

# A Synthesis and Interpretation of the Biology of Woodland Caribou on the Island of Newfoundland

Shane P. Mahoney  
Chief of Ecosystem Research and Inventory  
December 2000



## Survivorship Patterns and Causes of Mortality

Volume 13

**A SYNTHESIS AND INTERPRETATION OF  
THE BIOLOGY OF WOODLAND CARIBOU  
ON THE ISLAND OF NEWFOUNDLAND**

Final Report  
December 2000

**VOLUME 13**

**SURVIVORSHIP PATTERNS AND CAUSES OF MORTALITY**

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## Foreword

Perhaps nowhere else on earth has the power of place so completely invaded the soul and psyche of a people as in Newfoundland. The extraordinary sense of home our people have developed and continue to share is the manifest destiny of a human culture tied to the seasons and rhythms of land and sea, of nature in all her moods and obsessions. It is a destiny characterised by an abiding interest in and love for the creatures and landscapes that collectively define the wild beauty of this great island. Wildlife, in all its myriad forms, is an irreplaceable element of our world view and influences fundamentally our sense of values and our definition of what the good in life entails. Wild creatures are for Newfoundlanders an enduring source of pride and fascination, and knowledge of them is highly regarded. Whether in the pub, community store, cabin or kitchen, the health and abundance of wildlife is a topic of general and passionate discussion.

The conservation of wildlife species, our first resource, depends ultimately upon how well we understand their biology. No amount of passionate concern can, by itself, guide their continued abundance and vitality; only a detailed knowledge of their requirements for space and food, their interactions with predators and competitors, and their limits of tolerance for human intrusions, can accomplish this. Even then, their future is not assured. Without this knowledge however, their disappearance almost certainly is. Too many times we have witnessed the grim outcomes of nature exceeded, the insurmountable realities of once abundant populations laid waste and their recovery a process entirely beyond our ken and influence. For the world entire these episodic holocausts are proving collectively the greatest challenge to prosperity and peace; for cultures such as ours their impacts are immediate and devastating to both economy and pride. No species, no matter how prolific, no matter how abundant, indeed no matter how esteemed, is beyond the reach of such crisis. The precipitous and long to be lamented collapse of the great shoals of cod should be all we ever need to remember!

Caribou have undertaken their relentless wanderings of this island for millennia. Visiting or perhaps even persisting during the last great ice advance, they were undoubtedly here when the first humans arrived some five thousand years ago. For these, the Maritime Archaic Indians, as for the next groups, the Groswater and Dorset Palaeo-Eskimos arriving around 800 to 600 B.C. respectively, and for the Recent Indians which tracked their way to the island in the first five centuries A.D., caribou were the one terrestrial mammal to occur in large and predictable numbers. The animal's signal importance to the indigenous Beothuck is well known, and we may expect that even the earlier more seafaring cultures relied upon caribou as an important, if not vital, seasonal source of food and fur. Certainly through the long period of European settlement the caribou, or "deer" as they have long been referred to, represented a major source of fresh meat to communities of men isolated by geography and season, and their pursuit was a predictable part of the hunter-gatherer life rhythm that persists in significant measure unto present day.

As times and economies have changed the absolute necessity of caribou as a source of sustenance has modified, evolving through a period of direct commercial exploitation earlier in this century to becoming today a more complex resource relationship tied to tourism and the maintenance of cultural vitality and traditions. The sudden appearance of caribou in any region of the island, a phenomenon tied to their wandering predispositions and highly evolved relationship with slow-to-change vegetation communities, is an unending source of excitement and wonder. The gentle disposition and graceful beauty of these animals, combined with their gregarious habits and approachability, make them a signal species, helping to define for all Newfoundlanders their perceptions of home as a place of wild

beauty and natural blessings. It is for these many reasons, both primitive and more humanistic, that the conservation of caribou must represent an enduring concern for our people.

Fortunately the attributes that have led to and yet define the importance of caribou in the Newfoundland context have meant that their historical fluctuations may be traced from the remarks of many observers. From the impassioned accounts of hunter naturalists early this century, to the more rigorous academic presentations on Newfoundland by respected historians, as well as the reported remarks of legislators and editorialists, we can now compile the long arc of caribou abundance. From this we understand that great extremes in numbers have occurred, and that in the early twentieth century a rapid and deep decline presaged a protracted rareness that persisted until the 1960's. For many of us today this is hard to imagine, used as we are to the great herds that now exist virtually island wide. The reality is however that we have entered the new millennium perhaps poised once more for a great change in caribou numbers, a change that would have significant implications for those traditions and economies reliant on abundant and tractable herds. How would we prepare ourselves?

To assess the background and context of such change and to delineate its probabilities and magnitudes required a complete review and interpretation of information existing on Newfoundland herds. The idea developed here has no precedent I am aware of in the annals of Newfoundland wildlife; and very few, for that matter, anywhere in the world. It is ground breaking work of great magnitude and complexity; essentially the scientific history of Newfoundland's only indigenous ungulate, as witnessed by generations and studied by field naturalists and scientists for fifty years. Every fragment of significant information available on the twelve native and twenty-three introduced herds is scrutinized, validated, and presented, resulting in one all-inclusive library of caribou information. Furthermore, the information is analysed in a comprehensive way, illuminating the interactive and often codependant processes of physical and demographic change which are at once the evolutionary engines of nature and the sign posts wildlife managers use to measure the cadence and position of animal responses to their environments.

By studying the past and present for Newfoundland herds in this fashion, the current work strives to represent the various populations as living entities engaged in an unending organic engagement with the landscapes, weather and people of this island. Uniquely, it attends to these relationships with the full expectation that the herds are also engaged in an unending pursuit of one another, operating as one giant organism that periodically divides and fuses its component parts, retreating during times of resource scarcity and high mortality, and expanding as conditions and opportunities improve. The findings presented here are therefore of significant value to the broad scientific community, coursing as they do along the wave crest of modern meta-population theory; and they will offer much as well to those who more specifically seek an understanding of large mammal dynamics. The stature of this work therefore reflects Newfoundland's long standing commitment to professional wildlife science, which is itself the very signature of professional wildlife management. Science, by definition, is a pursuit of understanding that is retraceable along contours of broadly applicable principles. That Newfoundland governments have for fifty years maintained a commitment to such ideals is a sign of maturity and stature that should be safeguarded at all costs. That we can meaningfully contribute to the world's collective memory and understanding of wildlife ecology is a position of statesmanship and a legacy of inestimable value.

Of course the immediate and greatest purpose of this exercise is to provide a framework for the long term management of insular Newfoundland caribou. It is to this end that the comments and efforts of so many have for so long been directed; and it is upon this objective that my own research efforts have focussed for the last twenty years. Throughout this period I was fortunate to have inherited a great treasure of information, a vigorous legacy upon which to fashion further advances in our understanding

of caribou. I was also fortunate to work in an organization, the Newfoundland and Labrador Wildlife Division, that understood the purpose and value of such work. Thus, this effort should be viewed as one significant step on a long and continuing journey; no more...and no less. Along the way there have been many contributors, as there must always be if significant history is to exist.

Of all such contributors, none can be held in higher esteem than the small but dedicated group of wildlife field men who traversed this island by foot, aircraft, boat and snowmachine to record the biology, abundance and welfare of caribou. Beyond any question their efforts will stand as an emblem to what dedicated public service to both ideals and nation really means. Without their perseverance and ingenuity, without their knowledge of equipment, land and animals, and without their mature capacity as woodsmen and naturalists, this synthesis and all good which results from it could only be wished for. The transformation from dream to reality is the inheritance these individuals have passed on. Time will tell how we have invested or squandered it; pray that we do not suffer its loss. While it is impossible to identify them all, this work is dedicated, with my deepest respect and appreciation, to each and every one of them.

Just as no one individual could ever amass the quantity of information assembled here, so too would it be impossible for any one individual to assemble, edit, analyse and depict the voluminous entries and combinations of these data. I have been again uniquely fortunate to have worked with a group of highly capable and motivated individuals throughout the synthesis process and it is no more than the absolute truth to state that it could not have been accomplished without their efforts and support. From the first strivings to gather the Wildlife Division's caribou files into a central registry, to the final editorializing and digital organization of these volumes, I have met only professionalism and energy. I have also sought and encountered great competence, that elusive elixir which remains the hallmark of effective, lasting science.

This always evolving group has included a great variety of positions and personalities, from part-time students and geographic technicians, to secretarial and computer support personnel. The extent of their contributions varied enormously, but all were crucial and I thank them sincerely. However, for assistance in synthesizing this work, my greatest appreciation must go to Dr. Brian McLaren and Ms. Tammy Joyce. It is far more than a trite cliché to state that without their efforts this ponderous beast would never have been slain. Their work must be remembered as crucial, their contributions lasting, and their commitment to the inherent value of this process compelling. They were involved from the first formal beginnings of this enterprise, performed every task with consideration, and came to every wearisome meeting and lively discussion armed with diligence and good humour. The latter was sometimes a hard thing to capture through the long, winding tunnels of revision, error and repetition; but retain it they did. For all these reasons I am truly indebted.

I must also specifically thank Ms. Christine Doucet and Ms. Marlene Dredge, two individuals more recently engulfed by this labour, but to whom many finalizing tasks have been handed. I thank them both sincerely; Christine for her diverse assistance and editorial acumen, and Marlene especially for her seemingly limitless capacity for painstakingly detailed work on figure preparation and file organization.

Of course no process of this kind, involving as it does the secondment of an organization's human resources to focussed task, can ever proceed without the vision and support of executive approval. Too frequently the unending march of issue and crisis smothers the potential for creative invention, and the stereotypic political mule emerges from the shadows of senior administration. The image is, unfortunately, too often true. I well recognize therefore the unique position I found myself in when

approval for this work was granted, and, perhaps even more, to have had continuing support throughout its progress. I wish to personally thank Dr. Mohammed Nazir for his great capacity to retain the poetic view; it is a wondrous and unending gift. I will always appreciate, not only the support he has lent this process, but also his commitment to ideas and the cultivation of human potential. I also thank his supervisors, Mr. Halcom Stanley and Mr. Robert Smart, for having understood and supported this initiative as well.

Mr. James Hancock, Director of the Wildlife Division and my supervisor of many years, must also be especially recognized for his early and enduring support of the synthesis project. Mr. Hancock and I have shared many discussions over the years regarding the importance of data analysis and accessibility, and I thank him sincerely for his support of me personally and of this important idea. Likewise I thank Mr. Michael Cahill, gentleman, stump philosopher and Zen hound, for agreeing to take on my other responsibilities while I was engaged in this task, and for doing it so courteously and well. Both men are aware, I trust, of my gratitude. To both of these individuals in particular, engaged as they are in the tidefull sway of everyday wildlife management, I also express my confidence in the lasting value, practically and emblematically, of this work they have supported and encouraged. It is what Wildlife Divisions and Wildlife Biologists should do.

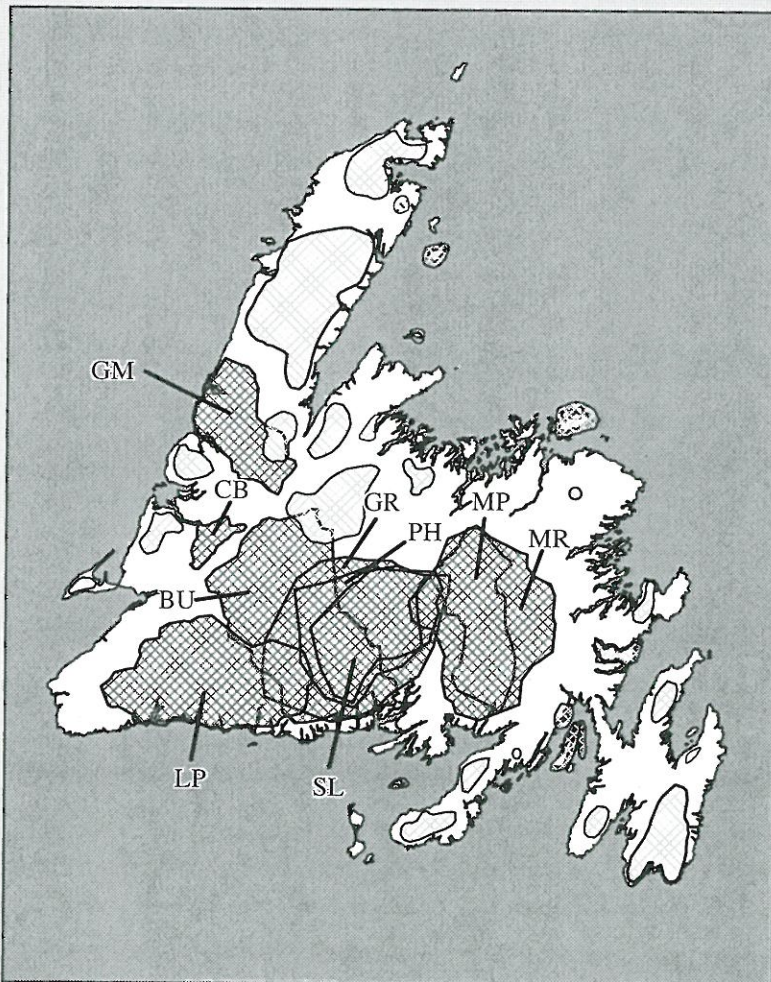
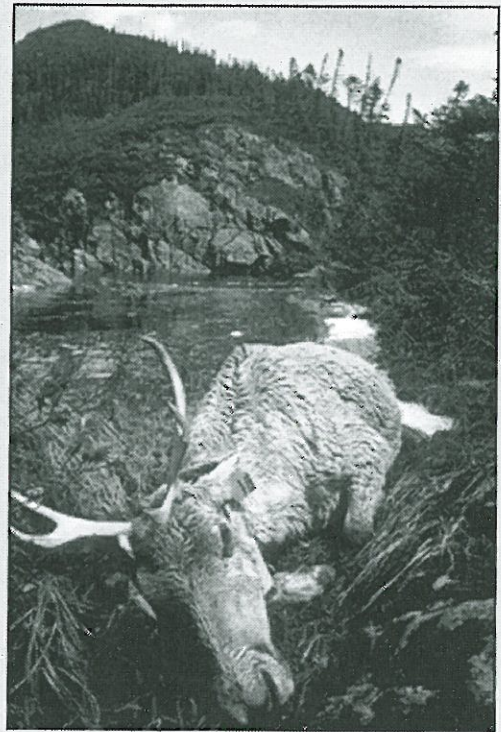
To this long list of acknowledgements I must add one more outstanding contribution. Dr. Valerius Geist has been a mentor, ally, friend, and supporter throughout my career and has from the first notion of this synthesis provided every possible encouragement and assistance. This has extended to a periodic adoption of me by Mrs. Geist and himself, as I have retreated to their land and location (immigrants all!) to write, think and discuss. To work! When this effort and its kin are completed, no contribution will figure more prominently in memory or in fact than the tropical richness of ideas, energy and civilization encountered in their midst. To them both, in equal measure, I express my immutable gratitude, admiration and respect. I also acknowledge the support and encouragement of Dr. Robert Barclay, a recent acquaintance and man of quiet integrity.

