

# ALLOCATION OF THE PACIFIC SARDINE HARVEST GUIDELINE

## AMENDMENT 11 TO THE COASTAL PELAGIC SPECIES FISHERY MANAGEMENT PLAN

### PRELIMINARY ALTERNATIVES ANALYSIS

## APRIL 2005 Briefing Book Version ERRATA SHEET

- The date on the cover of the document should be *April 2005*, not April 2004.
- In Chapter 2, on page 13, the description of Alternative 7 should include:

Second reallocation: On November 1 the remaining unharvested portion of the harvest guideline is reallocated coastwide.

This omission was limited to the description of Alternative 7 and did not affect the analysis of the alternative.

- The attached pages replace tables and figures on pages 26-63, with the following notes:
  - The value of  $PS_{PNW}$  should be changed from \$434/mt to \$284/mt.
  - This change is due to a failure to account for the cost of raw sardines in the original calculation of  $PS_{PNW}$ .
  - This change scales down all values of PS for the Pacific Northwest fishery sector in the original analysis. It does not affect the values of PS for the southern California and northern California fishery sectors, nor does it affect landings projections, shortfalls, and number of months without an initial allocation for any of the fishery sectors.
  - The only changes from the earlier analysis are lower values in Tables 1-4 and Figures 1-9 for PS in the PNW fishery sector.

**Table 4-1. Summary of actual landings projections and cost-benefit analysis results for status quo allocation option, 2005-2009.**

Base Case: HG=136,000mt

Area	Projected Landings (MT)	Shortfall in Landings (MT)	Number of Months with Landings Shortfalls	Number of months with No Allocation	Status Quo NPV Producer Surplus	Year	Status Quo HG	Surplus HG
Southern CA	223,563	0	0	0	\$64,217,890	2005	136,000	32,227
Northern CA	108,759	0	0	0	\$18,872,232	2006	136,000	24,185
OR/WA	266,299	-34,923	12	6	\$67,022,434	2007	136,000	15,724
Southern SA	332,322	0	0	0	\$83,090,122	2008	136,000	7,855
Northern SA	266,299	-34,923	12	6	\$67,022,434	2009	136,000	1,387
Total	598,621	-34,923	12	6	\$150,112,556			81,379

Low HG Case: HG=72,000m t

Area	Projected Landings (MT)	Shortfall in Landings (MT)	Number of Months with Landings Shortfalls	Number of months with No Allocation	Status Quo NPV Producer Surplus	Year	Status Quo HG	Surplus HG
Southern CA	173,047	-50,516	14	10	\$49,904,990	2005	72,000	0
Northern CA	56,030	-52,730	14	10	\$9,858,709	2006	72,000	0
OR/WA	130,923	-170,299	25	15	\$33,097,086	2007	72,000	0
Southern SA	229,077	-103,245	14	10	\$59,763,699	2008	72,000	0
Northern SA	130,923	-170,299	25	15	\$33,097,086	2009	72,000	0
Total	360,000	-273,544	39	25	\$92,860,785			0

High HG Case: HG=200,000mt

Area	Projected Landings (MT)	Shortfall in Landings (MT)	Number of Months with Landings Shortfalls	Number of months with No Allocation	Status Quo NPV Producer Surplus	Year	Status Quo HG	Surplus HG
Southern CA	223,563	0	0	0	\$64,217,890	2005	200,000	96,227
Northern CA	108,759	0	0	0	\$18,872,232	2006	200,000	85,850
OR/WA	301,222	0	0	0	\$75,405,891	2007	200,000	74,435
Southern SA	332,322	0	0	0	\$83,090,122	2008	200,000	61,878
Northern SA	301,222	0	0	0	\$75,405,891	2009	200,000	48,066
Total	633,544	0	0	0	\$158,496,013			366,456

**Table 4-2. Summary of actual projected landings and cost-benefit analysis results for long-term sardine harvest guideline allocation options, 2005-2009.**

**Base Case (HG = 136,000 mt)**

Status Quo Summary, 2005-2009

Area	Status Quo Projected Landings (MT) 2005-2009	Status Quo Shortfall in Landings (MT) 2005-2009	Status Quo Mo/Yr of Shortfalls	Status Quo Mo/Yr with No Allocation	Status Quo NPV Producer Surplus	Year	Status Quo HG	Surplus HG
Southern CA	223,563	0			\$64,217,890	2005	136,000	32,227
Northern CA	108,759	0			\$18,872,232	2006	136,000	24,185
OR/WA	266,299	-34,923	10-11/06;10-11/07;8-11/08;8-11/09	11/06;11/07;10-11/08;10-11/09	\$67,022,434	2007	136,000	15,724
Southern SA	332,322	0			\$83,090,122	2008	136,000	7,855
Northern SA	266,299	-34,923	10-11/06;10-11/07;8-11/08;8-11/09	11/06;11/07;10-11/08;10-11/09	\$67,022,434	2009	136,000	1,387
Total	598,621	-34,923			\$150,112,556			81,379

No Action alternative (66% south, 33% north, 1/1; line at Pt. Piedras Blancas; Reallocate 50% south, 50% north 10/1), 2005-2009.

Area	No Action Projected Landings (MT) 2005-2009	Change in Landings (MT) from SQ	No Action Shortfall in Landings (MT) 2005-2009	Change in Shortfall from SQ	No Action Mo/Yr of Shortfalls	No Action Mo/Yr with No Allocation	No Action NPV Producer Surplus
Southern CA	223,563	0	0	0			\$64,217,890
Northern CA	100,162	-8,598	-8,598	8,598	8/05;8-9/06;8-9/07;8-9/08;8-9/09	9/06;9/07;9/08;9/09	\$17,419,282
OR/WA	228,426	-43,459	-78,381	43,459	8/05;8-9/06;8-9/07;8-9/08;8-9/09	9/06;9/07;9/08;9/09	\$56,163,555
Southern SA <sup>1</sup>	223,563	0	0	0			\$64,217,890
Northern SA <sup>2</sup>	328,588	-52,057	-86,979	52,057	8/05;8-9/06;8-9/07;8-9/08;8-9/09	9/06;9/07;9/08;9/09	\$73,582,837
<b>Total</b>	<b>552,150</b>	<b>-52,057</b>	<b>-86,979</b>	<b>52,057</b>			<b>\$137,800,727</b>

No Action alternative, continued

Area	Change in NPV of PS from SQ	Year	No Action HG	Surplus HG	Change in Surplus HG from SQ
Southern CA	\$0	2005	136,000	38,268	6,041
Northern CA	-\$1,452,950	2006	136,000	33,028	8,843
OR/WA	-\$10,858,880	2007	136,000	27,264	11,541
Southern SA <sup>1</sup>	\$0	2008	136,000	20,924	13,069
Northern SA <sup>2</sup>	-\$12,311,830	2009	136,000	13,950	12,563
<b>Total</b>	<b>-\$12,311,830</b>			<b>133,435</b>	<b>52,057</b>

<sup>1</sup>Under the no action alternative the Southern Subarea consists of Southern California.

<sup>2</sup>Under the no action alternative the Northern Subarea consists of Northern California, Oregon and Washington.

Alternative 1 (50% Coastwide 1/1; 50% + Rollover 7/1), 2005-2009.

Area	Alternative 1 Projected Landings (MT) 2005-2009	Change in Landings (MT) from SQ	Alternative 1 Shortfall in Landings (MT) 2005-2009	Change in Shortfall from SQ	Alternative 1 Mo/Yr of Shortfalls	Alternative 1 Mo/Yr with No Allocation	Alternative 1 NPV Producer Surplus
Southern CA	215,195	-8,367	-8,367	8,367	12/08;11/09;12/09	12/09	\$61,970,183
Northern CA	100,696	-8,064	-8,064	8,064	12/08;11/09;12/09	12/09	\$17,569,886
OR/WA	299,597	33,298	-1,625	-33,298	12/08;11/09;12/09	12/09	\$75,027,235
Southern SA	315,891	-16,431	-16,431	16,431	12/08;11/09;12/09	12/09	\$79,540,069
Northern SA	299,597	33,298	-1,625	-33,298	12/08;11/09;12/09	12/09	\$75,027,235
Total	615,488	16,867	-18,056	-16,867			\$154,567,304

Alternative 1, continued

Area	Change in NPV of PS from SQ	Year	Alternative 1 HG	Surplus HG	Change in Surplus HG from SQ
Southern CA	-\$2,247,707	2005	136,000	32,227	0
Northern CA	-\$1,302,346	2006	136,000	21,850	-2,335
OR/WA	\$8,004,800	2007	136,000	10,435	-5,289
Southern SA	-\$3,550,053	2008	136,000	0	-7,855
Northern SA	\$8,004,800	2009	136,000	0	-1,387
Total	\$4,454,747			64,512	-16,867

Alternative 2 (Season 6/1- 5/31 Coastwide HG), 2005-2009.

Area	Alternative 2 Projected Landings (MT) 2005-2009	Change in Landings (MT) from SQ	Alternative 2 Shortfall in Landings (MT) 2005-2009	Change in Shortfall from SQ	Alternative 2 Mo/Yr of Shortfalls	Alternative 2 Mo/Yr with No Allocation	Alternative 2 NPV Producer Surplus
Southern CA	206,017	-17,546	-17,546	17,546	4-5/08;1-5/09	5/08;2-5/09	\$59,515,724
Northern CA	108,250	-510	-510	510	4-5/08;1-5/09	5/08;2-5/09	\$18,790,123
OR/WA	301,222	34,923	0	-34,923		5/08;2-5/09	\$75,405,891
Southern SA	314,266	-18,056	-18,056	18,056	4-5/08;1-5/09	5/08;2-5/09	\$78,305,847
Northern SA	301,222	34,923	0	-34,923		5/08;2-5/09	\$75,405,891
Total	615,488	16,867	-18,056	-16,867			\$153,711,738

Alternative 2, continued

Area	Change in NPV of PS from SQ	Year	Alternative 2 HG	Surplus HG	Change in Surplus HG from SQ
Southern CA	-\$4,702,166	2005	136,000	32,227	0
Northern CA	-\$82,109	2006	136,000	21,850	-2,335
OR/WA	\$8,383,457	2007	136,000	10,435	-5,289
Southern SA	-\$4,784,275	2008	136,000	0	-7,855
Northern SA	\$8,383,457	2009	136,000	0	-1,387
Total	\$3,599,182			64,512	-16,867

Alternative 3 (40% Coastwide 1/1; 40% + Rollover 7/1; 20% + Rollover 10/1), 2005-2009.

Area	Alternative 3 Projected Landings (MT) 2005-2009	Change in Landings (MT) from SQ	Alternative 3 Shortfall in Landings (MT) 2005-2009	Change in Shortfall from SQ	Alternative 3 Mo/Yr of Shortfalls	Alternative 3 Mo/Yr with No Allocation	Alternative 3 NPV Producer Surplus
Southern CA	215,082	-8,481	-8,481	8,481	12/08;9/09;11-12/09	12/09	\$61,939,909
Northern CA	104,931	-3,828	-3,828	3,828	12/08;9/09;11-12/09	12/09	\$18,252,201
OR/WA	295,475	29,176	-5,747	-29,176	12/08;9/09;11-12/09	12/09	\$74,069,276
Southern SA	320,013	-12,309	-12,309	12,309	12/08;9/09;11-12/09	12/09	\$80,192,110
Northern SA	295,475	29,176	-5,747	-29,176	12/08;9/09;11-12/09	12/09	\$74,069,276
Total	615,488	16,867	-18,056	-16,867			\$154,261,386

Alternative 3, continued

Area	Change in NPV of PS from SQ	Year	Alternative 3 HG	Surplus HG	Change in Surplus HG from SQ
Southern CA	-\$2,277,981	2005	136,000	32,227	0
Northern CA	-\$620,031	2006	136,000	21,850	-2,335
OR/WA	\$7,046,843	2007	136,000	10,435	-5,289
Southern SA	-\$2,898,012	2008	136,000	0	-7,855
Northern SA	\$7,046,843	2009	136,000	0	-1,387
Total	\$4,148,831			64,512	-16,867

Alternative 4.a (HG > 100,000 mt; 40% North, 60% South 1/1; Coastwide Rollover 9/1), 2005-2009.

