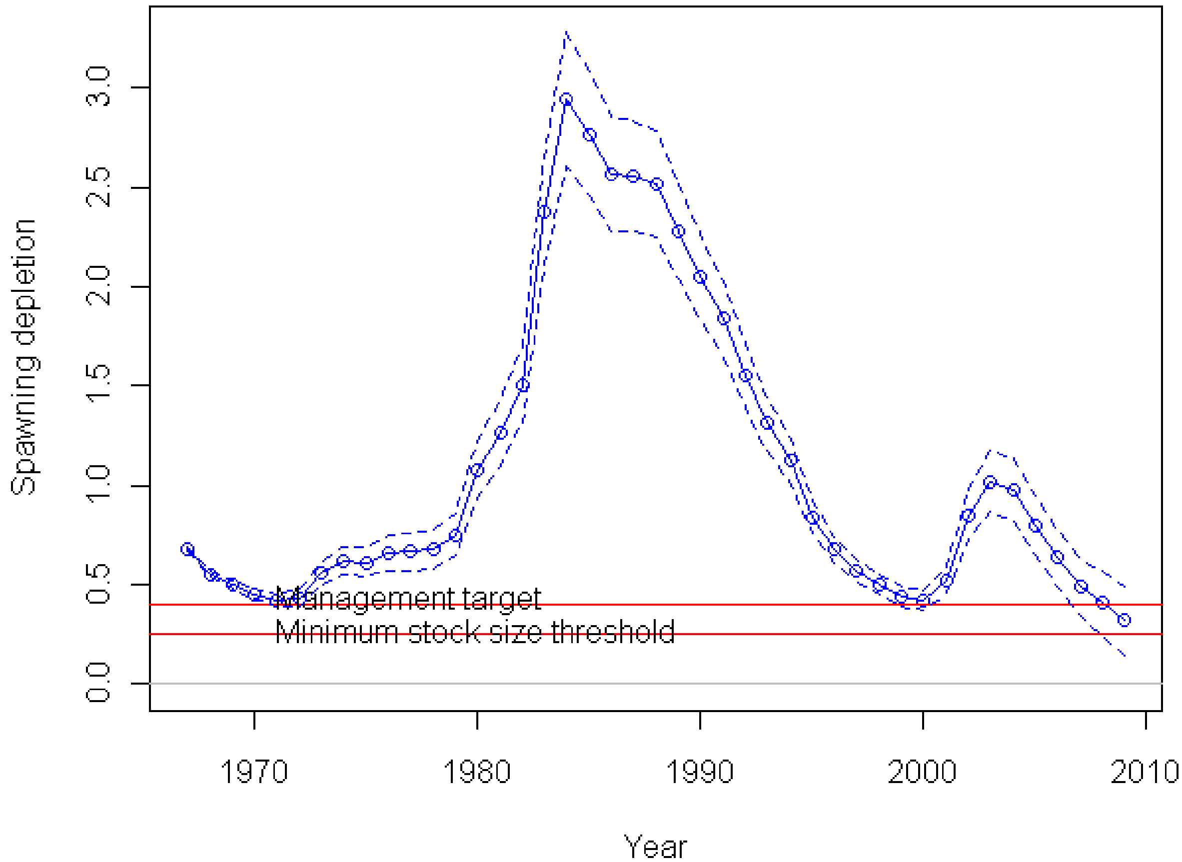

Figure 56. Time-series of estimated depletion, 1967-2009.

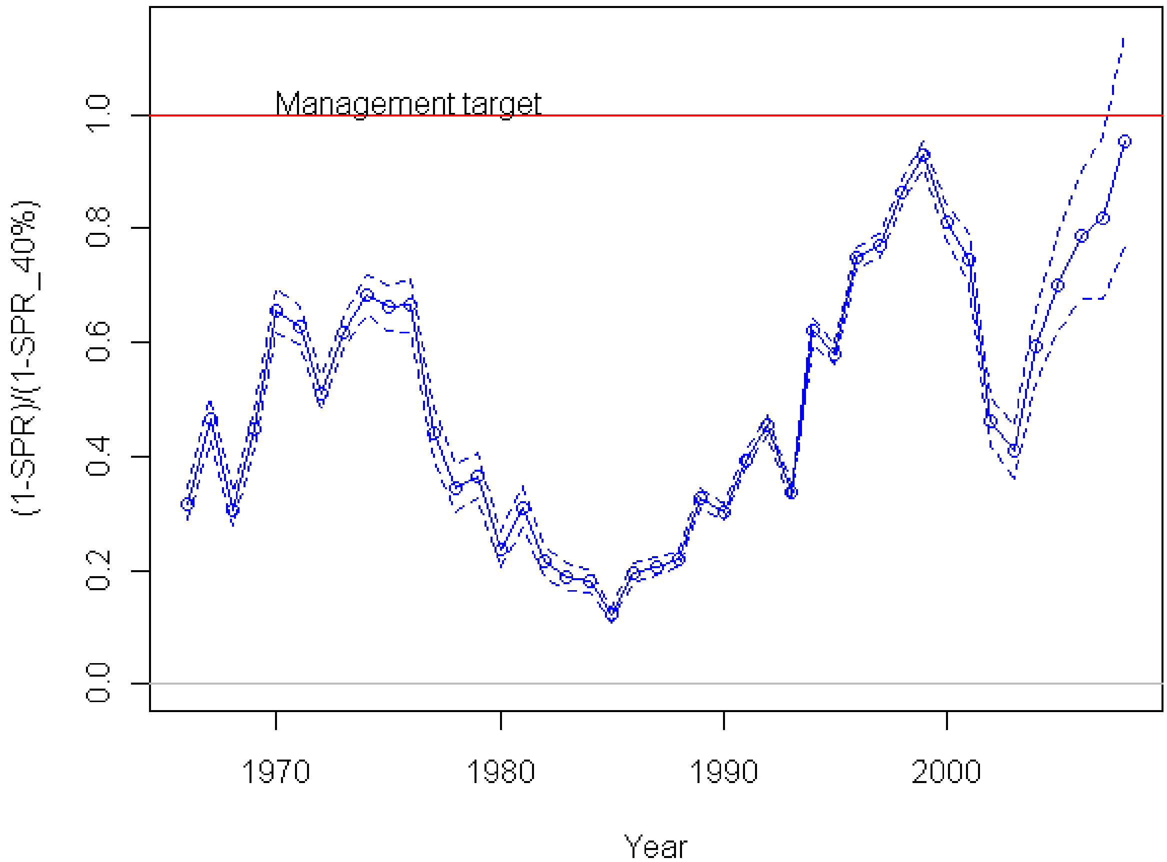

Figure 57. Time-series of relative spawning potential ratio (1-SPR/1-$SPR_{Target=0.4}$).

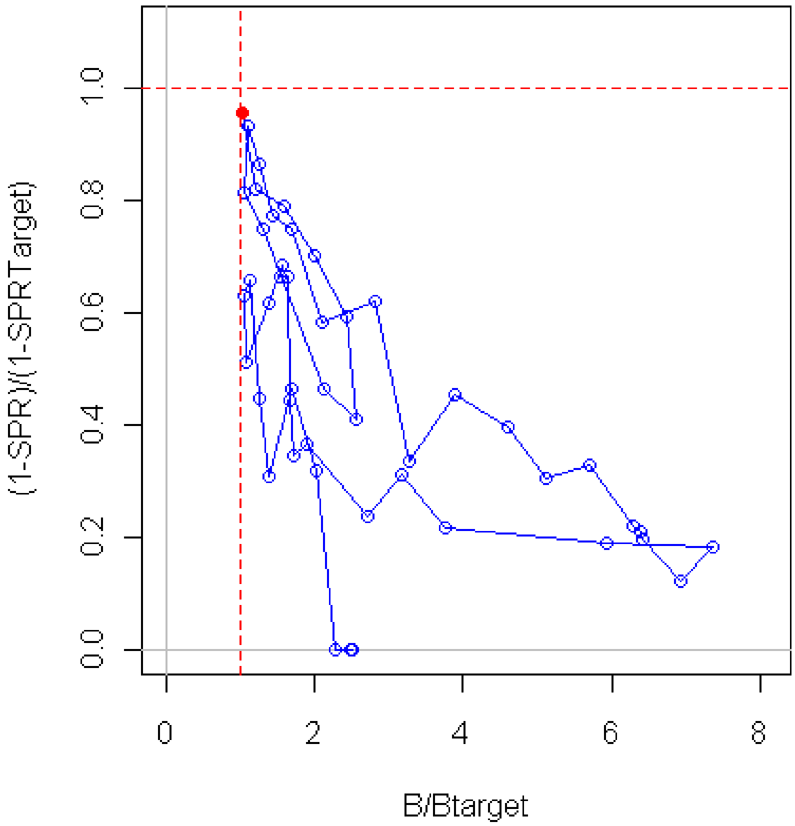

Figure 58. Temporal pattern (phase plot) of relative spawning potential ratio (1-SPR/1-$SPR_{Target=0.4}$) vs. estimated spawning biomass relative to the proxy 40% level, 1960-2008. Current (2008) performance relative to targets is shown as solid dot.

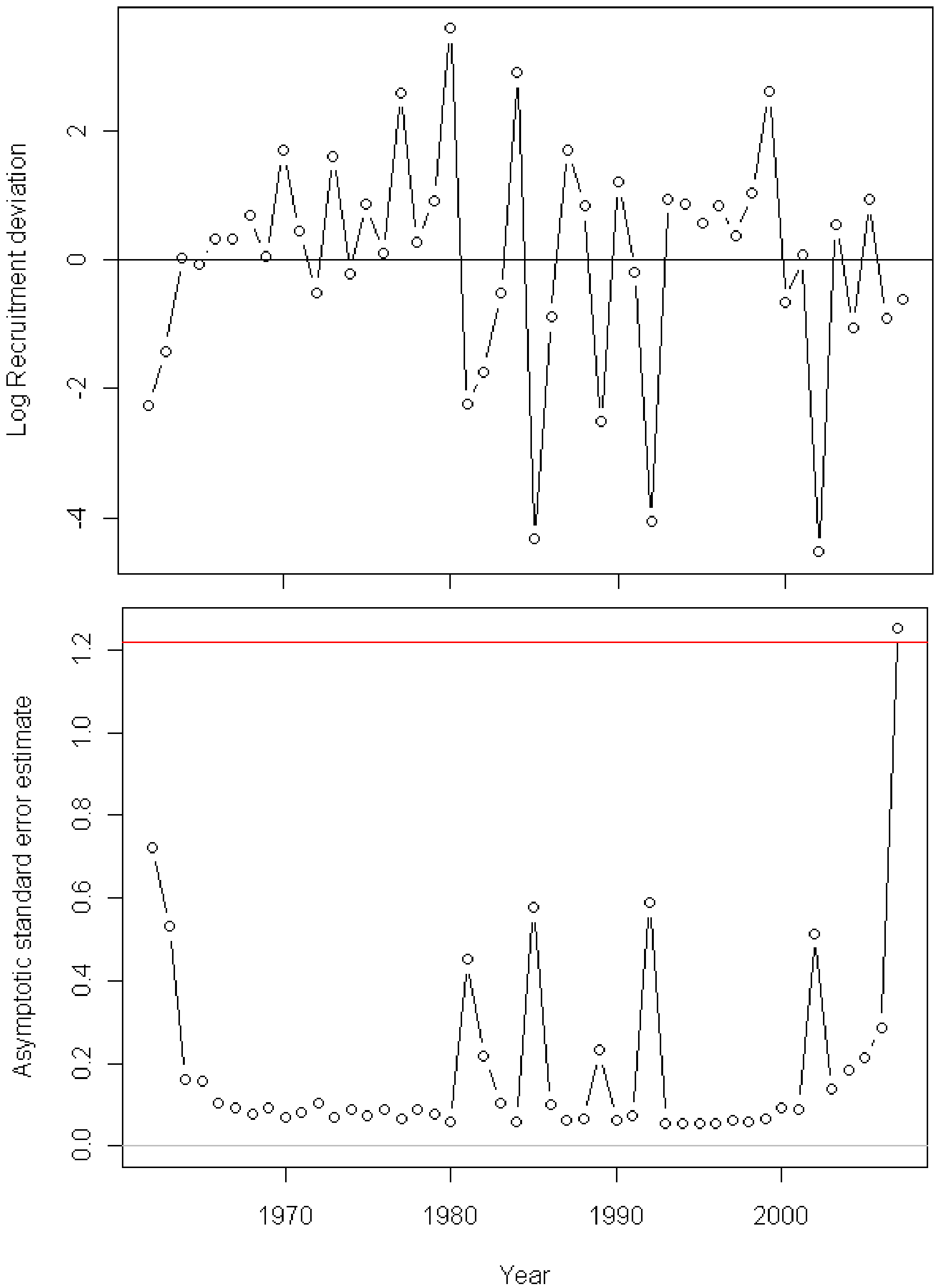

Figure 59. Estimates of Pacific hake recruitment deviations (top panel), and asymptotic standard errors for the deviations (bottom panel). Horizontal line in bottom panel indicates the estimate of the standard deviation of log recruitment deviations (σ_r).

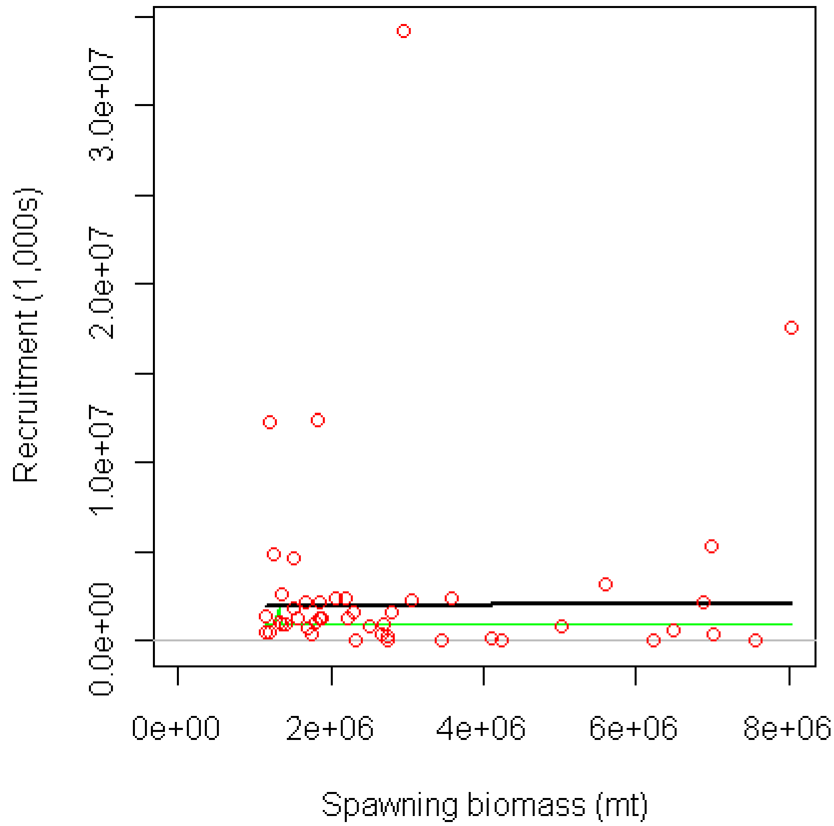

Figure 60. Estimated stock-recruit relationship. Lines represent the bias-corrected expectation (upper line) and median (lower line).

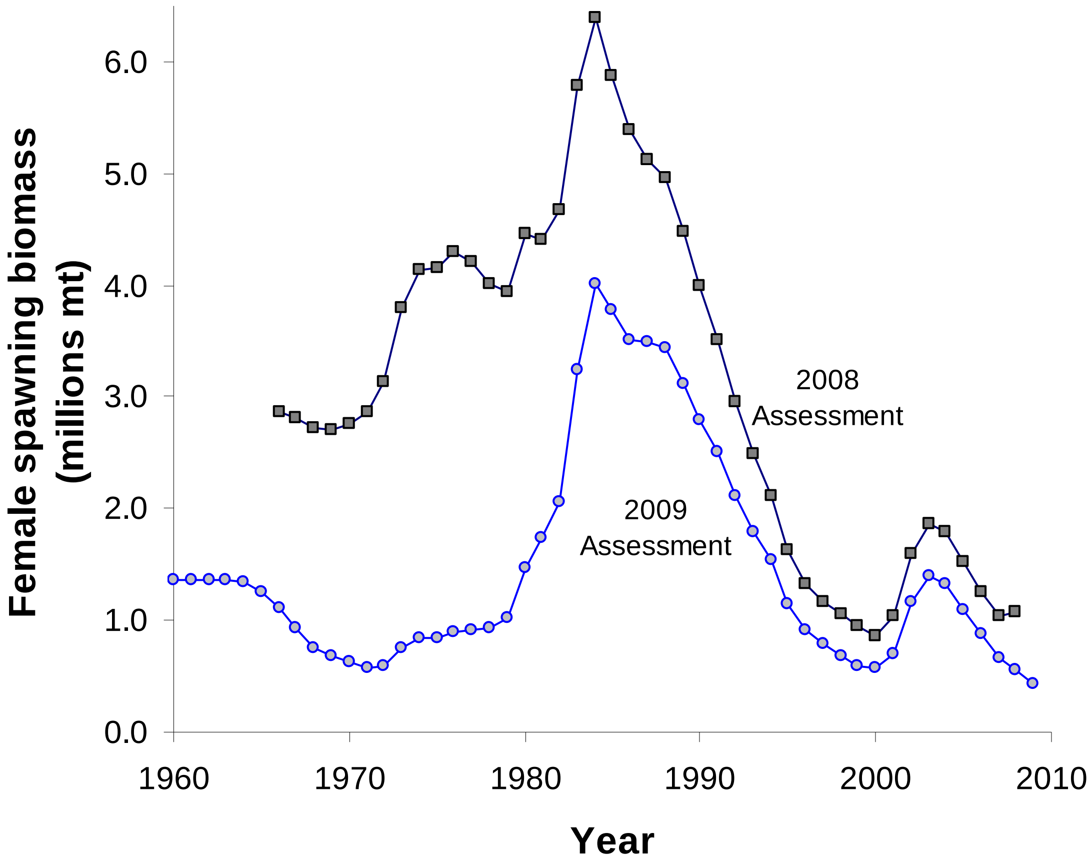

Figure 61. Comparison of 2008 and current model results.

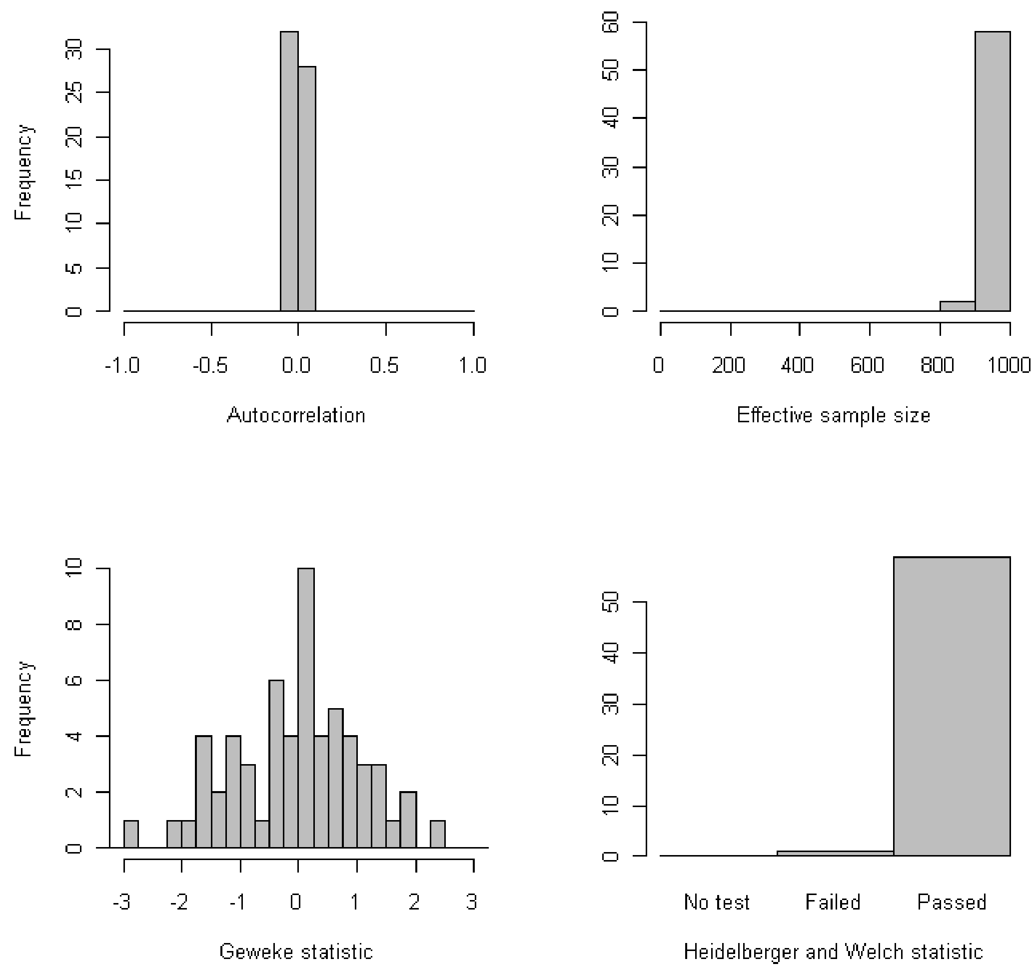

Figure 62. Summary of MCMC diagnostics for the objective function, as well as growth, mortality, stock-recruit (including recruitment deviations) and catchability parameters.

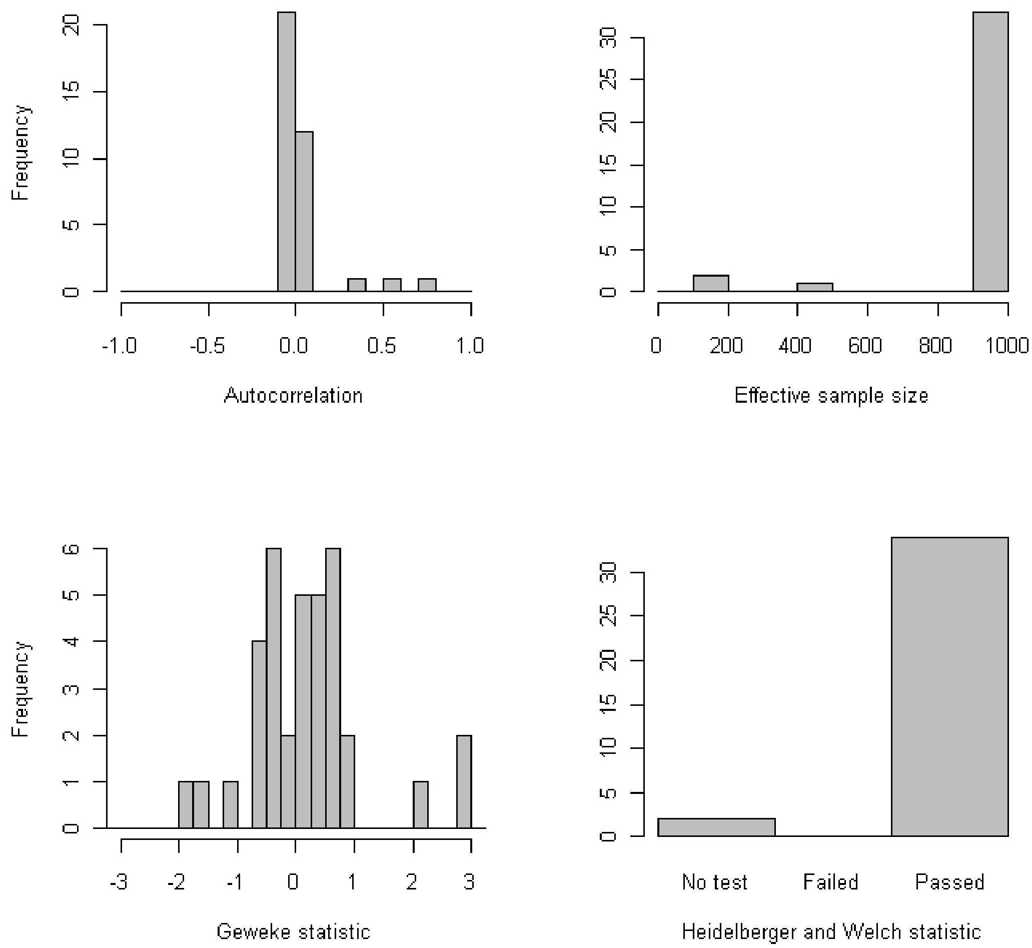

Figure 63. Summary of MCMC diagnostics for all estimated selectivity parameters.

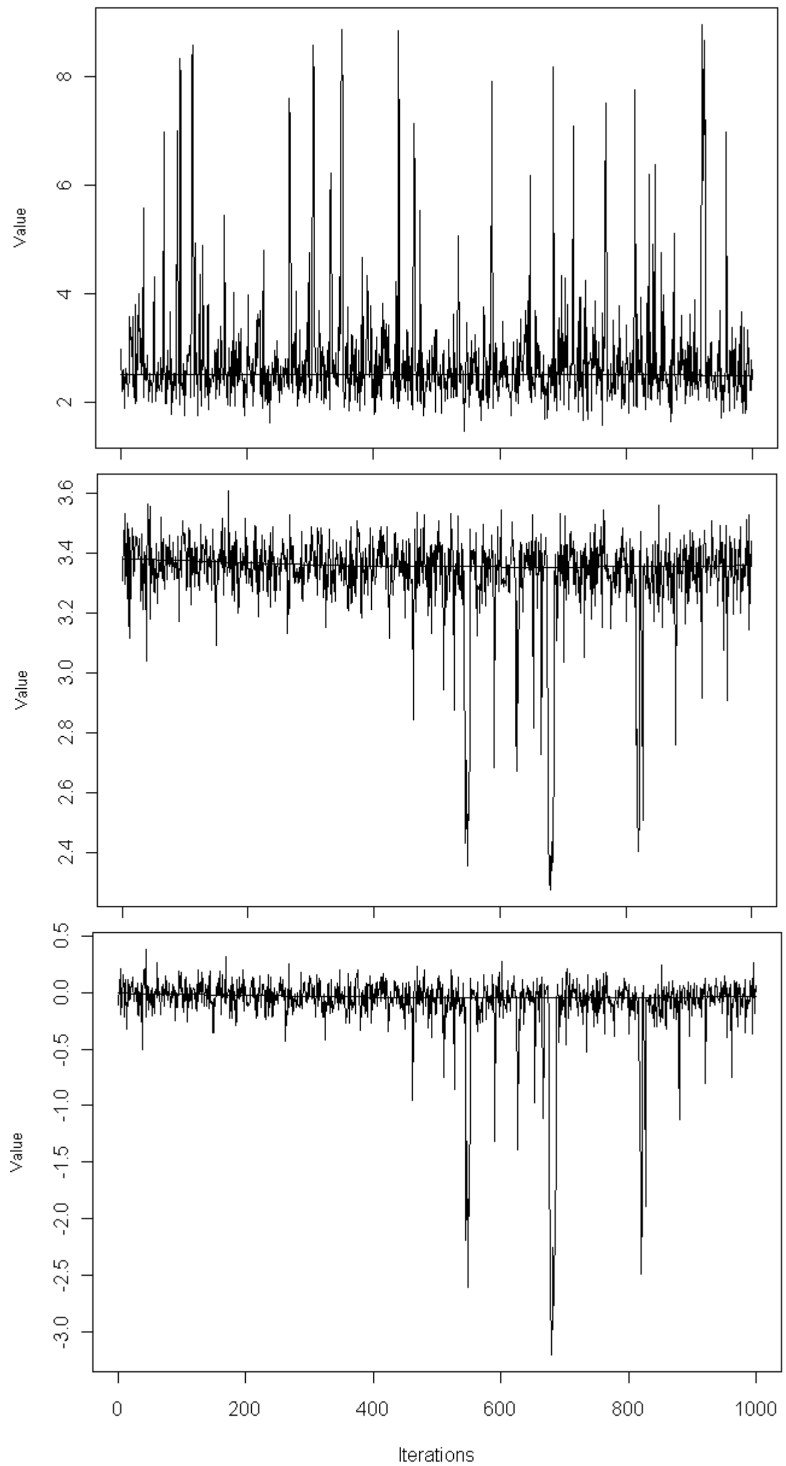

Figure 64. Trace of thinned samples from the posterior distribution for the three atypical selectivity parameters: 3rd quarter historical California ascending width (top), U.S. peak fishery selectivity in 2001 (middle) and U.S. ascending width of fishery selectivity in 2001 (bottom).

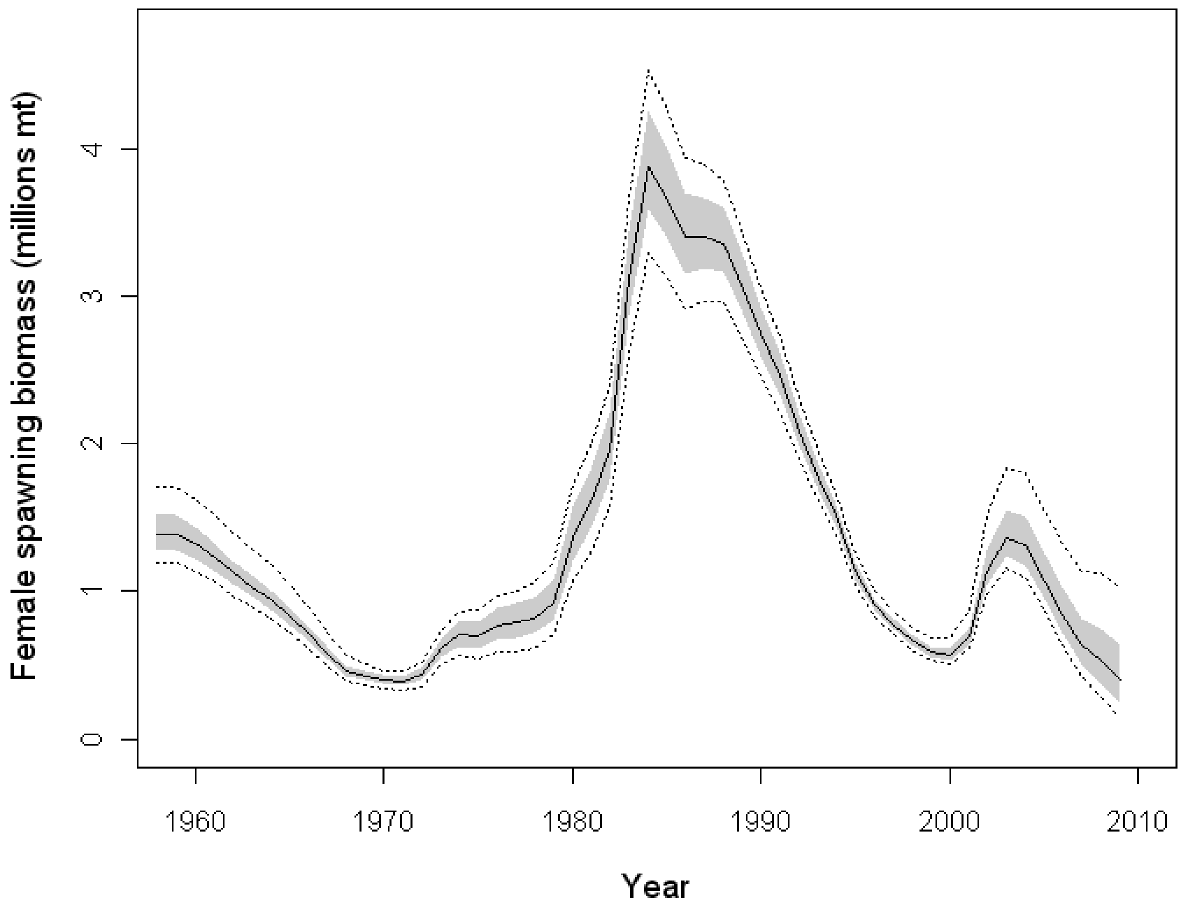

Figure 65. Time-series of posterior intervals for female spawning biomass; dark line indicates the median value, shaded region the ~95% credibility interval and dashed lines the minimum and maximum values present in the posterior distribution.

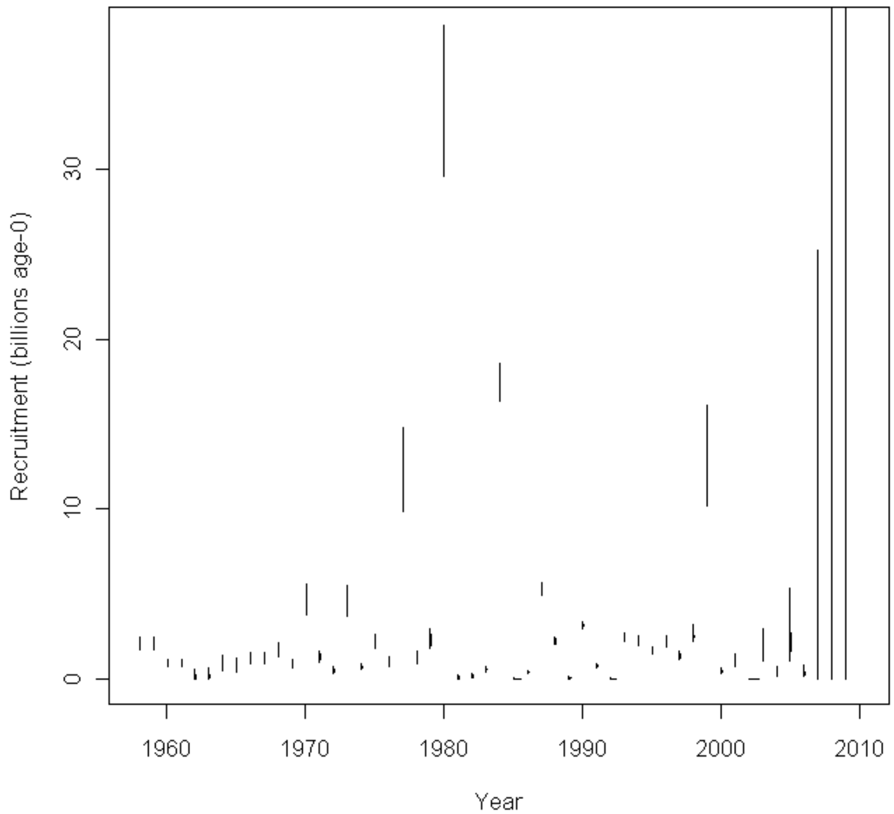

Figure 66. Time-series of posterior intervals (posterior density, minimum and maximum values visible) for age-0 recruitment.

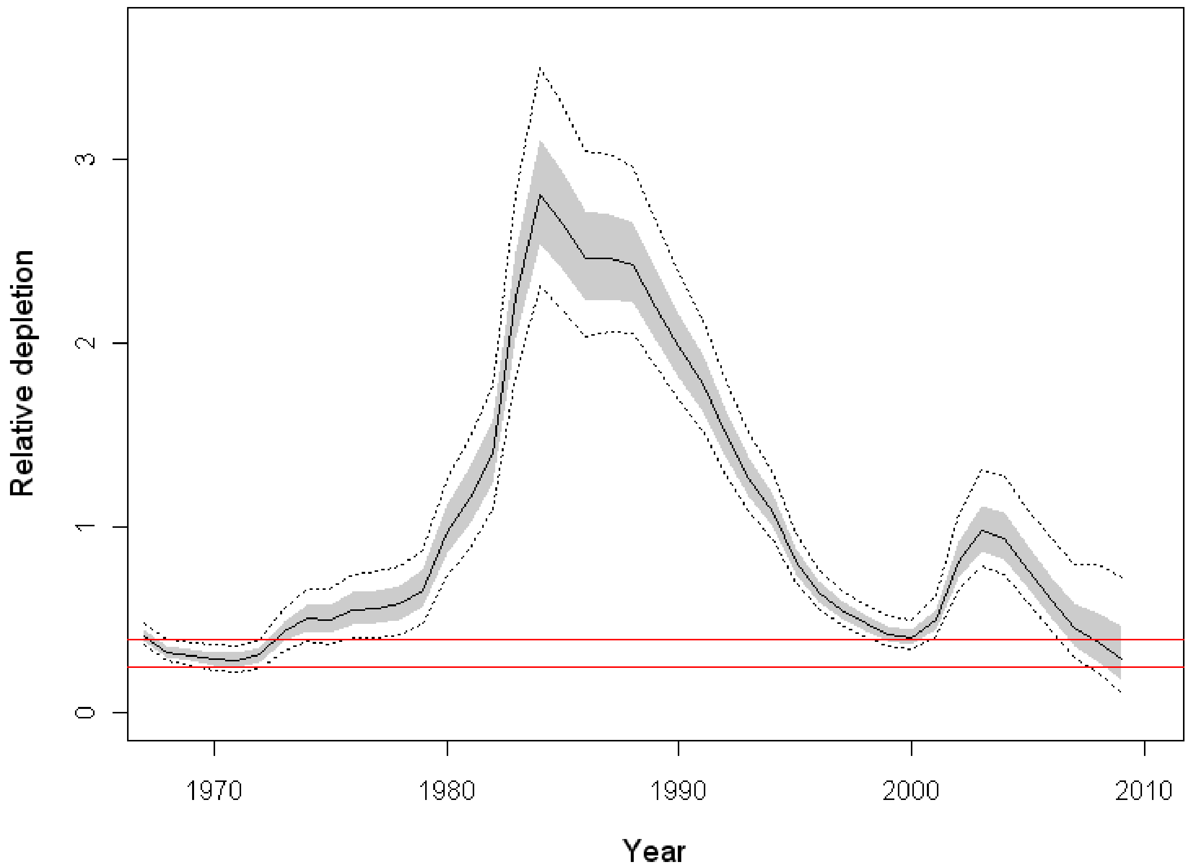

Figure 67. Time-series of posterior intervals for relative depletion; dark line indicates the median value, shaded region the ~95% credibility interval and dashed lines the minimum and maximum values present in the posterior distribution. Horizontal lines indicates the SB40% biomass target and SB25% biomass limit levels.

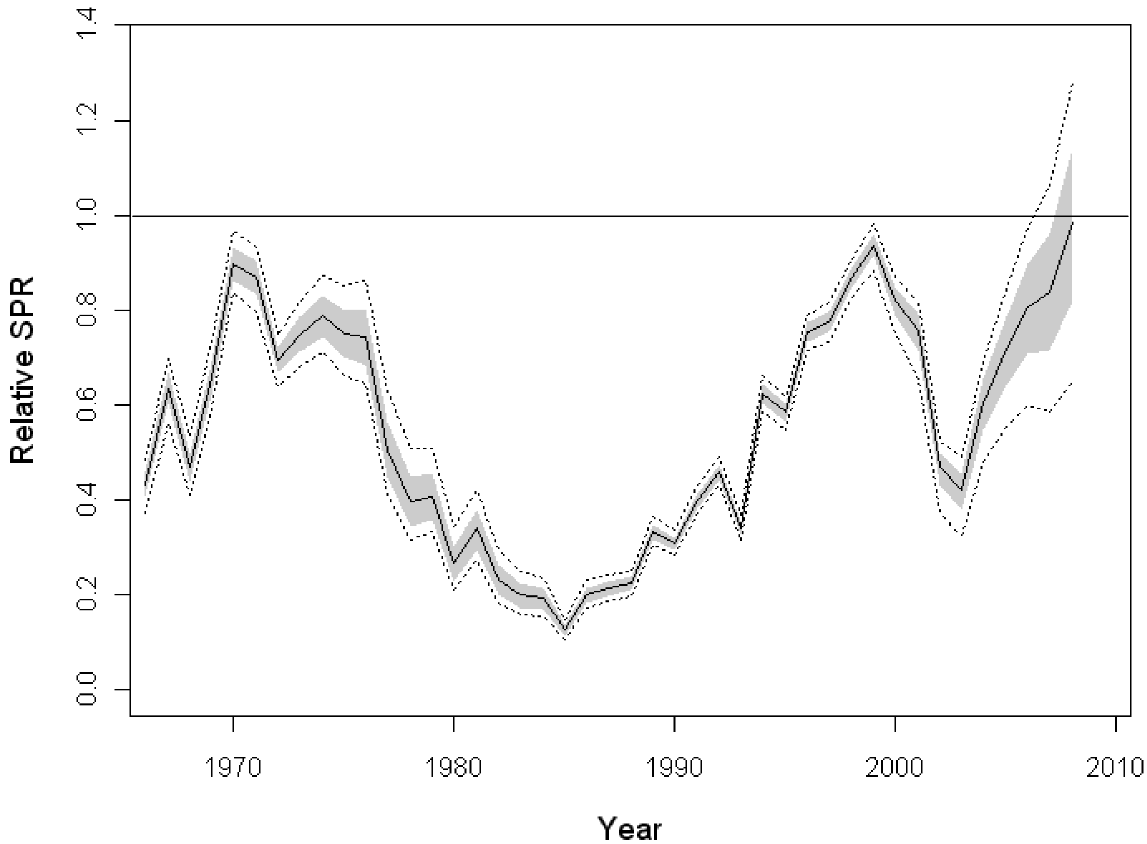

Figure 68. Time-series of posterior intervals for relative SPR, (1-SPR/1-$SPR_{Target=0.4}$); dark line indicates the median value, shaded region the ~95% credibility interval and dashed lines the minimum and maximum values present in the posterior distribution. Horizontal line indicates the overfishing threshold.

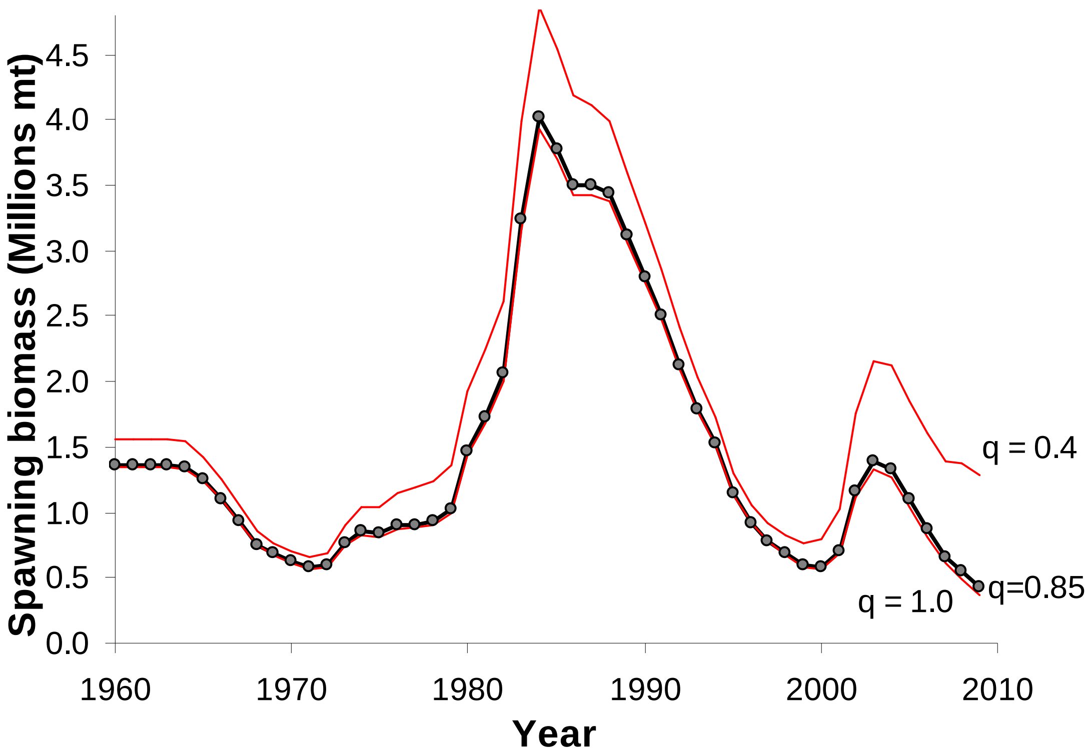

Figure 69. Results of sensitivity analysis to the estimated value for acoustic survey catchability (estimated value = 0.85).

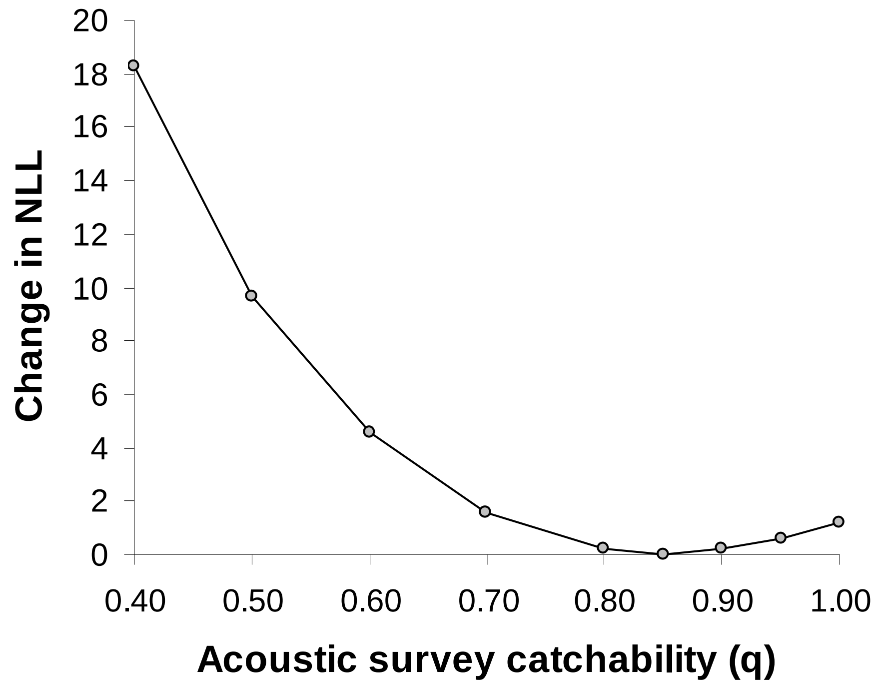

Figure 70. Likelihood profile for alternate values for acoustic survey catchability.

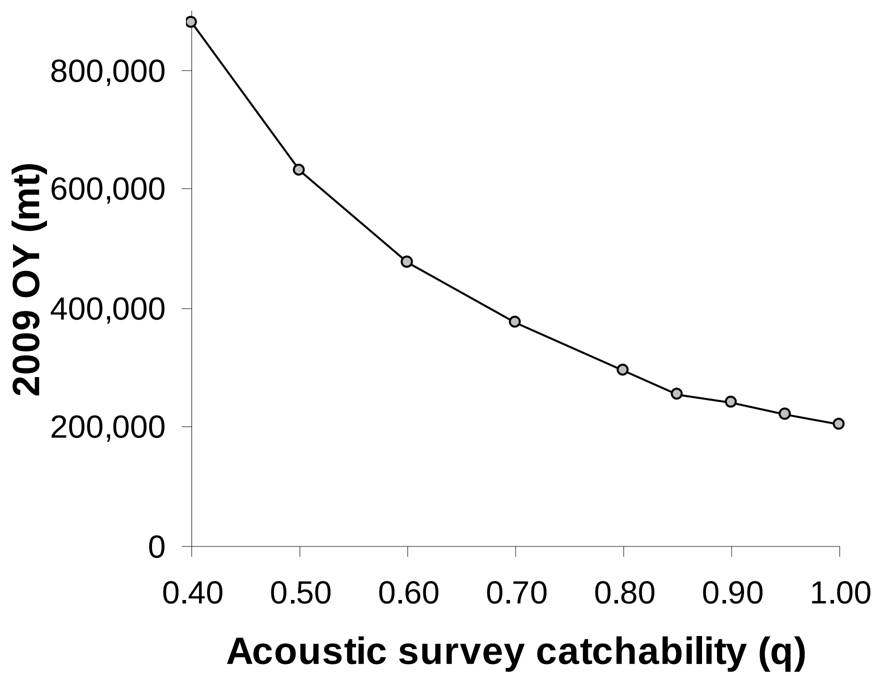

Figure 71. Management implication for alternate values for acoustic survey catchability.

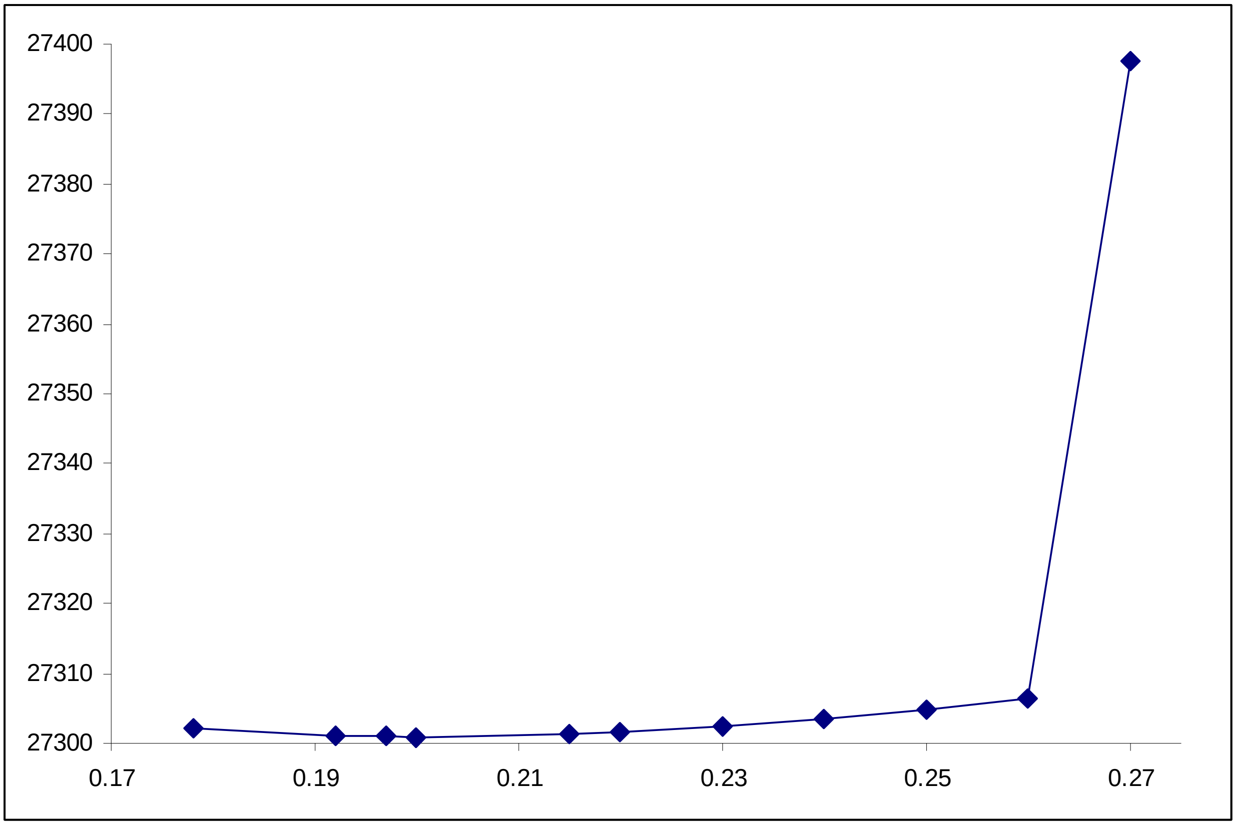

Figure 72. Likelihood profile for the natural mortality rate (*M*) through age 13.

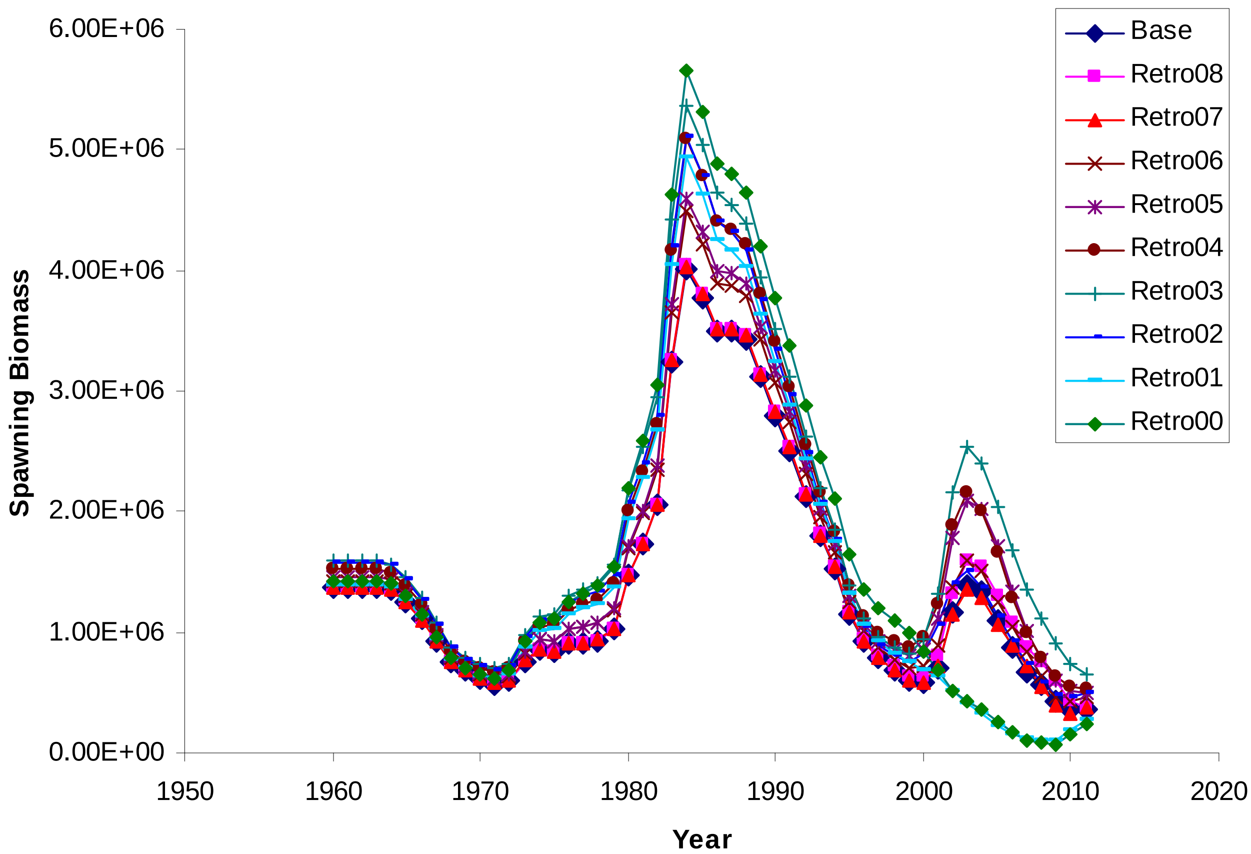

Figure 73. Retrospective pattern over the terminal years 2008 to 2002 as data from each terminal year are sequentially removed from the model.

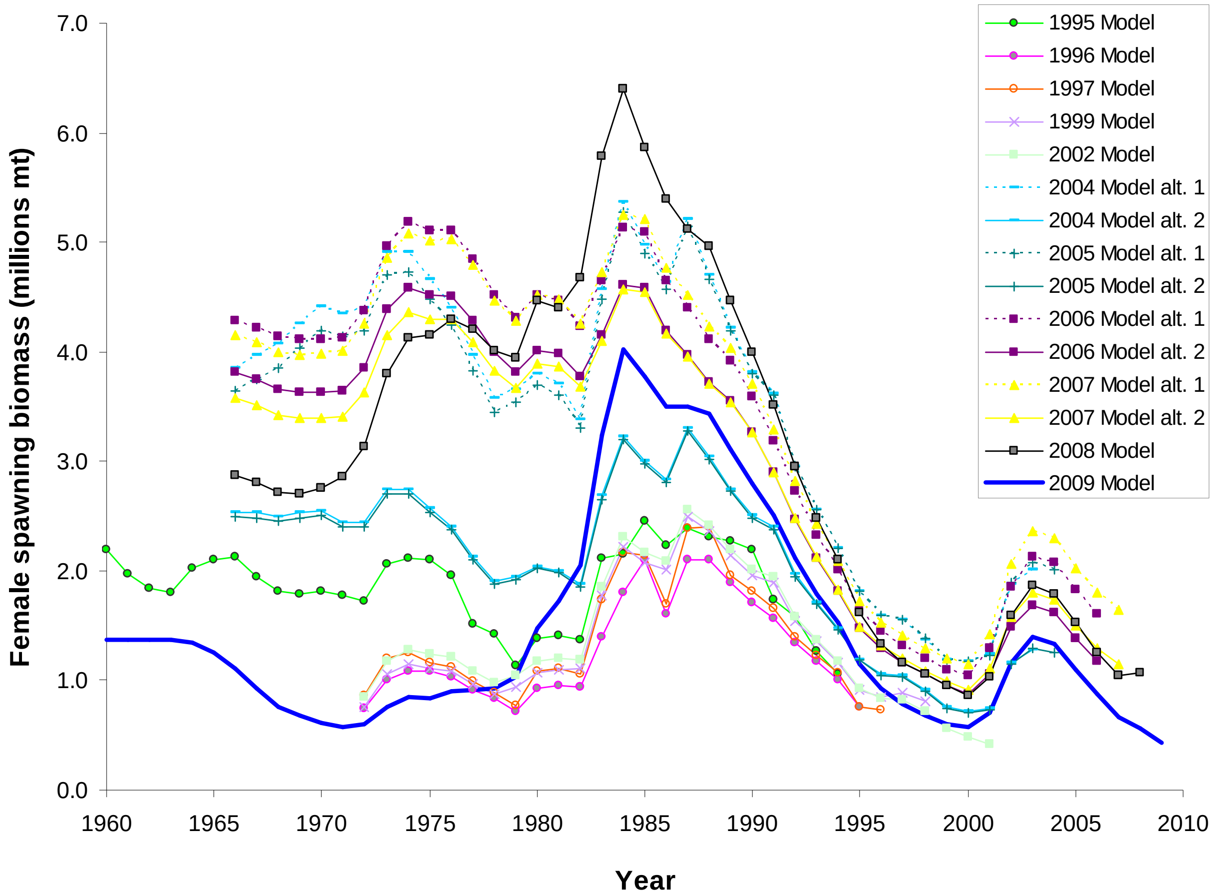

Figure 74. Retrospective of current model results compared with the 10 previous stock assessments 1995-2008 (1998, 2000, 2001, 2003 not included).