Finally, and inevitably, I thank Newfoundland and her people. It is for them I toil.



## Section 13A:

### Age Specific Survival Determined by Radio Telemetry.



## Caribou Herds

Buchans (BU)

Corner Brook Lakes (CB)

Grey River (GR)

Gros Morne (GM)

La Poile (LP)

Middle Ridge (MR)

Mount Peyton (MP)

Pot Hill (PH)

Sandy Lake (SL)



Table 13A-1a. Number of radio-collared caribou in insular Newfoundland by herd, sex, season and cohort (all years combined).

Herd	Cohort	Spring (May 1–June 30)		Summer (July 1–Sept. 30)		Fall (Oct. 1–Nov. 30)		Winter (Dec. 1–April 30)	
		Female	Male	Female	Male	Female	Male	Female	Male
All herds	Calves	267	322	87	117	51	69	39	55
	Yearlings	106	123	38	56	21	30	13	26
	Two-year olds	75	59	32	32	8	13	3	5
	Adults	358	134	354	136	316	130	269	99
Buchans	Calves	0	0	0	0	0	0	0	0
	Yearlings	0	0	0	0	0	0	0	0
	Two-year olds	2	3	0	1	0	1	0	0
	Adults	31	14	43	16	40	17	31	10
Corner Brook Lakes	Calves	19	26	10	10	9	7	7	6
	Yearlings	4	6	3	3	3	3	2	3
	Two-year olds	2	5	1	1	1	3	1	2
	Adults	17	3	17	17	17	3	17	4
Grey River	Calves	94	123	36	45	20	26	15	23
	Yearlings	37	47	15	24	13	13	2	9
	Two-year olds	22	14	8	5	4	4	2	1
	Adults	81	24	68	22	54	20	39	13
Gros Morne	Calves	33	45	6	9	1	4	1	1
	Yearlings	13	17	1	5	1	1	1	0
	Two-year olds	12	11	3	6	2	4	0	2
	Adults	31	15	31	15	31	15	32	13
La Poile	Calves	58	69	14	21	8	11	6	9
	Yearlings	27	33	5	10	2	2	2	5
	Two-year olds	19	17	14	12	0	0	0	0
	Adults	107	34	103	33	93	30	82	16
Middle Ridge	Calves	41	45	17	22	10	16	7	11
	Yearlings	14	10	8	7	4	6	3	4
	Two-year olds	14	6	6	2	1	2	0	0
	Adults	61	30	63	33	53	30	41	26
Mount Peyton	Calves	3	7	0	0	0	0	0	0
	Yearlings	3	6	1	4	1	3	1	3
	Two-year olds	2	2	0	1	0	1	0	0
	Adults	14	5	14	5	14	6	14	6
Pot Hill	Calves	6	9	2	6	1	3	1	3
	Yearlings	3	3	1	3	0	2	0	2
	Two-year olds	0	1	0	1	0	0	0	0
	Adults	8	9	8	9	8	9	8	7
Sandy Lake	Calves	13	9	2	3	2	2	2	2
	Yearlings	5	1	4	0	3	0	2	0
	Two-year olds	2	0	0	0	0	0	0	0
	Adults	8	0	7	0	6	0	5	0



Table 13A-1b. Number of radio-collared caribou calves in insular Newfoundland by herd, sex, season and year.

Herd	Year	Spring (May 1–June 30)		Summer (July 1–Sept. 30)		Fall (Oct. 1–Nov. 30)		Winter (Dec. 1–April 30)	
		Female	Male	Female	Male	Female	Male	Female	Male
All herds	1979–80	6	7	2	4	0	2	0	2
	1980–81	13	18	4	6	1	2	1	1
	1981–82	10	13	6	10	4	7	2	5
	1982–83	29	35	10	11	4	6	2	6
	1983–84	35	39	12	18	9	12	9	12
	1984–85	22	28	6	5	5	2	4	2
	1985–86	1	0	0	0	0	0	0	0
	1986–87	1	0	0	0	0	0	0	0
	1987–88	25	24	6	8	3	5	2	3
	1988–89	18	31	6	9	4	4	4	4
	1989–90	9	9	2	4	1	2	0	2
	1990–91	4	5	0	0	0	0	0	0
	1991–92	0	0	0	0	0	0	0	0
	1992–93	0	0	0	0	0	0	0	0
	1993–94	20	16	3	4	1	0	0	0
	1994–95	24	34	6	11	5	7	1	2
	1995–96	21	39	3	6	0	4	1	3
1996–97	21	27	14	15	8	10	7	8	
1997–98	8	7	7	6	6	6	6	5	
Corner Brook Lakes	1994-95	3	6	1	1	1	0	0	0
	1995-96	3	8	0	2	0	0	0	0
	1996-97	5	5	2	2	2	1	1	1
	1997-98	8	7	7	6	6	6	6	5
Grey River	1979–80	6	6	2	3	0	2	0	2
	1980–81	13	17	4	6	1	2	1	1
	1981–82	8	12	5	9	3	6	1	4
	1982–83	19	25	9	6	4	4	2	4
	1983–84	27	35	10	16	7	10	7	10
	1984–85	21	28	6	5	5	2	4	2
Gros Morne	1993–94	11	9	1	1	0	0	0	0
	1994–95	8	15	1	3	1	2	0	1
	1995–96	11	10	1	0	0	1	1	0
	1996–97	13	11	3	5	0	1	0	0
La Poile	1985-86	1	0	0	0	0	0	0	0
	1986–87	1	0	0	0	0	0	0	0
	1987–88	25	24	6	8	3	5	2	3
	1988–89	18	31	6	9	4	4	4	4
	1989–90	9	9	2	4	1	2	0	2
	1990–91	4	5	0	0	0	0	0	0

Table 13A-1b (con'd). Number of radio-collared caribou calves in insular Newfoundland by herd, sex, season and year.

Herd	Year	Spring (May 1–June 30)		Summer (July 1–Sept. 30)		Fall (Oct. 1–Nov. 30)		Winter (Dec. 1–April 30)	
		Female	Male	Female	Male	Female	Male	Female	Male
Middle Ridge	1993–94	8	5	2	3	1	0	0	0
	1994–95	12	13	4	7	3	5	1	1
	1995–96	6	16	2	4	0	3	0	3
	1996–97	13	11	9	8	6	8	6	7
Mount Peyton	1993–94	1	2	0	0	0	0	0	0
	1994–95	1	0	0	0	0	0	0	0
	1995–96	1	5	0	0	0	0	0	0
Pot Hill	1979–80	0	1	0	1	0	0	0	0
	1980–81	0	1	0	0	0	0	0	0
	1981–82	2	1	1	1	1	1	1	1
	1982–83	4	6	1	4	0	2	0	2
Sandy Lake	1982–83	6	4	0	1	0	0	0	0
	1983–84	6	4	2	2	2	2	2	2
	1984–85	1	0	0	0	0	0	0	0

Table 13A-1c. Number of radio-collared yearling caribou in insular Newfoundland by herd, sex, season and year.

Herd	Year	Spring (May 1–June 30)		Summer (July 1–Sept. 30)		Fall (Oct. 1–Nov. 30)		Winter (Dec. 1–April 30)	
		Female	Male	Female	Male	Female	Male	Female	Male
All herds	1979–80	1	0	0	0	0	0	0	0
	1980–81	4	4	2	2	0	1	0	1
	1981–82	6	7	3	6	1	1	0	1
	1982–83	1	1	0	0	0	0	0	0
	1983–84	14	12	5	2	2	1	2	1
	1984–85	9	13	5	8	3	5	1	2
	1985–86	10	14	5	9	4	7	1	6
	1986–87	1	0	0	0	0	0	0	0
	1987–88	1	0	0	0	0	0	0	0
	1988–89	12	13	1	2	1	1	1	1
	1989–90	13	15	3	7	1	1	1	4
	1990–91	4	5	1	1	0	0	0	0
	1991–92	0	0	0	0	0	0	0	0
	1992–93	1	0	0	0	0	0	0	0
	1993–94	0	0	0	0	0	0	0	0
	1994–95	10	8	3	0	2	0	1	0
1995–96	9	8	2	3	0	2	0	0	
1996–97	9	18	7	11	6	9	5	8	
1997–98	1	5	1	5	1	2	1	2	
Corner Brook Lakes	1995-96	1	0	0	0	0	0	0	0
	1996-97	2	4	2	1	2	1	1	1
	1997-98	1	2	1	2	1	2	1	2
Grey River	1979–80	1	0	0	0	0	0	0	0
	1980–81	4	3	2	1	0	1	0	1
	1981–82	6	6	3	5	1	0	0	0
	1982–83	0	1	0	0	0	0	0	0
	1983–84	9	10	1	1	0	0	0	0
	1984–85	7	13	4	8	2	5	1	6
	1985–86	10	14	5	9	4	7	1	6
Gros Morne	1992–93	1	0	0	0	0	0	0	0
	1993–94	0	0	0	0	0	0	0	0
	1994–95	6	5	0	0	0	0	0	0
	1995–96	3	5	0	2	0	1	0	0
	1996–97	3	4	1	0	1	0	1	0
	1997–98	0	3	0	3	0	0	0	0
La Poile	1986–87	1	0	0	0	0	0	0	0
	1987–88	1	0	0	0	0	0	0	0
	1988–89	12	13	1	2	1	1	1	1
	1989–90	11	15	3	7	1	1	1	4
	1990–91	2	5	1	1	0	0	0	0

Table 13A-1c (con'd). Number of radio-collared yearling caribou in insular Newfoundland by herd, sex, season and year.

Herd	Year	Spring (May 1–June 30)		Summer (July 1–Sept. 30)		Fall (Oct. 1–Nov. 30)		Winter (Dec. 1–April 30)	
		Female	Male	Female	Male	Female	Male	Female	Male
Middle Ridge	1989–90	1	0	0	0	0	0	0	0
	1990–91	1	0	0	0	0	0	0	0
	1991–92	0	0	0	0	0	0	0	0
	1992–93	0	0	0	0	0	0	0	0
	1993–94	0	0	0	0	0	0	0	0
	1994–95	4	2	3	0	2	0	1	0
	1995–96	5	2	2	1	0	1	0	0
	1996–97	3	6	3	6	1	5	1	4
Mount Peyton	1989–90	1	0	0	0	0	0	0	0
	1990–91	1	0	0	0	0	0	0	0
	1991–92	0	0	0	0	0	0	0	0
	1992–93	0	0	0	0	0	0	0	0
	1993–94	0	0	0	0	0	0	0	0
	1994–95	0	1	0	0	0	0	0	0
	1995–96	0	1	0	0	0	0	0	0
	1996–97	1	4	1	4	1	3	1	3
Pot Hill	1980–81	0	1	0	1	0	0	0	0
	1981–82	0	1	0	1	0	1	0	1
	1982–83	1	0	0	0	0	0	0	0
	1983–84	2	1	1	1	0	1	0	1
Sandy Lake	1983–84	3	1	3	0	2	0	2	0
	1984–85	2	0	1	0	1	0	0	0

Table 13A-1d. Number of radio-collared two-year-old caribou in insular Newfoundland by herd, sex, season and year.