Area	Alternative 4.a Projected Landings (MT) 2005-2009	Change in Landings (MT) from SQ	Alternative 4.a Shortfall in Landings (MT) 2005-2009	Change in Shortfall from SQ	Alternative 4.a Mo/Yr of Shortfalls	Alternative 4.a Mo/Yr with No Allocation	Alternative 4.a NPV Producer Surplus
Southern CA	215,195	-8,367	-8,367	8,367	12/08;11-12/09	12	\$61,970,183
Northern CA	100,696	-8,064	-8,064	8,064	12/08;11-12/10	12	\$17,569,886
OR/WA	299,597	33,298	-1,625	-33,298	12/08;11-12/11	12	\$75,027,235
Southern SA	315,891	-16,431	-16,431	16,431	12/08;11-12/12	12	\$79,540,069
Northern SA	299,597	33,298	-1,625	-33,298	12/08;11-12/13	12	\$75,027,235
Total	615,488	16,867	-18,056	-16,867			\$154,567,304

Alternative 4.a, continued

Area	Change in NPV of PS from SQ	Year	Alternative 4.a HG	Surplus HG	Change in Surplus HG from SQ
Southern CA	-\$2,247,707	2005	136,000	32,227	0
Northern CA	-\$1,302,346	2006	136,000	21,850	-2,335
OR/WA	\$8,004,800	2007	136,000	10,435	-5,289
Southern SA	-\$3,550,053	2008	136,000	0	-7,855
Northern SA	\$8,004,800	2009	136,000	0	-1,387
Total	\$4,454,747			64,512	-16,867



Alternative 5 (20% Set Aside 1/1; 40% North, 60% South of Remaining 1/1, Coastwide Rollover 10/1), 2005-2009.

Area	Alternative 5 Projected Landings (MT) 2005-2009	Change in Landings (MT) from SQ	Alternative 5 Shortfall in Landings (MT) 2005-2009	Change in Shortfall from SQ	Alternative 5 Mo/Yr of Shortfalls	Alternative 5 Mo/Yr with No Allocation	Alternative 5 NPV Producer Surplus
Southern CA	223,563	0	0	0			\$64,217,890
Northern CA	108,759	0	0	0			\$18,872,232
OR/WA	255,929	-11,420	-46,343	11,420	9/05;9/06;9/07;8-9/08;8-9/09		\$64,155,083
Southern SA	332,322	0	0	0			\$83,090,122
Northern SA	255,929	-11,420	-46,343	11,420	9/05;9/06;9/07;8-9/08;8-9/09		\$64,155,083
Total	588,251	-11,420	-46,343	11,420			\$147,245,205

Alternative 5, continued.

Area	Change in NPV of PS from SQ	Year	Alternative 5 HG	Surplus HG	Change in Surplus HG from SQ
Southern CA	\$0	2005	136,000	33,277	1,050
Northern CA	\$0	2006	136,000	27,357	3,171
OR/WA	-\$2,867,352	2007	136,000	18,124	2,401
Southern SA	\$0	2008	136,000	10,961	3,105
Northern SA	-\$2,867,352	2009	136,000	3,081	1,693
Total	-\$2,867,352			92,799	11,420

Alternative 6 (50% North, 50% South 1/1; Coastwide Rollover 9/1; Variable N/S Allocation Based on Prior Year's Use), 2005-2009.

Area	Alternative 6 Projected Landings (MT) 2005-2009	Change in Landings (MT) from SQ	Alternative 6 Shortfall in Landings (MT) 2005-2009	Change in Shortfall from SQ	Alternative 6 Mo/Yr of Shortfalls	Alternative 6 Mo/Yr with No Allocation	Alternative 6 NPV Producer Surplus
Southern CA	215,195	-8,367	-8,367	8,367	12/08;11-12/09	12/09	\$61,970,183
Northern CA	100,696	-8,064	-8,064	8,064	12/08;11-12/09	12/09	\$17,569,886
OR/WA	299,597	33,298	-1,625	-33,298	12/08;11-12/09	12/09	\$75,027,235
Southern SA	315,891	-16,431	-16,431	16,431	12/08;11-12/09	12/09	\$79,540,069
Northern SA	299,597	33,298	-1,625	-33,298	12/08;11-12/09	12/09	\$75,027,235
Total	615,488	16,867	-18,056	-16,867			\$154,567,304

Alternative 6, continued.

Area	Change in NPV of PS from SQ	Year	Alternative 6 HG	Surplus HG	Change in Surplus HG from SQ
Southern CA	-\$2,247,707	2005	136,000	32,227	0
Northern CA	-\$1,302,346	2006	136,000	21,850	-2,335
OR/WA	\$8,004,800	2007	136,000	10,435	-5,289
Southern SA	-\$3,550,053	2008	136,000	0	-7,855
Northern SA	\$8,004,800	2009	136,000	0	-1,387
Total	\$4,454,747			64,512	-16,867

Alternative 7 (33% North, 66% South 1/1; 50% North, 50% South of Remaining 9/1, Coastwide Rollover 11/1), 2005-2009.

Area	Alternative 7 Projected Landings (MT) 2005-2009	Change in Landings (MT) from SQ	Alternative 7 Shortfall in Landings (MT) 2005-2009	Change in Shortfall from SQ	Alternative 7 Mo/Yr of Shortfalls	Alternative 7 Mo/Yr with No Allocation	Alternative 7 NPV Producer Surplus
Southern CA	218,490	-5,073	-5,073	5,073	11-12/09	12/09	\$62,865,198
Northern CA	105,540	-3,219	-3,219	3,219	11-12/09	12/09	\$18,353,673
OR/WA	291,327	25,028	-9,895	-25,028	8/08;8/09;11-12/09	12/09	\$73,084,917
Southern SA	324,030	-8,292	-8,292	8,292	11-12/09	12/09	\$81,218,871
Northern SA	291,327	25,028	-9,895	-25,028	8/08;8/09;11-12/09	12/09	\$73,084,917
Total	615,358	16,736	-18,186	-16,736			\$154,303,788

Alternative 7, continued.

Area	Change in NPV of PS from SQ	Year	Alternative 7 HG	Surplus HG	Change in Surplus HG from SQ
Southern CA	-\$1,352,691	2005	136,000	32,227	0
Northern CA	-\$518,559	2006	136,000	21,850	-2,335
OR/WA	\$6,062,482	2007	136,000	10,435	-5,289
Southern SA	-\$1,871,250	2008	136,000	131	-7,725
Northern SA	\$6,062,482	2009	136,000	0	-1,387
Total	\$4,191,232			64,642	-16,736

**Table 4-3. Summary of actual landings projections and cost-benefit analysis results for long-term sardine harvest guideline allocation options, 2005-2009**

**High Harvest Guideline Case, HG = 200,000 mt**

Status Quo Summary, 2005-2009

Area	Status Quo Projected Landings 2005-2009	Status Quo Shortfall in Landings 2005-2009	Status Quo Mo/Yr of Shortfalls	Status Quo Mo/Yr with No Allocation	Status Quo NPV Producer Surplus	Year	Status Quo HG	Surplus HG
Southern CA	223,563	0			\$64,217,890	2005	200,000	96,227
Northern CA	108,759	0			\$18,872,232	2006	200,000	85,850
OR/WA	301,222	0			\$75,405,891	2007	200,000	74,435
Southern SA	332,322	0			\$83,090,122	2008	200,000	61,878
Northern SA	301,222	0			\$75,405,891	2009	200,000	48,066
Total	633,544	0			\$158,496,013			366,456

No Action alternative (66% south, 33% north, 1/1; line at Pt. Piedras Blancas; Reallocate 50% south, 50% north 10/1), 2005-2009

Area	No Action Projected Landings 2005-2009	Change in Landings from SQ	No Action Shortfall in Landings 2005-2009	Change in Shortfall from SQ	No Action Mo/Yr of Shortfalls	No Action Mo/Yr with No Allocation	No Action NPV Producer Surplus	Change in NPV of PS from SQ
Southern CA	223,563	0	0	0			\$64,217,890	\$0
Northern CA	107,985	-774	-774	774	9/08;9/09		\$18,746,714	-\$125,518
OR/WA	291,733	-9,489	-9,489	9,489	9/08;9/09		\$73,185,475	-\$2,220,417
Southern SA <sup>1</sup>	223,563	0	0	0			\$64,217,890	\$0
Northern SA <sup>2</sup>	399,718	-10,263	-10,263	10,263	9/08;9/09		\$91,932,189	-\$2,345,935
Total	623,281	-10,263	-10,263	10,263			\$156,150,079	-\$2,345,935

Area	Year	No Action HG	Surplus HG	Change in Surplus HG from SQ
Southern CA	2005	200,000	96,227	0
Northern CA	2006	200,000	85,850	0
OR/WA	2007	200,000	74,435	0
Southern SA <sup>1</sup>	2008	200,000	63,591	1,713
Northern SA <sup>2</sup>	2009	200,000	56,617	8,551
Total			376,719	10,263

<sup>1</sup>Under the no action alternative the Southern Subarea consists of Southern California

<sup>2</sup>Under the no action alternative the Northern Subarea consists of Northern California, Oregon and Washington.

Alternative 1 (50% Coastwide 1/1; 50% + Rollover 7/1), 2005-2009.

Area	Alternative 1 Projected Landings 2005-2009	Change in Landings from SQ	Alternative 1 Shortfall in Landings 2005-2009	Change in Shortfall from SQ	Alternative 1 Mo/Yr of Shortfalls	Alternative 1 Mo/Yr with No Allocation	Alternative 1 NPV Producer Surplus	Change in NPV of PS from SQ
Southern CA	223,563	0	0	0			\$64,217,890	\$0
Northern CA	108,759	0	0	0			\$18,872,232	\$0
OR/WA	301,222	0	0	0			\$75,405,891	\$0
Southern SA	332,322	0	0	0			\$83,090,122	\$0
Northern SA	301,222	0	0	0			\$75,405,891	\$0
Total	633,544	0	0	0			\$158,496,013	\$0

Alternative 1, continued

Area	Year	Alternative 1 HG	Surplus HG	Change in Surplus HG from SQ
Southern CA	2005	200,000	96,227	0
Northern CA	2006	200,000	85,850	0
OR/WA	2007	200,000	74,435	0
Southern SA	2008	200,000	61,878	0
Northern SA	2009	200,000	48,066	0
Total			366,456	0

Alternative 2 (Season 6/1- 5/31 Coastwide HG), 2005-2009.