Appendix A. Stock synthesis model input files generating the base case assessment reported in this document.

```
##########################################################################
# 2009 base case hake starter file

hake_data.SS         # Data file
hake_control.SS      # Control file

0          # Read initial values from .par file: 0=no,1=yes
1          # DOS display detail: 0,1,2
2          # Report file detail: 0,1,2
0          # Detailed checkup.sso file (0,1)
0          # Write parameter iteration trace file during minimization
0          # Write cumulative report: 0=skip,1=short,2=full
0          # Include prior likelihood for non-estimated parameters
0          # Use Soft Boundaries to aid convergence (0,1) (recommended)
0          # N bootstrap datafiles to create
25         # Last phase for estimation
1          # MCMC burn-in
1          # MCMC thinning interval
0          # Jitter initial parameter values by this fraction
-1         # Min year for spbio sd_report (neg val = styr-2, virgin state)
-2         # Max year for spbio sd_report (neg val = endyr+1)
0          # N individual SD years
0.0000001 # Ending convergence criteria
0          # Retrospective year relative to end year
3          # Min age for summary biomass
1          # Depletion basis: denom is: 0=skip; 1=rel X*B0; 2=rel X*Bmsy; 3=rel X*B_styr
1.0        # Fraction (X) for Depletion denominator (e.g. 0.4)
1          # (1-SPR) reporting:  0=skip; 1=rel(1-SPR); 2=rel(1-SPR_MSY); 3=rel(1-SPR_Btarget); 4=notrel
1          # F_std reporting: 0=skip; 1=exploit(Bio); 2=exploit(Num); 3=sum(frates)
0          # F_report_basis: 0=raw; 1=rel Fspr; 2=rel Fmsy ; 3=rel Fbtgt

999 # end of file marker

##########################################################################

# 2009 Base case hake forecast controls

1          # Forecast: 0=none; 1=F(SPR); 2=F(MSY) 3=F(Btgt); 4=F(endyr); 5=Ave F (enter yrs); 6=read Fmult
2008       # First year for averaging selex to use in forecast (e.g. 2004; or use -x to be rel endyr)
2008       # Last year for averaging selex to use in forecast
1          # Benchmarks:0=skip, 1=calc Fspr, Fbtgt, Fmsy
2          # MSY: 0=none,1=F(SPR),2=calc F(MSY),3=F(Btgt),4=set to F(endyr)
0.4        # SPR target (e.g. 0.40)
0.4        # Biomass target (e.g. 0.40)
3          # Number of forecast years
1    # Read advanced options add indents below if 1
0          # Puntalyzer output: 0=no,1=yes
-1         # Rebuilder:  first year catch could have been set to zero (Ydecl)
-1         # Rebuilder:  year for current age structure (Yinit)
1          # Control rule method (1=west coast adjust catch; 2=adjust F)
0.4        # Control rule Biomass level for constant F (as frac of Bzero, e.g. 0.40)
0.1        # Control rule Biomass level for no F (as frac of Bzero, e.g. 0.10)
1          # Control rule fraction of Flimit (e.g. 0.75)
-1         # Placeholder: maximum annual catch during forecast (not coded yet)
0          # Implementation error: 0=none, 1=add error to forecast (not coded yet)
0.1        # Placeholder: SD of log(realized F/target F) in forecast (not coded yet)
2          # fleet allocation (in terms of F) (1=use endyr pattern, no read; 2=read below)
0.4663     0.5337 # relative F for forecast when using F;  seasons; fleets within season
0          # Number of manual forecast catches to input

999 # End forecast file

##########################################################################
```

2009 base case hake control file

Morphs
1 # N growth patterns
1 # N sub morphs within patterns

Time block setup
7 # Number of block designs for time varying parameters
1 # Blocks in design 1: Length at age 12
2 # Blocks in design 2: VBK
7 # Blocks in design 3: US peak
7 # Blocks in design 4: US ascending width
2 # Blocks in design 5: US final
6 # Blocks in design 6: CAN peak
4 # Blocks in design 7: CAN ascending width
1984 2008 # Block design 1: Length at age 12
1980 1986 # Block design 2: VBK
1999 2008
1981 1984 # Block design 3: US peak
1985 1988
1989 1992
1993 1996
1997 2000
2001 2004
2005 2008
1960 1980 # Block design 4: US ascending width
1981 1984
1985 1988
1989 1992
1997 2000
2001 2004
2005 2008
1984 2000 # Block design 5: US final
2001 2008
1981 1984 # Block design 6: CAN peak
1985 1988
1989 1992
1993 2000
2001 2004
2005 2008
1960 1984 # Block design 7: CAN ascending width
1989 2000
2001 2004
2005 2008

Mortality and growth specifications
0.5 # Fraction female (birth)
1 # M setup: 0=single parameter,1=breakpoints,2=Lorenzen,3=age-specific;4=age-specific,seasonal interpolation
2 # Number of M breakpoints
13 15 # Ages at M breakpoints
1 # Growth model: 1=VB with L1 and L2, 2=VB with A0 and Linf, 3=Richards, 4=Read vector of L@A
2 # Age for growth Lmin
12 # Age for growth Lmax
0.0 # Constant added to SD of LAA (0.1 mimics SS2v1 for compatibility only)
0 # Variability of growth: 0=CV~f(LAA), 1=CV~f(A), 2=SD~f(LAA), 3=SD~f(A)
1 # Maturity option: 1=length logistic, 2=age logistic, 3=read vector of age-maturity
1 # First age allowed to mature
1 # Fecundity option
1 # MG parm offset option: 1=none, 2= M,G,CV_G as offset from GP1, 3=like SS2v1
1 # MG parm adjust method 1=do V1.23 approach, 2=use logistic transform between bounds approach

# Lo	Hi	Init	Prior	Prior	Prior	Param	Env	Use	Dev	Dev	Dev	Block	block
# bnd	bnd	value	mean	type	SD	phase	var	dev	minyr	maxyr	SD	design	switch

```
0.05    0.6     0.23    0.23    -1      99      -5      0       0       0       0       0       0
        0       # M to age 13
0.2     0.8     0.63    0.23    -1      99      4       0       0       0       0       0       0
        0       # M at age 15
10      40      32.0    32      -1      99      -5      0       0       0       0       0       0
        0       # Length at age 2
30      70      53.0    50      -1      99      4       0       0       0       0       0       1
        0       # Length at age 12
0.1     0.7     0.33    0.3     -1      99      4       0       0       0       0       0       2
        0       # VBK
0.03    0.16    0.066   0.1     -1      99      -5      0       0       0       0       0       0
        0       # CV of length at age 2
0.03    0.16    0.062   0.1     -1      99      -5      0       0       0       0       0       0
        0       # CV of length at age 12

# Add 2+2*gender lines to read the wt-Len and mat-Len parameters
-3      3       7.0E-06 7.0E-06 -1      99      -50     0       0       0       0       0       0
        0       # W-L slope
-3      3       2.9624  2.9624  -1      99      -50     0       0       0       0       0       0
        0       # W-L exponent
-3      43      36.89   36.89   -1      99      -50     0       0       0       0       0       0
        0       # L at 50% maturity
-3      3       -0.48   -0.48   -1      99      -50     0       0       0       0       0       0
        0       # Logistic maturity slope
-3      3       1.0     1.0     -1      99      -50     0       0       0       0       0       0
        0       # Eggs/gm intercept
-3      3       0.0     0.0     -1      99      -50     0       0       0       0       0       0
        0       # Eggs/gm slope
# pop lines For the proportion assigned to each area
0       2       1       1       -1      99      -50     0       0       0       0       0       0
        0       # placeholder only
0       2       1       1       -1      99      -50     0       0       0       0       0       0
        0       # placeholder only
0       2       1       1       -1      99      -50     0       0       0       0       0       0
        0       # placeholder only
0       2       1       1       -1      99      -50     0       0       0       0       0       0
        0       # placeholder only

# Block parameter setup
1 # 0=one par for all; 1= one par for each

# Lo    Hi      Init    Prior   Prior   Prior   Param
# bnd   bnd     value   mean    type    SD      phase
# Length at age 12
 -2     2       -0.05   0       0       0.01    4
# VBK
 -2     2       -0.14   0       0       0.01    4
 -2     2       0.10    0       0       0.01    4

# Seasonal effects on biology parameters
 0 0 0 0 0 0 0 0 0 0 # placeholder only

# Spawner-recruit parameters
3       # S-R function: 1=B-H w/flat top, 2=Ricker, 3=standard B-H, 4=no steepness or bias adjustment
# Lo    Hi      Init    Prior   Prior   Prior   Param
# bnd   bnd     value   mean    type    SD      phase
11      21      15.4    15      -1      99      4       # Ln(R0)
0.2     1       0.85    0.777   2       0.113   4       # Steepness with Myers' prior
1.0     2.0     1.1     1.1     -1      99      6       # Sigma-R
-5      5       0       0       -1      99      -50     # Env link coefficient
-5      5       0       0       -1      99      -50     # Initial eqilibrium recruitment offset
 0      2       0       1       -1      99      -50   # Autocorrelation in rec devs
0 # index of environmental variable to be used
0 # env target
1 # rec dev type

# Recruitment deviations
```

```
1962        # Start year standard recruitment devs
2007        # End year standard recruitment devs
1           # Rec Dev phase

1 # Read 11 advanced recruitment options: 0=no, 1=yes
-5          # Start year for early rec devs
-9          # Phase for early rec devs
6           # Phase for forecast recruit deviations
1           # Lambda for forecast recr devs before endyr+1
1961        # Last recruit dev with no bias_adjustment
1962        # First year of full bias correction (linear ramp from year above)
2006        # Last year for full bias correction in_MPD
2007        # First_recent_yr_nobias_adj_in_MPD
-7          # Lower bound rec devs
7           # Upper bound rec devs
0           # Read init values for rec devs

# Fishing mortality setup
0.1         # F ballpark for tuning early phases
1999        # F ballpark year
1           # F method:  1=Pope's; 2=Instan. F; 3=Hybrid
0.9         # Max F or harvest rate (depends on F_Method)
# Init F parameters by fleet
#LO    HI    INIT    PRIOR    PR_type    SD    PHASE
0      1     0.0     0.01     -1         99    -50
0      1     0.0     0.01     -1         99    -50

# Catchability setup
# A=do power: 0=skip, survey is prop. to abundance, 1= add par for non-linearity
# B=env. link: 0=skip, 1= add par for env. effect on Q
# C=extra SD: 0=skip, 1= add par. for additive constant to input SE (in ln space)
# D=type: <0=mirror lower abs(#) fleet, 0=no par Q is median unbiased, 1=no par Q is mean unbiased, 2=estimate par for ln(Q)
#            3=ln(Q) + set of devs about ln(Q) for all years. 4=ln(Q) + set of devs about Q for indexyr-1
# E=Units: 0=numbers, 1=biomass
# F=err_type 0=lognormal, >0=T-dist. DF=input value
# A B C D E F
# Create one par for each entry > 0 by row in cols A-D
0    0    0    0    1    0  # US fishery
0    0    0    0    1    0  # Can Fishery
0    0    0    2    1    0  # Acoustic survey
0    0    0    2    0    0  # Juv survey
0    0    0    0    1    0  # Ghost Acoustic Survey
0    0    0    0    1    0  # Ghost US Fishery
0    0    0    0    1    0  # Ghost Can Fishery
0    0    0    0    1    0  # CA 1
0    0    0    0    1    0  # CA 2
0    0    0    0    1    0  # CA 3
0    0    0    0    1    0  # CA 4

#LO    HI     INIT         PRIOR  PR_type  SD    PHASE
-5     0.5    -0.3566749   0      -1       0.4   5    # Acoustic survey
-15    0      -8.0         0      -1       99    -5   # Pre-recruit survey

#_SELEX_&_RETENTION_PARAMETERS
# Size-based setup
# A=Selex option: 1-24
# B=Do_retention: 0=no, 1=yes
# C=Male offset to female: 0=no, 1=yes
# D=Mirror selex (#)
# A B C D
# Size selectivity
0     0    0    0    # US Fishery
0     0    0    0    # CAN Fishery
0     0    0    0    # Acoustic survey
32    0    0    0    # Pre-recruit survey - index density independent recruitment
0     0    0    0    # Ghost acoustic
0     0    0    0    # Ghost US Fishery
```

```
0	0	0	0	# Ghost Can Fishery
0	0	0	0	# Hist CA fishery 1st quarter
0	0	0	0	# Hist CA fishery 2nd quarter
0	0	0	0	# Hist CA fishery 3rd quarter
0	0	0	0	# Hist CA fishery 4th quarter
# Age selectivity
20	0	0	0	# US Fishery
20	0	0	0	# CAN Fishery
20	0	0	0	# Acoustic survey
10	0	0	0	# Pre-recruit survey - index density independent recruitment
15	0	0	3	# Ghost acoustic
15	0	0	1	# Ghost US Fishery
15	0	0	2	# Ghost Can Fishery
20	0	0	0	# Hist CA fishery 1st quarter
20	0	0	0	# Hist CA fishery 2nd quarter
20	0	0	0	# Hist CA fishery 3rd quarter
20	0	0	0	# Hist CA fishery 4th quarter

# Selectivity parameters
# Lo	Hi	Init	Prior	Prior	Prior	Param	Env	Use	Dev	Dev	Dev	Block
	block
# bnd	bnd	value	mean	type	SD	phase	var	dev	minyr	maxyr	SD	design
	switch
# US Fishery Age-based double Normal selectivity
2.0	15	6.0	8.0	-1	99	2	0	0	0	0	0	3
	1	# Peak age
-9.0	3.0	-2.0	-1.5	-1	99	-5	0	0	0	0	0	0	0
	# Top (logistic)
-9.0	15.0	3.0	3.0	-1	99	2	0	0	0	0	0	4
	1	# Asc. width (exp)
-9.0	15.0	8.0 2.0	-1	99	-2	0	0	0	0	0	0	1	# Desc.
width (exp)
-2000	5.0	-1002	-1.0	-1	99	-50	0	0	0	0	0	0	0
	# Initial = 0.0 < age 2
-5.0	5.0	-1.0	.45	-1	99	2	0	0	0	0	0	5
	1	# Final (logistic)
# Canadian Fishery Age-based double Normal selectivity
2.0	15	8.0	8.0	-1	99	2	0	0	0	0	0	6
	1	# Peak age
-9.0	3.0	-2.0	-1.5	-1	99	-5	0	0	0	0	0	0
	0	# Top (logistic)
-9.0	15.0	3.0	3.0	-1	99	2	0	0	0	0	0	7
	1	# Asc. width (exp)
-9.0	15.0	8.0 2.0	-1	99	-2	0	0	0	0	0	0	1	# Desc.
width (exp)
-2000	5.0	-1002	-1.0	-1	99	-50	0	0	0	0	0	0	0
	# Initial = 0.0 < age 2
-5.0	10.0	-1.0	.45	-1	99	2	0	0	0	0	0	0
	1	# Final (logistic)
# Acoustic Survey Age-based double Normal selectivity
2.0	15	6.0	8.0	-1	99	2	0	0	0	0	0	0
	0	# Peak age
-9.0	3.0	-2.0	-1.5	-1	99	-5	0	0	0	0	0	0
	0	# Top (logistic)
-9.0	9.0	4.0	3.0	-1	99	2	0	0	0	0	0	0
	0	# Asc. width (exp)
-9.0	9.0	3.0 2.0	-1	99	-2	0	0	0	0	0	0	0
	#DESC WIDTH exp
-2000	5.0	-1002	-1.0	-1	99	-50	0	0	0	0	0	0
	0	# Initial = 0.0 < age 2
-5.0	5.0	-0.0	.45	-1	99	2	0	0	0	0	0	0
	0	# Final (logistic)
# Hist CA fishery 1st quarter Age-based Double Normal selectivity
0.0	15	5.0	8.0	-1	99	-5	0	0	0	0	0	0
	0	# Peak age
-9.0	3.0	-2.0	-1.5	-1	99	-5	0	0	0	0	0	0
	0	# Top (logistic)
```

-9.0 9.0 8.99 3.0 -1 99 -5 0 0 0 0 0 0
0 # Asc. width (exp)
-9.0 9.0 3.0 2.0 -1 99 -5 0 0 0 0 0 0 0
Desc. width (exp)
-2000 5.0 -1002 -1.0 -1 99 -50 0 0 0 0 0 0 0
Initial = 0.0 < age 2
-5 5 4.99 0.45 -1 99 -5 0 0 0 0 0 0 0
Final (logistic)
Hist CA fishery 2nd quarter Age-based Double Normal selectivity
2.0 15 5.0 8.0 -1 99 -5 0 0 0 0 0 0
0 # Peak age
-9.0 3.0 -2.0 -1.5 -1 99 -5 0 0 0 0 0 0
0 # Top (logistic)
-9.0 9.0 3.0 3.0 -1 99 5 0 0 0 0 0 0
0 # Asc. width (exp)
-9.0 9.0 3.0 2.0 -1 99 -5 0 0 0 0 0 0 0
Desc. width (exp)
-2000 5.0 -1002 -1.0 -1 99 -50 0 0 0 0 0 0 0
Initial = 0.0 < age 2
-5 5 4.99 0.45 -1 99 -5 0 0 0 0 0 0 0
Final (logistic)
Hist CA fishery 3rd quarter Age-based Double Normal selectivity
2.0 15 5.0 8.0 -1 99 -5 0 0 0 0 0 0
0 # Peak age
-9.0 3.0 -2.0 -1.5 -1 99 -5 0 0 0 0 0 0
0 # Top (logistic)
-9.0 9.0 3.0 3.0 -1 99 5 0 0 0 0 0 0
0 # Asc. width (exp)
-9.0 9.0 2.75 2.0 -1 99 -5 0 0 0 0 0 0
0 # Desc. width (exp)
-2000 5.0 -1002 -1.0 -1 99 -50 0 0 0 0 0 0 0
Initial = 0.0 < age 2
-5 5 4.99 0.45 -1 99 -5 0 0 0 0 0 0 0
Final (logistic)
Hist CA fishery 4th quarter Age-based Double Normal selectivity
2.0 15 5.0 8.0 -1 99 -5 0 0 0 0 0 0 0
Peak age
-9.0 3.0 -2.0 -1.5 -1 99 -5 0 0 0 0 0 0 0
Top (logistic)
-9.0 9.0 8.99 3.0 -1 99 -5 0 0 0 0 0 0
0 # Asc. width (exp)
-9.0 9.0 3.0 2.0 -1 99 -5 0 0 0 0 0 0 0 # Desc.
width (exp)
-2000 5.0 -1002 -1.0 -1 99 -50 0 0 0 0 0 0 0
Initial = 0.0 < age 2
-5 5 -1.5 0.45 -1 99 5 0 0 0 0 0 0 0
Final (logistic)

Selectivity block parameter setup
0 # 0=one parameter for all; 1=one parameter for each

# Lo	Hi	Init	Prior	Prior	Prior	Param
# bnd	bnd	value	mean	type	SD	phase
-10	10	0	0	-1	99	3

1 # Block adjust method: 1=standard; 2=logistic trans to keep in base parm bounds
0 # Tagging flag: 0=no tagging parameters,1=read tagging parameters

Likelihood related quantities
1 # Do variance/sample size adjustments by fleet (1)
#US CAN Ac Pre G G G CA1 CA2 CA3 CA4 # Component
0 0 0 0 0 0 0 0 0 0 0 # Constant added to acoustic survey CV
0 0 0 0 0 0 0 0 0 0 0 # Constant added to discard SD
0 0 0 0 0 0 0 0 0 0 0 # Constant added to body weight SD
0.09 1.04 1.41 0 0 0 0 1.40 1.40 1.40 1.40 # multiplicative scalar for length comps
1.70 1.78 3.27 0 0 0 0 0 0 0 0 # multiplicative scalar for agecomps
0 0 0 0 0 0 0 0 0 0 0 # multiplicative scalar for length at age obs

```
30        # Discard df
30        # Mean weight df
1         # Lambda phasing: 1=none, 2+=change beginning in phase 1
1         # Growth offset likelihood constant for Log(s): 1=include, 2=not

4 # N changes to default Lambdas = 1.0
# Component codes:
#  1=Survey, 2=discard, 3=mean body weight
#  4=length frequency, 5=age frequency, 6=Weight frequency
#  7=size at age, 8=catch, 9=initial equilibrium catch
#  10=rec devs, 11=parameter priors, 12=parameter devs
#  13=Crash penalty
# Component fleet/survey  phase  value  wtfreq_method
 1 4 1 0.0 1 # Pre-recruit survey data fleet 4
 5 5 1 0.0 1 # Ghost Age data Acoustic fleet 5
 5 6 1 0.0 1 # Ghost Age data US fleet 6
 5 7 1 0.0 1 # Ghost Age data CAN fleet 7

0 # SD reporting switch
999 # End control file

###########################################################################

# 2009 hake base case data file

### Global model specifications ###
1960      # Start year
2008      # End year
1         # Number of seasons/year
12        # Number of months/season
1         # Spawning occurs at beginning of season
2         # Number of fishing fleets
9         # Number of surveys
1         # Number of areas
US_Fishery%CAN_Fishery%Acoustic_Survey%Prerec_Survey%Ghost_acoustic%Ghost_US%Ghost_CAN%Hist_CA1%Hist_CA2%Hist_CA3
%Hist_CA4
0.5 0.5 0.5 0.0001 0.5 0.5 0.5 0.125 0.375 0.625 0.875 #_surveytiming_in_season
1 1 1 1 1 1 1 1 1 1 1    # Area of each fleet
1 1       # Units for catch by fishing fleet: 1=Biomass(mt),2=Numbers(1000s)
0.01 0.01 # SE of log(catch) by fleet for equilibrium and continuous options
1         #_Ngenders
15        #_Nages

### Catch section ###
# Initial equilibrium catch (landings + discard) by fishing fleet
0 0  #_init_equil_catch_for_each_fishery

43 # Number of lines catch data
# Landed catch (only) time series by fleet
# Catch(by fleet) YearSeason
# US      CAN
137000    700       1966    1
177662    36713     1967    1
60819     61361     1968    1
86280     93851     1969    1
159575    75009     1970    1
127913    26699     1971    1
74133     43413     1972    1
147513    15126     1973    1
194109    17150     1974    1
205656    15704     1975    1
231549    5972      1976    1
127502    5191      1977    1
98372     5267      1978    1
124680    12435     1979    1
72352     17584     1980    1
114760    24361     1981    1
```

75577 32157 1982 1
73150 40774 1983 1
96332 42109 1984 1
85439 24962 1985 1
154964 55653 1986 1
160448 73699 1987 1
160698 88106 1988 1
210996 94920 1989 1
183800 75992 1990 1
217505 89753 1991 1
208576 88334 1992 1
141222 58213 1993 1
252729 108800 1994 1
177589 72181 1995 1
212901 93174 1996 1
233423 91792 1997 1
232817 87802 1998 1
224522 87333 1999 1
208418 22402 2000 1
182377 53585 2001 1
132115 50796 2002 1
143492 62090 2003 1
210487 124185 2004 1
259199 100462 2005 1
266957 93726 2006 1
224529 86315 2007 1
247797 74220 2008 1

20 #_N_cpue_and_surveyabundance_observations
#_year seas index obs se(log)
Acoustic survey
1977 1 3 1915000 0.5
1980 1 3 2115000 0.5
1983 1 3 1647000 0.5
1986 1 3 2857000 0.5
1989 1 3 1238000 0.5
1992 1 3 2169000 0.25
1995 1 3 1385000 0.25
1998 1 3 1185000 0.25
2001 1 3 737000 0.25
2003 1 3 1840000 0.25
2005 1 3 1265000 0.25
2007 1 3 879000 0.25
Pre-recruit index
2001 1 4 820.81 0.4245
2002 1 4 357.08 0.2298
2003 1 4 791.57 0.3142
2004 1 4 1659.21 0.2816
2005 1 4 383.40 0.2691
2006 1 4 208.59 0.1757
2007 1 4 68.38 0.1317
2008 1 4 138.36 0.1713

2 #_discard_type
0 #_N_discard_obs
0 #_N_meanbodywt_obs

Population size structure
3 # Length bin method: 1=Use data bins,
2=generate from min/max/width read below
3=Read count and vector below
62 # Count of population bins
Lower edge of bins
9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70

-1 # Minimum proportion for compressing tails of observed compositional data

0.001 # Constant added to expected frequencies
0 # Combine males and females at and below this bin number

51 #_N_LengthBins
Lower edge of bins
20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70

92 #_N_Length_obs
#Yr Seas Flt/Svy Gender Part Nsamp datavector(female-male)
US fishery

1975	1	1	0	0	13	0.0000	0.0000	0.0000	0.1310	0.4138	0.4138	0.6101
	0.6101	0.3291	0.7411	1.5447	0.9566	4.6455	4.0107	4.1898	5.3717	3.0869	2.8926	2.0167
	1.0373	4.3164	4.0849	7.0859	7.4219	7.1653	7.1658	4.9095	4.0224	5.0698	2.3889	3.2625
	1.2916	3.4063	0.0000	1.1843	1.0342	0.3465	0.4138	0.8734	0.9032	0.3465	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.1310	0.1742	0.0000				
1976	1	1	0	0	249	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0016
	0.0000	0.0056	0.0033	0.0383	0.0461	0.0619	0.0983	0.2605	0.2710	0.4635	0.5851	0.9688
	1.7104	2.6494	3.7108	5.1325	5.6852	6.3574	6.5997	6.6614	6.7014	6.7809	6.7467	6.3412
	6.0203	5.7434	5.0318	4.0850	2.9869	2.1415	1.3175	1.1743	0.7971	0.5916	0.4178	0.3714
	0.2021	0.3217	0.1198	0.0626	0.1229	0.0766	0.0428	0.4921				
1977	1	1	0	0	1071	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0018	0.0134	0.0376	0.0706	0.1661	0.4152	0.6903
	1.1624	1.8450	2.7529	4.3062	5.5899	5.8003	7.0414	7.6587	8.0144	8.2014	8.0120	7.8118
	7.2003	6.2315	4.7967	3.7873	2.7235	1.7045	1.2366	0.8199	0.5163	0.3222	0.2985	0.1799
	0.1885	0.1195	0.0886	0.0573	0.0324	0.0296	0.0462	0.0296				
1978	1	1	0	0	1135	0.0000	0.0137	0.0335	0.0204	0.0187	0.0129	0.0269
	0.0195	0.0268	0.0177	0.0119	0.0196	0.0000	0.0052	0.0068	0.0000	0.0232	0.0374	0.1341
	0.4019	1.1005	1.8736	3.2463	4.8921	6.2182	7.2486	8.1810	8.5122	8.8032	8.7842	8.3771
	7.6130	6.8721	5.5053	3.9908	2.9505	1.7999	1.1040	0.6053	0.4234	0.2603	0.2115	0.1333
	0.0826	0.1005	0.0837	0.0252	0.0539	0.0204	0.0118	0.0858				
1979	1	1	0	0	1539	0.0037	0.0097	0.0000	0.0000	0.0045	0.0116	0.0377
	0.1272	0.2419	0.3627	0.6064	0.9330	1.0785	1.2116	1.3609	1.1767	1.0738	0.9737	0.8697
	0.7638	1.0134	1.2884	2.1901	3.1243	4.4482	5.5505	6.5905	7.3083	7.4803	7.3508	7.1915
	6.8207	6.1776	5.2697	4.4570	3.4610	2.5085	1.9857	1.3847	1.0024	0.6851	0.4921	0.3971
	0.2037	0.1600	0.1547	0.1172	0.0869	0.0479	0.0772	0.1275				
1980	1	1	0	0	811	0.0091	0.0023	0.0015	0.0000	0.0073	0.0000	0.0000
	0.0087	0.0126	0.0458	0.0204	0.0433	0.1149	0.2228	0.5250	0.7315	1.2779	2.1458	3.0350
	3.7493	4.1531	4.0760	4.3104	4.0557	4.3473	4.6273	5.0774	5.6263	5.8858	6.0686	5.8665
	5.5856	5.4307	5.0389	4.3970	3.5729	2.4554	2.0179	1.4813	1.1084	0.7881	0.5016	0.3861
	0.4173	0.1653	0.1672	0.1005	0.0862	0.0783	0.0779	0.0960				
1981	1	1	0	0	1093	0.0800	0.1084	0.3599	0.7080	0.9938	1.3236	1.4714
	1.4205	1.1953	0.9210	0.5505	0.3604	0.3151	0.1801	0.1889	0.2756	0.5729	0.9527	1.7359
	2.9281	4.0255	5.0184	5.6197	6.0028	6.2402	6.2228	6.0960	5.8936	5.4876	5.3678	5.1780
	4.8316	4.1992	3.4228	2.5465	1.9163	1.4854	1.0655	0.5759	0.4974	0.3794	0.2661	0.1841
	0.1667	0.1191	0.0804	0.0909	0.0528	0.0518	0.0368	0.2368				
1982	1	1	0	0	1142	0.0012	0.0006	0.0006	0.0069	0.0278	0.0623	0.1581
	0.3195	0.4785	0.7517	1.1521	1.7236	2.2861	2.4465	2.4854	2.2689	2.0172	1.5572	1.1535
	1.1139	1.6668	2.6606	3.7590	4.8387	5.2255	5.3355	5.4254	5.3001	5.2641	5.1765	5.0040
	4.8301	4.5324	4.1043	3.5769	3.1039	2.2985	1.8991	1.4468	1.2094	0.8385	0.6099	0.4744
	0.3877	0.2877	0.1802	0.1433	0.1309	0.0730	0.0768	0.1282				
1983	1	1	0	0	1069	0.0000	0.0000	0.0000	0.0000	0.0000	0.0019	0.0039
	0.0049	0.0079	0.0489	0.1747	0.4093	0.9641	1.9860	3.0671	3.7988	4.5641	5.0988	5.4378
	5.5811	5.4899	5.2058	4.8753	4.4715	4.3545	4.5081	4.6308	4.5736	4.3279	4.1003	3.7933
	3.3540	3.0048	2.5516	2.1759	1.7089	1.3795	0.9958	0.7211	0.5140	0.4447	0.4355	0.3254
	0.2806	0.1772	0.1214	0.0937	0.0720	0.0499	0.0400	0.0738				
1984	1	1	0	0	2035	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0105	0.0637	0.2676	0.8974	2.4412	4.6053	7.0343
	8.2610	8.8066	8.8926	8.7328	8.0202	6.4816	5.1629	4.8620	4.4832	4.1105	3.7143	3.0779
	2.4524	1.9414	1.4921	1.0246	0.7090	0.4861	0.3571	0.2395	0.2084	0.1822	0.1480	0.1098
	0.1142	0.0654	0.0783	0.0392	0.0748	0.0613	0.0518	0.2390				
1985	1	1	0	0	2061	0.0087	0.0274	0.0648	0.1319	0.2167	0.3147	0.4723
	0.5712	0.7749	0.8416	0.8311	0.7368	0.6614	0.4257	0.2871	0.2003	0.2466	0.5571	1.2729
	2.9829	5.8356	7.8579	8.7403	9.0648	8.9656	8.5779	7.5892	6.4114	5.4273	4.5509	3.8589
	2.9729	2.3139	1.7167	1.2206	0.8974	0.6230	0.3798	0.2779	0.1994	0.1635	0.1281	0.0756
	0.1044	0.0668	0.0528	0.0551	0.0356	0.0388	0.0281	0.1439				

1986	1	1	0	0	3878	0.0000	0.0016	0.0013	0.0000	0.0013	0.0028	0.0096
	0.0200	0.0693	0.1515	0.3138	0.5911	1.1404	2.1111	3.2822	3.7332	3.8731	3.7860	3.3537
	2.7946	3.0905	5.3259	7.2056	8.0638	8.2040	8.0180	7.5393	6.3690	4.9986	3.8386	3.0525
	2.3423	1.8172	1.3727	1.0227	0.6270	0.4857	0.3479	0.2423	0.1877	0.1401	0.1158	0.0973
	0.0599	0.0422	0.0187	0.0227	0.0287	0.0125	0.0215	0.0526				
1987	1	1	0	0	3406	0.0007	0.0003	0.0003	0.0034	0.0017	0.0011	0.0010
	0.0046	0.0057	0.0063	0.0188	0.0204	0.0694	0.2387	0.6284	1.1515	2.2635	4.1013	5.6298
	6.4771	6.8780	6.9840	7.1824	7.5291	7.5888	7.4579	7.1477	6.4886	5.4910	4.4749	3.4480
	2.5218	1.8452	1.3414	0.9380	0.5999	0.3987	0.3065	0.1802	0.1242	0.0990	0.0605	0.0629
	0.0346	0.0404	0.0319	0.0267	0.0229	0.0186	0.0088	0.0434				
1988	1	1	0	0	3035	0.0007	0.0000	0.0000	0.0000	0.0017	0.0093	0.0120
	0.0258	0.0340	0.0449	0.0486	0.0299	0.0550	0.0644	0.1627	0.3887	0.8553	1.5375	3.2362
	5.6799	7.6535	8.5678	8.8030	8.8150	8.6617	8.3324	8.0693	7.2917	6.1416	4.5565	3.2785
	2.2118	1.6226	1.0448	0.8112	0.4643	0.3538	0.2647	0.2094	0.1601	0.0876	0.0695	0.0400
	0.0650	0.0289	0.0369	0.0335	0.0233	0.0179	0.0229	0.0740				
1989	1	1	0	0	2581	0.0005	0.0067	0.0011	0.0040	0.0045	0.0000	0.0043
	0.0110	0.0275	0.1121	0.3024	0.6741	1.0166	1.2433	1.2873	1.1719	1.1842	1.3513	1.8609
	3.2026	5.4862	7.6096	8.4166	8.5480	8.5158	8.3558	8.1199	7.4837	6.5009	5.1206	3.5657
	2.4235	1.8394	1.2021	0.9268	0.6719	0.4551	0.2600	0.2193	0.2046	0.1429	0.0997	0.0843
	0.0574	0.0486	0.0286	0.0164	0.0259	0.0302	0.0163	0.0577				
1990	1	1	0	0	2039	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0011	0.0165	0.0335	0.0560	0.1147	0.2150	0.3131	0.6847	1.0370	1.6040	2.5415	3.9025
	5.3464	6.1623	6.6671	7.1218	7.7462	7.9435	8.0196	7.9224	7.6186	6.9470	5.6783	3.7969
	2.7834	1.6893	1.1798	0.7962	0.5256	0.3690	0.2677	0.2133	0.1416	0.0824	0.0778	0.0709
	0.0621	0.0564	0.0224	0.0350	0.0320	0.0178	0.0174	0.0702				
1991	1	1	0	0	817	0.0253	0.0066	0.0046	0.0095	0.0000	0.0000	0.0037
	0.0188	0.0188	0.0064	0.0447	0.1253	0.2715	0.4231	0.8148	1.2033	2.0136	2.9728	3.5959
	4.2063	4.7795	5.9500	6.1653	6.8269	8.1632	8.4062	8.7522	7.8287	6.3656	4.8131	3.4933
	2.4196	1.6501	1.3979	1.2589	1.1846	1.1067	0.9981	0.8329	0.6915	0.3356	0.2210	0.1430
	0.1272	0.0789	0.0680	0.0615	0.0107	0.0326	0.0170	0.0554				
1992	1	1	0	0	836	0.0281	0.0667	0.0757	0.0833	0.0847	0.0681	0.0818
	0.0962	0.1170	0.1903	0.2537	0.4457	0.6030	0.7764	1.1068	1.3336	1.8384	2.0298	1.6095
	1.8875	3.7787	5.8426	7.3393	8.9692	10.0915	10.2542	9.9512	9.4832	7.3533	5.4802	3.2085
	1.8284	1.2047	0.7084	0.4253	0.3018	0.2260	0.1613	0.1262	0.0848	0.0840	0.0563	0.0546
	0.0267	0.0317	0.0166	0.0102	0.0082	0.0162	0.0065	0.0938				
1993	1	1	0	0	442	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0070	0.0000	0.0000	0.0082	0.1118	0.0949	0.4661	1.0299	1.9220	3.7253	4.5722	6.2424
	6.2361	5.8973	5.3501	5.8937	7.2187	8.3169	8.6226	8.8043	7.5067	7.1225	4.6537	2.7273
	1.3580	0.5706	0.4606	0.3049	0.2458	0.1720	0.1125	0.0270	0.0518	0.0266	0.0349	0.0235
	0.0061	0.0025	0.0025	0.0047	0.0000	0.0576	0.0000	0.0085				
1994	1	1	0	0	649	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0015	0.0141	0.0015	0.0170	0.0052	0.0191	0.0819	0.1821	0.6538	1.5734	3.1216
	4.4610	5.8132	6.9431	7.4792	8.1627	8.4792	9.3948	9.4855	8.9230	7.8291	5.9172	4.1409
	2.6141	1.4632	1.0154	0.6571	0.4624	0.2675	0.1930	0.1728	0.1298	0.1028	0.0608	0.0196
	0.0257	0.0226	0.0176	0.0132	0.0044	0.0019	0.0104	0.0457				
1995	1	1	0	0	470	0.1038	0.0228	0.0198	0.0284	0.0357	0.0357	0.0357
	0.0198	0.0000	0.0000	0.0091	0.0078	0.0571	0.0912	0.1238	0.1013	0.2443	0.2585	0.5044
	1.1955	2.3724	4.4641	6.6707	9.0914	10.4171	10.4798	10.8746	9.6864	8.4629	6.6830	5.2642
	3.6818	2.8972	1.8339	1.2249	0.8681	0.5701	0.5399	0.2679	0.2461	0.1648	0.1209	0.0787
	0.0556	0.0218	0.0338	0.0073	0.0208	0.0036	0.0000	0.0018				
1996	1	1	0	0	557	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0151
	0.0148	0.0575	0.0624	0.3453	0.9726	1.5831	3.0203	3.8219	4.7231	4.1074	3.4972	3.3323
	3.8879	4.0162	4.3223	4.5049	5.8851	7.4956	8.5752	8.2382	7.4850	6.1778	4.4124	3.4555
	2.1185	1.4007	0.7752	0.5304	0.3100	0.2074	0.2374	0.1246	0.0495	0.0525	0.0369	0.0385
	0.0192	0.0183	0.0234	0.0000	0.0000	0.0104	0.0000	0.0381				
1997	1	1	0	0	681	0.0000	0.0000	0.0000	0.0000	0.0000	0.0054	0.0000
	0.0000	0.0000	0.0000	0.0004	0.0129	0.0242	0.0621	0.1670	0.5697	1.1618	2.5034	4.2684
	6.5930	9.1337	10.3301	10.9611	10.6951	9.1385	8.2452	6.7816	5.6553	4.4197	3.4122	2.0201
	1.2148	0.7188	0.4538	0.3833	0.2249	0.2018	0.0783	0.1077	0.0375	0.0815	0.0931	0.1300
	0.0086	0.0097	0.0081	0.0552	0.0051	0.0000	0.0129	0.0138				
1998	1	1	0	0	803	0.0000	0.0019	0.0000	0.0356	0.0312	0.0000	0.0000
	0.0018	0.0050	0.0307	0.1578	0.5719	1.1926	1.8658	1.8962	2.1940	3.1873	4.9169	5.9828
	6.3878	6.7259	7.5506	8.9308	9.1918	8.9787	7.9720	6.5252	5.1066	3.8389	2.3801	1.5499
	0.8679	0.5270	0.3689	0.2026	0.1499	0.1612	0.1050	0.0570	0.0861	0.0879	0.0039	0.0120
	0.0034	0.0132	0.0171	0.0161	0.0014	0.0454	0.0000	0.0642				
1999	1	1	0	0	2268	0.0028	0.0000	0.0000	0.0030	0.0088	0.0298	0.0088
	0.0562	0.1532	0.3180	0.7684	1.1024	1.6890	2.4598	3.4549	4.0658	5.0615	5.8249	6.6752

	6.3233	6.6134	6.1512	6.1289	6.7057	6.9914	7.0649	6.3137	4.8892	3.6905	2.3132	1.5526
	1.0083	0.7842	0.4498	0.3077	0.1635	0.1629	0.1472	0.0544	0.1511	0.0529	0.0800	0.0497
	0.0106	0.0125	0.0187	0.0165	0.0089	0.0198	0.0152	0.0657				
2000	1	1	0	0	2199	0.0008	0.0000	0.0000	0.0000	0.0000	0.0049	0.0230
	0.0779	0.1520	0.3576	0.3585	0.3253	0.2198	0.2314	0.2139	0.3953	0.6127	1.1692	1.9467
	2.6461	4.1004	4.7630	5.8897	6.8340	8.3000	9.5471	9.8429	9.2381	8.5885	6.6670	5.2995
	3.7409	2.5171	1.7399	1.2479	0.7236	0.4943	0.5228	0.3619	0.2084	0.1557	0.1254	0.0844
	0.0832	0.0432	0.0291	0.0261	0.0251	0.0104	0.0289	0.0260				
2001	1	1	0	0	2239	0.0040	0.0047	0.0000	0.0142	0.0049	0.0144	0.0049
	0.0450	0.0368	0.1065	0.2524	0.5181	0.7379	1.0920	1.5401	2.4071	3.1572	3.3718	3.3389
	3.6980	4.1295	4.9045	5.9444	6.3796	6.9969	7.3855	8.0234	8.2212	7.5621	5.8676	4.3308
	3.3034	2.0719	1.5149	0.9362	0.6821	0.4124	0.2491	0.1603	0.1745	0.1023	0.0504	0.0731
	0.0517	0.0206	0.0268	0.0330	0.0073	0.0166	0.0030	0.0161				
2002	1	1	0	0	1821	0.0000	0.0000	0.0000	0.0000	0.0000	0.0153	0.0000
	0.0005	0.0005	0.0009	0.0349	0.0455	0.0237	0.0205	0.1192	0.3983	0.9800	2.6734	5.4078
	8.8163	10.7909	12.1021	11.2284	9.1867	6.7869	5.1606	4.4545	3.5139	3.1230	2.9931	2.6154
	2.2683	1.8634	1.5485	1.1389	0.7967	0.4894	0.3872	0.2213	0.1985	0.1627	0.1216	0.0636
	0.0584	0.0544	0.0301	0.0271	0.0061	0.0231	0.0117	0.0366				
2003	1	1	0	0	1915	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0300	0.0000	0.0000	0.0387	0.0022	0.0769	0.0808	0.1733	0.9888	2.3873	4.6812
	8.0242	11.1703	11.9985	12.9450	12.6406	10.5481	8.0278	5.3379	3.5339	2.3350	1.6809	1.1599
	0.7129	0.4354	0.2866	0.2158	0.1281	0.1050	0.0474	0.0597	0.0310	0.0171	0.0142	0.0162
	0.0138	0.0066	0.0076	0.0093	0.0099	0.0000	0.0080	0.0143				
2004	1	1	0	0	2797	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0007	0.0016	0.0038	0.0089	0.0000	0.0000	0.0081	0.0131	0.0296	0.1831	0.6135
	1.4590	3.7500	7.0232	11.1220	14.3372	15.4579	14.7871	10.8375	7.4020	4.8577	2.7464	1.7989
	1.2653	0.6564	0.3878	0.2692	0.2233	0.2484	0.0934	0.0338	0.0283	0.0757	0.0703	0.0158
	0.0102	0.0581	0.0045	0.0151	0.0173	0.0045	0.0044	0.0767				
2005	1	1	0	0	3064	0.0039	0.0031	0.0026	0.0020	0.0000	0.0023	0.0000
	0.0000	0.0000	0.0030	0.0024	0.0063	0.0239	0.0509	0.0915	0.1204	0.1841	0.4387	0.5751
	0.6107	1.1091	2.4939	6.2652	12.8750	18.8037	19.4426	15.5383	9.6723	5.1798	2.7770	1.4521
	0.8477	0.4493	0.3130	0.1687	0.1364	0.0896	0.0711	0.0473	0.0281	0.0267	0.0180	0.0129
	0.0096	0.0076	0.0067	0.0072	0.0038	0.0045	0.0044	0.0175				
2006	1	1	0	0	2824	0.0080	0.0112	0.0136	0.0303	0.0380	0.0436	0.0995
	0.0849	0.1161	0.1820	0.3199	0.3412	0.4424	0.6127	0.5952	0.4830	0.5777	0.8092	1.1048
	1.9977	3.4644	4.1244	5.3737	8.2206	12.9583	15.6928	15.2216	11.1138	7.0618	4.1189	1.9392
	1.1155	0.5196	0.2754	0.1379	0.1278	0.0776	0.1017	0.0682	0.0344	0.0414	0.0425	0.0251
	0.0278	0.0354	0.0148	0.0260	0.0123	0.0161	0.0074	0.0926				
2007	1	1	0	0	2936	0.7915	0.0932	0.0502	0.0665	0.0725	0.0426	0.0384
	0.0898	0.1579	0.3023	0.4876	0.9153	1.3500	1.6763	1.7752	1.7866	1.8838	1.6279	1.4620
	1.1528	1.2516	1.9565	3.2215	5.2290	7.9868	11.5435	14.1474	13.7874	10.0416	6.2371	3.9688
	1.8856	0.9790	0.6219	0.3572	0.2097	0.1553	0.1589	0.0589	0.0893	0.0639	0.0571	0.0220
	0.0483	0.0184	0.0114	0.0112	0.0051	0.0046	0.0018	0.0469				
2008	1	1	0	0	4393	0.0066	0.0071	0.0059	0.0261	0.0611	0.0906	0.1415
	0.1279	0.2075	0.2284	0.2358	0.4577	0.8917	1.4951	1.7772	2.0294	2.3977	3.6479	6.2008
	7.5883	7.4040	5.8294	4.2896	3.5710	4.0102	5.5131	7.2468	8.0764	7.4739	5.9879	4.3737
	2.9931	1.8650	1.2504	0.7588	0.5447	0.3135	0.2519	0.1554	0.1293	0.0514	0.0910	0.0474
	0.0364	0.0248	0.0126	0.0247	0.0149	0.0036	0.0121	0.0189				
# Canadian fishery												
1988	1	2	0	0	38	0.0000	0.0000	0.0000	0.0015	0.0042	0.0013	0.0000
	0.0012	0.0000	0.0026	0.0047	0.0016	0.0109	0.0287	0.0347	0.1011	0.1622	0.2725	0.4999
	0.8217	1.6591	3.0254	5.2973	7.5743	9.8487	11.8018	11.9507	10.6459	8.8695	6.9198	5.2416
	4.0676	3.0620	2.1469	1.6566	1.2806	0.8882	0.6213	0.4338	0.3289	0.2480	0.1422	0.0926
	0.0926	0.0635	0.0281	0.0175	0.0131	0.0143	0.0048	0.0143				
1989	1	2	0	0	43	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0008	0.0000	0.0000	0.0000	0.0000	0.0000	0.0079	0.0039	0.0013	0.0116	0.0234	0.0729
	0.1029	0.3302	1.1841	3.6208	7.3076	11.0626	13.9101	14.3775	12.2475	10.0729	7.4976	5.3460
	3.8031	2.5146	1.9580	1.3638	0.8697	0.6090	0.4848	0.2969	0.2583	0.2076	0.1215	0.0985
	0.0644	0.0415	0.0313	0.0347	0.0133	0.0026	0.0093	0.0314				
1990	1	2	0	0	33	0.0025	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0146	0.0089	0.0665	0.0878	0.1169
	0.2445	0.6916	0.8924	1.9520	4.6396	8.2469	13.1450	15.1195	14.6946	12.1628	8.7682	6.0184
	3.8082	2.6119	1.7409	1.1643	0.8935	0.7293	0.4191	0.3702	0.2793	0.2472	0.1841	0.1927
	0.1571	0.0847	0.0648	0.0653	0.0228	0.0194	0.0370	0.0351				
1991	1	2	0	0	56	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0031	0.0100	0.0000	0.0033	0.0073	0.0033	0.0288	0.0615	0.1335
	0.1961	0.2554	0.5079	0.7854	1.3650	3.2862	6.6629	11.0345	14.2636	15.4089	13.1927	9.9821

	7.0393	4.8797	3.3430	2.1798	1.4970	1.0171	0.7579	0.5609	0.3871	0.3152	0.2666	0.1598
	0.1119	0.0769	0.0668	0.0524	0.0185	0.0272	0.0168	0.0327				
1992	1	2	0	0	60	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0015	0.0000	0.0000	0.0000	0.0017	0.0017	0.0070	0.0113
	0.0170	0.1428	0.4641	1.4115	3.5680	7.2311	11.7795	16.0994	16.7776	14.5902	10.6207	6.6180
	3.9245	2.3324	1.3938	0.8834	0.5575	0.3640	0.2610	0.2263	0.1462	0.1277	0.1166	0.0871
	0.0495	0.0532	0.0353	0.0125	0.0261	0.0057	0.0117	0.0424				
1993	1	2	0	0	60	0.0102	0.0000	0.0000	0.0017	0.0000	0.0014	0.0000
	0.0014	0.0103	0.0061	0.0079	0.0053	0.0019	0.0014	0.0039	0.0054	0.0045	0.0070	0.0187
	0.0581	0.2378	0.6761	1.7934	4.2474	9.5096	15.5218	19.1337	17.8105	12.9661	7.8210	4.2887
	2.2775	1.3447	0.7572	0.4675	0.3220	0.2047	0.1464	0.1057	0.0596	0.0460	0.0213	0.0202
	0.0200	0.0028	0.0151	0.0076	0.0100	0.0072	0.0031	0.0103				
1994	1	2	0	0	76	0.0391	0.0037	0.0033	0.0034	0.0025	0.0051	0.0019
	0.0009	0.0027	0.0026	0.0015	0.0000	0.0017	0.0023	0.0013	0.0090	0.0121	0.0202	0.0211
	0.0403	0.1377	0.3263	0.7286	1.8425	4.1592	8.2000	13.3817	16.8869	16.0807	12.8616	9.0190
	5.6153	3.4957	2.2325	1.5106	0.9776	0.6701	0.4595	0.3314	0.2424	0.1778	0.1279	0.0899
	0.0687	0.0405	0.0392	0.0236	0.0318	0.0200	0.0084	0.0378				
1995	1	2	0	0	43	0.5433	0.5663	1.5444	2.8853	2.8406	3.0367	2.0194
	1.2639	0.6258	0.1966	0.0873	0.0440	0.0292	0.0483	0.0254	0.0278	0.0167	0.0000	0.0000
	0.0034	0.0068	0.0722	0.2495	0.9728	2.6665	5.3574	9.1578	12.8613	14.7039	12.3917	9.3775
	5.8628	3.5750	2.4331	1.2689	0.9287	0.6043	0.4867	0.3577	0.3214	0.1383	0.1170	0.0715
	0.0482	0.0518	0.0412	0.0355	0.0100	0.0000	0.0113	0.0151				
1996	1	2	0	0	54	0.0024	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0069	0.0168	0.0622	0.1235	0.2794	0.4614	0.8566	1.3516	1.9391	2.2300
	2.0055	1.5635	1.2560	1.4221	2.7105	5.4517	10.2072	14.0882	15.4694	13.5617	9.5714	6.3589
	3.5570	2.0126	1.1256	0.7121	0.4531	0.2665	0.2264	0.1552	0.0981	0.0831	0.0799	0.0618
	0.0397	0.0297	0.0245	0.0246	0.0090	0.0115	0.0090	0.0244				
1997	1	2	0	0	102	0.0000	0.0000	0.0045	0.0045	0.0175	0.0095	0.0180
	0.0283	0.0240	0.0361	0.0300	0.0346	0.0303	0.0320	0.0191	0.0136	0.0307	0.1000	0.2532
	0.9009	2.1714	3.9752	6.0868	7.3180	8.2774	8.8846	10.3676	10.7128	10.2442	8.6087	6.4056
	4.5583	3.0897	2.2322	1.5336	1.0943	0.7586	0.6056	0.3728	0.2314	0.2456	0.1737	0.1118
	0.0810	0.0760	0.0483	0.0550	0.0183	0.0299	0.0052	0.0394				
1998	1	2	0	0	94	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0291	0.0055	0.0152	0.0201	0.0309	0.0786	0.2148	0.4806	0.9896
	1.9114	3.1067	4.6458	7.7507	10.9445	13.0675	13.7215	12.3742	9.4706	6.3908	4.2349	2.5262
	1.4915	0.9287	0.5946	0.3971	0.2716	0.2143	0.1214	0.1003	0.0878	0.0475	0.0406	0.0232
	0.0258	0.0235	0.0122	0.0057	0.0036	0.0029	0.0049	0.0093				
1999	1	2	0	0	136	0.0000	0.0140	0.0037	0.0090	0.0010	0.0034	0.0066
	0.0057	0.0316	0.0521	0.1189	0.3614	0.7028	1.1060	1.7214	1.9452	2.0639	2.0924	2.2368
	2.8403	3.0093	3.6328	4.6785	6.2507	8.1427	10.3291	10.9685	10.3095	8.5619	6.2326	3.9248
	2.8442	1.7230	1.1824	0.7861	0.5753	0.4115	0.2814	0.1936	0.1657	0.0846	0.1275	0.0871
	0.0396	0.0642	0.0204	0.0157	0.0201	0.0028	0.0078	0.0104				
2000	1	2	0	0	16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0002	0.0115	0.0269	0.0783	0.2229	0.5715	0.8796	1.3716	1.4679
	1.9613	2.4665	3.4212	4.4835	5.4263	6.1167	6.3849	7.2244	8.1919	8.6751	8.1729	7.9389
	6.0299	4.6940	3.5788	2.7613	1.9144	1.6095	1.1091	0.8607	0.6031	0.4619	0.4388	0.2513
	0.2007	0.1381	0.0794	0.0489	0.0472	0.0230	0.0196	0.0364				
2001	1	2	0	0	72	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0095	0.0067	0.0587	0.2057	0.2672	0.2541	0.2360	0.2768	0.1680	0.1071	0.0729	0.0268
	0.0359	0.0413	0.0228	0.1328	0.3029	0.7079	1.4757	3.0338	5.7325	8.9079	11.2086	12.8480
	11.8996	10.4744	8.4391	6.5580	4.7269	3.5529	2.5374	1.8422	1.1844	0.7793	0.5817	0.3953
	0.2782	0.2220	0.1321	0.1047	0.0273	0.0319	0.0287	0.0642				
2002	1	2	0	0	103	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0116	0.0168	0.0046	0.0046	0.0049	0.0295	0.0076
	0.0620	0.0081	0.0366	0.1599	0.2942	0.4882	1.1396	1.3920	2.5956	4.8810	7.4663	10.1087
	12.5335	12.7077	11.0521	8.9671	6.8943	5.5104	4.3519	2.7694	1.8741	1.5376	1.1212	0.6999
	0.4071	0.2684	0.1780	0.1428	0.0868	0.0675	0.0483	0.0700				
2003	1	2	0	0	118	0.0000	0.0078	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0091	0.0000	0.0376	0.0168	0.0530	0.0391	0.0327	0.0427	0.0346
	0.0000	0.2505	1.1718	2.9946	5.7363	9.9890	11.3838	12.8838	11.9749	10.6071	9.6759	6.2904
	4.3829	3.3957	2.1501	1.5351	1.2581	1.0889	0.6767	0.5597	0.3709	0.3422	0.3288	0.1696
	0.2269	0.0750	0.0465	0.0194	0.0403	0.0334	0.0069	0.0614				
2004	1	2	0	0	101	0.0021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0022	0.0021	0.0056	0.0015	0.0062	0.0079	0.0102	0.0059	0.0287	0.0284	0.0883
	0.2258	0.6649	1.9245	4.8011	9.4218	13.3395	15.5264	14.0944	11.8361	9.0958	6.2083	4.1077
	2.6686	1.7630	1.1389	0.7698	0.6081	0.4042	0.3224	0.2523	0.1392	0.1278	0.0905	0.0712
	0.0548	0.0269	0.0236	0.0117	0.0218	0.0183	0.0096	0.0419				

2005	1	2	0	0	130	0.0000	0.0000	0.0000	0.0010	0.0000	0.0030	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0043	0.0021	0.0072	0.0201	0.0402
	0.0701	0.2991	0.5674	2.2474	5.5402	9.6405	13.5221	15.5204	14.7159	11.1222	8.5734	6.1017
	3.7296	2.3164	1.4919	1.1319	0.7689	0.6852	0.5564	0.3588	0.2161	0.1146	0.2099	0.0687
	0.0986	0.0455	0.0433	0.0322	0.0013	0.0181	0.0074	0.1072				
2006	1	2	0	0	136	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0430
	0.0006	0.0000	0.0204	0.0011	0.0000	0.0273	0.0364	0.0360	0.0025	0.0017	0.0435	0.0119
	0.1024	0.1601	0.5107	1.2618	2.7040	5.0533	8.4006	11.8521	14.1337	13.0027	11.9276	8.6126
	6.3217	4.1324	2.7241	2.1604	1.5860	1.0035	0.9456	0.6311	0.7092	0.4058	0.2925	0.2235
	0.1914	0.1281	0.1315	0.1141	0.0468	0.0870	0.0301	0.1892				
2007	1	2	0	0	167	0.0034	0.0002	0.0002	0.0002	0.0001	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0002	0.0005	0.0005	0.0017	0.0038	0.0017
	0.0034	0.0063	0.0072	0.0181	0.0308	0.0567	0.0763	0.1203	0.1430	0.1501	0.1002	0.0946
	0.0594	0.0386	0.0210	0.0170	0.0097	0.0101	0.0059	0.0041	0.0029	0.0024	0.0016	0.0022
	0.0017	0.0017	0.0005	0.0009	0.0002	0.0003	0.0001	0.0005				
2008	1	2	0	0	188	0.0000	0.0000	0.0000	0.0000	0.0002	0.0004	0.0015
	0.0034	0.0030	0.0016	0.0011	0.0022	0.0032	0.0059	0.0127	0.0108	0.0129	0.0081	0.0153
	0.0120	0.0212	0.0131	0.0172	0.0144	0.0217	0.0329	0.0602	0.0764	0.1226	0.1003	0.1239
	0.0854	0.0737	0.0451	0.0334	0.0168	0.0126	0.0075	0.0080	0.0042	0.0054	0.0017	0.0033
	0.0010	0.0022	0.0011	0.0000	0.0000	0.0004	0.0000	0.0000				
# Acoustic survey												
1977	1	3	0	0	85	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0762	0.1870	0.4156	0.4018	0.6304	0.6719	0.8313	1.2122	1.3716
	1.3716	1.5932	2.1543	2.7847	3.6021	4.1009	4.3918	5.1676	6.9825	8.2433	9.4417	8.9983
	7.4397	6.5738	5.2092	3.8930	2.7847	2.2582	1.7872	1.1153	0.8728	0.7551	0.5819	0.5611
	0.3671	0.3117	0.1940	0.2078	0.1316	0.0485	0.0554	0.0554				
1980	1	3	0	0	49	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0241	0.0000	0.0241	0.0723	0.3135	0.6872	1.7483	3.7618	5.6909
	6.1249	5.2689	3.8582	1.5192	0.8922	0.5426	0.7596	1.9050	3.2433	5.8235	8.3193	9.2838
	8.5483	8.1022	6.2937	4.7263	3.0625	2.0979	1.5915	1.0851	0.6872	0.6028	0.4943	0.2773
	0.1688	0.2411	0.1206	0.1326	0.1206	0.1085	0.0603	0.0603				
1983	1	3	0	0	35	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0232	0.0116	0.0348	0.4295	1.6369	4.1560	7.8941	10.5410	11.4465
	9.2408	7.7084	5.4678	3.6568	2.4611	2.1477	2.4611	3.3666	4.0051	4.2141	3.8542	3.5407
	2.8326	2.2638	1.8923	1.4511	0.8591	0.7198	0.4644	0.2786	0.3367	0.1741	0.1393	0.0929
	0.0580	0.0116	0.0116	0.0580	0.0116	0.0116	0.0232	0.0000				
1986	1	3	0	0	43	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
	0.0003	0.0003	0.0020	0.0064	0.0223	0.0598	0.1116	0.1155	0.0614	0.0239	0.0072	0.0033
	0.0023	0.0039	0.0113	0.0382	0.0693	0.0909	0.0990	0.0670	0.0486	0.0372	0.0298	0.0229
	0.0166	0.0139	0.0103	0.0072	0.0049	0.0035	0.0022	0.0021	0.0012	0.0007	0.0006	0.0005
	0.0006	0.0004	0.0002	0.0002	0.0001	0.0003	0.0001	0.0002				
1989	1	3	0	0	22	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0534	0.0356	0.0000	0.0356	0.1956	0.5513	1.9029	2.2230	2.1697
	1.3694	1.5472	2.6143	7.9673	13.8182	16.6993	16.3258	11.4885	7.7361	4.6239	2.4898	1.6895
	0.9248	0.5513	0.3557	0.2668	0.1601	0.1067	0.0178	0.1423	0.0000	0.0178	0.0000	0.0000
	0.0178	0.0178	0.0356	0.0000	0.0000	0.0000	0.0000	0.0178				
1992	1	3	0	0	43	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.9966	1.0747	1.1451	2.0523	2.2678	1.3747	0.7046	0.4705	0.1384
	0.2064	0.5554	1.7227	3.9070	6.9265	10.1668	13.5941	14.4537	11.2977	7.4794	4.4176	2.5313
	1.2286	0.5984	0.4789	0.2226	0.1257	0.1510	0.0318	0.0608	0.0354	0.0260	0.0126	0.0029
	0.0043	0.0014	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000				
1995	1	3	0	0	69	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.2414	0.3534	1.4379	4.0874	8.1213	8.5327	6.1473	2.9749	1.2684
	0.5451	0.5222	1.2059	2.6843	4.8278	6.9954	8.0774	8.3294	7.4855	6.1477	3.8777	2.5148
	1.2530	0.8335	0.3644	0.2652	0.1357	0.0966	0.0656	0.0532	0.0414	0.0348	0.0181	0.0073
	0.0056	0.0032	0.0024	0.0091	0.0226	0.0176	0.0037	0.0037				
1998	1	3	0	0	84	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	1.9111	2.3583	2.7987	2.9771	2.6344	1.9192	1.7780	2.5431	3.2512
	3.6925	3.7927	4.3047	5.4560	7.6075	8.0688	8.4396	7.5478	6.2551	4.9928	3.5322	2.5057
	1.6519	1.0415	0.7464	0.4515	0.3132	0.2538	0.1641	0.1156	0.0562	0.0557	0.0423	0.0236
	0.0210	0.0125	0.0035	0.0053	0.0059	0.0084	0.0061	0.0135				
2001	1	3	0	0	49	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	1.3525	4.1216	8.3658	14.6019	16.9774	14.2018	8.5876	3.5231	1.6717
	1.4485	1.5298	1.9460	1.9285	1.9610	1.8787	2.2680	2.1509	2.2040	2.1926	1.9429	1.1800
	0.8779	0.6301	0.4768	0.3006	0.2136	0.1543	0.1206	0.0551	0.0789	0.0185	0.0621	0.0381
	0.0841	0.0565	0.0314	0.0243	0.0261	0.0014	0.0354	0.0687				

2003	1	3	0	0	71	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0944	0.1537	0.3314	0.4047	0.7614	0.6356	1.1926	1.0760	1.7630
	1.7640	4.4833	7.5862	14.3289	14.8713	13.9081	10.0821	7.4014	5.8903	3.9399	2.7178	1.9627
	1.3133	0.9244	0.6519	0.4871	0.3781	0.2422	0.1693	0.1103	0.1016	0.0309	0.0101	0.0184
	0.0231	0.0085	0.0160	0.0057	0.0028	0.0028	0.0046	0.0249				
2005	1	3	0	0	49	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.5764	0.6518	2.2930	3.3930	4.9816	3.7852	2.8587	2.0472	1.2751
	1.0973	1.1591	2.8742	4.7100	8.8084	14.7650	12.1110	12.1030	6.6716	5.1654	3.3105	1.6901
	1.0512	0.6182	0.3690	0.1856	0.1908	0.1801	0.0734	0.0314	0.0457	0.0478	0.0314	0.0335
	0.0175	0.0161	0.0124	0.0118	0.0879	0.0000	0.0000	0.0131				
2007	1	3	0	0	69	0.0000	0.0000	0.0000	0.0000	0.0053	0.0021	0.0031
	0.0074	0.0194	0.0291	0.0496	0.0587	0.0550	0.0488	0.0311	0.0250	0.0187	0.0101	0.0048
	0.0056	0.0068	0.0096	0.0172	0.0300	0.0390	0.0641	0.0831	0.0914	0.0843	0.0781	0.0423
	0.0289	0.0183	0.0127	0.0068	0.0039	0.0018	0.0019	0.0015	0.0007	0.0010	0.0007	0.0007
	0.0003	0.0003	0.0004	0.0002	0.0000	0.0000	0.0001	0.0003				

Historical CA fisheries

1963	1	8	0	0	13	0.0000	0.0000	0.0000	7.0000	5.0000	11.0000	11.0000
	10.0000	9.0000	5.0000	7.0000	10.0000	8.0000	6.0000	5.0000	2.0000	1.0000	1.0000	5.0000
	2.0000	1.0000	2.0000	3.0000	2.0000	0.0000	0.0000	0.0000	1.0000	0.0000	1.0000	2.0000
	0.0000	1.0000	0.0000	0.0000	2.0000	1.0000	0.0000	2.0000	1.0000	0.0000	2.0000	0.0000
	2.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000				
1964	1	8	0	0	5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000	0.0000	0.0000	4.0000	2.0000
	2.0000	2.0000	3.0000	3.0000	4.0000	2.0000	1.0000	3.0000	1.0000	2.0000	3.0000	2.0000
	3.0000	3.0000	1.0000	3.0000	2.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000
	1.0000	1.0000	0.0000	1.0000	1.0000	0.0000	0.0000	1.0000				
1966	1	8	0	0	1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	2.0000	2.0000
	0.0000	1.0000	2.0000	0.0000	0.0000	1.0000	0.0000	0.0000				
1967	1	8	0	0	6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000
	1.0000	2.0000	3.0000	6.0000	4.0000	2.0000	0.0000	1.0000	2.0000	1.0000	1.0000	0.0000
	1.0000	2.0000	1.0000	0.0000	0.0000	1.0000	1.0000	0.0000	0.0000	1.0000	0.0000	0.0000
	1.0000	1.0000	1.0000	0.0000	3.0000	0.0000	3.0000	2.0000	2.0000	2.0000	3.0000	3.0000
	2.0000	0.0000	0.0000	2.0000	0.0000	0.0000	1.0000	1.0000				
1968	1	8	0	0	18	3.0000	1.0000	0.0000	0.0000	1.0000	1.0000	6.0000
	10.0000	15.0000	11.0000	4.0000	5.0000	1.0000	2.0000	2.0000	1.0000	5.0000	1.0000	4.0000
	3.0000	2.0000	1.0000	1.0000	1.0000	3.0000	3.0000	1.0000	1.0000	1.0000	1.0000	2.0000
	0.0000	1.0000	6.0000	2.0000	4.0000	2.0000	5.0000	8.0000	6.0000	9.0000	8.0000	3.0000
	6.0000	6.0000	5.0000	3.0000	4.0000	2.0000	1.0000	6.0000				
1969	1	8	0	0	38	3.0000	0.0000	14.0000	33.0000	36.0000	37.0000	10.0000
	5.0000	3.0000	4.0000	2.0000	1.0000	3.0000	10.0000	5.0000	11.0000	5.0000	9.0000	14.0000
	11.0000	4.0000	9.0000	9.0000	1.0000	2.0000	5.0000	2.0000	1.0000	0.0000	1.0000	4.0000
	4.0000	1.0000	3.0000	4.0000	4.0000	6.0000	10.0000	4.0000	6.0000	12.0000	5.0000	10.0000
	11.0000	5.0000	10.0000	4.0000	4.0000	1.0000	6.0000	13.0000				
1970	1	8	0	0	39	4.0000	0.0000	9.0000	12.0000	21.0000	35.0000	24.0000
	19.0000	10.0000	13.0000	10.0000	11.0000	14.0000	10.0000	8.0000	10.0000	7.0000	13.0000	10.0000
	11.0000	7.0000	11.0000	10.0000	7.0000	8.0000	13.0000	6.0000	3.0000	3.0000	5.0000	4.0000
	1.0000	1.0000	3.0000	4.0000	3.0000	1.0000	1.0000	1.0000	4.0000	5.0000	2.0000	6.0000
	3.0000	4.0000	4.0000	1.0000	3.0000	1.0000	3.0000	10.0000				
1963	1	9	0	0	9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	2.0000	1.0000	6.0000	6.0000	8.0000	7.0000	12.0000	9.0000	8.0000	9.0000
	6.0000	3.0000	3.0000	1.0000	3.0000	2.0000	2.0000	1.0000	1.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000				
1966	1	9	0	0	14	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000
	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	2.0000	0.0000	1.0000	1.0000
	2.0000	0.0000	5.0000	3.0000	3.0000	7.0000	6.0000	9.0000	9.0000	11.0000	12.0000	9.0000
	8.0000	7.0000	10.0000	8.0000	9.0000	2.000	2.0000	8.0000				
1967	1	9	0	0	2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	1.0000	0.0000	2.0000	0.0000	2.0000
	1.0000	1.0000	4.0000	1.0000	1.0000	0.0000	1.0000	2.0000				

1968	1	9	0	0	12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000
	0.0000	3.0000	2.0000	2.0000	2.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	4.0000
	1.0000	3.0000	1.0000	4.0000	1.0000	2.0000	4.0000	10.0000	4.0000	5.0000	12.0000	4.0000
	11.0000	7.0000	3.0000	6.0000	6.0000	8.0000	1.0000	10.0000				
1969	1	9	0	0	14	2.0000	0.0000	0.0000	1.0000	7.0000	10.0000	10.0000
	6.0000	8.0000	4.0000	9.0000	4.0000	0.0000	5.0000	3.0000	1.0000	4.0000	4.0000	3.0000
	1.0000	1.0000	2.0000	1.0000	2.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1.0000	0.0000	0.0000	3.0000	1.0000	1.0000	1.0000	2.0000	2.0000	3.0000	4.0000	3.0000
	1.0000	3.0000	5.0000	3.0000	5.0000	1.0000	1.0000	6.0000				
1970	1	9	0	0	12	0.0000	0.0000	0.0000	0.0000	2.0000	1.0000	3.0000
	6.0000	2.0000	1.0000	7.0000	12.0000	14.0000	12.0000	8.0000	5.0000	0.0000	3.0000	2.0000
	5.0000	2.0000	2.0000	2.0000	2.0000	0.0000	3.0000	2.0000	2.0000	1.0000	2.0000	0.0000
	2.0000	1.0000	1.0000	1.0000	0.0000	2.0000	0.0000	1.0000	1.0000	0.0000	1.0000	3.0000
	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	1.0000				
1963	1	10	0	0	24	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	3.0000	1.0000	2.0000	0.0000	1.0000	0.0000	2.0000	1.0000	3.0000	2.0000	6.0000
	6.0000	4.0000	8.0000	11.0000	9.0000	9.0000	13.0000	6.0000	8.0000	10.0000	15.0000	19.0000
	18.0000	12.0000	16.0000	5.0000	4.0000	7.0000	9.0000	8.0000	5.0000	2.0000	4.0000	1.0000
	4.0000	1.0000	1.0000	1.0000	0.0000	1.0000	0.0000	3.0000				
1966	1	10	0	0	22	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	2.0000	5.0000	0.0000	2.0000	1.0000
	3.0000	3.0000	2.0000	4.0000	4.0000	5.0000	3.0000	3.0000	4.0000	4.0000	4.0000	16.0000
	11.0000	9.0000	6.0000	16.0000	7.0000	16.0000	10.0000	15.0000	14.0000	13.0000	10.0000	7.0000
	4.0000	6.0000	3.0000	1.0000	1.0000	1.0000	0.0000	2.0000				
1967	1	10	0	0	26	2.0000	0.0000	0.0000	0.0000	0.0000	2.0000	2.0000
	5.0000	2.0000	2.0000	3.0000	2.0000	6.0000	6.0000	0.0000	18.0000	17.0000	22.0000	14.0000
	3.0000	10.0000	5.0000	3.0000	4.0000	1.0000	2.0000	2.0000	4.0000	5.0000	2.0000	1.0000
	9.0000	11.0000	6.0000	7.0000	7.0000	8.0000	8.0000	8.0000	14.0000	10.0000	7.0000	1.0000
	3.0000	3.0000	4.0000	2.0000	2.0000	1.0000	1.0000	3.0000				
1968	1	10	0	0	31	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	1.0000
	0.0000	0.0000	2.0000	0.0000	2.0000	1.0000	2.0000	0.0000	3.0000	2.0000	1.0000	2.0000
	0.0000	2.0000	1.0000	1.0000	6.0000	4.0000	2.0000	4.0000	4.0000	7.0000	7.0000	12.0000
	11.0000	15.0000	16.0000	11.0000	21.0000	27.0000	24.0000	19.0000	21.0000	19.0000	22.0000	6.0000
	4.0000	7.0000	5.0000	4.0000	2.0000	1.0000	1.0000	5.0000				
1969	1	10	0	0	12	1.0000	1.0000	1.0000	0.0000	0.0000	0.0000	2.0000
	1.0000	5.0000	3.0000	5.0000	6.0000	5.0000	4.0000	9.0000	2.0000	2.0000	0.0000	1.0000
	1.0000	3.0000	2.0000	1.0000	3.0000	0.0000	2.0000	1.0000	0.0000	2.0000	1.0000	2.0000
	0.0000	2.0000	4.0000	3.0000	2.0000	3.0000	4.0000	6.0000	4.0000	3.0000	3.0000	2.0000
	5.0000	6.0000	1.0000	1.0000	1.0000	5.0000	1.0000	0.0000				
1963	1	11	0	0	7	5.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000	0.0000	1.0000	1.0000	1.0000
	3.0000	1.0000	5.0000	5.0000	2.0000	2.0000	3.0000	3.0000	3.0000	2.0000	2.0000	2.0000
	1.0000	3.0000	1.0000	3.0000	2.0000	2.0000	2.0000	0.0000	0.0000	3.0000	1.0000	2.0000
	2.0000	1.0000	0.0000	1.0000	1.0000	0.0000	0.0000	0.0000				
1964	1	11	0	0	18	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	3.0000	0.0000	1.0000	2.0000	0.0000	3.0000	1.0000	3.0000	8.0000	10.0000	5.0000
	9.0000	10.0000	6.0000	5.0000	8.0000	8.0000	10.0000	4.0000	6.0000	7.0000	6.0000	6.0000
	6.0000	14.0000	10.0000	6.0000	4.0000	7.0000	0.0000	5.0000	2.0000	3.0000	0.0000	0.0000
	1.0000	1.0000	0.0000	0.0000	1.0000	1.0000	1.0000	1.0000				
1966	1	11	0	0	23	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	3.0000	8.0000	7.0000	13.0000	9.0000	16.0000	12.0000	6.0000	8.0000	4.0000	3.0000	2.0000
	2.0000	1.0000	4.0000	4.0000	2.0000	2.0000	2.0000	3.0000	1.0000	5.0000	4.0000	4.0000
	2.0000	5.0000	8.0000	9.0000	6.0000	8.0000	4.0000	5.0000	8.0000	12.0000	4.0000	2.0000
	5.0000	7.0000	8.0000	2.0000	0.0000	1.0000	2.0000	2.0000				
1967	1	11	0	0	3	1.0000	0.0000	0.0000	0.0000	2.0000	2.0000	6.0000
	4.0000	3.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000
	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000
	1.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	1.0000	1.0000	0.0000
	0.0000	0.0000	0.0000	1.0000	0.0000	1.0000	0.0000	2.0000				
1968	1	11	0	0	72	11.0000	9.0000	28.0000	55.0000	58.0000	63.0000	31.0000
	17.0000	10.0000	20.0000	12.0000	33.0000	44.0000	36.0000	20.0000	25.0000	27.0000	16.0000	16.0000
	11.0000	11.0000	14.0000	10.0000	11.0000	9.0000	10.0000	6.0000	6.0000	3.0000	6.0000	4.0000
	5.0000	5.0000	8.0000	0.0000	4.0000	3.0000	2.0000	8.0000	3.0000	8.0000	2.0000	9.0000
	7.0000	2.0000	4.0000	1.0000	5.0000	2.0000	1.0000	7.0000				
1969	1	11	0	0	29	0.0000	4.0000	13.0000	22.0000	37.0000	26.0000	17.0000
	10.0000	7.0000	6.0000	12.0000	4.0000	7.0000	7.0000	7.0000	8.0000	4.0000	6.0000	3.0000