Herd	Year	Spring (May 1–June 30)		Summer (July 1–Sept. 30)		Fall (Oct. 1–Nov. 30)		Winter (Dec. 1–April 30)	
		Female	Male	Female	Male	Female	Male	Female	Male
All herds	1979–80	5	0	0	0	0	0	0	0
	1980–81	1	0	0	0	0	0	0	0
	1981–82	3	2	1	1	0	0	0	0
	1982–83	4	3	1	2	0	0	0	0
	1983–84	1	0	0	0	0	0	0	0
	1984–85	8	4	2	1	1	0	1	0
	1985–86	4	4	2	2	2	2	1	1
	1986–87	2	2	2	0	1	0	0	0
	1987–88	1	2	0	0	0	0	0	0
	1988–89	1	0	0	0	0	0	0	0
	1989–90	12	10	8	6	0	1	0	0
	1990–91	10	9	8	6	0	0	0	0
	1991–92	2	0	0	0	0	0	0	0
	1992–93	1	0	0	0	0	0	0	0
	1993–94	0	0	0	0	0	0	0	0
	1994–95	2	2	1	2	0	2	0	0
1995–96	8	6	3	2	3	1	1	1	
1996–97	8	8	3	3	1	3	0	1	
1997–98	2	7	1	7	0	4	0	2	
Buchans	1994–95	1	1	0	1	0	1	0	0
	1995–96	0	0	0	0	0	0	0	0
	1996–97	1	2	0	0	0	0	0	0
Corner Brook Lakes	1994–95	0	1	0	1	0	1	0	0
	1995–96	1	1	1	0	1	0	1	0
	1996–97	1	0	0	0	0	0	0	0
	1997–98	0	3	0	3	0	2	0	2
Grey River	1979–80	5	0	0	0	0	0	0	0
	1980–81	1	0	0	0	0	0	0	0
	1981–82	3	1	1	0	0	0	0	0
	1982–83	2	3	1	2	0	0	0	0
	1983–84	0	0	0	0	0	0	0	0
	1984–85	6	4	2	1	1	0	1	0
	1985–86	3	4	2	2	2	2	1	1
	1986–87	2	2	2	0	1	0	0	0
Gros Morne	1995–96	6	3	2	1	2	1	0	1
	1996–97	3	4	0	1	0	1	0	1
	1997–98	2	4	1	4	0	2	0	0

Table 13A-1d (con'd). Number of radio-collared two-year-old caribou in insular Newfoundland by herd, sex, season and year.

Herd	Year	Spring (May 1–June 30)		Summer (July 1–Sept. 30)		Fall (Oct. 1–Nov. 30)		Winter (Dec. 1–April 30)	
		Female	Male	Female	Male	Female	Male	Female	Male
La Poile	1987–88	1	0	0	0	0	0	0	0
	1988–89	11	9	8	6	0	0	0	0
	1989–90	7	8	6	6	0	0	0	0
Middle Ridge	1987–88	1	2	0	0	0	0	0	0
	1988–89	0	0	0	0	0	0	0	0
	1989–90	1	1	0	0	0	1	0	0
	1990–91	2	1	2	0	0	0	0	0
	1991–92	1	0	0	0	0	0	0	0
	1992–93	0	0	0	0	0	0	0	0
	1993–94	0	0	0	0	0	0	0	0
	1994–95	1	0	1	0	0	0	0	0
	1995–96	1	1	0	1	0	0	0	0
	1996–97	3	1	3	1	1	1	0	0
Mount Peyton	1990–91	1	0	0	0	0	0	0	0
	1991–92	1	0	0	0	0	0	0	0
	1992–93	0	0	0	0	0	0	0	0
	1993–94	0	0	0	0	0	0	0	0
	1994–95	0	0	0	0	0	0	0	0
	1995–96	0	1	0	0	0	0	0	0
	1996–97	0	1	0	1	0	1	0	0
Pot Hill	1981–82	0	1	0	1	0	0	0	0
Sandy Lake	1984–85	1	0	0	0	0	0	0	0
	1985–86	1	0	0	0	0	0	0	0

Table 13A-1e. Number of radio-collared adult caribou in insular Newfoundland by herd, sex, season and year.

Herd	Year	Spring (May 1–June 30)		Summer (July 1–Sept. 30)		Fall (Oct. 1–Nov. 30)		Winter (Dec. 1–April 30)	
		Female	Male	Female	Male	Female	Male	Female	Male
All herds	1979–80	59	10	50	10	50	10	49	10
	1980–81	52	13	50	10	48	8	48	8
	1981–82	58	13	56	11	51	10	51	10
	1982–83	66	9	59	8	54	8	52	8
	1983–84	71	22	59	18	54	16	53	15
	1984–85	58	31	53	23	51	20	49	19
	1985–86	76	23	75	23	68	19	65	18
	1986–87	68	21	66	21	63	19	48	14
	1987–88	78	22	70	21	60	19	58	18
	1988–89	114	43	101	39	93	34	91	31
	1989–90	102	27	98	27	90	21	85	18
	1990–91	84	21	78	21	40	10	39	10
	1991–92	40	14	35	12	17	8	16	7
	1992–93	23	8	23	8	22	7	22	6
	1993–94	40	9	38	9	45	7	32	7
	1994–95	76	28	76	28	58	27	57	23
1995–96	53	23	48	23	44	18	41	16	
1996–97	66	36	64	36	59	34	56	28	
1997–98	52	30	49	28	46	23	33	9	
Buchans	1993–94	11	3	11	3	11	3	10	3
	1994–95	33	12	33	12	28	12	28	10
	1995–96	29	10	27	10	226	8	25	7
	1996–97	38	14	37	14	35	13	34	11
	1997–98	34	13	33	12	33	11	33	9
Corner Brook Lakes	1994–95	16	12	16	12	11	12	11	10
	1995–96	11	10	9	10	8	8	7	7
	1996–97	6	7	5	7	3	6	2	4
	1997–98	1	4	0	3	0	2	0	0
Grey River	1979–80	49	5	40	5	40	5	39	5
	1980–81	42	4	40	3	38	3	38	3
	1981–82	39	9	37	7	34	6	34	6
	1982–83	36	5	29	5	24	5	22	5
	1983–84	28	12	21	9	18	8	18	7
	1984–85	20	10	16	10	15	8	15	7
	1985–86	17	7	17	7	16	5	16	5
	1986–87	12	2	11	2	10	2	0	5
Gros Morne	1992–93	4	0	4	0	4	0	4	0
	1993–94	11	0	9	0	9	0	9	0
	1994–95	15	0	15	0	9	0	8	0

Table 13A-1e (con'd). Number of radio-collared adult caribou in insular Newfoundland by herd, sex, season and year.

Herd	Year	Spring (May 1–June 30)		Summer (July 1–Sept. 30)		Fall (Oct. 1–Nov. 30)		Winter (Dec. 1–April 30)	
		Female	Male	Female	Male	Female	Male	Female	Male
Gros Morne (con'd)	1995–96	6	0	5	0	5	0	4	0
	1996–97	16	12	16	12	16	12	15	12
	1997–98	17	12	16	12	13	10	0	0
La Poile	1985–86	24	5	24	5	23	5	22	4
	1986–87	30	10	30	10	29	8	29	6
	1987–88	45	10	38	9	33	8	32	7
	1988–89	72	29	69	26	66	22	66	21
	1989–90	72	14	69	14	64	10	61	9
	1990–91	58	9	53	9	20	1	19	1
	1991–92	19	3	16	2	2	0	2	0
	1992–93	2	0	2	0	2	0	2	0
	1993–94	2	0	2	0	1	0	0	0
Middle Ridge	1982–83	13	0	13	0	13	0	13	0
	1983–84	22	5	21	5	20	5	19	5
	1984–85	23	9	23	9	22	9	21	9
	1985–86	21	9	21	9	18	7	18	7
	1986–87	18	7	17	7	16	7	16	7
	1987–88	28	12	27	12	23	11	22	11
	1988–89	28	14	28	13	24	12	23	10
	1989–90	28	13	27	13	24	11	22	9
	1990–91	24	12	23	12	18	9	18	9
	1991–92	18	11	16	10	13	8	13	7
	1992–93	15	8	15	8	14	7	14	6
	1993–94	14	6	14	6	12	4	11	4
	1994–95	10	4	10	4	9	3	9	3
	1995–96	6	3	6	3	4	2	4	2
1996–97	5	2	5	2	4	2	4	0	
Mount Peyton	1981–82	10	0	10	0	10	0	10	0
	1982–83	10	0	10	0	10	0	10	0
	1983–84	10	3	10	3	10	3	10	3
	1984–85	10	4	9	4	9	3	9	3
	1985–86	9	2	9	2	7	2	6	2
	1986–87	6	2	6	2	6	2	3	0
	1987–88	5	0	5	0	4	0	4	0
	1988–89	4	0	4	0	3	0	2	0
	1989–90	2	0	2	0	2	0	2	0
	1990–91	2	0	2	0	2	0	2	0
	1991–92	3	0	3	0	2	0	1	0
1992–93	2	0	2	0	2	0	2	0	



Table 13A-1e (con'd). Number of radio-collared adult caribou in insular Newfoundland by herd, sex, season and year.

Herd	Year	Spring (May 1–June 30)		Summer (July 1–Sept. 30)		Fall (Oct. 1–Nov. 30)		Winter (Dec. 1–April 30)	
		Female	Male	Female	Male	Female	Male	Female	Male
Mount Peyton (con'd)	1993–94	2	0	2	0	2	0	2	0
	1994–95	2	0	2	0	1	0	1	0
	1995–96	1	0	1	0	1	0	1	0
	1996–97	1	1	1	1	1	1	1	1
	1997–98	0	1	0	1	0	0	0	0
Pot Hill	1979–80	8	5	8	5	8	5	8	5
	1980–81	8	9	9	7	8	5	8	5
	1981–82	7	4	7	4	5	4	5	4
	1982–83	5	4	5	3	5	3	5	3
	1983–84	4	2	1	1	0	0	0	0
Sandy Lake	1979–80	2	0	2	0	2	0	2	0
	1980–81	2	0	2	0	2	0	2	0
	1981–82	2	0	2	0	2	0	2	0
	1982–83	2	0	2	0	2	0	2	0
	1983–84	7	0	6	0	6	0	6	0
	1984–85	5	0	5	0	5	0	4	0
	1985–86	5	0	4	0	4	0	3	0
	1986–87	2	0	2	0	2	0	0	0

Table 13A-2a. Heisey-Fuller estimates of calf survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year. Spring and annual survival estimates exclude May, because calves are born at variable dates midway through the spring season (all calves are assigned a birth date of June 1). Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (June 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (June 1–April 30)
<b>SEXES COMBINED</b>					
<b>1979–1980</b>					
Heisey-Fuller Survival Estimate	<b>0.853</b>	<b>0.901</b>	<b>1.000</b>	<b>0.858</b>	<b>0.628</b>
95% Confidence Interval (CI)	0.801–0.908	0.845–0.961		0.765–0.963	0.531–0.743
Radiodays (min.–max.)	364–378	782–907	427–549	944–1330	2517–3164
N collared (n surviving)	13 (11)	11 (10)	7 (7)	7 (6)	13 (9)
Proportion surviving	0.846	0.909	1.000	0.857	0.692
Minimum Survival (95% CI)	0.793–0.906	0.746–0.894		0.753–0.964	0.478–0.724
Maximum Survival (95% CI)	0.884–0.964	0.822–0.961		0.829–0.961	0.568–0.757
<b>1980–1981</b>					
Heisey-Fuller Survival Estimate	<b>0.966</b>	<b>0.888</b>	<b>1.000</b>	<b>0.919</b>	<b>0.773</b>
95% Confidence Interval (CI)	0.955–0.978	0.853–0.925		0.876–0.964	0.723–0.826
Radiodays (min.–max.)	863–884	1402–1624	753–915	1768–2102	4786–5525
N collared (n surviving)	31 (30)	23 (21)	13 (13)	12 (11)	31 (27)
Proportion surviving	0.968	0.913	1.000	0.917	0.870
Minimum Survival (95% CI)	0.954–0.978	0.805–0.884		0.875–0.963	0.701–0.816
Maximum Survival (95% CI)	1.000	0.837–0.919		0.897–0.966	0.739–0.834
<b>1981–1982</b>					
Heisey-Fuller Survival Estimate	<b>0.737</b>	<b>0.935</b>	<b>0.906</b>	<b>1.000</b>	<b>0.460</b>
95% Confidence Interval (CI)	0.696–0.781	0.903–0.967	0.858–0.963		0.377–0.562
Radiodays (min.–max.)	548–632	1285–1475	614–731	719–836	3114–3674
N collared (n surviving)	23 (17)	16 (15)	11 (10)	8 (8)	23 (15)
Proportion surviving	0.739	0.938	0.909	1.000	0.652
Minimum Survival (95% CI)	0.673–0.767	0.897–0.966	0.857–0.963		0.334–0.537
Maximum Survival (95% CI)	0.713–0.792	0.912–0.968	0.895–0.966		0.404–0.577
<b>1982–1983</b>					
Heisey-Fuller Survival Estimate	<b>0.825</b>	<b>0.925</b>	<b>1.000</b>	<b>0.930</b>	<b>0.659</b>
95% Confidence Interval (CI)	0.809–0.841	0.912–0.939		0.912–0.948	0.632–0.687
Radiodays (min.–max.)	1322–1460	3440–4257	1982–2148	4013–4373	10701–11671
N collared (n surviving)	65 (56)	43 (41)	33 (33)	31 (29)	65 (51)
Proportion surviving	0.862	0.953	1.000	0.935	0.785
Minimum Survival (95% CI)	0.798–0.832	0.909–0.937		0.909–0.946	0.618–0.675
Maximum Survival (95% CI)	0.834–0.862	0.973–0.985		0.920–0.952	0.644–0.696
<b>1983–1984</b>					
Heisey-Fuller Survival Estimate	<b>0.871</b>	<b>0.978</b>	<b>1.000</b>	<b>0.916</b>	<b>0.735</b>
95% Confidence Interval (CI)	0.860–0.882	0.972–0.984		0.893–0.940	0.712–0.760
Radiodays (min.–max.)	1697–1788	4076–4257	2623–2743	3052–3726	11387–12394
N collared (n surviving)	74 (66)	51 (50)	42 (42)	42 (40)	74 (63)
Proportion surviving	0.892	0.980	1.000	0.952	0.851
Minimum Survival (95% CI)	0.856–0.880	0.971–0.984		0.878–0.934	0.699–0.750
Maximum Survival (95% CI)	0.863–0.885	0.973–0.985		0.901–0.943	0.721–0.767
<b>1984–1985</b>					
Heisey-Fuller Survival Estimate	<b>0.738</b>	<b>0.906</b>	<b>1.000</b>	<b>1.000</b>	<b>0.697</b>
95% Confidence Interval (CI)	0.703–0.774	0.888–0.925			0.666–0.730
Radiodays (min.–max.)	643–745	2746–2833	1708–1769	3737–4228	8834–9575
N collared (n surviving)	49 (42)	32 (29)	28 (28)	28 (28)	49 (39)
Proportion surviving	0.857	0.906	1.000	1.000	0.796
Minimum Survival (95% CI)	0.683–0.759	0.886–0.924			0.652–0.720
Maximum Survival (95% CI)	0.722–0.786	0.922–0.952			0.675–0.737