Area	Alternative 2 Projected Landings 2005-2009	Change in Landings from SQ	Alternative 2 Shortfall in Landings 2005-2009	Change in Shortfall from SQ	Alternative 2 Mo/Yr of Shortfalls	Alternative 2 Mo/Yr with No Allocation	Alternative 2 NPV Producer Surplus	Change in NPV of PS from SQ
Southern CA	223,563	0	0	0			\$64,217,890	\$0
Northern CA	108,759	0	0	0			\$18,872,232	\$0
OR/WA	301,222	0	0	0			\$75,405,891	\$0
Southern SA	332,322	0	0	0			\$83,090,122	\$0
Northern SA	301,222	0	0	0			\$75,405,891	\$0
Total	633,544	0	0	0			\$158,496,013	\$0

Alternative 2, continued

Area	Year	Alternative 2 HG	Surplus HG	Change in Surplus HG from SQ
Southern CA	2005	200,000	96,227	0
Northern CA	2006	200,000	85,850	0
OR/WA	2007	200,000	74,435	0
Southern SA	2008	200,000	61,878	0
Northern SA	2009	200,000	48,066	0
Total			366,456	0

Alternative 3 (40% Coastwide 1/1; 40% + Rollover 7/1; 20% + Rollover 10/1), 2005-2009.

Area	Alternative 3 Projected Landings 2005-2009	Change in Landings from SQ	Alternative 3 Shortfall in Landings 2005-2009	Change in Shortfall from SQ	Alternative 3 Mo/Yr of Shortfalls	Alternative 3 Mo/Yr with No Allocation	Alternative 3 NPV Producer Surplus	Change in NPV of PS from SQ
Southern CA	223,563	0	0	0			\$64,217,890	\$0
Northern CA	108,759	0	0	0			\$18,872,232	\$0
OR/WA	301,222	0	0	0			\$75,405,891	\$0
Southern SA	332,322	0	0	0			\$83,090,122	\$0
Northern SA	301,222	0	0	0			\$75,405,891	\$0
Total	633,544	0	0	0			\$158,496,013	\$0

Alternative 3, continued

Area	Year	Alternative 3 HG	Surplus HG	Change in Surplus HG from SQ
Southern CA	2005	200,000	96,227	0
Northern CA	2006	200,000	85,850	0
OR/WA	2007	200,000	74,435	0
Southern SA	2008	200,000	61,878	0
Northern SA	2009	200,000	48,066	0
Total			366,456	0

Alternative 4.a (HG > 100,000 mt; 40% North, 60% South 1/1; Coastwide Rollover 9/1), 2005-2009.

Area	Alternative 4.a Projected Landings 2005-2009	Change in Landings from SQ	Alternative 4.a Shortfall in Landings 2005-2009	Change in Shortfall from SQ	Alternative 4.a Mo/Yr of Shortfalls	Alternative 4.a Mo/Yr with No Allocation	Alternative 4.a NPV Producer Surplus	Change in NPV of PS from SQ
Southern CA	223,563	0	0	0			\$64,217,890	\$0
Northern CA	108,759	0	0	0			\$18,872,232	\$0
OR/WA	301,222	0	0	0			\$75,405,891	\$0
Southern SA	332,322	0	0	0			\$83,090,122	\$0
Northern SA	301,222	0	0	0			\$75,405,891	\$0
Total	633,544	0	0	0			\$158,496,013	\$0

Alternative 4a, continued

Area	Year	Alternative 4.a HG	Surplus HG	Change in Surplus HG from SQ
Southern CA	2005	200,000	96,227	0
Northern CA	2006	200,000	85,850	0
OR/WA	2007	200,000	74,435	0
Southern SA	2008	200,000	61,878	0
Northern SA	2009	200,000	48,066	0
Total			366,456	0

Alternative 5 (20% Set Aside 1/1; 40% North, 60% South of Remaining 1/1, Coastwide Rollover 10/1), 2005-2009

Area	Alternative 5 Projected Landings 2005-2009	Change in Landings from SQ	Alternative 5 Shortfall in Landings 2005-2009	Change in Shortfall from SQ	Alternative 5 Mo/Yr of Shortfalls	Alternative 5 Mo/Yr with No Allocation	Alternative 5 NPV Producer Surplus	Change in NPV of PS from SQ
Southern CA	223,563	0	0	0			\$64,217,890	\$0
Northern CA	108,759	0	0	0			\$18,872,232	\$0
OR/WA	299,967	-1,255	-1,255	1,255	9/09		\$75,114,312	-\$291,579
Southern SA	332,322	0	0	0			\$83,090,122	\$0
Northern SA	299,967	-1,255	-1,255	1,255	9/09		\$75,114,312	-\$291,579
Total	632,289	-1,255	-1,255	1,255			\$158,204,434	-\$291,579

Alternative 5, continued

Area	Year	Alternative 5 HG	Surplus HG	Change in Surplus HG from SQ
Southern CA	2005	200,000	96,227	0
Northern CA	2006	200,000	85,850	0
OR/WA	2007	200,000	74,435	0
Southern SA	2008	200,000	61,878	0
Northern SA	2009	200,000	49,321	1,255
Total			367,711	1,255

Alternative 6 (50% North, 50% South 1/1; Coastwide Rollover 9/1; Variable N/S Allocation Based on Prior Year's Use), 2005-2009.

Area	Alternative 6 Projected Landings 2005-2009	Change in Landings from SQ	Alternative 6 Shortfall in Landings 2005-2009	Change in Shortfall from SQ	Alternative 6 Mo/Yr of Shortfalls	Alternative 6 Mo/Yr with No Allocation	Alternative 6 NPV Producer Surplus	Change in NPV of PS from SQ
Southern CA	223,563	0	0	0			\$64,217,890	\$0
Northern CA	108,759	0	0	0			\$18,872,232	\$0
OR/WA	301,222	0	0	0			\$75,405,891	\$0
Southern SA	332,322	0	0	0			\$83,090,122	\$0
Northern SA	301,222	0	0	0			\$75,405,891	\$0
Total	633,544	0	0	0			\$158,496,013	\$0

Alternative 6, continued.

Area	Year	Alternative 6 HG	Surplus HG	Change in Surplus HG from SQ
Southern CA	2005	200,000	96,227	0
Northern CA	2006	200,000	85,850	0
OR/WA	2007	200,000	74,435	0
Southern SA	2008	200,000	61,878	0
Northern SA	2009	200,000	48,066	0
Total			366,456	0

Alternative 7 (33% North, 66% South 1/1; 50% North, 50% South of Remaining 9/1, Coastwide Rollover 11/1), 2005-2009.

Area	Alternative 7 Projected Landings 2005-2009	Change in Landings from SQ	Alternative 7 Shortfall in Landings 2005-2009	Change in Shortfall from SQ	Alternative 7 Mo/Yr of Shortfalls	Alternative 7 Mo/Yr with No Allocation	Alternative 7 NPV Producer Surplus	Change in NPV of PS from SQ
Southern CA	223,563	0	0	0			\$64,217,890	\$0
Northern CA	108,759	0	0	0			\$18,872,232	\$0
OR/WA	301,222	0	0	0			\$75,405,891	\$0
Southern SA	332,322	0	0	0			\$83,090,122	\$0
Northern SA	301,222	0	0	0			\$75,405,891	\$0
Total	633,544	0	0	0			\$158,496,013	\$0

Alternative 7, continued

Area	Year	Alternative 7 HG	Surplus HG	Change in Surplus HG from SQ
Southern CA	2005	200,000	96,227	0
Northern CA	2006	200,000	85,850	0
OR/WA	2007	200,000	74,435	0
Southern SA	2008	200,000	61,878	0
Northern SA	2009	200,000	48,066	0
Total			366,456	0



**Table 4-4. Summary of actual landings projections and cost-benefit analysis results for long-term sardine harvest guideline allocation options, 2005-2009.**

**Low Harvest Guideline Case, HG = 72,000 mt**

Status Quo Summary, 2005-2009.

Area	Status Quo Projected Landings 2005-2009	Status Quo Shortfall in Landings 2005-2009	Status Quo Mo/Yr of Shortfalls	Status Quo Mo/Yr with No Allocation	Status Quo NPV Producer Surplus	Year	Status Quo HG	Surplus HG
Southern CA	173,047	-50,516	11-12/05;10-12/06;10-12/07;10-12/08;10-12/09	12/05;11-12/06;11-12/07;11-12/08;10-12/09	\$49,904,990	2005	72,000	0
Northern CA	56,030	-52,730	11-12/05;10-12/06;10-12/07;10-12/08;10-12/09	12/05;11-12/06;11-12/07;11-12/08;10-12/09	\$9,858,709	2006	72,000	0
OR/WA	130,923	-170,299	8-12/05;8-12/06;8-12/07;8-12/08;8-12/09	10-12/05;10-12/06;10-12/07;10-12/08;8,10-12/09	\$33,097,086	2007	72,000	0
Southern SA	229,077	-103,245		12/05;11-12/06;11-12/07;11-12/08;10-12/09	\$59,763,699	2008	72,000	0
Northern SA	130,923	-170,299		10-12/05;10-12/06;10-12/07;10-12/08;8,10-12/09	\$33,097,086	2009	72,000	0
Total	360,000	-273,544			\$92,860,785			0

No Action alternative (66% south, 33% north, 1/1; line at Pt. Piedras Blancas; Reallocate 50% south, 50% north 10/1), 2005-2009.

Area	No Action Projected Landings 2005-2009	Change in Landings from SQ	No Action Shortfall in Landings 2005-2009	Change in Shortfall from SQ	No Action Mo/Yr of Shortfalls	No Action Mo/Yr with No Allocation
Southern CA	204,165	31,118	-19,398	-31,118	12/06;12/07;11,12/08;10-12/09	12/08;11,12/09
Northern CA	39,700	-16,330	-69,059	16,330	8,9,11,12/05;8-12/06;7-12/07;7-12/08;7-12/09	9,12/05;9,11,12/06;8,9,11,12/07;8,9,11,12/08;8,9,11,12/09
OR/WA	139,842	-16,183	-186,482	16,183	8,9,11,12/05;8-12/06;7-12/07;7-12/08;7-12/09	9,12/05;9,11,12/06;8,9,11,12/07;8,9,11,12/08;8,9,11,12/09
Southern SA <sup>1</sup>	204,165	31,118	-19,398	-31,118	12/06;12/07;11,12/08;10-12/09	12/08;11,12/09
Northern SA <sup>2</sup>	179,542	-32,513	-255,542	32,513	8,9,11,12/05;8-12/06;7-12/07;7-12/08;7-12/09	9,12/05;9,11,12/06;8,9,11,12/07;8,9,11,12/08;8,9,11,12/09
Total	383,707	-1,396	-274,939	1,396		

No Action alternative, continued.

Area	No Action NPV Producer Surplus	Change in NPV of PS from SQ	Year	No Action HG	Surplus HG	Change in Surplus HG from SQ
Southern CA	\$58,874,155	\$8,969,165	2005	72,000	1,396	1,396
Northern CA	\$7,002,685	-\$2,856,024	2006	72,000	0	0
OR/WA	\$29,019,932	-\$4,077,154	2007	72,000	0	0
Southern SA <sup>1</sup>	\$58,874,155	\$8,969,165	2008	72,000	0	0
Northern SA <sup>2</sup>	\$36,022,617	-\$6,933,178	2009	72,000	0	0
Total	\$94,896,772	\$2,035,987			1,396	1,396

<sup>1</sup>Under the no action alternative the Southern Subarea consists of Southern California.

<sup>2</sup>Under the no action alternative the Northern Subarea consists of Northern California, Oregon and Washington.

Alternative 1 (50% Coastwide 1/1; 50% + Rollover 7/1), 2005-2009.