7.0000 6.0000 10.0000 9.0000 4.0000 6.0000 3.0000 9.0000 2.0000 2.0000 2.0000 1.0000
3.0000 3.0000 4.0000 1.0000 1.0000 2.0000 2.0000 3.0000 2.0000 0.0000 1.0000 1.0000
1.0000 3.0000 0.0000 2.0000 0.0000 1.0000 0.0000 0.0000
1970 1 11 0 0 7 8.0000 1.0000 1.0000 0.0000 3.0000 4.0000 0.0000
9.0000 4.0000 4.0000 3.0000 0.0000 3.0000 3.0000 0.0000 4.0000 4.0000 3.0000 3.0000
0.0000 1.0000 0.0000 0.0000 0.0000 0.0000 0.0000 2.0000 1.0000 0.0000 0.0000 1.0000
0.0000 0.0000 0.0000 1.0000 0.0000 1.0000 0.0000 0.0000 1.0000 0.0000 0.0000 1.0000
0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 1.0000

14 #_N_age_bins
Age bins
2 3 4 5 6 7 8 9 10 11 12 13 14 15

36 #_N_ageerror_definitions
Cohort and lab-specific tuned to 1.0 for normal, 0.55 for strong cohorts (77,80,84,99) and 0.80 for moderate cohorts (70,73,87,90).
0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 9.5 10.5 11.5 12.5
13.5 14.5 15.5
0.40439 0.40439 0.412684 0.3387032 0.437168 0.454948 0.477873 0.507433 0.545548 0.594694 0.658063 0.739771 0.845126
0.980971 1.15613 1.38198
0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 9.5 10.5 11.5 12.5
13.5 14.5 15.5
0.40439 0.323512 0.412684 0.423379 0.3497344 0.454948 0.477873 0.507433 0.545548 0.594694 0.658063 0.739771 0.845126
0.980971 1.15613 1.38198
0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 9.5 10.5 11.5 12.5
13.5 14.5 15.5
0.40439 0.40439 0.3301472 0.423379 0.437168 0.3639584 0.477873 0.507433 0.545548 0.594694 0.658063 0.739771 0.845126
0.980971 1.15613 1.38198
0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 9.5 10.5 11.5 12.5
13.5 14.5 15.5
0.40439 0.40439 0.412684 0.3387032 0.437168 0.454948 0.3822984 0.507433 0.545548 0.594694 0.658063 0.739771 0.845126
0.980971 1.15613 1.38198
0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 9.5 10.5 11.5 12.5
13.5 14.5 15.5
0.40439 0.40439 0.412684 0.423379 0.3497344 0.454948 0.477873 0.4059464 0.545548 0.594694 0.658063 0.739771 0.845126
0.980971 1.15613 1.38198
0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 9.5 10.5 11.5 12.5
13.5 14.5 15.5
0.40439 0.2224145 0.412684 0.423379 0.437168 0.3639584 0.477873 0.507433 0.4364384 0.594694 0.658063 0.739771 0.845126
0.980971 1.15613 1.38198
0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 9.5 10.5 11.5 12.5
13.5 14.5 15.5
0.40439 0.40439 0.2269762 0.423379 0.437168 0.454948 0.3822984 0.507433 0.545548 0.4757552 0.658063 0.739771 0.845126
0.980971 1.15613 1.38198
0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 9.5 10.5 11.5 12.5
13.5 14.5 15.5
0.40439 0.40439 0.412684 0.23285845 0.437168 0.454948 0.477873 0.4059464 0.545548 0.594694 0.5264504 0.739771
0.845126 0.980971 1.15613 1.38198
0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 9.5 10.5 11.5 12.5
13.5 14.5 15.5
0.40439 0.2224145 0.412684 0.423379 0.2404424 0.454948 0.477873 0.507433 0.4364384 0.594694 0.658063 0.5918168 0.845126
0.980971 1.15613 1.38198
0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 9.5 10.5 11.5 12.5
13.5 14.5 15.5
0.40439 0.40439 0.2269762 0.423379 0.437168 0.2502214 0.477873 0.507433 0.545548 0.4757552 0.658063 0.739771 0.6761008
0.980971 1.15613 1.38198
0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 9.5 10.5 11.5 12.5
13.5 14.5 15.5
0.40439 0.40439 0.412684 0.23285845 0.437168 0.454948 0.26283015 0.507433 0.545548 0.594694 0.5264504
0.739771 0.845126 0.7847768 1.15613 1.38198
0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 9.5 10.5 11.5 12.5
13.5 14.5 15.5
0.40439 0.40439 0.412684 0.423379 0.2404424 0.454948 0.477873 0.27908815 0.545548 0.594694 0.658063 0.5918168
0.845126 0.980971 0.924904 1.38198
0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 9.5 10.5 11.5 12.5
13.5 14.5 15.5
0.40439 0.2224145 0.412684 0.423379 0.437168 0.2502214 0.477873 0.507433 0.3000514 0.594694 0.658063 0.739771 0.6761008
0.980971 1.15613 1.105584

0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 9.5 10.5 11.5 12.5 13.5 14.5 15.5
0.40439 0.40439 0.2269762 0.423379 0.437168 0.454948 0.26283015 0.507433 0.545548 0.3270817 0.658063 0.739771 0.845126 0.7847768 1.15613 1.38198
0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 9.5 10.5 11.5 12.5 13.5 14.5 15.5
0.40439 0.40439 0.412684 0.23285845 0.437168 0.454948 0.477873 0.27908815 0.545548 0.594694 0.36193465 0.739771 0.845126 0.980971 0.924904 1.38198
0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 9.5 10.5 11.5 12.5 13.5 14.5 15.5
0.40439 0.323512 0.412684 0.423379 0.2404424 0.454948 0.477873 0.507433 0.3000514 0.594694 0.658063 0.40687405 0.845126 0.980971 1.15613 1.105584
0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 9.5 10.5 11.5 12.5 13.5 14.5 15.5
0.40439 0.40439 0.3301472 0.423379 0.437168 0.2502214 0.477873 0.507433 0.545548 0.3270817 0.658063 0.739771 0.4648193 0.980971 1.15613 1.38198
0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 9.5 10.5 11.5 12.5 13.5 14.5 15.5
0.40439 0.40439 0.412684 0.3387032 0.437168 0.454948 0.26283015 0.507433 0.545548 0.594694 0.36193465 0.739771 0.845126 0.53953405 1.15613 1.38198
0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 9.5 10.5 11.5 12.5 13.5 14.5 15.5
0.40439 0.323512 0.412684 0.423379 0.3497344 0.454948 0.477873 0.27908815 0.545548 0.594694 0.658063 0.40687405 0.845126 0.980971 0.6358715 1.38198
0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 9.5 10.5 11.5 12.5 13.5 14.5 15.5
0.40439 0.40439 0.3301472 0.423379 0.437168 0.3639584 0.477873 0.507433 0.3000514 0.594694 0.658063 0.739771 0.4648193 0.980971 1.15613 0.760089
0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 9.5 10.5 11.5 12.5 13.5 14.5 15.5
0.40439 0.40439 0.412684 0.3387032 0.437168 0.454948 0.3822984 0.507433 0.545548 0.3270817 0.658063 0.739771 0.845126 0.53953405 1.15613 1.38198
0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 9.5 10.5 11.5 12.5 13.5 14.5 15.5
0.40439 0.40439 0.412684 0.423379 0.3497344 0.454948 0.477873 0.4059464 0.545548 0.594694 0.36193465 0.739771 0.845126 0.980971 0.6358715 1.38198
0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 9.5 10.5 11.5 12.5 13.5 14.5 15.5
0.40439 0.40439 0.412684 0.423379 0.437168 0.3639584 0.477873 0.507433 0.4364384 0.594694 0.658063 0.40687405 0.845126 0.980971 1.15613 0.760089
0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 9.5 10.5 11.5 12.5 13.5 14.5 15.5
0.40439 0.40439 0.412684 0.423379 0.437168 0.454948 0.3822984 0.507433 0.545548 0.4757552 0.658063 0.739771 0.4648193 0.980971 1.15613 1.38198
0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 9.5 10.5 11.5 12.5 13.5 14.5 15.5
0.40439 0.40439 0.412684 0.423379 0.437168 0.454948 0.477873 0.4059464 0.545548 0.594694 0.5264504 0.739771 0.845126 0.53953405 1.15613 1.38198
0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 9.5 10.5 11.5 12.5 13.5 14.5 15.5
0.40439 0.40439 0.412684 0.423379 0.437168 0.454948 0.477873 0.507433 0.4364384 0.594694 0.658063 0.5918168 0.845126 0.980971 0.6358715 1.38198
0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 9.5 10.5 11.5 12.5 13.5 14.5 15.5
0.40439 0.40439 0.412684 0.423379 0.437168 0.454948 0.477873 0.507433 0.545548 0.4757552 0.658063 0.739771 0.6761008 0.980971 1.15613 0.760089
0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 9.5 10.5 11.5 12.5 13.5 14.5 15.5
0.40439 0.2224145 0.412684 0.423379 0.437168 0.454948 0.477873 0.507433 0.545548 0.594694 0.5264504 0.739771 0.845126 0.7847768 1.15613 1.38198
0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 9.5 10.5 11.5 12.5 13.5 14.5 15.5
0.329242 0.329242 0.19080435 0.368632 0.395312 0.42809 0.468362 0.517841 0.57863 0.653316 0.745076 0.6862504 0.996322 1.1665 1.100456 1.305952
0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5 9.5 10.5 11.5 12.5 13.5 14.5 15.5

0.329242	0.329242	0.346917	0.2027476	0.395312	0.42809	0.468362	0.517841	0.57863	0.653316	0.745076	0.857813	0.7970576
	1.1665	1.37557	1.63244									
0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5	10.5	11.5	12.5
	13.5	14.5	15.5									
0.329242	0.329242	0.346917	0.368632	0.2174216	0.42809	0.468362	0.517841	0.57863	0.653316	0.745076	0.857813	0.996322
	0.9332	1.37557	1.63244									
0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5	10.5	11.5	12.5
	13.5	14.5	15.5									
0.329242	0.329242	0.346917	0.368632	0.395312	0.2354495	0.468362	0.517841	0.57863	0.653316	0.745076	0.857813	0.996322
	1.1665	1.100456	1.305952									
0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5	10.5	11.5	12.5
	13.5	14.5	15.5									
0.329242	0.329242	0.346917	0.368632	0.395312	0.42809	0.2575991	0.517841	0.57863	0.653316	0.745076	0.857813	0.996322
	1.1665	1.37557	1.63244									
0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5	10.5	11.5	12.5
	13.5	14.5	15.5									
0.329242	0.2633936	0.346917	0.368632	0.395312	0.42809	0.468362	0.28481255		0.57863	0.653316	0.745076	0.857813
	0.996322	1.1665	1.37557	1.63244								
0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5	10.5	11.5	12.5
	13.5	14.5	15.5									
0.329242	0.329242	0.2775336	0.368632	0.395312	0.42809	0.468362	0.517841	0.3182465	0.653316	0.745076	0.857813	0.996322
	1.1665	1.37557	1.63244									
0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5	10.5	11.5	12.5
	13.5	14.5	15.5									
0.329242	0.329242	0.346917	0.2949056	0.395312	0.42809	0.468362	0.517841	0.57863	0.3593238	0.745076	0.857813	0.996322
	1.1665	1.37557	1.63244									

2553 # Number of age comp observations using restricted length ranges
2 # Length bin refers to: 1=population length bin indices; 2=data length bin indices
0 #_combine males into females at or below this bin number

Yr Seas Flt/Svy Gender Part Ageerr Lbin_lo Lbin_hi Nsamp datavector(female-male)
US fishery

1973	1	1	0	0	1	1	51	60	0	0.26	0.045	0.101
	0.187	0.117	0.107	0.1	0.048	0.021	0.009	0.005	0	0		
1974	1	1	0	0	2	1	51	60	0.0044	0.0033	0.5066	0.0692
	0.1198	0.1494	0.0868	0.0385	0.0121	0.0055	0.0033	0.0011	0	0		
1975	1	1	0	0	3	4	4	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1975	1	1	0	0	3	5	5	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1975	1	1	0	0	3	6	6	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1975	1	1	0	0	3	7	7	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1975	1	1	0	0	3	8	8	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1975	1	1	0	0	3	9	9	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1975	1	1	0	0	3	10	10	3	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1975	1	1	0	0	3	11	11	5	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1975	1	1	0	0	3	12	12	3	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1975	1	1	0	0	3	13	13	5	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1975	1	1	0	0	3	14	14	2	0.9405	0.0595	0	0
	0	0	0	0	0	0	0	0	0	0		
1975	1	1	0	0	3	15	15	4	0.9591	0.0409	0	0
	0	0	0	0	0	0	0	0	0	0		
1975	1	1	0	0	3	16	16	4	0.9333	0.0667	0	0
	0	0	0	0	0	0	0	0	0	0		
1975	1	1	0	0	3	17	17	5	0.7037	0.2963	0	0
	0	0	0	0	0	0	0	0	0	0		

1975	1	1	0	0	3	18	18	5	0.683	0.317	0	0
	0	0	0	0	0	0	0	0	0	0		
1975	1	1	0	0	3	19	19	3	0.2805	0.1569	0	0.5626
	0	0	0	0	0	0	0	0	0	0		
1975	1	1	0	0	3	20	20	2	0	0.372	0	0.5
	0	0.128	0	0	0	0	0	0	0	0		
1975	1	1	0	0	3	21	21	6	0	0	0.2381	0.7447
	0.0172	0	0	0	0	0	0	0	0	0		
1975	1	1	0	0	3	22	22	10	0	0	0	0.9467
	0.0533	0	0	0	0	0	0	0	0	0		
1975	1	1	0	0	3	23	23	9	0	0	0.1932	0.8068
	0	0	0	0	0	0	0	0	0	0		
1975	1	1	0	0	3	24	24	9	0	0	0.0928	0.8553
	0	0.0519	0	0	0	0	0	0	0	0		
1975	1	1	0	0	3	25	25	10	0	0	0.07	0.8487
	0.07	0	0.0112	0	0	0	0	0	0	0		
1975	1	1	0	0	3	26	26	8	0	0	0	0.7783
	0.1682	0.0268	0.0268	0	0	0	0	0	0	0		
1975	1	1	0	0	3	27	27	9	0	0	0.0701	0.7221
	0	0.0284	0.1094	0.0701	0	0	0	0	0	0		
1975	1	1	0	0	3	28	28	7	0	0	0	0.2813
	0.5318	0.0255	0.1614	0	0	0	0	0	0	0		
1975	1	1	0	0	3	29	29	10	0	0	0	0.3104
	0	0.4162	0.2145	0.0589	0	0	0	0	0	0		
1975	1	1	0	0	3	30	30	8	0	0	0	0.0482
	0.7822	0.1336	0	0	0.0361	0	0	0	0	0		
1975	1	1	0	0	3	31	31	4	0	0	0	0.0999
	0	0.7015	0.1987	0	0	0	0	0	0	0		
1975	1	1	0	0	3	32	32	5	0	0	0	0.2871
	0	0.0536	0.5823	0.077	0	0	0	0	0	0		
1975	1	1	0	0	3	33	33	6	0	0	0	0
	0	0.2769	0.4642	0.0426	0.1603	0.056	0	0	0	0		
1975	1	1	0	0	3	35	35	2	0	0	0	0
	0	0.7354	0.2646	0	0	0	0	0	0	0		
1975	1	1	0	0	3	36	36	4	0	0	0	0
	0	0.107	0.893	0	0	0	0	0	0	0		
1975	1	1	0	0	3	38	38	1	0	0	0	0
	0	1	0	0	0	0	0	0	0	0		
1975	1	1	0	0	3	39	39	1	0	0	0	0
	0	0	0	0	0	0	1	0	0	0		
1975	1	1	0	0	3	40	40	2	0	0	0	0
	0	0	0.2149	0	0	0.7851	0	0	0	0		
1975	1	1	0	0	3	41	41	1	0	0	0	0
	0	0	0	0	0	0	0	1	0	0		
1975	1	1	0	0	3	49	49	1	0	0	0	0
	0	0	0	0	0	1	0	0	0	0		
1975	1	1	0	0	3	50	50	1	0	0	0	0
	0	0	0	0	0	0	0	0	1	0		
1976	1	1	0	0	4	3	3	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1976	1	1	0	0	4	4	4	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1976	1	1	0	0	4	5	5	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1976	1	1	0	0	4	6	6	3	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1976	1	1	0	0	4	7	7	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1976	1	1	0	0	4	8	8	4	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1976	1	1	0	0	4	9	9	5	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1976	1	1	0	0	4	10	10	4	0.978	0.022	0	0
	0	0	0	0	0	0	0	0	0	0		
1976	1	1	0	0	4	11	11	4	0.4381	0.5619	0	0
	0	0	0	0	0	0	0	0	0	0		

1976	1	1	0	0	4	12	12	6	0.9558	0.0442	0	0
	0	0	0	0	0	0	0	0	0	0		
1976	1	1	0	0	4	13	13	8	0.7676	0.1848	0.0476	0
	0	0	0	0	0	0	0	0	0	0		
1976	1	1	0	0	4	14	14	9	0.8393	0.1607	0	0
	0	0	0	0	0	0	0	0	0	0		
1976	1	1	0	0	4	15	15	10	0.4683	0.5317	0	0
	0	0	0	0	0	0	0	0	0	0		
1976	1	1	0	0	4	16	16	7	0.2113	0.7887	0	0
	0	0	0	0	0	0	0	0	0	0		
1976	1	1	0	0	4	17	17	13	0.2865	0.7135	0	0
	0	0	0	0	0	0	0	0	0	0		
1976	1	1	0	0	4	18	18	23	0.0739	0.6708	0.2445	0.0108
	0	0	0	0	0	0	0	0	0	0		
1976	1	1	0	0	4	19	19	26	0.0438	0.6345	0.3195	0
	0.0022	0	0	0	0	0	0	0	0	0		
1976	1	1	0	0	4	20	20	45	0.0606	0.7007	0.2234	0.011
	0.0017	0.0026	0	0	0	0	0	0	0	0		
1976	1	1	0	0	4	21	21	58	0.0574	0.7345	0.164	0.0225
	0.0202	0.0014	0	0	0	0	0	0	0	0		
1976	1	1	0	0	4	22	22	53	0.0024	0.6833	0.2001	0.0474
	0.0558	0.011	0	0	0	0	0	0	0	0		
1976	1	1	0	0	4	23	23	55	0.0032	0.7128	0.1398	0.0135
	0.1086	0.0221	0	0	0	0	0	0	0	0		
1976	1	1	0	0	4	24	24	56	0.0057	0.5527	0.221	0.0464
	0.1456	0.0213	0.0074	0	0	0	0	0	0	0		
1976	1	1	0	0	4	25	25	54	0	0.3929	0.1663	0.0789
	0.2949	0.067	0	0	0	0	0	0	0	0		
1976	1	1	0	0	4	26	26	47	0.0098	0.2632	0.122	0.056
	0.4639	0.0851	0	0	0	0	0	0	0	0		
1976	1	1	0	0	4	27	27	47	0	0.1093	0.2956	0.0532
	0.4177	0.1132	0.0111	0	0	0	0	0	0	0		
1976	1	1	0	0	4	28	28	39	0	0.0219	0.0193	0.0511
	0.7372	0.115	0.0415	0.0141	0	0	0	0	0	0		
1976	1	1	0	0	4	29	29	42	0	0.0203	0.0314	0.0486
	0.5862	0.2588	0.0348	0.008	0.0062	0	0.0029	0.0029	0	0		
1976	1	1	0	0	4	30	30	44	0	0	0.0107	0.0115
	0.638	0.2305	0.0698	0.0369	0.0026	0	0	0	0	0		
1976	1	1	0	0	4	31	31	57	0	0	0	0.0339
	0.5675	0.2176	0.0229	0.0597	0.0319	0.0148	0.0065	0	0.0452	0		
1976	1	1	0	0	4	32	32	62	0	0.0038	0	0.0206
	0.3736	0.2764	0.1116	0.1706	0.014	0.0001	0.0083	0.002	0.019	0		
1976	1	1	0	0	4	33	33	60	0	0	0.0077	0.0094
	0.2628	0.3862	0.1089	0.055	0.0827	0.0558	0.0024	0.0291	0	0		
1976	1	1	0	0	4	34	34	69	0	0	0	0.0339
	0.1473	0.1962	0.2986	0.1038	0.1643	0.0013	0.0547	0	0	0		
1976	1	1	0	0	4	35	35	64	0	0	0.0034	0
	0.1102	0.2184	0.2629	0.1766	0.0764	0.0424	0.0419	0.065	0.0029	0		
1976	1	1	0	0	4	36	36	58	0	0	0	0.0027
	0.13	0.3916	0.1777	0.1439	0.0839	0.0514	0.0152	0.0035	0	0		
1976	1	1	0	0	4	37	37	67	0	0	0	0.007
	0.1063	0.1894	0.1757	0.1725	0.1264	0.2008	0.0124	0.0048	0	0.0048		
1976	1	1	0	0	4	38	38	65	0	0	0	0
	0.0539	0.155	0.2507	0.1231	0.3253	0.0384	0.0305	0.0232	0	0		
1976	1	1	0	0	4	39	39	62	0	0	0	0
	0.0792	0.2445	0.2162	0.242	0.1218	0.0376	0.0079	0.0422	0.0085	0		
1976	1	1	0	0	4	40	40	57	0	0	0	0
	0.1455	0.1615	0.2425	0.1723	0.1519	0.056	0.0244	0.0273	0	0.0186		
1976	1	1	0	0	4	41	41	56	0	0	0	0.0037
	0.1479	0.1153	0.1514	0.3359	0.0721	0.0963	0.0707	0	0.0067	0		
1976	1	1	0	0	4	42	42	48	0	0	0	0
	0.0181	0.1664	0.2579	0.2624	0.1268	0.0807	0.0579	0.0027	0.0272	0		
1976	1	1	0	0	4	43	43	45	0	0	0	0
	0.0585	0.0121	0.3462	0.204	0.0525	0.1589	0.1108	0.0443	0.0126	0		
1976	1	1	0	0	4	44	44	30	0	0	0	0
	0.0468	0.0397	0.1537	0.2533	0.1572	0.0822	0.0756	0.1014	0.0901	0		

1976	1	1	0	0	4	45	45	36	0	0	0	0
	0	0.0591	0.2812	0.209	0.2408	0.1097	0.0811	0.0177	0.0014	0		
1976	1	1	0	0	4	46	46	33	0	0	0	0
	0	0.0379	0.0677	0.1629	0.2168	0.2329	0.1623	0.1106	0.0088	0		
1976	1	1	0	0	4	47	47	33	0	0	0	0
	0	0.0491	0.3136	0.0988	0.18	0.1342	0.1857	0.0385	0	0		
1976	1	1	0	0	4	48	48	33	0	0	0	0
	0	0.02	0.2074	0.0845	0.2476	0.2728	0.1106	0.0425	0.0085	0.006		
1976	1	1	0	0	4	49	49	28	0	0	0	0
	0	0.0137	0.1389	0.2733	0.2016	0.1612	0.0161	0.1125	0.0325	0.0503		
1976	1	1	0	0	4	50	50	25	0	0	0	0
	0	0	0.122	0.1008	0.153	0.1807	0.3805	0.0295	0.0336	0		
1976	1	1	0	0	4	51	51	71	0	0	0	0
	0.0061	0.001	0.0301	0.1087	0.2296	0.1739	0.2187	0.0755	0.1333	0.023		
1977	1	1	0	0	5	1	1	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1977	1	1	0	0	5	2	2	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1977	1	1	0	0	5	12	12	2	0.8299	0	0	0
	0	0	0.1701	0	0	0	0	0	0	0		
1977	1	1	0	0	5	14	14	4	0.4537	0.0691	0.4773	0
	0	0	0	0	0	0	0	0	0	0		
1977	1	1	0	0	5	15	15	5	0.5662	0.4338	0	0
	0	0	0	0	0	0	0	0	0	0		
1977	1	1	0	0	5	16	16	12	0.9224	0.0776	0	0
	0	0	0	0	0	0	0	0	0	0		
1977	1	1	0	0	5	17	17	28	0.8125	0.1193	0.066	0
	0	0	0.0023	0	0	0	0	0	0	0		
1977	1	1	0	0	5	18	18	56	0.7772	0.1286	0.0941	0
	0	0	0	0	0	0	0	0	0	0		
1977	1	1	0	0	5	19	19	71	0.8142	0.0567	0.1247	0
	0	0.0015	0.0029	0	0	0	0	0	0	0		
1977	1	1	0	0	5	20	20	99	0.7333	0.1031	0.1617	0.0011
	0.0007	0	0	0	0	0	0	0	0	0		
1977	1	1	0	0	5	21	21	114	0.1644	0.2215	0.5934	0.0173
	0	0.0016	0	0.0018	0	0	0	0	0	0		
1977	1	1	0	0	5	22	22	146	0.0923	0.159	0.6948	0.0264
	0.0077	0.0191	0.0007	0	0	0	0	0	0	0		
1977	1	1	0	0	5	23	23	141	0.0062	0.1476	0.7218	0.0577
	0.0316	0.035	0	0	0	0	0	0	0	0		
1977	1	1	0	0	5	24	24	160	0.0032	0.0716	0.7254	0.0942
	0.049	0.0501	0.0057	0	0	0.0008	0	0	0	0		
1977	1	1	0	0	5	25	25	160	0	0.0327	0.6877	0.1254
	0.0543	0.0915	0.0085	0	0	0	0	0	0	0		
1977	1	1	0	0	5	26	26	147	0	0.0484	0.5472	0.0594
	0.1153	0.2175	0.0086	0.0036	0	0	0	0	0	0		
1977	1	1	0	0	5	27	27	142	0	0.0025	0.4435	0.1097
	0.1106	0.2577	0.0615	0.0082	0.0064	0	0	0	0	0		
1977	1	1	0	0	5	28	28	132	0	0.006	0.314	0.0613
	0.1098	0.4411	0.0473	0.006	0.0032	0.0114	0	0	0	0		
1977	1	1	0	0	5	29	29	128	0	0.0023	0.142	0.0543
	0.1526	0.5996	0.0393	0.0043	0.0038	0.0017	0	0	0	0		
1977	1	1	0	0	5	30	30	136	0	0	0.0793	0.0593
	0.2159	0.4992	0.0777	0.0358	0.0273	0.0055	0	0	0	0		
1977	1	1	0	0	5	31	31	123	0	0	0.0414	0.0399
	0.1582	0.5998	0.0951	0.0486	0.0014	0.0081	0.0059	0.0016	0	0		
1977	1	1	0	0	5	32	32	135	0	0.0012	0.0281	0.0149
	0.1329	0.5877	0.1012	0.0655	0.0608	0.0035	0.0007	0.0033	0	0		
1977	1	1	0	0	5	33	33	140	0	0	0.0026	0.0275
	0.1081	0.4946	0.1841	0.1026	0.0622	0.0157	0.0011	0.0015	0	0		
1977	1	1	0	0	5	34	34	146	0	0	0.0099	0.0043
	0.07	0.478	0.2452	0.0972	0.0697	0.0189	0.0046	0.0021	0	0		
1977	1	1	0	0	5	35	35	147	0	0	0	0.0012
	0.0243	0.3832	0.1788	0.2209	0.1037	0.0553	0.0325	0	0	0		
1977	1	1	0	0	5	36	36	161	0.0019	0	0.0039	0.0022
	0.0421	0.2342	0.1925	0.2045	0.1375	0.1001	0.0465	0.0246	0.0101	0		

1977	1	1	0	0	5	37	37	139	0	0	0	0
	0.0303	0.2215	0.1949	0.2289	0.1368	0.1083	0.0669	0.0124	0	0		
1977	1	1	0	0	5	38	38	131	0	0	0	0
	0.0105	0.1675	0.21	0.1919	0.1204	0.2065	0.0814	0.0105	0	0.0014		
1977	1	1	0	0	5	39	39	94	0	0	0	0
	0.0127	0.0573	0.3377	0.1953	0.1128	0.1185	0.1161	0.0435	0.003	0.0031		
1977	1	1	0	0	5	40	40	95	0	0	0	0
	0.0027	0.1283	0.1146	0.2983	0.138	0.1317	0.1481	0.0287	0.0063	0.0033		
1977	1	1	0	0	5	41	41	73	0	0	0	0.0055
	0.0055	0.1773	0.0236	0.1405	0.1973	0.2013	0.1986	0.0418	0.0087	0		
1977	1	1	0	0	5	42	42	60	0	0	0	0
	0.0055	0.0499	0.0594	0.1587	0.2694	0.3643	0.0224	0.0492	0.0105	0.0106		
1977	1	1	0	0	5	43	43	52	0	0	0	0
	0	0.0242	0.0512	0.1418	0.2557	0.3208	0.0729	0.1249	0.0086	0		
1977	1	1	0	0	5	44	44	46	0	0	0	0
	0.0073	0.0537	0.0821	0.2441	0.2116	0.2037	0.1287	0.0615	0	0.0073		
1977	1	1	0	0	5	45	45	42	0	0	0	0
	0	0.0824	0.0222	0.0767	0.2262	0.3032	0.1929	0.0606	0.0359	0		
1977	1	1	0	0	5	46	46	23	0	0	0	0
	0	0.0105	0.1508	0.1211	0.0848	0.1563	0.3663	0.1102	0	0		
1977	1	1	0	0	5	47	47	17	0	0	0	0
	0	0	0.0114	0.237	0.0963	0.1037	0.3749	0.1767	0	0		
1977	1	1	0	0	5	48	48	15	0	0	0	0
	0	0	0.0365	0.2538	0.0771	0.1398	0.1929	0.2188	0.081	0		
1977	1	1	0	0	5	49	49	18	0	0	0.0025	0
	0	0	0	0.1157	0.2068	0.023	0	0.0788	0.1044	0.4688		
1977	1	1	0	0	5	50	50	17	0	0	0	0
	0	0.0159	0.0824	0.2843	0.1584	0.0198	0.3424	0.0968	0	0		
1977	1	1	0	0	5	51	51	62	0	0	0	0
	0	0	0	0.001	0.1218	0.1033	0.1904	0.3855	0.1219	0.0761		
1978	1	1	0	0	6	2	2	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1978	1	1	0	0	6	3	3	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1978	1	1	0	0	6	4	4	4	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1978	1	1	0	0	6	5	5	4	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1978	1	1	0	0	6	6	6	10	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1978	1	1	0	0	6	7	7	10	0.9898	0.0103	0	0
	0	0	0	0	0	0	0	0	0	0		
1978	1	1	0	0	6	8	8	9	0.9835	0.0165	0	0
	0	0	0	0	0	0	0	0	0	0		
1978	1	1	0	0	6	9	9	14	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1978	1	1	0	0	6	10	10	7	0.5882	0.4118	0	0
	0	0	0	0	0	0	0	0	0	0		
1978	1	1	0	0	6	11	11	4	0.8627	0.1373	0	0
	0	0	0	0	0	0	0	0	0	0		
1978	1	1	0	0	6	12	12	2	0.976	0.024	0	0
	0	0	0	0	0	0	0	0	0	0		
1978	1	1	0	0	6	17	17	3	0.7052	0.2948	0	0
	0	0	0	0	0	0	0	0	0	0		
1978	1	1	0	0	6	18	18	7	0.4619	0.5381	0	0
	0	0	0	0	0	0	0	0	0	0		
1978	1	1	0	0	6	19	19	17	0	0.7421	0.2307	0.0196
	0	0	0.0077	0	0	0	0	0	0	0		
1978	1	1	0	0	6	20	20	51	0	0.6089	0.2035	0.1859
	0.0016	0	0	0	0	0	0	0	0	0		
1978	1	1	0	0	6	21	21	88	0	0.5128	0.2425	0.2367
	0.008	0	0	0	0	0	0	0	0	0		
1978	1	1	0	0	6	22	22	129	0	0.4106	0.1932	0.341
	0.0551	0	0	0	0	0	0	0	0	0		
1978	1	1	0	0	6	23	23	176	0	0.3421	0.2019	0.4112
	0.0428	0.002	0	0	0	0	0	0	0	0		

1978	1	1	0	0	6	24	24	171	0	0.2003	0.2269	0.5104
	0.0451	0.006	0.0112	0	0	0	0	0	0	0		
1978	1	1	0	0	6	25	25	158	0	0.1438	0.1929	0.5646
	0.062	0.0236	0.0071	0	0	0.006	0	0	0	0		
1978	1	1	0	0	6	26	26	165	0	0.0429	0.1257	0.6614
	0.1228	0.0281	0.0192	0	0	0	0	0	0	0		
1978	1	1	0	0	6	27	27	148	0	0.0133	0.0857	0.623
	0.082	0.0933	0.0882	0.0042	0.0102	0	0	0	0	0		
1978	1	1	0	0	6	28	28	144	0	0.0064	0.0591	0.5178
	0.1041	0.122	0.1837	0.0068	0	0	0	0	0	0		
1978	1	1	0	0	6	29	29	154	0	0	0.0143	0.4216
	0.0813	0.2157	0.2633	0.0003	0.0017	0.0019	0	0	0	0		
1978	1	1	0	0	6	30	30	143	0	0	0.0074	0.3001
	0.0663	0.2068	0.3783	0.034	0.0071	0	0	0	0	0		
1978	1	1	0	0	6	31	31	147	0	0	0.0002	0.1778
	0.0518	0.2469	0.4317	0.0613	0.0302	0	0	0	0	0		
1978	1	1	0	0	6	32	32	156	0	0	0.0052	0.067
	0.0496	0.2608	0.5014	0.0854	0.0147	0.0104	0.0042	0.0013	0	0		
1978	1	1	0	0	6	33	33	184	0	0	0	0.0844
	0.0372	0.1948	0.4926	0.1311	0.0261	0.0275	0.0063	0	0	0		
1978	1	1	0	0	6	34	34	178	0	0	0	0.0211
	0.0124	0.1427	0.5319	0.127	0.0972	0.055	0.0105	0.0022	0	0		
1978	1	1	0	0	6	35	35	186	0	0	0	0.0065
	0.0124	0.1068	0.4222	0.1921	0.1965	0.0504	0.0122	0.0011	0	0		
1978	1	1	0	0	6	36	36	176	0	0	0	0
	0.0041	0.0583	0.4449	0.1516	0.1747	0.0774	0.0427	0.0461	0	0		
1978	1	1	0	0	6	37	37	156	0	0	0	0.001
	0.0074	0.0341	0.3783	0.2106	0.1838	0.1191	0.0224	0.0121	0.0312	0		
1978	1	1	0	0	6	38	38	115	0	0	0	0.0024
	0.008	0.0577	0.2728	0.228	0.1737	0.1715	0.0731	0.0016	0.0113	0		
1978	1	1	0	0	6	39	39	103	0	0	0	0
	0	0.0131	0.2922	0.253	0.1152	0.183	0.0585	0.0666	0.0024	0.0161		
1978	1	1	0	0	6	40	40	60	0	0	0	0
	0	0.1187	0.2963	0.2178	0.1354	0.0516	0.1689	0.0084	0.003	0		
1978	1	1	0	0	6	41	41	60	0	0	0	0
	0	0.0115	0.1997	0.1645	0.2698	0.2498	0.0265	0.0052	0.0677	0.0052		
1978	1	1	0	0	6	42	42	45	0	0	0	0
	0	0	0.3197	0.1521	0.14	0.1821	0.1273	0.0608	0.0179	0		
1978	1	1	0	0	6	43	43	41	0	0	0	0
	0	0	0.172	0.2205	0.1766	0.183	0.0247	0.1895	0.0336	0		
1978	1	1	0	0	6	44	44	27	0	0	0	0
	0	0	0.1623	0.2126	0.2836	0.1779	0.0319	0.0835	0.0482	0		
1978	1	1	0	0	6	45	45	26	0	0	0	0
	0	0	0.2144	0.0597	0.3865	0.1814	0.1132	0.0448	0	0		
1978	1	1	0	0	6	46	46	18	0	0	0	0
	0	0	0.3853	0.0306	0.0605	0.2906	0.1201	0.0175	0.007	0.0884		
1978	1	1	0	0	6	47	47	14	0	0	0	0
	0	0	0.2756	0.2195	0.0207	0.1161	0.1284	0.0956	0	0.1441		
1978	1	1	0	0	6	48	48	18	0	0	0	0
	0	0	0.1204	0.0599	0.1588	0.5282	0.1024	0	0.0302	0		
1978	1	1	0	0	6	49	49	13	0	0	0	0
	0	0	0.1328	0	0	0.7673	0.0098	0.0183	0.0313	0.0405		
1978	1	1	0	0	6	50	50	10	0	0	0	0
	0	0	0	0.0247	0.1125	0.0921	0.01	0.5684	0.1623	0.03		
1978	1	1	0	0	6	51	51	60	0	0	0	0
	0	0	0.011	0.0331	0.1176	0.3275	0.1213	0.1602	0.1593	0.0699		
1979	1	1	0	0	7	1	1	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1979	1	1	0	0	7	6	6	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1979	1	1	0	0	7	7	7	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1979	1	1	0	0	7	8	8	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1979	1	1	0	0	7	9	9	4	0.3745	0.6255	0	0
	0	0	0	0	0	0	0	0	0	0		

1979	1	1	0	0	7	10	10	10	0.5643	0.4357	0	0
	0	0	0	0	0	0	0	0	0	0		
1979	1	1	0	0	7	11	11	21	0.3772	0.6228	0	0
	0	0	0	0	0	0	0	0	0	0		
1979	1	1	0	0	7	12	12	27	0.5091	0.4805	0.0104	0
	0	0	0	0	0	0	0	0	0	0		
1979	1	1	0	0	7	13	13	30	0.4863	0.503	0.0107	0
	0	0	0	0	0	0	0	0	0	0		
1979	1	1	0	0	7	14	14	46	0.431	0.5633	0.0057	0
	0	0	0	0	0	0	0	0	0	0		
1979	1	1	0	0	7	15	15	33	0.5063	0.4176	0.0761	0
	0	0	0	0	0	0	0	0	0	0		
1979	1	1	0	0	7	16	16	24	0.2205	0.7455	0.034	0
	0	0	0	0	0	0	0	0	0	0		
1979	1	1	0	0	7	17	17	17	0.0173	0.6694	0.3133	0
	0	0	0	0	0	0	0	0	0	0		
1979	1	1	0	0	7	18	18	19	0.0986	0.7796	0.1218	0
	0	0	0	0	0	0	0	0	0	0		
1979	1	1	0	0	7	19	19	12	0.2266	0.4975	0.2605	0.0154
	0	0	0	0	0	0	0	0	0	0		
1979	1	1	0	0	7	20	20	11	0.0366	0.8589	0.1045	0
	0	0	0	0	0	0	0	0	0	0		
1979	1	1	0	0	7	21	21	17	0.045	0.5406	0.4105	0.0039
	0	0	0	0	0	0	0	0	0	0		
1979	1	1	0	0	7	22	22	25	0	0.1521	0.8417	0
	0.0061	0	0	0	0	0	0	0	0	0		
1979	1	1	0	0	7	23	23	36	0	0.0681	0.8183	0.0487
	0.065	0	0	0	0	0	0	0	0	0		
1979	1	1	0	0	7	24	24	44	0	0.0389	0.695	0.085
	0.1811	0	0	0	0	0	0	0	0	0		
1979	1	1	0	0	7	25	25	65	0	0.0553	0.3856	0.2848
	0.2408	0.0133	0.0183	0	0	0.0018	0	0	0	0		
1979	1	1	0	0	7	26	26	72	0	0	0.264	0.2038
	0.4724	0.02	0.0398	0	0	0	0	0	0	0		
1979	1	1	0	0	7	27	27	74	0	0	0.147	0.1139
	0.6377	0.0373	0.0534	0.0108	0	0	0	0	0	0		
1979	1	1	0	0	7	28	28	84	0	0	0.1915	0.1386
	0.5158	0.0251	0.0968	0.0321	0	0	0	0	0	0		
1979	1	1	0	0	7	29	29	83	0	0	0.0447	0.1057
	0.5245	0.1043	0.1597	0.0595	0.0016	0	0	0	0	0		
1979	1	1	0	0	7	30	30	76	0	0	0.0406	0.0734
	0.5083	0.0754	0.2347	0.0647	0.003	0	0	0	0	0		
1979	1	1	0	0	7	31	31	83	0	0	0.0181	0.0046
	0.3197	0.2092	0.2893	0.1345	0.0247	0	0	0	0	0		
1979	1	1	0	0	7	32	32	89	0	0	0.0173	0.0004
	0.2528	0.1714	0.3883	0.1548	0.0103	0.0049	0	0	0	0		
1979	1	1	0	0	7	33	33	85	0	0	0	0.0147
	0.1925	0.1214	0.3134	0.2427	0.0975	0.0037	0.0141	0	0	0		
1979	1	1	0	0	7	34	34	86	0	0	0	0.0185
	0.245	0.1422	0.2931	0.2313	0.0531	0.0152	0.0015	0	0	0		
1979	1	1	0	0	7	35	35	78	0	0	0	0.0005
	0.0558	0.1054	0.3829	0.329	0.0372	0.0741	0.0016	0.0136	0	0		
1979	1	1	0	0	7	36	36	70	0	0	0	0
	0.064	0.1172	0.2945	0.4124	0.0622	0.0435	0	0.0062	0	0		
1979	1	1	0	0	7	37	37	66	0	0	0	0
	0.0741	0.0832	0.2487	0.2875	0.1394	0.1146	0.0307	0.0004	0.0213	0		
1979	1	1	0	0	7	38	38	58	0	0	0	0
	0.0263	0.1152	0.1075	0.4844	0.1269	0.0937	0.0214	0.0017	0	0.023		
1979	1	1	0	0	7	39	39	41	0	0	0	0
	0.0293	0.0639	0.0949	0.4903	0.2103	0.0288	0.0208	0.0617	0	0		
1979	1	1	0	0	7	40	40	47	0	0	0	0.0339
	0.0374	0.021	0.2147	0.1839	0.1026	0.0663	0.2244	0.0463	0.0695	0		
1979	1	1	0	0	7	41	41	22	0	0	0	0
	0.013	0	0.1209	0.2671	0.1739	0.2761	0.1238	0.0251	0	0		
1979	1	1	0	0	7	42	42	26	0	0	0	0.0264
	0	0	0.0409	0.322	0.1474	0.3139	0.0885	0.0031	0	0.0579		

1979	1	1	0	0	7	43	43	16	0	0	0	0
	0	0	0.0773	0.1778	0.4542	0.1656	0.0036	0.1215	0	0		
1979	1	1	0	0	7	44	44	12	0	0	0	0
	0	0	0.1625	0.4001	0.1203	0.1988	0	0.1183	0	0		
1979	1	1	0	0	7	45	45	8	0	0	0.171	0
	0	0	0	0.1966	0.4113	0	0.0534	0	0.1655	0.0023		
1979	1	1	0	0	7	46	46	13	0	0	0.0537	0
	0	0	0.096	0.1347	0.2569	0.1848	0.1147	0.1045	0.0547	0		
1979	1	1	0	0	7	47	47	11	0	0	0	0.1364
	0	0	0	0.022	0.0241	0.5934	0.095	0.1291	0	0		
1979	1	1	0	0	7	48	48	6	0	0	0	0
	0	0	0	0.6702	0.1933	0	0	0	0	0.1364		
1979	1	1	0	0	7	49	49	8	0	0	0.0795	0
	0	0	0	0.0563	0.6569	0.1455	0	0	0.0438	0.0179		
1979	1	1	0	0	7	50	50	4	0	0	0	0
	0	0	0	0.5	0	0	0.378	0	0.122	0		
1979	1	1	0	0	7	51	51	16	0	0	0.0648	0
	0	0	0.0011	0	0.0812	0.2059	0.0406	0.1659	0.1556	0.285		
1980	1	1	0	0	8	1	1	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1980	1	1	0	0	8	2	2	3	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1980	1	1	0	0	8	3	3	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1980	1	1	0	0	8	4	4	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
#1980	1	1	0	0	8	5	5	2	0.4863	0	0	0
	0	0	0	0	0	0.5137	0	0	0	0		
1980	1	1	0	0	8	6	6	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
#1980	1	1	0	0	8	8	8	1	0	0	0	0
	0	0	1	0	0	0	0	0	0	0		
#1980	1	1	0	0	8	9	9	1	0	0	0	1
	0	0	0	0	0	0	0	0	0	0		
#1980	1	1	0	0	8	10	10	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
#1980	1	1	0	0	8	11	11	1	0	0	0	0
	0	1	0	0	0	0	0	0	0	0		
1980	1	1	0	0	8	13	13	3	0	0.909	0	0
	0	0	0	0	0.091	0	0	0	0	0		
1980	1	1	0	0	8	14	14	4	0	0.8527	0	0.0317
	0.1155	0	0	0	0	0	0	0	0	0		
1980	1	1	0	0	8	15	15	9	0.0509	0.9463	0.0028	0
	0	0	0	0	0	0	0	0	0	0		
1980	1	1	0	0	8	16	16	19	0.4221	0.5758	0.0021	0
	0	0	0	0	0	0	0	0	0	0		
1980	1	1	0	0	8	17	17	38	0.0024	0.9192	0.0785	0
	0	0	0	0	0	0	0	0	0	0		
1980	1	1	0	0	8	18	18	66	0	0.9863	0.0137	0
	0	0	0	0	0	0	0	0	0	0		
1980	1	1	0	0	8	19	19	74	0.0744	0.8963	0.0293	0
	0	0	0	0	0	0	0	0	0	0		
1980	1	1	0	0	8	20	20	84	0	0.9476	0.0447	0
	0	0	0	0	0	0	0.0077	0	0	0		
1980	1	1	0	0	8	21	21	89	0	0.8153	0.1396	0.0048
	0.0112	0.0291	0	0	0	0	0	0	0	0		
1980	1	1	0	0	8	22	22	83	0	0.8883	0.0728	0.0219
	0.0023	0.0147	0	0	0	0	0	0	0	0		
1980	1	1	0	0	8	23	23	93	0.0041	0.5766	0.3752	0.0313
	0.0016	0.0113	0	0	0	0	0	0	0	0		
1980	1	1	0	0	8	24	24	88	0	0.5549	0.161	0.0815
	0.0887	0.0759	0.0278	0	0.0104	0	0	0	0	0		
1980	1	1	0	0	8	25	25	100	0	0.445	0.1296	0.1898
	0.081	0.0991	0.0492	0.0035	0.0028	0	0	0	0	0		
1980	1	1	0	0	8	26	26	111	0	0.2791	0.0529	0.3384
	0.1374	0.1232	0.0335	0.0315	0.002	0.0018	0.0001	0	0	0		

1980	1	1	0	0	8	27	27	114	0	0.1255	0.0881	0.3068
	0.2127	0.1799	0.0541	0.0328	0	0	0	0	0	0		
1980	1	1	0	0	8	28	28	96	0	0.0184	0.0441	0.2277
	0.2229	0.364	0.036	0.0626	0.0237	0.0006	0	0	0	0		
1980	1	1	0	0	8	29	29	90	0	0	0.0344	0.0961
	0.1843	0.3925	0.1249	0.1054	0.0499	0.0098	0	0	0.0026	0		
1980	1	1	0	0	8	30	30	85	0	0.0046	0.0131	0.1713
	0.203	0.2465	0.1085	0.1814	0.0589	0.0125	0	0	0.0002	0		
1980	1	1	0	0	8	31	31	90	0	0	0	0.0591
	0.1336	0.3987	0.1223	0.1727	0.0894	0.0107	0.0027	0.0068	0.0039	0		
1980	1	1	0	0	8	32	32	87	0	0.0133	0	0.0288
	0.1104	0.2836	0.1182	0.2909	0.1176	0.0062	0.0188	0.0087	0.0035	0		
1980	1	1	0	0	8	33	33	92	0	0.0127	0.0142	0.0171
	0.0484	0.2109	0.2137	0.2668	0.1247	0.0518	0.0148	0.0204	0	0.0045		
1980	1	1	0	0	8	34	34	94	0	0.0083	0	0.0004
	0.038	0.4772	0.1363	0.1155	0.1517	0.0357	0.0092	0.0148	0	0.013		
1980	1	1	0	0	8	35	35	105	0	0	0	0.027
	0.0172	0.2123	0.1987	0.2037	0.2257	0.0585	0.0317	0.0106	0.005	0.0096		
1980	1	1	0	0	8	36	36	102	0	0	0	0.0127
	0.023	0.2748	0.0917	0.2384	0.213	0.0812	0.0316	0.0291	0.0012	0.0034		
1980	1	1	0	0	8	37	37	102	0	0	0	0
	0.0125	0.0754	0.097	0.3467	0.2105	0.1317	0.0288	0.0374	0.0235	0.0364		
1980	1	1	0	0	8	38	38	102	0	0	0	0
	0.0072	0.3501	0.1639	0.197	0.169	0.0124	0.032	0.0449	0.0102	0.0133		
1980	1	1	0	0	8	39	39	88	0	0	0	0
	0	0.0548	0.1385	0.0795	0.3968	0.1686	0.0737	0.0414	0.0208	0.0259		
1980	1	1	0	0	8	40	40	52	0	0	0	0
	0	0.0934	0.0695	0.1233	0.5689	0.0505	0.0286	0.0184	0.0222	0.0251		
1980	1	1	0	0	8	41	41	60	0	0	0	0
	0.0016	0.0083	0.0146	0.0673	0.346	0.2652	0.1995	0.0817	0	0.0158		
1980	1	1	0	0	8	42	42	39	0	0	0	0
	0	0.0001	0.0214	0.0188	0.2278	0.0762	0.5725	0.0817	0	0.0016		
1980	1	1	0	0	8	43	43	27	0	0	0	0
	0	0.015	0.059	0.0281	0.28	0.0801	0.0275	0.1861	0.1359	0.1883		
1980	1	1	0	0	8	44	44	25	0	0	0	0
	0	0	0.2895	0.0645	0.1704	0.209	0.1221	0.0382	0.0964	0.01		
1980	1	1	0	0	8	45	45	26	0	0	0	0
	0	0.0233	0.027	0.1892	0.191	0.2051	0.1251	0.1058	0.1015	0.0321		
1980	1	1	0	0	8	46	46	19	0	0	0	0
	0	0	0	0.4077	0.1657	0.0306	0.1422	0.2538	0	0		
1980	1	1	0	0	8	47	47	12	0	0	0	0
	0	0	0	0.024	0.5807	0	0.1564	0.2389	0	0		
1980	1	1	0	0	8	48	48	11	0	0	0	0
	0	0	0	0.1616	0.5095	0.0689	0.2206	0	0.0391	0.0003		
1980	1	1	0	0	8	49	49	9	0	0	0	0
	0	0.0508	0	0.1813	0.1811	0	0.1249	0.0301	0.4319	0		
1980	1	1	0	0	8	50	50	7	0	0	0	0
	0	0	0	0.0107	0.236	0.3512	0	0	0	0.4021		
1980	1	1	0	0	8	51	51	14	0	0	0	0
	0	0	0	0.0046	0	0.2813	0.5651	0	0.0274	0.1216		
1981	1	1	0	0	9	1	1	5	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1981	1	1	0	0	9	2	2	9	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1981	1	1	0	0	9	3	3	13	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1981	1	1	0	0	9	4	4	23	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1981	1	1	0	0	9	5	5	25	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1981	1	1	0	0	9	6	6	29	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1981	1	1	0	0	9	7	7	40	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1981	1	1	0	0	9	8	8	34	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		

1981	1	1	0	0	9	9	9	22	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1981	1	1	0	0	9	10	10	21	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1981	1	1	0	0	9	11	11	16	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1981	1	1	0	0	9	12	12	12	0.9415	0.0585	0	0
	0	0	0	0	0	0	0	0	0	0		
1981	1	1	0	0	9	13	13	6	0.3822	0.6178	0	0
	0	0	0	0	0	0	0	0	0	0		
1981	1	1	0	0	9	14	14	9	0.3386	0.6614	0	0
	0	0	0	0	0	0	0	0	0	0		
1981	1	1	0	0	9	15	15	12	0.0173	0.9727	0.0099	0
	0	0	0	0	0	0	0	0	0	0		
1981	1	1	0	0	9	16	16	16	0.2759	0.4697	0.2544	0
	0	0	0	0	0	0	0	0	0	0		
1981	1	1	0	0	9	17	17	28	0.1289	0.5569	0.3109	0.0034
	0	0	0	0	0	0	0	0	0	0		
1981	1	1	0	0	9	18	18	49	0.1088	0.2494	0.6418	0
	0	0	0	0	0	0	0	0	0	0		
1981	1	1	0	0	9	19	19	59	0.0342	0.1586	0.8072	0
	0	0	0	0	0	0	0	0	0	0		
1981	1	1	0	0	9	20	20	78	0.0089	0.1551	0.836	0
	0	0	0	0	0	0	0	0	0	0		
1981	1	1	0	0	9	21	21	94	0.0012	0.0981	0.8935	0.0072
	0	0	0	0	0	0	0	0	0	0		
1981	1	1	0	0	9	22	22	84	0	0.0364	0.9595	0.0041
	0	0	0	0	0	0	0	0	0	0		
1981	1	1	0	0	9	23	23	85	0	0.0108	0.9813	0.0063
	0.0016	0	0	0	0	0	0	0	0	0		
1981	1	1	0	0	9	24	24	88	0	0.007	0.9504	0.0193
	0.0233	0	0	0	0	0	0	0	0	0		
1981	1	1	0	0	9	25	25	101	0	0.009	0.9141	0.03
	0.0147	0.0127	0.0016	0.018	0	0	0	0	0	0		
1981	1	1	0	0	9	26	26	101	0	0	0.8382	0.0467
	0.0968	0.0014	0.017	0	0	0	0	0	0	0		
1981	1	1	0	0	9	27	27	107	0	0	0.616	0.0813
	0.0794	0.0325	0.1563	0.0027	0.0261	0.0057	0	0	0	0		
1981	1	1	0	0	9	28	28	114	0	0	0.3926	0.0444
	0.1459	0.1156	0.2385	0.0314	0.025	0.0067	0	0	0	0		
1981	1	1	0	0	9	29	29	122	0	0	0.2205	0.0658
	0.1481	0.1324	0.2675	0.0601	0.061	0.0416	0	0.003	0	0		
1981	1	1	0	0	9	30	30	122	0	0	0.1012	0.0637
	0.0808	0.1269	0.3446	0.1267	0.1041	0.052	0	0	0	0		
1981	1	1	0	0	9	31	31	105	0	0	0.0614	0.0033
	0.0963	0.1522	0.2796	0.1362	0.1635	0.1074	0	0	0	0		
1981	1	1	0	0	9	32	32	113	0	0	0.0019	0.0014
	0.1049	0.1483	0.4456	0.1015	0.1319	0.05	0.0137	0.0008	0	0		
1981	1	1	0	0	9	33	33	107	0	0	0	0.0052
	0.045	0.1154	0.4279	0.2109	0.0797	0.1071	0.0085	0.0004	0	0		
1981	1	1	0	0	9	34	34	116	0	0	0	0.0054
	0.0628	0.0783	0.3522	0.177	0.0699	0.2376	0.0044	0.0071	0.0054	0		
1981	1	1	0	0	9	35	35	96	0	0	0	0
	0.0105	0.1142	0.444	0.0989	0.139	0.1678	0.017	0	0.0012	0.0073		
1981	1	1	0	0	9	36	36	80	0	0	0	0
	0.0314	0.1338	0.1225	0.1555	0.1706	0.367	0.0072	0.0019	0.0102	0		
1981	1	1	0	0	9	37	37	65	0	0	0	0
	0.0915	0.0113	0.21	0.1806	0.3102	0.1563	0.0223	0.0022	0	0.0156		
1981	1	1	0	0	9	38	38	56	0	0	0	0
	0.1212	0	0.0622	0.0187	0.0703	0.49	0.1831	0.0435	0.0109	0.0002		
1981	1	1	0	0	9	39	39	39	0	0	0	0
	0.1161	0	0.1017	0.3391	0.0416	0.2684	0.0295	0.0651	0.036	0.0026		
1981	1	1	0	0	9	40	40	34	0	0	0	0
	0.0108	0.0061	0.2057	0.0974	0.0904	0.5382	0.0179	0.0292	0	0.0043		
1981	1	1	0	0	9	41	41	36	0	0	0	0
	0.0254	0	0.0471	0.0606	0.0253	0.1345	0.5426	0.09	0.0256	0.0488		

1981	1	1	0	0	9	42	42	30	0	0	0	0
	0	0	0.1345	0.0561	0.0886	0.5157	0.0676	0.0242	0.1118	0.0015		
1981	1	1	0	0	9	43	43	20	0	0	0	0
	0	0	0.0138	0.038	0.1907	0.2114	0.1532	0.3637	0	0.0291		
1981	1	1	0	0	9	44	44	20	0	0	0	0
	0	0	0.0299	0.0015	0	0.9054	0.0077	0.0241	0.0251	0.0063		
1981	1	1	0	0	9	45	45	16	0	0	0	0
	0	0	0.2465	0.3707	0.0996	0.1901	0.0778	0.0096	0	0.0057		
1981	1	1	0	0	9	46	46	8	0	0	0	0
	0	0	0.6455	0	0.0066	0.0268	0.3176	0.0002	0.0032	0		
1981	1	1	0	0	9	47	47	10	0	0	0	0
	0	0	0.0145	0.0137	0.4114	0.4966	0.0579	0.0059	0	0		
1981	1	1	0	0	9	48	48	10	0	0	0	0
	0	0	0	0	0.702	0.2296	0.031	0.0373	0	0		
1981	1	1	0	0	9	49	49	5	0	0	0	0
	0	0	0	0.2939	0	0.5966	0	0	0	0.1095		
1981	1	1	0	0	9	50	50	7	0	0	0	0
	0	0	0	0.9724	0	0.0041	0	0.0126	0.011	0		
1981	1	1	0	0	9	51	51	15	0	0	0	0
	0	0	0	0	0	0.1205	0.5252	0.2063	0.0537	0.0944		
1982	1	1	0	0	10	5	5	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1982	1	1	0	0	10	6	6	5	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1982	1	1	0	0	10	7	7	11	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1982	1	1	0	0	10	8	8	9	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1982	1	1	0	0	10	9	9	12	0.9799	0.0201	0	0
	0	0	0	0	0	0	0	0	0	0		
1982	1	1	0	0	10	10	10	18	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1982	1	1	0	0	10	11	11	37	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1982	1	1	0	0	10	12	12	38	0.9899	0.0101	0	0
	0	0	0	0	0	0	0	0	0	0		
1982	1	1	0	0	10	13	13	52	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1982	1	1	0	0	10	14	14	62	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1982	1	1	0	0	10	15	15	66	0.9857	0.0061	0.0082	0
	0	0	0	0	0	0	0	0	0	0		
1982	1	1	0	0	10	16	16	62	0.984	0.0045	0.0115	0
	0	0	0	0	0	0	0	0	0	0		
1982	1	1	0	0	10	17	17	55	0.9431	0.0569	0	0
	0	0	0	0	0	0	0	0	0	0		
1982	1	1	0	0	10	18	18	59	0.7845	0.1801	0	0.0354
	0	0	0	0	0	0	0	0	0	0		
1982	1	1	0	0	10	19	19	48	0.6234	0.3176	0.0201	0.0389
	0	0	0	0	0	0	0	0	0	0		
1982	1	1	0	0	10	20	20	50	0.4699	0.3738	0.0594	0.0801
	0.0168	0	0	0	0	0	0	0	0	0		
1982	1	1	0	0	10	21	21	62	0.0997	0.2371	0.0624	0.5878
	0.013	0	0	0	0	0	0	0	0	0		
1982	1	1	0	0	10	22	22	66	0.0223	0.2028	0.1748	0.556
	0.0377	0	0	0	0	0	0	0	0	0.0063		
1982	1	1	0	0	10	23	23	86	0.0058	0.0958	0.0551	0.787
	0.0495	0	0	0.0068	0	0	0	0	0	0		
1982	1	1	0	0	10	24	24	94	0	0.0524	0.0335	0.8529
	0.0393	0.0055	0	0.0164	0	0	0	0	0	0		
1982	1	1	0	0	10	25	25	99	0	0.0074	0.022	0.9265
	0.0381	0.006	0	0	0	0	0	0	0	0		
1982	1	1	0	0	10	26	26	100	0	0.0065	0.0322	0.8947
	0.0385	0.0082	0.0064	0.007	0	0.0038	0	0	0	0.0028		
1982	1	1	0	0	10	27	27	99	0	0	0.0075	0.8201
	0.0696	0.0255	0.0148	0.0456	0.0063	0	0.0039	0	0	0.0067		

1982	1	1	0	0	10	28	28	103	0	0	0.0038	0.7791
	0.0792	0.0368	0.0351	0.066	0	0	0	0	0	0		
1982	1	1	0	0	10	29	29	111	0	0	0	0.47
	0.1656	0.0825	0.0628	0.1689	0.0241	0.0262	0	0	0	0		
1982	1	1	0	0	10	30	30	116	0	0	0.0136	0.4788
	0.1026	0.0994	0.0955	0.1758	0.004	0.015	0.0092	0	0	0.0061		
1982	1	1	0	0	10	31	31	101	0	0	0	0.3477
	0.0746	0.1381	0.0766	0.234	0.0557	0.0124	0.061	0	0	0		
1982	1	1	0	0	10	32	32	112	0	0	0	0.1659
	0.0353	0.1522	0.1189	0.2767	0.0757	0.0545	0.1166	0.0041	0	0		
1982	1	1	0	0	10	33	33	100	0	0	0	0.1155
	0.0385	0.1061	0.137	0.2923	0.0601	0.0482	0.1845	0.0178	0	0		
1982	1	1	0	0	10	34	34	106	0	0	0	0.0441
	0.0055	0.1382	0.1737	0.3282	0.1074	0.0691	0.1056	0.0061	0.0053	0.0169		
1982	1	1	0	0	10	35	35	104	0	0	0	0.037
	0.0201	0.1159	0.0573	0.3434	0.1022	0.0803	0.2382	0	0	0.0057		
1982	1	1	0	0	10	36	36	86	0	0	0	0.0077
	0.0067	0.0507	0.2346	0.291	0.052	0.1404	0.196	0.017	0	0.004		
1982	1	1	0	0	10	37	37	85	0	0	0	0.0068
	0.013	0.0558	0.0809	0.2471	0.037	0.0572	0.4831	0.0086	0.0052	0.0053		
1982	1	1	0	0	10	38	38	81	0	0	0	0.006
	0.0359	0.1306	0.0427	0.2809	0.048	0.2033	0.1857	0.0508	0.0162	0		
1982	1	1	0	0	10	39	39	48	0	0	0	0
	0	0.0419	0.0534	0.257	0.0828	0.2633	0.2055	0.0528	0	0.0433		
1982	1	1	0	0	10	40	40	53	0	0	0	0
	0	0.0815	0.0872	0.3616	0.1213	0.0985	0.2189	0.0031	0.0162	0.0117		
1982	1	1	0	0	10	41	41	37	0	0	0	0
	0	0.1	0.0025	0.4418	0.0764	0.0496	0.2586	0	0.046	0.0253		
1982	1	1	0	0	10	42	42	28	0	0	0	0
	0	0.0156	0.0714	0.2493	0	0.1469	0.4179	0	0	0.099		
1982	1	1	0	0	10	43	43	17	0	0	0	0
	0	0	0	0.1702	0.0135	0.0298	0.6885	0.0979	0	0		
1982	1	1	0	0	10	44	44	21	0	0	0	0
	0	0.0159	0.023	0.6101	0.0312	0.0541	0.0758	0.1576	0.0323	0		
1982	1	1	0	0	10	45	45	21	0	0	0	0
	0	0.0178	0.0712	0.0926	0	0.0433	0.5293	0.046	0.1617	0.0381		
1982	1	1	0	0	10	46	46	18	0	0	0	0
	0	0.0665	0	0.3261	0	0.0454	0.4891	0.0729	0	0		
1982	1	1	0	0	10	47	47	9	0	0	0	0
	0	0	0	0.0228	0.0796	0.5035	0.3019	0.0922	0	0		
1982	1	1	0	0	10	48	48	10	0	0	0	0
	0	0	0	0.0624	0	0.4373	0.5003	0	0	0		
1982	1	1	0	0	10	49	49	6	0	0	0	0
	0	0	0	0.0162	0	0	0.8747	0	0	0.1091		
1982	1	1	0	0	10	50	50	6	0	0	0	0
	0	0	0	0	0	0.2581	0.5073	0	0.1633	0.0713		
1982	1	1	0	0	10	51	51	14	0.0568	0	0	0
	0	0	0	0	0.0122	0.0981	0.3928	0.0604	0.1741	0.2056		
1983	1	1	0	0	11	7	7	1	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
1983	1	1	0	0	11	10	10	6	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
1983	1	1	0	0	11	11	11	10	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
1983	1	1	0	0	11	12	12	11	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
1983	1	1	0	0	11	13	13	23	0	0.9755	0.0245	0
	0	0	0	0	0	0	0	0	0	0		
1983	1	1	0	0	11	14	14	23	0	0.9599	0.0401	0
	0	0	0	0	0	0	0	0	0	0		
1983	1	1	0	0	11	15	15	35	0	0.9482	0.0406	0
	0.0112	0	0	0	0	0	0	0	0	0		
1983	1	1	0	0	11	16	16	39	0	0.9928	0.0072	0
	0	0	0	0	0	0	0	0	0	0		
1983	1	1	0	0	11	17	17	51	0	0.9579	0.0421	0
	0	0	0	0	0	0	0	0	0	0		