Table 13A-2a (con'd). Heisey-Fuller estimates of **calf** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year. Spring and annual survival estimates exclude May, because calves are born at variable dates midway through the spring season (all calves are assigned a birth date of June 1). Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (June 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (June 1–April 30)
<b>SEXES COMBINED (con'd)</b>					
<b>1985–1986</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.– max.)	30	92	61	151	334
N collared (n surviving)	1 (1)	1 (1)	1 (1)	1 (1)	1 (1)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1986–1987</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.– max.)	30	92	61	151	334
N collared (n surviving)	1 (1)	1 (1)	1 (1)	1 (1)	1 (1)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1987–1988</b>					
Heisey-Fuller Survival Estimate	<b>0.907</b>	<b>0.887</b>	<b>0.912</b>	<b>0.929</b>	<b>0.671</b>
95% Confidence Interval (CI)	0.893–0.921	0.869–0.906	0.899–0.931	0.912–0.948	0.644–0.700
Radiodays (min.– max.)	1185–1238	3070–3266	1895–2135	4091–4566	10241–11205
N collared (n surviving)	46 (42)	38 (34)	33 (30)	30 (28)	46 (33)
Proportion surviving	0.913	0.895	0.909	0.933	0.717
Minimum Survival (95% CI)	0.889–0.918	0.850–0.887	0.893–0.928	0.825–0.871	0.625–0.685
Maximum Survival (95% CI)	0.918–0.942	0.869–0.905	1.000	0.911–0.947	0.652–0.706
<b>1988–1989</b>					
Heisey-Fuller Survival Estimate	<b>0.930</b>	<b>0.833</b>	<b>1.000</b>	<b>0.845</b>	<b>0.650</b>
95% Confidence Interval (CI)	0.918–0.942	0.814–0.852		0.822–0.869	0.624–0.677
Radiodays (min.– max.)	1218–1245	3385–3609	2013–2318	4250–5137	10866–12309
N collared (n surviving)	43 (40)	40 (33)	33 (33)	33 (28)	43 (28)
Proportion surviving	0.930	0.825	1.000	0.848	0.651
Minimum Survival (95% CI)	0.916–0.941	0.807–0.847		0.744–0.792	0.602–0.660
Maximum Survival (95% CI)	0.943–0.963	0.914–0.939		0.812–0.863	0.660–0.707
<b>1989–1990</b>					
Heisey-Fuller Survival Estimate	<b>0.943</b>	<b>0.894</b>	<b>1.000</b>	<b>0.617</b>	<b>0.631</b>
95% Confidence Interval (CI)	0.918–0.969	0.831–0.961		0.488–0.780	0.551–0.721
Radiodays (min.– max.)	364–514	810–1377	451–817	907–1820	2532–4528
N collared (n surviving)	18 (17)	11 (10)	8 (8)	7 (4)	18 (13)
Proportion surviving	0.944	0.909	1.000	0.571	0.722
Minimum Survival (95% CI)	0.880–0.964	0.829–0.961		0.473–0.776	0.407–0.656
Maximum Survival (95% CI)	0.918–0.969	0.905–0.967		0.792–0.905	0.686–0.808
<b>1990–1991</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>				<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.– max.)	51–240				51–240
N collared (n surviving)	8 (8)				8 (8)
Proportion surviving	1.000				1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					

Table 13A-2a (con'd). Heisey-Fuller estimates of **calf** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year. Spring and annual survival estimates exclude May, because calves are born at variable dates midway through the spring season (all calves are assigned a birth date of June 1). Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (June 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (June 1–April 30)
<b>SEXES COMBINED (con'd)</b>					
<b>1993–1994</b>					
Heisey-Fuller Survival Estimate	<b>0.878</b>	<b>0.914</b>	<b>0.946</b>	<b>1.000</b>	<b>0.717</b>
95% Confidence Interval (CI)	0.858–0.899	0.891–0.939	0.925–0.971		0.678–0.760
Radiodays (min.–max.)	847–944	1936–2284	1085–1342	2567–3022	6435–7592
N collared (n surviving)	34 (30)	24 (22)	18 (17)	17 (17)	34 (27)
Proportion surviving	0.882	0.917	0.944	1.000	0.794
Minimum Survival (95% CI)	0.845–0.891	0.862–0.911	0.924–0.971		0.651–0.743
Maximum Survival (95% CI)	0.924–0.953	0.883–0.936	1.000		0.698–0.773
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate	<b>0.714</b>	<b>0.939</b>	<b>0.809</b>	<b>0.904</b>	<b>0.412</b>
95% Confidence Interval (CI)	0.694–0.734	0.925–0.954	0.790–0.841	0.876–0.933	0.380–0.447
Radiodays (min.–max.)	1213–1373	2919–3134	1640–1822	2908–3729	8680–10058
N collared (n surviving)	57 (42)	34 (32)	26 (23)	20 (18)	57 (30)
Proportion surviving	0.737	0.941	0.885	0.900	0.526
Minimum Survival (95% CI)	0.667–0.711	0.924–0.954	0.778–0.834	0.872–0.931	0.347–0.419
Maximum Survival (95% CI)	0.718–0.754	0.930–0.956	0.957–0.979	0.879–0.934	0.419–0.483
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	<b>0.765</b>	<b>0.914</b>	<b>1.000</b>	<b>0.935</b>	<b>0.590</b>
95% Confidence Interval (CI)	0.747–0.783	0.898–0.930		0.919–0.951	0.561–0.620
Radiodays (min.–max.)	1311–1369	3001–3009	1830–1831	4356–4397	10547–10557
N collared (n surviving)	55 (43)	35 (32)	30 (30)	30 (28)	55 (38)
Proportion surviving	0.768	0.914	1.000	0.933	0.691
Minimum Survival (95% CI)	0.740–0.778	0.895–0.929		0.917–0.950	0.536–0.597
Maximum Survival (95% CI)	0.750–0.786	0.895–0.929		0.921–0.952	0.554–0.614
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	<b>0.903</b>	<b>0.847</b>	<b>0.925</b>	<b>0.912</b>	<b>0.611</b>
95% Confidence Interval (CI)	0.889–0.918	0.824–0.870	0.909–0.947	0.888–0.938	0.577–0.648
Radiodays (min.–max.)	1166–1195	2708–2815	1482–1594	3289–3415	8645–9019
N collared (n surviving)	47 (43)	37 (32)	26 (24)	23 (21)	47 (34)
Proportion surviving	0.915	0.865	0.923	0.913	0.723
Minimum Survival (95% CI)	0.887–0.917	0.820–0.868	0.903–0.944	0.888–0.938	0.570–0.642
Maximum Survival (95% CI)	0.890–0.919	0.827–0.872	1.000	0.888–0.938	0.584–0.653
<b>1997–1998</b>					
Heisey-Fuller Survival Estimate	<b>0.866</b>	<b>0.926</b>	<b>1.000</b>	<b>1.000</b>	<b>0.745</b>
95% Confidence Interval (CI)	0.813–0.911	0.889–0.965			0.668–0.830
Radiodays (min.–max.)	412–426	1192–1196	732	1044	3380–3421
N collared (n surviving)	15 (13)	13 (12)	12 (12)	12 (12)	15 (13)
Proportion surviving	0.867	0.923	1.000	1.000	0.800
Minimum Survival (95% CI)	0.818–0.913	0.888–0.965			0.666–0.830
Maximum Survival (95% CI)	0.824–0.915	1.000			0.670–0.831
<b>Average, 1979–1998</b>					
Heisey-Fuller Survival Estimate	<b>0.845</b>	<b>0.906</b>	<b>0.960</b>	<b>0.918</b>	<b>0.631</b>
95% Confidence Interval (CI)	0.844–0.847	0.905–0.908	0.960–0.962	0.915–0.920	0.630–0.634
Radiodays (min.–max.)	13228–15823	32696–39299	18913–23362	36921–48487	101758–126971
N collared (n surviving)	580 (501)	409 (373)	321 (308)	297 (275)	580 (430)
Proportion surviving	0.864	0.912	0.960	0.920	0.741
Minimum Survival (95% CI)	0.834–0.837	0.902–0.905	0.959–0.961	0.859–0.863	0.608–0.614
Maximum Survival (95% CI)	0.900–0.902	0.918–0.920	0.992–0.993	0.912–0.916	0.686–0.691

Table 13A-2a (con'd). Heisey-Fuller estimates of **calv** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year. Spring and annual survival estimates exclude May, because calves are born at variable dates midway through the spring season (all calves are assigned a birth date of June 1). Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (June 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (June 1–April 30)
<b>FEMALES</b>					
<b>1979–1980</b>					
Heisey-Fuller Survival Estimate	<b>0.846</b>	<b>0.795</b>	<b>1.000</b>	<b>1.000</b>	<b>0.606</b>
95% Confidence Interval (CI)	0.742–0.964	0.644–0.982			0.420–0.875
Radiodays (min.–max.)	168–180	384–424	183–244	453–604	1188–1452
N collared (n surviving)	6 (5)	5 (4)	4 (4)	3 (3)	6 (4)
Proportion surviving	0.833	0.800	1.000	1.000	0.667
Minimum Survival (95% CI)	0.723–0.966	0.483–0.867			0.366–0.887
Maximum Survival (95% CI)	0.760–0.962	0.627–0.986			0.458–0.869
<b>1980–1981</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.862</b>	<b>1.000</b>	<b>1.000</b>	<b>0.856</b>
95% Confidence Interval (CI)		0.772–0.962			0.760–0.964
Radiodays (min.–max.)	352–354	541–649	305	749–906	1947–2275
N collared (n surviving)	13 (13)	10 (9)	5 (5)	5 (5)	13 (12)
Proportion surviving	1.000	0.900	1.000	1.000	0.923
Minimum Survival (95% CI)		0.737–0.966			0.734–0.966
Maximum Survival (95% CI)		0.783–0.962			0.775–0.962
<b>1981–1982</b>					
Heisey-Fuller Survival Estimate	<b>0.595</b>	<b>0.828</b>	<b>0.768</b>	<b>1.000</b>	<b>0.175</b>
95% Confidence Interval (CI)	0.488–0.725	0.708–0.968	0.591–0.997		0.056–0.544
Radiodays (min.–max.)	208–259	430–517	204–274	159–242	979–1292
N collared (n surviving)	10 (6)	6 (5)	4 (3)	2 (2)	10 (4)
Proportion surviving	0.600	0.833	0.750	1.000	0.400
Minimum Survival (95% CI)	0.440–0.707	0.669–0.974	0.535–1.000		0.026–0.627
Maximum Survival (95% CI)	0.530–0.731	0.725–0.965	0.718–0.967		0.085–0.523
<b>1982–1983</b>					
Heisey-Fuller Survival Estimate	<b>0.914</b>	<b>0.944</b>	<b>1.000</b>	<b>0.917</b>	<b>0.766</b>
95% Confidence Interval (CI)	0.890–0.938	0.919–0.970		0.874–0.963	0.714–0.821
Radiodays (min.–max.)	631–675	1525–1712	856–992	1691–1939	4675–5318
N collared (n surviving)	28 (26)	21 (20)	15 (15)	7 (6)	28 (24)
Proportion surviving	0.929	0.952	1.000	0.857	0.857
Minimum Survival (95% CI)	0.883–0.936	0.915–0.969		0.869–0.963	0.695–0.812
Maximum Survival (95% CI)	0.891–0.940	0.925–0.971		0.880–0.964	0.730–0.829
<b>1983–1984</b>					
Heisey-Fuller Survival Estimate	<b>0.839</b>	<b>0.951</b>	<b>1.000</b>	<b>0.902</b>	<b>0.677</b>
95% Confidence Interval (CI)	0.809–0.870	0.931–0.972		0.845–0.962	0.621–0.738
Radiodays (min.–max.)	668–703	1825–1844	1283–1159	1722–1561	4982–5267
N collared (n surviving)	35 (31)	14 (13)	19 (19)	19 (18)	35 (29)
Proportion surviving	0.886	0.929	1.000	0.947	0.829
Minimum Survival (95% CI)	0.804–0.868	0.931–0.972		0.856–0.962	0.611–0.732
Maximum Survival (95% CI)	0.813–0.873	0.931–0.972		0.871–0.964	0.629–0.742
<b>1984–1985</b>					
Heisey-Fuller Survival Estimate	<b>0.719</b>	<b>0.931</b>	<b>1.000</b>	<b>1.000</b>	<b>0.730</b>
95% Confidence Interval (CI)	0.642–0.805	0.897–0.966			0.667–0.799
Radiodays (min.–max.)	264–284	1262–1288	793–854	1582–1963	3901–5186
N collared (n surviving)	22 (19)	14 (13)	13 (13)	13 (13)	22 (18)
Proportion surviving	0.864	0.929	1.000	1.000	0.818
Minimum Survival (95% CI)	0.630–0.799	0.895–0.966			0.625–0.739
Maximum Survival (95% CI)	0.653–0.810	1.000			0.640–0.787