Area	Alternative 1 Projected Landings 2005-2009	Change in Landings from SQ	Alternative 1 Shortfall in Landings 2005-2009	Change in Shortfall from SQ	Alternative 1 Mo/Yr of Shortfalls	Alternative 1 Mo/Yr with No Allocation
Southern CA	141,434	-31,613	-82,129	31,613	9-12/05;8-12/06;8-12/07;8-12/08;8-12/09	10-12/05;9-12/06;9-12/07;9-12/08;9-12/09
Northern CA	31,746	-24,284	-77,013	24,284	9-12/05;8-12/06;8-12/07;8-12/08;8-12/09	10-12/05;9-12/06;9-12/07;9-12/08;9-12/09
OR/WA	196,565	55,897	-114,402	-55,897	9-12/05;8-12/06;8-12/07;8-12/08;8-12/09	10-12/05;9-12/06;9-12/07;9-12/08;9-12/09
Southern SA	173,180	-55,897	-159,142	55,897	9-12/05;8-12/06;8-12/07;8-12/08;8-12/09	10-12/05;9-12/06;9-12/07;9-12/08;9-12/09
Northern SA	196,565	55,897	-114,402	-55,897	9-12/05;8-12/06;8-12/07;8-12/08;8-12/09	10-12/05;9-12/06;9-12/07;9-12/08;9-12/09
Total	369,746	0	-273,544	0		

Alternative 1, continued.

Area	Alternative 1 NPV Producer Surplus	Change in NPV of PS from SQ	Year	Alternative 1 HG	Surplus HG	Change in Surplus HG from SQ
Southern CA	\$40,785,313	-\$9,119,677	2005	72,000	0	0
Northern CA	\$5,558,556	-\$4,300,153	2006	72,000	0	0
OR/WA	\$47,248,410	\$14,151,324	2007	72,000	0	0
Southern SA	\$46,343,869	\$13,419,830	2008	72,000	0	0
Northern SA	\$47,248,410	\$14,151,324	2009	72,000	0	0
Total	\$93,592,279	\$731,494			0	0

Alternative 2 (Season 6/1- 5/31 Coastwide HG), 2005-2009.

Area	Alternative 2 Projected Landings 2005-2009	Change in Landings from SQ	Alternative 2 Shortfall in Landings 2005-2009	Change in Shortfall from SQ	Alternative 2 Mo/Yr of Shortfalls	Alternative 2 Mo/Yr with No Allocation
Southern CA	75,397	-97,650	-148,166	97,650	10/05-5/06;10/06-5/07;9/07-5/08;9/08-5-09;9/09-5/10	11/05-5/06;11-06-5/07;10/07-5/08;10/08-5/09;10/09-5/10
Northern CA	31,039	-24,991	-77,721	24,991	10/05-3/06;10/06-3/07;9/07-3-08;9/08-3/09;9/09-3/10	11/05-5/06;11-06-5/07;10/07-5/08;10/08-5/09;10/09-5/10
OR/WA	255,578	122,641	-47,658	-122,641	10-12/05;10-12/06;9-12/07;9-12/08;9-12/09	11/05-5/06;11-06-5/07;10/07-5/08;10/08-5/09;10/09-5/10
Southern SA	106,436	-122,641	-225,886	122,641	10/05-5/06;10/06-5/07;9/07-5/08;9/08-5-09;9/09-5/10	11/05-5/06;11-06-5/07;10/07-5/08;10/08-5/09;10/09-5/10
Northern SA	255,578	122,641	-47,658	-122,641	10-12/05;10-12/06;9-12/07;9-12/08;9-12/09	11/05-5/06;11-06-5/07;10/07-5/08;10/08-5/09;10/09-5/10
Total	362,014	0	-273,544	0		

Alternative 2, continued.

Area	Alternative 2 NPV Producer Surplus	Change in NPV of PS from SQ	Year	Alternative 2 HG	Surplus HG	Change in Surplus HG from SQ
Southern CA	\$21,879,411	\$28,025,579	2005	72,000	0	0
Northern CA	\$5,480,381	-\$4,378,328	2006	72,000	0	0
OR/WA	\$63,837,473	\$30,740,387	2007	72,000	0	0
Southern SA	\$27,359,792	\$32,403,907	2008	72,000	0	0
Northern SA	\$63,837,473	\$30,740,387	2009	72,000	0	0
Total	\$91,197,265	-\$1,663,520			0	0

Alternative 3 (40% Coastwide 1/1; 40% + Rollover 7/1; 20% + Rollover 10/1), 2005-2009.

Area	Alternative 3 Projected Landings 2005-2009	Change in Landings from SQ	Alternative 3 Shortfall in Landings 2005-2009	Change in Shortfall from SQ	Alternative 3 Mo/Yr of Shortfalls	Alternative 3 Mo/Yr with No Allocation
Southern CA	147,854	-25,193	-75,709	25,193	8-9,11-12/05;8-12/06;8-12/07;6,8-12/08;6,8-12/09	9,12-05;9,11-12/06;9,11-12/07;9,11-12/08;9,11-12/09
Northern CA	55,212	-817	-53,547	817	8-9,11-12/05;8-12/06;8-12/07;8-12/08;8-12/09	9,12-05;9,11-12/06;9,11-12/07;9,11-12/08;9,11-12/10
OR/WA	172,752	26,010	-144,288	-26,010	8-9,11-12/05;8-12/06;8-12/07;6,8-12/08;6,8-12/09	9,12-05;9,11-12/06;9,11-12/07;9,11-12/08;9,11-12/11
Southern SA	203,067	-26,010	-129,255	26,010	8-9,11-12/05;8-12/06;8-12/07;6,8-12/08;6,8-12/09	9,12-05;9,11-12/06;9,11-12/07;9,11-12/08;9,11-12/12
Northern SA	172,752	26,010	-144,288	-26,010	8-9,11-12/05;8-12/06;8-12/07;6,8-12/08;6,8-12/09	9,12-05;9,11-12/06;9,11-12/07;9,11-12/08;9,11-12/13
Total	375,819	0	-273,544	0		

Alternative 3, continued.

Area	Alternative 3 NPV Producer Surplus	Change in NPV of PS from SQ	Year	Alternative 3 HG	Surplus HG	Change in Surplus HG from SQ
Southern CA	\$42,646,432	-\$7,258,558	2005	72,000	0	0
Northern CA	\$9,665,651	-\$193,058	2006	72,000	0	0
OR/WA	\$39,701,354	\$6,604,269	2007	72,000	0	0
Southern SA	\$52,312,083	-\$7,451,616	2008	72,000	0	0
Northern SA	\$39,701,354	\$6,604,269	2009	72,000	0	0
Total	\$92,013,437	-\$847,347			0	0

Alternative 4.b (HG < 100,000 mt; 33% North, 66% South 1/1; 20% North, 80% South of Remaining 9/1, Coastwide Rollover 11/1), 2005-2009.

Area	Alternative 4.b Projected Landings 2005-2009	Change in Landings from SQ	Alternative 4.b Shortfall in Landings 2005-2009	Change in Shortfall from SQ	Alternative 4.b Mo/Yr of Shortfalls	Alternative 4.b Mo/Yr with No Allocation
Southern CA	176,564	3,517	-46,998	-3,517	11-12/05;10-12/06;10-12/07;10-12/08;9-12/09	12/05;11-12/06;11-12/07;11-12/08;10-12/09
Northern CA	53,425	-2,605	-55,334	2,605	11-12/05;10-12/06;10-12/07;10-12/08;9-12/09	12/05;11-12/06;11-12/07;11-12/08;10-12/09
OR/WA	151,968	-913	-171,211	913	8-12/05;8-12/06;8-12/07;8-12/08;7-12/09	10,12/05;10-12/06;10-12/07;10-12/08;8,10-12/09
Southern SA	229,989	913	-102,332	-913	11-12/05;10-12/06;10-12/07;10-12/08;9-12/09	12/05;11-12/06;11-12/07;11-12/08;10-12/09
Northern SA	151,968	-913	-171,211	913	8-12/05;8-12/06;8-12/07;8-12/08;7-12/09	10,12/05;10-12/06;10-12/07;10-12/08;8,10-12/09
Total	381,957	0	-273,544	0		

Alternative 4.b, continued.

Area	Alternative 4.b NPV Producer Surplus	Change in NPV of PS from SQ	Year	Alternative 4.b HG	Surplus HG	Change in Surplus HG from SQ
Southern CA	\$50,918,940	\$1,013,950	2005	72,000	0	0
Northern CA	\$9,405,087	-\$453,622	2006	72,000	0	0
OR/WA	\$32,867,858	-\$229,227	2007	72,000	0	0
Southern SA	\$60,324,027	\$560,328	2008	72,000	0	0
Northern SA	\$32,867,858	-\$229,227	2009	72,000	0	0
Total	\$93,191,885	\$331,101			0	0

Alternative 5 (20% Set Aside 1/1; 40% North, 60% South of Remaining 1/1, Coastwide Rollover 10/1), 2005-2009.

Area	Alternative 5 Projected Landings 2005-2009	Change in Landings from SQ	Alternative 5 Shortfall in Landings 2005-2009	Change in Shortfall from SQ	Alternative 5 Mo/Yr of Shortfalls	Alternative 5 Mo/Yr with No Allocation
Southern CA	163,484	-9,564	-60,079	9,564	9-12/05;9-12/06;8-12/07;8-12/08;8-12/09	11-12/05;11-12/06;11-12/07;11-12/08;11-12/09
Northern CA	55,826	-204	-52,933	204	9-12/05;9-12/06;8-12/07;8-12/08;8-12/09	11-12/05;11-12/06;11-12/07;11-12/08;11-12/09
OR/WA	161,900	9,767	-160,532	-9,767	8-12/05;8-12/06;8-12/07;8-12/08;7-12/09	11-12/05;11-12/06;11-12/07;11-12/08;11-12/09
Southern SA	219,310	-9,767	-113,012	9,767	9-12/05;9-12/06;8-12/07;8-12/08;8-12/09	11-12/05;11-12/06;11-12/07;11-12/08;11-12/09
Northern SA	161,900	9,767	-160,532	-9,767	8-12/05;8-12/06;8-12/07;8-12/08;7-12/09	11-12/05;11-12/06;11-12/07;11-12/08;11-12/09
Total	381,210	0	-273,544	0		

Alternative 5, continued.

Area	Alternative 5 NPV Producer Surplus	Change in NPV of PS from SQ	Year	Alternative 5 HG	Surplus HG	Change in Surplus HG from SQ
Southern CA	\$47,252,856	-\$2,652,134	2005	72,000	0	0
Northern CA	\$9,812,602	-\$46,107	2006	72,000	0	0
OR/WA	\$35,474,907	\$2,377,822	2007	72,000	0	0
Southern SA	\$57,065,458	-\$2,698,241	2008	72,000	0	0
Northern SA	\$35,474,907	\$2,377,822	2009	72,000	0	0
Total	\$92,540,365	-\$320,419			0	0

Alternative 6 (50% North, 50% South 1/1; Coastwide Rollover 9/1; Variable N/S Allocation Based on Prior Year's Use), 2005-2009.