1983	1	1	0	0	11	18	18	55	0	0.9268	0.0732	0
	0	0	0	0	0	0	0	0	0	0		
1983	1	1	0	0	11	19	19	62	0	0.9072	0.0841	0.0087
	0	0	0	0	0	0	0	0	0	0		
1983	1	1	0	0	11	20	20	58	0	0.9052	0.082	0.0129
	0	0	0	0	0	0	0	0	0	0		
1983	1	1	0	0	11	21	21	62	0	0.8478	0.0971	0.029
	0.0261	0	0	0	0	0	0	0	0	0		
1983	1	1	0	0	11	22	22	69	0	0.764	0.12	0.0224
	0.0935	0	0	0	0	0	0	0	0	0		
1983	1	1	0	0	11	23	23	77	0	0.6015	0.1727	0.0122
	0.1938	0.016	0	0	0.0038	0	0	0	0	0		
1983	1	1	0	0	11	24	24	72	0	0.4101	0.1457	0.1051
	0.3239	0.0152	0	0	0	0	0	0	0	0		
1983	1	1	0	0	11	25	25	69	0	0.2321	0.0992	0.1061
	0.5097	0.0519	0	0.0004	0.0006	0	0	0	0	0		
1983	1	1	0	0	11	26	26	69	0	0.1105	0.0232	0.047
	0.7371	0.0326	0.043	0.0058	0.0003	0.0006	0	0	0	0		
1983	1	1	0	0	11	27	27	75	0	0.0154	0.0074	0.0333
	0.7902	0.047	0.0236	0.0322	0.042	0.0089	0	0	0	0		
1983	1	1	0	0	11	28	28	74	0	0.0255	0.0271	0.0414
	0.7211	0.097	0.023	0.0034	0.0418	0.0071	0.0073	0.0054	0	0		
1983	1	1	0	0	11	29	29	70	0	0.0278	0.0151	0.0359
	0.6431	0.1052	0.0377	0.0696	0.0379	0.012	0.0132	0.0026	0	0		
1983	1	1	0	0	11	30	30	69	0	0.0163	0	0.0186
	0.4169	0.0689	0.0581	0.1604	0.1637	0.0379	0.0284	0.0307	0	0		
1983	1	1	0	0	11	31	31	71	0	0	0	0.0118
	0.4593	0.0818	0.1149	0.1194	0.0982	0.0768	0.0351	0	0.0026	0		
1983	1	1	0	0	11	32	32	59	0	0	0	0.0038
	0.2531	0.1084	0.1153	0.1071	0.2304	0.0066	0.0082	0.1483	0.0047	0.0142		
1983	1	1	0	0	11	33	33	66	0	0	0	0.0068
	0.3616	0.1156	0.074	0.1563	0.1131	0.0559	0.0127	0.104	0	0		
1983	1	1	0	0	11	34	34	66	0	0	0	0.0087
	0.1687	0.2545	0.1399	0.1147	0.188	0.0744	0.0069	0.0441	0	0		
1983	1	1	0	0	11	35	35	61	0	0.0043	0	0.006
	0.058	0.0573	0.1012	0.1043	0.3515	0.0382	0.2221	0.0361	0.0208	0		
1983	1	1	0	0	11	36	36	57	0	0	0	0
	0.1278	0.0187	0.1506	0.0947	0.3021	0.0813	0.1135	0.0903	0	0.021		
1983	1	1	0	0	11	37	37	44	0	0	0	0
	0.0676	0.0133	0.1161	0.2286	0.3864	0.126	0.0547	0.0073	0	0		
1983	1	1	0	0	11	38	38	32	0	0	0	0
	0.053	0.0654	0.0446	0.1149	0.3563	0.1548	0.1043	0.0403	0.0438	0.0227		
1983	1	1	0	0	11	39	39	32	0	0	0	0
	0.0259	0.0354	0.1384	0.1751	0.2559	0.0719	0.0844	0.1292	0.0839	0		
1983	1	1	0	0	11	40	40	17	0	0	0	0
	0.0311	0	0.0868	0.2246	0.4008	0.0646	0.0309	0.0311	0.1302	0		
1983	1	1	0	0	11	41	41	22	0	0	0	0
	0.0181	0.0647	0.0877	0.2182	0.455	0.0473	0.0093	0.0988	0	0.0009		
1983	1	1	0	0	11	42	42	15	0	0	0	0
	0	0	0.073	0	0.1985	0.1158	0.0159	0.3428	0.2397	0.0143		
1983	1	1	0	0	11	43	43	9	0	0	0	0
	0.2783	0	0	0.04	0.2594	0.2181	0.1009	0.1034	0	0		
1983	1	1	0	0	11	44	44	12	0	0	0	0
	0	0	0	0	0.0769	0.0862	0.3018	0.4562	0.0789	0		
1983	1	1	0	0	11	45	45	6	0	0	0	0
	0	0	0.1094	0	0.3284	0.4994	0	0.0628	0	0		
1983	1	1	0	0	11	46	46	6	0	0	0	0
	0	0	0	0.0721	0.6149	0	0.3129	0	0	0		
1983	1	1	0	0	11	47	47	4	0	0	0	0
	0	0	0	0.0568	0	0.0662	0	0.7849	0	0.0922		
1983	1	1	0	0	11	48	48	4	0	0	0	0
	0	0	0	0	0.5491	0.2389	0.1051	0.1069	0	0		
1983	1	1	0	0	11	49	49	5	0	0	0	0
	0	0	0	0.1742	0.1527	0	0.3507	0.1929	0	0.1294		
1983	1	1	0	0	11	50	50	1	0	0	0	0
	0	0	0	0	1	0	0	0	0	0		

1983	1	1	0	0	11	51	51	12	0	0	0	0
	0	0	0	0.0197	0.0998	0.3181	0.0397	0.0858	0.3651	0.0718		
1984	1	1	0	0	12	8	8	1	0	0	1	0
	0	0	0	0	0	0	0	0	0	0		
1984	1	1	0	0	12	12	12	3	0	0	1	0
	0	0	0	0	0	0	0	0	0	0		
1984	1	1	0	0	12	13	13	1	0	0	1	0
	0	0	0	0	0	0	0	0	0	0		
1984	1	1	0	0	12	14	14	2	0	0	1	0
	0	0	0	0	0	0	0	0	0	0		
1984	1	1	0	0	12	15	15	6	0	0	1	0
	0	0	0	0	0	0	0	0	0	0		
1984	1	1	0	0	12	16	16	12	0	0	1	0
	0	0	0	0	0	0	0	0	0	0		
1984	1	1	0	0	12	17	17	25	0	0.033	0.967	0
	0	0	0	0	0	0	0	0	0	0		
1984	1	1	0	0	12	18	18	41	0	0.0196	0.9804	0
	0	0	0	0	0	0	0	0	0	0		
1984	1	1	0	0	12	19	19	72	0	0.0161	0.9739	0.009
	0.001	0	0	0	0	0	0	0	0	0		
1984	1	1	0	0	12	20	20	112	0	0.0215	0.9565	0.022
	0	0	0	0	0	0	0	0	0	0		
1984	1	1	0	0	12	21	21	121	0	0.0095	0.9473	0.0432
	0	0	0	0	0	0	0	0	0	0		
1984	1	1	0	0	12	22	22	135	0	0.0124	0.9366	0.0488
	0	0.0022	0	0	0	0	0	0	0	0		
1984	1	1	0	0	12	23	23	125	0	0	0.9463	0.0351
	0.0083	0.0102	0	0	0	0	0	0	0	0		
1984	1	1	0	0	12	24	24	112	0	0	0.8584	0.0882
	0.0217	0.0316	0	0	0	0	0	0	0	0		
1984	1	1	0	0	12	25	25	93	0	0	0.761	0.0755
	0.0802	0.0833	0	0	0	0	0	0	0	0		
1984	1	1	0	0	12	26	26	82	0	0	0.5885	0.0593
	0.0826	0.2473	0.0223	0	0	0	0	0	0	0		
1984	1	1	0	0	12	27	27	83	0	0	0.2856	0.1035
	0.1704	0.3995	0.0309	0	0.0102	0	0	0	0	0		
1984	1	1	0	0	12	28	28	74	0	0	0.1396	0.0978
	0.2141	0.4656	0.0289	0.0117	0	0.024	0	0	0.0183	0		
1984	1	1	0	0	12	29	29	67	0	0	0.0489	0.0248
	0.2297	0.5731	0.0728	0.014	0.0157	0.0211	0	0	0	0		
1984	1	1	0	0	12	30	30	66	0	0	0.0398	0.0014
	0.1021	0.7133	0.0641	0.0457	0.0114	0.0222	0	0	0	0		
1984	1	1	0	0	12	31	31	50	0	0	0.0219	0.0116
	0.137	0.4594	0.1591	0.0384	0.0623	0.0754	0	0.0348	0	0		
1984	1	1	0	0	12	32	32	49	0	0	0	0.0122
	0.0835	0.4197	0.0938	0.0734	0.0985	0.1193	0.0088	0.0194	0.0713	0		
1984	1	1	0	0	12	33	33	43	0	0	0	0.0051
	0.0421	0.4031	0.0911	0.0596	0.0495	0.1944	0	0.0989	0.0561	0		
1984	1	1	0	0	12	34	34	28	0	0	0	0
	0	0.2245	0.1708	0.1166	0.1265	0.1542	0	0	0.1134	0.094		
1984	1	1	0	0	12	35	35	20	0	0	0	0
	0	0.1729	0.0532	0.2592	0.0316	0.4179	0	0	0.0652	0		
1984	1	1	0	0	12	36	36	11	0	0	0	0
	0	0.0581	0.1757	0.2622	0.0108	0	0.2497	0.2436	0	0		
1984	1	1	0	0	12	37	37	5	0	0	0	0
	0	0	0.0865	0.0958	0.5069	0.0855	0.2253	0	0	0		
1984	1	1	0	0	12	38	38	5	0	0	0	0
	0	0.0729	0	0.0954	0.2953	0	0	0.5018	0.0346	0		
1984	1	1	0	0	12	39	39	4	0	0	0	0
	0	0.7069	0.1318	0	0.11	0	0.0512	0	0	0		
1984	1	1	0	0	12	40	40	7	0	0	0	0
	0	0	0.2563	0	0.0671	0.3585	0.124	0	0.1942	0		
1984	1	1	0	0	12	41	41	2	0	0	0	0
	0	0	0	0	0.1547	0.1547	0	0	0.6905	0		
1984	1	1	0	0	12	43	43	4	0	0	0	0
	0	0	0	0	0	0.9647	0	0.0353	0	0		

1984	1	1	0	0	12	44	44	4	0	0	0	0
	0	0	0	0	0	0.595	0.2895	0	0.1155	0		
1984	1	1	0	0	12	45	45	2	0	0	0	0
	0	0	0	0	0	0	0	0	0.4484	0.5516		
1984	1	1	0	0	12	46	46	1	0	0	0	0
	0	0	0	0	0	0	1	0	0	0		
1984	1	1	0	0	12	48	48	1	0	0	0	0
	0	0	0	0	0	1	0	0	0	0		
1984	1	1	0	0	12	49	49	2	0	0	0	0
	0	0	0	0	0	0.4713	0.5287	0	0	0		
1984	1	1	0	0	12	50	50	3	0	0	0	0
	0	0	0	0	0	0.7176	0	0	0.2824	0		
1984	1	1	0	0	12	51	51	9	0	0	0	0
	0	0	0.0739	0.1309	0	0.2935	0.0274	0.0346	0.3688	0.071		
1985	1	1	0	0	13	7	7	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1985	1	1	0	0	13	9	9	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1985	1	1	0	0	13	10	10	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1985	1	1	0	0	13	11	11	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1985	1	1	0	0	13	12	12	3	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1985	1	1	0	0	13	13	13	3	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1985	1	1	0	0	13	14	14	3	0.6433	0.3567	0	0
	0	0	0	0	0	0	0	0	0	0		
1985	1	1	0	0	13	15	15	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1985	1	1	0	0	13	16	16	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1985	1	1	0	0	13	17	17	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1985	1	1	0	0	13	18	18	2	0	0	1	0
	0	0	0	0	0	0	0	0	0	0		
1985	1	1	0	0	13	19	19	7	0.0491	0.3364	0	0.6145
	0	0	0	0	0	0	0	0	0	0		
1985	1	1	0	0	13	20	20	16	0	0	0.2126	0.7874
	0	0	0	0	0	0	0	0	0	0		
1985	1	1	0	0	13	21	21	43	0.0063	0.0018	0.2711	0.6902
	0.0306	0	0	0	0	0	0	0	0	0		
1985	1	1	0	0	13	22	22	78	0	0	0.1444	0.7675
	0.0881	0	0	0	0	0	0	0	0	0		
1985	1	1	0	0	13	23	23	107	0	0	0.1295	0.8359
	0.0345	0	0	0	0	0	0	0	0	0		
1985	1	1	0	0	13	24	24	121	0	0	0.0855	0.886
	0.0257	0.0027	0	0	0	0	0	0	0	0		
1985	1	1	0	0	13	25	25	124	0	0	0.04	0.8974
	0.062	0.0007	0	0	0	0	0	0	0	0		
1985	1	1	0	0	13	26	26	115	0	0	0.0234	0.8869
	0.0646	0.0099	0.0152	0	0	0	0	0	0	0		
1985	1	1	0	0	13	27	27	101	0	0	0.0103	0.8008
	0.0993	0.0499	0.0397	0	0	0	0	0	0	0		
1985	1	1	0	0	13	28	28	79	0	0	0.0098	0.6165
	0.1039	0.1529	0.1169	0	0	0	0	0	0	0		
1985	1	1	0	0	13	29	29	63	0	0	0	0.415
	0.2415	0.1786	0.1615	0.0034	0	0	0	0	0	0		
1985	1	1	0	0	13	30	30	58	0	0	0	0.2954
	0.1652	0.1788	0.3415	0.0191	0	0	0	0	0	0		
1985	1	1	0	0	13	31	31	52	0	0	0	0.1511
	0.1357	0.1548	0.5076	0.047	0.0001	0	0.0036	0	0	0		
1985	1	1	0	0	13	32	32	25	0	0	0	0.0448
	0.2469	0.088	0.5438	0	0.0511	0	0.0255	0	0	0		
1985	1	1	0	0	13	33	33	24	0	0	0	0
	0	0.1586	0.6698	0.0131	0.0414	0.117	0	0	0	0		

1985	1	1	0	0	13	34	34	17	0	0	0	0
	0.1612	0.3	0.3874	0	0.0542	0.0973	0	0	0	0		
1985	1	1	0	0	13	35	35	15	0	0	0	0
	0	0.0902	0.5058	0.2053	0.1151	0	0.0836	0	0	0		
1985	1	1	0	0	13	36	36	11	0	0	0	0
	0	0	0.3983	0.3581	0.1833	0.0482	0.0122	0	0	0		
1985	1	1	0	0	13	37	37	3	0	0	0	0
	0	0	0.1405	0	0	0.6709	0.1885	0	0	0		
1985	1	1	0	0	13	38	38	4	0	0	0	0
	0	0	0.0668	0.9332	0	0	0	0	0	0		
1985	1	1	0	0	13	39	39	3	0	0	0	0
	0	0	0	0.1047	0	0.5112	0.3841	0	0	0		
1985	1	1	0	0	13	41	41	1	0	0	0	0
	0	0	0	0	0	1	0	0	0	0		
1985	1	1	0	0	13	42	42	1	0	0	0	0
	0	0	0	1	0	0	0	0	0	0		
1985	1	1	0	0	13	49	49	1	0	0	0	0
	0	0	0	0	0	0	0	1	0	0		
1986	1	1	0	0	14	5	5	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1986	1	1	0	0	14	10	10	1	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
1986	1	1	0	0	14	11	11	5	0.7986	0.2014	0	0
	0	0	0	0	0	0	0	0	0	0		
1986	1	1	0	0	14	12	12	8	0.8369	0.0987	0	0
	0.0644	0	0	0	0	0	0	0	0	0		
1986	1	1	0	0	14	13	13	19	0.7475	0.2525	0	0
	0	0	0	0	0	0	0	0	0	0		
1986	1	1	0	0	14	14	14	22	0.8952	0.1048	0	0
	0	0	0	0	0	0	0	0	0	0		
1986	1	1	0	0	14	15	15	49	0.8924	0.1033	0	0
	0	0	0	0	0	0	0	0.0043	0	0		
1986	1	1	0	0	14	16	16	41	0.9315	0.0685	0	0
	0	0	0	0	0	0	0	0	0	0		
1986	1	1	0	0	14	17	17	42	0.8993	0.1007	0	0
	0	0	0	0	0	0	0	0	0	0		
1986	1	1	0	0	14	18	18	40	0.766	0.2022	0.0227	0
	0.0092	0	0	0	0	0	0	0	0	0		
1986	1	1	0	0	14	19	19	39	0.5346	0.3611	0.0434	0.0234
	0.0375	0	0	0	0	0	0	0	0	0		
1986	1	1	0	0	14	20	20	36	0.2168	0.2068	0.0794	0
	0.481	0.016	0	0	0	0	0	0	0	0		
1986	1	1	0	0	14	21	21	51	0.0967	0.1245	0	0.0415
	0.718	0.0192	0	0	0	0	0	0	0	0		
1986	1	1	0	0	14	22	22	85	0.0143	0.0569	0.0429	0.0963
	0.747	0.0408	0.002	0	0	0	0	0	0	0		
1986	1	1	0	0	14	23	23	114	0	0.0162	0.0138	0.0633
	0.8265	0.0746	0.0057	0	0	0	0	0	0	0		
1986	1	1	0	0	14	24	24	119	0	0	0.0132	0.0755
	0.8346	0.0737	0.003	0	0	0	0	0	0	0		
1986	1	1	0	0	14	25	25	110	0	0.0073	0	0.0385
	0.8688	0.0614	0.02	0.004	0	0	0	0	0	0		
1986	1	1	0	0	14	26	26	113	0	0	0.0064	0.0388
	0.7934	0.0999	0.0439	0.0176	0	0	0	0	0	0		
1986	1	1	0	0	14	27	27	105	0	0	0	0.0392
	0.7694	0.096	0.0467	0.0486	0	0	0	0	0	0		
1986	1	1	0	0	14	28	28	100	0	0	0	0.005
	0.6861	0.1173	0.0867	0.105	0	0	0	0	0	0		
1986	1	1	0	0	14	29	29	83	0	0	0.0087	0.0054
	0.5111	0.1732	0.1317	0.1536	0.007	0.0093	0	0	0	0		
1986	1	1	0	0	14	30	30	67	0	0	0	0
	0.4155	0.147	0.1706	0.2345	0.0185	0.0139	0	0	0	0		
1986	1	1	0	0	14	31	31	77	0	0	0	0
	0.2452	0.1266	0.1916	0.382	0.0345	0.013	0	0.0072	0	0		
1986	1	1	0	0	14	32	32	59	0	0	0	0
	0.2164	0.1501	0.0899	0.4173	0.0377	0.0364	0.0142	0.0246	0.0053	0.0083		

1986	1	1	0	0	14	33	33	51	0	0	0	0
	0.0868	0.064	0.1148	0.4276	0.1377	0.0808	0.0563	0.032	0	0		
1986	1	1	0	0	14	34	34	52	0	0	0	0
	0.1319	0.1375	0.1477	0.2997	0.0741	0.0378	0.0761	0.0952	0	0		
1986	1	1	0	0	14	35	35	44	0	0	0	0
	0.0563	0.032	0.0362	0.4116	0.1344	0.205	0.0359	0.0725	0	0.0161		
1986	1	1	0	0	14	36	36	27	0	0	0	0
	0.072	0.0969	0.1015	0.2885	0.1861	0.0792	0.0439	0.132	0	0		
1986	1	1	0	0	14	37	37	31	0	0	0	0
	0	0.0487	0.2645	0.0804	0.0804	0.2176	0.1997	0.0613	0.0474	0		
1986	1	1	0	0	14	38	38	24	0	0	0	0
	0.0332	0	0.1093	0.2359	0.1034	0.1553	0.0066	0.3261	0.0302	0		
1986	1	1	0	0	14	39	39	11	0	0	0	0
	0	0	0	0.1314	0.1022	0.5425	0.0448	0.1791	0	0		
1986	1	1	0	0	14	40	40	11	0	0	0	0
	0	0	0	0.1337	0.0675	0.2444	0	0.3673	0	0.1871		
1986	1	1	0	0	14	41	41	7	0	0	0	0
	0	0.1915	0	0	0.4505	0.3351	0	0	0.0228	0		
1986	1	1	0	0	14	42	42	8	0	0	0	0
	0	0	0	0.5975	0.0814	0	0	0.0984	0	0.2227		
1986	1	1	0	0	14	43	43	7	0	0	0	0
	0	0	0	0.1306	0.2845	0	0.2833	0.3017	0	0		
1986	1	1	0	0	14	44	44	3	0	0	0	0
	0	0	0	0	0.1447	0.3308	0	0.5245	0	0		
1986	1	1	0	0	14	45	45	6	0	0	0	0
	0	0	0.2829	0.1794	0.1415	0.2689	0	0.1273	0	0		
1986	1	1	0	0	14	46	46	5	0	0	0	0
	0	0	0	0	0	0.3841	0.0562	0.2535	0	0.3062		
1986	1	1	0	0	14	47	47	6	0	0	0	0
	0.0525	0	0	0	0.0525	0.1035	0.1563	0.5186	0	0.1167		
1986	1	1	0	0	14	48	48	4	0	0	0	0
	0	0	0	0	0.061	0.3475	0	0.1661	0.4254	0		
1986	1	1	0	0	14	49	49	3	0	0	0	0
	0	0	0.1424	0	0	0.1424	0	0.7153	0	0		
1986	1	1	0	0	14	50	50	4	0	0	0	0
	0	0	0	0	0	0	0	0.5429	0	0.4571		
1986	1	1	0	0	14	51	51	25	0	0	0	0
	0	0	0.0074	0.4041	0.0675	0.1412	0.1492	0.1325	0.0394	0.0587		
1987	1	1	0	0	15	14	14	3	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
1987	1	1	0	0	15	15	15	6	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
1987	1	1	0	0	15	16	16	16	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
1987	1	1	0	0	15	17	17	29	0	0.9813	0.0187	0
	0	0	0	0	0	0	0	0	0	0		
1987	1	1	0	0	15	18	18	60	0	0.9612	0.0388	0
	0	0	0	0	0	0	0	0	0	0		
1987	1	1	0	0	15	19	19	79	0	0.9003	0.0737	0.0118
	0	0.0142	0	0	0	0	0	0	0	0		
1987	1	1	0	0	15	20	20	88	0	0.9119	0.0476	0
	0.0174	0.0231	0	0	0	0	0	0	0	0		
1987	1	1	0	0	15	21	21	97	0	0.8257	0.0207	0.0094
	0	0.1443	0	0	0	0	0	0	0	0		
1987	1	1	0	0	15	22	22	104	0	0.7603	0.0385	0
	0.0043	0.1829	0.0021	0.0119	0	0	0	0	0	0		
1987	1	1	0	0	15	23	23	112	0	0.5048	0.015	0.0082
	0.0319	0.4166	0.0235	0	0	0	0	0	0	0		
1987	1	1	0	0	15	24	24	121	0	0.2743	0.0201	0.0123
	0.0077	0.6558	0.0241	0	0.0058	0	0	0	0	0		
1987	1	1	0	0	15	25	25	117	0	0.0716	0.0417	0.0041
	0.0044	0.8268	0.0351	0	0.0163	0	0	0	0	0		
1987	1	1	0	0	15	26	26	113	0	0.0132	0.0031	0.0032
	0.0151	0.8578	0.0414	0.0247	0.0416	0	0	0	0	0		
1987	1	1	0	0	15	27	27	106	0	0.0014	0.0057	0.0127
	0.0733	0.7813	0.0718	0.0129	0.0398	0	0	0	0.001	0		

1987	1	1	0	0	15	28	28	102	0	0	0	0.0051
	0.0016	0.7359	0.1202	0.0172	0.12	0	0	0	0	0		
1987	1	1	0	0	15	29	29	92	0	0	0	0
	0.0021	0.7355	0.0337	0.0359	0.1823	0.0048	0	0	0	0.0057		
1987	1	1	0	0	15	30	30	83	0	0.004	0	0
	0.0121	0.6676	0.0823	0.0114	0.2101	0	0	0	0.0124	0		
1987	1	1	0	0	15	31	31	59	0	0	0	0
	0.0118	0.565	0.0427	0.0264	0.3118	0.0093	0	0	0.0331	0		
1987	1	1	0	0	15	32	32	40	0	0	0	0
	0	0.3497	0.0775	0.0662	0.3661	0.0357	0.0162	0	0.0886	0		
1987	1	1	0	0	15	33	33	31	0	0	0	0
	0	0.3648	0.0261	0.0091	0.505	0.0403	0	0	0.0546	0		
1987	1	1	0	0	15	34	34	18	0	0	0	0
	0	0.0779	0.0385	0.0169	0.6232	0	0.0454	0	0.1982	0		
1987	1	1	0	0	15	35	35	14	0	0	0	0
	0	0.3415	0	0	0.4553	0	0	0	0.2033	0		
1987	1	1	0	0	15	36	36	8	0	0	0	0
	0.1596	0.0351	0	0	0.5772	0	0	0.0924	0.1357	0		
1987	1	1	0	0	15	37	37	5	0	0	0	0
	0	0	0.0913	0	0.3026	0.1435	0	0.1373	0.1662	0.1591		
1987	1	1	0	0	15	38	38	5	0	0	0	0
	0.1127	0	0.6198	0	0.1729	0	0	0	0.0947	0		
1987	1	1	0	0	15	39	39	3	0	0	0	0
	0	0	0	0.2073	0.2023	0	0	0	0.2952	0.2952		
1987	1	1	0	0	15	40	40	2	0	0	0	0
	0	0	0	0	0.7793	0.2207	0	0	0	0		
1987	1	1	0	0	15	41	41	5	0	0	0	0
	0	0	0.1403	0	0.6712	0	0	0	0.1885	0		
1987	1	1	0	0	15	42	42	3	0	0	0	0
	0	0	0	0	0.2722	0	0	0	0.221	0.5069		
1987	1	1	0	0	15	43	43	6	0	0	0	0
	0	0	0	0	0.433	0.3544	0	0.0357	0.0869	0.0899		
1987	1	1	0	0	15	44	44	1	0	0	0	0
	0	0	0	0	1	0	0	0	0	0		
1987	1	1	0	0	15	45	45	2	0	0	0	0
	0	0	0	0	0	0	0	0.243	0.757	0		
1987	1	1	0	0	15	46	46	3	0	0	0	0
	0	0.3506	0	0.3921	0	0	0	0	0.2574	0		
1987	1	1	0	0	15	47	47	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1		
1987	1	1	0	0	15	48	48	2	0	0	0	0
	0	0	0	0	0.4349	0	0	0	0.5651	0		
1987	1	1	0	0	15	49	49	3	0	0	0	0
	0	0	0.2406	0.4317	0	0	0	0	0	0.3278		
1987	1	1	0	0	15	50	50	1	0	0	0	0
	0	0	0	0	0	0	0	0	1	0		
1987	1	1	0	0	15	51	51	5	0	0	0	0
	0	0	0	0	0.1639	0	0	0.5995	0.2366	0		
1988	1	1	0	0	16	7	7	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1988	1	1	0	0	16	10	10	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1988	1	1	0	0	16	12	12	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1988	1	1	0	0	16	13	13	2	0.493	0.507	0	0
	0	0	0	0	0	0	0	0	0	0		
1988	1	1	0	0	16	14	14	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1988	1	1	0	0	16	15	15	3	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1988	1	1	0	0	16	16	16	3	0.4793	0	0.5207	0
	0	0	0	0	0	0	0	0	0	0		
1988	1	1	0	0	16	17	17	3	0.3398	0.3192	0.341	0
	0	0	0	0	0	0	0	0	0	0		
1988	1	1	0	0	16	18	18	15	0.0679	0.0688	0.7531	0.1102
	0	0	0	0	0	0	0	0	0	0		

1988	1	1	0	0	16	19	19	56	0.0217	0.0239	0.9317	0
	0	0	0.0227	0	0	0	0	0	0	0		
1988	1	1	0	0	16	20	20	101	0.0042	0.0137	0.953	0.0232
	0	0	0.006	0	0	0	0	0	0	0		
1988	1	1	0	0	16	21	21	129	0	0.007	0.9307	0.0359
	0.0035	0.0044	0.0184	0	0	0	0	0	0	0		
1988	1	1	0	0	16	22	22	141	0	0.0038	0.9256	0.0419
	0.0064	0	0.0224	0	0	0	0	0	0	0		
1988	1	1	0	0	16	23	23	141	0	0.0017	0.9052	0.0287
	0.0019	0	0.057	0.0056	0	0	0	0	0	0		
1988	1	1	0	0	16	24	24	145	0	0	0.7042	0.0303
	0.004	0.0076	0.2446	0	0	0.0094	0	0	0	0		
1988	1	1	0	0	16	25	25	153	0	0	0.5065	0.0104
	0.0092	0.0084	0.4279	0.027	0	0.0106	0	0	0	0		
1988	1	1	0	0	16	26	26	152	0	0	0.1856	0.0125
	0.0041	0.0151	0.7179	0.0338	0.0035	0.0274	0	0	0	0		
1988	1	1	0	0	16	27	27	150	0	0	0.1435	0.0103
	0.0025	0.0274	0.7427	0.0301	0.0048	0.0387	0	0	0	0		
1988	1	1	0	0	16	28	28	137	0	0	0.0748	0.013
	0.0163	0.0132	0.7874	0.0347	0	0.0606	0	0	0	0		
1988	1	1	0	0	16	29	29	123	0	0	0.0476	0.0034
	0	0.0214	0.7797	0.0797	0.0117	0.0524	0	0.0041	0	0		
1988	1	1	0	0	16	30	30	81	0	0	0.0425	0
	0.0649	0.0038	0.556	0.0484	0.04	0.2235	0.0069	0	0	0.0142		
1988	1	1	0	0	16	31	31	68	0	0	0.0214	0
	0	0.0078	0.4008	0.0512	0.0244	0.477	0.0074	0	0	0.0101		
1988	1	1	0	0	16	32	32	45	0	0	0.0051	0
	0.0132	0.0234	0.455	0.0246	0	0.326	0	0	0	0.1527		
1988	1	1	0	0	16	33	33	34	0	0	0	0
	0	0	0.4361	0.0281	0.1075	0.3441	0	0	0	0.0842		
1988	1	1	0	0	16	34	34	22	0	0	0	0
	0	0	0.4126	0.0648	0	0.449	0.033	0	0	0.0405		
1988	1	1	0	0	16	35	35	15	0	0	0	0
	0	0	0.0713	0.1054	0	0.5877	0	0	0	0.2355		
1988	1	1	0	0	16	36	36	14	0	0	0	0
	0	0	0.0975	0.2658	0	0.3733	0	0	0	0.2635		
1988	1	1	0	0	16	37	37	8	0	0	0	0
	0	0	0.1291	0	0	0.1432	0	0	0	0.7277		
1988	1	1	0	0	16	38	38	13	0	0	0	0
	0	0	0.2178	0.097	0	0.5284	0	0	0	0.1568		
1988	1	1	0	0	16	39	39	11	0	0	0	0
	0	0	0.1278	0	0	0.3234	0	0.2868	0	0.262		
1988	1	1	0	0	16	40	40	4	0	0	0	0
	0	0	0	0	0	0.8301	0.1699	0	0	0		
1988	1	1	0	0	16	41	41	6	0	0	0	0
	0	0	0.3603	0	0	0.6397	0	0	0	0		
1988	1	1	0	0	16	42	42	5	0	0	0	0
	0	0	0.0971	0	0	0.7763	0	0	0	0.1266		
1988	1	1	0	0	16	43	43	1	0	0	0	0
	0	0	1	0	0	0	0	0	0	0		
1988	1	1	0	0	16	45	45	4	0	0	0	0
	0	0	0.3583	0	0	0.3987	0	0	0	0.243		
1988	1	1	0	0	16	46	46	3	0	0	0	0
	0	0	0.3319	0	0	0	0	0	0	0.6681		
1988	1	1	0	0	16	47	47	4	0	0	0	0
	0	0	0	0	0	1	0	0	0	0		
1988	1	1	0	0	16	49	49	2	0	0	0	0
	0	0	0	0	0	0.3221	0	0	0	0.6779		
1988	1	1	0	0	16	50	50	3	0	0	0	0
	0	0	0	0	0	0.1183	0	0	0	0.8817		
1988	1	1	0	0	16	51	51	12	0	0	0	0
	0	0.0169	0.0123	0.0167	0	0.0927	0	0	0	0.8614		
1989	1	1	0	0	17	10	10	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1989	1	1	0	0	17	11	11	3	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		

1989	1	1	0	0	17	12	12	9	0.9742	0.0258	0	0
	0	0	0	0	0	0	0	0	0	0		
1989	1	1	0	0	17	13	13	15	0.641	0.359	0	0
	0	0	0	0	0	0	0	0	0	0		
1989	1	1	0	0	17	14	14	15	0.8114	0.1886	0	0
	0	0	0	0	0	0	0	0	0	0		
1989	1	1	0	0	17	15	15	8	0.8279	0.1721	0	0
	0	0	0	0	0	0	0	0	0	0		
1989	1	1	0	0	17	16	16	10	0.3828	0.3312	0.286	0
	0	0	0	0	0	0	0	0	0	0		
1989	1	1	0	0	17	17	17	13	0.3559	0.6441	0	0
	0	0	0	0	0	0	0	0	0	0		
1989	1	1	0	0	17	18	18	9	0.1751	0.4883	0.2796	0.057
	0	0	0	0	0	0	0	0	0	0		
1989	1	1	0	0	17	19	19	17	0	0.2413	0.1695	0.5892
	0	0	0	0	0	0	0	0	0	0		
1989	1	1	0	0	17	20	20	40	0	0.2682	0.0786	0.6242
	0.0113	0.0176	0	0	0	0	0	0	0	0		
1989	1	1	0	0	17	21	21	79	0	0.0973	0.0606	0.7924
	0.0304	0	0	0.0193	0	0	0	0	0	0		
1989	1	1	0	0	17	22	22	120	0	0.0336	0.025	0.8962
	0.0269	0.004	0.0016	0.0105	0.0021	0	0	0	0	0		
1989	1	1	0	0	17	23	23	129	0	0.006	0.007	0.8945
	0.0383	0	0	0.0523	0	0.0019	0	0	0	0		
1989	1	1	0	0	17	24	24	125	0	0.0053	0.0107	0.8874
	0.0034	0	0	0.0932	0	0	0	0	0	0		
1989	1	1	0	0	17	25	25	127	0	0	0.0024	0.7444
	0.0065	0.0079	0	0.2234	0.0131	0	0.0023	0	0	0		
1989	1	1	0	0	17	26	26	125	0	0	0	0.5785
	0.0067	0.009	0.0185	0.3573	0.0265	0.0035	0	0	0	0		
1989	1	1	0	0	17	27	27	130	0	0	0	0.3755
	0.0157	0.0129	0.0116	0.542	0.0351	0.003	0.0043	0	0	0		
1989	1	1	0	0	17	28	28	133	0	0	0	0.2074
	0.0231	0.0028	0.0106	0.7298	0.0253	0	0.001	0	0	0		
1989	1	1	0	0	17	29	29	118	0	0	0.0038	0.1147
	0.0213	0.0035	0.0208	0.7404	0.0276	0.0172	0.0506	0	0	0		
1989	1	1	0	0	17	30	30	98	0	0	0	0.1194
	0	0.0117	0.0123	0.7787	0.0395	0	0.0358	0	0.0025	0		
1989	1	1	0	0	17	31	31	74	0	0	0	0.0511
	0.0248	0.0163	0.0248	0.6789	0.0419	0.0157	0.1465	0	0	0		
1989	1	1	0	0	17	32	32	49	0	0	0	0
	0	0.0095	0	0.6874	0.0537	0.0117	0.212	0	0	0.0257		
1989	1	1	0	0	17	33	33	40	0	0	0	0.0594
	0	0	0.0229	0.7036	0.0144	0	0.1998	0	0	0		
1989	1	1	0	0	17	34	34	35	0	0	0	0.0219
	0	0	0	0.5424	0.0668	0	0.2825	0.0161	0.0312	0.039		
1989	1	1	0	0	17	35	35	27	0	0	0	0.0178
	0.0307	0	0	0.4036	0.0202	0.0171	0.3939	0	0	0.1167		
1989	1	1	0	0	17	36	36	14	0	0	0	0
	0	0	0	0.3857	0.1103	0.1229	0.0763	0	0	0.3047		
1989	1	1	0	0	17	37	37	15	0	0	0	0
	0	0	0	0.1716	0.0484	0.033	0.7197	0	0	0.0273		
1989	1	1	0	0	17	38	38	8	0	0	0	0
	0	0	0	0.5079	0	0	0.4921	0	0	0		
1989	1	1	0	0	17	39	39	8	0	0	0	0
	0	0	0	0.1266	0	0	0.8412	0	0.0323	0		
1989	1	1	0	0	17	40	40	7	0	0	0	0
	0	0	0	0.575	0	0	0.3398	0	0.0851	0		
1989	1	1	0	0	17	41	41	3	0	0	0	0
	0	0	0	0	0.28	0	0.1715	0	0	0.5485		
1989	1	1	0	0	17	42	42	6	0	0	0	0
	0	0	0	0.2687	0	0	0.7313	0	0	0		
1989	1	1	0	0	17	44	44	3	0	0	0	0
	0	0	0	0	0	0	0.6146	0.3854	0	0		
1989	1	1	0	0	17	45	45	1	0	0	0	0
	0	0	0	1	0	0	0	0	0	0		

1989	1	1	0	0	17	46	46	1	0	0	0	0
	0	0	0	1	0	0	0	0	0	0		
1989	1	1	0	0	17	47	47	2	0	0	0	0
	0	0	0	0.8107	0	0	0.1893	0	0	0		
1989	1	1	0	0	17	49	49	4	0	0	0	0
	0	0	0	0.3549	0.1515	0	0.4937	0	0	0		
1989	1	1	0	0	17	51	51	4	0	0	0	0
	0	0	0	0	0.2364	0	0.7636	0	0	0		
1990	1	1	0	0	18	9	9	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1990	1	1	0	0	18	10	10	6	0.7445	0.2555	0	0
	0	0	0	0	0	0	0	0	0	0		
1990	1	1	0	0	18	11	11	5	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1990	1	1	0	0	18	12	12	15	0.3977	0.6023	0	0
	0	0	0	0	0	0	0	0	0	0		
1990	1	1	0	0	18	13	13	22	0.6987	0.3013	0	0
	0	0	0	0	0	0	0	0	0	0		
1990	1	1	0	0	18	14	14	24	0.5851	0.4121	0	0
	0.0029	0	0	0	0	0	0	0	0	0		
1990	1	1	0	0	18	15	15	45	0.4253	0.543	0.0043	0
	0.0275	0	0	0	0	0	0	0	0	0		
1990	1	1	0	0	18	16	16	51	0.2285	0.7564	0.0151	0
	0	0	0	0	0	0	0	0	0	0		
1990	1	1	0	0	18	17	17	76	0.2853	0.6603	0.0499	0
	0.0045	0	0	0	0	0	0	0	0	0		
1990	1	1	0	0	18	18	18	84	0.0664	0.876	0.0203	0
	0.0363	0	0	0	0.0009	0	0	0	0	0		
1990	1	1	0	0	18	19	19	94	0.0812	0.8065	0.0856	0
	0.0225	0	0	0	0.0042	0	0	0	0	0		
1990	1	1	0	0	18	20	20	98	0.0174	0.8915	0.0588	0.0018
	0.0286	0	0	0	0.0018	0	0	0	0	0		
1990	1	1	0	0	18	21	21	104	0.0074	0.8394	0.0534	0
	0.0938	0	0	0	0.0061	0	0	0	0	0		
1990	1	1	0	0	18	22	22	95	0	0.7097	0.084	0.0097
	0.1758	0	0	0.0049	0.016	0	0	0	0	0		
1990	1	1	0	0	18	23	23	96	0	0.4045	0.0507	0.0212
	0.4732	0.0053	0	0	0.0451	0	0	0	0	0		
1990	1	1	0	0	18	24	24	93	0	0.1055	0.04	0
	0.7633	0.0055	0	0	0.0819	0	0	0.0037	0	0		
1990	1	1	0	0	18	25	25	91	0	0.0266	0.0439	0
	0.6759	0	0.0111	0	0.2425	0	0	0	0	0		
1990	1	1	0	0	18	26	26	82	0	0.0121	0.0132	0.0116
	0.6018	0.0254	0.0065	0.0124	0.3083	0.0054	0	0.0033	0	0		
1990	1	1	0	0	18	27	27	88	0	0	0.005	0.0099
	0.5591	0.0062	0	0	0.4197	0	0	0	0	0		
1990	1	1	0	0	18	28	28	82	0	0	0	0.0204
	0.4363	0.0112	0	0.0061	0.5086	0	0	0.0174	0	0		
1990	1	1	0	0	18	29	29	84	0	0	0	0
	0.3034	0.0121	0.0135	0	0.6126	0	0	0.0585	0	0		
1990	1	1	0	0	18	30	30	73	0	0	0	0
	0.2749	0.0121	0	0.0163	0.5863	0.0111	0	0.0896	0	0.0097		
1990	1	1	0	0	18	31	31	72	0	0	0	0
	0.2638	0.0101	0	0	0.6243	0.0226	0	0.0793	0	0		
1990	1	1	0	0	18	32	32	74	0	0	0	0
	0.1179	0	0	0	0.7839	0	0	0.0906	0	0.0077		
1990	1	1	0	0	18	33	33	58	0	0	0	0
	0.0338	0	0	0	0.7978	0.0142	0	0.1542	0	0		
1990	1	1	0	0	18	34	34	43	0	0	0	0
	0.0073	0	0	0	0.6572	0	0	0.2934	0	0.0422		
1990	1	1	0	0	18	35	35	34	0	0	0	0
	0.0275	0	0	0	0.677	0	0	0.2699	0	0.0256		
1990	1	1	0	0	18	36	36	20	0	0	0	0
	0.0096	0	0	0	0.7408	0	0	0.2496	0	0		
1990	1	1	0	0	18	37	37	15	0	0	0	0
	0.0289	0	0	0	0.2609	0	0	0.581	0	0.1291		

1990	1	1	0	0	18	38	38	14	0	0	0	0
	0	0	0	0	0.618	0.0543	0	0.2958	0	0.0319		
1990	1	1	0	0	18	39	39	14	0	0	0	0
	0	0	0	0	0.6941	0.0483	0	0.0441	0	0.2136		
1990	1	1	0	0	18	40	40	11	0	0	0	0
	0	0	0	0	0.7701	0	0	0.2299	0	0		
1990	1	1	0	0	18	41	41	14	0	0	0	0
	0	0	0.0458	0	0.3996	0	0	0.4244	0	0.1302		
1990	1	1	0	0	18	42	42	15	0	0	0	0
	0	0	0	0	0.5968	0	0	0.3866	0	0.0166		
1990	1	1	0	0	18	43	43	9	0	0	0	0
	0	0	0	0	0.8455	0	0	0.0331	0	0.1214		
1990	1	1	0	0	18	44	44	9	0	0	0	0
	0	0	0	0	0.1571	0	0	0.7827	0	0.0602		
1990	1	1	0	0	18	45	45	8	0	0	0	0
	0	0	0	0	0.3222	0	0	0.6778	0	0		
1990	1	1	0	0	18	46	46	8	0	0	0	0
	0	0	0	0	0.3974	0	0	0.6026	0	0		
1990	1	1	0	0	18	47	47	8	0	0	0	0
	0	0	0	0	0.3214	0	0	0.3795	0	0.2991		
1990	1	1	0	0	18	48	48	6	0	0	0	0
	0	0	0	0	0.5001	0	0	0.5	0	0		
1990	1	1	0	0	18	49	49	6	0	0	0	0
	0	0	0	0	0.7289	0	0	0.2515	0	0.0196		
1990	1	1	0	0	18	50	50	7	0	0	0	0
	0	0	0	0	0.5397	0	0	0.4603	0	0		
1990	1	1	0	0	18	51	51	20	0	0	0	0
	0	0	0	0	0.352	0	0.0139	0.5689	0	0.0653		
1991	1	1	0	0	19	1	1	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1991	1	1	0	0	19	2	2	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1991	1	1	0	0	19	3	3	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1991	1	1	0	0	19	4	4	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1991	1	1	0	0	19	11	11	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1991	1	1	0	0	19	12	12	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1991	1	1	0	0	19	13	13	5	0.4588	0.5412	0	0
	0	0	0	0	0	0	0	0	0	0		
1991	1	1	0	0	19	14	14	13	0.2271	0.7729	0	0
	0	0	0	0	0	0	0	0	0	0		
1991	1	1	0	0	19	15	15	23	0.2385	0.6414	0.1201	0
	0	0	0	0	0	0	0	0	0	0		
1991	1	1	0	0	19	16	16	32	0.1485	0.7042	0.1339	0.0134
	0	0	0	0	0	0	0	0	0	0		
1991	1	1	0	0	19	17	17	33	0	0.7138	0.2801	0.0062
	0	0	0	0	0	0	0	0	0	0		
1991	1	1	0	0	19	18	18	39	0	0.7747	0.2253	0
	0	0	0	0	0	0	0	0	0	0		
1991	1	1	0	0	19	19	19	38	0	0.7006	0.2994	0
	0	0	0	0	0	0	0	0	0	0		
1991	1	1	0	0	19	20	20	47	0	0.5373	0.4347	0.026
	0	0	0.002	0	0	0	0	0	0	0		
1991	1	1	0	0	19	21	21	54	0.002	0.3492	0.5473	0.1015
	0	0	0	0	0	0	0	0	0	0		
1991	1	1	0	0	19	22	22	63	0	0.2337	0.6324	0.0313
	0	0.0943	0	0	0	0.0083	0	0	0	0		
1991	1	1	0	0	19	23	23	66	0	0.0701	0.6015	0.0715
	0.0702	0.1225	0	0	0	0.0642	0	0	0	0		
1991	1	1	0	0	19	24	24	66	0	0.0431	0.4777	0.0914
	0.0246	0.3299	0.0131	0	0	0.0202	0	0	0	0		
1991	1	1	0	0	19	25	25	62	0	0.0056	0.3264	0.0685
	0.0018	0.4967	0.0161	0.0023	0.0078	0.0655	0.0083	0	0.001	0		

1991	1	1	0	0	19	26	26	61	0	0.0018	0.1424	0.0368
	0	0.6786	0.001	0	0.002	0.1258	0.0116	0	0	0		
1991	1	1	0	0	19	27	27	61	0	0	0.0804	0.0649
	0.0038	0.619	0.0702	0.0101	0	0.1425	0.0092	0	0	0		
1991	1	1	0	0	19	28	28	55	0	0	0.0084	0.0234
	0.0685	0.5863	0.0198	0.0062	0.0084	0.2331	0.0064	0	0.0395	0		
1991	1	1	0	0	19	29	29	56	0	0	0.0039	0
	0	0.5328	0.02	0.002	0	0.4281	0	0	0.0132	0		
1991	1	1	0	0	19	30	30	49	0	0	0	0.0184
	0.0032	0.463	0.0173	0	0	0.4602	0.0049	0	0.033	0		
1991	1	1	0	0	19	31	31	40	0	0	0	0
	0	0.184	0.0518	0	0	0.6606	0.0249	0	0.0787	0		
1991	1	1	0	0	19	32	32	20	0	0	0	0
	0	0.4162	0	0	0	0.3907	0.0291	0	0.164	0		
1991	1	1	0	0	19	33	33	9	0	0	0	0
	0	0	0.0808	0	0	0.5974	0	0	0.3219	0		
1991	1	1	0	0	19	34	34	6	0	0	0	0
	0	0.1254	0	0	0	0.1853	0	0	0.6894	0		
1991	1	1	0	0	19	35	35	6	0	0	0	0
	0	0.4802	0	0	0	0.194	0.1194	0	0	0.2064		
1991	1	1	0	0	19	36	36	7	0	0	0	0
	0	0.2149	0.1044	0	0	0.1178	0	0	0.5629	0		
1991	1	1	0	0	19	37	37	2	0	0	0	0
	0	0	0	0	0	0.1803	0	0	0	0.8197		
1991	1	1	0	0	19	38	38	3	0	0	0	0
	0	0.4074	0	0	0	0.0403	0	0	0.145	0.4074		
1991	1	1	0	0	19	39	39	2	0	0	0	0
	0	0	0	0	0	0.222	0	0	0.778	0		
1991	1	1	0	0	19	40	40	3	0	0	0	0
	0	0	0	0	0	0.5654	0	0	0.4346	0		
1991	1	1	0	0	19	42	42	3	0	0	0	0
	0	0	0.0744	0	0	0.8062	0	0	0.1195	0		
1991	1	1	0	0	19	43	43	3	0	0	0	0
	0	0	0	0	0	0.7328	0	0	0.2672	0		
1991	1	1	0	0	19	44	44	3	0	0	0	0
	0	0.3544	0	0	0	0.3769	0	0	0.2687	0		
1991	1	1	0	0	19	46	46	2	0	0	0	0
	0	0	0.5682	0	0.1439	0.1439	0	0	0	0.1439		
1991	1	1	0	0	19	47	47	5	0	0	0	0
	0	0	0.4589	0	0	0.0556	0	0	0.4855	0		
1991	1	1	0	0	19	48	48	2	0	0	0	0
	0	0	0	0	0	0.2273	0	0	0.7727	0		
1991	1	1	0	0	19	49	49	2	0	0	0	0
	0	0	0	0	0.6351	0	0	0	0.3649	0		
1991	1	1	0	0	19	50	50	1	0	0	0	0
	0	0	0	0	0	0	0	0	1	0		
1991	1	1	0	0	19	51	51	9	0.1062	0	0	0
	0	0	0	0	0	0.3296	0	0	0.3821	0.182		
1992	1	1	0	0	20	8	8	1	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
1992	1	1	0	0	20	9	9	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1992	1	1	0	0	20	10	10	5	0.8005	0.1995	0	0
	0	0	0	0	0	0	0	0	0	0		
1992	1	1	0	0	20	11	11	6	0.7807	0.2193	0	0
	0	0	0	0	0	0	0	0	0	0		
1992	1	1	0	0	20	12	12	8	0.8747	0.1253	0	0
	0	0	0	0	0	0	0	0	0	0		
1992	1	1	0	0	20	13	13	6	0.6588	0.3412	0	0
	0	0	0	0	0	0	0	0	0	0		
1992	1	1	0	0	20	14	14	6	0.6584	0.3416	0	0
	0	0	0	0	0	0	0	0	0	0		
1992	1	1	0	0	20	15	15	7	0.9204	0.0796	0	0
	0	0	0	0	0	0	0	0	0	0		
1992	1	1	0	0	20	16	16	7	0.7743	0.2257	0	0
	0	0	0	0	0	0	0	0	0	0		

1992	1	1	0	0	20	17	17	11	0.6443	0.3381	0.0177	0
	0	0	0	0	0	0	0	0	0	0		
1992	1	1	0	0	20	18	18	28	0.2198	0.4744	0.2227	0.0832
	0	0	0	0	0	0	0	0	0	0		
1992	1	1	0	0	20	19	19	26	0.1265	0.3456	0.4738	0.0541
	0	0	0	0	0	0	0	0	0	0		
1992	1	1	0	0	20	20	20	61	0.0019	0.1689	0.5579	0.2713
	0	0	0	0	0	0	0	0	0	0		
1992	1	1	0	0	20	21	21	75	0.0049	0.1298	0.4127	0.4204
	0.0293	0	0	0	0	0	0.0029	0	0	0		
1992	1	1	0	0	20	22	22	89	0	0.1443	0.4557	0.3399
	0.022	0	0.0381	0	0	0	0	0	0	0		
1992	1	1	0	0	20	23	23	105	0	0.0349	0.4786	0.3775
	0.0099	0	0.0668	0.0049	0	0	0.0275	0	0	0		
1992	1	1	0	0	20	24	24	108	0	0.0076	0.2871	0.4958
	0.0387	0.013	0.1411	0	0	0	0.0151	0	0.0017	0		
1992	1	1	0	0	20	25	25	108	0	0.0103	0.2371	0.3882
	0.0322	0.0162	0.271	0.0055	0.0039	0	0.0355	0	0	0		
1992	1	1	0	0	20	26	26	107	0	0.0032	0.0802	0.3392
	0.0221	0.0319	0.4342	0.0077	0.0034	0.0059	0.0722	0	0	0		
1992	1	1	0	0	20	27	27	107	0	0.0022	0.0181	0.2246
	0.039	0.0367	0.4697	0.024	0.0036	0.0141	0.1612	0	0	0.0068		
1992	1	1	0	0	20	28	28	111	0	0	0.021	0.1682
	0.0313	0.0075	0.5439	0.0126	0	0	0.2121	0	0	0.0034		
1992	1	1	0	0	20	29	29	103	0	0	0.0168	0.0881
	0.0321	0.0434	0.5233	0.0206	0.0058	0	0.27	0	0	0		
1992	1	1	0	0	20	30	30	93	0	0	0	0.1031
	0.0041	0.0103	0.5841	0.0212	0.0034	0	0.2542	0.0042	0	0.0154		
1992	1	1	0	0	20	31	31	78	0	0	0	0.0632
	0.0316	0.0177	0.4915	0.0231	0	0	0.3232	0.0136	0	0.0361		
1992	1	1	0	0	20	32	32	61	0	0	0.0079	0.0096
	0.0103	0	0.4328	0.0033	0	0	0.4861	0.0199	0	0.0301		
1992	1	1	0	0	20	33	33	41	0	0	0	0.0112
	0.0063	0	0.3404	0	0	0	0.3277	0.0602	0	0.2542		
1992	1	1	0	0	20	34	34	35	0	0	0	0
	0.0083	0	0.4815	0.0288	0	0.0045	0.4237	0.0309	0	0.0223		
1992	1	1	0	0	20	35	35	28	0	0	0	0
	0	0	0.308	0	0	0	0.475	0.0069	0.009	0.2011		
1992	1	1	0	0	20	36	36	20	0	0	0	0
	0	0	0.572	0	0.0203	0	0.3014	0	0	0.1063		
1992	1	1	0	0	20	37	37	16	0	0	0	0
	0	0	0.2744	0	0	0.0091	0.4954	0	0	0.2211		
1992	1	1	0	0	20	38	38	15	0	0	0	0
	0	0	0.2486	0	0	0.2769	0.4326	0	0	0.0419		
1992	1	1	0	0	20	39	39	9	0	0	0	0
	0	0	0.0906	0	0	0	0.7983	0	0	0.1111		
1992	1	1	0	0	20	40	40	9	0	0	0	0
	0	0	0.3644	0	0	0	0.4283	0.0668	0	0.1405		
1992	1	1	0	0	20	41	41	7	0	0	0	0
	0	0	0.1555	0	0	0	0.5592	0.1448	0	0.1405		
1992	1	1	0	0	20	42	42	5	0	0	0	0
	0	0	0	0	0	0	1	0	0	0		
1992	1	1	0	0	20	43	43	5	0	0	0	0
	0	0	0	0	0	0	0.6621	0	0	0.338		
1992	1	1	0	0	20	44	44	2	0	0	0	0
	0	0	0	0	0	0	0.8135	0	0	0.1865		
1992	1	1	0	0	20	45	45	3	0	0	0	0
	0	0	0.1273	0	0	0	0	0	0	0.8727		
1992	1	1	0	0	20	46	46	2	0	0	0	0
	0	0	0.4922	0	0	0	0.5078	0	0	0		
1992	1	1	0	0	20	47	47	2	0	0	0	0
	0	0	0	0	0	0	1	0	0	0		
1992	1	1	0	0	20	49	49	2	0	0	0	0
	0	0	0	0	0	0	0.8995	0	0	0.1005		
1992	1	1	0	0	20	51	51	7	0	0	0	0
	0	0	0	0.0224	0	0	0.1277	0.0642	0	0.7857		

1993	1	1	0	0	21	12	12	5	0.9268	0.0732	0	0
	0	0	0	0	0	0	0	0	0	0		
1993	1	1	0	0	21	13	13	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1993	1	1	0	0	21	14	14	5	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
1993	1	1	0	0	21	15	15	6	0.1285	0.8715	0	0
	0	0	0	0	0	0	0	0	0	0		
1993	1	1	0	0	21	16	16	20	0.0187	0.9551	0.0262	0
	0	0	0	0	0	0	0	0	0	0		
1993	1	1	0	0	21	17	17	39	0.0233	0.9387	0.0042	0.0339
	0	0	0	0	0	0	0	0	0	0		
1993	1	1	0	0	21	18	18	50	0.0204	0.84	0.1331	0.0066
	0	0	0	0	0	0	0	0	0	0		
1993	1	1	0	0	21	19	19	59	0	0.8782	0.0301	0.0873
	0	0	0	0.0044	0	0	0	0	0	0		
1993	1	1	0	0	21	20	20	63	0	0.9206	0.0488	0.0258
	0	0	0	0	0	0	0	0.0048	0	0		
1993	1	1	0	0	21	21	21	59	0	0.7371	0.0944	0.1582
	0.0103	0	0	0	0	0	0	0	0	0		
1993	1	1	0	0	21	22	22	49	0	0.4832	0.1108	0.2635
	0.1426	0	0	0	0	0	0	0	0	0		
1993	1	1	0	0	21	23	23	67	0	0.1128	0.1183	0.4917
	0.2299	0	0	0.0374	0	0	0	0.01	0	0		
1993	1	1	0	0	21	24	24	77	0	0.0383	0.0619	0.3681
	0.3359	0.0667	0.0485	0.077	0	0	0	0.0036	0	0		
1993	1	1	0	0	21	25	25	86	0	0.0052	0.0084	0.2767
	0.4484	0.0259	0.0045	0.1732	0	0	0	0.0542	0	0.0036		
1993	1	1	0	0	21	26	26	87	0	0.0041	0.0126	0.2388
	0.279	0.0171	0.044	0.3175	0.0028	0	0.0009	0.0762	0	0.007		
1993	1	1	0	0	21	27	27	85	0	0	0	0.1193
	0.2858	0.0055	0.0104	0.4429	0.015	0.0056	0	0.0973	0	0.0182		
1993	1	1	0	0	21	28	28	79	0	0	0	0.0387
	0.2262	0.0068	0.0038	0.5628	0.0739	0	0	0.0879	0	0		
1993	1	1	0	0	21	29	29	78	0	0	0	0.0178
	0.1868	0.0226	0.0102	0.5324	0	0	0	0.2118	0	0.0184		
1993	1	1	0	0	21	30	30	59	0	0	0	0.013
	0.0265	0.0502	0	0.535	0.0115	0	0	0.3638	0	0		
1993	1	1	0	0	21	31	31	37	0	0	0	0.0162
	0.1039	0	0	0.4935	0	0	0	0.3603	0	0.0261		
1993	1	1	0	0	21	32	32	26	0	0	0	0
	0	0.0104	0	0.4913	0.0813	0	0	0.4043	0	0.0128		
1993	1	1	0	0	21	33	33	9	0	0	0	0
	0	0	0	0.3578	0	0	0	0.5449	0	0.0973		
1993	1	1	0	0	21	34	34	4	0	0	0	0
	0	0	0	0.1487	0	0	0.1008	0	0.0814	0.6692		
1993	1	1	0	0	21	35	35	7	0	0	0	0
	0	0	0	0.3014	0	0	0	0.6986	0	0		
1993	1	1	0	0	21	36	36	7	0	0	0	0
	0	0	0	0.6571	0	0.0769	0	0.1045	0	0.1616		
1993	1	1	0	0	21	37	37	1	0	0	0	0
	0	0	0	0	0	0	0	1	0	0		
1993	1	1	0	0	21	38	38	2	0	0	0	0
	0	0	0	0.7583	0	0	0	0.2417	0	0		
1993	1	1	0	0	21	40	40	1	0	0	0	0
	0	0	0	1	0	0	0	0	0	0		
1993	1	1	0	0	21	42	42	2	0	0	0	0
	0	0	0	0.3821	0	0	0.309	0.309	0	0		
1993	1	1	0	0	21	50	50	1	0	0	0	0
	0	0	0	0	0	1	0	0	0	0		
1993	1	1	0	0	21	51	51	1	0	0	0	0
	0	0	0	0	0	0	0	1	0	0		
1994	1	1	0	0	22	11	11	1	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
1994	1	1	0	0	22	14	14	1	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		

1994	1	1	0	0	22	16	16	3	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
1994	1	1	0	0	22	17	17	9	0	0.6707	0.3293	0
	0	0	0	0	0	0	0	0	0	0		
1994	1	1	0	0	22	18	18	20	0	0.4908	0.5092	0
	0	0	0	0	0	0	0	0	0	0		
1994	1	1	0	0	22	19	19	50	0.0187	0.4867	0.4708	0.0238
	0	0	0	0	0	0	0	0	0	0		
1994	1	1	0	0	22	20	20	78	0	0.1519	0.8022	0.0179
	0.0244	0.0036	0	0	0	0	0	0	0	0		
1994	1	1	0	0	22	21	21	92	0	0.0747	0.8142	0.0248
	0.0675	0.0188	0	0	0	0	0	0	0	0		
1994	1	1	0	0	22	22	22	101	0	0.0227	0.7964	0.0323
	0.126	0.0226	0	0	0	0	0	0	0	0		
1994	1	1	0	0	22	23	23	110	0	0.0019	0.6752	0.0042
	0.1751	0.1206	0	0	0.012	0	0	0	0.011	0		
1994	1	1	0	0	22	24	24	119	0	0.0071	0.347	0.0113
	0.3325	0.222	0	0	0.06	0	0	0	0.0201	0		
1994	1	1	0	0	22	25	25	137	0	0	0.1731	0.0157
	0.2967	0.3328	0	0	0.1697	0	0.0032	0	0.0048	0.004		
1994	1	1	0	0	22	26	26	137	0	0.003	0.046	0.0107
	0.2309	0.3704	0.0019	0.0174	0.2894	0	0.0008	0	0.0282	0.0014		
1994	1	1	0	0	22	27	27	137	0	0	0.0127	0.006
	0.2113	0.3476	0.0063	0.0086	0.3058	0.0041	0.0063	0	0.0897	0.0015		
1994	1	1	0	0	22	28	28	132	0	0	0.0316	0
	0.1186	0.364	0.0069	0.0021	0.3847	0.0024	0	0	0.082	0.0078		
1994	1	1	0	0	22	29	29	129	0	0	0	0
	0.0571	0.2445	0.024	0.0036	0.5425	0	0.0106	0	0.097	0.0208		
1994	1	1	0	0	22	30	30	119	0	0	0	0
	0.0037	0.2268	0.0093	0	0.4508	0	0.0026	0	0.2772	0.0297		
1994	1	1	0	0	22	31	31	81	0	0	0.0095	0
	0.0264	0.2434	0.042	0.0116	0.4346	0	0.0347	0.0066	0.1662	0.025		
1994	1	1	0	0	22	32	32	47	0	0	0	0
	0.0114	0.1968	0	0	0.5614	0	0.0363	0	0.1905	0.0035		
1994	1	1	0	0	22	33	33	30	0	0	0	0
	0.0689	0.0537	0	0	0.4776	0	0	0	0.3236	0.0762		
1994	1	1	0	0	22	34	34	16	0	0	0	0
	0	0.0447	0	0	0.8001	0	0	0.0176	0.1376	0		
1994	1	1	0	0	22	35	35	14	0	0	0	0
	0	0.0648	0.165	0	0.7079	0	0	0	0.0623	0		
1994	1	1	0	0	22	36	36	9	0	0	0	0
	0	0	0	0	0.575	0	0.1251	0	0.295	0.0049		
1994	1	1	0	0	22	37	37	4	0	0	0	0
	0	0.1206	0	0	0.8794	0	0	0	0	0		
1994	1	1	0	0	22	38	38	7	0	0	0	0
	0	0.1525	0	0	0.7208	0	0	0	0.1267	0		
1994	1	1	0	0	22	39	39	6	0	0	0	0
	0	0.2823	0	0	0.1497	0	0	0	0.4116	0.1564		
1994	1	1	0	0	22	40	40	2	0	0	0	0
	0	0	0	0	0.8201	0	0	0	0.1799	0		
1994	1	1	0	0	22	41	41	3	0	0	0	0
	0	0	0	0	0.4079	0	0	0	0.5921	0		
1994	1	1	0	0	22	42	42	1	0	0	0	0
	0	0	0	0	0	0	0	0	1	0		
1994	1	1	0	0	22	43	43	1	0	0	0	0
	0	0	0	0	1	0	0	0	0	0		
1994	1	1	0	0	22	44	44	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1		
1994	1	1	0	0	22	45	45	1	0	0	0	0
	0	0	0	0	1	0	0	0	0	0		
1994	1	1	0	0	22	46	46	2	0	0	0	0
	0	0	0	0	0	0	0	0	1	0		
1994	1	1	0	0	22	48	48	1	0	0	0	0
	0	0	0	0	1	0	0	0	0	0		
1994	1	1	0	0	22	49	49	1	0	0	0	0
	0	0	0	0	0	0	0	0	1	0		

1994	1	1	0	0	22	50	50	1	0	0	0	0
	0	0	0	0	0	0	0	0	1	0		
1994	1	1	0	0	22	51	51	5	0	0	0	0
	0	0	0	0	0	0	0	0	0.815	0.185		
1995	1	1	0	0	23	1	1	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1995	1	1	0	0	23	5	5	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1995	1	1	0	0	23	6	6	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1995	1	1	0	0	23	7	7	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1995	1	1	0	0	23	13	13	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1995	1	1	0	0	23	15	15	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1995	1	1	0	0	23	17	17	2	0.6345	0.3655	0	0
	0	0	0	0	0	0	0	0	0	0		
1995	1	1	0	0	23	18	18	2	0.5539	0	0.4461	0
	0	0	0	0	0	0	0	0	0	0		
1995	1	1	0	0	23	19	19	4	0	0	0.0595	0.9405
	0	0	0	0	0	0	0	0	0	0		
1995	1	1	0	0	23	20	20	4	0	0	0.1828	0.8172
	0	0	0	0	0	0	0	0	0	0		
1995	1	1	0	0	23	21	21	13	0	0	0.3854	0.6146
	0	0	0	0	0	0	0	0	0	0		
1995	1	1	0	0	23	22	22	35	0	0	0.448	0.5201
	0	0.0178	0.0055	0	0	0.0085	0	0	0	0		
1995	1	1	0	0	23	23	23	58	0	0	0.1944	0.6973
	0.01	0.0765	0.0159	0	0	0.0059	0	0	0	0		
1995	1	1	0	0	23	24	24	68	0	0	0.1602	0.689
	0.0058	0.0593	0.0792	0	0	0.0065	0	0	0	0		
1995	1	1	0	0	23	25	25	71	0	0	0.075	0.6708
	0.0073	0.1097	0.1006	0.0037	0	0.0298	0	0	0	0.0032		
1995	1	1	0	0	23	26	26	71	0	0	0.0121	0.4467
	0.0141	0.1186	0.2266	0.0189	0	0.1357	0	0	0	0.0275		
1995	1	1	0	0	23	27	27	71	0	0	0.0106	0.3652
	0.0141	0.0836	0.3069	0.0084	0	0.1752	0	0.0029	0	0.033		
1995	1	1	0	0	23	28	28	74	0	0	0.0047	0.1262
	0.0071	0.0692	0.2962	0.0043	0.0133	0.3627	0.0143	0.008	0	0.094		
1995	1	1	0	0	23	29	29	71	0.0016	0	0.0029	0.0441
	0	0.1049	0.4051	0.0354	0.0032	0.3418	0.0062	0	0	0.0547		
1995	1	1	0	0	23	30	30	64	0	0	0	0.051
	0	0.0252	0.2997	0.0027	0	0.4975	0	0.0035	0.005	0.1154		
1995	1	1	0	0	23	31	31	53	0.002	0	0	0.0038
	0	0.0844	0.2133	0.0587	0	0.3949	0.0078	0	0	0.2352		
1995	1	1	0	0	23	32	32	39	0	0	0	0
	0.004	0.0537	0.337	0.02	0	0.403	0	0	0	0.1822		
1995	1	1	0	0	23	33	33	28	0	0	0	0.0574
	0	0.0267	0.3903	0	0	0.2322	0	0.0195	0	0.2741		
1995	1	1	0	0	23	34	34	16	0	0	0	0
	0	0.0689	0.3139	0	0	0.1572	0	0.0218	0	0.4383		
1995	1	1	0	0	23	35	35	14	0	0	0	0
	0	0	0.2373	0	0	0.336	0	0	0	0.4267		
1995	1	1	0	0	23	36	36	10	0	0	0	0
	0	0	0.3489	0	0	0.4531	0	0	0	0.198		
1995	1	1	0	0	23	37	37	6	0	0	0	0
	0	0	0.5181	0	0	0.4819	0	0	0	0		
1995	1	1	0	0	23	38	38	5	0	0	0	0
	0	0.0587	0	0	0	0.8813	0	0	0	0.06		
1995	1	1	0	0	23	39	39	7	0	0	0	0
	0	0	0	0	0	0.799	0	0.1537	0	0.0473		
1995	1	1	0	0	23	40	40	4	0	0	0	0
	0	0	0	0	0	0.6533	0	0	0	0.3467		
1995	1	1	0	0	23	41	41	1	0	0	0	0
	0	0	1	0	0	0	0	0	0	0		