Table 13A-2a (con'd). Heisey-Fuller estimates of **calf** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year. Spring and annual survival estimates exclude May, because calves are born at variable dates midway through the spring season (all calves are assigned a birth date of June 1). Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (June 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (June 1–April 30)
<b>FEMALES (con'd)</b>					
<b>1985–1986</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	30	92	61	151	334
N collared (n surviving)	1 (1)	1 (1)	1 (1)	1 (1)	1 (1)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1986–1987</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	30	92	61	151	334
N collared (n surviving)	1 (1)	1 (1)	1 (1)	1 (1)	1 (1)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1987–1988</b>					
Heisey-Fuller Survival Estimate	<b>0.853</b>	<b>0.884</b>	<b>0.938</b>	<b>0.930</b>	<b>0.632</b>
95% Confidence Interval (CI)	0.818–0.890	0.847–0.922	0.910–0.968	0.896–0.966	0.574–0.695
Radiodays (min.–max.)	554–576	1486–1495	922–976	2072–2110	5034–5157
N collared (n surviving)	22 (19)	18 (16)	16 (15)	15 (14)	22 (15)
Proportion surviving	0.864	0.888	0.939	0.933	0.682
Minimum Survival (95% CI)	0.813–0.887	0.789–0.876	0.906–0.967	0.822–0.914	0.570–0.692
Maximum Survival (95% CI)	0.872–0.931	0.846–0.922	1.000	0.895–0.966	0.579–0.698
<b>1988–1989</b>					
Heisey-Fuller Survival Estimate	<b>0.940</b>	<b>0.876</b>	<b>1.000</b>	<b>0.849</b>	<b>0.697</b>
95% Confidence Interval (CI)	0.912–0.968	0.835–0.918		0.795–0.906	0.637–0.763
Radiodays (min.–max.)	484–486	1360–1393	854–915	1726–2004	4424–4798
N collared (n surviving)	17 (16)	16 (14)	14 (14)	14 (12)	17 (12)
Proportion surviving	0.941	0.875	1.000	0.857	0.706
Minimum Survival (95% CI)	0.912–0.968	0.832–0.917		0.742–0.857	0.622–0.755
Maximum Survival (95% CI)	0.913–0.968	0.906–0.967		0.781–0.902	0.648–0.769
<b>1989–1990</b>					
Heisey-Fuller Survival Estimate	<b>0.849</b>	<b>1.000</b>	<b>1.000</b>	<b>0.631</b>	<b>0.584</b>
95% Confidence Interval (CI)	0.747–0.963			0.338–1.000	0.384–0.888
Radiodays (min.–max.)	133–184	284–503	146–268	329–549	892–1504
N collared (n surviving)	7 (6)	4 (4)	3 (3)	2 (1)	7 (5)
Proportion surviving	0.857	1.000	1.000	0.500	0.714
Minimum Survival (95% CI)	0.648–0.980			0.338–1.000	0.230–0.967
Maximum Survival (95% CI)	0.748–0.963			0.574–1.000	0.473–0.869
<b>1990–1991</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>				<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	20–90				20–354
N collared (n surviving)	3 (3)				3 (3)
Proportion surviving	1.000				1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					

Table 13A-2a (con'd). Heisey-Fuller estimates of calf survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year. Spring and annual survival estimates exclude May, because calves are born at variable dates midway through the spring season (all calves are assigned a birth date of June 1). Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (June 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (June 1–April 30)
<b>FEMALES (con'd)</b>					
<b>1993–1994</b>					
Heisey-Fuller Survival Estimate	<b>0.836</b>	<b>1.000</b>	<b>0.920</b>	<b>1.000</b>	<b>0.730</b>
95% Confidence Interval (CI)	0.795–0.879		0.878–0.964		0.667–0.799
Radiodays (min.–max.)	484–517	1211–1288	719–793	1661–1813	4075–4411
N collared (n surviving)	19 (16)	14 (14)	12 (11)	11 (11)	19 (15)
Proportion surviving	0.842	1.000	0.917	1.000	0.789
Minimum Survival (95% CI)	0.789–0.875		0.876–0.963		0.654–0.793
Maximum Survival (95% CI)	0.856–0.926		1.000		0.678–0.804
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate	<b>0.771</b>	<b>1.000</b>	<b>0.862</b>	<b>0.904</b>	<b>0.543</b>
95% Confidence Interval (CI)	0.731–0.814		0.814–0.912	0.850–0.962	0.476–0.620
Radiodays (min.–max.)	517–596	1347–1406	778–851	1469–1713	4111–4566
N collared (n surviving)	24 (19)	15 (15)	14 (12)	10 (9)	24 (16)
Proportion surviving	0.792	1.000	0.857	0.900	0.667
Minimum Survival (95% CI)	0.700–0.797		0.804–0.909	0.779–0.902	0.450–0.605
Maximum Survival (95% CI)	0.737–0.818		1.000	0.847–0.961	0.535–0.671
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	<b>0.835</b>	<b>0.918</b>	<b>1.000</b>	<b>1.000</b>	<b>0.695</b>
95% Confidence Interval (CI)	0.793–0.878	0.876–0.963			0.621–0.778
Radiodays (min.–max.)	484–499	999–1057	580–610	1336–1467	3414–3618
N collared (n surviving)	20 (17)	12 (11)	10 (10)	10 (10)	20 (16)
Proportion surviving	0.850	0.917	1.000	1.000	0.800
Minimum Survival (95% CI)	0.740–0.834	0.864–0.963			0.530–0.709
Maximum Survival (95% CI)	0.787–0.875	0.872–0.963			0.615–0.776
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	<b>0.833</b>	<b>0.861</b>	<b>0.902</b>	<b>0.888</b>	<b>0.521</b>
95% Confidence Interval (CI)	0.791–0.877	0.813–0.911	0.847–0.961	0.821–0.961	0.440–0.616
Radiodays (min.–max.)	490–498	1196–1249	570–618	1267–1288	3523–3653
N collared (n surviving)	21 (18)	16 (14)	10 (9)	14 (13)	21 (14)
Proportion surviving	0.857	0.875	0.900	0.929	0.667
Minimum Survival (95% CI)	0.789–0.877	0.808–0.910	0.840–0.961	0.707–0.885	0.433–0.612
Maximum Survival (95% CI)	0.792–0.878	0.816–0.912	1.000	0.820–0.961	0.447–0.621
<b>1997–1998</b>					
Heisey-Fuller Survival Estimate	<b>0.875</b>	<b>0.867</b>	<b>1.000</b>	<b>1.000</b>	<b>0.685</b>
95% Confidence Interval (CI)	0.796–0.961	0.781–0.961			0.540–0.868
Radiodays (min.–max.)	221–228	640–644	366–389	522	1749–1783
N collared (n surviving)	8 (7)	7 (6)	6 (6)	6 (6)	8 (6)
Proportion surviving	0.875	0.857	1.000	1.000	0.750
Minimum Survival (95% CI)	0.793–0.961	0.780–0.961			0.536–0.868
Maximum Survival (95% CI)	0.799–0.961	1.000			0.544–0.868
<b>Average, 1979–1998</b>					
Heisey-Fuller Survival Estimate	<b>0.840</b>	<b>0.918</b>	<b>0.958</b>	<b>0.932</b>	<b>0.641</b>
95% Confidence Interval (CI)	0.836–0.843	0.914–0.921	0.955–0.961	0.927–0.936	0.635–0.648
Radiodays (min.–max.)	5701–6954	14548–17533	8415–10499	16397–21467	45061–56453
N collared (n surviving)	257 (222)	180 (166)	144 (138)	132 (124)	257 (194)
Proportion surviving	0.864	0.922	0.958	0.939	0.755
Minimum Survival (95% CI)	0.827–0.835	0.912–0.919	0.955–0.960	0.877–0.885	0.620–0.634
Maximum Survival (95% CI)	0.895–0.900	0.922–0.927	0.993–0.995	0.924–0.934	0.700–0.711

Table 13A-2a (con'd). Heisey-Fuller estimates of **calf** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year. Spring and annual survival estimates exclude May, because calves are born at variable dates midway through the spring season (all calves are assigned a birth date of June 1). Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (June 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (June 1–April 30)
<b>MALES</b>					
<b>1979–1980</b>					
Heisey-Fuller Survival Estimate	<b>0.858</b>	<b>1.000</b>	<b>1.000</b>	<b>0.753</b>	<b>0.647</b>
95% Confidence Interval (CI)	0.766–0.961			0.564–1.000	0.485–0.864
Radiodays (min.–max.)	196–198	398–483	244–305	491–726	1329–1712
N collared (n surviving)	7 (6)	6 (6)	4 (4)	4 (3)	7 (5)
Proportion surviving	0.857	1.000	1.000	0.750	0.714
Minimum Survival (95% CI)	0.765–0.961			0.529–1.000	0.421–0.867
Maximum Survival (95% CI)	0.767–0.961			0.678–0.973	0.531–0.863
<b>1980–1981</b>					
Heisey-Fuller Survival Estimate	<b>0.945</b>	<b>0.906</b>	<b>1.000</b>	<b>0.862</b>	<b>0.721</b>
95% Confidence Interval (CI)	0.920–0.970	0.854–0.962		0.773–0.962	0.634–0.819
Radiodays (min.–max.)	511–530	861–975	448–549	1019–1196	2839–3250
N collared (n surviving)	18 (17)	13 (12)	8 (8)	7 (6)	18 (15)
Proportion surviving	0.944	0.923	1.000	0.857	0.833
Minimum Survival (95% CI)	0.917–0.969	0.764–0.898		0.773–0.962	0.609–0.811
Maximum Survival (95% CI)	1.000	0.840–0.961		0.808–0.961	0.654–0.825
<b>1981–1982</b>					
Heisey-Fuller Survival Estimate	<b>0.846</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.749</b>
95% Confidence Interval (CI)	0.791–0.905				0.640–0.876
Radiodays (min.–max.)	340–373	855–958	410–457	560–594	2135–2382
N collared (n surviving)	13 (11)	10 (10)	7 (7)	6 (6)	13 (11)
Proportion surviving	0.846	1.000	1.000	1.000	0.846
Minimum Survival (95% CI)	0.778–0.901				0.612–0.873
Maximum Survival (95% CI)	0.798–0.907				0.650–0.878
<b>1982–1983</b>					
Heisey-Fuller Survival Estimate	<b>0.733</b>	<b>0.950</b>	<b>1.000</b>	<b>0.935</b>	<b>0.601</b>
95% Confidence Interval (CI)	0.696–0.771	0.929–0.972		0.904–0.967	0.550–0.656
Radiodays (min.–max.)	631–725	1764–1827	1065–1095	2171–2344	5603–5991
N collared (n surviving)	35 (28)	22 (21)	17 (17)	17 (16)	35 (26)
Proportion surviving	0.800	0.955	1.000	0.941	0.743
Minimum Survival (95% CI)	0.676–0.758	0.876–0.933		0.900–0.967	0.531–0.643
Maximum Survival (95% CI)	0.747–0.813	0.927–0.971		0.908–0.968	0.555–0.660
<b>1983–1984</b>					
Heisey-Fuller Survival Estimate	<b>0.893</b>	<b>1.000</b>	<b>1.000</b>	<b>0.927</b>	<b>0.783</b>
95% Confidence Interval (CI)	0.876–0.910			0.890–0.965	0.745–0.823
Radiodays (min.–max.)	363–1085	2251–2413	1460–1464	1722–2165	6405–7127
N collared (n surviving)	39 (35)	29 (29)	23 (23)	23 (22)	39 (34)
Proportion surviving	0.897	1.000	1.000	0.957	0.872
Minimum Survival (95% CI)	0.879–0.912			0.871–0.964	0.729–0.814
Maximum Survival (95% CI)	0.879–0.964			0.900–0.967	0.755–0.829
<b>1984–1985</b>					
Heisey-Fuller Survival Estimate	<b>0.750</b>	<b>0.886</b>	<b>1.000</b>	<b>1.000</b>	<b>0.676</b>
95% Confidence Interval (CI)	0.697–0.808	0.849–0.923			0.620–0.736
Radiodays (min.–max.)	379–461	1484–1545	915	2155–2265	4933–5186
N collared (n surviving)	27 (23)	18 (16)	15 (15)	15 (15)	27 (21)
Proportion surviving	0.852	0.889	1.000	1.000	0.778
Minimum Survival (95% CI)	0.668–0.792	0.846–0.922			0.608–0.729
Maximum Survival (95% CI)	0.721–0.822	0.852–0.924			0.625–0.739