Area	Alternative 6 Projected Landings 2005-2009	Change in Landings from SQ	Alternative 6 Shortfall in Landings 2005-2009	Change in Shortfall from SQ	Alternative 6 Mo/Yr of Shortfalls	Alternative 6 Mo/Yr with No Allocation
Southern CA	149,824	-23,223	-73,739	23,223	9-12/05;9-12/06;9-12/07;8-12/08;8-12/09	10-12/05;10-12/06;10-12/07;9-12/08;9-12/09
Northern CA	34,985	-21,045	-73,775	21,045	9-12/05;9-12/06;9-12/07;8-12/08;8-12/09	10-12/05;10-12/06;10-12/07;9-12/08;9-12/09
OR/WA	187,104	44,268	-126,031	-44,268	8-12/05;8-12/06;8-12/07;8-12/08;8-12/09	10-12/05;10-12/06;10-12/07;9-12/08;9-12/09
Southern SA	184,809	-44,268	-147,513	44,268	9-12/05;9-12/06;9-12/07;8-12/08;8-12/09	10-12/05;10-12/06;10-12/07;9-12/08;9-12/09
Northern SA	187,104	44,268	-126,031	-44,268	8-12/05;8-12/06;8-12/07;8-12/08;8-12/09	10-12/05;10-12/06;10-12/07;9-12/08;9-12/09
Total	371,913	0	-273,544	0		

Alternative 6, continued.

Area	Alternative 6 NPV Producer Surplus	Change in NPV of PS from SQ	Year	Alternative 6 HG	Surplus HG	Change in Surplus HG from SQ
Southern CA	\$43,255,904	-\$6,649,085	2005	72,000	0	0
Northern CA	\$6,121,691	-\$3,737,018	2006	72,000	0	0
OR/WA	\$44,282,909	\$11,185,823	2007	72,000	0	0
Southern SA	\$49,377,595	\$10,386,103	2008	72,000	0	0
Northern SA	\$44,282,909	\$11,185,823	2009	72,000	0	0
Total	\$93,660,504	\$799,720			0	0



Alternative 7 (33% North, 66% South 1/1; 50% North, 50% South of Remaining 9/1, Coastwide Rollover 11/1), 2005-2009.

Area	Alternative 7 Projected Landings 2005-2009	Change in Landings from SQ	Alternative 7 Shortfall in Landings 2005-2009	Change in Shortfall from SQ	Alternative 7 Mo/Yr of Shortfalls	Alternative 7 Mo/Yr with No Allocation
Southern CA	168,504	-4,543	-55,059	4,543	10-12/05;10-12/06;10-12/07;9-12/08;9-12/09	11-12/05;11-12/06;11-12/07;10-12/08;10-12/09
Northern CA	44,788	-11,242	-63,971	11,242	10-12/05;10-12/06;10-12/07;9-12/08;9-12/09	11-12/05;11-12/06;11-12/07;10-12/08;10-12/09
OR/WA	163,350	15,785	-154,514	-15,785	8-12/05;8-12/06;8-12/07;8-12/08;7-12/09	10-12/05;10-12/06;10-12/07;10-12/08;8,10-12/09
Southern SA	213,292	-15,785	-119,030	15,785	10-12/05;10-12/06;10-12/07;9-12/08;9-12/09	11-12/05;11-12/06;11-12/07;10-12/08;10-12/09
Northern SA	163,350	15,785	-154,514	-15,785	8-12/05;8-12/06;8-12/07;8-12/08;7-12/09	10-12/05;10-12/06;10-12/07;10-12/08;8,10-12/09
Total	376,642	0	-273,544	0		

Alternative 7, continued.

Area	Alternative 7 NPV Producer Surplus	Change in NPV of PS from SQ	Year	Alternative 7 HG	Surplus HG	Change in Surplus HG from SQ
Southern CA	\$48,559,190	-\$1,345,800	2005	72,000	0	0
Northern CA	\$7,837,630	-\$2,021,079	2006	72,000	0	0
OR/WA	\$37,185,650	\$4,088,564	2007	72,000	0	0
Southern SA	\$56,396,820	-\$3,366,879	2008	72,000	0	0
Northern SA	\$37,185,650	\$4,088,564	2009	72,000	0	0
Total	\$93,582,470	\$721,685			0	0

Table 4-5. Quota shortages by year and month under different HG scenarios, 2005-2009.

Low HG Case: HG = 72,000 mt

Alt: Status Quo

Area	Months with Shortfall					Months with 0 Allocation				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
SC	11-12	10-12	10-12	10-12	10-12	12	11-12	11-12	11-12	10-12
NC	11-12	10-12	10-12	10-12	10-12	12	11-12	11-12	11-12	10-12
OW	8-12	8-12	8-12	8-12	8-12	10-12	10-12	10-12	10-12	10-12

Alt: No Action

Area	Months with Shortfall					Months with 0 Allocation				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
SC		12	12	11-12	10-12				12	10-12
NC	8,9,11,12	8-12	7-12	7-12	7-12	9,12	9,11,12	8,9,11,12	8,9,11,12	8,9,11,12
OW	8,9,11,13	8-13	7-12	7-12	7-12	9,13	9,11,13	8,9,11,12	8,9,11,12	8,9,11,12

Alt: 1

Area	Months with Shortfall					Months with 0 Allocation				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
SC	9-12	8-12	8-12	8-12	8-12	10-12	9-12	9-12	9-12	9-12
NC	9-12	8-12	8-12	8-12	8-12	10-12	9-12	9-12	9-12	9-12
OW	9-12	8-12	8-12	8-12	8-12	10-12	9-12	9-12	9-12	9-12

Alt: 2

Area	Months with Shortfall					Months with 0 Allocation				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
SC	10-12	1-5, 10-12	1-5, 9-12	1-5, 9-12	1-5, 9-12	11-12	1-5, 11-12	1-5, 10-12	1-5, 10-12	1-5, 10-12
NC	10-12	1-3, 10-12	1-3, 9-12	1-3, 9-12	1-3, 9-12	11-12	1-5, 11-12	1-5, 10-12	1-5, 10-12	1-5, 10-12
OW	10-12	10-12	9-12	9-12	9-12	11-12	1-5, 11-12	1-5, 10-12	1-5, 10-12	1-5, 10-12

Alt: 3

Area	Months with Shortfall					Months with 0 Allocation				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
SC	8,9,11,12	8-12	8-12	6,8-12	6, 8-12	9,12	9,11,12	9,11,12	9,11,12	9,11,12
NC	8,9,11,12	8-12	8-12	8-12	8-12	9,12	9,11,12	9,11,12	9,11,12	9,11,12
OW	8,9,11,12	8-12	8-12	6, 8-12	6, 8-12	9,12	9,11,12	9,11,12	9,11,12	9,11,12

Alt:  
4.b

Area	Year Months with Shortfall					Year Months with 0 Allocation				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
SC	11-12	10-12	10-12	10-12	9-12	12	11-12	11-12	11-12	10-12
NC	11-12	10-12	10-12	10-12	9-12	12	11-12	11-12	11-12	10-12
OW	8-12	8-12	8-12	8-12	7-12	10,12	10-12	10-12	10-12	8, 10-12

Alt: 5

Area	Year Months with Shortfall					Year Months with 0 Allocation				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
SC	9-12	9-12	8-12	8-12	8-12	11-12	11-12	11-12	11-12	11-12
NC	9-12	9-12	8-12	8-12	8-12	11-12	11-12	11-12	11-12	11-12
OW	8-12	8-12	8-12	8-12	7-12	11-12	11-12	11-12	11-12	11-12

Alt: 6

Area	Year Months with Shortfall					Year Months with 0 Allocation				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
SC	9-12	9-12	9-12	8-12	8-12	10-12	10-12	10-12	9-12	9-12
NC	9-12	9-12	9-12	8-12	8-12	10-12	10-12	10-12	9-12	9-12
OW	8-12	8-12	8-12	8-12	8-12	10-12	10-12	10-12	9-12	9-12

Alt: 7

Area	Year Months with Shortfall					Year Months with 0 Allocation				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
SC	10-12	10-12	10-12	9-12	9-12	11-12	11-12	11-12	10-12	10-12
NC	10-12	10-12	10-12	9-12	9-12	11-12	11-12	11-12	10-12	10-12
OW	8-12	8-12	8-12	8-12	7-12	10-12	10-12	10-12	10-12	8, 10-12

Base Case: HG = 136,000 mt

Alt: Status Quo

Area	Year Months with Shortfall					Year Months with 0 Allocation				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
SC										
NC										
OW		10-11	10-11	8-11	8-11		11	11	10-11	10-11

Alt: No Action

Area	Months with Shortfall					Months with 0 Allocation				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
SC										
NC	8	8-9	8-9	8-9	8-9		9	9	9	9
OW	8	8-9	8-9	8-9	8-9		9	9	9	9

Alt: 1

Area	Months with Shortfall					Months with 0 Allocation				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
SC				12	11-12					12
NC				12	11-12					12
OW				12	11-12					12

Alt: 2

Area	Months with Shortfall					Months with 0 Allocation				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
SC				4-5	1-5				5	2-5
NC				4-5	1-5				5	2-5
OW									5	2-5

Alt: 3

Area	Months with Shortfall					Months with 0 Allocation				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
SC				12	9, 11-12					12
NC				12	9, 11-12					12
OW				12	9, 11-12					12

Alt:  
4.a

Area	Months with Shortfall					Months with 0 Allocation				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
SC				12	11-12					12
NC				12	11-12					12
OW				12	11-12					12

Alt: 5

Area	Months with Shortfall					Months with 0 Allocation				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
SC										
NC										
OW	9	9	9	8-9	8-9					

Alt: 6

Area	Months with Shortfall					Months with 0 Allocation				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
SC				12	11-12					12
NC				12	11-12					12
OW				12	11-12					12

Alt: 7

Area	Months with Shortfall					Months with 0 Allocation				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
SC					11-12					12
NC					11-12					12
OW				8	8, 11-12					12

High HG Case: HG = 200,000 mt

Alt: Status Quo

Area	Months with Shortfall					Months with 0 Allocation				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
SC										
NC										
OW										

Alt: No Action

Area	Months with Shortfall					Months with 0 Allocation				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
SC										
NC				9	9					
OW				9	9					

Alt: 1

Area	Months with Shortfall					Months with 0 Allocation				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
SC										
NC										
OW										

Alt: 2

Area	Months with Shortfall					Months with 0 Allocation				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
SC										
NC										
OW										

Alt: 3

Area	Months with Shortfall					Months with 0 Allocation				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
SC										
NC										
OW										

Alt:  
4.a

Area	Months with Shortfall					Months with 0 Allocation				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
SC										
NC										
OW										

Alt: 5

Area	Months with Shortfall					Months with 0 Allocation				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
SC										
NC										
OW					9					

Alt: 6

Area	Months with Shortfall					Months with 0 Allocation				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
SC										
NC										
OW										

Alt: 7

Area	Months with Shortfall					Months with 0 Allocation				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
SC										
NC										
OW										