1995	1	1	0	0	23	42	42	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1		
1995	1	1	0	0	23	43	43	3	0	0	0	0
	0	0	0	0	0	0.1247	0	0.807	0	0.0682		
1995	1	1	0	0	23	44	44	1	0	0	0	0
	0	0	0	0	0	1	0	0	0	0		
1995	1	1	0	0	23	51	51	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1		
1996	1	1	0	0	24	11	11	3	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1996	1	1	0	0	24	12	12	9	0.5951	0.4049	0	0
	0	0	0	0	0	0	0	0	0	0		
1996	1	1	0	0	24	13	13	17	0.9462	0.0538	0	0
	0	0	0	0	0	0	0	0	0	0		
1996	1	1	0	0	24	14	14	29	0.929	0.071	0	0
	0	0	0	0	0	0	0	0	0	0		
1996	1	1	0	0	24	15	15	39	0.9436	0.0564	0	0
	0	0	0	0	0	0	0	0	0	0		
1996	1	1	0	0	24	16	16	47	0.9228	0.0772	0	0
	0	0	0	0	0	0	0	0	0	0		
1996	1	1	0	0	24	17	17	48	0.7796	0.2142	0.0063	0
	0	0	0	0	0	0	0	0	0	0		
1996	1	1	0	0	24	18	18	40	0.4531	0.5469	0	0
	0	0	0	0	0	0	0	0	0	0		
1996	1	1	0	0	24	19	19	43	0.4288	0.5264	0.008	0.0369
	0	0	0	0	0	0	0	0	0	0		
1996	1	1	0	0	24	20	20	51	0.1549	0.794	0.0394	0.0117
	0	0	0	0	0	0	0	0	0	0		
1996	1	1	0	0	24	21	21	55	0.0125	0.8681	0.0324	0.0509
	0.0361	0	0	0	0	0	0	0	0	0		
1996	1	1	0	0	24	22	22	53	0	0.7291	0.0239	0.1053
	0.1361	0	0	0	0	0	0.0056	0	0	0		
1996	1	1	0	0	24	23	23	54	0.0032	0.4555	0.058	0.1888
	0.2654	0.0154	0.004	0.0098	0	0	0	0	0	0		
1996	1	1	0	0	24	24	24	71	0	0.167	0.0336	0.2595
	0.4036	0	0.0513	0.0685	0	0	0.0164	0	0	0		
1996	1	1	0	0	24	25	25	88	0	0.0627	0.0188	0.1977
	0.4801	0.0088	0.0516	0.0959	0.0018	0	0.0559	0	0	0.0266		
1996	1	1	0	0	24	26	26	95	0	0	0.0083	0.1608
	0.5233	0.0032	0.0946	0.1328	0.0035	0	0.0671	0	0	0.0063		
1996	1	1	0	0	24	27	27	96	0	0	0	0.1549
	0.4371	0.0016	0.0878	0.1325	0	0	0.1436	0	0	0.0424		
1996	1	1	0	0	24	28	28	92	0	0	0	0.0725
	0.2685	0	0.0601	0.2269	0.0059	0	0.3298	0	0	0.0363		
1996	1	1	0	0	24	29	29	86	0	0	0	0.0836
	0.1754	0.0033	0.093	0.2345	0	0	0.346	0	0	0.0642		
1996	1	1	0	0	24	30	30	71	0	0	0	0
	0.1901	0	0.0472	0.3405	0.0047	0	0.3139	0	0	0.1037		
1996	1	1	0	0	24	31	31	58	0	0	0	0.0096
	0.0168	0	0.0284	0.2778	0	0.0184	0.5201	0	0	0.129		
1996	1	1	0	0	24	32	32	35	0	0	0	0
	0.0898	0.011	0.0052	0.1424	0	0	0.6311	0	0.01	0.1105		
1996	1	1	0	0	24	33	33	32	0	0	0	0.0235
	0.1055	0	0.0364	0.1447	0	0.0127	0.4546	0	0.0155	0.207		
1996	1	1	0	0	24	34	34	11	0	0	0	0
	0.0577	0	0	0.4503	0	0	0.472	0	0	0.0199		
1996	1	1	0	0	24	35	35	12	0	0	0	0
	0	0	0	0.2533	0.0312	0	0.7154	0	0	0		
1996	1	1	0	0	24	36	36	7	0	0	0	0
	0	0.0484	0.0216	0.2223	0	0	0.7077	0	0	0		
1996	1	1	0	0	24	37	37	4	0	0	0	0
	0	0	0	0.776	0	0	0.224	0	0	0		
1996	1	1	0	0	24	38	38	3	0	0	0	0
	0	0	0	0.2731	0	0	0.3658	0	0.3611	0		
1996	1	1	0	0	24	39	39	3	0	0	0	0
	0	0	0	0.1303	0	0	0.8697	0	0	0		

1996	1	1	0	0	24	40	40	3	0	0	0	0
	0	0	0	0	0	0.5254	0.4746	0	0	0	
1996	1	1	0	0	24	41	41	1	0	0	0	0
	0	0	0	0	0	0	1	0	0	0	
1996	1	1	0	0	24	42	42	2	0	0	0	0
	0	0	0	0	0	0	1	0	0	0	
1996	1	1	0	0	24	43	43	2	0	0	0	0
	0	0	0	0	0	0	0.7645	0	0.2355	0	
1996	1	1	0	0	24	44	44	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1	
1996	1	1	0	0	24	45	45	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1	
1996	1	1	0	0	24	46	46	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1	
1996	1	1	0	0	24	48	48	1	0	0	0	0
	0	0	0	0	0	0	1	0	0	0	
1996	1	1	0	0	24	51	51	3	0	0	0	0
	0	0	0	0	0	0	0.1809	0	0.1809	0.6382	
1997	1	1	0	0	25	15	15	1	0	1	0	0
	0	0	0	0	0	0	0	0	0	0	
1997	1	1	0	0	25	16	16	1	0	1	0	0
	0	0	0	0	0	0	0	0	0	0	
1997	1	1	0	0	25	17	17	7	0	0.8878	0.1122	0
	0	0	0	0	0	0	0	0	0	0	
1997	1	1	0	0	25	18	18	16	0.1757	0.7282	0.0961	0
	0	0	0	0	0	0	0	0	0	0	
1997	1	1	0	0	25	19	19	32	0	0.9284	0.0716	0
	0	0	0	0	0	0	0	0	0	0	
1997	1	1	0	0	25	20	20	47	0	0.8497	0.1503	0
	0	0	0	0	0	0	0	0	0	0	
1997	1	1	0	0	25	21	21	59	0	0.7021	0.2832	0
	0.0148	0	0	0	0	0	0	0	0	0	
1997	1	1	0	0	25	22	22	77	0	0.6375	0.3157	0.0031
	0.0314	0	0.0123	0	0	0	0	0	0	0	
1997	1	1	0	0	25	23	23	83	0	0.5552	0.4197	0
	0.0149	0.0102	0	0	0	0	0	0	0	0	
1997	1	1	0	0	25	24	24	84	0	0.3006	0.6069	0
	0.0385	0.0433	0	0.0052	0	0	0	0.0055	0	0	
1997	1	1	0	0	25	25	25	70	0	0.3101	0.4229	0.0254
	0.0844	0.1039	0.0203	0.0258	0.0037	0	0	0.0036	0	0	
1997	1	1	0	0	25	26	26	71	0	0.035	0.346	0
	0.1126	0.3927	0.0158	0.0117	0.0756	0	0	0.0105	0	0	
1997	1	1	0	0	25	27	27	57	0	0	0.0657	0
	0.0898	0.473	0.0114	0.0476	0.2516	0	0	0.0425	0.0037	0.0148	
1997	1	1	0	0	25	28	28	53	0	0	0.0133	0.0064
	0.0732	0.4159	0.0251	0.0571	0.1446	0.0198	0.0034	0.2095	0	0.0317	
1997	1	1	0	0	25	29	29	41	0	0	0	0.0049
	0.0529	0.2773	0.0101	0.1113	0.1799	0	0	0.2138	0	0.1498	
1997	1	1	0	0	25	30	30	28	0	0	0	0
	0.091	0.0894	0	0.2568	0.0905	0	0	0.3434	0.0127	0.1163	
1997	1	1	0	0	25	31	31	27	0	0	0	0
	0.0121	0.418	0.0203	0.026	0.1185	0	0.042	0.2742	0	0.0889	
1997	1	1	0	0	25	32	32	21	0	0	0	0
	0	0.0109	0.0545	0.1783	0.4441	0	0.0147	0.2328	0	0.0647	
1997	1	1	0	0	25	33	33	11	0	0	0	0
	0	0.0763	0.1328	0	0.2552	0	0	0.3639	0	0.1718	
1997	1	1	0	0	25	34	34	11	0	0	0	0
	0	0.1681	0	0	0.2564	0.1565	0	0.194	0	0.225	
1997	1	1	0	0	25	35	35	5	0	0	0	0
	0	0.0768	0	0	0	0.1854	0	0.7378	0	0	
1997	1	1	0	0	25	36	36	1	0	0	0	0
	0	1	0	0	0	0	0	0	0	0	
1997	1	1	0	0	25	37	37	3	0	0	0	0
	0	0	0	0	0	0	0	1	0	0	
1997	1	1	0	0	25	38	38	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1	

1997	1	1	0	0	25	39	39	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1		
1997	1	1	0	0	25	40	40	1	0	0	0	0
	0	0	0	0	0	0	0	1	0	0		
1997	1	1	0	0	25	41	41	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1		
1997	1	1	0	0	25	42	42	1	0	0	0	0
	0	0	0	0	1	0	0	0	0	0		
1997	1	1	0	0	25	44	44	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1		
1997	1	1	0	0	25	47	47	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1		
1997	1	1	0	0	25	51	51	2	0	0	0	0
	0	0	0	0	0	0	0	0.5619	0	0.4381		
1998	1	1	0	0	26	4	4	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1998	1	1	0	0	26	5	5	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1998	1	1	0	0	26	10	10	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1998	1	1	0	0	26	11	11	3	0.8436	0.1564	0	0
	0	0	0	0	0	0	0	0	0	0		
1998	1	1	0	0	26	12	12	5	0.8406	0.1594	0	0
	0	0	0	0	0	0	0	0	0	0		
1998	1	1	0	0	26	13	13	11	0.9551	0.0449	0	0
	0	0	0	0	0	0	0	0	0	0		
1998	1	1	0	0	26	14	14	18	0.8499	0.1501	0	0
	0	0	0	0	0	0	0	0	0	0		
1998	1	1	0	0	26	15	15	11	0.8356	0.1471	0.0173	0
	0	0	0	0	0	0	0	0	0	0		
1998	1	1	0	0	26	16	16	15	0.5409	0.3968	0.0623	0
	0	0	0	0	0	0	0	0	0	0		
1998	1	1	0	0	26	17	17	28	0.176	0.6676	0.1376	0.0188
	0	0	0	0	0	0	0	0	0	0		
1998	1	1	0	0	26	18	18	43	0.067	0.804	0.0998	0.0292
	0	0	0	0	0	0	0	0	0	0		
1998	1	1	0	0	26	19	19	59	0.0003	0.8136	0.1323	0.0539
	0	0	0	0	0	0	0	0	0	0		
1998	1	1	0	0	26	20	20	62	0.0066	0.7215	0.2061	0.0469
	0.019	0	0	0	0	0	0	0	0	0		
1998	1	1	0	0	26	21	21	75	0	0.4705	0.3286	0.1907
	0	0	0.0102	0	0	0	0	0	0	0		
1998	1	1	0	0	26	22	22	87	0	0.1982	0.3269	0.4282
	0.0192	0.0133	0.0143	0	0	0	0	0	0	0		
1998	1	1	0	0	26	23	23	113	0	0.0398	0.2763	0.5346
	0.055	0.031	0.0572	0	0	0.0061	0	0	0	0		
1998	1	1	0	0	26	24	24	137	0	0.0165	0.194	0.5553
	0.0777	0.0557	0.0757	0.0065	0.0059	0.0128	0	0	0	0		
1998	1	1	0	0	26	25	25	142	0	0.0096	0.1635	0.4387
	0.0533	0.0516	0.1907	0.0179	0.011	0.0455	0.006	0	0.0098	0.0025		
1998	1	1	0	0	26	26	26	117	0	0.0001	0.0827	0.3781
	0.058	0.0919	0.2435	0.0252	0.0252	0.0668	0	0	0.0286	0		
1998	1	1	0	0	26	27	27	95	0	0.0019	0.0343	0.2349
	0.044	0.0862	0.3093	0.0329	0.013	0.1315	0.0124	0.0195	0.053	0.0272		
1998	1	1	0	0	26	28	28	63	0	0	0.0168	0.1554
	0.0236	0.0906	0.351	0.0275	0.0163	0.1796	0	0	0.1377	0.0015		
1998	1	1	0	0	26	29	29	50	0	0	0.0025	0.1039
	0.0354	0.0963	0.1955	0.0059	0.0315	0.1814	0.003	0.0008	0.2973	0.0465		
1998	1	1	0	0	26	30	30	27	0	0	0	0.0101
	0.011	0.1418	0.2622	0.0938	0.0837	0.2067	0.0082	0.0023	0.1027	0.0776		
1998	1	1	0	0	26	31	31	18	0	0	0	0
	0	0.0055	0.2643	0.0041	0	0.4444	0	0	0.2096	0.0722		
1998	1	1	0	0	26	32	32	8	0	0	0	0
	0	0	0.1199	0	0	0	0	0	0.8065	0.0737		
1998	1	1	0	0	26	33	33	4	0	0	0	0
	0	0	0.0374	0	0	0	0.3612	0	0.5663	0.0351		

1998	1	1	0	0	26	34	34	4	0	0	0	0
	0	0	0.1991	0.0162	0	0.2864	0	0	0.4983	0		
1998	1	1	0	0	26	35	35	3	0	0	0	0
	0	0	0.2512	0	0	0.1286	0	0	0.6202	0		
1998	1	1	0	0	26	36	36	5	0	0	0	0.0287
	0	0	0.0951	0	0	0	0	0	0.8762	0		
1998	1	1	0	0	26	37	37	1	0	0	0	0
	0	0	1	0	0	0	0	0	0	0		
1998	1	1	0	0	26	38	38	1	0	0	0	0
	0	0	0.3924	0	0	0	0	0	0.6076	0		
1998	1	1	0	0	26	39	39	1	0	0	0	0
	0	0	0	1	0	0	0	0	0	0		
1998	1	1	0	0	26	40	40	2	0	0	0	0
	0	0	0.023	0	0	0	0.977	0	0	0		
1998	1	1	0	0	26	41	41	1	0	0	0	0
	0	0	0	0	0	0.6076	0	0	0.3924	0		
1998	1	1	0	0	26	43	43	1	0	0	0	0
	0	0	0	0	0	0	0	0	1	0		
1998	1	1	0	0	26	46	46	1	0	0	0	0
	0	0	0	0	0	0	0	0	1	0		
1998	1	1	0	0	26	49	49	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1		
1998	1	1	0	0	26	51	51	1	0	0	0	0
	0	0	0	0	0.2708	0.2708	0	0	0.4583	0		
1999	1	1	0	0	27	6	6	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1999	1	1	0	0	27	9	9	1	0.6667	0.3333	0	0
	0	0	0	0	0	0	0	0	0	0		
1999	1	1	0	0	27	10	10	3	0.1674	0.8326	0	0
	0	0	0	0	0	0	0	0	0	0		
1999	1	1	0	0	27	11	11	10	0.7872	0.1497	0.0631	0
	0	0	0	0	0	0	0	0	0	0		
1999	1	1	0	0	27	12	12	10	0.7382	0.2022	0.0595	0
	0	0	0	0	0	0	0	0	0	0		
1999	1	1	0	0	27	13	13	12	0.5272	0.4728	0	0
	0	0	0	0	0	0	0	0	0	0		
1999	1	1	0	0	27	14	14	25	0.6487	0.3513	0	0
	0	0	0	0	0	0	0	0	0	0		
1999	1	1	0	0	27	15	15	40	0.4336	0.4679	0.0826	0.016
	0	0	0	0	0	0	0	0	0	0		
1999	1	1	0	0	27	16	16	52	0.3422	0.581	0.0768	0
	0	0	0	0	0	0	0	0	0	0		
1999	1	1	0	0	27	17	17	55	0.1512	0.6652	0.1836	0
	0	0	0	0	0	0	0	0	0	0		
1999	1	1	0	0	27	18	18	59	0.0304	0.7128	0.2208	0.0361
	0	0	0	0	0	0	0	0	0	0		
1999	1	1	0	0	27	19	19	80	0.0144	0.6944	0.2345	0.0408
	0.0159	0	0	0	0	0	0	0	0	0		
1999	1	1	0	0	27	20	20	80	0	0.5813	0.3214	0.0627
	0.0141	0.0109	0.0096	0	0	0	0	0	0	0		
1999	1	1	0	0	27	21	21	73	0	0.2778	0.4704	0.1561
	0.0624	0.0169	0	0	0	0	0.0082	0.0082	0	0		
1999	1	1	0	0	27	22	22	78	0	0.1645	0.4986	0.2039
	0.0779	0.0188	0.0088	0.0175	0	0.0088	0.0012	0	0	0		
1999	1	1	0	0	27	23	23	66	0	0.0557	0.3676	0.3666
	0.1438	0.0379	0.0274	0.0011	0	0	0	0	0	0		
1999	1	1	0	0	27	24	24	94	0	0.013	0.3384	0.2889
	0.2139	0.0234	0.0573	0.0362	0	0	0.0096	0.0096	0.0096	0		
1999	1	1	0	0	27	25	25	90	0	0.0095	0.1571	0.369
	0.207	0.0298	0.0866	0.0791	0.0088	0.0078	0.0266	0.0109	0	0.0078		
1999	1	1	0	0	27	26	26	99	0	0	0.1099	0.3287
	0.2062	0.0576	0.1356	0.076	0	0.0005	0.0353	0	0.0208	0.0295		
1999	1	1	0	0	27	27	27	82	0	0	0.0232	0.4216
	0.2176	0.0876	0.0428	0.0826	0.0426	0.0183	0.0258	0	0.0172	0.0206		
1999	1	1	0	0	27	28	28	74	0	0	0.0208	0.2363
	0.2377	0.0419	0.1411	0.0983	0.0159	0.0234	0.079	0.0149	0.0298	0.0609		

1999	1	1	0	0	27	29	29	55	0	0	0	0.1019
	0.0962	0.0564	0.126	0.1987	0.021	0.0977	0.1507	0	0.0736	0.0779		
1999	1	1	0	0	27	30	30	36	0	0	0.0014	0.1442
	0.0444	0.0784	0.0492	0.2458	0.0517	0.0098	0.1957	0.001	0.0651	0.1133		
1999	1	1	0	0	27	31	31	20	0	0	0	0.0497
	0.0086	0.0146	0.0495	0.109	0.0446	0.1062	0.2138	0	0.0446	0.3594		
1999	1	1	0	0	27	32	32	16	0	0	0	0.0046
	0.1319	0.0615	0.0634	0.3199	0.0055	0.0526	0.1063	0.1038	0	0.1505		
1999	1	1	0	0	27	33	33	11	0	0	0	0.0768
	0	0.0768	0	0.0904	0	0.0914	0.2425	0.1839	0	0.2382		
1999	1	1	0	0	27	34	34	7	0	0	0	0
	0.0088	0	0.0144	0.122	0	0.3255	0.0151	0	0	0.5142		
1999	1	1	0	0	27	35	35	4	0	0	0	0
	0	0	0.1659	0.1659	0	0.2794	0.364	0	0	0.0249		
1999	1	1	0	0	27	36	36	1	0	0	0	0
	0	0	0	0.5	0	0	0	0	0	0.5		
1999	1	1	0	0	27	37	37	1	0	0	0	0
	0.2143	0	0	0.4286	0	0	0	0	0	0.3572		
1999	1	1	0	0	27	38	38	4	0	0	0	0
	0	0	0.209	0	0	0.2648	0.209	0	0.0493	0.2679		
1999	1	1	0	0	27	39	39	2	0	0	0	0
	0	0	0	0	0	0	0.4111	0	0	0.5889		
1999	1	1	0	0	27	40	40	1	0	0	0	0
	0	0	0.5	0	0	0.2087	0	0	0	0.2913		
1999	1	1	0	0	27	41	41	2	0	0	0	0
	0	0	0	0	0.0632	0	0	0	0	0.9368		
1999	1	1	0	0	27	42	42	3	0	0	0	0
	0.0973	0	0	0.0292	0	0	0.8735	0	0	0		
1999	1	1	0	0	27	43	43	2	0	0	0	0
	0	0	0	0.0609	0	0	0	0.9391	0	0		
1999	1	1	0	0	27	49	49	1	0	0	0	0
	0	0	0	0	0	0	1	0	0	0		
1999	1	1	0	0	27	50	50	1	0	0	0	0
	0	0	0	1	0	0	0	0	0	0		
1999	1	1	0	0	27	51	51	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1		
2000	1	1	0	0	28	9	9	3	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2000	1	1	0	0	28	10	10	3	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2000	1	1	0	0	28	11	11	4	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2000	1	1	0	0	28	12	12	4	0.7372	0.2628	0	0
	0	0	0	0	0	0	0	0	0	0		
2000	1	1	0	0	28	13	13	3	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2000	1	1	0	0	28	14	14	2	0.3805	0.6195	0	0
	0	0	0	0	0	0	0	0	0	0		
2000	1	1	0	0	28	15	15	3	0.8927	0.072	0.0353	0
	0	0	0	0	0	0	0	0	0	0		
2000	1	1	0	0	28	16	16	4	0.632	0.2875	0	0.0805
	0	0	0	0	0	0	0	0	0	0		
2000	1	1	0	0	28	17	17	7	0.6476	0.2101	0.1423	0
	0	0	0	0	0	0	0	0	0	0		
2000	1	1	0	0	28	18	18	19	0.2218	0.644	0.1342	0
	0	0	0	0	0	0	0	0	0	0		
2000	1	1	0	0	28	19	19	18	0.2636	0.4344	0.2139	0.0881
	0	0	0	0	0	0	0	0	0	0		
2000	1	1	0	0	28	20	20	28	0.3091	0.3001	0.2337	0.0986
	0.0055	0	0.0529	0	0	0	0	0	0	0		
2000	1	1	0	0	28	21	21	43	0.0626	0.449	0.2132	0.1566
	0.0297	0.0297	0.0593	0	0	0	0	0	0	0		
2000	1	1	0	0	28	22	22	53	0.0351	0.2583	0.3768	0.2096
	0.0452	0.025	0.025	0	0.025	0	0	0	0	0		
2000	1	1	0	0	28	23	23	66	0.0092	0.0782	0.3976	0.1475
	0.2501	0.0473	0.0241	0	0.023	0	0	0.023	0	0		

2000	1	1	0	0	28	24	24	99	0.0008	0.2061	0.329	0.1608
	0.1579	0.0438	0.0211	0.0466	0	0	0.0168	0	0.0168	0		
2000	1	1	0	0	28	25	25	105	0.0004	0.0697	0.3671	0.2289
	0.1677	0.0966	0.0296	0.0309	0.0089	0.0001	0	0	0	0		
2000	1	1	0	0	28	26	26	116	0.0004	0.0309	0.2671	0.2791
	0.1928	0.0745	0.0837	0.0168	0.0067	0.0153	0.0225	0.001	0	0.009		
2000	1	1	0	0	28	27	27	137	0.0004	0.0184	0.1218	0.1877
	0.29	0.1558	0.1352	0.0419	0.0068	0.0036	0.0166	0.0056	0	0.0162		
2000	1	1	0	0	28	28	28	147	0	0.0096	0.0541	0.203
	0.2789	0.1346	0.129	0.0852	0.001	0.0215	0.0316	0.0003	0.0205	0.0307		
2000	1	1	0	0	28	29	29	128	0	0.0003	0.0525	0.16
	0.2223	0.1578	0.1305	0.0671	0.0347	0.0148	0.0595	0.0118	0.0171	0.0716		
2000	1	1	0	0	28	30	30	115	0	0	0.0389	0.104
	0.2565	0.1737	0.1304	0.0987	0.0454	0.0436	0.0317	0.0163	0.0192	0.0419		
2000	1	1	0	0	28	31	31	88	0	0	0	0.0585
	0.2353	0.2276	0.0997	0.1159	0.0659	0.0174	0.0278	0.0481	0	0.1038		
2000	1	1	0	0	28	32	32	66	0	0	0	0.0515
	0.3254	0.1629	0.0386	0.0935	0.0198	0.0478	0.0498	0.0448	0.067	0.0988		
2000	1	1	0	0	28	33	33	40	0	0	0.0005	0.0569
	0.249	0.191	0.1156	0.1229	0.0046	0.1039	0.0016	0.0053	0.0247	0.1239		
2000	1	1	0	0	28	34	34	23	0	0	0	0.0523
	0.2118	0.198	0.0613	0.1534	0.058	0.0749	0.0553	0	0.0603	0.0749		
2000	1	1	0	0	28	35	35	20	0	0	0	0
	0.1871	0.2081	0.1102	0.1821	0.0828	0.1502	0	0	0	0.0795		
2000	1	1	0	0	28	36	36	12	0	0	0	0
	0.3523	0.1752	0.2405	0.0631	0.0558	0.0568	0.0002	0.0558	0.0002	0		
2000	1	1	0	0	28	37	37	13	0	0	0	0
	0.1754	0.0125	0	0.2325	0	0.1143	0.0303	0.2883	0	0.1467		
2000	1	1	0	0	28	38	38	5	0	0	0	0
	0	0.1942	0.1389	0.3302	0.1106	0.0062	0	0.0838	0	0.136		
2000	1	1	0	0	28	39	39	4	0	0	0	0
	0.0074	0	0.0148	0	0	0.1072	0.2832	0.1072	0	0.4803		
2000	1	1	0	0	28	40	40	6	0	0	0	0
	0.0761	0	0	0.3226	0	0.0188	0	0	0.0129	0.5695		
2000	1	1	0	0	28	41	41	5	0	0	0	0
	0	0.1412	0	0.3319	0.0232	0.1753	0	0.3165	0	0.012		
2000	1	1	0	0	28	42	42	2	0	0	0	0
	0	0	0.6508	0	0	0	0	0	0.3492	0		
2000	1	1	0	0	28	43	43	5	0	0	0	0
	0	0	0.1079	0	0	0	0.0832	0	0.8089	0		
2000	1	1	0	0	28	44	44	2	0	0	0	0
	0	0	0	0	0	0.0244	0.2942	0	0	0.6814		
2000	1	1	0	0	28	46	46	2	0	0	0	0
	0	0	0	0	0	0	1	0	0	0		
2000	1	1	0	0	28	48	48	1	0	0	0	0
	0	0	0	0	0	1	0	0	0	0		
2000	1	1	0	0	28	50	50	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1		
2000	1	1	0	0	28	51	51	1	0	0	0	0
	0	0	0	0	0	0	0	1	0	0		
2001	1	1	0	0	29	8	8	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2001	1	1	0	0	29	9	9	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2001	1	1	0	0	29	10	10	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2001	1	1	0	0	29	11	11	10	0.9598	0.0402	0	0
	0	0	0	0	0	0	0	0	0	0		
2001	1	1	0	0	29	12	12	9	0.9352	0.0648	0	0
	0	0	0	0	0	0	0	0	0	0		
2001	1	1	0	0	29	13	13	21	0.9294	0.0191	0	0
	0	0	0	0	0	0	0.0515	0	0	0		
2001	1	1	0	0	29	14	14	24	0.9578	0.0422	0	0
	0	0	0	0	0	0	0	0	0	0		
2001	1	1	0	0	29	15	15	31	0.9091	0.0786	0.0123	0
	0	0	0	0	0	0	0	0	0	0		

2001	1	1	0	0	29	16	16	36	0.851	0.1457	0.0033	0
	0	0	0	0	0	0	0	0	0	0		
2001	1	1	0	0	29	17	17	56	0.8824	0.089	0.0286	0
	0	0	0	0	0	0	0	0	0	0		
2001	1	1	0	0	29	18	18	62	0.7742	0.2023	0	0.0235
	0	0	0	0	0	0	0	0	0	0		
2001	1	1	0	0	29	19	19	68	0.7402	0.2353	0.0244	0
	0	0	0	0	0	0	0	0	0	0		
2001	1	1	0	0	29	20	20	65	0.4637	0.4296	0.0244	0.062
	0	0	0	0	0	0.0202	0	0	0	0		
2001	1	1	0	0	29	21	21	70	0.1311	0.5606	0.2333	0.061
	0.0027	0.0113	0	0	0	0	0	0	0	0		
2001	1	1	0	0	29	22	22	109	0.0273	0.6504	0.2465	0.0591
	0	0.0168	0	0	0	0	0	0	0	0		
2001	1	1	0	0	29	23	23	119	0.0126	0.6949	0.1765	0.0865
	0.0287	0	0	0	0	0	0	0.0008	0	0		
2001	1	1	0	0	29	24	24	123	0.0007	0.6177	0.1605	0.1806
	0.0193	0.0211	0	0	0	0	0	0	0	0		
2001	1	1	0	0	29	25	25	142	0	0.3584	0.1398	0.3094
	0.1121	0.035	0.0325	0.0128	0	0	0	0	0	0		
2001	1	1	0	0	29	26	26	151	0.0009	0.1764	0.1418	0.4861
	0.1155	0.0511	0.0194	0.0045	0	0	0	0	0.0042	0		
2001	1	1	0	0	29	27	27	173	0	0.1065	0.2057	0.3721
	0.1624	0.067	0.0246	0.0229	0.0235	0.0117	0.0035	0	0	0		
2001	1	1	0	0	29	28	28	178	0	0.0513	0.1824	0.3118
	0.1551	0.1458	0.0909	0.0066	0.0126	0.0094	0.0155	0	0.0065	0.012		
2001	1	1	0	0	29	29	29	194	0.0002	0.023	0.1515	0.3059
	0.1895	0.1541	0.1037	0.0184	0.0121	0.0063	0.0122	0.0061	0.0067	0.0104		
2001	1	1	0	0	29	30	30	144	0	0.0055	0.1369	0.2987
	0.0936	0.2398	0.0862	0.0178	0.0316	0.0207	0.0255	0.0089	0.0226	0.0121		
2001	1	1	0	0	29	31	31	106	0	0.0117	0.075	0.2027
	0.1416	0.3807	0.0839	0.021	0.0038	0.0457	0.0199	0.0125	0.0007	0.0009		
2001	1	1	0	0	29	32	32	76	0	0	0.1558	0.0842
	0.2191	0.1384	0.1086	0.0781	0.0958	0.0593	0.0128	0.0354	0.0015	0.0109		
2001	1	1	0	0	29	33	33	60	0	0	0.1357	0.1356
	0.0705	0.3023	0.1264	0.0215	0.0513	0.0225	0.0466	0.0433	0.0009	0.0434		
2001	1	1	0	0	29	34	34	42	0	0	0.0607	0.0745
	0.1338	0.3196	0.1991	0.0405	0.0437	0.0093	0.0376	0	0.0767	0.0047		
2001	1	1	0	0	29	35	35	37	0	0	0.0072	0.0487
	0.1599	0.2445	0.3257	0.0031	0.0059	0.0702	0.0617	0.0015	0.0009	0.0707		
2001	1	1	0	0	29	36	36	12	0	0	0	0
	0.1341	0.4997	0.1372	0	0.0039	0.0799	0.0905	0.0547	0	0		
#2001	1	1	0	0	29	37	37	9	0	0	0.088	0
	0.0418	0.1283	0.149	0.4305	0.1623	0	0	0	0	0		
#2001	1	1	0	0	29	38	38	12	0	0.1931	0	0
	0.0138	0.2183	0.0109	0.2212	0.1931	0.0059	0	0.0148	0.1222	0.0068		
2001	1	1	0	0	29	39	39	2	0	0	0	0
	0.27	0.019	0	0	0	0	0.27	0.441	0	0		
2001	1	1	0	0	29	40	40	3	0	0	0	0
	0	0	0.0293	0	0	0	0	0	0.481	0.4897		
2001	1	1	0	0	29	41	41	5	0	0	0	0.447
	0	0.0745	0.0169	0	0	0	0.0145	0.447	0	0		
2001	1	1	0	0	29	42	42	1	0	0	0	0
	0	1	0	0	0	0	0	0	0	0		
2001	1	1	0	0	29	43	43	1	0	0	0	0
	0	0	0	0	1	0	0	0	0	0		
2001	1	1	0	0	29	44	44	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1		
2001	1	1	0	0	29	45	45	1	0	0	0	0
	0	1	0	0	0	0	0	0	0	0		
2001	1	1	0	0	29	46	46	2	0	0	0	0
	0	0	0	0	0	0.9538	0	0	0	0.0462		
2001	1	1	0	0	29	47	47	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1		
2001	1	1	0	0	29	51	51	1	0	0	0	0
	0	0	0	0	0	0	1	0	0	0		

2002	1	1	0	0	30	12	12	1	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
2002	1	1	0	0	30	15	15	1	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
2002	1	1	0	0	30	16	16	3	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
2002	1	1	0	0	30	17	17	13	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
2002	1	1	0	0	30	18	18	27	0.0212	0.9575	0.0212	0
	0	0	0	0	0	0	0	0	0	0		
2002	1	1	0	0	30	19	19	64	0	0.9536	0.0262	0.0087
	0.0014	0.0014	0	0.0087	0	0	0	0	0	0		
2002	1	1	0	0	30	20	20	113	0	0.9516	0.0479	0
	0.0005	0	0	0	0	0	0	0	0	0		
2002	1	1	0	0	30	21	21	153	0	0.92	0.0687	0.0103
	0	0	0	0.0004	0	0	0.0006	0	0	0		
2002	1	1	0	0	30	22	22	176	0	0.8539	0.1351	0.0009
	0.007	0	0.0031	0	0	0	0	0	0	0		
2002	1	1	0	0	30	23	23	156	0	0.7696	0.1876	0.0383
	0	0	0	0.0046	0	0	0	0	0	0		
2002	1	1	0	0	30	24	24	131	0	0.6197	0.3125	0.0152
	0.0326	0.0138	0	0	0	0	0.0054	0	0.0008	0		
2002	1	1	0	0	30	25	25	105	0	0.3903	0.4597	0.0576
	0.0474	0.0248	0.0067	0.0135	0	0	0	0	0	0		
2002	1	1	0	0	30	26	26	78	0	0.2787	0.4258	0.0796
	0.1445	0.0606	0.0014	0.0094	0	0	0	0	0	0		
2002	1	1	0	0	30	27	27	66	0	0.0833	0.3968	0.1322
	0.2763	0.0375	0.0575	0.0141	0.0023	0	0	0	0	0		
2002	1	1	0	0	30	28	28	67	0	0.027	0.2691	0.3369
	0.2088	0.0691	0.0135	0.0394	0.0046	0	0.0036	0.0012	0.0216	0.0052		
2002	1	1	0	0	30	29	29	72	0	0.0372	0.2939	0.1665
	0.1178	0.246	0.0386	0.0602	0.0184	0.0013	0.0166	0	0.0012	0.0023		
2002	1	1	0	0	30	30	30	79	0	0.0289	0.2717	0.2158
	0.2912	0.0453	0.0649	0.0687	0.0071	0.0017	0.0016	0	0.0013	0.0019		
2002	1	1	0	0	30	31	31	82	0	0.0066	0.1999	0.1397
	0.3033	0.084	0.1279	0.066	0.0048	0.0283	0.0345	0.0023	0	0.0026		
2002	1	1	0	0	30	32	32	72	0	0	0.0821	0.2383
	0.1397	0.2734	0.1195	0.1268	0.0061	0.0058	0.0053	0	0	0.0031		
2002	1	1	0	0	30	33	33	58	0	0.0037	0.0629	0.1679
	0.0987	0.1781	0.129	0.096	0.1642	0	0.0862	0.0064	0	0.007		
2002	1	1	0	0	30	34	34	50	0	0	0.1472	0.0996
	0.0224	0.1104	0.3308	0.0903	0.0759	0.0739	0.0494	0	0	0		
2002	1	1	0	0	30	35	35	41	0	0.0026	0	0.1863
	0.0145	0.0756	0.4734	0.1079	0.0326	0.0724	0.0326	0	0	0.0023		
2002	1	1	0	0	30	36	36	28	0	0.0078	0	0.1485
	0.1362	0.2861	0.1138	0.2598	0.0084	0.0195	0	0.0098	0.0101	0		
2002	1	1	0	0	30	37	37	18	0	0	0	0
	0.3278	0.3563	0.0455	0.0221	0	0	0.0119	0	0.0536	0.1828		
2002	1	1	0	0	30	38	38	14	0	0	0	0.1886
	0	0.1937	0.3789	0.0081	0.0129	0.0141	0	0.0077	0	0.196		
2002	1	1	0	0	30	39	39	8	0	0	0	0
	0.0413	0.0488	0.0213	0.1095	0.0358	0	0.0462	0	0	0.6971		
2002	1	1	0	0	30	40	40	5	0	0	0	0
	0	0	0.9383	0.0617	0	0	0	0	0	0		
2002	1	1	0	0	30	41	41	5	0	0	0	0.021
	0	0	0.0362	0	0	0.0357	0	0	0	0.907		
2002	1	1	0	0	30	42	42	2	0	0	0	0
	0	0	0	1	0	0	0	0	0	0		
#2002	1	1	0	0	30	43	43	3	0	0.7126	0	0
	0	0	0.2532	0	0	0	0	0	0	0.0342		
2002	1	1	0	0	30	44	44	2	0	0	0	0
	0	0.9624	0.0376	0	0	0	0	0	0	0		
2002	1	1	0	0	30	45	45	3	0	0	0	0
	0	0	0.0264	0.943	0	0	0	0	0.0306	0		
2002	1	1	0	0	30	46	46	1	0	0	0	0
	0	0	0	1	0	0	0	0	0	0		

2002	1	1	0	0	30	47	47	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1		
2002	1	1	0	0	30	49	49	1	0	0	0	0
	0	0	0	0.5	0	0	0	0	0	0.5		
2002	1	1	0	0	30	51	51	1	0	0	0	0
	0	0	0	0	0	0	0	0	1	0		
2003	1	1	0	0	31	9	9	1	0	0	1	0
	0	0	0	0	0	0	0	0	0	0		
2003	1	1	0	0	31	12	12	2	0	0	1	0
	0	0	0	0	0	0	0	0	0	0		
2003	1	1	0	0	31	14	14	3	0.2523	0	0.7477	0
	0	0	0	0	0	0	0	0	0	0		
2003	1	1	0	0	31	15	15	2	0.3497	0	0.6503	0
	0	0	0	0	0	0	0	0	0	0		
2003	1	1	0	0	31	16	16	6	0	0	0.6704	0.1418
	0	0.1878	0	0	0	0	0	0	0	0		
2003	1	1	0	0	31	17	17	29	0	0.1229	0.8322	0.0198
	0.0251	0	0	0	0	0	0	0	0	0		
2003	1	1	0	0	31	18	18	42	0.012	0.1288	0.8306	0.0287
	0	0	0	0	0	0	0	0	0	0		
2003	1	1	0	0	31	19	19	60	0.0223	0.077	0.8543	0.0419
	0.0046	0	0	0	0	0	0	0	0	0		
2003	1	1	0	0	31	20	20	92	0	0.0233	0.8959	0.0327
	0.0232	0.0188	0.0028	0	0.0032	0	0	0	0	0		
2003	1	1	0	0	31	21	21	133	0	0.0407	0.8958	0.0522
	0.0052	0	0.0023	0.0026	0.0011	0	0	0	0	0		
2003	1	1	0	0	31	22	22	205	0	0.0285	0.8839	0.0693
	0.0055	0.0042	0.0086	0	0	0	0	0	0	0		
2003	1	1	0	0	31	23	23	264	0	0.0041	0.8944	0.0668
	0.0145	0.0069	0.0069	0.0041	0.0013	0.001	0	0	0	0		
2003	1	1	0	0	31	24	24	283	0	0.0016	0.8602	0.1027
	0.011	0.0134	0.0056	0.0034	0.0021	0	0	0	0	0		
2003	1	1	0	0	31	25	25	246	0	0.0028	0.7977	0.1425
	0.0179	0.0207	0.016	0.0012	0.0012	0	0	0	0	0		
2003	1	1	0	0	31	26	26	181	0	0.0013	0.7751	0.131
	0.019	0.0367	0.0094	0.0109	0	0.0059	0.0076	0.0031	0	0		
2003	1	1	0	0	31	27	27	121	0	0.0021	0.6549	0.1207
	0.0338	0.0939	0.0296	0.0423	0.0088	0.0051	0	0.0088	0	0		
2003	1	1	0	0	31	28	28	77	0	0	0.3367	0.1165
	0.0608	0.2035	0.1417	0.0483	0.0542	0.0157	0.0005	0.0102	0.0119	0		
2003	1	1	0	0	31	29	29	57	0	0	0.3516	0.1979
	0.0524	0.0917	0.0554	0.0979	0.0742	0.0303	0	0.0263	0	0.0222		
2003	1	1	0	0	31	30	30	39	0	0	0.1948	0.1642
	0.0155	0.0711	0.1806	0.2315	0.0947	0.0202	0.0102	0.0172	0	0		
2003	1	1	0	0	31	31	31	38	0	0	0.1585	0.1644
	0.1092	0.0922	0.0709	0.1619	0.0686	0.1001	0.0247	0.023	0	0.0265		
2003	1	1	0	0	31	32	32	20	0	0	0.0423	0.3264
	0.0644	0.0903	0.1195	0.1637	0	0.0912	0.0412	0.061	0	0		
2003	1	1	0	0	31	33	33	16	0	0	0.0644	0.3435
	0.0541	0.0601	0.1103	0.0578	0.2012	0	0.053	0	0	0.0555		
2003	1	1	0	0	31	34	34	5	0	0	0.3322	0
	0	0.252	0.2176	0	0	0.1983	0	0	0	0		
2003	1	1	0	0	31	35	35	7	0	0	0.134	0.5138
	0.1414	0.1018	0.1089	0	0	0	0	0	0	0		
2003	1	1	0	0	31	36	36	4	0	0	0.3824	0.1644
	0.243	0	0.2102	0	0	0	0	0	0	0		
2003	1	1	0	0	31	37	37	3	0	0	0.3228	0.4274
	0	0	0	0	0	0.2498	0	0	0	0		
2003	1	1	0	0	31	39	39	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1		
2003	1	1	0	0	31	40	40	1	0	0	0	0
	0	0	0	1	0	0	0	0	0	0		
2003	1	1	0	0	31	46	46	1	0	0	0	0
	0	0	0	0	0	0	0	0	1	0		
#2004	1	1	0	0	32	1	1	1	0	0	0	1
	0	0	0	0	0	0	0	0	0	0		

2004	1	1	0	0	32	12	12	1	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
2004	1	1	0	0	32	18	18	3	0	0.6326	0	0.3674
	0	0	0	0	0	0	0	0	0	0		
2004	1	1	0	0	32	19	19	11	0	0.7737	0	0.2263
	0	0	0	0	0	0	0	0	0	0		
2004	1	1	0	0	32	20	20	29	0	0.9268	0.0225	0.0507
	0	0	0	0	0	0	0	0	0	0		
2004	1	1	0	0	32	21	21	73	0	0.5005	0.177	0.3173
	0	0	0.0052	0	0	0	0	0	0	0		
2004	1	1	0	0	32	22	22	138	0	0.324	0.2537	0.4
	0.0223	0	0	0	0	0	0	0	0	0		
2004	1	1	0	0	32	23	23	197	0	0.1389	0.1658	0.6729
	0.0116	0	0.0078	0	0	0	0.0031	0	0	0		
2004	1	1	0	0	32	24	24	284	0	0.0301	0.1207	0.8076
	0.0349	0.0047	0.002	0	0	0	0	0	0	0		
2004	1	1	0	0	32	25	25	298	0	0.0253	0.0914	0.8411
	0.0262	0.0026	0.0093	0.0034	0.0008	0	0	0	0	0		
2004	1	1	0	0	32	26	26	294	0	0.0143	0.0583	0.8355
	0.0554	0.0085	0.0152	0.0108	0.0019	0	0	0	0	0		
2004	1	1	0	0	32	27	27	244	0	0.0013	0.0297	0.8023
	0.0764	0.0248	0.0204	0.037	0.0024	0.0058	0	0	0	0		
2004	1	1	0	0	32	28	28	152	0	0	0.0402	0.6945
	0.1002	0.0285	0.0756	0.0264	0.0033	0.0223	0.009	0	0	0		
2004	1	1	0	0	32	29	29	119	0	0.0057	0.0264	0.5327
	0.098	0.0396	0.1565	0.074	0.0174	0.0167	0	0.018	0	0.015		
2004	1	1	0	0	32	30	30	60	0	0	0.0065	0.4137
	0.1909	0.0281	0.1921	0.0959	0.0405	0.0249	0.0074	0	0	0		
2004	1	1	0	0	32	31	31	42	0	0	0.0126	0.31
	0.2561	0.0566	0.1632	0.0423	0.0471	0.0804	0	0.0317	0	0		
2004	1	1	0	0	32	32	32	25	0	0	0	0.2405
	0.2211	0.1585	0.086	0.1898	0.0344	0	0.0344	0.0355	0	0		
2004	1	1	0	0	32	33	33	19	0	0	0	0.1649
	0.1188	0.0973	0.1768	0.2085	0.1837	0	0.05	0	0	0		
2004	1	1	0	0	32	34	34	7	0	0	0	0
	0.1523	0	0.3585	0.1579	0.3312	0	0	0	0	0		
2004	1	1	0	0	32	35	35	7	0	0.0555	0	0
	0.3404	0	0.1029	0.1029	0.2042	0.1942	0	0	0	0		
2004	1	1	0	0	32	36	36	6	0	0	0	0.3098
	0	0.3037	0.2113	0	0	0	0	0	0.1752	0		
2004	1	1	0	0	32	37	37	5	0	0	0	0
	0.2089	0.4178	0.1247	0	0.02	0.1468	0	0	0	0.0818		
2004	1	1	0	0	32	38	38	2	0	0	0	0
	0.532	0	0	0	0	0	0.468	0	0	0		
2004	1	1	0	0	32	39	39	2	0	0	0	0
	0	0	0.4609	0	0	0	0	0	0	0.5391		
2004	1	1	0	0	32	40	40	1	0	0	0	0
	0	0	0	1	0	0	0	0	0	0		
2004	1	1	0	0	32	41	41	3	0	0	0	0
	0	0.3113	0	0.3345	0	0	0	0.3542	0	0		
2004	1	1	0	0	32	42	42	2	0	0	0	1
	0	0	0	0	0	0	0	0	0	0		
2004	1	1	0	0	32	43	43	1	0	0	0	0
	0	0	0	0	0	1	0	0	0	0		
2004	1	1	0	0	32	45	45	2	0	0	0	0.6249
	0	0	0	0.3751	0	0	0	0	0	0		
2004	1	1	0	0	32	48	48	1	0	0	0	0
	0	0	0	1	0	0	0	0	0	0		
2004	1	1	0	0	32	51	51	2	0	0	0	0
	0	0	0	0	0.3186	0.3628	0	0.3186	0	0		
2005	1	1	0	0	33	14	14	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2005	1	1	0	0	33	15	15	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2005	1	1	0	0	33	16	16	4	0.7596	0	0	0
	0.2404	0	0	0	0	0	0	0	0	0		

2005	1	1	0	0	33	18	18	4	0.5915	0	0	0
	0.2043	0	0	0	0	0.2043	0	0	0	0		
2005	1	1	0	0	33	19	19	4	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2005	1	1	0	0	33	20	20	12	0.6044	0.1484	0.155	0
	0.0923	0	0	0	0	0	0	0	0	0		
2005	1	1	0	0	33	21	21	34	0.2282	0.155	0.2543	0
	0.3625	0	0	0	0	0	0	0	0	0		
2005	1	1	0	0	33	22	22	74	0	0.0415	0.4382	0.038
	0.4592	0.023	0	0	0	0	0	0	0	0		
2005	1	1	0	0	33	23	23	164	0	0.0109	0.1942	0.1051
	0.6086	0.0685	0.0126	0	0	0	0	0	0	0		
2005	1	1	0	0	33	24	24	295	0	0.0115	0.1855	0.0741
	0.6754	0.0458	0.0076	0	0	0	0	0	0	0		
2005	1	1	0	0	33	25	25	362	0	0.0016	0.1104	0.0772
	0.714	0.0724	0.0159	0.0038	0.0047	0	0	0	0	0		
2005	1	1	0	0	33	26	26	373	0	0	0.0629	0.0714
	0.7741	0.0621	0.0129	0.009	0.0027	0.0048	0	0	0	0		
2005	1	1	0	0	33	27	27	324	0	0	0.0271	0.0488
	0.7865	0.0548	0.042	0.0166	0.0149	0.0019	0.0074	0	0	0		
2005	1	1	0	0	33	28	28	246	0	0	0.0246	0.0597
	0.7312	0.0816	0.0164	0.0352	0.0332	0.0049	0.0085	0	0.0048	0		
2005	1	1	0	0	33	29	29	150	0	0	0	0.0544
	0.6082	0.1228	0.0249	0.0912	0.0477	0.0128	0.038	0	0	0		
2005	1	1	0	0	33	30	30	98	0	0	0	0
	0.5747	0.138	0.0975	0.1048	0.0311	0.0109	0.0242	0.0189	0	0		
2005	1	1	0	0	33	31	31	63	0	0	0	0
	0.5779	0.0912	0.0392	0.0857	0.0449	0.0507	0.0349	0.053	0	0.0224		
2005	1	1	0	0	33	32	32	42	0	0	0	0.0247
	0.5025	0.0552	0.0135	0.1295	0.1213	0.0641	0.0892	0	0	0		
2005	1	1	0	0	33	33	33	16	0	0	0	0
	0.7348	0.0889	0	0	0	0.1763	0	0	0	0		
2005	1	1	0	0	33	34	34	19	0	0	0.0427	0
	0.2822	0.1596	0.2031	0.1243	0	0.0816	0.1065	0	0	0		
2005	1	1	0	0	33	35	35	9	0	0	0	0.1827
	0.2983	0.1309	0.0977	0.1099	0	0	0	0	0	0.1804		
2005	1	1	0	0	33	36	36	5	0	0	0	0
	1	0	0	0	0	0	0	0	0	0		
2005	1	1	0	0	33	37	37	8	0	0	0	0
	0.8069	0	0	0	0	0	0	0.1931	0	0		
2005	1	1	0	0	33	38	38	8	0	0	0	0
	0.6253	0	0.3747	0	0	0	0	0	0	0		
2005	1	1	0	0	33	39	39	1	0	0	0	0
	0	0	1	0	0	0	0	0	0	0		
2005	1	1	0	0	33	40	40	4	0	0	0	0
	0	0.3876	0	0	0	0	0.6124	0	0	0		
2005	1	1	0	0	33	42	42	1	0	0	0	0
	0	0	0	1	0	0	0	0	0	0		
2005	1	1	0	0	33	47	47	3	0	0	0	0
	0	0	0	0	0	1	0	0	0	0		
2005	1	1	0	0	33	49	49	1	0	0	0	0
	0	0	1	0	0	0	0	0	0	0		
2006	1	1	0	0	34	6	6	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2006	1	1	0	0	34	7	7	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2006	1	1	0	0	34	8	8	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2006	1	1	0	0	34	9	9	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2006	1	1	0	0	34	10	10	4	0.6142	0.2926	0	0
	0	0.0932	0	0	0	0	0	0	0	0		
2006	1	1	0	0	34	11	11	6	0.871	0	0	0
	0.0171	0.1119	0	0	0	0	0	0	0	0		
2006	1	1	0	0	34	12	12	7	0.8446	0	0	0
	0	0.1554	0	0	0	0	0	0	0	0		

2006	1	1	0	0	34	13	13	11	0.7909	0	0	0.0334
	0.1224	0.0533	0	0	0	0	0	0	0	0		
2006	1	1	0	0	34	14	14	11	0.7731	0	0	0
	0.1335	0.0331	0.0603	0	0	0	0	0	0	0		
2006	1	1	0	0	34	15	15	10	0.8494	0	0	0
	0	0.1506	0	0	0	0	0	0	0	0		
2006	1	1	0	0	34	16	16	9	0.5093	0.3036	0	0.0623
	0	0.1248	0	0	0	0	0	0	0	0		
2006	1	1	0	0	34	17	17	7	0.6496	0.2299	0	0
	0	0.1205	0	0	0	0	0	0	0	0		
2006	1	1	0	0	34	18	18	14	0.2079	0.6933	0	0.0432
	0	0.0556	0	0	0	0	0	0	0	0		
2006	1	1	0	0	34	19	19	28	0.1025	0.8754	0	0
	0	0.022	0	0	0	0	0	0	0	0		
2006	1	1	0	0	34	20	20	51	0.0136	0.9143	0.0163	0.0347
	0	0.0132	0.0079	0	0	0	0	0	0	0		
2006	1	1	0	0	34	21	21	96	0.0192	0.8386	0.0498	0.0285
	0	0.0511	0.0106	0	0.0021	0	0	0	0	0		
2006	1	1	0	0	34	22	22	107	0.0092	0.6934	0.0448	0.0698
	0.0054	0.1667	0.0073	0.0009	0	0	0	0.0024	0	0		
2006	1	1	0	0	34	23	23	128	0.0125	0.428	0.0547	0.1532
	0.0071	0.311	0.0335	0	0	0	0	0	0	0		
2006	1	1	0	0	34	24	24	187	0.0021	0.1592	0.0566	0.163
	0.035	0.5616	0.012	0	0.0064	0.0018	0.0024	0	0	0		
2006	1	1	0	0	34	25	25	275	0.0045	0.0446	0.0306	0.1604
	0.0888	0.612	0.0465	0.0029	0.0048	0.0023	0.0026	0	0	0		
2006	1	1	0	0	34	26	26	298	0.0009	0.0289	0.0098	0.1042
	0.0656	0.7374	0.0393	0.0024	0.0064	0.0012	0.0022	0	0.0018	0		
2006	1	1	0	0	34	27	27	328	0.0048	0.0064	0.0066	0.0934
	0.0597	0.7712	0.0379	0.0028	0.0034	0.0019	0.0078	0.0041	0	0		
2006	1	1	0	0	34	28	28	248	0.0011	0.0031	0	0.0738
	0.0671	0.7762	0.0379	0.0123	0.0102	0.0099	0.0011	0.0062	0.001	0		
2006	1	1	0	0	34	29	29	187	0	0	0.002	0.0889
	0.0608	0.7157	0.0615	0.0333	0.0222	0.0128	0	0.0027	0	0		
2006	1	1	0	0	34	30	30	112	0	0.0043	0.0049	0.0682
	0.0419	0.6553	0.0555	0.0351	0.0666	0.0289	0.0091	0	0	0.0302		
2006	1	1	0	0	34	31	31	72	0	0	0.0141	0.0124
	0.1107	0.4962	0.0936	0.1005	0.0498	0.0307	0.0187	0.0585	0	0.0146		
2006	1	1	0	0	34	32	32	45	0	0	0	0.0096
	0.0172	0.5782	0.061	0.0449	0.2078	0.0142	0.0382	0	0.0289	0		
2006	1	1	0	0	34	33	33	18	0.0317	0.0228	0	0.0225
	0	0.5419	0	0.0955	0.0783	0.2072	0	0	0	0		
2006	1	1	0	0	34	34	34	8	0	0	0	0
	0	0.5547	0	0.0776	0	0.0963	0.2333	0.0381	0	0		
2006	1	1	0	0	34	35	35	2	0	0	0	0
	0	0.5319	0	0	0.4681	0	0	0	0	0		
2006	1	1	0	0	34	36	36	8	0	0	0.0209	0.109
	0	0.67	0	0.0772	0.1229	0	0	0	0	0		
2006	1	1	0	0	34	37	37	3	0	0	0	0
	0	0.7188	0.0462	0.2349	0	0	0	0	0	0		
2006	1	1	0	0	34	38	38	6	0	0	0	0
	0	0.5267	0.181	0	0.2922	0	0	0	0	0		
2006	1	1	0	0	34	39	39	4	0	0	0	0
	0	0.197	0.3508	0.2902	0.162	0	0	0	0	0		
#2006	1	1	0	0	34	40	40	1	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
#2006	1	1	0	0	34	41	41	2	0	0.7817	0	0
	0	0	0.2183	0	0	0	0	0	0	0		
2006	1	1	0	0	34	42	42	1	0	0	0	0
	0	0	1	0	0	0	0	0	0	0		
2006	1	1	0	0	34	43	43	1	0	0	0	0
	0	0	1	0	0	0	0	0	0	0		
2006	1	1	0	0	34	45	45	2	0	0	0	0
	0	1	0	0	0	0	0	0	0	0		
2006	1	1	0	0	34	46	46	1	0	0	0	0
	0	1	0	0	0	0	0	0	0	0		

2006	1	1	0	0	34	47	47	3	0	0	0	0
	0	0.7668	0.2332	0	0	0	0	0	0	0		
2006	1	1	0	0	34	49	49	2	0	0	0	0.3178
	0	0	0	0	0	0	0	0	0	0.6822		
2006	1	1	0	0	34	51	51	5	0	0	0	0.1182
	0	0.2948	0	0	0	0.2307	0.3563	0	0	0		
2007	1	1	0	0	35	1	1	4	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2007	1	1	0	0	35	3	3	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2007	1	1	0	0	35	4	4	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2007	1	1	0	0	35	7	7	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2007	1	1	0	0	35	8	8	3	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2007	1	1	0	0	35	9	9	6	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2007	1	1	0	0	35	10	10	8	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2007	1	1	0	0	35	11	11	11	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2007	1	1	0	0	35	12	12	17	0.9923	0.0077	0	0
	0	0	0	0	0	0	0	0	0	0		
2007	1	1	0	0	35	13	13	39	0.9844	0	0.0156	0
	0	0	0	0	0	0	0	0	0	0		
2007	1	1	0	0	35	14	14	41	0.9862	0	0.0038	0
	0	0	0.0101	0	0	0	0	0	0	0		
2007	1	1	0	0	35	15	15	41	0.9732	0.0014	0.0045	0
	0	0	0.0208	0	0	0	0	0	0	0		
2007	1	1	0	0	35	16	16	57	0.9344	0.0271	0.0275	0
	0.011	0	0	0	0	0	0	0	0	0		
2007	1	1	0	0	35	17	17	45	0.9249	0.029	0.005	0
	0.0033	0	0.0378	0	0	0	0	0	0	0		
2007	1	1	0	0	35	18	18	49	0.7971	0.1966	0	0
	0	0.0029	0.0034	0	0	0	0	0	0	0		
2007	1	1	0	0	35	19	19	60	0.5815	0.3678	0.0107	0
	0	0	0.0368	0.0032	0	0	0	0	0	0		
2007	1	1	0	0	35	20	20	42	0.3778	0.4168	0.186	0
	0	0	0.0194	0	0	0	0	0	0	0		
2007	1	1	0	0	35	21	21	46	0.0136	0.5893	0.3929	0.0042
	0	0	0	0	0	0	0	0	0	0		
2007	1	1	0	0	35	22	22	72	0.0297	0.2207	0.6874	0.0353
	0	0	0.0268	0	0	0	0	0	0	0		
2007	1	1	0	0	35	23	23	126	0	0.1017	0.7274	0.0234
	0.0782	0.0174	0.0518	0	0	0	0	0	0	0		
2007	1	1	0	0	35	24	24	155	0.0006	0.067	0.5713	0.0269
	0.0497	0.0252	0.2532	0.0061	0	0	0	0	0	0		
2007	1	1	0	0	35	25	25	235	0	0.0298	0.3914	0.0335
	0.0988	0.0246	0.3901	0.0222	0.0066	0.0007	0.0023	0	0	0		
2007	1	1	0	0	35	26	26	319	0.0004	0.0049	0.2068	0.0205
	0.098	0.0539	0.5364	0.0643	0.0045	0.0059	0.0006	0.0026	0.0012	0		
2007	1	1	0	0	35	27	27	332	0.0041	0.0005	0.112	0.0306
	0.1035	0.0822	0.601	0.0328	0.0128	0.0133	0.0071	0	0	0		
2007	1	1	0	0	35	28	28	315	0.0026	0.0049	0.0604	0.0149
	0.1122	0.0863	0.6003	0.0755	0.0222	0.0051	0.0137	0.001	0.0007	0		
2007	1	1	0	0	35	29	29	259	0.0042	0.0043	0.0532	0.0087
	0.1211	0.0643	0.6378	0.0331	0.0378	0.0293	0.0039	0	0	0.0025		
2007	1	1	0	0	35	30	30	173	0.0024	0.0061	0.0332	0
	0.089	0.0499	0.6318	0.0821	0.0278	0.0247	0.0376	0.0072	0	0.0082		
2007	1	1	0	0	35	31	31	124	0	0	0.0209	0
	0.0707	0.0449	0.594	0.0983	0.0188	0.0876	0.0565	0.0083	0	0		
2007	1	1	0	0	35	32	32	74	0	0	0.0045	0
	0.0643	0.0957	0.5661	0.1267	0.0758	0.0591	0	0	0.0077	0		
2007	1	1	0	0	35	33	33	53	0.0086	0	0	0.0349
	0.0572	0.0744	0.5612	0.0283	0.1532	0.0478	0.0285	0	0	0.0059		

2007	1	1	0	0	35	34	34	31	0	0	0	0
	0	0.0744	0.4638	0.1615	0.147	0.0312	0	0.055	0.0087	0.0584		
2007	1	1	0	0	35	35	35	19	0	0.0208	0.0174	0
	0	0.1247	0.5505	0.2052	0.0815	0	0	0	0	0		
2007	1	1	0	0	35	36	36	14	0	0	0	0
	0	0	0.5045	0.1678	0.0805	0.0432	0	0	0	0.2041		
2007	1	1	0	0	35	37	37	9	0.0358	0	0	0
	0	0	0.6	0.0468	0.2686	0	0	0	0	0.0488		
2007	1	1	0	0	35	38	38	16	0	0	0	0
	0	0.1129	0.3285	0.2399	0.1147	0.0736	0	0.0289	0	0.1015		
2007	1	1	0	0	35	39	39	4	0	0	0	0
	0	0	0.3342	0	0.6658	0	0	0	0	0		
2007	1	1	0	0	35	40	40	6	0	0	0	0
	0	0	0.1221	0.5907	0	0.2873	0	0	0	0		
2007	1	1	0	0	35	41	41	6	0	0	0	0
	0	0	0.3024	0.355	0.2298	0.1129	0	0	0	0		
2007	1	1	0	0	35	42	42	2	0	0	0	0
	0	0	0	0.4418	0	0	0.5582	0	0	0		
2007	1	1	0	0	35	43	43	1	0	0	0	0
	0	0	1	0	0	0	0	0	0	0		
2007	1	1	0	0	35	44	44	5	0	0	0	0
	0	0.0529	0	0.6491	0.1778	0.1203	0	0	0	0		
2007	1	1	0	0	35	45	45	1	0	0	0	0
	0	0	0	0	0	0	1	0	0	0		
2007	1	1	0	0	35	46	46	1	0	0	0	0
	0	0	0	1	0	0	0	0	0	0		
2007	1	1	0	0	35	47	47	1	0	0	0	0
	0	0	0	0	0	0	0	0	1	0		
2007	1	1	0	0	35	51	51	4	0	0	0	0
	0	0	0	0.3215	0.3215	0.1045	0.1821	0.0702	0	0		
2008	1	1	0	0	36	4	4	1	1.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	1	0	0	36	5	5	3	1.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	1	0	0	36	6	6	2	1.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	1	0	0	36	7	7	6	1.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	1	0	0	36	8	8	7	1.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	1	0	0	36	9	9	6	1.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	1	0	0	36	10	10	7	1.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	1	0	0	36	11	11	3	1.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	1	0	0	36	12	12	11	1.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	1	0	0	36	13	13	11	0.8207	0.1793	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	1	0	0	36	14	14	11	0.6633	0.3367	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	1	0	0	36	15	15	20	0.6538	0.3462	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	1	0	0	36	16	16	23	0.1358	0.8497	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0145	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	1	0	0	36	17	17	28	0.0446	0.9554	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	1	0	0	36	18	18	48	0.0003	0.9997	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	1	0	0	36	19	19	78	0.0000	0.9695	0.0019	0.0157
	0.0000	0.0000	0.0000	0.0129	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	1	0	0	36	20	20	72	0.0000	1.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	1	0	0	36	21	21	77	0.0001	0.9791	0.0207	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		