Table 13A-2a (con'd). Heisey-Fuller estimates of **calf** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year. Spring and annual survival estimates exclude May, because calves are born at variable dates midway through the spring season (all calves are assigned a birth date of June 1). Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (June 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (June 1–April 30)
<b>MALES (con'd)</b>					
<b>1987–1988</b>					
Heisey-Fuller Survival Estimate	<b>0.956</b>	<b>0.890</b>	<b>0.890</b>	<b>0.929</b>	<b>0.723</b>
95% Confidence Interval (CI)	0.938–0.974	0.856–0.926	0.855–0.925	0.894–0.966	0.679–0.771
Radiodays (min.– max.)	631–662	1584–1771	973–1159	2019–2456	5207–6048
N collared (n surviving)	24 (23)	20 (18)	17 (15)	15 (14)	24 (18)
Proportion surviving	0.958	0.900	0.882	0.933	0.750
Minimum Survival (95% CI)	0.935–0.973	0.856–0.926	0.844–0.921	0.789–0.877	0.626–0.740
Maximum Survival (95% CI)	0.938–0.974	0.872–0.931	1.000	0.892–0.965	0.672–0.767
<b>1988–1989</b>					
Heisey-Fuller Survival Estimate	<b>0.924</b>	<b>0.806</b>	<b>1.000</b>	<b>0.843</b>	<b>0.620</b>
95% Confidence Interval (CI)	0.904–0.944	0.774–0.840		0.804–0.883	0.577–0.666
Radiodays (min.– max.)	734–759	2025–2216	1159–1403	2524–3133	6442–7511
N collared (n surviving)	26 (24)	24 (19)	19 (19)	19 (16)	26 (16)
Proportion surviving	0.923	0.792	1.000	0.842	0.615
Minimum Survival (95% CI)	0.900–0.943	0.762–0.832		0.710–0.790	0.548–0.646
Maximum Survival (95% CI)	0.947–0.976	0.899–0.842		0.794–0.879	0.631–0.711
<b>1989–1990</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.790</b>	<b>1.000</b>	<b>0.537</b>	<b>0.608</b>
95% Confidence Interval (CI)		0.634–0.984		0.319–0.903	0.474–0.780
Radiodays (min.– max.)	171–270	371–739	244–488	427–1120	1253–2617
N collared (n surviving)	9 (9)	5 (4)	4 (4)	4 (2)	9 (6)
Proportion surviving	1.000	0.800	1.000	0.500	0.667
Minimum Survival (95% CI)		0.615–0.980		0.256–0.943	0.262–0.770
Maximum Survival (95% CI)		0.811–0.961		0.794–0.961	0.681–0.881
<b>1990–1991</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>				<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.– max.)	31–150				31–150
N collared (n surviving)	5 (5)				5 (5)
Proportion surviving	1.000				1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1993–1994</b>					
Heisey-Fuller Survival Estimate	<b>0.931</b>	<b>0.793</b>	<b>1.000</b>	<b>1.000</b>	<b>0.699</b>
95% Confidence Interval (CI)	0.898–0.966	0.709–0.886			0.604–0.809
Radiodays (min.– max.)	363–427	725–996	366–549	906–1209	2360–3181
N collared (n surviving)	15 (14)	10 (8)	6 (6)	6 (6)	15 (12)
Proportion surviving	0.933	0.800	1.000	1.000	0.800
Minimum Survival (95% CI)	0.879–0.964	0.682–0.881			0.541–0.791
Maximum Survival (95% CI)	1.000	0.768–0.899			0.654–0.824
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate	<b>0.698</b>	<b>0.893</b>	<b>0.765</b>	<b>0.904</b>	<b>0.346</b>
95% Confidence Interval (CI)	0.663–0.734	0.860–0.927	0.714–0.821	0.850–0.962	0.291–0.412
Radiodays (min.– max.)	690–769	1572–1728	862–971	1439–2016	4563–4566
N collared (n surviving)	32 (23)	19 (17)	15 (11)	10 (9)	32 (16)
Proportion surviving	0.719	0.895	0.733	0.900	0.500
Minimum Survival (95% CI)	0.636–0.715	0.855–0.925	0.697–0.813	0.624–0.756	0.251–0.381
Maximum Survival (95% CI)	0.698–0.765	0.869–0.930	0.911–0.968	0.843–0.961	0.324–0.438

Table 13A-2a (con'd). Heisey-Fuller estimates of **calf** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year. Spring and annual survival estimates exclude May, because calves are born at variable dates midway through the spring season (all calves are assigned a birth date of June 1). Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (June 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (June 1–April 30)
<b>MALES (con'd)</b>					
<b>1995–1996</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>0.726</b>	<b>0.912</b>	<b>1.000</b>	<b>0.905</b>	<b>0.541</b>
95% Confidence Interval (CI)	0.697–0.757	0.887–0.937		0.877–0.933	0.498–0.588
Radiodays (min.– max.)	827–870	1952–2002	1220–1251	2930–3020	6929–7143
N collared (n surviving)	35 (26)	23 (21)	20 (20)	20 (18)	22 (35)
Proportion surviving	0.743	0.913	1.000	0.900	0.629
Minimum Survival (95% CI)	0.689–0.752	0.884–0.936		0.873–0.932	0.490–0.582
Maximum Survival (95% CI)	0.730–0.787	0.888–0.937		0.877–0.933	0.501–0.591
<b>1996–1997</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>0.957</b>	<b>0.836</b>	<b>0.941</b>	<b>0.928</b>	<b>0.682</b>
95% Confidence Interval (CI)	0.940–0.974	0.794–0.879	0.913–0.969	0.892–0.965	0.628–0.741
Radiodays (min.– max.)	676–697	1512–1566	912–976	2022–2127	5122–5366
N collared (n surviving)	26 (25)	21 (18)	16 (15)	14 (13)	26 (20)
Proportion surviving	0.962	0.857	0.938	0.929	0.769
Minimum Survival (95% CI)	0.939–0.974	0.791–0.877	0.904–0.967	0.823–0.915	0.620–0.739
Maximum Survival (95% CI)	0.941–0.975	0.798–0.881	0.921–0.970	0.892–0.965	0.635–0.746
<b>1997–1998</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>0.833</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.782</b>
95% Confidence Interval (CI)	0.717–0.967				0.619–0.990
Radiodays (min.– max.)	161–168	460	305	435	1361–1368
N collared (n surviving)	6 (5)	5 (5)	5 (5)	5 (5)	6 (5)
Proportion surviving	0.833	1.000	1.000	1.000	0.833
Minimum Survival (95% CI)	0.710–0.968				0.618–0.990
Maximum Survival (95% CI)	0.723–0.966				0.620–0.990
<b>Average, 1979–1998</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>0.850</b>	<b>0.900</b>	<b>0.960</b>	<b>0.905</b>	<b>0.625</b>
95% Confidence Interval (CI)	0.847–0.852	0.897–0.903	0.958–0.963	0.901–0.909	0.620–0.630
Radiodays (min.– max.)	7371–8711	17790–21388	10315–12680	20272–26692	55748–69471
N collared (n surviving)	317 (274)	224 (203)	174 (167)	162 (148)	317 (232)
Proportion surviving	0.864	0.906	0.960	0.914	0.732
Minimum Survival (95% CI)	0.836–0.842	0.894–0.900	0.957–0.962	0.840–0.848	0.595–0.606
Maximum Survival (95% CI)	0.903–0.907	0.915–0.920	0.990–0.991	0.897–0.905	0.673–0.682

Table 13A-2b. Heisey-Fuller estimates of **yearling** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year. Spring and annual survival estimates were calculated from May 1, for animals from 11 to 23 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>SEXES COMBINED</b>					
<b>1979–1980</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	32	92	61	151	365
N collared (n surviving)	1 (1)	1 (1)	1 (1)	1 (1)	1 (1)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1980–1981</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	188–232	392–649	244–366	646–823	1566–2321
N collared (n surviving)	6 (6)	5 (5)	4 (4)	4 (4)	8 (8)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1981–1982</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	303–398	582–980	212–487	379–949	1685–3193
N collared (n surviving)	10 (10)	9 (9)	4 (4)	3 (3)	13 (13)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1983–1984</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	0.913	0.937
95% Confidence Interval (CI)				0.866–0.962	0.907–0.968
Radiodays (min.– max.)	685–835	1089–1917	610–1108	1502–2341	4117–6937
N collared (n surviving)	26 (26)	14 (14)	11 (11)	10 (9)	26 (25)
Proportion surviving	1.000	1.000	1.000	0.900	0.962
Minimum Survival (95% CI)				0.851–0.961	0.652–0.702
Maximum Survival (95% CI)				0.908–0.968	0.869–0.963
<b>1984–1985</b>					
Heisey-Fuller Survival Estimate	0.856	1.000	1.000	0.821	0.750
95% Confidence Interval (CI)	0.806–0.909			0.753–0.895	0.693–0.812
Radiodays (min.– max.)	601–680	1397–1586	743–926	1167–1907	4324–5699
N collared (n surviving)	22 (20)	18 (18)	13 (13)	12 (10)	22 (18)
Proportion surviving	0.909	1.000	1.000	0.833	0.818
Minimum Survival (95% CI)	0.744–0.895			0.677–0.880	0.644–0.790
Maximum Survival (95% CI)	0.774–0.902			0.802–0.908	0.724–0.827
<b>1985–1986</b>					
Heisey-Fuller Survival Estimate	0.936	0.931	1.000	0.882	0.787
95% Confidence Interval (CI)	0.906–0.968	0.897–0.966		0.810–0.961	0.727–0.852
Radiodays (min.– max.)	535–696	1263–1849	665–835	1036–1487	3915–5631
N collared (n surviving)	23 (22)	15 (14)	12 (12)	10 (9)	49 (39)
Proportion surviving	0.957	0.933	1.000	0.900	0.796
Minimum Survival (95% CI)	0.906–0.968	0.878–0.934		0.776–0.963	0.721–0.825
Maximum Survival (95% CI)	1.000	0.895–0.966		0.848–0.962	0.766–0.899

Table 13A-2b (con'd). Heisey-Fuller estimates of **yearling** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year. Spring and annual survival estimates were calculated from May 1, for animals from 11 to 23 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>SEXES COMBINED (con'd)</b>					
<b>1986–1987</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.397</b>	<b>0.380</b>
95% Confidence Interval (CI)				0.042–1.000	0.034–1.000
Radiodays (min.–max.)	29	92	61	151	365
N collared (n surviving)	1 (1)	1 (1)	1 (1)	1 (0)	1 (0)
Proportion surviving	1.000	1.000	1.000	0.000	0.000
Minimum Survival (95% CI)				0.027–1.000	0.028–1.000
Maximum Survival (95% CI)				0.027–1.000	0.030–1.000
<b>1987–1988</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	29	92	61	151	365
N collared (n surviving)	1 (1)	1 (1)	1 (1)	1 (1)	1 (1)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1988–1989</b>					
Heisey-Fuller Survival Estimate	<b>0.925</b>	<b>0.956</b>	<b>1.000</b>	<b>0.959</b>	<b>0.869</b>
95% Confidence Interval (CI)	0.887–0.965	0.939–0.974		0.943–0.975	0.839–0.900
Radiodays (min.–max.)	638–738	1966–2208	1281–1464	3566–3268	7547–8426
N collared (n surviving)	24 (23)	22 (21)	21 (21)	21 (20)	25 (21)
Proportion surviving	0.958	0.955	1.000	0.952	0.840
Minimum Survival (95% CI)	0.879–0.964	0.936–0.973		0.841–0.901	0.811–0.872
Maximum Survival (95% CI)	0.887–0.965	1.000		0.942–0.975	0.881–0.935
<b>1989–1990</b>					
Heisey-Fuller Survival Estimate	<b>0.925</b>	<b>0.958</b>	<b>0.961</b>	<b>0.872</b>	<b>0.761</b>
95% Confidence Interval (CI)	0.886–0.965	0.942–0.975	0.949–0.977	0.843–0.902	0.725–0.800
Radiodays (min.–max.)	696–725	2152–2263	1331–1403	3067–3207	7596–8439
N collared (n surviving)	25 (24)	25 (24)	22 (21)	21 (18)	26 (20)
Proportion surviving	0.960	0.960	0.955	0.857	0.769
Minimum Survival (95% CI)	0.886–0.965	0.942–0.975	0.939–0.974	0.754–0.828	0.737–0.807
Maximum Survival (95% CI)	1.000	0.945–0.976	0.956–0.979	0.831–0.896	0.749–0.825
<b>1990–1991</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	87–232	395–835	122	286	1064–1809
N collared (n surviving)	3 (3)	5 (5)	2 (2)	2 (2)	10 (10)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.939</b>	<b>0.937</b>	<b>1.000</b>	<b>0.875</b>
95% Confidence Interval (CI)		0.911–0.968	0.910–0.969		0.834–0.918
Radiodays (min.–max.)	464–545	1459–1471	910–915	2166–2476	5405–5596
N collared (n surviving)	16 (16)	16 (15)	15 (14)	14 (14)	18 (16)
Proportion surviving	1.000	0.934	0.933	1.000	0.889
Minimum Survival (95% CI)		0.911–0.968	0.907–0.968		0.832–0.917
Maximum Survival (95% CI)		0.911–0.968	0.913–0.969		0.838–0.919