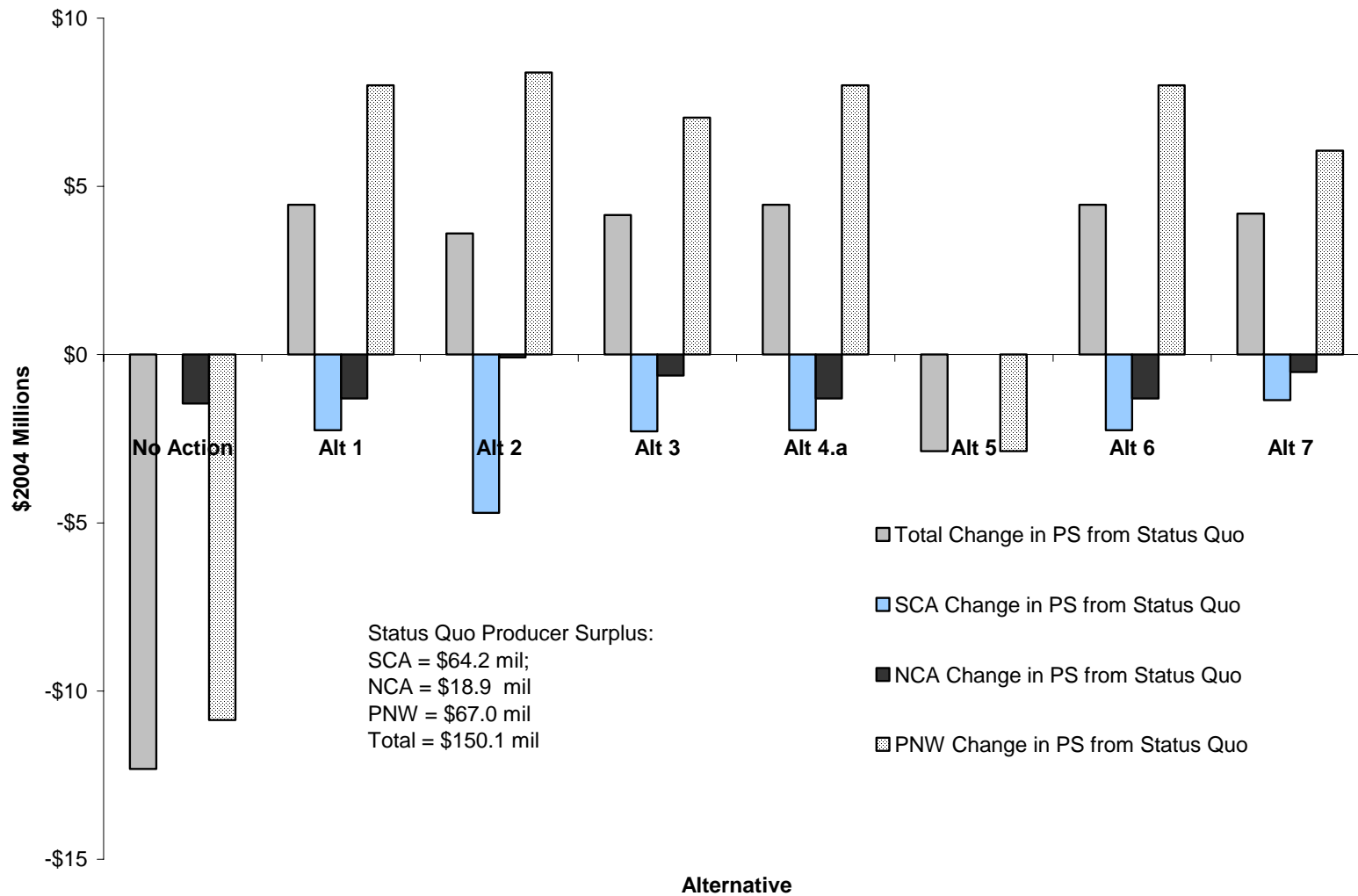


Figure 4-1. Change in producer surplus from the status quo under each alternative, by region, base case, 2005-2009.

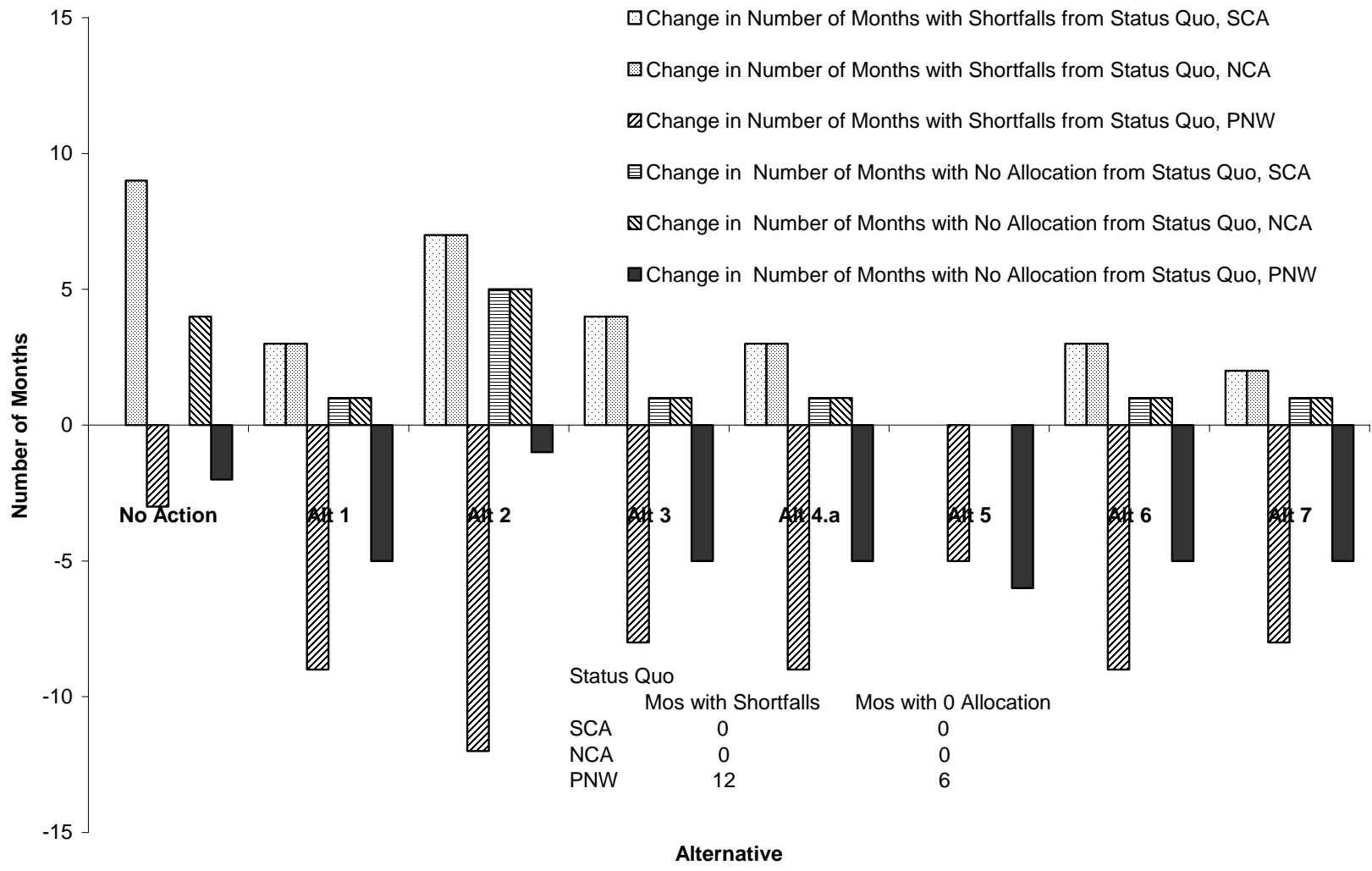
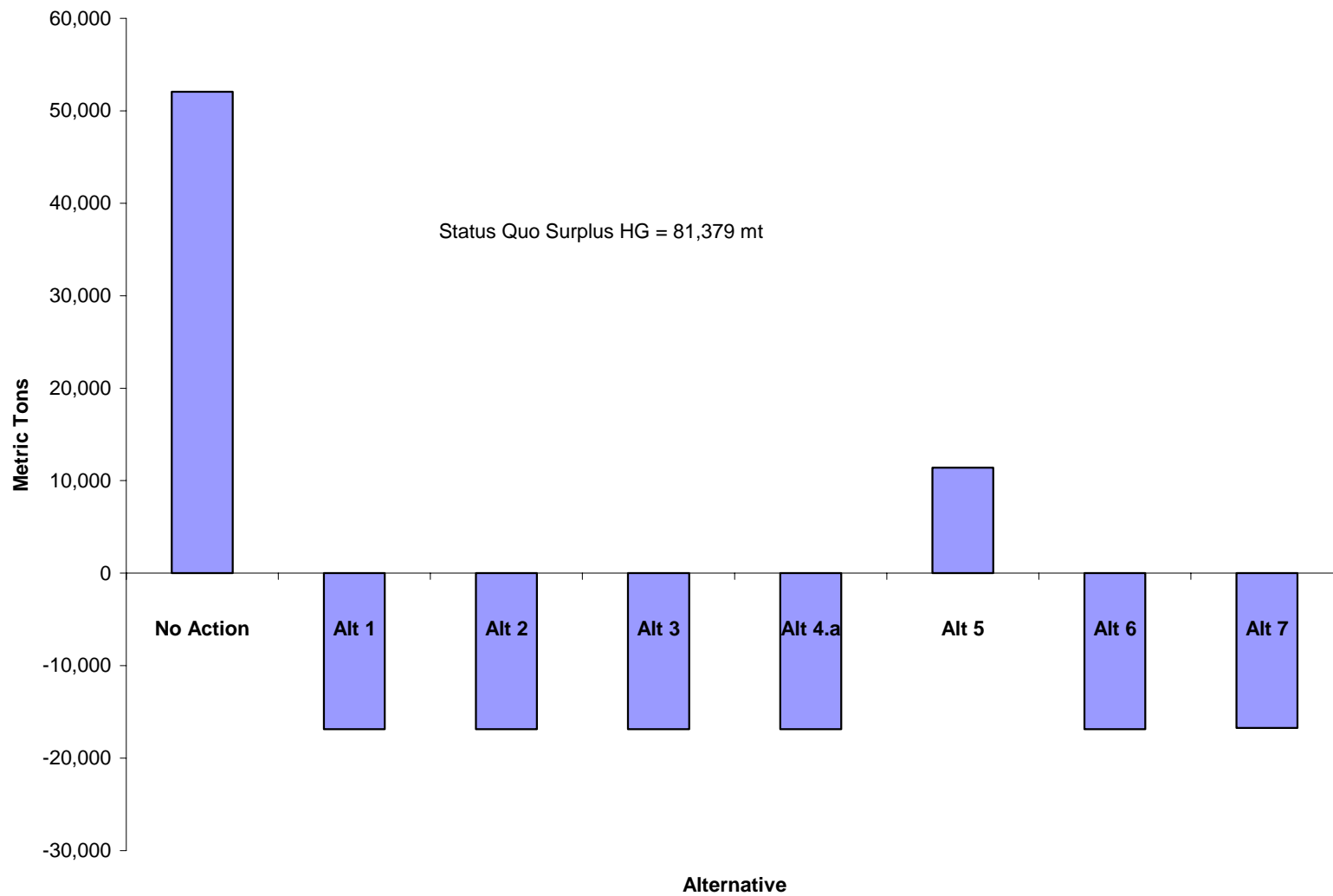
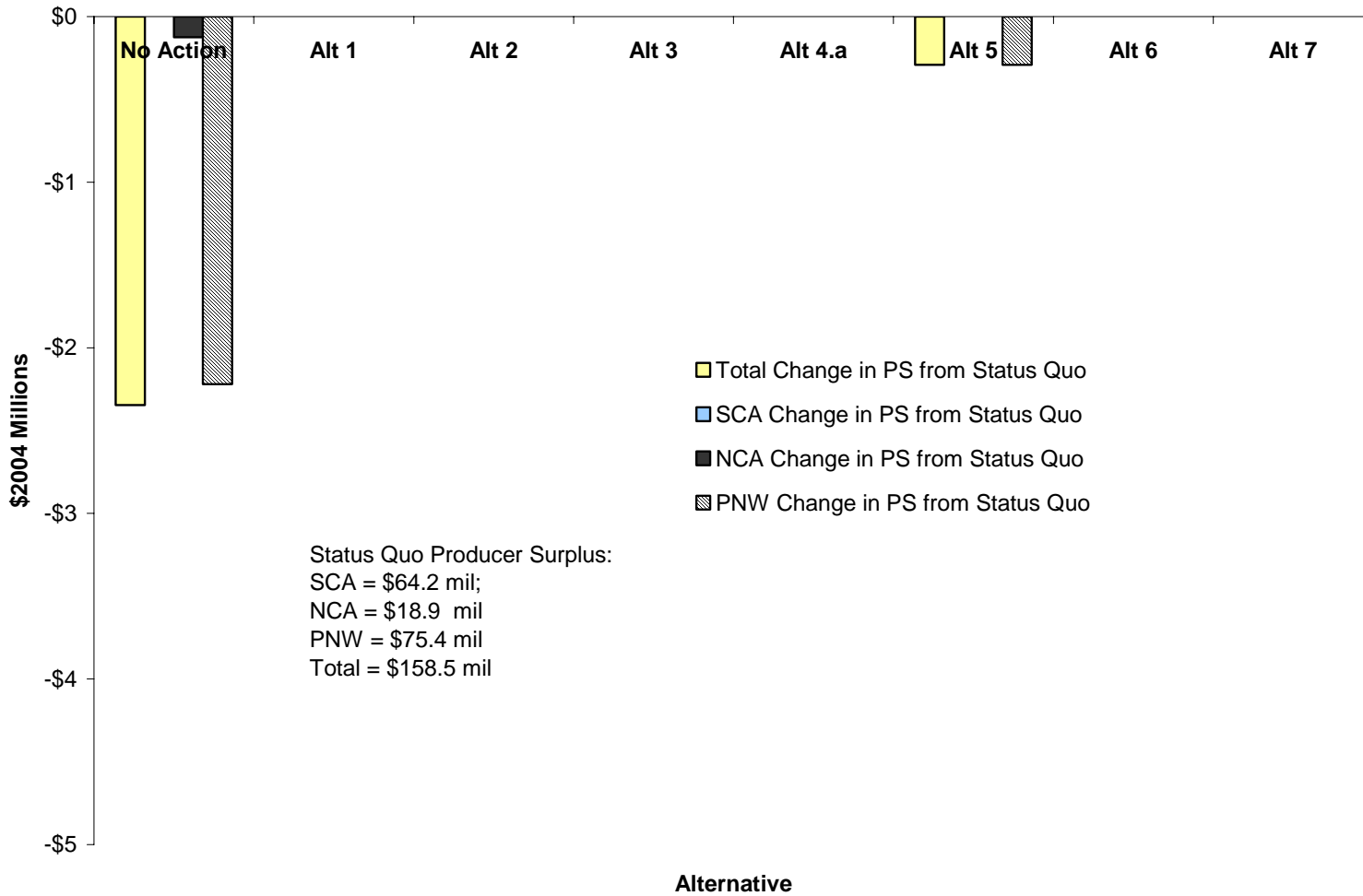