2008	1	1	0	0	36	22	22	84	0.0000	0.8878	0.0573	0.0407
	0.0031	0.0000	0.0000	0.0112	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	1	0	0	36	23	23	56	0.0000	0.6120	0.1872	0.1274
	0.0044	0.0000	0.0000	0.0648	0.0042	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	1	0	0	36	24	24	62	0.0000	0.2892	0.2000	0.3729
	0.0000	0.0356	0.0289	0.0734	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	1	0	0	36	25	25	95	0.0000	0.0641	0.2004	0.5497
	0.0371	0.0066	0.0147	0.1124	0.0000	0.0149	0.0000	0.0000	0.0000	0.0000		
2008	1	1	0	0	36	26	26	121	0.0000	0.0479	0.1136	0.4281
	0.0122	0.0553	0.0404	0.2964	0.0060	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	1	0	0	36	27	27	155	0.0000	0.0111	0.0432	0.3348
	0.0354	0.0970	0.0493	0.4138	0.0154	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	1	0	0	36	28	28	183	0.0000	0.0000	0.0264	0.2513
	0.0153	0.0666	0.1020	0.4807	0.0274	0.0233	0.0032	0.0037	0.0000	0.0000		
2008	1	1	0	0	36	29	29	165	0.0000	0.0000	0.0093	0.1596
	0.0030	0.0856	0.0717	0.6021	0.0457	0.0012	0.0009	0.0054	0.0155	0.0000		
2008	1	1	0	0	36	30	30	181	0.0000	0.0039	0.0084	0.1210
	0.0261	0.0654	0.0531	0.6548	0.0202	0.0000	0.0278	0.0051	0.0135	0.0007		
2008	1	1	0	0	36	31	31	132	0.0000	0.0000	0.0099	0.1143
	0.0154	0.0531	0.0601	0.6248	0.0536	0.0245	0.0383	0.0060	0.0000	0.0000		
2008	1	1	0	0	36	32	32	112	0.0000	0.0000	0.0067	0.0620
	0.0174	0.0806	0.1004	0.6761	0.0192	0.0133	0.0152	0.0033	0.0000	0.0059		
2008	1	1	0	0	36	33	33	85	0.0000	0.0000	0.0071	0.0318
	0.0342	0.0693	0.1381	0.5865	0.0571	0.0080	0.0387	0.0188	0.0000	0.0105		
2008	1	1	0	0	36	34	34	64	0.0000	0.0000	0.0000	0.0556
	0.0085	0.0200	0.0429	0.7527	0.0220	0.0428	0.0406	0.0000	0.0148	0.0000		
2008	1	1	0	0	36	35	35	36	0.0000	0.0000	0.0000	0.0696
	0.0000	0.0295	0.0962	0.5985	0.1380	0.0470	0.0000	0.0000	0.0000	0.0213		
2008	1	1	0	0	36	36	36	30	0.0000	0.0000	0.0000	0.0732
	0.0000	0.0118	0.0983	0.7415	0.0752	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	1	0	0	36	37	37	21	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0169	0.0713	0.8132	0.0000	0.0000	0.0000	0.0000	0.0221	0.0765		
2008	1	1	0	0	36	38	38	13	0.0000	0.0000	0.0000	0.0371
	0.0000	0.0000	0.0758	0.7470	0.0000	0.0804	0.0000	0.0000	0.0597	0.0000		
2008	1	1	0	0	36	39	39	10	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0760	0.4900	0.1470	0.2728	0.0142	0.0000	0.0000	0.0000		
2008	1	1	0	0	36	40	40	6	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.8465	0.0000	0.1383	0.0151	0.0000	0.0000	0.0000		
2008	1	1	0	0	36	41	41	6	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.3964	0.4015	0.2021	0.0000	0.0000	0.0000	0.0000		
2008	1	1	0	0	36	42	42	4	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.8920	0.0000	0.0000	0.0000	0.1080	0.0000	0.0000		
2008	1	1	0	0	36	43	43	4	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	1	0	0	36	44	44	2	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.2254	0.0000	0.7746	0.0000	0.0000	0.0000	0.0000		
2008	1	1	0	0	36	46	46	1	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000		
2008	1	1	0	0	36	47	47	2	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.5816	0.4184	0.0000	0.0000		
2008	1	1	0	0	36	49	49	1	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
# Canadian Fishery												
1977	1	2	0	0	5	1	51	60	0.0021	0.0021	0.0516	0.0186
	0.0619	0.3772	0.1093	0.1031	0.0866	0.0825	0.0722	0.033	0	0		
1978	1	2	0	0	6	1	51	60	0	0	0.0339	0.0593
	0.0475	0.1797	0.222	0.1898	0.1051	0.0814	0.0356	0.0305	0.0153	0		
1979	1	2	0	0	7	1	51	60	0	0	0.0188	0.0554
	0.1162	0.1019	0.1877	0.2699	0.0983	0.0706	0.0331	0.0223	0.0152	0.0107		
1980	1	2	0	0	8	1	51	60	0	0	0	0.0311
	0.0411	0.1629	0.0609	0.0782	0.4463	0.0841	0.0411	0.0411	0.0133	0		
1981	1	2	0	0	9	1	51	60	0	0	0.0488	0.0131
	0.0682	0.0667	0.207	0.0411	0.1141	0.2988	0.0721	0.029	0.0411	0		
1982	1	2	0	0	10	1	51	60	0	0	0.0221	0.4268
	0.0352	0.046	0.0451	0.141	0.032	0.0249	0.1931	0.0189	0.015	0		
1983	1	2	0	0	11	1	51	60	0.0009	0.218	0.016	0.028
	0.4999	0.0201	0.0291	0.026	0.0869	0.012	0.004	0.053	0.004	0.002		

1984	1	2	0	0	12	1	51	60	0	0.018	0.215	0.028
	0.15	0.338	0.0331	0.0381	0.025	0.0779	0.0151	0.013	0.0429	0.006		
1985	1	2	0	0	13	1	51	60	0.002	0.002	0.0808	0.2648
	0.0544	0.1072	0.3173	0.0162	0.0181	0.0181	0.0544	0.0122	0	0.0524		
1986	1	2	0	0	14	1	51	60	0.0021	0.0021	0.0043	0.0608
	0.5877	0.0369	0.0369	0.1757	0.0196	0.0087	0.0152	0.0217	0.0066	0.0217		
1987	1	2	0	0	15	1	51	60	0	0.0094	0.0063	0.0016
	0.0268	0.7415	0.03	0.03	0.1088	0.0063	0.0047	0.0126	0.0094	0.0126		
1988	1	2	0	0	16	16	16	1	0	0	1	0
	0	0	0	0	0	0	0	0	0	0		
1988	1	2	0	0	16	18	18	1	0	0	0	0
	0	1	0	0	0	0	0	0	0	0		
1988	1	2	0	0	16	19	19	1	0	0	1	0
	0	0	0	0	0	0	0	0	0	0		
1988	1	2	0	0	16	20	20	3	0	0	1	0
	0	0	0	0	0	0	0	0	0	0		
1988	1	2	0	0	16	21	21	4	0	0	1	0
	0	0	0	0	0	0	0	0	0	0		
1988	1	2	0	0	16	22	22	4	0	0.063	0.8963	0
	0	0	0.0407	0	0	0	0	0	0	0		
1988	1	2	0	0	16	23	23	4	0	0	0.6076	0
	0	0.0239	0.3685	0	0	0	0	0	0	0		
1988	1	2	0	0	16	24	24	5	0	0.0157	0.4178	0
	0.0356	0.0154	0.5028	0	0	0.0127	0	0	0	0		
1988	1	2	0	0	16	25	25	5	0	0	0.2662	0.0129
	0.0098	0.01	0.6847	0	0.0065	0.0098	0	0	0	0		
1988	1	2	0	0	16	26	26	5	0	0.0116	0.1763	0.0094
	0.0094	0.0042	0.7612	0.013	0	0.0148	0	0	0	0		
1988	1	2	0	0	16	27	27	5	0	0	0.0915	0
	0.016	0.0218	0.8548	0.016	0	0	0	0	0	0		
1988	1	2	0	0	16	28	28	5	0	0	0.057	0.004
	0.0172	0.0121	0.853	0.011	0.004	0.0367	0.005	0	0	0		
1988	1	2	0	0	16	29	29	5	0	0	0.0431	0.0072
	0.0119	0.0191	0.7988	0.027	0.0144	0.0786	0	0	0	0		
1988	1	2	0	0	16	30	30	5	0	0	0.0084	0.0084
	0	0.0279	0.7414	0.0239	0.0169	0.1732	0	0	0	0		
1988	1	2	0	0	16	31	31	5	0	0	0.0133	0
	0.0052	0.008	0.8117	0.0133	0.0157	0.1275	0	0	0.0052	0		
1988	1	2	0	0	16	32	32	5	0	0	0	0
	0	0.0227	0.6203	0.0125	0.0554	0.2558	0	0	0.0166	0.0166		
1988	1	2	0	0	16	33	33	5	0	0	0	0
	0	0.0384	0.6474	0.0158	0	0.2545	0	0.0296	0.0064	0.0079		
1988	1	2	0	0	16	34	34	5	0	0	0	0
	0	0	0.5295	0.0107	0.0428	0.298	0	0.0268	0	0.0921		
1988	1	2	0	0	16	35	35	5	0	0	0.0255	0
	0	0	0.5594	0.0602	0.051	0.2405	0.0264	0	0.0107	0.0264		
1988	1	2	0	0	16	36	36	4	0	0	0	0
	0	0	0.4977	0	0.0383	0.1996	0	0.041	0	0.2234		
1988	1	2	0	0	16	37	37	4	0	0	0.0396	0
	0	0	0.4063	0.0132	0.0791	0.3634	0.0409	0	0	0.0574		
1988	1	2	0	0	16	38	38	4	0	0	0	0
	0	0	0.2085	0.07	0.0748	0.357	0	0.1013	0	0.1884		
1988	1	2	0	0	16	39	39	4	0	0	0	0
	0	0	0.2196	0.047	0.0773	0.4365	0	0.0908	0.038	0.0908		
1988	1	2	0	0	16	40	40	3	0	0	0	0
	0	0	0.462	0	0	0.3806	0	0	0	0.1574		
1988	1	2	0	0	16	41	41	3	0	0	0	0
	0	0	0.5654	0	0	0.1592	0.0581	0	0	0.2173		
1988	1	2	0	0	16	42	42	2	0	0	0	0
	0	0	0	0	0	0.7157	0	0	0	0.2843		
1988	1	2	0	0	16	43	43	1	0	0	0	0
	0	0	0.5	0	0	0	0	0	0.5	0		
1988	1	2	0	0	16	44	44	1	0	0	0	0
	0	0	0.5	0	0	0.5	0	0	0	0		
1988	1	2	0	0	16	45	45	1	0	0	0	0
	0	0	0	0	0	0.5	0	0	0	0.5		

1988	1	2	0	0	16	46	46	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1		
1988	1	2	0	0	16	51	51	1	0	0	0	0
	0	0	0	0	0	1	0	0	0	0		
1989	1	2	0	0	17	21	21	2	0	0	0	1
	0	0	0	0	0	0	0	0	0	0		
1989	1	2	0	0	17	22	22	5	0	0.0582	0	0.8415
	0	0	0	0.1004	0	0	0	0	0	0		
1989	1	2	0	0	17	23	23	6	0	0	0	0.9226
	0	0	0	0.0774	0	0	0	0	0	0		
1989	1	2	0	0	17	24	24	6	0	0	0	0.7568
	0	0	0	0.2415	0	0	0.0018	0	0	0		
1989	1	2	0	0	17	25	25	6	0	0	0	0.6973
	0	0	0	0.3027	0	0	0	0	0	0		
1989	1	2	0	0	17	26	26	6	0	0	0.0112	0.5641
	0	0	0	0.4185	0	0.0062	0	0	0	0		
1989	1	2	0	0	17	27	27	6	0	0	0.001	0.4773
	0	0	0.008	0.4922	0	0.016	0.0056	0	0	0		
1989	1	2	0	0	17	28	28	6	0	0	0	0.3428
	0.0073	0.0104	0	0.6163	0	0	0.0231	0	0	0		
1989	1	2	0	0	17	29	29	6	0	0	0	0.2365
	0	0	0.0101	0.6574	0.0302	0.0142	0.0374	0.0142	0	0		
1989	1	2	0	0	17	30	30	6	0	0	0	0.2081
	0	0	0.0197	0.715	0.0278	0	0.0197	0.0098	0	0		
1989	1	2	0	0	17	31	31	6	0	0	0.0153	0.1517
	0	0	0	0.7488	0	0.0173	0.0669	0	0	0		
1989	1	2	0	0	17	32	32	6	0	0	0	0.0167
	0	0	0	0.8686	0	0	0.1147	0	0	0		
1989	1	2	0	0	17	33	33	6	0	0	0	0.1111
	0	0	0.0224	0.5314	0.0408	0.0571	0.2371	0	0	0		
1989	1	2	0	0	17	34	34	6	0	0	0	0.0403
	0	0	0	0.7302	0.0388	0.0973	0.0934	0	0	0		
1989	1	2	0	0	17	35	35	4	0	0	0	0
	0	0.0851	0	0.6749	0.0289	0.0705	0.1347	0	0	0.006		
1989	1	2	0	0	17	36	36	5	0	0.0306	0	0
	0	0	0	0.7102	0	0.0422	0.1797	0	0	0.0373		
1989	1	2	0	0	17	37	37	4	0	0	0	0
	0	0	0	0.5935	0	0.0395	0.2795	0	0	0.0876		
1989	1	2	0	0	17	38	38	4	0	0	0	0
	0	0	0	0.6563	0	0	0.301	0	0	0.0427		
1989	1	2	0	0	17	39	39	3	0	0	0	0.0684
	0	0	0	0.7104	0	0	0.1245	0	0.0967	0		
1989	1	2	0	0	17	40	40	2	0	0	0	0
	0	0	0	0.2674	0.0891	0	0.6434	0	0	0		
1989	1	2	0	0	17	41	41	2	0	0	0	0.0406
	0	0	0	0.4797	0	0.2398	0.2398	0	0	0		
1989	1	2	0	0	17	42	42	1	0	0	0	0
	0	0	0	0.3333	0	0.3333	0	0	0.3333	0		
1989	1	2	0	0	17	43	43	3	0	0	0	0
	0	0	0	0.4939	0	0	0.5061	0	0	0		
1989	1	2	0	0	17	44	44	3	0	0	0	0
	0	0	0	0.5173	0	0	0.2176	0	0	0.2651		
1989	1	2	0	0	17	45	45	2	0	0	0	0
	0	0	0	0.4142	0	0	0.2929	0	0	0.2929		
1989	1	2	0	0	17	46	46	1	0	0	0	0
	0	0	0	1	0	0	0	0	0	0		
1989	1	2	0	0	17	47	47	1	0	0	0	0
	0	0	0	0.5	0	0	0	0	0	0.5		
1989	1	2	0	0	17	48	48	2	0	0	0	0
	0	0	0	0.6455	0	0	0.3545	0	0	0		
1989	1	2	0	0	17	51	51	4	0	0	0	0
	0	0	0	0.7198	0	0	0.0479	0	0	0.2322		
1990	1	2	0	0	18	19	19	2	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
1990	1	2	0	0	18	20	20	3	0	0.3572	0.2447	0
	0.1534	0.2447	0	0	0	0	0	0	0	0		

1990	1	2	0	0	18	21	21	3	0	0.8579	0	0
	0.1421	0	0	0	0	0	0	0	0	0		
1990	1	2	0	0	18	22	22	4	0	0.6056	0.1558	0
	0.1862	0.0111	0	0	0.0412	0	0	0	0	0		
1990	1	2	0	0	18	23	23	5	0	0.3327	0.0323	0
	0.635	0	0	0	0	0	0	0	0	0		
1990	1	2	0	0	18	24	24	6	0	0.1181	0.0678	0
	0.7562	0.0091	0	0	0.0316	0	0	0.0172	0	0		
1990	1	2	0	0	18	25	25	4	0	0.0561	0.0519	0.0151
	0.7626	0	0.0142	0	0.1001	0	0	0	0	0		
1990	1	2	0	0	18	26	26	4	0	0.0118	0.0146	0
	0.7622	0	0	0	0.2011	0.0103	0	0	0	0		
1990	1	2	0	0	18	27	27	4	0	0	0.0237	0
	0.6975	0.0203	0	0	0.2466	0	0	0.012	0	0		
1990	1	2	0	0	18	28	28	4	0	0	0.0199	0
	0.5867	0	0	0	0.3935	0	0	0	0	0		
1990	1	2	0	0	18	29	29	4	0	0	0	0
	0.5109	0.0123	0.0123	0	0.4408	0.0188	0	0.0048	0	0		
1990	1	2	0	0	18	30	30	4	0	0	0	0
	0.3016	0.0117	0	0	0.675	0.0117	0	0	0	0		
1990	1	2	0	0	18	31	31	5	0	0	0	0
	0.1982	0	0	0	0.6373	0	0	0.1645	0	0		
1990	1	2	0	0	18	32	32	5	0	0	0	0
	0.1635	0	0	0	0.7753	0.0157	0	0.0454	0	0		
1990	1	2	0	0	18	33	33	6	0	0	0	0
	0.0743	0	0	0	0.8912	0	0	0.0345	0	0		
1990	1	2	0	0	18	34	34	4	0	0	0	0
	0.0801	0	0	0	0.6645	0	0	0.2553	0	0		
1990	1	2	0	0	18	35	35	5	0	0	0	0
	0.0495	0.0181	0	0	0.8964	0	0	0.0361	0	0		
1990	1	2	0	0	18	36	36	3	0	0	0	0
	0.3641	0	0	0	0.3778	0.1821	0	0.0507	0.0254	0		
1990	1	2	0	0	18	37	37	4	0	0	0	0
	0.204	0.102	0.0142	0	0.4661	0	0	0.1995	0	0.0142		
1990	1	2	0	0	18	38	38	4	0	0	0	0
	0	0	0	0	0.9823	0	0	0.0177	0	0		
1990	1	2	0	0	18	39	39	3	0	0	0	0
	0.0449	0	0	0	0.4575	0	0	0.4126	0	0.085		
1990	1	2	0	0	18	40	40	4	0	0	0	0
	0	0	0	0	0.9151	0	0	0.0556	0	0.0294		
1990	1	2	0	0	18	41	41	3	0	0	0	0
	0	0	0	0	0.8113	0	0	0.1887	0	0		
1990	1	2	0	0	18	42	42	2	0	0	0	0
	0.6715	0	0	0	0.3285	0	0	0	0	0		
1990	1	2	0	0	18	43	43	4	0	0	0	0
	0	0	0	0	0.5143	0	0	0.2468	0	0.2389		
1990	1	2	0	0	18	44	44	4	0	0	0	0
	0	0	0	0	0.9708	0	0	0.0292	0	0		
1990	1	2	0	0	18	45	45	2	0	0	0	0
	0	0	0	0	0.2684	0	0	0.7316	0	0		
1990	1	2	0	0	18	46	46	2	0	0	0	0
	0	0	0	0	0.2179	0	0	0.7821	0	0		
1990	1	2	0	0	18	47	47	1	0	0	0	0
	0	0	0	0	1	0	0	0	0	0		
1990	1	2	0	0	18	48	48	2	0	0	0	0
	0	0	0	0	1	0	0	0	0	0		
1990	1	2	0	0	18	50	50	1	0	0	0	0
	0	0	0	0	0.5	0	0	0.5	0	0		
1990	1	2	0	0	18	51	51	1	0	0	0	0
	0	0	0	0	1	0	0	0	0	0		
1991	1	2	0	0	19	20	20	1	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
1991	1	2	0	0	19	21	21	1	0	0	0	0
	0	1	0	0	0	0	0	0	0	0		
1991	1	2	0	0	19	22	22	1	0	0	1	0
	0	0	0	0	0	0	0	0	0	0		

1991	1	2	0	0	19	23	23	3	0	0	0.1924	0
	0	0.3336	0	0	0	0.4741	0	0	0	0		
1991	1	2	0	0	19	24	24	6	0	0	0.509	0
	0	0.1479	0	0	0	0.3431	0	0	0	0		
1991	1	2	0	0	19	25	25	14	0	0	0.1965	0.0662
	0	0.4044	0	0	0	0.294	0	0	0.0389	0		
1991	1	2	0	0	19	26	26	16	0	0	0.0568	0.0262
	0	0.639	0	0	0	0.278	0	0	0	0		
1991	1	2	0	0	19	27	27	16	0	0	0.0768	0.0101
	0	0.5971	0.0064	0	0	0.3096	0	0	0	0		
1991	1	2	0	0	19	28	28	16	0	0	0.0762	0.0101
	0.0057	0.5297	0.0033	0	0	0.3691	0.0033	0	0.0027	0		
1991	1	2	0	0	19	29	29	16	0	0	0.0242	0.0214
	0	0.5746	0	0	0	0.3798	0	0	0	0		
1991	1	2	0	0	19	30	30	16	0	0	0.0376	0.011
	0	0.5278	0.0105	0	0	0.4096	0	0	0.0035	0		
1991	1	2	0	0	19	31	31	16	0	0	0	0.0097
	0.0063	0.586	0	0	0	0.3796	0	0	0.0185	0		
1991	1	2	0	0	19	32	32	16	0	0	0.0147	0.0096
	0.0124	0.5178	0.0045	0	0	0.3892	0	0	0.0519	0		
1991	1	2	0	0	19	33	33	13	0	0	0	0.0522
	0	0.5666	0	0	0	0.3358	0	0	0.0278	0.0176		
1991	1	2	0	0	19	34	34	13	0	0	0.0123	0.048
	0	0.4702	0	0	0	0.4392	0.0303	0	0	0		
1991	1	2	0	0	19	35	35	8	0	0	0.0533	0.1965
	0	0.3819	0	0	0	0.2435	0	0	0.1248	0		
1991	1	2	0	0	19	36	36	4	0	0	0	0
	0	0.3992	0	0	0	0.6008	0	0	0	0		
1991	1	2	0	0	19	37	37	8	0	0	0	0
	0	0.0541	0	0	0	0.9459	0	0	0	0		
1991	1	2	0	0	19	38	38	3	0	0	0	0
	0	0.1559	0	0	0	0.6883	0	0	0.1559	0		
1991	1	2	0	0	19	39	39	5	0	0	0	0.1351
	0	0.3317	0	0	0	0.4364	0	0	0.0968	0		
1991	1	2	0	0	19	40	40	3	0	0	0	0
	0	0.4818	0	0	0	0.5182	0	0	0	0		
1991	1	2	0	0	19	41	41	2	0	0	0	0
	0	0.6147	0	0	0	0.3853	0	0	0	0		
1991	1	2	0	0	19	42	42	2	0	0	0	0
	0	0	0	0	0	1	0	0	0	0		
1991	1	2	0	0	19	43	43	2	0	0	0	0
	0	0.3472	0	0	0	0	0	0	0.6528	0		
1991	1	2	0	0	19	45	45	1	0	0	0	0
	0	0	0	0	1	0	0	0	0	0		
1991	1	2	0	0	19	47	47	1	0	0	0	0
	0	0	1	0	0	0	0	0	0	0		
1991	1	2	0	0	19	49	49	1	0	0	0	0
	0	0	0	0	0	0	0	0	1	0		
1991	1	2	0	0	19	50	50	1	0	0	0	0
	0	0	0	0	0	1	0	0	0	0		
1991	1	2	0	0	19	51	51	1	0	0	0	0
	0	0	0	0	0	1	0	0	0	0		
1992	1	2	0	0	20	18	18	1	0	0	0	1
	0	0	0	0	0	0	0	0	0	0		
1992	1	2	0	0	20	19	19	1	0	0	1	0
	0	0	0	0	0	0	0	0	0	0		
1992	1	2	0	0	20	20	20	2	0	0	0	0.8566
	0	0	0	0	0	0	0.1434	0	0	0		
1992	1	2	0	0	20	21	21	3	0	0	0.8034	0.1966
	0	0	0	0	0	0	0	0	0	0		
1992	1	2	0	0	20	22	22	9	0	0.0629	0.4474	0.3831
	0	0	0.1067	0	0	0	0	0	0	0		
1992	1	2	0	0	20	23	23	15	0	0.0707	0.4155	0.2003
	0.0291	0	0.2844	0	0	0	0	0	0	0		
1992	1	2	0	0	20	24	24	22	0	0.0457	0.3167	0.3246
	0.0375	0	0.2681	0	0	0	0.0075	0	0	0		

1992	1	2	0	0	20	25	25	27	0	0	0.1557	0.3182
	0.0334	0.011	0.4011	0	0	0	0.0806	0	0	0		
1992	1	2	0	0	20	26	26	29	0	0.0019	0.0722	0.2586
	0.0312	0	0.5154	0	0	0	0.1208	0	0	0		
1992	1	2	0	0	20	27	27	29	0	0.0033	0.0457	0.2214
	0.0545	0.0035	0.4628	0.0037	0	0.0035	0.2017	0	0	0		
1992	1	2	0	0	20	28	28	29	0	0	0.0257	0.1411
	0.0392	0.0026	0.5138	0.0023	0	0	0.2679	0	0	0.0074		
1992	1	2	0	0	20	29	29	29	0	0	0.0081	0.0788
	0.0295	0.0056	0.52	0.0081	0	0	0.3466	0	0	0.0033		
1992	1	2	0	0	20	30	30	29	0	0.0048	0	0.0651
	0.0118	0.0076	0.4998	0.0056	0	0	0.375	0.0126	0	0.0177		
1992	1	2	0	0	20	31	31	27	0	0	0	0.0178
	0.0063	0	0.6126	0	0	0.0052	0.3534	0	0	0.0046		
1992	1	2	0	0	20	32	32	28	0	0	0	0.046
	0.0102	0	0.5851	0	0	0	0.3213	0	0.0229	0.0145		
1992	1	2	0	0	20	33	33	16	0	0	0	0
	0	0	0.5088	0	0	0	0.4634	0	0	0.0278		
1992	1	2	0	0	20	34	34	15	0	0	0	0
	0.061	0	0.3594	0	0	0	0.3817	0	0	0.1978		
1992	1	2	0	0	20	35	35	12	0	0	0.0638	0
	0	0	0.5697	0	0	0	0.2556	0	0	0.1109		
1992	1	2	0	0	20	36	36	7	0	0	0	0
	0	0	0.287	0	0	0	0.5187	0	0	0.1943		
1992	1	2	0	0	20	37	37	4	0	0	0	0
	0	0	0.6682	0	0	0	0.1704	0	0	0.1614		
1992	1	2	0	0	20	38	38	4	0	0	0	0.3974
	0	0	0.2059	0	0	0	0.2173	0	0	0.1795		
1992	1	2	0	0	20	39	39	4	0	0	0	0.1344
	0.2934	0	0.1986	0	0	0	0.2392	0	0	0.1344		
1992	1	2	0	0	20	40	40	1	0	0	0	0
	0	0	0	0	0	0	1	0	0	0		
1992	1	2	0	0	20	41	41	3	0	0	0	0
	0	0	0.4912	0	0	0	0.5088	0	0	0		
1992	1	2	0	0	20	43	43	1	0	0	0	0
	0	0	0	0	0	0	1	0	0	0		
1992	1	2	0	0	20	44	44	2	0	0	0	0
	0	0	0	0	0	0	1	0	0	0		
1992	1	2	0	0	20	51	51	1	0	0	0	0
	0	0	1	0	0	0	0	0	0	0		
#1993	1	2	0	0	21	15	15	1	0	0	0	0
	0	0	0	1	0	0	0	0	0	0		
1993	1	2	0	0	21	17	17	1	0	0	0	0
	0	0	0	1	0	0	0	0	0	0		
1993	1	2	0	0	21	21	21	5	0	0.2669	0	0
	0.1832	0	0	0.1037	0	0	0	0.4461	0	0		
1993	1	2	0	0	21	22	22	10	0	0.3785	0	0.4759
	0.1456	0	0	0	0	0	0	0	0	0		
1993	1	2	0	0	21	23	23	14	0	0.049	0.2204	0.3917
	0.2392	0	0	0.0279	0	0	0	0.0717	0	0		
1993	1	2	0	0	21	24	24	17	0	0.0065	0.0704	0.3988
	0.3301	0.04	0	0.1362	0	0	0	0.0181	0	0		
1993	1	2	0	0	21	25	25	17	0	0.0134	0.0481	0.282
	0.2498	0.016	0	0.3397	0.0084	0	0	0.0426	0	0		
1993	1	2	0	0	21	26	26	18	0	0.0083	0.0234	0.1825
	0.2647	0.0078	0.0016	0.4499	0	0	0	0.0618	0	0		
1993	1	2	0	0	21	27	27	18	0	0	0.0213	0.1381
	0.1638	0.0225	0.0043	0.5129	0	0	0	0.1371	0	0		
1993	1	2	0	0	21	28	28	18	0	0	0.0017	0.097
	0.2	0.0189	0.01	0.4795	0	0	0	0.1929	0	0		
1993	1	2	0	0	21	29	29	18	0	0	0	0.0401
	0.1918	0.0227	0	0.5464	0.0145	0	0	0.1802	0	0.0042		
1993	1	2	0	0	21	30	30	18	0	0	0.0048	0.0329
	0.1918	0.0107	0	0.4723	0	0	0	0.2711	0.0162	0		
1993	1	2	0	0	21	31	31	17	0.0148	0	0.0201	0.0515
	0.0594	0.0127	0	0.6059	0	0	0	0.2356	0	0		

1993	1	2	0	0	21	32	32	13	0	0	0	0
	0.0676	0.032	0	0.5675	0	0	0	0.3329	0	0		
1993	1	2	0	0	21	33	33	12	0	0	0	0
	0.0449	0	0	0.4602	0	0	0	0.4949	0	0		
1993	1	2	0	0	21	34	34	4	0	0	0	0
	0.1043	0.2424	0	0.5207	0	0	0	0.1326	0	0		
1993	1	2	0	0	21	35	35	5	0	0	0	0
	0	0	0	0.9022	0	0	0	0.0978	0	0		
1993	1	2	0	0	21	36	36	1	0	0	0	0
	0	0	0	1	0	0	0	0	0	0		
1993	1	2	0	0	21	39	39	5	0	0	0	0
	0	0	0	0.8445	0	0	0	0.1555	0	0		
#1994	1	2	0	0	22	14	14	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1		
#1994	1	2	0	0	22	16	16	1	0	0	0	0
	0	0	0	0	0	0	0	0	1	0		
1994	1	2	0	0	22	17	17	1	0	0	0	1
	0	0	0	0	0	0	0	0	0	0		
1994	1	2	0	0	22	18	18	1	0	0	0	0
	1	0	0	0	0	0	0	0	0	0		
1994	1	2	0	0	22	22	22	6	0	0.1446	0.32	0.0594
	0.0263	0.1446	0	0	0.1239	0.1813	0	0	0	0		
1994	1	2	0	0	22	23	23	10	0	0.0607	0.4747	0.0819
	0.0922	0.1228	0	0	0.1328	0	0	0	0.035	0		
1994	1	2	0	0	22	24	24	20	0	0.113	0.1242	0.1669
	0.2058	0.203	0.1052	0	0.0619	0	0	0	0.0199	0		
1994	1	2	0	0	22	25	25	24	0	0.0085	0.0636	0.0395
	0.2079	0.2954	0.0196	0.0188	0.2712	0	0	0	0.0754	0		
1994	1	2	0	0	22	26	26	28	0	0.0126	0.0364	0.0564
	0.1828	0.2228	0.0322	0.0046	0.3896	0.0084	0	0	0.0528	0.0014		
1994	1	2	0	0	22	27	27	29	0	0	0.0307	0.0239
	0.1444	0.2145	0.0177	0.0025	0.4255	0.0056	0	0	0.1331	0.0021		
1994	1	2	0	0	22	28	28	30	0	0	0.0037	0.0106
	0.0986	0.1857	0.0315	0.0133	0.5073	0.0052	0	0	0.1398	0.0043		
1994	1	2	0	0	22	29	29	31	0	0.0017	0.004	0.0171
	0.1292	0.1952	0.0276	0.015	0.4508	0.0067	0.0027	0	0.1462	0.0039		
1994	1	2	0	0	22	30	30	30	0	0	0.0062	0.0091
	0.0717	0.1661	0.0249	0	0.4854	0.011	0.0106	0	0.2096	0.0055		
1994	1	2	0	0	22	31	31	28	0	0	0	0.0063
	0.0497	0.1058	0.0234	0.0043	0.5769	0.0014	0	0	0.2161	0.0161		
1994	1	2	0	0	22	32	32	28	0	0	0.0128	0.0049
	0.0932	0.1607	0.0227	0	0.4916	0	0.0126	0	0.2015	0		
1994	1	2	0	0	22	33	33	27	0	0	0	0
	0.0438	0.0697	0.0653	0	0.6349	0.0072	0	0	0.1722	0.0069		
1994	1	2	0	0	22	34	34	23	0	0	0	0.0215
	0.0287	0.1084	0.0217	0.0122	0.4374	0.0126	0	0	0.3577	0		
1994	1	2	0	0	22	35	35	18	0	0	0	0
	0	0.1464	0.0182	0	0.6881	0	0	0	0.1205	0.0267		
1994	1	2	0	0	22	36	36	21	0	0	0	0
	0.0157	0.057	0	0	0.7723	0	0	0	0.1315	0.0235		
1994	1	2	0	0	22	37	37	12	0	0	0	0
	0.2011	0.0684	0.0678	0	0.5074	0	0	0	0.062	0.0933		
1994	1	2	0	0	22	38	38	9	0	0	0	0
	0	0.1112	0	0	0.6705	0	0	0	0.2183	0		
1994	1	2	0	0	22	39	39	6	0	0	0	0
	0.2052	0	0	0	0.71	0	0	0	0.0848	0		
1994	1	2	0	0	22	40	40	8	0	0	0	0
	0	0	0	0	0.3183	0	0	0	0.6817	0		
1994	1	2	0	0	22	41	41	6	0	0	0	0
	0	0.1747	0	0	0.3552	0	0	0	0.2124	0.2577		
1994	1	2	0	0	22	42	42	5	0	0	0	0
	0.1924	0	0	0	0.3477	0	0	0	0.4599	0		
1994	1	2	0	0	22	43	43	3	0	0	0	0
	0	0	0	0	0.7261	0	0	0	0.2739	0		
1994	1	2	0	0	22	44	44	2	0	0	0	0
	0	0	0	0	0.4851	0	0	0	0.5149	0		

1994	1	2	0	0	22	45	45	3	0	0	0	0
	0	0	0	0	0.6264	0	0	0	0	0.3736		
1994	1	2	0	0	22	46	46	5	0	0	0	0
	0	0	0	0	0.7399	0	0	0	0.2602	0		
1994	1	2	0	0	22	47	47	1	0	0	0	0
	0	0	0	0	1	0	0	0	0	0		
1994	1	2	0	0	22	51	51	2	0	0	0	0
	0	0	0	0	0	0	0	0	0.2489	0.7511		
1995	1	2	0	0	23	4	4	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1995	1	2	0	0	23	5	5	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1995	1	2	0	0	23	6	6	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1995	1	2	0	0	23	7	7	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1995	1	2	0	0	23	8	8	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1995	1	2	0	0	23	9	9	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1995	1	2	0	0	23	14	14	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1995	1	2	0	0	23	22	22	1	0	0	1	0
	0	0	0	0	0	0	0	0	0	0		
1995	1	2	0	0	23	23	23	6	0	0.1065	0.283	0.3988
	0.1744	0.0373	0	0	0	0	0	0	0	0		
1995	1	2	0	0	23	24	24	11	0	0	0.4603	0.2464
	0.1938	0.0114	0.0394	0	0	0.0487	0	0	0	0		
1995	1	2	0	0	23	25	25	18	0.0202	0.0175	0.3776	0.2152
	0.0365	0.1002	0.1023	0.0391	0	0.0916	0	0	0	0		
1995	1	2	0	0	23	26	26	21	0	0	0.2148	0.1523
	0.082	0.1676	0.1249	0.0541	0.019	0.132	0	0.0127	0	0.0406		
1995	1	2	0	0	23	27	27	21	0	0.0146	0.1317	0.1007
	0.0437	0.119	0.2029	0.0309	0	0.2953	0.0181	0	0	0.0431		
1995	1	2	0	0	23	28	28	21	0	0.0036	0.0753	0.0903
	0.0374	0.134	0.1723	0.0211	0	0.3675	0.0102	0	0	0.0883		
1995	1	2	0	0	23	29	29	21	0	0.0093	0.0337	0.0176
	0.0108	0.12	0.2076	0.0286	0.0117	0.4131	0.0152	0	0	0.1326		
1995	1	2	0	0	23	30	30	21	0	0.0063	0.0131	0.0145
	0.0448	0.1462	0.1765	0.0453	0	0.4209	0.0078	0	0	0.1247		
1995	1	2	0	0	23	31	31	21	0	0	0.0195	0.0171
	0.0056	0.1207	0.1918	0.0346	0.0198	0.4375	0.0031	0	0	0.1504		
1995	1	2	0	0	23	32	32	21	0	0	0.0122	0.0261
	0.0098	0.0707	0.185	0.0799	0.0115	0.3818	0	0	0	0.2231		
1995	1	2	0	0	23	33	33	17	0	0	0.0289	0
	0.048	0.0888	0.0905	0.0759	0.0194	0.4846	0.0056	0	0	0.1583		
1995	1	2	0	0	23	34	34	17	0	0	0	0.0281
	0.0458	0.0319	0.1026	0.0836	0.0266	0.5102	0.0066	0	0	0.1647		
1995	1	2	0	0	23	35	35	14	0	0	0	0
	0	0.0337	0.0961	0.0955	0	0.5536	0	0	0	0.2212		
1995	1	2	0	0	23	36	36	11	0	0	0	0
	0.0316	0.0316	0.1278	0.0896	0	0.518	0	0	0	0.2014		
1995	1	2	0	0	23	37	37	7	0	0	0	0
	0	0.112	0.057	0.0285	0	0.7172	0	0	0	0.0852		
1995	1	2	0	0	23	38	38	5	0	0	0	0
	0	0	0.1767	0.102	0	0.5726	0	0	0	0.1488		
1995	1	2	0	0	23	39	39	9	0	0	0	0
	0	0	0	0.0497	0	0.9238	0	0	0	0.0266		
1995	1	2	0	0	23	40	40	6	0	0	0	0
	0	0	0.2439	0	0.0714	0.3531	0	0	0	0.3317		
1995	1	2	0	0	23	41	41	4	0	0	0	0
	0	0	0	0	0	0.6004	0	0	0	0.3996		
1995	1	2	0	0	23	42	42	4	0	0	0	0
	0.4388	0	0.2477	0	0	0.081	0	0	0	0.2325		
1995	1	2	0	0	23	43	43	1	0	0	0	0
	0	0	1	0	0	0	0	0	0	0		

1995	1	2	0	0	23	44	44	2	0	0	0	0
	0	0	0	0	0	0.6925	0	0	0	0.3075		
1995	1	2	0	0	23	45	45	3	0	0	0	0
	0	0	0	0	0.1487	0.5283	0	0	0	0.323		
1995	1	2	0	0	23	46	46	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1		
1995	1	2	0	0	23	47	47	1	0	0	0	0
	0	0	0	0	0	1	0	0	0	0		
1995	1	2	0	0	23	48	48	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1		
1995	1	2	0	0	23	50	50	1	0	0	0	0
	0	0	0	0	0	1	0	0	0	0		
1995	1	2	0	0	23	51	51	1	0	0	0	0
	0	0	0	0	0	1	0	0	0	0		
1996	1	2	0	0	24	12	12	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1996	1	2	0	0	24	13	13	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1996	1	2	0	0	24	14	14	3	0.7801	0.1176	0	0
	0	0	0	0	0	0	0.1023	0	0	0		
1996	1	2	0	0	24	15	15	3	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1996	1	2	0	0	24	16	16	4	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1996	1	2	0	0	24	17	17	8	0.9488	0.0512	0	0
	0	0	0	0	0	0	0	0	0	0		
1996	1	2	0	0	24	18	18	9	0.8959	0.0671	0	0
	0.037	0	0	0	0	0	0	0	0	0		
1996	1	2	0	0	24	19	19	12	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1996	1	2	0	0	24	20	20	7	0.8573	0.1174	0	0
	0	0	0	0.0254	0	0	0	0	0	0		
1996	1	2	0	0	24	21	21	8	0.7235	0.1658	0.0723	0
	0	0	0	0	0	0	0.0384	0	0	0		
1996	1	2	0	0	24	22	22	6	0.3887	0.32	0	0
	0.2912	0	0	0	0	0	0	0	0	0		
1996	1	2	0	0	24	23	23	14	0.0907	0.3327	0.0359	0.3086
	0.1473	0.0245	0.0245	0	0	0	0.0359	0	0	0		
1996	1	2	0	0	24	24	24	15	0.0392	0.1847	0.0618	0.1652
	0.3377	0.0267	0.1308	0.0169	0.0369	0	0	0	0	0		
1996	1	2	0	0	24	25	25	22	0	0.034	0.0482	0.2096
	0.2696	0.0397	0.1635	0.1614	0	0	0.0738	0	0	0		
1996	1	2	0	0	24	26	26	24	0	0.023	0.0269	0.2128
	0.2057	0.0379	0.1245	0.1283	0.018	0.0258	0.1576	0.0053	0	0.0343		
1996	1	2	0	0	24	27	27	24	0	0	0.0029	0.1606
	0.2049	0.0486	0.1451	0.158	0.0025	0.0048	0.224	0	0	0.0486		
1996	1	2	0	0	24	28	28	24	0	0.0034	0.0087	0.0851
	0.1236	0.0488	0.1278	0.1765	0.0125	0	0.3444	0	0	0.0692		
1996	1	2	0	0	24	29	29	24	0	0	0	0.0625
	0.0884	0.0177	0.1411	0.175	0.0219	0.0285	0.3787	0	0	0.0861		
1996	1	2	0	0	24	30	30	23	0.0041	0.01	0	0.0417
	0.0931	0.0387	0.1383	0.2076	0.0452	0.0113	0.3233	0	0	0.0867		
1996	1	2	0	0	24	31	31	23	0	0	0	0.0783
	0.0253	0.0432	0.093	0.1054	0.0656	0	0.4234	0	0	0.1657		
1996	1	2	0	0	24	32	32	22	0	0	0	0.0205
	0.0492	0.02	0.1245	0.1063	0.0587	0	0.4658	0	0	0.155		
1996	1	2	0	0	24	33	33	17	0	0	0	0.0326
	0.0491	0.0466	0.1239	0.1604	0.0176	0	0.4493	0	0	0.1205		
1996	1	2	0	0	24	34	34	11	0	0	0	0.0415
	0.0813	0	0	0.2205	0.0931	0	0.3872	0	0	0.1764		
1996	1	2	0	0	24	35	35	12	0	0	0	0
	0	0	0	0.1756	0.0486	0	0.4268	0	0	0.349		
1996	1	2	0	0	24	36	36	4	0	0	0	0
	0	0	0	0	0.2724	0.3387	0.389	0	0	0		
1996	1	2	0	0	24	37	37	7	0	0	0	0.163
	0	0.1771	0.1908	0.172	0	0	0.2971	0	0	0		

1996	1	2	0	0	24	38	38	7	0	0	0	0
	0	0	0	0.2281	0	0	0.6124	0	0	0.1595		
1996	1	2	0	0	24	39	39	6	0	0	0	0
	0	0	0.0612	0	0	0	0.5364	0	0	0.4024		
1996	1	2	0	0	24	40	40	1	0	0	0	0
	0	0	1	0	0	0	0	0	0	0		
1996	1	2	0	0	24	41	41	4	0	0	0	0
	0	0	0	0	0	0	0.3943	0	0	0.6057		
1996	1	2	0	0	24	42	42	4	0	0	0	0
	0	0	0	0	0	0	0.7404	0	0	0.2596		
1996	1	2	0	0	24	43	43	1	0	0	0	0
	0	0	0	0	0	0	1	0	0	0		
1996	1	2	0	0	24	46	46	2	0	0	0	0
	0	0	0	0	0	0	1	0	0	0		
1996	1	2	0	0	24	47	47	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1		
1996	1	2	0	0	24	49	49	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1		
1997	1	2	0	0	25	19	19	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1997	1	2	0	0	25	20	20	7	0	0.8108	0	0.1892
	0	0	0	0	0	0	0	0	0	0		
1997	1	2	0	0	25	21	21	10	0	0.2011	0.775	0
	0.0238	0	0	0	0	0	0	0	0	0		
1997	1	2	0	0	25	22	22	17	0.0219	0.9294	0.0358	0.0047
	0	0.0054	0	0	0	0	0	0.0028	0	0		
1997	1	2	0	0	25	23	23	21	0.0034	0.2016	0.2805	0.335
	0.0032	0.0038	0.1705	0.0019	0	0	0	0	0	0		
1997	1	2	0	0	25	24	24	22	0.0026	0.4606	0.4345	0.0162
	0.0463	0.017	0.0072	0.0027	0.0122	0	0	0	0	0.0005		
1997	1	2	0	0	25	25	25	22	0.0061	0.1771	0.3724	0.011
	0.0726	0.2823	0.0049	0.0279	0.0241	0	0	0.0214	0	0		
1997	1	2	0	0	25	26	26	23	0	0.1097	0.1388	0.0091
	0.1102	0.1434	0.0205	0.0357	0.3632	0.0074	0	0.0516	0	0.0105		
1997	1	2	0	0	25	27	27	23	0	0.0152	0.2461	0.0072
	0.2723	0.0659	0.1072	0.0458	0.1539	0.0107	0.0048	0.0615	0.0034	0.0061		
1997	1	2	0	0	25	28	28	23	0	0.0114	0.0158	0.0721
	0.187	0.2453	0.075	0.096	0.1036	0.0089	0	0.11	0.0684	0.0066		
1997	1	2	0	0	25	29	29	23	0	0	0.0134	0.0079
	0.158	0.0589	0.1172	0.1515	0.1635	0.0178	0.0026	0.1813	0.1183	0.0095		
1997	1	2	0	0	25	30	30	22	0	0.0015	0.0052	0.0094
	0.3102	0.3247	0.0041	0.0255	0.0776	0.1429	0.0062	0.0696	0.003	0.0201		
1997	1	2	0	0	25	31	31	22	0	0	0	0.0037
	0.1864	0.1711	0.0086	0.017	0.1951	0.3268	0	0.0692	0.0111	0.0111		
1997	1	2	0	0	25	32	32	18	0	0	0	0
	0.1552	0.0496	0.0621	0.1722	0.1571	0	0	0.2149	0.0282	0.1607		
1997	1	2	0	0	25	33	33	18	0	0	0	0.0075
	0.0226	0.3958	0.0011	0.4241	0.0401	0.0169	0.0163	0.047	0.0099	0.0188		
1997	1	2	0	0	25	34	34	14	0	0	0	0.0335
	0.0949	0.0322	0	0.1832	0.2078	0.0322	0	0.3055	0.0574	0.0533		
1997	1	2	0	0	25	35	35	9	0	0	0	0
	0.0844	0	0	0.3349	0.0097	0	0	0.4746	0.0963	0		
1997	1	2	0	0	25	36	36	5	0	0	0	0
	0.0415	0	0	0	0	0	0	0.746	0	0.2125		
1997	1	2	0	0	25	37	37	2	0	0	0	0
	0	0	0	0	0.0839	0	0	0.9161	0	0		
1997	1	2	0	0	25	38	38	3	0	0	0	0
	0.9754	0	0	0	0	0	0	0.0029	0.0189	0.0029		
1997	1	2	0	0	25	40	40	1	0	0	0	0
	0	0	0	0	1	0	0	0	0	0		
1997	1	2	0	0	25	41	41	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1		
1997	1	2	0	0	25	45	45	1	0	0	0	0
	0	0	0	0	0	0	0	1	0	0		
1997	1	2	0	0	25	49	49	1	0	0	0	0
	0	0	0	0	0	0	0	1	0	0		

1998	1	2	0	0	26	1	1	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1998	1	2	0	0	26	9	9	1	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
1998	1	2	0	0	26	15	15	1	0	0	1	0
	0	0	0	0	0	0	0	0	0	0		
#1998	1	2	0	0	26	17	17	4	0.0345	0	0.0189	0.3449
	0	0	0.2568	0	0.3449	0	0	0	0	0		
1998	1	2	0	0	26	18	18	8	0	0.5986	0.3749	0.0265
	0	0	0	0	0	0	0	0	0	0		
1998	1	2	0	0	26	19	19	10	0.1256	0.578	0.1778	0.1186
	0	0	0	0	0	0	0	0	0	0		
1998	1	2	0	0	26	20	20	17	0	0.8538	0.1205	0.0172
	0	0	0	0.0085	0	0	0	0	0	0		
1998	1	2	0	0	26	21	21	18	0	0.5139	0.381	0.0895
	0.0156	0	0	0	0	0	0	0	0	0		
1998	1	2	0	0	26	22	22	19	0	0.4461	0.2215	0.2761
	0.0064	0.0136	0.0331	0	0	0	0	0	0.0032	0		
1998	1	2	0	0	26	23	23	25	0	0.1167	0.3418	0.4663
	0.0253	0.0175	0.0243	0	0.0066	0.0014	0	0	0	0		
1998	1	2	0	0	26	24	24	24	0	0.0309	0.3833	0.3358
	0.0247	0.1375	0.05	0.0104	0.0261	0.0011	0	0	0	0		
1998	1	2	0	0	26	25	25	25	0	0	0.285	0.4765
	0.0312	0.0925	0.0626	0.0118	0.0175	0.0219	0	0	0.0008	0		
1998	1	2	0	0	26	26	26	25	0	0.0359	0.2319	0.3365
	0.0273	0.1013	0.151	0.0007	0.0293	0.0716	0.0126	0	0	0.0019		
1998	1	2	0	0	26	27	27	25	0	0.0022	0.2871	0.1884
	0.0021	0.0789	0.1817	0.0518	0.0777	0.0814	0.0199	0.0013	0.0222	0.0053		
1998	1	2	0	0	26	28	28	25	0	0.0141	0.172	0.1622
	0.0238	0.1393	0.1426	0.037	0.0989	0.1111	0.0223	0	0.0522	0.0246		
1998	1	2	0	0	26	29	29	23	0	0.0349	0.0549	0.0657
	0.0073	0.2123	0.1676	0.0018	0.0649	0.1436	0.021	0	0.212	0.0139		
1998	1	2	0	0	26	30	30	21	0	0	0.0199	0.0534
	0.0212	0.2403	0.1171	0.0033	0.0718	0.0995	0	0.007	0.2573	0.109		
1998	1	2	0	0	26	31	31	22	0	0	0.0494	0.1161
	0	0.0863	0.2201	0	0.2375	0.0238	0	0	0.2408	0.0259		
1998	1	2	0	0	26	32	32	17	0	0	0.0717	0.0464
	0.0388	0.2628	0.1504	0.0259	0.0168	0.075	0	0.0039	0.3023	0.0061		
1998	1	2	0	0	26	33	33	8	0	0	0	0
	0	0.0261	0.0261	0	0	0.2889	0	0.0742	0.5671	0.0175		
1998	1	2	0	0	26	34	34	8	0	0	0	0.2937
	0	0.1852	0.0291	0	0.0762	0.0818	0	0	0.334	0		
1998	1	2	0	0	26	35	35	6	0	0	0	0
	0	0	0.0338	0	0.4542	0.4	0	0	0	0.112		
1998	1	2	0	0	26	36	36	2	0	0	0	0
	0	0.2931	0	0	0	0.2931	0.4138	0	0	0		
1998	1	2	0	0	26	37	37	2	0	0	0	0
	0	0.4795	0.4795	0.0409	0	0	0	0	0	0		
1998	1	2	0	0	26	38	38	3	0	0	0	0.1498
	0	0	0	0	0.1924	0.6578	0	0	0	0		
1998	1	2	0	0	26	39	39	2	0	0	0	0.7682
	0	0	0	0	0	0	0	0	0.2318	0		
1998	1	2	0	0	26	40	40	1	0	0	0	0
	0	0	0	0	0	0	1	0	0	0		
1998	1	2	0	0	26	44	44	1	0	0	0	0
	0	0	0	0	0	0	0	0	1	0		
1999	1	2	0	0	27	2	2	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1999	1	2	0	0	27	3	3	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1999	1	2	0	0	27	4	4	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1999	1	2	0	0	27	7	7	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1999	1	2	0	0	27	10	10	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		

1999	1	2	0	0	27	11	11	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1999	1	2	0	0	27	12	12	3	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1999	1	2	0	0	27	13	13	5	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1999	1	2	0	0	27	14	14	10	0.9464	0.0111	0.0425	0
	0	0	0	0	0	0	0	0	0	0		
1999	1	2	0	0	27	15	15	7	0.9785	0	0	0.0215
	0	0	0	0	0	0	0	0	0	0		
1999	1	2	0	0	27	16	16	10	0.9707	0.0045	0.0248	0
	0	0	0	0	0	0	0	0	0	0		
1999	1	2	0	0	27	17	17	16	0.8775	0.0674	0.0551	0
	0	0	0	0	0	0	0	0	0	0		
1999	1	2	0	0	27	18	18	17	0.7131	0.177	0.0444	0.0655
	0	0	0	0	0	0	0	0	0	0		
1999	1	2	0	0	27	19	19	19	0.4669	0.2718	0.226	0.0354
	0	0	0	0	0	0	0	0	0	0		
1999	1	2	0	0	27	20	20	26	0.228	0.3938	0.2863	0.0515
	0.0404	0	0	0	0	0	0	0	0	0		
1999	1	2	0	0	27	21	21	27	0.0037	0.3535	0.4644	0.1469
	0.0314	0	0	0	0	0	0	0	0	0		
1999	1	2	0	0	27	22	22	30	0	0.1846	0.4158	0.2226
	0.1713	0	0	0.0057	0	0	0	0	0	0		
1999	1	2	0	0	27	23	23	35	0.0174	0.1038	0.408	0.2263
	0.2274	0	0	0.0172	0	0	0	0	0	0		
1999	1	2	0	0	27	24	24	36	0	0.0244	0.34	0.2597
	0.3139	0.0437	0.0016	0.0167	0	0	0	0	0	0		
1999	1	2	0	0	27	25	25	35	0.0016	0.0288	0.2074	0.3925
	0.2757	0.0355	0.0298	0.0162	0	0	0	0	0	0.0124		
1999	1	2	0	0	27	26	26	37	0	0.0145	0.1105	0.4163
	0.3236	0.0378	0.0188	0.0183	0.011	0.022	0.0115	0	0.0074	0.0082		
1999	1	2	0	0	27	27	27	38	0.0063	0.0125	0.0228	0.3987
	0.2864	0.0314	0.0776	0.0889	0.0135	0.0211	0.0175	0	0.004	0.0193		
1999	1	2	0	0	27	28	28	38	0	0.0006	0.0318	0.3619
	0.2354	0.0306	0.1185	0.0935	0.0201	0.0348	0.0261	0.0181	0	0.0286		
1999	1	2	0	0	27	29	29	34	0	0	0.0184	0.2493
	0.2137	0.0408	0.1151	0.0814	0.0561	0.0781	0.067	0.0174	0.0087	0.0541		
1999	1	2	0	0	27	30	30	35	0	0	0.0195	0.3751
	0.1606	0.0085	0.076	0.1532	0.0376	0.0452	0.0681	0.01	0	0.0463		
1999	1	2	0	0	27	31	31	31	0	0	0.0588	0.3042
	0.1252	0	0.0588	0.1102	0.0334	0.0241	0.0901	0.0419	0	0.1532		
1999	1	2	0	0	27	32	32	27	0	0.0257	0.0294	0.1211
	0.0824	0.0704	0.2222	0.1073	0.0798	0.027	0.0299	0.0227	0.0386	0.1435		
1999	1	2	0	0	27	33	33	22	0	0	0	0.1122
	0.1733	0	0.2969	0.0951	0.044	0.1001	0	0.0662	0	0.1124		
1999	1	2	0	0	27	34	34	14	0	0	0	0.0679
	0	0.0069	0.036	0.1597	0.0434	0.0769	0.0883	0.0524	0.0671	0.4013		
1999	1	2	0	0	27	35	35	11	0.015	0	0	0.0647
	0.1004	0	0.1596	0.15	0	0	0.3853	0.1041	0	0.0209		
1999	1	2	0	0	27	36	36	9	0	0	0	0.226
	0.2449	0	0	0	0	0.2069	0.1502	0	0.0313	0.1407		
1999	1	2	0	0	27	37	37	6	0	0	0	0.0239
	0	0.1958	0.137	0	0.21	0.0239	0.0239	0.1916	0	0.1939		
1999	1	2	0	0	27	38	38	2	0	0	0	0
	0	0	0	0	0	1	0	0	0	0		
1999	1	2	0	0	27	39	39	4	0	0	0	0.0527
	0	0	0	0.2476	0	0.3665	0.3332	0	0	0		
1999	1	2	0	0	27	40	40	4	0	0	0	0
	0	0	0.2948	0	0	0.2809	0.0687	0	0.3556	0		
1999	1	2	0	0	27	41	41	1	0	0	0	0
	0	0	0	1	0	0	0	0	0	0		
1999	1	2	0	0	27	42	42	1	0	0	0	0
	0	0	0	0	0	0	1	0	0	0		
1999	1	2	0	0	27	43	43	1	0	0	0	0
	0	0	0	0	0	0	1	0	0	0		

1999	1	2	0	0	27	45	45	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1		
1999	1	2	0	0	27	47	47	2	0	0	0	0
	0	0	0.5163	0	0	0	0.4837	0	0	0		
2000	1	2	0	0	28	12	12	1	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
2000	1	2	0	0	28	15	15	1	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
2000	1	2	0	0	28	16	16	3	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
2000	1	2	0	0	28	17	17	4	0	0.8414	0.1586	0
	0	0	0	0	0	0	0	0	0	0		
2000	1	2	0	0	28	18	18	5	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
2000	1	2	0	0	28	19	19	6	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
2000	1	2	0	0	28	20	20	5	0	0.907	0.0605	0
	0.0324	0	0	0	0	0	0	0	0	0		
2000	1	2	0	0	28	21	21	9	0.0285	0.9595	0	0
	0.012	0	0	0	0	0	0	0	0	0		
2000	1	2	0	0	28	22	22	13	0	0.8801	0.0958	0.0242
	0	0	0	0	0	0	0	0	0	0		
2000	1	2	0	0	28	23	23	14	0.0117	0.8847	0.0438	0.0239
	0.014	0	0	0.0218	0	0	0	0	0	0		
2000	1	2	0	0	28	24	24	14	0	0.8452	0.1116	0.0338
	0	0	0	0	0.0094	0	0	0	0	0		
2000	1	2	0	0	28	25	25	17	0.007	0.7126	0.1507	0.0359
	0.0625	0.0282	0	0	0.0031	0	0	0	0	0		
2000	1	2	0	0	28	26	26	16	0	0.459	0.1797	0.0828
	0.193	0.0692	0	0.0077	0.0086	0	0	0	0	0		
2000	1	2	0	0	28	27	27	18	0.0081	0.3412	0.1217	0.1624
	0.156	0.133	0.0201	0.0297	0.0133	0.0069	0	0	0	0.0077		
2000	1	2	0	0	28	28	28	19	0	0.1405	0.0814	0.102
	0.3552	0.197	0.0213	0.0301	0.0191	0.0366	0.0066	0.0103	0	0		
2000	1	2	0	0	28	29	29	19	0	0.0796	0.053	0.1444
	0.3267	0.2519	0.045	0.0298	0.0089	0.0074	0.0337	0.006	0	0.0136		
2000	1	2	0	0	28	30	30	19	0	0.018	0.0134	0.106
	0.3534	0.2389	0.0281	0.0795	0.0731	0.0068	0.031	0.0055	0.0085	0.0378		
2000	1	2	0	0	28	31	31	20	0	0.0091	0.0104	0.0371
	0.3035	0.2991	0.035	0.0699	0.0262	0.0134	0.0341	0.1282	0.016	0.018		
2000	1	2	0	0	28	32	32	18	0	0.0096	0.0215	0.0799
	0.3314	0.152	0.0212	0.1212	0.0646	0.043	0.007	0.0464	0.0399	0.0623		
2000	1	2	0	0	28	33	33	16	0	0	0	0.0822
	0.3165	0.1881	0.0116	0.127	0.1003	0.0706	0.0476	0.015	0	0.0412		
2000	1	2	0	0	28	34	34	17	0	0	0.0121	0.02
	0.3169	0.1977	0.0212	0.2137	0.0347	0.013	0.0414	0.1056	0.0136	0.0102		
2000	1	2	0	0	28	35	35	15	0	0	0	0.0048
	0.338	0.1936	0.0127	0.1296	0.0095	0.0048	0.026	0.0066	0.034	0.2404		
2000	1	2	0	0	28	36	36	9	0	0.0059	0	0
	0.6663	0.0822	0	0	0.0691	0	0.0943	0.0647	0.0059	0.0116		
2000	1	2	0	0	28	37	37	10	0	0	0	0.1152
	0.1592	0	0.0163	0.2656	0.0212	0.0172	0.1335	0.1266	0.0085	0.1367		
2000	1	2	0	0	28	38	38	6	0	0.0303	0	0
	0.1299	0.0526	0	0.0569	0	0.5781	0.0526	0	0	0.0995		
2000	1	2	0	0	28	39	39	6	0	0	0.2004	0
	0.0485	0	0.2004	0.0516	0.0197	0	0.2455	0.2004	0	0.0334		
2000	1	2	0	0	28	40	40	8	0	0	0	0
	0.5526	0	0.0491	0.0431	0	0	0.3285	0.0267	0	0		
2000	1	2	0	0	28	41	41	4	0	0	0	0
	0	0	0.1648	0	0.5544	0	0.1473	0	0	0.1334		
2000	1	2	0	0	28	42	42	4	0	0	0	0
	0.0681	0.0681	0	0.4687	0	0	0.2053	0	0	0.1898		
2000	1	2	0	0	28	44	44	2	0	0	0	0
	0.0316	0	0	0	0	0.9684	0	0	0	0		
2000	1	2	0	0	28	45	45	1	0	0	0	0
	0	0	0	0	0	0	1	0	0	0		

2000	1	2	0	0	28	47	47	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1		
2000	1	2	0	0	28	48	48	1	0	0	0	0
	0	0	0	0	0	0	0	1	0	0		
2000	1	2	0	0	28	51	51	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1		
2001	1	2	0	0	29	12	12	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2001	1	2	0	0	29	22	22	1	0	0	0	1
	0	0	0	0	0	0	0	0	0	0		
2001	1	2	0	0	29	23	23	3	0	0	0.2522	0
	0.7478	0	0	0	0	0	0	0	0	0		
2001	1	2	0	0	29	24	24	4	0	0.351	0.649	0
	0	0	0	0	0	0	0	0	0	0		
2001	1	2	0	0	29	25	25	6	0	0.1256	0.3869	0.293
	0.0818	0	0.0818	0	0.0309	0	0	0	0	0		
2001	1	2	0	0	29	26	26	11	0	0.1061	0.4791	0.0189
	0.1866	0.1727	0.0368	0	0	0	0	0	0	0		
2001	1	2	0	0	29	27	27	15	0	0	0.499	0.0653
	0.2659	0.0759	0.0544	0.0248	0	0	0.0146	0	0	0		
2001	1	2	0	0	29	28	28	18	0	0.0826	0.4287	0.1058
	0.0978	0.1043	0.0791	0.0129	0	0.0424	0.015	0.024	0.0074	0		
2001	1	2	0	0	29	29	29	20	0	0.0494	0.3783	0.1216
	0.1908	0.1078	0.0621	0.0235	0.0122	0.0233	0	0.0142	0.0071	0.0098		
2001	1	2	0	0	29	30	30	20	0	0.0162	0.2301	0.1
	0.1479	0.2316	0.1758	0.0194	0.0201	0.0211	0.0045	0.008	0.0201	0.0053		
2001	1	2	0	0	29	31	31	20	0	0.0162	0.2234	0.0569
	0.1229	0.3025	0.0535	0.0358	0.0313	0.0498	0.013	0.043	0.0284	0.0231		
2001	1	2	0	0	29	32	32	20	0	0.0074	0.2169	0.107
	0.089	0.2881	0.1235	0.0206	0.0526	0.0335	0.0022	0.0162	0.0258	0.0173		
2001	1	2	0	0	29	33	33	20	0	0.0176	0.1685	0.0482
	0.0773	0.3021	0.1377	0.0408	0.0334	0.0597	0.0205	0.0248	0.0238	0.0457		
2001	1	2	0	0	29	34	34	19	0	0	0.0661	0.0105
	0.0522	0.3786	0.2435	0.01	0.0493	0.074	0.047	0.0126	0.0377	0.0187		
2001	1	2	0	0	29	35	35	18	0	0.0149	0.0122	0.0094
	0.0633	0.379	0.2474	0.0437	0.068	0.0474	0	0.0466	0.0302	0.0379		
2001	1	2	0	0	29	36	36	19	0	0	0	0.0195
	0.0926	0.2545	0.1888	0.0642	0.0095	0.1033	0.0362	0.1267	0.0095	0.0953		
2001	1	2	0	0	29	37	37	17	0	0	0.0133	0.0328
	0.1014	0.3356	0.1206	0.0413	0.0673	0.1096	0	0.0154	0.0872	0.0755		
2001	1	2	0	0	29	38	38	17	0	0	0	0
	0.1143	0.2767	0.1861	0.0359	0.1095	0.0993	0.0256	0.0467	0.0339	0.072		
2001	1	2	0	0	29	39	39	17	0	0	0	0
	0.0545	0.3484	0.2062	0.1137	0.0702	0.0926	0.0507	0.0316	0.032	0		
2001	1	2	0	0	29	40	40	12	0	0	0	0
	0	0.3602	0.053	0	0.1103	0.1366	0.0999	0.0334	0.0772	0.1292		
2001	1	2	0	0	29	41	41	9	0	0	0.0686	0
	0.0716	0.4975	0	0.0686	0.2221	0.0716	0	0	0	0		
2001	1	2	0	0	29	42	42	7	0	0	0	0
	0.0693	0.2129	0.0537	0.1276	0.1804	0.1431	0.2129	0	0	0		
2001	1	2	0	0	29	43	43	4	0	0	0	0
	0	0.526	0	0	0.2361	0.1393	0.0987	0	0	0		
2001	1	2	0	0	29	44	44	2	0	0	0	0
	0	0.3367	0.3367	0	0	0	0	0	0	0.3267		
2001	1	2	0	0	29	45	45	2	0	0	0	0
	0	0	0.2827	0	0	0	0	0	0	0.7173		
2001	1	2	0	0	29	46	46	3	0	0	0	0
	0	0.4858	0.2796	0	0	0	0	0	0	0.2346		
2001	1	2	0	0	29	47	47	1	0	0	0	0
	0	0	0	0	0	0	0	1	0	0		
2001	1	2	0	0	29	48	48	2	0	0	0	0
	0	0	0	0.4892	0	0.5108	0	0	0	0		
2002	1	2	0	0	30	18	18	1	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
2002	1	2	0	0	30	24	24	8	0	0.4236	0.4519	0.1244
	0	0	0	0	0	0	0	0	0	0		