Table 13A-2b (con'd). Heisey-Fuller estimates of **yearling** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year. Spring and annual survival estimates were calculated from May 1, for animals from 11 to 23 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>SEXES COMBINED (con'd)</b>					
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.881</b>	<b>1.000</b>	<b>0.933</b>	<b>0.809</b>
95% Confidence Interval (CI)		0.843–0.921		0.901–0.966	0.758–0.864
Radiodays (min.– max.)	493	1419–1461	824–885	1873–2184	5092–5256
N collared (n surviving)	17 (17)	17 (15)	14 (14)	13 (12)	17 (14)
Proportion surviving	1.000	0.882	1.000	0.923	0.824
Minimum Survival (95% CI)		0.839–0.920		0.883–0.964	0.754–0.862
Maximum Survival (95% CI)		0.844–0.921		0.901–0.966	0.762–0.865
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.890</b>	<b>0.960</b>	<b>1.000</b>	<b>0.846</b>
95% Confidence Interval (CI)		0.867–0.914	0.946–0.976		0.817–0.875
Radiodays (min.– max.)	783	2373–2382	1411–1464	3492–3363	8603–8846
N collared (n surviving)	27 (27)	27 (24)	24 (23)	22 (22)	27 (23)
Proportion surviving	1.000	0.889	0.958	1.000	0.852
Minimum Survival (95% CI)		0.867–0.914	0.855–0.886		0.815–0.874
Maximum Survival (95% CI)		0.868–0.914	0.943–0.975		0.820–0.877
<b>1997–1998</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.– max.)	174	486–552	183–195	261	1296–1374
N collared (n surviving)	6 (6)	6 (6)	3 (3)	3 (3)	6 (6)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>Average, 1979–1998</b>					
Heisey-Fuller Survival Estimate	<b>0.991</b>	<b>0.956</b>	<b>0.983</b>	<b>0.912</b>	<b>0.848</b>
95% Confidence Interval (CI)	0.990–0.993	0.954–0.958	0.982–0.985	0.908–0.916	0.844–0.852
Radiodays (min.– max.)	6721–6760	17824–18521	10264–10414	20784–22471	62326–64978
N collared (n surviving)	225 (224)	212 (203)	174 (171)	155 (143)	228 (199)
Proportion surviving	0.996	0.958	0.983	0.923	0.873
Minimum Survival (95% CI)	0.970–0.976	0.952–0.958	0.981–0.984	0.886–0.895	0.840–0.848
Maximum Survival (95% CI)	0.989–0.993	0.954–0.958	0.994–0.995	0.894–0.902	0.846–0.854
<b>FEMALES</b>					
<b>1979–1980</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.– max.)	32	92	61	151	365
N collared (n surviving)	1 (1)	1 (1)	1 (1)	1 (1)	1 (1)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1980–1981</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.– max.)	87–116	208–349	122–183	364–453	813–1226
N collared (n surviving)	3 (3)	3 (3)	2 (2)	2 (2)	4 (4)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					

Table 13A-2b (con'd). Heisey-Fuller estimates of **yearling** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year. Spring and annual survival estimates were calculated from May 1, for animals from 11 to 23 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>FEMALES (con'd)</b>					
<b>1981–1982</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	129–195	221–433	75–182	182–302	671–1270
N collared (n surviving)	4 (4)	3 (3)	2 (2)	1 (1)	7 (7)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1983–1984</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	490–406	781–1149	427–702	1062–1510	2925–4215
N collared (n surviving)	14 (14)	10 (10)	8 (8)	7 (7)	14 (14)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1984–1985</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	0.822	0.846
95% Confidence Interval (CI)				0.697–0.970	0.743–0.964
Radiodays (min.–max.)	260–277	616–628	366	641–755	2043–2278
N collared (n surviving)	8 (8)	8 (8)	6 (6)	6 (5)	9 (8)
Proportion surviving	1.000	1.000	1.000	0.833	0.889
Minimum Survival (95% CI)				0.635–0.983	0.723–0.967
Maximum Survival (95% CI)				0.690–0.972	0.754–0.963
<b>1985–1986</b>					
Heisey-Fuller Survival Estimate	1.000	0.759	1.000	0.586	0.589
95% Confidence Interval (CI)		0.573–1.000		0.279–1.000	0.395–0.878
Radiodays (min.–max.)	191–290	329–678	170–244	258–504	1044–2034
N collared (n surviving)	7 (7)	4 (3)	3 (3)	2 (1)	10 (7)
Proportion surviving	1.000	0.750	1.000	0.500	0.700
Minimum Survival (95% CI)		0.567–1.000		0.240–1.000	0.268–0.920
Maximum Survival (95% CI)		0.661–0.878		0.542–1.000	0.441–0.772
<b>1986–1987</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	0.397	0.380
95% Confidence Interval (CI)				0.042–1.000	0.034–1.000
Radiodays (min.–max.)	29	92	61	151	365
N collared (n surviving)	1 (1)	1 (1)	1 (1)	1 (0)	1 (0)
Proportion surviving	1.000	1.000	1.000	0.000	0.000
Minimum Survival (95% CI)				0.027–1.000	0.031–1.000
Maximum Survival (95% CI)				0.033–1.000	0.036–1.000
<b>1987–1988</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	29	92	61	151	365
N collared (n surviving)	1 (1)	1 (1)	1 (1)	1 (1)	1 (1)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					

Table 13A-2b (con'd). Heisey-Fuller estimates of **yearling** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year. Spring and annual survival estimates were calculated from May 1, for animals from 11 to 23 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>FEMALES (con'd)</b>					
<b>1988–1989</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.929</b>	<b>0.918</b>
95% Confidence Interval (CI)				0.895–0.965	0.874–0.963
Radiodays (min.– max.)	348	1104	732	2056–1730	4272–4287
N collared (n surviving)	12 (12)	12 (12)	12 (12)	12 (11)	12 (11)
Proportion surviving	1.000	1.000	1.000	0.917	0.917
Minimum Survival (95% CI)				0.872–0.963	0.875–0.963
Maximum Survival (95% CI)				0.894–0.965	0.875–0.963
<b>1989–1990</b>					
Heisey-Fuller Survival Estimate	<b>0.850</b>	<b>1.000</b>	<b>0.924</b>	<b>0.904</b>	<b>0.741</b>
95% Confidence Interval (CI)	0.748–0.965		0.887–0.964	0.850–0.961	0.663–0.828
Radiodays (min.– max.)	290–319	955–1047	586–671	1413–1668	3383–3977
N collared (n surviving)	11 (10)	11 (11)	10 (9)	9 (8)	12 (9)
Proportion surviving	0.909	1.000	0.900	0.889	0.750
Minimum Survival (95% CI)	0.748–0.965		0.845–0.961	0.773–0.900	0.689–0.837
Maximum Survival (95% CI)	0.817–0.957		0.912–0.967	0.840–0.961	0.729–0.890
<b>1990–1991</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.– max.)	29–58	219–307	122	286	915
N collared (n surviving)	1 (1)	3 (3)	2 (2)	2 (2)	4 (4)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.904</b>	<b>0.899</b>	<b>1.000</b>	<b>0.801</b>
95% Confidence Interval (CI)		0.850–0.962	0.841–0.961		0.722–0.888
Radiodays (min.– max.)	290	907–919	544–549	1384–1260	3221–3331
N collared (n surviving)	10 (10)	10 (9)	9 (8)	8 (8)	10 (8)
Proportion surviving	1.000	0.900	0.889	1.000	0.800
Minimum Survival (95% CI)		0.849–0.961	0.831–0.961		0.716–0.887
Maximum Survival (95% CI)		0.851–0.962	1.000		0.725–0.889
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.889</b>	<b>1.000</b>	<b>1.000</b>	<b>0.878</b>
95% Confidence Interval (CI)		0.822–0.961			0.803–0.961
Radiodays (min.– max.)	261	754–776	427–458	1057	2787–2840
N collared (n surviving)	9 (9)	8 (7)	7 (7)	7 (7)	9 (8)
Proportion surviving	1.000	0.875	1.000	1.000	0.889
Minimum Survival (95% CI)		0.815–0.961			0.801–0.961
Maximum Survival (95% CI)		0.821–0.961			0.805–0.961
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.892</b>	<b>0.885</b>	<b>1.000</b>	<b>0.774</b>
95% Confidence Interval (CI)		0.828–0.961	0.815–0.961		0.680–0.880
Radiodays (min.– max.)	261	803–808	483–488	1072–1040	2811–2882
N collared (n surviving)	9 (9)	9 (8)	8 (7)	7 (7)	9 (7)
Proportion surviving	1.000	0.889	0.875	1.000	0.778
Minimum Survival (95% CI)		0.828–0.961	0.808–0.960		0.676–0.879
Maximum Survival (95% CI)		0.829–0.961	1.000		0.684–0.881

Table 13A-2b (con'd). Heisey-Fuller estimates of **yearling** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year. Spring and annual survival estimates were calculated from May 1, for animals from 11 to 23 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>FEMALES (con'd)</b>					
<b>1997–1998</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.– max.)	29	92	61	87	301
N collared (n surviving)	1 (1)	3 (3)	1 (1)	1 (1)	1 (1)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>Average, 1979–1998</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.958</b>	<b>0.964</b>	<b>0.896</b>	<b>0.845</b>
95% Confidence Interval (CI)		0.954–0.962	0.959–0.968	0.886–0.905	0.836–0.853
Radiodays (min.– max.)	3040–3065	8311–8658	4895–5002	10018–11063	29413–30977
N collared (n surviving)	102 (102)	98 (94)	83 (80)	77 (70)	105 (91)
Proportion surviving	1.000	0.959	0.964	0.909	0.867
Minimum Survival (95% CI)		0.944–0.953	0.959–0.968	0.876–0.893	0.832–0.849
Maximum Survival (95% CI)		0.952–0.961	1.000	0.891–0.909	0.840–0.856
<b>MALES</b>					
<b>1980–1981</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.– max.)	101–116	184–300	122–183	282–370	753–1095
N collared (n surviving)	3 (3)	2 (2)	2 (2)	2 (2)	4 (4)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1981–1982</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.– max.)	174–203	361–547	137–305	197–647	1014–1923
N collared (n surviving)	6 (6)	6 (6)	2 (2)	2 (2)	7 (7)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1983–1984</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.735</b>	<b>0.830</b>
95% Confidence Interval (CI)				0.529–1.000	0.710–0.972
Radiodays (min.– max.)	195–429	308–768	183–406	440–831	1192–2722
N collared (n surviving)	8 (8)	4 (4)	3 (3)	3 (2)	12 (11)
Proportion surviving	1.000	1.000	1.000	0.667	0.917
Minimum Survival (95% CI)				0.478–1.000	0.421–0.867
Maximum Survival (95% CI)				0.718–0.968	0.795–0.962
<b>1984–1985</b>					
Heisey-Fuller Survival Estimate	<b>0.790</b>	<b>1.000</b>	<b>1.000</b>	<b>0.822</b>	<b>0.684</b>
95% Confidence Interval (CI)	0.706–0.883			0.697–0.970	0.582–0.803
Radiodays (min.– max.)	341–403	616–958	377–560	526–1152	2281–3421
N collared (n surviving)	13 (11)	10 (10)	7 (7)	6 (5)	13 (10)
Proportion surviving	0.846	1.000	1.000	0.833	0.769
Minimum Survival (95% CI)	0.559–0.872			0.563–0.998	0.609–0.811
Maximum Survival (95% CI)	0.742–0.898			0.801–0.961	0.642–0.821



Table 13A-2b (con'd). Heisey-Fuller estimates of **yearling** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year. Spring and annual survival estimates were calculated from May 1, for animals from 11 to 23 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>MALES (con'd)</b>					
<b>1985–1986</b>					
Heisey-Fuller Survival Estimate	<b>0.880</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.892</b>
95% Confidence Interval (CI)	0.804–0.962				0.827–0.962
Radiodays (min.– max.)	344–406	934–1171	495–591	778–983	2871–3597
N collared (n surviving)	14 (13)	11 (11)	9 (9)	8 (8)	14 (13)
Proportion surviving	0.929	1.000	1.000	1.000	0.929
Minimum Survival (95% CI)	0.804–0.962				0.612–0.873
Maximum Survival (95% CI)	0.839–0.961				0.848–0.962
<b>1988–1989</b>					
Heisey-Fuller Survival Estimate	<b>0.869</b>	<b>0.908</b>	<b>1.000</b>	<b>1.000</b>	<b>0.812</b>
95% Confidence Interval (CI)	0.785–0.962	0.856–0.962			0.739–0.892
Radiodays (min.– max.)	290–390	862–1104	549–732	1510–1538	3275–4139
N collared (n surviving)	12 (11)	10 (9)	9 (9)	9 (9)	13 (10)
Proportion surviving	0.917	0.900	1.000	1.000	0.769
Minimum Survival (95% CI)	0.785–0.962	0.840–0.961			0.700–0.841
Maximum Survival (95% CI)	0.899–0.963	0.870–0.962			0.833–0.961
<b>1989–1990</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.927</b>	<b>1.000</b>	<b>0.846</b>	<b>0.779</b>
95% Confidence Interval (CI)		0.890–0.965		0.792–0.905	0.716–0.847
Radiodays (min.– max.)	406	1197–1216	731–732	1654–1668	4213–4462
N collared (n surviving)	14 (14)	14 (13)	12 (12)	12 (10)	14 (11)
Proportion surviving	1.000	0.929	1.000	0.833	0.786
Minimum Survival (95% CI)		0.889–0.965		0.771–0.899	0.705–0.843
Maximum Survival (95% CI)		0.891–0.965		0.773–0.900	0.721–0.849
<b>1990–1991</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>			<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.– max.)	29	88–440			149–745
N collared (n surviving)	1 (1)	1 (1)			1 (1)
Proportion surviving	1.000	1.000			1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.– max.)	174–255	552	366	906	2184–2265
N collared (n surviving)	6 (6)	6 (6)	6 (6)	6 (6)	8 (8)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.872</b>	<b>1.000</b>	<b>0.848</b>	<b>0.734</b>
95% Confidence Interval (CI)		0.792–0.961		0.746–0.963	0.617–0.872
Radiodays (min.– max.)	232	665–685	397–427	910–816	2305–2416
N collared (n surviving)	8 (8)	8 (7)	7 (7)	6 (5)	8 (6)
Proportion surviving	0.923	0.875	1.000	0.833	0.750
Minimum Survival (95% CI)		0.789–0.961		0.713–0.968	0.609–0.871
Maximum Survival (95% CI)		0.795–0.961		0.745–0.963	0.626–0.873