Figure 4-2. Change in the number of months with a landings shortfall and the number of months with a zero allocation for each allocation alternative relative to the status quo, by region, base case, 2005-2009.

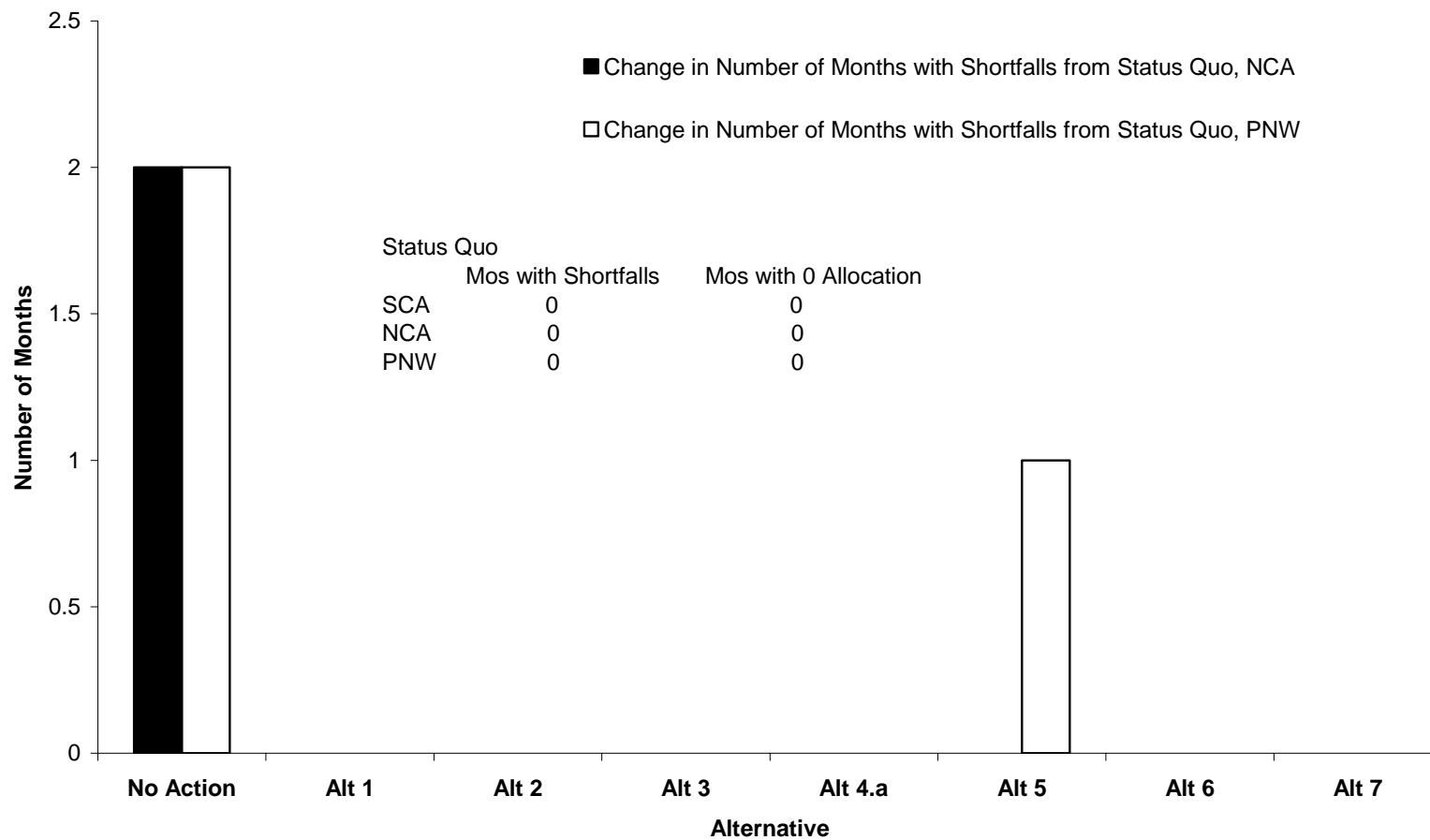




**Figure 4-3. Change in surplus harvest guideline (mt) from the status quo for each allocation alternative, base case, 2005-2009.**



**Figure 4-4 Change in producer surplus from the status quo under each alternative, by region, high harvest guideline case, 2005-2009**



**Figure 4-5. Change in the number of months with a landings shortfall and the number of months with a zero allocation, by region, for each allocation alternative relative to the status quo, high harvest guideline case, 2005-2009.**

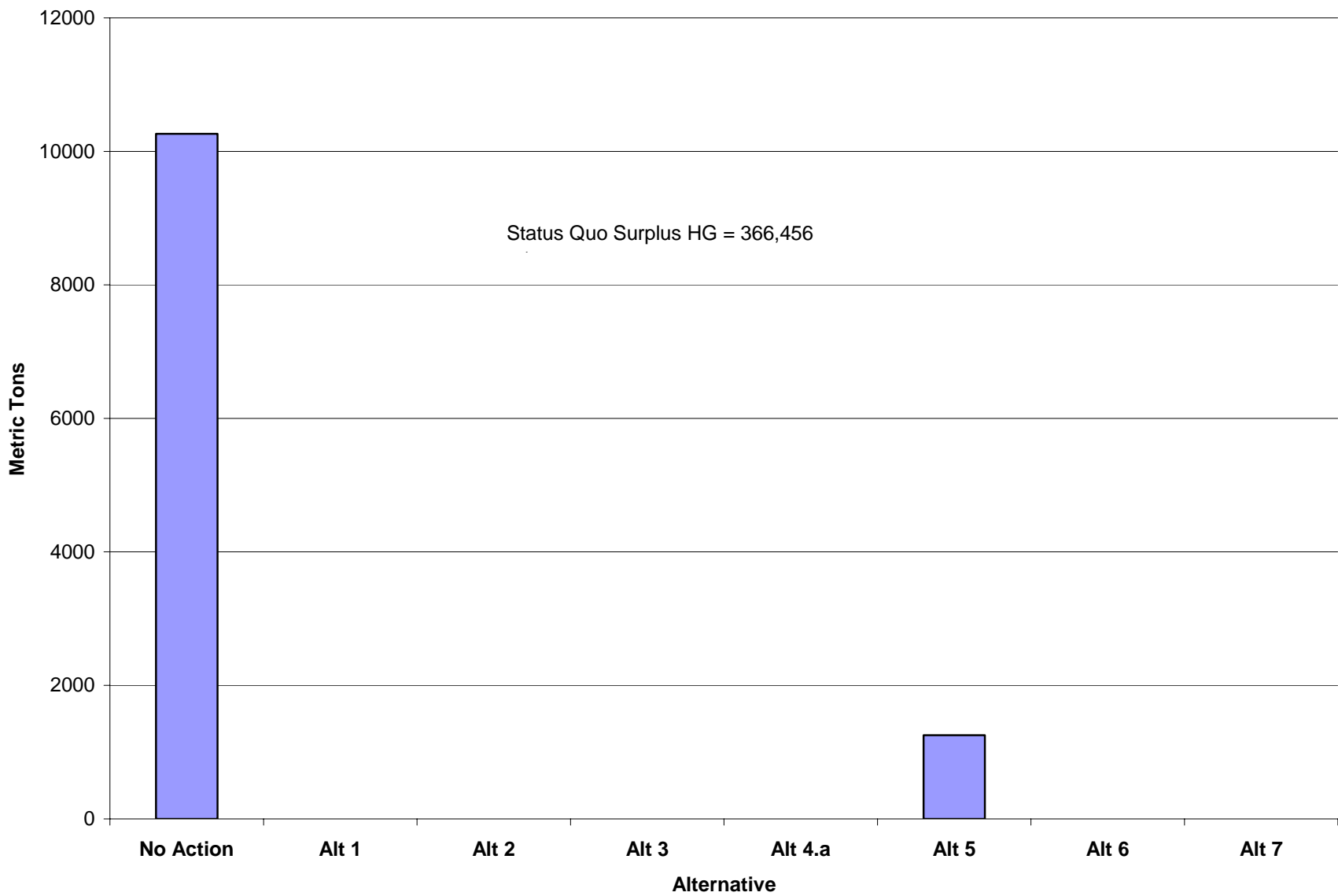


Figure 4-6. Change in surplus harvest guideline (mt) from the status quo for each allocation alternative, high harvest guideline case, 2005-2009.