2002	1	2	0	0	30	25	25	3	0	0.171	0.829	0
	0	0	0	0	0	0	0	0	0	0		
2002	1	2	0	0	30	26	26	5	0	0.3356	0.1722	0.3875
	0	0.1047	0	0	0	0	0	0	0	0		
2002	1	2	0	0	30	27	27	11	0	0.1017	0.4274	0.0414
	0.3158	0.1137	0	0	0	0	0	0	0	0		
2002	1	2	0	0	30	28	28	15	0	0	0.2106	0.2685
	0.2485	0.0726	0.0837	0.0617	0.0206	0.0338	0	0	0	0		
2002	1	2	0	0	30	29	29	22	0	0.0107	0.2295	0.2895
	0.0831	0.0595	0.1515	0.0784	0.0102	0.0329	0.027	0	0.0278	0		
2002	1	2	0	0	30	30	30	24	0	0.0108	0.1042	0.3278
	0.1159	0.0861	0.1629	0.1356	0.0122	0	0	0	0.0288	0.0156		
2002	1	2	0	0	30	31	31	25	0	0	0.103	0.3927
	0.1028	0.0962	0.1307	0.0816	0.0292	0.0268	0.0277	0	0.0094	0		
2002	1	2	0	0	30	32	32	26	0	0	0.0896	0.311
	0.1478	0.0908	0.165	0.1105	0.017	0.0112	0.042	0	0	0.0151		
2002	1	2	0	0	30	33	33	26	0	0.0114	0.0595	0.4025
	0.0673	0.0631	0.2048	0.0819	0.0064	0.0155	0.0277	0	0.0306	0.0294		
2002	1	2	0	0	30	34	34	26	0	0	0.0482	0.3387
	0.0633	0.091	0.1846	0.1382	0.0399	0.0232	0.0415	0.0058	0	0.0256		
2002	1	2	0	0	30	35	35	26	0	0.0077	0.0894	0.3053
	0.0644	0.0863	0.1933	0.1325	0.0282	0.0153	0.021	0.0117	0.0082	0.0369		
2002	1	2	0	0	30	36	36	26	0	0	0.05	0.2033
	0.0759	0.1598	0.3031	0.1071	0.0113	0.0507	0.0072	0	0.0114	0.02		
2002	1	2	0	0	30	37	37	25	0	0	0.0339	0.1815
	0.0881	0.0913	0.3736	0.0985	0.0087	0.0194	0.0241	0.0139	0.0203	0.0467		
2002	1	2	0	0	30	38	38	25	0	0	0.0512	0.1371
	0.063	0.116	0.3027	0.1265	0.0399	0.0091	0.0713	0	0.029	0.0543		
2002	1	2	0	0	30	39	39	21	0	0	0	0.0997
	0.0216	0.0953	0.3534	0.1685	0.0246	0.0325	0.0858	0.0222	0	0.0965		
2002	1	2	0	0	30	40	40	13	0	0	0.037	0
	0.0313	0.1683	0.4097	0.2748	0.0335	0.0453	0	0	0	0		
2002	1	2	0	0	30	41	41	18	0	0	0.0408	0.036
	0.0872	0.1019	0.2444	0.0507	0.041	0.0844	0.1017	0.0837	0	0.1281		
2002	1	2	0	0	30	42	42	12	0	0	0.0553	0
	0	0.254	0.1736	0.1153	0.0791	0.0504	0.0894	0	0.0486	0.1344		
2002	1	2	0	0	30	43	43	12	0	0	0	0
	0	0.1192	0.6183	0.136	0	0.0628	0	0.0636	0	0		
2002	1	2	0	0	30	44	44	7	0	0	0	0
	0	0	0.4432	0.2129	0	0.1051	0	0	0	0.2388		
2002	1	2	0	0	30	45	45	2	0	0	0	0
	0	0	0	0.5032	0	0	0.4968	0	0	0		
2002	1	2	0	0	30	46	46	1	0	0	0	0
	0	0	1	0	0	0	0	0	0	0		
2002	1	2	0	0	30	47	47	2	0	0	0	0
	0	0	0.3475	0.3049	0.3475	0	0	0	0	0		
2002	1	2	0	0	30	48	48	1	0	0	0	0
	0	0	0	0	0	0	0	0	1	0		
2002	1	2	0	0	30	49	49	1	0	0	0	0
	0	0	0	0	0	0	0	0	1	0		
2003	1	2	0	0	31	13	13	2	0	0	0	1
	0	0	0	0	0	0	0	0	0	0		
2003	1	2	0	0	31	14	14	2	0	0	0	1
	0	0	0	0	0	0	0	0	0	0		
2003	1	2	0	0	31	17	17	1	0	0	0	1
	0	0	0	0	0	0	0	0	0	0		
2003	1	2	0	0	31	21	21	1	0	0	1	0
	0	0	0	0	0	0	0	0	0	0		
2003	1	2	0	0	31	22	22	3	0	0	0.752	0
	0	0	0	0.248	0	0	0	0	0	0		
2003	1	2	0	0	31	23	23	11	0	0	0.6801	0.1192
	0.0651	0.1015	0.0341	0	0	0	0	0	0	0		
2003	1	2	0	0	31	24	24	14	0	0	0.6859	0.2079
	0.0276	0.0395	0.0199	0.0191	0	0	0	0	0	0		
2003	1	2	0	0	31	25	25	14	0	0.0227	0.5618	0.2715
	0.0468	0.0584	0.0108	0.0091	0.0188	0	0	0	0	0		

2003	1	2	0	0	31	26	26	15	0	0.0183	0.5825	0.1592
	0.0548	0.0717	0.0316	0.0321	0.0283	0.0106	0	0.0108	0	0		
2003	1	2	0	0	31	27	27	15	0	0	0.3791	0.2562
	0.0417	0.112	0.0791	0.0472	0.0567	0.0071	0.0137	0.0073	0	0		
2003	1	2	0	0	31	28	28	15	0	0	0.4119	0.2477
	0.0311	0.1056	0.0556	0.0631	0.0467	0.0156	0	0.014	0	0.0087		
2003	1	2	0	0	31	29	29	15	0	0	0.2732	0.2013
	0.0813	0.1769	0.0849	0.1071	0.0553	0.02	0	0	0	0		
2003	1	2	0	0	31	30	30	15	0	0	0.2971	0.1168
	0.0582	0.2095	0.0773	0.1212	0.0388	0.0202	0.0147	0.0341	0	0.012		
2003	1	2	0	0	31	31	31	15	0	0	0.1271	0.2302
	0.1134	0.156	0.0723	0.1131	0.1345	0.0206	0	0.0177	0	0.0151		
2003	1	2	0	0	31	32	32	13	0	0	0.1499	0.1028
	0.1961	0.1156	0.1554	0.1255	0.0556	0.0619	0	0.0373	0	0		
2003	1	2	0	0	31	33	33	13	0	0	0.0516	0.2507
	0.1773	0.195	0.1347	0.0451	0.091	0.0231	0	0	0.0315	0		
2003	1	2	0	0	31	34	34	11	0	0	0.1028	0.1197
	0.1613	0.254	0.0667	0.113	0.0844	0	0.0373	0.0304	0.0304	0		
2003	1	2	0	0	31	35	35	11	0	0	0	0.1463
	0.0539	0.1878	0.1029	0.2507	0.072	0.1567	0	0.0299	0	0		
2003	1	2	0	0	31	36	36	9	0	0	0.0743	0.1868
	0.3167	0.2594	0	0.0619	0	0.0504	0	0	0	0.0504		
2003	1	2	0	0	31	37	37	7	0	0	0.0817	0.0844
	0.07	0.07	0	0.4607	0.07	0.1633	0	0	0	0		
2003	1	2	0	0	31	38	38	6	0	0	0	0.1396
	0	0.0984	0.1017	0.4465	0.075	0.1388	0	0	0	0		
2003	1	2	0	0	31	39	39	8	0	0	0	0.0889
	0.2559	0.1212	0	0.1836	0	0	0.1072	0.1148	0	0.1284		
2003	1	2	0	0	31	40	40	5	0	0	0	0
	0	0.3535	0	0.4653	0	0	0	0	0	0.1812		
2003	1	2	0	0	31	41	41	5	0	0	0	0
	0.3046	0	0.2984	0.1238	0.1238	0	0.1493	0	0	0		
2003	1	2	0	0	31	42	42	3	0	0	0	0
	0.3126	0.2999	0	0.3875	0	0	0	0	0	0		
2003	1	2	0	0	31	43	43	1	0	0	0	0
	0	0	0	0	1	0	0	0	0	0		
2003	1	2	0	0	31	44	44	1	0	0	0	0
	0	0	0.5	0	0	0	0	0	0	0.5		
2003	1	2	0	0	31	45	45	1	0	0	0	0
	1	0	0	0	0	0	0	0	0	0		
2003	1	2	0	0	31	46	46	1	0	0	0	0
	0	0	1	0	0	0	0	0	0	0		
2003	1	2	0	0	31	49	49	1	0	0	0	0
	0	0	0	1	0	0	0	0	0	0		
#2004	1	2	0	0	32	10	10	1	0	0	0	1
	0	0	0	0	0	0	0	0	0	0		
#2004	1	2	0	0	32	11	11	1	0	0	0	0
	0	0	1	0	0	0	0	0	0	0		
2004	1	2	0	0	32	13	13	1	0	0	0	0
	1	0	0	0	0	0	0	0	0	0		
2004	1	2	0	0	32	14	14	1	0	0	0	0
	1	0	0	0	0	0	0	0	0	0		
2004	1	2	0	0	32	15	15	2	0.5851	0	0	0
	0.4149	0	0	0	0	0	0	0	0	0		
2004	1	2	0	0	32	16	16	1	0	0	0	1
	0	0	0	0	0	0	0	0	0	0		
2004	1	2	0	0	32	17	17	1	0	0	0	0.2
	0.8	0	0	0	0	0	0	0	0	0		
2004	1	2	0	0	32	18	18	2	0	0	0	0
	0.7035	0	0	0.2965	0	0	0	0	0	0		
2004	1	2	0	0	32	19	19	2	0	0	0.6976	0.1512
	0.1512	0	0	0	0	0	0	0	0	0		
2004	1	2	0	0	32	20	20	3	0	0.1859	0.1231	0.1231
	0	0.5679	0	0	0	0	0	0	0	0		
2004	1	2	0	0	32	21	21	11	0	0.5958	0	0.2823
	0.1219	0	0	0	0	0	0	0	0	0		

2004	1	2	0	0	32	22	22	20	0	0.1574	0.054	0.6835
	0.0602	0.045	0	0	0	0	0	0	0	0		
2004	1	2	0	0	32	23	23	26	0	0.1215	0.042	0.7519
	0.0708	0.0052	0.0086	0	0	0	0	0	0	0		
2004	1	2	0	0	32	24	24	31	0	0.034	0.0314	0.8306
	0.0749	0.0193	0.0051	0.0048	0	0	0	0	0	0		
2004	1	2	0	0	32	25	25	32	0	0.0048	0.0335	0.7386
	0.1683	0.0137	0.0105	0.0163	0.0078	0.0064	0	0	0	0		
2004	1	2	0	0	32	26	26	32	0	0.0015	0.016	0.7745
	0.1189	0.0157	0.0232	0.0296	0.014	0.0066	0	0	0	0		
2004	1	2	0	0	32	27	27	32	0	0	0.0105	0.7153
	0.1436	0.0379	0.0463	0.0229	0.0097	0.0083	0.0055	0	0	0		
2004	1	2	0	0	32	28	28	32	0	0	0.0036	0.6695
	0.1164	0.0168	0.0932	0.0328	0.0363	0.0245	0.005	0.0018	0	0		
2004	1	2	0	0	32	29	29	31	0	0.0061	0.0167	0.5282
	0.1843	0.0513	0.0903	0.0398	0.0538	0.0193	0.0064	0.0014	0.0024	0		
2004	1	2	0	0	32	30	30	31	0	0	0.0082	0.4812
	0.1592	0.0712	0.0713	0.0837	0.0604	0.0407	0.0094	0	0.0147	0		
2004	1	2	0	0	32	31	31	31	0	0	0.0133	0.2895
	0.127	0.0531	0.2178	0.1077	0.0919	0.0339	0.0172	0.0257	0	0.0229		
2004	1	2	0	0	32	32	32	27	0	0	0.0136	0.3805
	0.1248	0.0288	0.1834	0.0867	0.0527	0.0704	0.0381	0.0032	0	0.018		
2004	1	2	0	0	32	33	33	18	0	0	0.0504	0.3032
	0.0746	0.1446	0.1328	0.1013	0.0439	0.1245	0	0	0.0247	0		
2004	1	2	0	0	32	34	34	17	0	0	0.0474	0.2726
	0.0649	0.1653	0.1763	0.1458	0.0495	0	0	0.0782	0	0		
2004	1	2	0	0	32	35	35	13	0	0	0	0.1624
	0.2113	0.3775	0.064	0.0229	0	0.0354	0	0	0.0594	0.0671		
2004	1	2	0	0	32	36	36	11	0	0	0	0.1877
	0.1735	0.1673	0.2057	0.0985	0.0148	0	0.062	0	0.0284	0.062		
2004	1	2	0	0	32	37	37	5	0	0	0	0.3349
	0.2535	0	0	0	0.0699	0.0699	0	0	0.2718	0		
2004	1	2	0	0	32	38	38	7	0	0	0	0.2722
	0.3457	0.1025	0.0595	0.1606	0.0595	0	0	0	0	0		
2004	1	2	0	0	32	39	39	3	0	0	0	0
	0.2135	0.2327	0	0.5538	0	0	0	0	0	0		
2004	1	2	0	0	32	40	40	1	0	0	0	0
	0.5	0	0	0	0.5	0	0	0	0	0		
2004	1	2	0	0	32	41	41	5	0	0	0	0.1647
	0	0.3677	0.1519	0	0.1638	0	0	0	0.1519	0		
2004	1	2	0	0	32	42	42	2	0	0	0	0
	0	0.2744	0.7256	0	0	0	0	0	0	0		
2004	1	2	0	0	32	43	43	1	0	0	0	0
	0	0	0	0	0	1	0	0	0	0		
2004	1	2	0	0	32	44	44	2	0	0	0	0
	0	0	0	0	1	0	0	0	0	0		
#2004	1	2	0	0	32	46	46	1	0	0	0	1
	0	0	0	0	0	0	0	0	0	0		
2004	1	2	0	0	32	47	47	1	0	0	0	0
	0	1	0	0	0	0	0	0	0	0		
2004	1	2	0	0	32	49	49	1	0	0	0	0
	1	0	0	0	0	0	0	0	0	0		
2004	1	2	0	0	32	50	50	1	0	0	0	0
	0	0	0	0	0	1	0	0	0	0		
2005	1	2	0	0	33	19	19	2	0	0	0.4816	0
	0.5184	0	0	0	0	0	0	0	0	0		
2005	1	2	0	0	33	21	21	1	0	0	0.3333	0
	0.6667	0	0	0	0	0	0	0	0	0		
2005	1	2	0	0	33	22	22	3	0	0	0	0.5498
	0.234	0	0.2162	0	0	0	0	0	0	0		
2005	1	2	0	0	33	23	23	12	0	0	0.0213	0.0969
	0.8138	0.0107	0.0574	0	0	0	0	0	0	0		
2005	1	2	0	0	33	24	24	17	0	0	0.0573	0.0073
	0.7845	0.1009	0	0	0.0501	0	0	0	0	0		
2005	1	2	0	0	33	25	25	19	0	0	0.0129	0.0043
	0.7532	0.2026	0.027	0	0	0	0	0	0	0		

2005	1	2	0	0	33	26	26	20	0	0	0.0294	0.0525
	0.6111	0.19	0.022	0.076	0.019	0	0	0	0	0		
2005	1	2	0	0	33	27	27	20	0	0	0.0273	0.0054
	0.782	0.1359	0.0006	0.0423	0.0065	0	0	0	0	0		
2005	1	2	0	0	33	28	28	20	0	0	0.0189	0.0074
	0.5929	0.1458	0.0592	0.0456	0.127	0.0004	0.0027	0	0	0		
2005	1	2	0	0	33	29	29	19	0	0	0	0.0789
	0.5674	0.0808	0.0172	0.1509	0.0505	0.0231	0.026	0	0	0.0053		
2005	1	2	0	0	33	30	30	17	0	0	0	0.056
	0.5103	0.1642	0.0562	0.0668	0	0.0716	0.0281	0.0244	0	0.0224		
2005	1	2	0	0	33	31	31	12	0	0	0	0.0358
	0.5092	0.1476	0	0.0168	0.1217	0.0474	0.0781	0	0	0.0434		
2005	1	2	0	0	33	32	32	12	0	0	0	0
	0.3592	0.2362	0.0137	0.0561	0.2593	0.0732	0.0023	0	0	0		
2005	1	2	0	0	33	33	33	2	0	0	0	0
	0.718	0	0.282	0	0	0	0	0	0	0		
2005	1	2	0	0	33	34	34	5	0	0	0	0
	0.2434	0.3445	0	0.4121	0	0	0	0	0	0		
2005	1	2	0	0	33	35	35	7	0	0	0	0
	0.5132	0.0118	0	0.0216	0	0.2492	0.0118	0.1924	0	0		
2005	1	2	0	0	33	36	36	6	0	0	0	0
	0.1941	0.2166	0	0	0.1989	0.2317	0.1588	0	0	0		
2005	1	2	0	0	33	37	37	4	0	0	0	0
	0.6923	0	0.2864	0	0	0.0213	0	0	0	0		
2005	1	2	0	0	33	38	38	2	0	0	0	0
	0.4052	0.2974	0	0	0.2974	0	0	0	0	0		
2005	1	2	0	0	33	39	39	2	0	0	0	0
	0	0.8969	0	0	0.1031	0	0	0	0	0		
2005	1	2	0	0	33	40	40	1	0	0	0	0
	0	0	0	1	0	0	0	0	0	0		
2005	1	2	0	0	33	42	42	1	0	0	0	0
	0	0	0	1	0	0	0	0	0	0		
2005	1	2	0	0	33	45	45	1	0	0	0	0
	0	1	0	0	0	0	0	0	0	0		
2005	1	2	0	0	33	46	46	1	0	0	0	0
	0	1	0	0	0	0	0	0	0	0		
2006	1	2	0	0	34	20	20	1	0	0.3176	0	0
	0	0.6824	0	0	0	0	0	0	0	0		
2006	1	2	0	0	34	21	21	2	0	0	0	0
	0	1	0	0	0	0	0	0	0	0		
2006	1	2	0	0	34	22	22	5	0	0.1542	0.4545	0
	0	0.3913	0	0	0	0	0	0	0	0		
2006	1	2	0	0	34	23	23	13	0	0.1314	0	0.3893
	0	0.4793	0	0	0	0	0	0	0	0		
2006	1	2	0	0	34	24	24	16	0	0.0202	0	0.2148
	0.1668	0.364	0.2342	0	0	0	0	0	0	0		
2006	1	2	0	0	34	25	25	41	0.0176	0.0202	0.0218	0.0596
	0.0195	0.7992	0.0621	0	0	0	0	0	0	0		
2006	1	2	0	0	34	26	26	51	0	0.0113	0	0.0389
	0.0398	0.6975	0.1486	0.0051	0.02	0.0136	0.0251	0	0	0		
2006	1	2	0	0	34	27	27	73	0	0	0	0.1351
	0.0136	0.7032	0.0788	0.0514	0.0075	0.0066	0.0038	0	0	0		
2006	1	2	0	0	34	28	28	82	0	0	0.0094	0.0257
	0.0334	0.759	0.077	0.0369	0.0326	0.0193	0	0.003	0	0.0037		
2006	1	2	0	0	34	29	29	81	0	0	0	0.0633
	0.0503	0.6531	0.0845	0.0334	0.0506	0.0442	0.0131	0	0	0.0077		
2006	1	2	0	0	34	30	30	71	0	0	0	0.0381
	0.0432	0.7271	0.0646	0.0404	0.0136	0.0253	0.0135	0.0175	0.0167	0		
2006	1	2	0	0	34	31	31	70	0	0	0.0249	0.0238
	0.0178	0.6851	0.0817	0.0121	0.1092	0.004	0.0209	0	0.016	0.0046		
2006	1	2	0	0	34	32	32	59	0	0	0	0.0082
	0.0483	0.5428	0.0938	0.085	0.0416	0.0842	0.0617	0.0291	0.0053	0		
2006	1	2	0	0	34	33	33	45	0	0	0	0
	0.0419	0.6242	0.1012	0.0401	0.0677	0.0186	0.053	0	0	0.0532		
2006	1	2	0	0	34	34	34	24	0	0	0	0
	0	0.5707	0.0703	0.0678	0.023	0.0533	0.1225	0.0923	0	0		

2006	1	2	0	0	34	35	35	26	0	0	0	0.0307
	0	0.5945	0.2057	0.0278	0	0.1413	0	0	0	0		
2006	1	2	0	0	34	36	36	10	0	0	0	0
	0	0.4352	0.2936	0.0767	0	0.1944	0	0	0	0		
2006	1	2	0	0	34	37	37	12	0	0	0	0
	0	0.4892	0	0.0436	0.046	0.0921	0.2354	0.0938	0	0		
2006	1	2	0	0	34	38	38	6	0	0	0	0
	0	0.5044	0	0.254	0.1372	0.1044	0	0	0	0		
2006	1	2	0	0	34	39	39	6	0	0	0	0
	0	0.0678	0	0.404	0	0.5282	0	0	0	0		
2006	1	2	0	0	34	40	40	7	0	0	0	0
	0	0.1434	0	0.0526	0.2714	0	0.4197	0.1129	0	0		
2006	1	2	0	0	34	41	41	7	0	0	0	0
	0	0.6224	0	0	0.1142	0	0.2635	0	0	0		
2006	1	2	0	0	34	42	42	6	0	0	0	0
	0	0.0794	0.4332	0.2901	0.0754	0	0	0	0	0.1219		
2006	1	2	0	0	34	44	44	1	0	0	0	0
	0	1	0	0	0	0	0	0	0	0		
2006	1	2	0	0	34	45	45	2	0	0	0	0
	0	0	0	0	0.4207	0	0	0	0.5793	0		
2006	1	2	0	0	34	46	46	2	0	0	0	0
	0	0	0	0	0	0	0	1	0	0		
2006	1	2	0	0	34	47	47	1	0	0	0	0
	0	0	0	0	0	0	0	1	0	0		
2006	1	2	0	0	34	51	51	1	0	0	0	0
	0	0	0	1	0	0	0	0	0	0		
2007	1	2	0	0	35	1	1	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2007	1	2	0	0	35	15	15	1	0	0	1	0
	0	0	0	0	0	0	0	0	0	0		
2007	1	2	0	0	35	16	16	2	0.8893	0	0.1107	0
	0	0	0	0	0	0	0	0	0	0		
2007	1	2	0	0	35	19	19	1	0	0	1	0
	0	0	0	0	0	0	0	0	0	0		
2007	1	2	0	0	35	20	20	1	0	0	0	0
	0	0	1	0	0	0	0	0	0	0		
2007	1	2	0	0	35	21	21	4	0	0.2041	0.7959	0
	0	0	0	0	0	0	0	0	0	0		
2007	1	2	0	0	35	22	22	7	0	0	0.2574	0
	0	0.1044	0.6381	0	0	0	0	0	0	0		
2007	1	2	0	0	35	23	23	13	0	0	0.5275	0
	0	0	0.4348	0.0376	0	0	0	0	0	0		
2007	1	2	0	0	35	24	24	15	0	0	0.3889	0.0484
	0.1108	0.0336	0.326	0.0557	0.0367	0	0	0	0	0		
2007	1	2	0	0	35	25	25	19	0	0	0.2279	0.036
	0.114	0	0.4652	0.1152	0.0198	0.0218	0	0	0	0		
2007	1	2	0	0	35	26	26	24	0	0	0.1179	0.0172
	0.1106	0.0208	0.6283	0.0892	0.016	0	0	0	0	0		
2007	1	2	0	0	35	27	27	26	0	0	0.0674	0
	0.0573	0.0861	0.6751	0.0987	0	0	0	0.0154	0	0		
2007	1	2	0	0	35	28	28	29	0	0	0.0323	0.0131
	0.0343	0.0285	0.624	0.1946	0.0137	0.0318	0.0276	0	0	0		
2007	1	2	0	0	35	29	29	30	0	0	0.0007	0.0293
	0.0843	0.0338	0.6401	0.115	0.0174	0.0329	0.0305	0.0024	0.0136	0		
2007	1	2	0	0	35	30	30	33	0	0	0	0.0026
	0.0276	0.0167	0.7084	0.121	0.0234	0.0148	0.0267	0.0384	0.0205	0		
2007	1	2	0	0	35	31	31	31	0	0	0.0015	0.0432
	0.0283	0.0115	0.5761	0.0849	0.0232	0.1112	0.0446	0.0094	0.0662	0		
2007	1	2	0	0	35	32	32	23	0	0	0	0.0003
	0.1689	0.0326	0.4976	0.0629	0	0.0456	0.0789	0.04	0.0732	0		
2007	1	2	0	0	35	33	33	23	0	0	0	0
	0.0883	0.0797	0.4269	0.1145	0.1233	0.1667	0.0008	0	0	0		
2007	1	2	0	0	35	34	34	17	0	0	0	0.0081
	0.0623	0	0.4576	0.1547	0.0004	0.1711	0.1459	0	0	0		
2007	1	2	0	0	35	35	35	21	0	0	0	0
	0.0629	0.014	0.4663	0.2737	0.0113	0.0638	0	0.0574	0.0506	0		

2007	1	2	0	0	35	36	36	10	0	0	0	0
	0	0	0.1413	0.1067	0.1549	0.0113	0.2437	0.1865	0.1557	0		
2007	1	2	0	0	35	37	37	12	0	0	0	0
	0	0.1696	0.6031	0.1897	0.0365	0.0011	0	0	0	0		
2007	1	2	0	0	35	38	38	9	0	0	0	0.0078
	0	0.0435	0.4561	0.0715	0.3395	0.0023	0	0.0715	0.0078	0		
2007	1	2	0	0	35	39	39	12	0	0	0	0
	0	0.0024	0.386	0.186	0.0735	0.194	0.1581	0	0	0		
2007	1	2	0	0	35	40	40	8	0	0	0	0
	0.0529	0	0.492	0.0312	0.4212	0.0028	0	0	0	0		
2007	1	2	0	0	35	41	41	6	0	0	0	0
	0	0	0.1384	0.0094	0	0	0.4509	0.2629	0.1384	0		
2007	1	2	0	0	35	42	42	2	0	0	0	0
	0	0	0.1098	0.1098	0.7804	0	0	0	0	0		
2007	1	2	0	0	35	43	43	4	0	0	0	0
	0	0	0.2583	0.5772	0.1631	0.0014	0	0	0	0		
2007	1	2	0	0	35	44	44	2	0	0	0	0
	0	0	1	0	0	0	0	0	0	0		
2007	1	2	0	0	35	45	45	3	0	0	0	0
	0	0	0.433	0.567	0	0	0	0	0	0		
2007	1	2	0	0	35	46	46	2	0	0	0	0
	0	0	0.0508	0.9492	0	0	0	0	0	0		
2007	1	2	0	0	35	47	47	2	0	0	0	0
	0	0	0	0	1	0	0	0	0	0		
2007	1	2	0	0	35	49	49	3	0	0	0	0
	0	0	0.0167	0.9333	0	0	0	0.05	0	0		
2007	1	2	0	0	35	50	50	1	0	0	0	0
	0	0	0	0	1	0	0	0	0	0		
2007	1	2	0	0	35	51	51	2	0	0	0	0
	0	0	0	0	0	0.0169	0.9831	0	0	0		
2008	1	2	0	0	36	4	4	1	1.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	2	0	0	36	5	5	1	1.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	2	0	0	36	6	6	1	1.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	2	0	0	36	7	7	1	1.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	2	0	0	36	8	8	2	1.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	2	0	0	36	9	9	2	1.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	2	0	0	36	10	10	2	1.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	2	0	0	36	11	11	1	1.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	2	0	0	36	12	12	4	1.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	2	0	0	36	13	13	6	0.8931	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.1069	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	2	0	0	36	14	14	7	0.9677	0.0323	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	2	0	0	36	15	15	7	1.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	2	0	0	36	16	16	8	0.9017	0.0983	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	2	0	0	36	17	17	7	0.7143	0.2857	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	2	0	0	36	18	18	7	0.3519	0.6481	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	2	0	0	36	19	19	8	0.2394	0.7606	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	2	0	0	36	20	20	12	0.0830	0.8471	0.0698	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	2	0	0	36	21	21	7	0.0352	0.9293	0.0000	0.0355
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		

2008	1	2	0	0	36	22	22	12	0.0301	0.5732	0.0172	0.0372
	0.0000	0.0000	0.0000	0.2301	0.1121	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	2	0	0	36	23	23	11	0.0000	0.7105	0.0975	0.0365
	0.0000	0.0680	0.0000	0.0876	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	2	0	0	36	24	24	20	0.0000	0.2117	0.0407	0.2492
	0.0154	0.0734	0.0132	0.2951	0.0747	0.0000	0.0266	0.0000	0.0000	0.0000		
2008	1	2	0	0	36	25	25	27	0.0000	0.0211	0.0185	0.2026
	0.0000	0.0901	0.0987	0.3977	0.1272	0.0000	0.0000	0.0440	0.0000	0.0000		
2008	1	2	0	0	36	26	26	36	0.0000	0.0011	0.0441	0.2212
	0.0074	0.0061	0.0649	0.5547	0.0459	0.0001	0.0175	0.0000	0.0000	0.0371		
2008	1	2	0	0	36	27	27	41	0.0000	0.0236	0.0022	0.1057
	0.0157	0.0189	0.0793	0.5572	0.1175	0.0093	0.0000	0.0122	0.0123	0.0462		
2008	1	2	0	0	36	28	28	42	0.0000	0.0000	0.0037	0.1384
	0.0000	0.0625	0.0301	0.6551	0.0770	0.0128	0.0031	0.0000	0.0087	0.0085		
2008	1	2	0	0	36	29	29	40	0.0000	0.0014	0.0092	0.1455
	0.0000	0.0287	0.0288	0.5657	0.1130	0.0462	0.0118	0.0496	0.0000	0.0000		
2008	1	2	0	0	36	30	30	45	0.0000	0.0007	0.0019	0.0735
	0.0359	0.0374	0.0197	0.6579	0.0748	0.0225	0.0427	0.0168	0.0074	0.0089		
2008	1	2	0	0	36	31	31	40	0.0000	0.0000	0.0140	0.0665
	0.0000	0.0355	0.0144	0.6187	0.1062	0.0573	0.0479	0.0165	0.0000	0.0231		
2008	1	2	0	0	36	32	32	42	0.0000	0.0109	0.0069	0.0069
	0.0123	0.0327	0.0327	0.6637	0.1101	0.0221	0.0184	0.0260	0.0073	0.0498		
2008	1	2	0	0	36	33	33	34	0.0000	0.0000	0.0000	0.0005
	0.0000	0.0350	0.0028	0.6804	0.1380	0.0377	0.0330	0.0324	0.0403	0.0000		
2008	1	2	0	0	36	34	34	29	0.0000	0.0000	0.0008	0.0495
	0.0075	0.0519	0.0497	0.4746	0.0698	0.1864	0.0389	0.0564	0.0146	0.0000		
2008	1	2	0	0	36	35	35	21	0.0000	0.0000	0.0111	0.0410
	0.0000	0.0559	0.0446	0.4459	0.0866	0.0169	0.0930	0.0545	0.0960	0.0545		
2008	1	2	0	0	36	36	36	22	0.0000	0.0000	0.0000	0.0113
	0.0000	0.0000	0.0001	0.6357	0.1916	0.0240	0.0000	0.0708	0.0000	0.0665		
2008	1	2	0	0	36	37	37	13	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0172	0.0000	0.8737	0.0004	0.0612	0.0000	0.0474	0.0000	0.0000		
2008	1	2	0	0	36	38	38	17	0.0000	0.0000	0.0000	0.0426
	0.0000	0.1265	0.0000	0.5277	0.0335	0.1403	0.0165	0.0740	0.0000	0.0388		
2008	1	2	0	0	36	39	39	7	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.8762	0.0000	0.0307	0.0000	0.0005	0.0927	0.0000		
2008	1	2	0	0	36	40	40	8	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.8999	0.0672	0.0329	0.0000	0.0000	0.0000	0.0000		
2008	1	2	0	0	36	41	41	3	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.2354	0.7646	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	2	0	0	36	42	42	7	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0822	0.5378	0.2317	0.1469	0.0014	0.0000	0.0000		
2008	1	2	0	0	36	43	43	3	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.9938	0.0000	0.0062	0.0000	0.0000	0.0000	0.0000		
2008	1	2	0	0	36	44	44	1	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	2	0	0	36	45	45	2	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000		
2008	1	2	0	0	36	48	48	1	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000		
# Acoustic survey												
1977	1	3	0	0	5	7	7	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1977	1	3	0	0	5	9	9	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1977	1	3	0	0	5	10	10	1	0.6667	0.3333	0	0
	0	0	0	0	0	0	0	0	0	0		
1977	1	3	0	0	5	11	11	1	0.5714	0.4286	0	0
	0	0	0	0	0	0	0	0	0	0		
1977	1	3	0	0	5	12	12	2	0.9286	0.0714	0	0
	0	0	0	0	0	0	0	0	0	0		
1977	1	3	0	0	5	13	13	3	0.8571	0.1429	0	0
	0	0	0	0	0	0	0	0	0	0		
1977	1	3	0	0	5	14	14	4	0.8293	0.1707	0	0
	0	0	0	0	0	0	0	0	0	0		
1977	1	3	0	0	5	15	15	3	0.8	0.2	0	0
	0	0	0	0	0	0	0	0	0	0		

1977	1	3	0	0	5	16	16	9	0.6724	0.2414	0.0862	0
	0	0	0	0	0	0	0	0	0	0		
1977	1	3	0	0	5	17	17	14	0.6825	0.2063	0.0952	0
	0	0.0159	0	0	0	0	0	0	0	0		
1977	1	3	0	0	5	18	18	16	0.6061	0.303	0.0909	0
	0	0	0	0	0	0	0	0	0	0		
1977	1	3	0	0	5	19	19	14	0.5352	0.2958	0.169	0
	0	0	0	0	0	0	0	0	0	0		
1977	1	3	0	0	5	20	20	17	0.5	0.2639	0.2222	0.0139
	0	0	0	0	0	0	0	0	0	0		
1977	1	3	0	0	5	21	21	20	0.2568	0.3108	0.4189	0.0135
	0	0	0	0	0	0	0	0	0	0		
1977	1	3	0	0	5	22	22	22	0.1	0.2231	0.6154	0.0462
	0.0077	0	0.0077	0	0	0	0	0	0	0		
1977	1	3	0	0	5	23	23	24	0.027	0.1689	0.7297	0.0473
	0.0203	0.0068	0	0	0	0	0	0	0	0		
1977	1	3	0	0	5	24	24	29	0	0.161	0.7561	0.0341
	0.0098	0.039	0	0	0	0	0	0	0	0		
1977	1	3	0	0	5	25	25	34	0	0.0625	0.825	0.05
	0.0125	0.0458	0.0042	0	0	0	0	0	0	0		
1977	1	3	0	0	5	26	26	40	0	0.0319	0.7211	0.0558
	0.0438	0.1394	0.004	0	0	0.004	0	0	0	0		
1977	1	3	0	0	5	27	27	41	0.0032	0.0354	0.5498	0.045
	0.0611	0.2958	0.0032	0	0.0032	0.0032	0	0	0	0		
1977	1	3	0	0	5	28	28	45	0	0.0023	0.3151	0.0708
	0.0913	0.4772	0.032	0.0114	0	0	0	0	0	0		
1977	1	3	0	0	5	29	29	48	0	0	0.1947	0.0302
	0.0851	0.6314	0.0416	0.0113	0.0019	0.0038	0	0	0	0		
1977	1	3	0	0	5	30	30	48	0	0.0017	0.1224	0.0448
	0.0914	0.6552	0.0552	0.0121	0.0086	0.0017	0.0069	0	0	0		
1977	1	3	0	0	5	31	31	45	0	0	0.0692	0.0242
	0.0725	0.6892	0.0918	0.0258	0.0209	0.0032	0.0032	0	0	0		
1977	1	3	0	0	5	32	32	47	0	0	0.0292	0.0117
	0.0585	0.6433	0.1248	0.0663	0.0409	0.0136	0.0097	0	0.0019	0		
1977	1	3	0	0	5	33	33	46	0	0	0.0139	0.0046
	0.0464	0.5592	0.1601	0.1044	0.0696	0.0302	0.007	0.0046	0	0		
1977	1	3	0	0	5	34	34	44	0	0	0.0259	0.0162
	0.0356	0.466	0.165	0.11	0.0777	0.0777	0.0227	0	0.0032	0		
1977	1	3	0	0	5	35	35	40	0	0	0.0042	0.0084
	0.0084	0.479	0.1555	0.1345	0.1134	0.0378	0.0378	0.0168	0.0042	0		
1977	1	3	0	0	5	36	36	38	0	0	0	0
	0.0291	0.3372	0.1686	0.186	0.1395	0.0756	0.0233	0.0407	0	0		
1977	1	3	0	0	5	37	37	31	0	0	0	0
	0.0216	0.3309	0.1439	0.223	0.1007	0.1079	0.0576	0.0144	0	0		
1977	1	3	0	0	5	38	38	33	0	0	0	0.007
	0	0.2183	0.1972	0.1761	0.169	0.0986	0.0915	0.0352	0.007	0		
1977	1	3	0	0	5	39	39	27	0	0	0	0
	0.0263	0.2237	0.1447	0.1711	0.2237	0.0789	0.0789	0.0263	0.0263	0		
1977	1	3	0	0	5	40	40	19	0	0	0.0182	0
	0	0.1455	0.0909	0.1636	0.2364	0.1636	0.0909	0.0364	0.0364	0.0182		
1977	1	3	0	0	5	41	41	18	0	0	0	0
	0.02	0.2	0.14	0.16	0.22	0.14	0.04	0.06	0.02	0		
1977	1	3	0	0	5	42	42	16	0	0	0	0
	0	0.1026	0.1282	0.2051	0.0513	0.2308	0.1538	0.1282	0	0		
1977	1	3	0	0	5	43	43	11	0	0	0	0
	0.0278	0.0556	0.1389	0.1111	0.1944	0.1944	0.1944	0.0278	0.0278	0.0278		
1977	1	3	0	0	5	44	44	11	0	0	0	0
	0	0.1379	0.1724	0.3103	0.2069	0.1034	0.069	0	0	0		
1977	1	3	0	0	5	45	45	10	0	0	0	0
	0	0	0.0476	0.3333	0.2381	0.1429	0.0952	0.0476	0	0.0952		
1977	1	3	0	0	5	46	46	8	0	0	0	0
	0	0.2778	0.1111	0.1111	0.1667	0.1667	0.0556	0.0556	0.0556	0		
1977	1	3	0	0	5	47	47	8	0	0	0	0
	0	0.1	0	0	0.1	0.6	0.1	0	0	0.1		
1977	1	3	0	0	5	48	48	8	0	0	0	0
	0	0	0.1111	0.3333	0.2222	0.1111	0.1111	0.1111	0	0		

1977	1	3	0	0	5	49	49	7	0	0	0	0
	0	0.125	0.125	0.125	0	0	0.25	0.25	0	0.125		
1977	1	3	0	0	5	50	50	4	0	0	0	0
	0	0	0	0.5	0.1667	0.3333	0	0	0	0		
1977	1	3	0	0	5	51	51	7	0	0	0.0909	0
	0	0.1818	0	0.0909	0	0.0909	0.0909	0	0.0909	0.3636		
1980	1	3	0	0	8	10	10	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1980	1	3	0	0	8	15	15	4	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
1980	1	3	0	0	8	16	16	7	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
1980	1	3	0	0	8	17	17	9	0.0208	0.9375	0.0417	0
	0	0	0	0	0	0	0	0	0	0		
1980	1	3	0	0	8	18	18	10	0.0154	0.9538	0.0308	0
	0	0	0	0	0	0	0	0	0	0		
1980	1	3	0	0	8	19	19	12	0.0112	0.9438	0.0449	0
	0	0	0	0	0	0	0	0	0	0		
1980	1	3	0	0	8	20	20	10	0	0.933	0.067	0
	0	0	0	0	0	0	0	0	0	0		
1980	1	3	0	0	8	21	21	12	0	0.9263	0.0684	0.0053
	0	0	0	0	0	0	0	0	0	0		
1980	1	3	0	0	8	22	22	11	0	0.8611	0.1319	0.0069
	0	0	0	0	0	0	0	0	0	0		
1980	1	3	0	0	8	23	23	10	0	0.7037	0.2963	0
	0	0	0	0	0	0	0	0	0	0		
1980	1	3	0	0	8	24	24	12	0	0.5588	0.3235	0
	0.0294	0.0882	0	0	0	0	0	0	0	0		
1980	1	3	0	0	8	25	25	13	0	0.2222	0.2222	0.2778
	0.1111	0.1667	0	0	0	0	0	0	0	0		
1980	1	3	0	0	8	26	26	16	0	0.087	0.087	0.3043
	0.2174	0.1304	0.1304	0	0.0435	0	0	0	0	0		
1980	1	3	0	0	8	27	27	18	0	0.0182	0.0545	0.3455
	0.1636	0.2727	0.0182	0.1091	0.0182	0	0	0	0	0		
1980	1	3	0	0	8	28	28	19	0	0	0	0.2533
	0.16	0.3867	0.12	0.0533	0.0267	0	0	0	0	0		
1980	1	3	0	0	8	29	29	21	0	0	0	0.1801
	0.1491	0.3665	0.0932	0.1801	0.0311	0	0	0	0	0		
1980	1	3	0	0	8	30	30	24	0	0	0.0044	0.136
	0.1316	0.4211	0.1272	0.1404	0.0263	0.0088	0	0.0044	0	0		
1980	1	3	0	0	8	31	31	22	0	0	0	0.0625
	0.0586	0.4297	0.1133	0.2539	0.0625	0.0156	0	0.0039	0	0		
1980	1	3	0	0	8	32	32	22	0	0	0	0.0404
	0.0448	0.3812	0.0807	0.3229	0.0762	0.0448	0.0045	0.0045	0	0		
1980	1	3	0	0	8	33	33	21	0	0	0	0.0264
	0.0529	0.3744	0.0529	0.304	0.1322	0.0396	0.0132	0	0	0.0044		
1980	1	3	0	0	8	34	34	19	0	0	0	0.0226
	0.0056	0.3051	0.1412	0.3164	0.0904	0.0791	0.0113	0.0169	0.0056	0.0056		
1980	1	3	0	0	8	35	35	18	0	0	0	0.0075
	0.0373	0.2761	0.0672	0.2985	0.194	0.0821	0.0224	0.0075	0	0.0075		
1980	1	3	0	0	8	36	36	17	0	0	0	0.0099
	0.0198	0.2376	0.099	0.3069	0.1683	0.0891	0.0396	0.0297	0	0		
1980	1	3	0	0	8	37	37	19	0	0.0137	0	0.0137
	0.0274	0.1507	0.0274	0.3151	0.2329	0.0822	0.0548	0.0411	0.0411	0		
1980	1	3	0	0	8	38	38	16	0	0	0	0
	0	0.2	0.08	0.3	0.16	0.22	0.02	0.02	0	0		
1980	1	3	0	0	8	39	39	11	0	0	0	0
	0	0.0938	0.0625	0.2188	0.3438	0.25	0.0313	0	0	0		
1980	1	3	0	0	8	40	40	14	0	0	0	0
	0.0455	0.0909	0.0455	0.2273	0.2273	0.2273	0.0455	0.0455	0	0.0455		
1980	1	3	0	0	8	41	41	7	0	0	0	0.0588
	0	0.0588	0.0588	0.2941	0.1176	0.2941	0.1176	0	0	0		
1980	1	3	0	0	8	42	42	4	0	0	0	0
	0	0	0	0.1818	0.1818	0.3636	0.0909	0.0909	0.0909	0		
1980	1	3	0	0	8	43	43	3	0	0	0	0
	0	0	0	0	0.5	0.25	0	0.25	0	0		

1980	1	3	0	0	8	44	44	2	0	0	0	0
	0	0	0	0	0	0.4	0.4	0.2	0	0		
1980	1	3	0	0	8	45	45	2	0	0	0	0
	0	0	0	0	0.2857	0.5714	0.1429	0	0	0		
1980	1	3	0	0	8	46	46	3	0	0	0	0
	0	0	0	0	0.3333	0.3333	0	0	0	0.3333		
1980	1	3	0	0	8	47	47	2	0	0	0	0
	0	0	0	0	1	0	0	0	0	0		
1980	1	3	0	0	8	48	48	2	0	0	0	0
	0	0	0	0	0	0.5	0	0.5	0	0		
1980	1	3	0	0	8	49	49	4	0	0	0	0
	0	0	0	0.1429	0.2857	0	0.2857	0.2857	0	0		
1980	1	3	0	0	8	50	50	3	0	0	0	0
	0	0	0	0.3333	0.3333	0	0	0.3333	0	0		
1980	1	3	0	0	8	51	51	3	0	0	0	0
	0	0	0	0	0	0.25	0	0.25	0.25	0.25		
1983	1	3	0	0	11	14	14	2	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
1983	1	3	0	0	11	15	15	4	0.0588	0.9412	0	0
	0	0	0	0	0	0	0	0	0	0		
1983	1	3	0	0	11	16	16	3	0.0313	0.9688	0	0
	0	0	0	0	0	0	0	0	0	0		
1983	1	3	0	0	11	17	17	5	0.0164	0.9836	0	0
	0	0	0	0	0	0	0	0	0	0		
1983	1	3	0	0	11	18	18	7	0	0.9733	0.0133	0
	0.0133	0	0	0	0	0	0	0	0	0		
1983	1	3	0	0	11	19	19	8	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
1983	1	3	0	0	11	20	20	9	0	0.9811	0.0189	0
	0	0	0	0	0	0	0	0	0	0		
1983	1	3	0	0	11	21	21	13	0	0.963	0.0123	0.0247
	0	0	0	0	0	0	0	0	0	0		
1983	1	3	0	0	11	22	22	11	0	1	0	0
	0	0	0	0	0	0	0	0	0	0		
1983	1	3	0	0	11	23	23	11	0	0.9032	0.0645	0.0323
	0	0	0	0	0	0	0	0	0	0		
1983	1	3	0	0	11	24	24	9	0	0.8077	0.0962	0.0385
	0.0577	0	0	0	0	0	0	0	0	0		
1983	1	3	0	0	11	25	25	13	0	0.4906	0.0566	0.0566
	0.3585	0.0377	0	0	0	0	0	0	0	0		
1983	1	3	0	0	11	26	26	12	0	0.2759	0.069	0.0517
	0.5517	0.0345	0.0172	0	0	0	0	0	0	0		
1983	1	3	0	0	11	27	27	13	0	0.0725	0.0435	0.0435
	0.7971	0.0145	0.0145	0	0.0145	0	0	0	0	0		
1983	1	3	0	0	11	28	28	12	0	0.0319	0.0213	0.0319
	0.7872	0.0638	0.0319	0.0106	0.0213	0	0	0	0	0		
1983	1	3	0	0	11	29	29	13	0	0	0.0106	0.0426
	0.8191	0.0638	0.0319	0.0213	0	0	0.0106	0	0	0		
1983	1	3	0	0	11	30	30	12	0	0	0.0122	0.0244
	0.7439	0.0854	0.061	0.0244	0.0488	0	0	0	0	0		
1983	1	3	0	0	11	31	31	12	0	0	0	0.0141
	0.6056	0.0282	0.0704	0.0845	0.1127	0.0423	0.0423	0	0	0		
1983	1	3	0	0	11	32	32	11	0	0	0	0
	0.5818	0.0909	0.1091	0.0727	0.0727	0.0364	0.0182	0.0182	0	0		
1983	1	3	0	0	11	33	33	10	0	0	0	0
	0.3922	0.0784	0.0784	0.1176	0.2157	0.0392	0.0784	0	0	0		
1983	1	3	0	0	11	34	34	9	0	0	0	0
	0.2273	0.0227	0.1136	0.1364	0.2273	0.0909	0.0455	0.1136	0.0227	0		
1983	1	3	0	0	11	35	35	8	0	0	0	0
	0.1333	0.0333	0.2333	0.2	0.2667	0.1	0.0333	0	0	0		
1983	1	3	0	0	11	36	36	6	0	0	0	0
	0.0588	0.0588	0.1176	0.1176	0.2353	0.1176	0.1176	0.1765	0	0		
1983	1	3	0	0	11	37	37	5	0	0	0	0
	0.0909	0	0.1818	0.1818	0.0909	0.0909	0.0909	0.2727	0	0		
1983	1	3	0	0	11	38	38	7	0	0	0	0
	0.0909	0	0	0.1818	0.3636	0.1818	0.0909	0	0.0909	0		

1983	1	3	0	0	11	39	39	2	0	0	0	0
	0	0	0.2	0.2	0.4	0.2	0	0	0	0		
1983	1	3	0	0	11	40	40	3	0	0	0	0
	0	0	0	0	0.6667	0	0	0.1667	0.1667	0		
1983	1	3	0	0	11	41	41	1	0	0	0	0
	0	0	0	0	0	1	0	0	0	0		
1983	1	3	0	0	11	42	42	2	0	0	0	0
	0	0	0	0	1	0	0	0	0	0		
1983	1	3	0	0	11	43	43	2	0	0	0	0
	0	0	0	0	0.5	0	0.5	0	0	0		
1983	1	3	0	0	11	44	44	1	0	0	0	0
	0	0	0	0	0.5	0	0	0.5	0	0		
1983	1	3	0	0	11	46	46	1	0	0	0	0
	0	0	0	0	0	1	0	0	0	0		
1983	1	3	0	0	11	47	47	1	0	0	0	0
	0	0	0	0	0	0	1	0	0	0		
1983	1	3	0	0	11	50	50	1	0	0	0	0
	0	0	0	0	1	0	0	0	0	0		
1986	1	3	0	0	14	10	10	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1986	1	3	0	0	14	11	11	3	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1986	1	3	0	0	14	12	12	6	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1986	1	3	0	0	14	13	13	8	0.9639	0.0361	0	0
	0	0	0	0	0	0	0	0	0	0		
1986	1	3	0	0	14	14	14	8	0.9762	0.0238	0	0
	0	0	0	0	0	0	0	0	0	0		
1986	1	3	0	0	14	15	15	9	0.9816	0.0184	0	0
	0	0	0	0	0	0	0	0	0	0		
1986	1	3	0	0	14	16	16	9	0.9765	0.0235	0	0
	0	0	0	0	0	0	0	0	0	0		
1986	1	3	0	0	14	17	17	11	0.8913	0.087	0.0217	0
	0	0	0	0	0	0	0	0	0	0		
1986	1	3	0	0	14	18	18	8	0.7647	0.1765	0.0588	0
	0	0	0	0	0	0	0	0	0	0		
1986	1	3	0	0	14	19	19	10	0.7778	0.2222	0	0
	0	0	0	0	0	0	0	0	0	0		
1986	1	3	0	0	14	20	20	5	0.2	0.2	0.2	0
	0.4	0	0	0	0	0	0	0	0	0		
1986	1	3	0	0	14	21	21	6	0	0	0.1429	0
	0.8571	0	0	0	0	0	0	0	0	0		
1986	1	3	0	0	14	22	22	12	0	0	0	0.2
	0.8	0	0	0	0	0	0	0	0	0		
1986	1	3	0	0	14	23	23	21	0	0	0.0208	0.0729
	0.8438	0.0417	0.0208	0	0	0	0	0	0	0		
1986	1	3	0	0	14	24	24	21	0	0	0.0136	0.0544
	0.8844	0.034	0.0136	0	0	0	0	0	0	0		
1986	1	3	0	0	14	25	25	20	0	0	0.0095	0.0571
	0.8667	0.0619	0.0048	0	0	0	0	0	0	0		
1986	1	3	0	0	14	26	26	21	0	0	0.0047	0.0234
	0.9019	0.0467	0.0187	0.0047	0	0	0	0	0	0		
1986	1	3	0	0	14	27	27	21	0	0	0.006	0.0476
	0.7976	0.1012	0.0417	0.006	0	0	0	0	0	0		
1986	1	3	0	0	14	28	28	17	0	0	0	0.0244
	0.6748	0.1301	0.0488	0.122	0	0	0	0	0	0		
1986	1	3	0	0	14	29	29	18	0	0	0	0.0215
	0.6129	0.129	0.1398	0.0968	0	0	0	0	0	0		
1986	1	3	0	0	14	30	30	16	0	0	0	0.0411
	0.4658	0.1781	0.0959	0.2055	0	0.0137	0	0	0	0		
1986	1	3	0	0	14	31	31	16	0	0	0	0
	0.4211	0.1228	0.1579	0.2807	0.0175	0	0	0	0	0		
1986	1	3	0	0	14	32	32	16	0	0	0	0
	0.18	0.18	0.18	0.42	0.02	0.02	0	0	0	0		
1986	1	3	0	0	14	33	33	11	0	0	0	0
	0.122	0.0976	0.122	0.561	0.0488	0.0244	0	0.0244	0	0		

1986	1	3	0	0	14	34	34	13	0	0	0	0
	0.2571	0.0286	0.1429	0.3429	0.0857	0.0857	0.0286	0.0286	0	0		
1986	1	3	0	0	14	35	35	8	0	0	0	0
	0.1304	0	0.0435	0.4348	0.1304	0.1304	0	0.1304	0	0		
1986	1	3	0	0	14	36	36	9	0	0	0	0
	0.15	0	0.05	0.4	0.1	0.2	0	0.1	0	0		
1986	1	3	0	0	14	37	37	4	0	0	0	0
	0	0.0769	0.1538	0.3846	0.0769	0.1538	0	0.1538	0	0		
1986	1	3	0	0	14	38	38	4	0	0	0	0
	0	0.0769	0.0769	0.3077	0.1538	0.0769	0.0769	0.1538	0.0769	0		
1986	1	3	0	0	14	39	39	3	0	0	0	0
	0	0.0833	0.0833	0.3333	0.1667	0.0833	0	0.25	0	0		
1986	1	3	0	0	14	40	40	3	0	0	0	0
	0	0	0	0.5556	0.2222	0.1111	0	0.1111	0	0		
1986	1	3	0	0	14	41	41	4	0	0	0	0
	0	0	0	0.3333	0	0	0.1667	0.3333	0.1667	0		
1986	1	3	0	0	14	42	42	3	0	0	0	0
	0	0	0	0	0.5	0	0	0.25	0.25	0		
1986	1	3	0	0	14	43	43	2	0	0	0	0
	0	0	0	0	0	0	0	0.75	0	0.25		
1986	1	3	0	0	14	45	45	3	0	0	0	0
	0	0	0	0.3333	0	0	0.6667	0	0	0		
1986	1	3	0	0	14	46	46	1	0	0	0	0
	0	0	0	0	0	0	1	0	0	0		
1986	1	3	0	0	14	48	48	1	0	0	0	0
	0	0	0	1	0	0	0	0	0	0		
1986	1	3	0	0	14	49	49	1	0	0	0	0
	0	0	0	0	0	0	1	0	0	0		
1986	1	3	0	0	14	50	50	1	0	0	0	0
	0	0	0	0	0	0	0	0	1	0		
1986	1	3	0	0	14	51	51	1	0	0	0	0
	0	0	0	0	0	0	0	0	0.5	0.5		
1989	1	3	0	0	17	8	8	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1989	1	3	0	0	17	14	14	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1989	1	3	0	0	17	15	15	3	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1989	1	3	0	0	17	16	16	4	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1989	1	3	0	0	17	17	17	6	0.7778	0.2222	0	0
	0	0	0	0	0	0	0	0	0	0		
1989	1	3	0	0	17	18	18	8	0.8857	0.0857	0.0286	0
	0	0	0	0	0	0	0	0	0	0		
1989	1	3	0	0	17	19	19	7	0.8205	0.1538	0.0256	0
	0	0	0	0	0	0	0	0	0	0		
1989	1	3	0	0	17	20	20	9	0.7105	0.2368	0.0263	0.0263
	0	0	0	0	0	0	0	0	0	0		
1989	1	3	0	0	17	21	21	10	0.0833	0.375	0.0833	0.4167
	0.0417	0	0	0	0	0	0	0	0	0		
1989	1	3	0	0	17	22	22	15	0	0.0769	0	0.7436
	0.0513	0.0256	0	0.1026	0	0	0	0	0	0		
1989	1	3	0	0	17	23	23	20	0	0.0167	0.0167	0.9
	0.0083	0	0	0.05	0	0	0.0083	0	0	0		
1989	1	3	0	0	17	24	24	20	0	0.0085	0.0169	0.8686
	0.0169	0.0042	0.0042	0.072	0.0042	0	0.0042	0	0	0		
1989	1	3	0	0	17	25	25	20	0	0	0.0036	0.7607
	0.0036	0.0107	0.0036	0.2	0.0107	0	0.0071	0	0	0		
1989	1	3	0	0	17	26	26	20	0	0	0	0.6541
	0.0171	0	0.0171	0.2842	0.0171	0.0034	0.0068	0	0	0		
1989	1	3	0	0	17	27	27	20	0	0	0	0.4868
	0.0106	0.0106	0.0159	0.4339	0.0265	0	0.0159	0	0	0		
1989	1	3	0	0	17	28	28	18	0	0	0.0082	0.3279
	0.0082	0.0082	0.0246	0.5984	0.0082	0	0.0164	0	0	0		
1989	1	3	0	0	17	29	29	16	0	0	0	0.1957
	0.0217	0.0109	0.0326	0.6413	0.0217	0.0217	0.0543	0	0	0		

1989	1	3	0	0	17	30	30	16	0	0	0	0.1818
	0	0	0	0.7045	0.0455	0	0.0682	0	0	0		
1989	1	3	0	0	17	31	31	10	0	0	0	0.0833
	0	0.0417	0	0.75	0	0	0.125	0	0	0		
1989	1	3	0	0	17	32	32	8	0	0	0	0.2
	0	0	0	0.6	0.0667	0	0.1333	0	0	0		
1989	1	3	0	0	17	33	33	9	0	0	0	0
	0	0	0	0.8	0	0	0	0	0	0.2		
1989	1	3	0	0	17	34	34	6	0	0	0	0
	0	0.125	0	0.5	0	0	0.375	0	0	0		
1989	1	3	0	0	17	35	35	5	0	0	0	0
	0	0	0	0.5714	0	0	0.4286	0	0	0		
1989	1	3	0	0	17	36	36	2	0	0	0	0
	0	0	0	0.5	0	0	0.5	0	0	0		
1989	1	3	0	0	17	37	37	2	0	0	0	0
	0	0	0	0.3333	0	0	0.6667	0	0	0		
1989	1	3	0	0	17	39	39	3	0	0	0	0
	0	0	0	0.6667	0	0	0	0	0	0.3333		
1989	1	3	0	0	17	40	40	2	0	0	0	0
	0	0	0	0.5	0	0	0	0	0	0.5		
1989	1	3	0	0	17	41	41	2	0	0	0	0
	0	0	0	0.5	0	0	0.5	0	0	0		
1989	1	3	0	0	17	44	44	1	0	0	0	0
	0	0	0	1	0	0	0	0	0	0		
1989	1	3	0	0	17	45	45	1	0	0	0	0
	0	0	0	1	0	0	0	0	0	0		
1989	1	3	0	0	17	46	46	1	0	0	0	0
	0	0	0	1	0	0	0	0	0	0		
1989	1	3	0	0	17	50	50	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1		
1989	1	3	0	0	17	51	51	2	0	0	0	0
	0	0	0	0	0	0	0.6667	0	0	0.3333		
1992	1	3	0	0	20	5	5	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1992	1	3	0	0	20	6	6	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1992	1	3	0	0	20	7	7	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1992	1	3	0	0	20	8	8	4	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1992	1	3	0	0	20	9	9	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1992	1	3	0	0	20	10	10	5	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1992	1	3	0	0	20	11	11	7	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1992	1	3	0	0	20	12	12	7	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1992	1	3	0	0	20	13	13	8	0.9615	0.0385	0	0
	0	0	0	0	0	0	0	0	0	0		
1992	1	3	0	0	20	14	14	8	0.9661	0.0339	0	0
	0	0	0	0	0	0	0	0	0	0		
1992	1	3	0	0	20	15	15	8	0.8627	0.1373	0	0
	0	0	0	0	0	0	0	0	0	0		
1992	1	3	0	0	20	16	16	7	0.898	0.102	0	0
	0	0	0	0	0	0	0	0	0	0		
1992	1	3	0	0	20	17	17	6	0.875	0.125	0	0
	0	0	0	0	0	0	0	0	0	0		
1992	1	3	0	0	20	18	18	6	0.5	0.1667	0.3333	0
	0	0	0	0	0	0	0	0	0	0		
1992	1	3	0	0	20	19	19	5	0.125	0.5	0.25	0.125
	0	0	0	0	0	0	0	0	0	0		
1992	1	3	0	0	20	20	20	8	0.1	0.2	0.5	0.2
	0	0	0	0	0	0	0	0	0	0		
1992	1	3	0	0	20	21	21	7	0	0.1111	0.3889	0.4444
	0.0556	0	0	0	0	0	0	0	0	0		

1992	1	3	0	0	20	22	22	10	0	0.0385	0.3846	0.5385
	0.0385	0	0	0	0	0	0	0	0	0		
1992	1	3	0	0	20	23	23	24	0	0.0526	0.4737	0.3684
	0.0175	0	0.0877	0	0	0	0	0	0	0		
1992	1	3	0	0	20	24	24	28	0	0.0263	0.2632	0.4825
	0.0526	0.0088	0.1316	0.0088	0	0	0.0263	0	0	0		
1992	1	3	0	0	20	25	25	36	0	0.0207	0.1295	0.3731
	0.0311	0.0104	0.3679	0.0155	0	0	0.0466	0.0052	0	0		
1992	1	3	0	0	20	26	26	38	0	0	0.0952	0.2381
	0.022	0.0073	0.4689	0.0073	0.011	0.0037	0.1465	0	0	0		
1992	1	3	0	0	20	27	27	39	0	0	0.0386	0.1544
	0.0421	0.007	0.5684	0.014	0.007	0.007	0.1404	0.014	0	0.007		
1992	1	3	0	0	20	28	28	37	0	0	0.0127	0.135
	0.0211	0.0042	0.6076	0.0211	0.0127	0	0.1646	0.0042	0	0.0169		
1992	1	3	0	0	20	29	29	34	0	0	0.006	0.0904
	0.012	0.0301	0.506	0.0301	0.006	0	0.3012	0.012	0	0.006		
1992	1	3	0	0	20	30	30	30	0	0	0.0095	0.0667
	0	0.0095	0.5048	0.0095	0.0286	0.0095	0.3333	0.019	0	0.0095		
1992	1	3	0	0	20	31	31	22	0	0	0	0.0147
	0.0147	0	0.4706	0.0147	0.0147	0.0147	0.4265	0.0147	0	0.0147		
1992	1	3	0	0	20	32	32	18	0	0	0	0
	0.0233	0.0465	0.3488	0.0233	0	0.0233	0.3953	0.0465	0	0.093		
1992	1	3	0	0	20	33	33	14	0	0	0	0
	0	0.0667	0.5	0.0333	0	0	0.3	0.0333	0	0.0667		
1992	1	3	0	0	20	34	34	6	0	0	0	0
	0	0	0.3529	0.0588	0	0.0588	0.4118	0	0	0.1176		
1992	1	3	0	0	20	35	35	3	0	0	0	0
	0	0	0.25	0.0833	0	0	0.5833	0.0833	0	0		
1992	1	3	0	0	20	36	36	4	0	0	0	0
	0	0	0.7778	0	0	0	0.2222	0	0	0		
1992	1	3	0	0	20	37	37	5	0	0	0	0
	0	0	0.3333	0	0	0.1111	0.5556	0	0	0		
1992	1	3	0	0	20	38	38	4	0	0	0	0
	0	0	0.1667	0.1667	0	0	0.3333	0	0	0.3333		
1992	1	3	0	0	20	39	39	3	0	0	0	0
	0	0	0.4	0	0	0	0.6	0	0	0		
1992	1	3	0	0	20	40	40	1	0	0	0	0
	0	0	0.25	0	0	0	0.75	0	0	0		
1992	1	3	0	0	20	41	41	1	0	0	0	0
	0	0	0	0	0	0	1	0	0	0		
1992	1	3	0	0	20	42	42	1	0	0	0	0
	0	0	0	0	0	0	1	0	0	0		
1992	1	3	0	0	20	43	43	2	0	0	0	0
	0	0	0	0	0	0	0.5	0	0	0.5		
1992	1	3	0	0	20	44	44	3	0	0	0	0
	0	0	0	0	0	0	0.75	0	0	0.25		
1995	1	3	0	0	23	9	9	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1995	1	3	0	0	23	10	10	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1995	1	3	0	0	23	11	11	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1995	1	3	0	0	23	12	12	4	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1995	1	3	0	0	23	13	13	9	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1995	1	3	0	0	23	14	14	13	0.9792	0.0208	0	0
	0	0	0	0	0	0	0	0	0	0		
1995	1	3	0	0	23	15	15	15	0.954	0.0345	0.0115	0
	0	0	0	0	0	0	0	0	0	0		
1995	1	3	0	0	23	16	16	21	0.8934	0.1066	0	0
	0	0	0	0	0	0	0	0	0	0		
1995	1	3	0	0	23	17	17	20	0.8571	0.131	0	0.0119
	0	0	0	0	0	0	0	0	0	0		
1995	1	3	0	0	23	18	18	17	0.7358	0.2453	0.0189	0
	0	0	0	0	0	0	0	0	0	0		