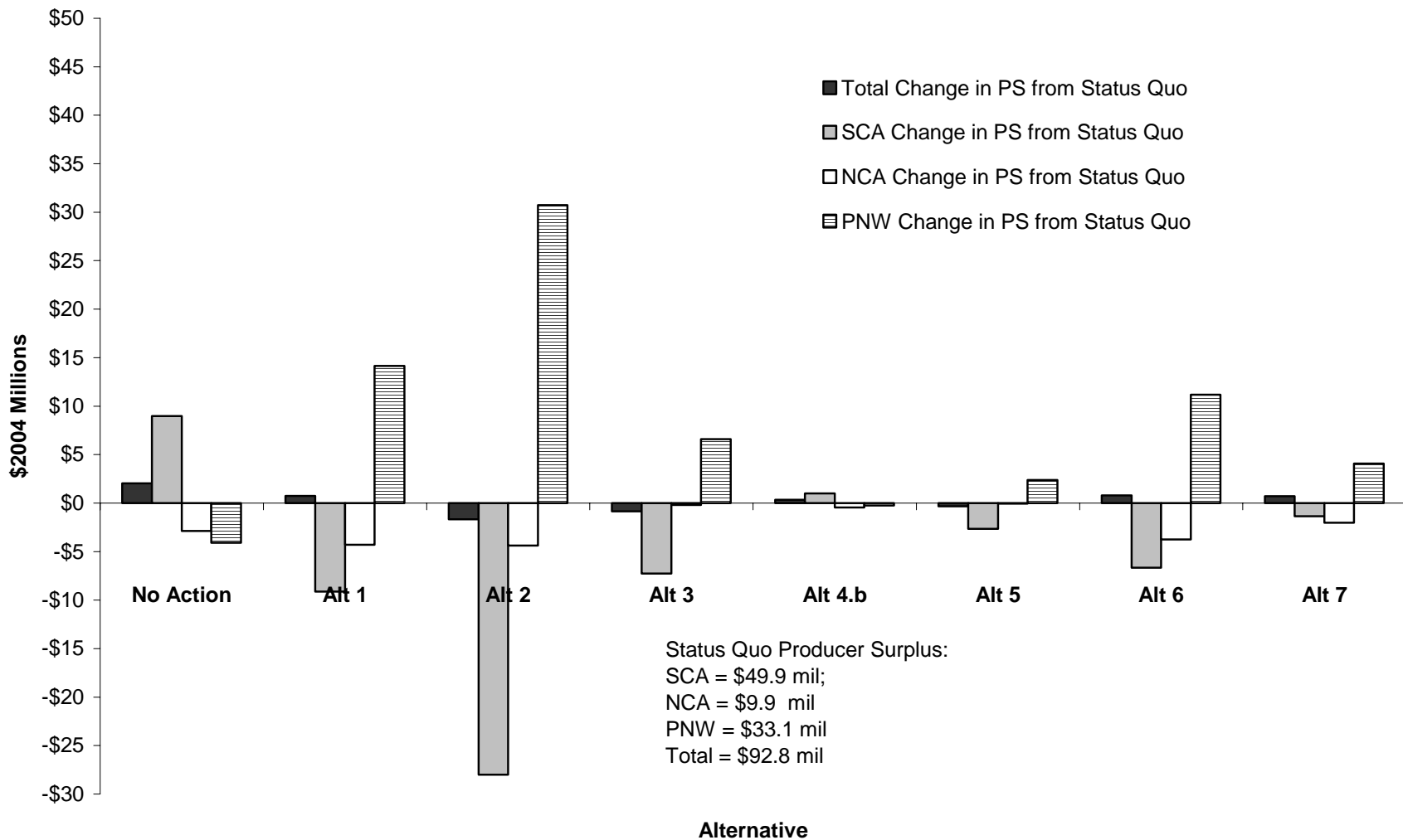


Figure 4-7. Change in producer surplus from the status quo under each alternative, by region, low harvest guideline case, 2005-2009.

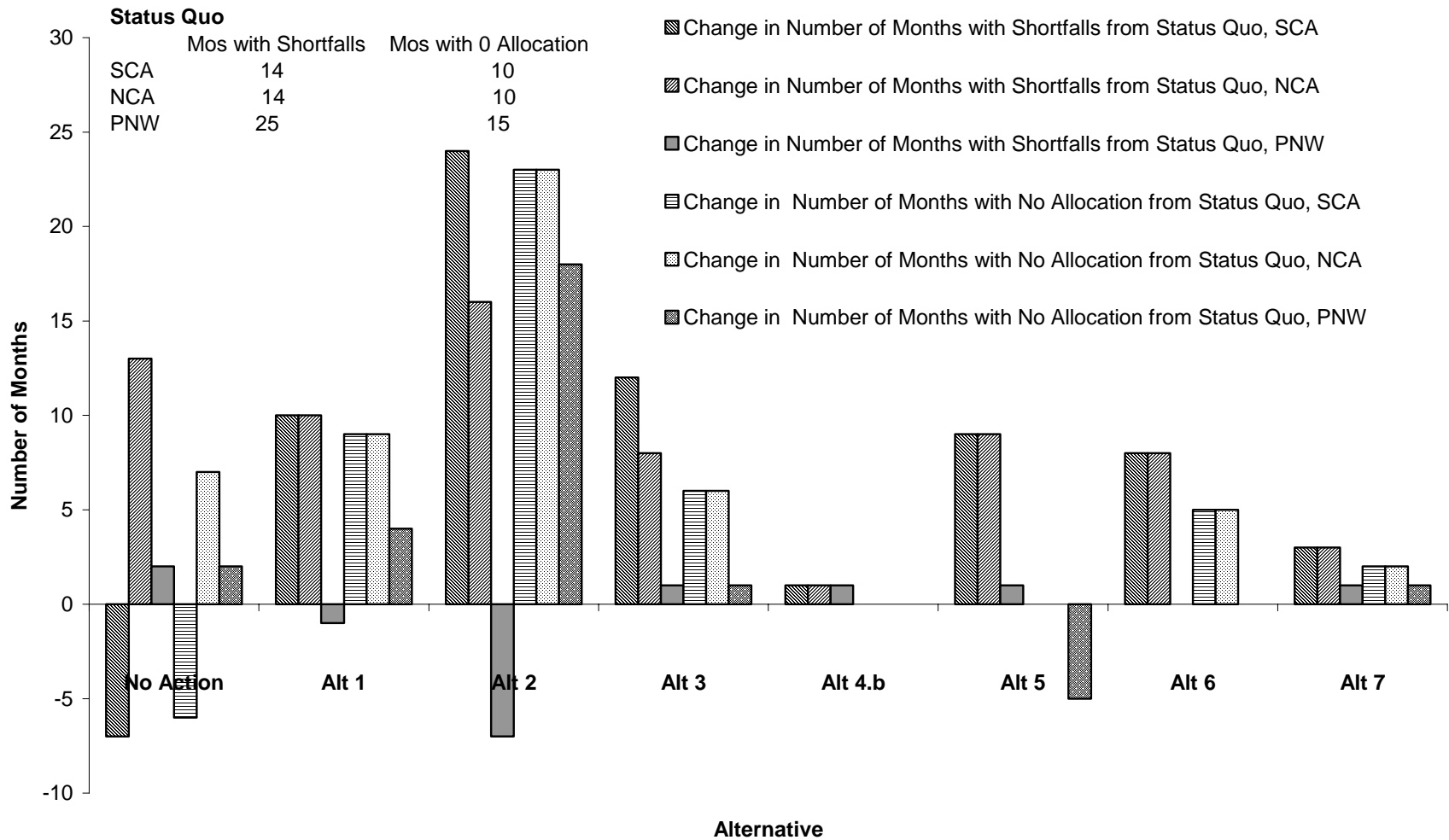


Figure 4-8. Change in the number of months with a landings shortfall and the number of months with a zero allocation, by region, for each allocation alternative relative to the status quo, low harvest guideline case, 2005-2009.

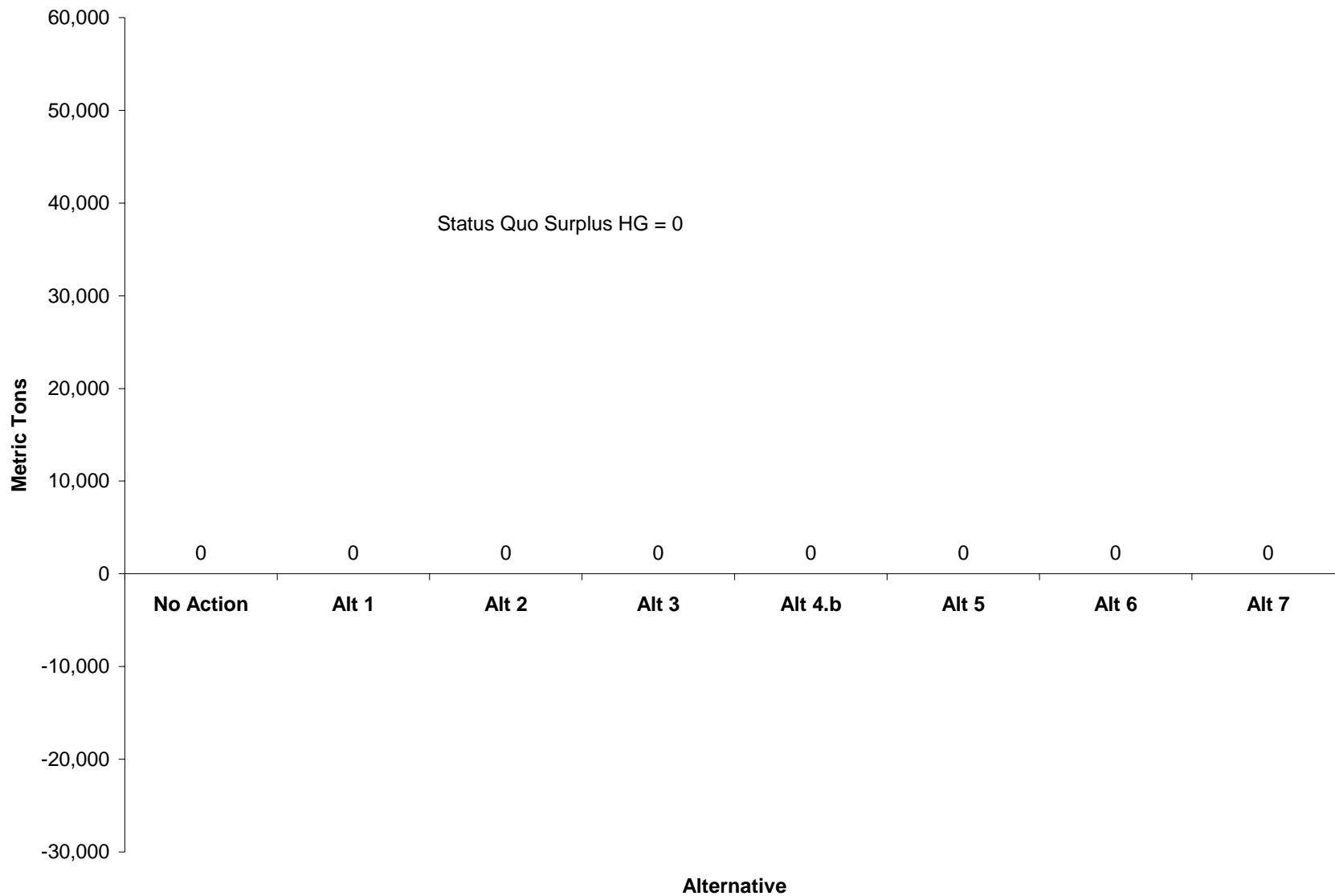


Figure 4-9. Change in surplus harvest guideline (mt) from the status quo for each allocation alternative, low harvest guideline case, 2005-2009.