1995	1	3	0	0	23	19	19	14	0.5185	0.3333	0.037	0.1111
	0	0	0	0	0	0	0	0	0	0		
1995	1	3	0	0	23	20	20	6	0.1111	0.2222	0.1111	0.5556
	0	0	0	0	0	0	0	0	0	0		
1995	1	3	0	0	23	21	21	11	0	0.2857	0.0714	0.5714
	0	0	0.0714	0	0	0	0	0	0	0		
1995	1	3	0	0	23	22	22	15	0	0.0345	0.069	0.8276
	0	0.0345	0.0345	0	0	0	0	0	0	0		
1995	1	3	0	0	23	23	23	26	0	0.0192	0.0577	0.6538
	0.0385	0.0769	0.1346	0	0	0.0192	0	0	0	0		
1995	1	3	0	0	23	24	24	40	0	0.0101	0.0505	0.6768
	0.0202	0.101	0.0808	0	0	0.0505	0	0	0	0.0101		
1995	1	3	0	0	23	25	25	45	0	0	0.027	0.5608
	0.0405	0.0541	0.1689	0.0068	0	0.1216	0	0	0	0.0203		
1995	1	3	0	0	23	26	26	49	0	0	0.0152	0.4112
	0	0.1015	0.2589	0.0152	0	0.1472	0	0.0152	0	0.0355		
1995	1	3	0	0	23	27	27	53	0	0	0	0.2837
	0.0093	0.0465	0.2698	0	0	0.3023	0	0.0093	0	0.0791		
1995	1	3	0	0	23	28	28	50	0	0	0.0047	0.1721
	0.0186	0.0419	0.2651	0.0093	0	0.3581	0.0047	0.014	0	0.1116		
1995	1	3	0	0	23	29	29	47	0	0	0	0.0795
	0.017	0.0398	0.3466	0.0057	0	0.3693	0	0.0114	0	0.1307		
1995	1	3	0	0	23	30	30	38	0	0	0	0.0526
	0.015	0.0526	0.3459	0	0	0.3985	0	0.0301	0	0.1053		
1995	1	3	0	0	23	31	31	27	0	0	0	0.0319
	0.0213	0.0426	0.2766	0	0	0.5106	0	0.0213	0	0.0957		
1995	1	3	0	0	23	32	32	17	0	0	0	0.0192
	0.0192	0.0769	0.25	0	0	0.4423	0	0.0385	0	0.1538		
1995	1	3	0	0	23	33	33	14	0	0	0	0.0333
	0	0	0.3	0	0	0.4667	0	0	0	0.2		
1995	1	3	0	0	23	34	34	10	0	0	0	0
	0	0.0588	0.2941	0	0	0.4706	0	0	0	0.1765		
1995	1	3	0	0	23	35	35	7	0	0	0	0
	0.0833	0	0.3333	0	0	0.4167	0	0	0	0.1667		
1995	1	3	0	0	23	36	36	5	0	0	0	0
	0	0.1	0.1	0	0	0.7	0	0	0	0.1		
1995	1	3	0	0	23	37	37	6	0	0	0	0
	0	0	0.1667	0	0	0.8333	0	0	0	0		
1995	1	3	0	0	23	38	38	3	0	0	0	0
	0	0.25	0	0	0	0.5	0	0	0	0.25		
1995	1	3	0	0	23	39	39	5	0	0	0	0
	0	0	0	0	0	0.7143	0	0.1429	0	0.1429		
1995	1	3	0	0	23	40	40	2	0	0	0	0
	0	0	0	0	0	0	0	0	0	1		
1995	1	3	0	0	23	41	41	2	0	0	0	0
	0	0	0.25	0	0	0.25	0	0.25	0	0.25		
1995	1	3	0	0	23	42	42	1	0	0	0	0
	0	0	0	0	0	0	0	1	0	0		
1995	1	3	0	0	23	43	43	4	0	0	0	0
	0	0	0	0	0	0.25	0	0	0	0.75		
1995	1	3	0	0	23	44	44	2	0	0	0	0
	0	0	0.2	0	0	0.4	0	0	0	0.4		
1995	1	3	0	0	23	45	45	1	0	0	0	0
	0	0	0	0	0	1	0	0	0	0		
1995	1	3	0	0	23	46	46	2	0	0	0	0
	0	0	0	0	0	1	0	0	0	0		
1995	1	3	0	0	23	47	47	2	0	0	0	0
	0	0	0	0	0	0.5	0	0.5	0	0		
1995	1	3	0	0	23	48	48	2	0	0	0	0
	0	0	0	0	0	0.3333	0	0.3333	0	0.3333		
1995	1	3	0	0	23	50	50	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	1		
1995	1	3	0	0	23	51	51	3	0	0	0	0
	0	0	0	0	0	0.75	0	0.25	0	0		
1998	1	3	0	0	26	5	5	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		

1998	1	3	0	0	26	6	6	3	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1998	1	3	0	0	26	7	7	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1998	1	3	0	0	26	8	8	4	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1998	1	3	0	0	26	9	9	10	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
1998	1	3	0	0	26	10	10	13	0.9524	0.0476	0	0
	0	0	0	0	0	0	0	0	0	0		
1998	1	3	0	0	26	11	11	16	0.9516	0.0484	0	0
	0	0	0	0	0	0	0	0	0	0		
1998	1	3	0	0	26	12	12	20	0.8621	0.1264	0.0115	0
	0	0	0	0	0	0	0	0	0	0		
1998	1	3	0	0	26	13	13	23	0.8947	0.1053	0	0
	0	0	0	0	0	0	0	0	0	0		
1998	1	3	0	0	26	14	14	23	0.8406	0.1594	0	0
	0	0	0	0	0	0	0	0	0	0		
1998	1	3	0	0	26	15	15	31	0.7368	0.2632	0	0
	0	0	0	0	0	0	0	0	0	0		
1998	1	3	0	0	26	16	16	31	0.5238	0.4286	0.0317	0.0159
	0	0	0	0	0	0	0	0	0	0		
1998	1	3	0	0	26	17	17	30	0.2273	0.7273	0.0303	0.0152
	0	0	0	0	0	0	0	0	0	0		
1998	1	3	0	0	26	18	18	36	0.1111	0.7889	0.0667	0.0333
	0	0	0	0	0	0	0	0	0	0		
1998	1	3	0	0	26	19	19	39	0.0194	0.9223	0.0583	0
	0	0	0	0	0	0	0	0	0	0		
1998	1	3	0	0	26	20	20	50	0.0083	0.8083	0.1667	0.0167
	0	0	0	0	0	0	0	0	0	0		
1998	1	3	0	0	26	21	21	44	0	0.7895	0.1368	0.0526
	0	0.0211	0	0	0	0	0	0	0	0		
1998	1	3	0	0	26	22	22	55	0	0.3923	0.3154	0.2692
	0.0077	0.0077	0.0077	0	0	0	0	0	0	0		
1998	1	3	0	0	26	23	23	62	0	0.2013	0.327	0.3774
	0.0063	0.0503	0.0189	0.0063	0	0.0126	0	0	0	0		
1998	1	3	0	0	26	24	24	66	0	0.0417	0.3981	0.3889
	0.037	0.0509	0.0648	0.0139	0	0.0046	0	0	0	0		
1998	1	3	0	0	26	25	25	64	0	0.0326	0.2233	0.4977
	0.0279	0.0465	0.1163	0.014	0.0093	0.0233	0	0	0.0093	0		
1998	1	3	0	0	26	26	26	57	0	0.0118	0.2071	0.3728
	0.0237	0.0651	0.2012	0.0237	0.0059	0.0592	0	0	0.0296	0		
1998	1	3	0	0	26	27	27	49	0	0	0.1406	0.3047
	0.0313	0.1172	0.1719	0.0156	0.0234	0.1094	0	0.0078	0.0703	0.0078		
1998	1	3	0	0	26	28	28	51	0	0	0.1271	0.1102
	0.0254	0.1271	0.1864	0.0508	0.0339	0.1949	0	0.0169	0.0763	0.0508		
1998	1	3	0	0	26	29	29	46	0	0.0108	0.1075	0.086
	0.0538	0.0645	0.2796	0.043	0.0323	0.129	0.0108	0.0108	0.1183	0.0538		
1998	1	3	0	0	26	30	30	31	0	0	0.0769	0.0577
	0	0.0385	0.2885	0.0577	0.0192	0.2692	0	0	0.1731	0.0192		
1998	1	3	0	0	26	31	31	22	0	0	0.0294	0.0882
	0	0.0294	0.2353	0	0	0.2353	0.0294	0	0.2647	0.0882		
1998	1	3	0	0	26	32	32	9	0	0	0	0
	0	0.1	0.2	0	0	0	0	0.1	0.5	0.1		
1998	1	3	0	0	26	33	33	5	0	0	0	0
	0	0	0.3333	0	0	0.3333	0	0	0.1667	0.1667		
1998	1	3	0	0	26	34	34	6	0	0	0	0
	0	0	0.1429	0.1429	0	0.2857	0	0	0.2857	0.1429		
1998	1	3	0	0	26	35	35	4	0	0	0	0
	0	0	0	0.25	0.25	0.25	0	0	0	0.25		
1998	1	3	0	0	26	36	36	2	0	0	0	0
	0	0	0	0	0	0	0	0	0.5	0.5		
1998	1	3	0	0	26	37	37	2	0	0	0	0
	0	0	0	0	0	0	0	0.5	0.5	0		
1998	1	3	0	0	26	38	38	3	0	0	0	0
	0	0	0	0	0	0.3333	0	0	0	0.6667		

1998	1	3	0	0	26	39	39	5	0	0	0	0.2
	0	0	0	0	0.2	0.4	0	0	0.2	0		
1998	1	3	0	0	26	41	41	1	0	0	0	0
	0	0	0	0	0	1	0	0	0	0		
1998	1	3	0	0	26	42	42	2	0	0	0	0
	0	0	0	0	0	0.5	0	0	0.5	0		
1998	1	3	0	0	26	50	50	1	0	0	0	0
	0	0	0	0	0	1	0	0	0	0		
2001	1	3	0	0	29	8	8	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2001	1	3	0	0	29	11	11	3	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2001	1	3	0	0	29	12	12	8	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2001	1	3	0	0	29	13	13	14	0.9811	0.0189	0	0
	0	0	0	0	0	0	0	0	0	0		
2001	1	3	0	0	29	14	14	17	0.9615	0.0288	0.0096	0
	0	0	0	0	0	0	0	0	0	0		
2001	1	3	0	0	29	15	15	20	0.9394	0.0424	0.0182	0
	0	0	0	0	0	0	0	0	0	0		
2001	1	3	0	0	29	16	16	20	0.9416	0.039	0.013	0.0065
	0	0	0	0	0	0	0	0	0	0		
2001	1	3	0	0	29	17	17	20	0.8675	0.0964	0.0361	0
	0	0	0	0	0	0	0	0	0	0		
2001	1	3	0	0	29	18	18	17	0.9048	0.0952	0	0
	0	0	0	0	0	0	0	0	0	0		
2001	1	3	0	0	29	19	19	13	0.697	0.2727	0.0303	0
	0	0	0	0	0	0	0	0	0	0		
2001	1	3	0	0	29	20	20	10	0.2941	0.4118	0.2353	0.0588
	0	0	0	0	0	0	0	0	0	0		
2001	1	3	0	0	29	21	21	17	0.0303	0.7576	0.1515	0.0303
	0	0.0303	0	0	0	0	0	0	0	0		
2001	1	3	0	0	29	22	22	14	0	0.871	0.0323	0.0968
	0	0	0	0	0	0	0	0	0	0		
2001	1	3	0	0	29	23	23	18	0.0204	0.7347	0.1429	0.0816
	0.0204	0	0	0	0	0	0	0	0	0		
2001	1	3	0	0	29	24	24	22	0	0.5	0.1591	0.2955
	0.0227	0.0227	0	0	0	0	0	0	0	0		
2001	1	3	0	0	29	25	25	17	0	0.3333	0.1818	0.3333
	0.1212	0.0303	0	0	0	0	0	0	0	0		
2001	1	3	0	0	29	26	26	29	0	0.1111	0.2222	0.375
	0.125	0.0972	0.0694	0	0	0	0	0	0	0		
2001	1	3	0	0	29	27	27	29	0	0.0215	0.2796	0.3333
	0.1398	0.0645	0.0968	0.0323	0.0108	0.0215	0	0	0	0		
2001	1	3	0	0	29	28	28	30	0	0.0253	0.2595	0.2911
	0.1519	0.0886	0.0886	0.019	0.0316	0.019	0.0127	0.0063	0	0.0063		
2001	1	3	0	0	29	29	29	30	0	0.006	0.3155	0.2381
	0.1845	0.1429	0.0595	0.0298	0.0179	0.006	0	0	0	0		
2001	1	3	0	0	29	30	30	28	0	0.01	0.2139	0.2338
	0.1891	0.1144	0.1095	0.0299	0.0299	0.0199	0.01	0.0299	0.005	0.005		
2001	1	3	0	0	29	31	31	27	0	0.012	0.1856	0.1796
	0.1617	0.1916	0.1198	0.0299	0.0479	0.0299	0.018	0.018	0	0.006		
2001	1	3	0	0	29	32	32	25	0	0	0.1045	0.1119
	0.1194	0.3284	0.1418	0.0522	0.0448	0.0299	0.0224	0.0149	0.0075	0.0224		
2001	1	3	0	0	29	33	33	26	0	0	0.1008	0.0756
	0.1513	0.2437	0.1597	0.0504	0.0504	0.0252	0.0504	0.0336	0.0168	0.042		
2001	1	3	0	0	29	34	34	24	0	0	0.0562	0.1348
	0.1461	0.2921	0.1124	0.0674	0.0449	0.0562	0.0337	0.0112	0	0.0449		
2001	1	3	0	0	29	35	35	25	0	0	0.0154	0.0154
	0.0923	0.3077	0.1385	0.1231	0.0923	0.0462	0.0615	0	0.0154	0.0923		
2001	1	3	0	0	29	36	36	18	0	0	0.0244	0
	0.0732	0.3171	0.1951	0.0488	0.0488	0.122	0	0.0732	0.0244	0.0732		
2001	1	3	0	0	29	37	37	13	0	0	0	0
	0.125	0.375	0.2083	0.0417	0.0417	0.0417	0	0.0417	0	0.125		
2001	1	3	0	0	29	38	38	10	0	0	0	0
	0.15	0.35	0.1	0.1	0.05	0.1	0.1	0	0	0.05		

2001	1	3	0	0	29	39	39	10	0	0.05	0	0
	0.05	0.4	0.1	0	0.15	0.05	0.1	0	0	0.1		
2001	1	3	0	0	29	40	40	7	0	0	0	0
	0.125	0.5	0.125	0.125	0	0.125	0	0	0	0		
2001	1	3	0	0	29	41	41	8	0	0	0	0
	0.0714	0.1429	0.0714	0	0.2143	0.1429	0	0.2143	0.0714	0.0714		
2001	1	3	0	0	29	42	42	5	0	0	0	0
	0	0.1429	0	0.2857	0.1429	0	0.1429	0.1429	0	0.1429		
2001	1	3	0	0	29	43	43	3	0	0	0	0
	0	0	0	0.3333	0.3333	0	0	0.3333	0	0		
2001	1	3	0	0	29	44	44	2	0	0	0	0
	0	0.5	0	0	0.5	0	0	0	0	0		
2001	1	3	0	0	29	45	45	4	0	0	0	0
	0	0.25	0.25	0	0.25	0	0	0	0	0.25		
2001	1	3	0	0	29	46	46	3	0	0	0	0
	0	0	0.25	0.25	0	0.25	0	0.25	0	0		
2001	1	3	0	0	29	47	47	2	0	0	0	0
	0	0	0	0	0.5	0	0.5	0	0	0		
2001	1	3	0	0	29	48	48	1	0	0	0	0
	0	0.5	0	0	0	0	0.5	0	0	0		
2001	1	3	0	0	29	49	49	2	0	0	0	0
	0	0.1667	0.1667	0	0	0	0.5	0.1667	0	0		
2001	1	3	0	0	29	50	50	4	0	0	0	0
	0	0.25	0.5	0	0	0.25	0	0	0	0		
2001	1	3	0	0	29	51	51	4	0	0	0	0
	0	0.2222	0	0	0.3333	0.1111	0	0.1111	0.1111	0.1111		
2003	1	3	0	0	31	6	6	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2003	1	3	0	0	31	9	9	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2003	1	3	0	0	31	11	11	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2003	1	3	0	0	31	12	12	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2003	1	3	0	0	31	13	13	4	0.8824	0	0.0588	0.0588
	0	0	0	0	0	0	0	0	0	0		
2003	1	3	0	0	31	14	14	4	0.8148	0.0741	0	0.1111
	0	0	0	0	0	0	0	0	0	0		
2003	1	3	0	0	31	15	15	8	0.68	0.16	0.04	0.12
	0	0	0	0	0	0	0	0	0	0		
2003	1	3	0	0	31	16	16	8	0.6087	0	0.087	0.3043
	0	0	0	0	0	0	0	0	0	0		
2003	1	3	0	0	31	17	17	8	0.5122	0	0.0732	0.3415
	0.0732	0	0	0	0	0	0	0	0	0		
2003	1	3	0	0	31	18	18	9	0.1304	0.2174	0.2174	0.3913
	0.0435	0	0	0	0	0	0	0	0	0		
2003	1	3	0	0	31	19	19	14	0.1875	0.1875	0.4688	0.1563
	0	0	0	0	0	0	0	0	0	0		
2003	1	3	0	0	31	20	20	14	0.0833	0.1667	0.5833	0.1389
	0	0.0278	0	0	0	0	0	0	0	0		
2003	1	3	0	0	31	21	21	29	0	0.0462	0.8308	0.1231
	0	0	0	0	0	0	0	0	0	0		
2003	1	3	0	0	31	22	22	43	0	0.0866	0.8504	0.0551
	0.0079	0	0	0	0	0	0	0	0	0		
2003	1	3	0	0	31	23	23	56	0	0.0145	0.8836	0.0727
	0.0145	0.0036	0.0073	0.0036	0	0	0	0	0	0		
2003	1	3	0	0	31	24	24	55	0	0.0144	0.9078	0.0634
	0.0058	0.0086	0	0	0	0	0	0	0	0		
2003	1	3	0	0	31	25	25	59	0	0.0093	0.8037	0.1184
	0.0125	0.0343	0.0156	0.0031	0.0031	0	0	0	0	0		
2003	1	3	0	0	31	26	26	61	0	0.0099	0.6414	0.1382
	0.0362	0.0822	0.0461	0.0197	0.0066	0.0132	0.0033	0.0033	0	0		
2003	1	3	0	0	31	27	27	53	0	0	0.5112	0.1418
	0.0299	0.1642	0.0634	0.0373	0.0485	0	0	0.0037	0	0		
2003	1	3	0	0	31	28	28	55	0	0	0.3223	0.1488
	0.0413	0.1612	0.1446	0.0496	0.0702	0.0207	0.0124	0.0083	0	0.0207		

2003	1	3	0	0	31	29	29	43	0	0	0.2159	0.1023
	0.0795	0.1875	0.125	0.0739	0.1023	0.0284	0.0114	0.0455	0.0114	0.017		
2003	1	3	0	0	31	30	30	41	0	0	0.2215	0.1007
	0.0201	0.2013	0.1678	0.0336	0.1007	0.0403	0.0201	0.0201	0.047	0.0268		
2003	1	3	0	0	31	31	31	32	0	0	0.134	0.134
	0.0825	0.1753	0.134	0.1134	0.134	0.0309	0.0309	0	0.0103	0.0206		
2003	1	3	0	0	31	32	32	28	0	0	0.1149	0.046
	0.1034	0.2184	0.1609	0.1149	0.1034	0.046	0.0575	0	0.023	0.0115		
2003	1	3	0	0	31	33	33	24	0	0	0.08	0.1
	0.1	0.14	0.14	0.16	0.1	0.04	0.02	0	0.08	0.04		
2003	1	3	0	0	31	34	34	19	0	0	0.0526	0.0702
	0.193	0.1053	0.1053	0.2105	0.0877	0.0526	0.0526	0.0526	0.0175	0		
2003	1	3	0	0	31	35	35	12	0	0	0.0588	0.1176
	0.2059	0.1765	0.1765	0.1176	0.0588	0.0294	0	0.0294	0	0.0294		
2003	1	3	0	0	31	36	36	12	0	0	0	0.125
	0.2813	0.1563	0.125	0.2188	0.0313	0	0	0.0313	0	0.0313		
2003	1	3	0	0	31	37	37	7	0	0	0	0.0556
	0.3333	0.0556	0	0.3333	0.0556	0.0556	0	0.0556	0	0.0556		
2003	1	3	0	0	31	38	38	6	0	0	0	0.2
	0.2667	0	0.1333	0.0667	0.1333	0.0667	0	0.0667	0	0.0667		
2003	1	3	0	0	31	39	39	5	0	0	0	0.0714
	0.2143	0.1429	0.2143	0.2143	0	0.0714	0	0.0714	0	0		
2003	1	3	0	0	31	40	40	3	0	0	0	0
	0	0	0.25	0.25	0.25	0	0.25	0	0	0		
2003	1	3	0	0	31	41	41	6	0	0	0	0.3
	0.1	0	0.2	0.2	0.1	0	0	0	0	0.1		
2003	1	3	0	0	31	42	42	2	0	0	0	0
	0.1429	0.1429	0.2857	0.2857	0	0	0	0	0	0.1429		
2003	1	3	0	0	31	43	43	5	0	0	0	0
	0.625	0	0	0	0.25	0	0	0	0	0.125		
2003	1	3	0	0	31	45	45	2	0	0	0	0
	0	1	0	0	0	0	0	0	0	0		
2003	1	3	0	0	31	46	46	2	0	0	0	0.3333
	0	0	0.3333	0	0.3333	0	0	0	0	0		
2003	1	3	0	0	31	47	47	2	0	0	0	0
	0	0	1	0	0	0	0	0	0	0		
2003	1	3	0	0	31	48	48	2	0	0	0	0
	0.3333	0	0	0	0	0	0.6667	0	0	0		
2003	1	3	0	0	31	50	50	2	0	0	0	0
	0	0.5	0	0	0	0.5	0	0	0	0		
2003	1	3	0	0	31	51	51	6	0	0	0	0
	0	0	0.1429	0.2857	0	0.2857	0.1429	0	0	0.1429		
2005	1	3	0	0	33	9	9	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2005	1	3	0	0	33	10	10	1	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2005	1	3	0	0	33	11	11	4	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2005	1	3	0	0	33	12	12	6	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2005	1	3	0	0	33	13	13	7	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2005	1	3	0	0	33	14	14	10	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2005	1	3	0	0	33	15	15	8	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2005	1	3	0	0	33	16	16	10	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2005	1	3	0	0	33	17	17	9	0.9189	0.0811	0	0
	0	0	0	0	0	0	0	0	0	0		
2005	1	3	0	0	33	18	18	10	0.8696	0.087	0.0435	0
	0	0	0	0	0	0	0	0	0	0		
2005	1	3	0	0	33	19	19	8	0.5	0.2857	0.2143	0
	0	0	0	0	0	0	0	0	0	0		
2005	1	3	0	0	33	20	20	10	0.3333	0.4	0.2667	0
	0	0	0	0	0	0	0	0	0	0		

2005	1	3	0	0	33	21	21	6	0.25	0.375	0.125	0.25
	0	0	0	0	0	0	0	0	0	0		
2005	1	3	0	0	33	22	22	22	0	0.0909	0.3636	0.1212
	0.4242	0	0	0	0	0	0	0	0	0		
2005	1	3	0	0	33	23	23	28	0	0.0519	0.2597	0.1558
	0.4805	0.039	0.013	0	0	0	0	0	0	0		
2005	1	3	0	0	33	24	24	36	0	0.0112	0.1229	0.0726
	0.7318	0.0503	0.0112	0	0	0	0	0	0	0		
2005	1	3	0	0	33	25	25	41	0	0	0.123	0.0714
	0.7381	0.0516	0.0079	0.004	0	0.004	0	0	0	0		
2005	1	3	0	0	33	26	26	42	0	0	0.0515	0.0588
	0.7537	0.0809	0.0147	0.0184	0.011	0.011	0	0	0	0		
2005	1	3	0	0	33	27	27	41	0	0	0.0327	0.0531
	0.6939	0.0857	0.049	0.0449	0.0122	0.0163	0	0.0041	0	0.0082		
2005	1	3	0	0	33	28	28	39	0	0	0.016	0.0745
	0.6543	0.1064	0.0372	0.0638	0.0213	0.0213	0.0053	0	0	0		
2005	1	3	0	0	33	29	29	32	0	0	0.0083	0.0167
	0.6667	0.1	0.0333	0.0667	0.05	0.025	0.025	0.0083	0	0		
2005	1	3	0	0	33	30	30	27	0	0	0	0.0448
	0.5522	0.0597	0.0149	0.1493	0.0896	0.0597	0	0.0149	0	0.0149		
2005	1	3	0	0	33	31	31	23	0	0	0.0213	0.0426
	0.4468	0.0638	0.0426	0.1064	0.0851	0.0213	0.0851	0.0426	0.0213	0.0213		
2005	1	3	0	0	33	32	32	12	0	0	0	0
	0.3333	0.0952	0.0952	0.0952	0.1905	0.0952	0.0476	0.0476	0	0		
2005	1	3	0	0	33	33	33	12	0	0	0	0
	0.2	0.2667	0.1333	0.1333	0	0.2	0.0667	0	0	0		
2005	1	3	0	0	33	34	34	9	0	0	0	0.0833
	0.25	0.25	0.0833	0.1667	0.0833	0	0.0833	0	0	0		
2005	1	3	0	0	33	35	35	5	0	0	0	0
	0.25	0.25	0	0	0.375	0.125	0	0	0	0		
2005	1	3	0	0	33	36	36	3	0	0	0	0
	1	0	0	0	0	0	0	0	0	0		
2005	1	3	0	0	33	37	37	5	0	0	0	0
	0.2	0.4	0	0.2	0.2	0	0	0	0	0		
2005	1	3	0	0	33	38	38	2	0	0	0	0
	0	0	0	0.5	0	0	0.5	0	0	0		
2005	1	3	0	0	33	39	39	1	0	0	0	0
	0	1	0	0	0	0	0	0	0	0		
2005	1	3	0	0	33	40	40	1	0	0	0	0
	0	0	1	0	0	0	0	0	0	0		
2005	1	3	0	0	33	45	45	1	0	0	0	0
	0	0	0	0	0	0	1	0	0	0		
2005	1	3	0	0	33	46	46	1	0	0	0	0
	0	0	0	0	0	1	0	0	0	0		
2005	1	3	0	0	33	49	49	1	0	0	0	0
	0	0	0	1	0	0	0	0	0	0		
2005	1	3	0	0	33	50	50	1	0	0	0	0
	0	0	0	1	0	0	0	0	0	0		
2005	1	3	0	0	33	51	51	6	0	0	0	0
	0.1429	0	0	0	0.4286	0.1429	0.1429	0	0.1429	0		
2007	1	3	0	0	35	5	5	3	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2007	1	3	0	0	35	6	6	2	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2007	1	3	0	0	35	7	7	4	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2007	1	3	0	0	35	8	8	7	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2007	1	3	0	0	35	9	9	8	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2007	1	3	0	0	35	10	10	15	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2007	1	3	0	0	35	11	11	17	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		
2007	1	3	0	0	35	12	12	18	1	0	0	0
	0	0	0	0	0	0	0	0	0	0		

2007	1	3	0	0	35	13	13	17	0.9929	0.0071	0	0
	0	0	0	0	0	0	0	0	0	0		
2007	1	3	0	0	35	14	14	20	0.9688	0.0208	0.0104	0
	0	0	0	0	0	0	0	0	0	0		
2007	1	3	0	0	35	15	15	20	0.9762	0.0119	0.0119	0
	0	0	0	0	0	0	0	0	0	0		
2007	1	3	0	0	35	16	16	16	0.9302	0.0233	0.0465	0
	0	0	0	0	0	0	0	0	0	0		
2007	1	3	0	0	35	17	17	15	0.7561	0.0976	0.1463	0
	0	0	0	0	0	0	0	0	0	0		
2007	1	3	0	0	35	18	18	13	0.7692	0.0385	0.1538	0.0385
	0	0	0	0	0	0	0	0	0	0		
2007	1	3	0	0	35	19	19	11	0.2353	0.2353	0.5294	0
	0	0	0	0	0	0	0	0	0	0		
2007	1	3	0	0	35	20	20	10	0.1429	0.4286	0.3571	0
	0.0714	0	0	0	0	0	0	0	0	0		
2007	1	3	0	0	35	21	21	16	0	0.3684	0.6316	0
	0	0	0	0	0	0	0	0	0	0		
2007	1	3	0	0	35	22	22	14	0	0.4	0.55	0.05
	0	0	0	0	0	0	0	0	0	0		
2007	1	3	0	0	35	23	23	27	0	0.2593	0.5926	0.0556
	0.0185	0.037	0.037	0	0	0	0	0	0	0		
2007	1	3	0	0	35	24	24	36	0	0.0822	0.6438	0.0137
	0.0411	0	0.2192	0	0	0	0	0	0	0		
2007	1	3	0	0	35	25	25	38	0	0.0413	0.4132	0.0331
	0.0661	0.0331	0.3636	0.0496	0	0	0	0	0	0		
2007	1	3	0	0	35	26	26	43	0	0.0089	0.2133	0.0444
	0.1244	0.0533	0.5067	0.0311	0.0089	0.0044	0	0.0044	0	0		
2007	1	3	0	0	35	27	27	44	0	0.0037	0.1157	0.0373
	0.1269	0.0522	0.6045	0.0373	0.0075	0.0112	0.0037	0	0	0		
2007	1	3	0	0	35	28	28	54	0	0	0.0787	0.0131
	0.0787	0.0623	0.6328	0.0754	0.0131	0.0295	0.0066	0.0066	0.0033	0		
2007	1	3	0	0	35	29	29	49	0	0	0.0319	0.0064
	0.0703	0.0479	0.6613	0.0863	0.0383	0.0192	0.0192	0.0096	0.0096	0		
2007	1	3	0	0	35	30	30	46	0	0	0.028	0.008
	0.056	0.052	0.648	0.052	0.044	0.056	0.028	0.016	0.012	0		
2007	1	3	0	0	35	31	31	37	0	0	0.007	0
	0.0282	0.0845	0.6408	0.0775	0.0563	0.0493	0.0282	0.007	0	0.0211		
2007	1	3	0	0	35	32	32	30	0	0	0	0
	0.0769	0.0481	0.5673	0.0962	0.0481	0.0673	0.0288	0.0385	0.0192	0.0096		
2007	1	3	0	0	35	33	33	22	0	0	0	0
	0.0833	0.0333	0.5167	0.05	0.1167	0.1	0.0333	0.0333	0.0333	0		
2007	1	3	0	0	35	34	34	22	0	0	0	0
	0	0.0204	0.6327	0.1224	0.0204	0.0204	0.0816	0.0408	0.0204	0.0408		
2007	1	3	0	0	35	35	35	12	0	0	0	0
	0	0.08	0.48	0.16	0.04	0.08	0	0.12	0.04	0		
2007	1	3	0	0	35	36	36	12	0	0	0	0
	0	0	0.5333	0.0667	0.0667	0.0667	0.0667	0.2	0	0		
2007	1	3	0	0	35	37	37	6	0	0	0	0
	0	0	0.6667	0	0.1667	0	0	0.1667	0	0		
2007	1	3	0	0	35	38	38	6	0	0	0	0
	0	0	0.4286	0	0.2857	0.1429	0	0.1429	0	0		
2007	1	3	0	0	35	39	39	7	0	0	0	0
	0	0	0.5556	0.2222	0.1111	0	0.1111	0	0	0		
2007	1	3	0	0	35	40	40	5	0	0	0	0
	0.1667	0	0.3333	0.1667	0.3333	0	0	0	0	0		
2007	1	3	0	0	35	41	41	6	0	0	0	0
	0	0.1667	0.3333	0.3333	0.1667	0	0	0	0	0		
2007	1	3	0	0	35	42	42	3	0	0	0	0
	0	0	0.5	0	0	0	0	0.5	0	0		
2007	1	3	0	0	35	45	45	4	0	0	0	0
	0	0	0	0	0.6667	0	0.3333	0	0	0		
2007	1	3	0	0	35	47	47	2	0	0	0	0
	0	0	0	1	0	0	0	0	0	0		
2007	1	3	0	0	35	51	51	2	0	0	0	0
	0	0	0	0	0	0	1	0	0	0		

Ghost acoustic survey

1977	1	5	0	0	5	1	51	1	0.0587	0.0415	0.2139	0.0262
	0.0469	0.3971	0.0742	0.0529	0.0398	0.0251	0.0144	0.006	0.0019	0.0016		
1980	1	5	0	0	8	1	51	1	0.002	0.3174	0.0332	0.0512
	0.0444	0.2134	0.0576	0.1568	0.0654	0.0369	0.0095	0.0081	0.002	0.002		
1983	1	5	0	0	11	1	51	1	0.0023	0.4454	0.0196	0.0188
	0.3271	0.0286	0.0339	0.0301	0.0512	0.0166	0.0136	0.0106	0.0023	0		
1986	1	5	0	0	14	1	51	1	0.282	0.0108	0.0059	0.0249
	0.4726	0.0557	0.0371	0.0748	0.0103	0.0088	0.0034	0.0103	0.0024	0.001		
1989	1	5	0	0	17	1	51	1	0.0779	0.0238	0.0077	0.5473
	0.0113	0.0065	0.0095	0.2766	0.0119	0.0018	0.0214	0	0	0.0042		
1992	1	5	0	0	20	1	51	1	0.1534	0.0196	0.0745	0.1651
	0.0206	0.0088	0.366	0.0132	0.0064	0.0039	0.1509	0.0073	0	0.0103		
1995	1	5	0	0	23	1	51	1	0.1987	0.0294	0.0115	0.2141
	0.0125	0.0433	0.1873	0.0035	0	0.2211	0.0005	0.012	0	0.0662		
1998	1	5	0	0	26	1	51	1	0.2018	0.2391	0.1526	0.1814
	0.0136	0.0352	0.0742	0.0119	0.0068	0.0424	0.0008	0.0025	0.028	0.0097		
2001	1	5	0	0	29	1	51	1	0.2721	0.0803	0.1222	0.1261
	0.092	0.1205	0.0695	0.0255	0.0272	0.0194	0.0143	0.0125	0.0035	0.0147		
2003	1	5	0	0	31	1	51	1	0.0401	0.0175	0.5189	0.1126
	0.0442	0.0853	0.0617	0.0394	0.0367	0.0131	0.0084	0.0078	0.0057	0.0084		
2005	1	5	0	0	33	1	51	1	0.1632	0.0142	0.0637	0.0526
	0.5389	0.0637	0.0226	0.0326	0.02	0.0147	0.0074	0.0032	0.0011	0.0021		
2007	1	5	0	0	35	1	51	1	0.2679	0.0216	0.1033	0.013
	0.0525	0.035	0.3942	0.0436	0.0216	0.0199	0.0113	0.0096	0.0045	0.0021		
# Ghost US fishery												
1973	1	6	0	0	1	1	51	1	0	0.26	0.045	0.101
	0.187	0.117	0.107	0.1	0.048	0.021	0.009	0.005	0	0		
1974	1	6	0	0	2	1	51	1	0.0044	0.0033	0.5066	0.0692
	0.1198	0.1494	0.0868	0.0385	0.0121	0.0055	0.0033	0.0011	0	0		
1975	1	6	0	0	3	1	51	1	0.314	0.0417	0.0396	0.3841
	0.0553	0.0678	0.0655	0.0082	0.0059	0.0078	0.005	0.0043	0.0009	0		
1976	1	6	0	0	4	1	51	1	0.0387	0.1588	0.0531	0.0142
	0.1407	0.1109	0.117	0.1021	0.0973	0.0655	0.0564	0.0224	0.0192	0.0038		
1977	1	6	0	0	5	1	51	1	0.0947	0.0408	0.215	0.0289
	0.0528	0.2044	0.077	0.079	0.0627	0.0575	0.0426	0.0295	0.0079	0.0071		
1978	1	6	0	0	6	1	51	1	0.0242	0.1074	0.0705	0.2066
	0.0326	0.0662	0.2077	0.079	0.0704	0.0726	0.0241	0.0205	0.013	0.0053		
1979	1	6	0	0	7	1	51	1	0.0544	0.0986	0.1084	0.0457
	0.1995	0.0682	0.157	0.1473	0.0522	0.0344	0.0145	0.0091	0.0056	0.0053		
1980	1	6	0	0	8	1	51	1	0.0116	0.3165	0.0524	0.0599
	0.0528	0.1392	0.0663	0.0902	0.1022	0.0369	0.0368	0.0187	0.0078	0.0088		
1981	1	6	0	0	9	1	51	1	0.1106	0.0761	0.3302	0.0128
	0.0406	0.0436	0.1364	0.0673	0.0563	0.0893	0.0225	0.0089	0.003	0.0025		
1982	1	6	0	0	10	1	51	1	0.2586	0.0369	0.0148	0.2731
	0.0315	0.0455	0.0451	0.1268	0.0255	0.0377	0.0883	0.0076	0.0034	0.0052		
1983	1	6	0	0	11	1	51	1	0	0.3883	0.0384	0.0183
	0.2179	0.0425	0.0422	0.0546	0.0999	0.0312	0.0256	0.0292	0.0092	0.0026		
1984	1	6	0	0	12	1	51	1	0	0.0071	0.6914	0.0387
	0.0384	0.1183	0.0197	0.0133	0.0096	0.0311	0.0071	0.0057	0.0163	0.0033		
1985	1	6	0	0	13	1	51	1	0.0082	0.0076	0.0606	0.707
	0.0751	0.0437	0.0784	0.0102	0.0036	0.0039	0.0016	0.0001	0	0		
1986	1	6	0	0	14	1	51	1	0.1509	0.0416	0.009	0.0245
	0.4486	0.0656	0.0465	0.1029	0.0241	0.033	0.0143	0.0284	0.0036	0.0071		
1987	1	6	0	0	15	1	51	1	0	0.3819	0.0209	0.0049
	0.0138	0.4487	0.0333	0.0105	0.0678	0.0028	0.0005	0.0023	0.01	0.0026		
1988	1	6	0	0	16	1	51	1	0.0045	0.0032	0.4458	0.0169
	0.0068	0.0086	0.3554	0.0242	0.0058	0.0862	0.0011	0.0026	0	0.0388		
1989	1	6	0	0	17	1	51	1	0.0389	0.0321	0.0129	0.4824
	0.0145	0.0053	0.007	0.339	0.0184	0.0035	0.0406	0.0005	0.0009	0.0039		
1990	1	6	0	0	18	1	51	1	0.0687	0.3184	0.0232	0.0028
	0.1864	0.0033	0.0014	0.0014	0.2986	0.0029	0.0003	0.0828	0	0.0098		
1991	1	6	0	0	19	1	51	1	0.0491	0.2494	0.2193	0.0295
	0.0092	0.227	0.0156	0.0018	0.0017	0.1379	0.0047	0	0.0462	0.0087		
1992	1	6	0	0	20	1	51	1	0.0501	0.0607	0.1531	0.1865
	0.0181	0.0092	0.2877	0.0077	0.0018	0.0052	0.1797	0.0065	0.0003	0.0335		
1993	1	6	0	0	21	1	51	1	0.0101	0.3064	0.0357	0.1392
	0.1565	0.0128	0.0095	0.2204	0.0103	0.0015	0.0006	0.0893	0.0002	0.0075		

1994	1	6	0	0	22	1	51	1	0.0006	0.0464	0.2699	0.0112
	0.1285	0.212	0.0071	0.0039	0.2367	0.0007	0.0049	0.0004	0.0702	0.0074		
1995	1	6	0	0	23	1	51	1	0.0126	0	0.0645	0.3242
	0.0027	0.061	0.2202	0.0092	0.0011	0.2185	0	0.005	0	0.0809		
1996	1	6	0	0	24	1	51	1	0.1851	0.1622	0.0071	0.0895
	0.2083	0.0017	0.0401	0.1087	0.0012	0.0029	0.1595	0	0.0017	0.032		
1997	1	6	0	0	25	1	51	1	0.0038	0.3634	0.2641	0.0032
	0.0438	0.1342	0.0101	0.0271	0.061	0.0036	0.0017	0.0599	0.0006	0.0236		
1998	1	6	0	0	26	1	51	1	0.108	0.2512	0.1541	0.2576
	0.0299	0.0324	0.0883	0.0079	0.0067	0.0329	0.0026	0.0011	0.0232	0.0041		
1999	1	6	0	0	27	1	51	1	0.0783	0.2754	0.2037	0.1655
	0.0902	0.0244	0.0371	0.0416	0.0064	0.0124	0.0267	0.0056	0.0081	0.0247		
2000	1	6	0	0	28	1	51	1	0.0344	0.0718	0.1511	0.1551
	0.2037	0.1161	0.0855	0.0577	0.0188	0.0203	0.0238	0.0126	0.0113	0.0377		
2001	1	6	0	0	29	1	51	1	0.1317	0.2028	0.1327	0.2138
	0.0969	0.1034	0.0499	0.0145	0.0141	0.0116	0.0107	0.0062	0.0049	0.0068		
2002	1	6	0	0	30	1	51	1	0.0005	0.6017	0.1863	0.0547
	0.0551	0.0347	0.0287	0.0194	0.0054	0.0031	0.0048	0.0003	0.0009	0.0045		
2003	1	6	0	0	31	1	51	1	0.0008	0.0123	0.7937	0.1021
	0.0165	0.0256	0.0157	0.0146	0.0072	0.0053	0.0017	0.0024	0.0008	0.0012		
2004	1	6	0	0	32	1	51	1	0	0.0812	0.1116	0.682
	0.0522	0.0139	0.0226	0.0206	0.0035	0.007	0.0012	0.0027	0	0.0015		
2005	1	6	0	0	33	1	51	1	0.0121	0.006	0.0897	0.0629
	0.6939	0.0668	0.0216	0.0195	0.0121	0.0056	0.0067	0.0018	0.0005	0.0008		
2006	1	6	0	0	34	1	51	1	0.0214	0.1454	0.0194	0.0986
	0.0521	0.5872	0.037	0.0102	0.0128	0.0063	0.0043	0.0029	0.0007	0.0017		
2007	1	6	0	0	35	1	51	1	0.179	0.0402	0.1714	0.0155
	0.0729	0.0449	0.3989	0.0402	0.0164	0.0124	0.0075	0.0014	0.0004	0.002		
2008	1	6	0	0	36	1	51	1	0.0331	0.2936	0.0341	0.1445
	0.0123	0.0413	0.0451	0.3509	0.0200	0.0087	0.0089	0.0026	0.0034	0.0015		
# Ghost Canadian fishery												
1977	1	7	0	0	5	1	51	1	0.0021	0.0021	0.0516	0.0186
	0.0619	0.3773	0.1093	0.1031	0.0866	0.0825	0.0722	0.033	0	0		
1978	1	7	0	0	6	1	51	1	0	0	0.0339	0.0593
	0.0475	0.1797	0.222	0.1898	0.1051	0.0814	0.0356	0.0305	0.0153	0		
1979	1	7	0	0	7	1	51	1	0	0	0.0188	0.0554
	0.1162	0.1019	0.1877	0.2699	0.0983	0.0706	0.0331	0.0223	0.0152	0.0107		
1980	1	7	0	0	8	1	51	1	0	0	0	0.0311
	0.0411	0.1629	0.0609	0.0782	0.4464	0.0841	0.0411	0.0411	0.0133	0		
1981	1	7	0	0	9	1	51	1	0	0	0.0488	0.0131
	0.0682	0.0667	0.207	0.0411	0.1141	0.2988	0.0721	0.029	0.0411	0		
1982	1	7	0	0	10	1	51	1	0	0	0.0221	0.4268
	0.0352	0.046	0.0451	0.141	0.032	0.0249	0.1931	0.0189	0.015	0		
1983	1	7	0	0	11	1	51	1	0.0009	0.218	0.016	0.028
	0.4999	0.0201	0.0291	0.026	0.0869	0.012	0.004	0.053	0.004	0.002		
1984	1	7	0	0	12	1	51	1	0	0.018	0.215	0.028
	0.15	0.338	0.0331	0.0381	0.025	0.0779	0.0151	0.013	0.0429	0.006		
1985	1	7	0	0	13	1	51	1	0.002	0.002	0.0808	0.2648
	0.0544	0.1072	0.3173	0.0162	0.0181	0.0181	0.0544	0.0122	0	0.0524		
1986	1	7	0	0	14	1	51	1	0.0021	0.0021	0.0043	0.0608
	0.5878	0.0369	0.0369	0.1757	0.0196	0.0087	0.0152	0.0217	0.0066	0.0217		
1987	1	7	0	0	15	1	51	1	0	0.0094	0.0063	0.0016
	0.0268	0.7414	0.03	0.03	0.1088	0.0063	0.0047	0.0126	0.0094	0.0126		
1988	1	7	0	0	16	1	51	1	0	0.0023	0.106	0.0033
	0.0075	0.0148	0.6643	0.0161	0.0173	0.13	0.0035	0.007	0.0036	0.0247		
1989	1	7	0	0	17	1	51	1	0	0.0013	0.0023	0.3852
	0.0008	0.0029	0.0042	0.5181	0.0083	0.014	0.0533	0.0018	0.0018	0.0061		
1990	1	7	0	0	18	1	51	1	0	0.1036	0.0262	0.001
	0.4077	0.0145	0.0023	0	0.3852	0.0064	0	0.0473	0.0005	0.0054		
1991	1	7	0	0	19	1	51	1	0	0.0013	0.0485	0.0212
	0.0026	0.5343	0.0036	0	0.0005	0.3715	0.0018	0	0.014	0.0007		
1992	1	7	0	0	20	1	51	1	0	0.0052	0.064	0.157
	0.0305	0.0036	0.4791	0.0027	0	0.0009	0.2443	0.0014	0.0008	0.0105		
1993	1	7	0	0	21	1	51	1	0.0006	0.0092	0.0234	0.1475
	0.2018	0.0179	0.0028	0.4509	0.0026	0	0	0.1417	0.0012	0.0005		
1994	1	7	0	0	22	1	51	1	0	0.0045	0.0196	0.0199
	0.1063	0.1723	0.0269	0.0068	0.4704	0.0062	0.0023	0	0.1563	0.0085		

1995	1	7	0	0	23	1	51	1	0.0215	0.0058	0.076	0.059
	0.0347	0.113	0.1659	0.0388	0.0079	0.3592	0.0082	0.0009	0	0.1093		
1996	1	7	0	0	24	1	51	1	0.0869	0.0229	0.0099	0.0998
	0.1252	0.0334	0.1152	0.1381	0.0209	0.0091	0.2667	0.0005	0	0.0716		
1997	1	7	0	0	25	1	51	1	0.0021	0.1134	0.1276	0.0455
	0.1611	0.1472	0.0575	0.0668	0.1049	0.0462	0.002	0.0739	0.0296	0.0223		
1998	1	7	0	0	26	1	51	1	0.0021	0.1	0.2356	0.254
	0.0183	0.1014	0.1035	0.0143	0.0455	0.0553	0.0088	0.0011	0.0501	0.0099		
1999	1	7	0	0	27	1	51	1	0.0903	0.0481	0.1228	0.2775
	0.2013	0.0249	0.0605	0.0569	0.0181	0.0257	0.0266	0.0096	0.0045	0.0335		
2000	1	7	0	0	28	1	51	1	0.0017	0.2365	0.052	0.0591
	0.2582	0.1253	0.0204	0.0677	0.0319	0.0241	0.0427	0.0365	0.007	0.0369		
2001	1	7	0	0	29	1	51	1	0.0003	0.0219	0.1964	0.0652
	0.1113	0.2588	0.1308	0.0307	0.0385	0.0507	0.0158	0.0274	0.024	0.0281		
2002	1	7	0	0	30	1	51	1	0	0.01	0.0861	0.2747
	0.0865	0.0936	0.2133	0.1107	0.022	0.0229	0.0313	0.0054	0.0149	0.0286		
2003	1	7	0	0	31	1	51	1	0	0.0043	0.3594	0.2008
	0.0747	0.1233	0.0639	0.0796	0.0473	0.0201	0.0061	0.0121	0.0019	0.0064		
2004	1	7	0	0	32	1	51	1	0.001	0.0158	0.0212	0.5955
	0.1444	0.041	0.0679	0.0432	0.0296	0.0223	0.0068	0.0034	0.0047	0.0034		
2005	1	7	0	0	33	1	51	1	0	0.0017	0.0207	0.0347
	0.6585	0.1288	0.0224	0.0512	0.0397	0.0229	0.0116	0.0046	0	0.0032		
2006	1	7	0	0	34	1	51	1	0.0008	0.0066	0.0067	0.0502
	0.0335	0.6619	0.0892	0.04	0.0395	0.0299	0.0234	0.0098	0.0039	0.0046		
2007	1	7	0	0	35	1	51	1	0.0016	0.0013	0.067	0.016
	0.0645	0.0332	0.5785	0.1178	0.0247	0.0377	0.0274	0.0131	0.0174	0		
2008	1	7	0	0	36	1	51	1	0.0734	0.0814	0.0110	0.0848
	0.0076	0.0333	0.0287	0.5046	0.0850	0.0289	0.0189	0.0189	0.0078	0.0156		

0 #_N_MeanSize-at-Age_obs
0 # Total number of environmental variables
0 # Total number of environmental observations
0 # No Weight frequency data
0 # No tagging data
0 # No morph composition data

999 # End data file

##

Appendix B. Parameters (estimated and fixed) in Base (MLE) Model.

```
Num Label Value Active_Cnt Phase Min Max Init Prior PR_type Pr_SD Prior_Like
Parm_StDev Status
1 NatM_p_1_Fem_GP:1 0.23 _ -5 0.05 0.6 0.23 0.23 -1 99 0 _ NA
2 NatM_p_2_Fem_GP:1 0.623 1 4 0.2 0.8 0.63 0.23 -1 99 0 0.0239246 OK
3 L_at_Amin_Fem_GP_1 32 _ -5 10 40 32 32 -1 99 0 _ NA
4 L_at_Amax_Fem_GP_1 53.3995 2 4 30 70 53 50 -1 99 0 0.0740623 OK
5 VonBert_K_Fem_GP_1 0.299218 3 4 0.1 0.7 0.33 0.3 -1 99 0 0.00167731 OK
6 CV_young_Fem_GP_1 0.066 _ -5 0.03 0.16 0.066 0.1 -1 99 0 _ NA
7 CV_old_Fem_GP_1 0.062 _ -5 0.03 0.16 0.062 0.1 -1 99 0 _ NA
8 Wtlen_1_Fem 7e-006 _ -50 -3 3 7e-006 7e-006 -1 99 0 _ NA
9 Wtlen_2_Fem 2.9624 _ -50 -3 3 2.9624 2.9624 -1 99 0 _ NA
10 Mat50%_Fem 36.89 _ -50 -3 43 36.89 36.89 -1 99 0 _ NA
11 Mat_slope_Fem -0.48 _ -50 -3 3 -0.48 -0.48 -1 99 0 _ NA
12 Eg/gm_inter_Fem 1 _ -50 -3 3 1 1 -1 99 0 _ NA
13 Eg/gm_slope_wt_Fem 0 _ -50 -3 3 0 0 -1 99 0 _ NA
14 RecrDist_GP_1 1 _ -50 0 2 1 1 -1 99 0 _ NA
15 RecrDist_Area_1 1 _ -50 0 2 1 1 -1 99 0 _ NA
16 RecrDist_Seas_1 1 _ -50 0 2 1 1 -1 99 0 _ NA
17 CohortGrowDev 1 _ -50 0 2 1 1 -1 99 0 _ NA
18 L_at_Amax_Fem_GP_1_BLK_1984 -0.0570078 4 4 -2 2 -0.05 0 0 0.01 16.2494 0.00130428
OK
19 VonBert_K_Fem_GP_1_BLK_1980 -0.135219 5 4 -2 2 -0.14 0 0 0.01 91.4215 0.00697611 OK
20 VonBert_K_Fem_GP_1_BLK_1999 0.207284 6 4 -2 2 0.1 0 0 0.01 214.834 0.00587443 OK
21 SR_R0 14.5059 7 4  11 21 15.4 15 -1 99 0 0.0526603 OK
22 SR_steep 0.882771 8 4  0.2 1 0.85 0.777 2 0.113 0.0498913 0.0862402 OK
```

```
23 SR_sigmaR 1.21715 9 6  1 2 1.1 1.1 0 99 7.00128e-007 0.0584931 OK
24 SR_envlink 0 _ -50  -5 5 0 0 -1 99 0 _ NA
25 SR_R1_offset 0 _ -50  -5 5 0 0 -1 99 0 _ NA
26 SR_autocorr 0 _ -50  0 2 0 1 -1 99 0 _ NA
27 InitAgeComp_3 0 _ _ _ _ _ _ _ _ _ _ NA
28 InitAgeComp_2 0 _ _ _ _ _ _ _ _ _ _ NA
29 InitAgeComp_1 0 _ _ _ _ _ _ _ _ _ _ NA
30 Early_RecrDev_1960 0 _ _ _ _ _ _ _ _ _ _ NA
31 Early_RecrDev_1961 0 _ _ _ _ _ _ _ _ _ _ NA
32 RecrDev_1962 -2.26046 10 _ _ _ _ _ _ _ _ _ 0.723253 act
33 RecrDev_1963 -1.42458 11 _ _ _ _ _ _ _ _ _ 0.531022 act
34 RecrDev_1964 0.0329718 12 _ _ _ _ _ _ _ _ _ 0.160548 act
35 RecrDev_1965 -0.078494 13 _ _ _ _ _ _ _ _ _ 0.155077 act
36 RecrDev_1966 0.323672 14 _ _ _ _ _ _ _ _ _ 0.102722 act
37 RecrDev_1967 0.312422 15 _ _ _ _ _ _ _ _ _ 0.0940477 act
38 RecrDev_1968 0.683079 16 _ _ _ _ _ _ _ _ _ 0.0777286 act
39 RecrDev_1969 0.0466397 17 _ _ _ _ _ _ _ _ _ 0.0938559 act
40 RecrDev_1970 1.6838 18 _ _ _ _ _ _ _ _ _ 0.0704099 act
41 RecrDev_1971 0.435703 19 _ _ _ _ _ _ _ _ _ 0.0822621 act
42 RecrDev_1972 -0.506792 20 _ _ _ _ _ _ _ _ _ 0.105364 act
43 RecrDev_1973 1.6093 21 _ _ _ _ _ _ _ _ _ 0.0698891 act
44 RecrDev_1974 -0.212491 22 _ _ _ _ _ _ _ _ _ 0.0867446 act
45 RecrDev_1975 0.865225 23 _ _ _ _ _ _ _ _ _ 0.0729236 act
46 RecrDev_1976 0.091104 24 _ _ _ _ _ _ _ _ _ 0.0869627 act
47 RecrDev_1977 2.58881 25 _ _ _ _ _ _ _ _ _ 0.0640685 act
48 RecrDev_1978 0.273585 26 _ _ _ _ _ _ _ _ _ 0.0897989 act
49 RecrDev_1979 0.918812 27 _ _ _ _ _ _ _ _ _ 0.0765405 act
50 RecrDev_1980 3.57889 28 _ _ _ _ _ _ _ _ _ 0.0568533 act
51 RecrDev_1981 -2.24414 29 _ _ _ _ _ _ _ _ _ 0.451988 act
52 RecrDev_1982 -1.74031 30 _ _ _ _ _ _ _ _ _ 0.216005 act
53 RecrDev_1983 -0.522185 31 _ _ _ _ _ _ _ _ _ 0.105275 act
54 RecrDev_1984 2.89302 32 _ _ _ _ _ _ _ _ _ 0.05952 act
55 RecrDev_1985 -4.3337 33 _ _ _ _ _ _ _ _ _ 0.576316 act
56 RecrDev_1986 -0.897747 34 _ _ _ _ _ _ _ _ _ 0.098945 act
57 RecrDev_1987 1.69795 35 _ _ _ _ _ _ _ _ _ 0.0609912 act
58 RecrDev_1988 0.833383 36 _ _ _ _ _ _ _ _ _ 0.0655745 act
59 RecrDev_1989 -2.51376 37 _ _ _ _ _ _ _ _ _ 0.231902 act
60 RecrDev_1990 1.1942 38 _ _ _ _ _ _ _ _ _ 0.0602931 act
61 RecrDev_1991 -0.195099 39 _ _ _ _ _ _ _ _ _ 0.0722598 act
62 RecrDev_1992 -4.06272 40 _ _ _ _ _ _ _ _ _ 0.587144 act
63 RecrDev_1993 0.936972 41 _ _ _ _ _ _ _ _ _ 0.056047 act
64 RecrDev_1994 0.852676 42 _ _ _ _ _ _ _ _ _ 0.0540701 act
65 RecrDev_1995 0.571194 43 _ _ _ _ _ _ _ _ _ 0.0543337 act
66 RecrDev_1996 0.834815 44 _ _ _ _ _ _ _ _ _ 0.053229 act
67 RecrDev_1997 0.364907 45 _ _ _ _ _ _ _ _ _ 0.0611673 act
68 RecrDev_1998 1.02972 46 _ _ _ _ _ _ _ _ _ 0.0585584 act
69 RecrDev_1999 2.60326 47 _ _ _ _ _ _ _ _ _ 0.0645557 act
70 RecrDev_2000 -0.674151 48 _ _ _ _ _ _ _ _ _ 0.0913345 act
71 RecrDev_2001 0.0607307 49 _ _ _ _ _ _ _ _ _ 0.0898027 act
72 RecrDev_2002 -4.53511 50 _ _ _ _ _ _ _ _ _ 0.513969 act
73 RecrDev_2003 0.541787 51 _ _ _ _ _ _ _ _ _ 0.136249 act
74 RecrDev_2004 -1.04885 52 _ _ _ _ _ _ _ _ _ 0.184099 act
75 RecrDev_2005 0.928722 53 _ _ _ _ _ _ _ _ _ 0.212972 act
76 RecrDev_2006 -0.909244 54 _ _ _ _ _ _ _ _ _ 0.286336 act
77 RecrDev_2007 -0.627518 55 _ _ _ _ _ _ _ _ _ 1.2507 act
78 ForeRecr_2008 9.90506e-005 56 _ _ _ _ _ _ _ _ _ 1.21719 act
79 ForeRecr_2009 0 57 _ _ _ _ _ _ _ _ _ 1.21715 act
80 ForeRecr_2010 0 58 _ _ _ _ _ _ _ _ _ 1.21715 act
81 ForeRecr_2011 0 59 _ _ _ _ _ _ _ _ _ 1.21715 act
82 InitF_1US_Fishery 0 _ -1 0 1 0 0.01 -1 99 0 _ NA
83 InitF_2CAN_Fishery 0 _ -1 0 1 0 0.01 -1 99 0 _ NA
84 Q_base_3_Acoustic_Survey -0.165545 60 5  -5 0.5 -0.356675 0 -1 0.4 0 0.106546 OK
85 Q_base_4_Prerec_Survey -8 _  -5  -15 0 -8 0 -1 99 0 _ NA
86 AgeSel_1P_1_US_Fishery 10.4317 61 2 2 15 6 8 -1 99 0 0.420074 OK
87 AgeSel_1P_2_US_Fishery -2 _ -5 -9 3 -2 -1.5 -1 99 0 _ NA
88 AgeSel_1P_3_US_Fishery 3.24469 62 2 -9 15 3 3 -1 99 0 0.151363 OK
89 AgeSel_1P_4_US_Fishery 8 _ -2 -9 15 8 2 -1 99 0 _ NA
90 AgeSel_1P_5_US_Fishery -1002 _ -50 -2000 5 -1002 -1 -1 99 0 _ NA
```

```
91 AgeSel_1P_6_US_Fishery -2.11875 63 2 -5 5 -1 0.45 -1 99 0 0.408564 OK
92 AgeSel_2P_1_CAN_Fishery 12.7146 64 2 2 15 8 8 -1 99 0 0.483552 OK
93 AgeSel_2P_2_CAN_Fishery -2 _ -5 -9 3 -2 -1.5 -1 99 0 _ NA
94 AgeSel_2P_3_CAN_Fishery 2.03487 65 2 -9 15 3 3 -1 99 0 0.232366 OK
95 AgeSel_2P_4_CAN_Fishery 8 _ -2 -9 15 8 2 -1 99 0 _ NA
96 AgeSel_2P_5_CAN_Fishery -1002 _ -50 -2000 5 -1002 -1 -1 99 0 _ NA
97 AgeSel_2P_6_CAN_Fishery -0.440091 66 2 -5 10 -1 0.45 -1 99 0 0.173204 OK
98 AgeSel_3P_1_Acoustic_Survey 10.7956 67 2 2 15 6 8 -1 99 0 0.340944 OK
99 AgeSel_3P_2_Acoustic_Survey -2 _ -5 -9 3 -2 -1.5 -1 99 0 _ NA
100 AgeSel_3P_3_Acoustic_Survey 4.14473 68 2 -9 9 4 3 -1 99 0 0.0840391 OK
101 AgeSel_3P_4_Acoustic_Survey 3 _ -2 -9 9 3 2 -1 99 0 _ NA
102 AgeSel_3P_5_Acoustic_Survey -1002 _ -50 -2000 5 -1002 -1 -1 99 0 _ NA
103 AgeSel_3P_6_Acoustic_Survey -0.263489 69 2 -5 5 0 0.45 -1 99 0 0.190322 OK
104 AgeSel_8P_1_Hist_CA1 5 _ -5 0 15 5 8 -1 99 0 _ NA
105 AgeSel_8P_2_Hist_CA1 -2 _ -5 -9 3 -2 -1.5 -1 99 0 _ NA
106 AgeSel_8P_3_Hist_CA1 8.99 _ -5 -9 9 8.99 3 -1 99 0 _ NA
107 AgeSel_8P_4_Hist_CA1 3 _ -5 -9 9 3 2 -1 99 0 _ NA
108 AgeSel_8P_5_Hist_CA1 -1002 _ -50 -2000 5 -1002 -1 -1 99 0 _ NA
109 AgeSel_8P_6_Hist_CA1 4.99 _ -5 -5 5 4.99 0.45 -1 99 0 _ NA
110 AgeSel_9P_1_Hist_CA2 5 _ -5 2 15 5 8 -1 99 0 _ NA
111 AgeSel_9P_2_Hist_CA2 -2 _ -5 -9 3 -2 -1.5 -1 99 0 _ NA
112 AgeSel_9P_3_Hist_CA2 3.70657 70 5 -9 9 3 3 -1 99 0 1.73556 OK
113 AgeSel_9P_4_Hist_CA2 3 _ -5 -9 9 3 2 -1 99 0 _ NA
114 AgeSel_9P_5_Hist_CA2 -1002 _ -50 -2000 5 -1002 -1 -1 99 0 _ NA
115 AgeSel_9P_6_Hist_CA2 4.99 _ -5 -5 5 4.99 0.45 -1 99 0 _ NA
116 AgeSel_10P_1_Hist_CA3 5 _ -5 2 15 5 8 -1 99 0 _ NA
117 AgeSel_10P_2_Hist_CA3 -2 _ -5 -9 3 -2 -1.5 -1 99 0 _ NA
118 AgeSel_10P_3_Hist_CA3 2.32516 71 5 -9 9 3 3 -1 99 0 0.361389 OK
119 AgeSel_10P_4_Hist_CA3 2.75 _ -5 -9 9 2.75 2 -1 99 0 _ NA
120 AgeSel_10P_5_Hist_CA3 -1002 _ -50 -2000 5 -1002 -1 -1 99 0 _ NA
121 AgeSel_10P_6_Hist_CA3 4.99 _ -5 -5 5 4.99 0.45 -1 99 0 _ NA
122 AgeSel_11P_1_Hist_CA4 5 _ -5 2 15 5 8 -1 99 0 _ NA
123 AgeSel_11P_2_Hist_CA4 -2 _ -5 -9 3 -2 -1.5 -1 99 0 _ NA
124 AgeSel_11P_3_Hist_CA4 8.99 _ -5 -9 9 8.99 3 -1 99 0 _ NA
125 AgeSel_11P_4_Hist_CA4 3 _ -5 -9 9 3 2 -1 99 0 _ NA
126 AgeSel_11P_5_Hist_CA4 -1002 _ -50 -2000 5 -1002 -1 -1 99 0 _ NA
127 AgeSel_11P_6_Hist_CA4 1.14389 72 5 -5 5 -1.5 0.45 -1 99 0 2.48298 OK
128 AgeSel_1P_1_US_Fishery_BLK_1981 0.240857 73 3 -10 10 0 0 -1 99 0 0.37675 OK
129 AgeSel_1P_1_US_Fishery_BLK_1985 0.792108 74 3 -10 10 0 0 -1 99 0 0.690962 OK
130 AgeSel_1P_1_US_Fishery_BLK_1989 -7.41116 75 3 -10 10 0 0 -1 99 0 0.425617 OK
131 AgeSel_1P_1_US_Fishery_BLK_1993 -2.71585 76 3 -10 10 0 0 -1 99 0 0.504184 OK
132 AgeSel_1P_1_US_Fishery_BLK_1997 -0.445282 77 3 -10 10 0 0 -1 99 0 0.456201 OK
133 AgeSel_1P_1_US_Fishery_BLK_2001 -7.06694 78 3 -10 10 0 0 -1 99 0 0.424638 OK
134 AgeSel_1P_1_US_Fishery_BLK_2005 -3.11723 79 3 -10 10 0 0 -1 99 0 0.551435 OK
135 AgeSel_1P_3_US_Fishery_BLK_1960 0.192221 80 3 -10 10 0 0 -1 99 0 0.170069 OK
136 AgeSel_1P_3_US_Fishery_BLK_1981 -0.0907887 81 3 -10 10 0 0 -1 99 0 0.15958 OK
137 AgeSel_1P_3_US_Fishery_BLK_1985 0.986253 82 3 -10 10 0 0 -1 99 0 0.193858 OK
138 AgeSel_1P_3_US_Fishery_BLK_1989 -3.83901 83 3 -10 10 0 0 -1 99 0 0.204884 OK
139 AgeSel_1P_3_US_Fishery_BLK_1997 0.0233772 84 3 -10 10 0 0 -1 99 0 0.160742 OK
140 AgeSel_1P_3_US_Fishery_BLK_2001 -3.27337 85 3 -10 10 0 0 -1 99 0 0.189016 OK
141 AgeSel_1P_3_US_Fishery_BLK_2005 -0.0761224 86 3 -10 10 0 0 -1 99 0 0.228681 OK
142 AgeSel_1P_6_US_Fishery_BLK_1984 2.93943 87 3 -10 10 0 0 -1 99 0 0.44125 OK
143 AgeSel_1P_6_US_Fishery_BLK_2001 3.25735 88 3 -10 10 0 0 -1 99 0 0.759007 OK
144 AgeSel_2P_1_CAN_Fishery_BLK_1981 -1.36446 89 3 -10 10 0 0 -1 99 0 0.240565 OK
145 AgeSel_2P_1_CAN_Fishery_BLK_1985 -4.37728 90 3 -10 10 0 0 -1 99 0 0.675671 OK
146 AgeSel_2P_1_CAN_Fishery_BLK_1989 -4.7431 91 3 -10 10 0 0 -1 99 0 0.546801 OK
147 AgeSel_2P_1_CAN_Fishery_BLK_1993 -4.49192 92 3 -10 10 0 0 -1 99 0 0.53836 OK
148 AgeSel_2P_1_CAN_Fishery_BLK_2001 -7.89995 93 3 -10 10 0 0 -1 99 0 0.50252 OK
149 AgeSel_2P_1_CAN_Fishery_BLK_2005 -1.07571 94 3 -10 10 0 0 -1 99 0 0.671103 OK
150 AgeSel_2P_3_CAN_Fishery_BLK_1960 0.678862 95 3 -10 10 0 0 -1 99 0 0.250597 OK
151 AgeSel_2P_3_CAN_Fishery_BLK_1989 1.0248 96 3 -10 10 0 0 -1 99 0 0.254127 OK
152 AgeSel_2P_3_CAN_Fishery_BLK_2001 -1.96054 97 3 -10 10 0 0 -1 99 0 0.298329 OK
153 AgeSel_2P_3_CAN_Fishery_BLK_2005 1.23336 98 3 -10 10 0 0 -1 99 0 0.258544 OK

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