Table 13A-2b (con'd). Heisey-Fuller estimates of **yearling** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year. Spring and annual survival estimates were calculated from May 1, for animals from 11 to 23 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>MALES (con'd)</b>					
<b>1996–1997</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>1.000</b>	<b>0.889</b>	<b>1.000</b>	<b>1.000</b>	<b>0.883</b>
95% Confidence Interval (CI)		0.855–0.925			0.846–0.922
Radiodays (min.– max.)	522	1570–1574	928–976	2323–2420	5792–5964
N collared (n surviving)	18 (18)	18 (16)	16 (16)	15 (15)	18 (16)
Proportion surviving	1.000	0.889	1.000	1.000	0.889
Minimum Survival (95% CI)		0.855–0.925			0.844–0.921
Maximum Survival (95% CI)		0.855–0.925			0.848–0.923
<b>1997–1998</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.– max.)	145	394–472	122–134	174	995–1073
N collared (n surviving)	5 (5)	5 (5)	2 (2)	2 (2)	5 (5)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>Average, 1979–1998</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>0.984</b>	<b>0.955</b>	<b>1.000</b>	<b>0.872</b>	<b>0.850</b>
95% Confidence Interval (CI)	0.980–0.988	0.951–0.958		0.862–0.882	0.842–0.857
Radiodays (min.– max.)	3627–3691	9425–9775	5369–5412	10766–11408	32764–33852
N collared (n surviving)	122 (121)	113 (108)	91 (91)	87 (78)	122 (107)
Proportion surviving	0.992	0.956	1.000	0.897	0.877
Minimum Survival (95% CI)	0.945–0.959	0.948–0.956		0.873–0.890	0.838–0.854
Maximum Survival (95% CI)	0.979–0.988	0.960–0.967		0.904–0.919	0.843–0.858

Table 13A-2c. Heisey-Fuller estimates of **two-year old** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year. Spring and annual survival estimates were calculated from May 1, for animals from 23 to 35 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>SEXES COMBINED</b>					
<b>1979–1980</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	90–122	368–460	244–305	604–755	1402–1738
N collared (n surviving)	2 (2)	4 (4)	4 (4)	4 (4)	5 (5)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1980–1981</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	29	92	61	151	364
N collared (n surviving)	1 (1)	1 (1)	1 (1)	1 (1)	1 (1)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1981–1982</b>					
Heisey-Fuller Survival Estimate	0.712	1.000	1.000	1.000	0.656
95% Confidence Interval (CI)	0.488–1.000				0.380–1.000
Radiodays (min.– max.)	73–172	184–345	122–183	302–453	743–1278
N collared (n surviving)	4 (3)	2 (2)	2 (2)	2 (2)	4 (3)
Proportion surviving	0.750	1.000	1.000	1.000	0.750
Minimum Survival (95% CI)	0.076–1.000				0.307–1.000
Maximum Survival (95% CI)	0.134–1.000				0.558–1.000
<b>1982–1983</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	74–161	368–644	244–427	604–1057	1415–2506
N collared (n surviving)	6 (6)	4 (4)	4 (4)	4 (4)	6 (6)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1983–1984</b>					
Heisey-Fuller Survival Estimate			1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)			61	49	232
N collared (n surviving)			1 (1)	1 (1)	1 (1)
Proportion surviving			1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1984–1985</b>					
Heisey-Fuller Survival Estimate	1.000	0.856	1.000	1.000	0.856
95% Confidence Interval (CI)		0.761–0.962			0.761–0.962
Radiodays (min.– max.)	233–321	590–793	366	831–906	2239–2764
N collared (n surviving)	9 (9)	7 (6)	6 (6)	6 (6)	9 (8)
Proportion surviving	1.000	0.857	1.000	1.000	0.889
Minimum Survival (95% CI)		0.761–0.962			0.749–0.963
Maximum Survival (95% CI)		0.825–0.961			0.799–0.961

Table 13A-2c (con'd). Heisey-Fuller estimates of **two-year old** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year. Spring and annual survival estimates were calculated from May 1, for animals from 23 to 35 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>SEXES COMBINED (con'd)</b>					
<b>Average, 1979–1998</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>0.967</b>	<b>0.912</b>	<b>0.988</b>	<b>0.982</b>	<b>0.846</b>
95% Confidence Interval (CI)	0.961–0.973	0.907–0.917	0.986–0.991	0.978–0.987	0.838–0.854
Radiodays (min.–max.)	3579–3653	9647–9784	4683–5050	9282–10306	31791–33324
N collared (n surviving)	123 (121)	124 (114)	83 (82)	67 (66)	135 (120)
Proportion surviving	0.984	0.919	0.988	0.985	0.889
Minimum Survival (95% CI)	0.961–0.972	0.896–0.907	0.985–0.990	0.962–0.974	0.834–0.850
Maximum Survival (95% CI)	0.961–0.973	0.904–0.914	1.000	0.966–0.976	0.841–0.856
<b>FEMALES</b>					
<b>1979–1980</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	90–122	368–460	244–305	604–755	1402–1738
N collared (n surviving)	2 (2)	4 (4)	4 (4)	4 (4)	5 (5)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1980–1981</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	29	92	61	151	364
N collared (n surviving)	1 (1)	1 (1)	1 (1)	1 (1)	1 (1)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1981–1982</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	58–87	184–276	122–183	302–453	728–1092
N collared (n surviving)	3 (3)	2 (2)	2 (2)	2 (2)	3 (3)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1982–1983</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	45–74	276–368	183–244	453–604	1050–1414
N collared (n surviving)	3 (3)	3 (3)	3 (3)	3 (3)	3 (3)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1983–1984</b>					
<b>Heisey-Fuller Survival Estimate</b>			<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)			61	49	232
N collared (n surviving)			1 (1)	1 (1)	1 (1)
Proportion surviving			1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					

Table 13A-2c (con'd). Heisey-Fuller estimates of **two-year old** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year. Spring and annual survival estimates were calculated from May 1, for animals from 23 to 35 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>FEMALES (con'd)</b>					
<b>1984–1985</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	147–205	552–665	366	831–906	2083–2392
N collared (n surviving)	7 (7)	6 (6)	6 (6)	6 (6)	7 (7)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1985–1986</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	87–116	276–368	183–190	428–453	1068–1253
N collared (n surviving)	4 (4)	3 (3)	3 (3)	3 (3)	4 (4)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1986–1987</b>					
Heisey-Fuller Survival Estimate	1.000	1.000			1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	29–58	28–120			89–263
N collared (n surviving)	1 (1)	1 (1)			1 (1)
Proportion surviving	1.000	1.000			1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1987–1988</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	24	92	61	151	360
N collared (n surviving)	1 (1)	1 (1)	1 (1)	1 (1)	1 (1)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1988–1989</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	29	92	61	151	364
N collared (n surviving)	1 (1)	1 (1)	1 (1)	1 (1)	1 (1)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1989–1990</b>					
Heisey-Fuller Survival Estimate	1.000	0.783	1.000	1.000	0.728
95% Confidence Interval (CI)		0.694–0.883			0.608–0.872
Radiodays (min.– max.)	321	723–782	244	604	2273–2332
N collared (n surviving)	12 (12)	12 (10)	4 (4)	4 (4)	12 (10)
Proportion surviving	1.000	0.833	1.000	1.000	0.833
Minimum Survival (95% CI)		0.682–0.881			0.604–0.871
Maximum Survival (95% CI)		0.705–0.885			0.613–0.872

Table 13A-2c (con'd). Heisey-Fuller estimates of **two-year old** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year. Spring and annual survival estimates were calculated from May 1, for animals from 23 to 35 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>FEMALES (con'd)</b>					
<b>1990–1991</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.696</b>	<b>1.000</b>	<b>1.000</b>	<b>0.584</b>
95% Confidence Interval (CI)		0.600–0.807			0.442–0.772
Radiodays (min.– max.)	232	746–756	122–244	302–597	1778–2181
N collared (n surviving)	8 (8)	10 (7)	2 (2)	2 (2)	10 (7)
Proportion surviving	1.000	0.700	1.000	1.000	0.700
Minimum Survival (95% CI)		0.592–0.805			0.380–0.766
Maximum Survival (95% CI)		0.696–0.883			0.589–0.869
<b>1991–1992</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.– max.)	58	184	122	302	730
N collared (n surviving)	2 (2)	2 (2)	2 (2)	2 (2)	2 (2)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1992–1993</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.– max.)	29	92	61	151	364
N collared (n surviving)	1 (1)	1 (1)	1 (1)	1 (1)	1 (1)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.– max.)	29	25	61	84	329
N collared (n surviving)	1 (1)	2 (2)	1 (1)	1 (1)	2 (2)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.– max.)	217	736	430–488	906–949	2545–2646
N collared (n surviving)	8 (8)	8 (8)	8 (8)	6 (6)	8 (8)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	<b>0.760</b>	<b>0.801</b>	<b>1.000</b>	<b>1.000</b>	<b>0.622</b>
95% Confidence Interval (CI)	0.571–1.000	0.655–0.979			0.443–0.872
Radiodays (min.– max.)	179–222	413–432	196–244	355–441	1422–1650
N collared (n surviving)	7 (6)	5 (4)	4 (4)	3 (3)	8 (6)
Proportion surviving	0.857	0.800	1.000	1.000	0.750
Minimum Survival (95% CI)	0.476–1.000	0.653–0.980			0.408–0.877
Maximum Survival (95% CI)	0.571–1.000	0.670–0.973			0.475–0.869

Table 13A-2c (con'd). Heisey-Fuller estimates of **two-year old** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year. Spring and annual survival estimates were calculated from May 1, for animals from 23 to 35 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>FEMALES (con'd)</b>					
<b>1997–1998</b>					
Heisey-Fuller Survival Estimate	1.000	1.000			1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	29–63	52–92			113–191
N collared (n surviving)	1 (1)	1 (1)			1 (1)
Proportion surviving	1.000	1.000			1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>Average, 1979–1998</b>					
Heisey-Fuller Survival Estimate	0.968	0.906	1.000	1.000	0.875
95% Confidence Interval (CI)	0.958–0.979	0.896–0.915			0.863–0.887
Radiodays (min.– max.)	1864–1986	5457–5490	2883–2899	6094–6442	18919–19244
N collared (n surviving)	67 (66)	71 (65)	48 (48)	43 (43)	75 (68)
Proportion surviving	0.985	0.915	1.000	1.000	0.907
Minimum Survival (95% CI)	0.926–0.955	0.895–0.914			0.861–0.886
Maximum Survival (95% CI)	0.957–0.979	0.910–0.928			0.864–0.888
<b>MALES</b>					
<b>1981–1982</b>					
Heisey-Fuller Survival Estimate	0.365				0.006
95% Confidence Interval (CI)	0.026–1.000				0.000–1.000
Radiodays (min.– max.)	15–85				15–186
N collared (n surviving)	1 (0)				1 (0)
Proportion surviving	0.000				0.000
Minimum Survival (95% CI)	0.000–1.000				0.000–1.000
Maximum Survival (95% CI)	0.063–1.000				0.000–1.000
<b>1982–1983</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	29–87	92–276	61–183	151–453	365–1092
N collared (n surviving)	3 (3)	1 (1)	1 (1)	1 (1)	3 (3)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1984–1985</b>					
Heisey-Fuller Survival Estimate	1.000	0.086			0.118
95% Confidence Interval (CI)					0.000–1.000
Radiodays (min.– max.)	86–116	38–128			156–372
N collared (n surviving)	2 (2)	1 (0)			2 (1)
Proportion surviving	1.000	0.000			0.500
Minimum Survival (95% CI)		0.000–1.000			0.000–1.000
Maximum Survival (95% CI)		0.126–1.000			0.038–1.000
<b>1985–1986</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	58–116	184–329	122–183	207–403	634–1158
N collared (n surviving)	3 (3)	2 (2)	2 (2)	2 (2)	3 (3)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					

Table 13A-2c (con'd). Heisey-Fuller estimates of **two-year old** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year. Spring and annual survival estimates were calculated from May 1, for animals from 23 to 35 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>MALES (con'd)</b>					
<b>1986–1987</b>					
Heisey-Fuller Survival Estimate	1.000				1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	28–58				28–263
N collared (n surviving)	2 (2)				2 (2)
Proportion surviving	1.000				1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1987–1988</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	47	184	122	302	719
N collared (n surviving)	2 (2)	2 (2)	2 (2)	2 (2)	2 (2)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1989–1990</b>					
Heisey-Fuller Survival Estimate	1.000	0.835	1.000		0.741
95% Confidence Interval (CI)		0.722–0.967			0.535–1.000
Radiodays (min.–max.)	243–272	473–604	54–237		1018–1670
N collared (n surviving)	9 (9)	7 (6)	1 (1)		9 (8)
Proportion surviving	1.000	0.857	1.000		0.889
Minimum Survival (95% CI)		0.697–0.971			0.452–1.000
Maximum Survival (95% CI)		1.000			0.659–0.980
<b>1990–1991</b>					
Heisey-Fuller Survival Estimate	1.000	0.869	1.000	1.000	0.816
95% Confidence Interval (CI)		0.786–0.962			0.681–0.977
Radiodays (min.–max.)	203–232	629–731	122–244	297–599	1510–2095
N collared (n surviving)	8 (8)	8 (7)	2 (2)	2 (2)	9 (8)
Proportion surviving	1.000	0.875	1.000	1.000	0.889
Minimum Survival (95% CI)		0.776–0.962			0.620–0.995
Maximum Survival (95% CI)		0.809–0.961			0.729–0.968
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	0.605		0.479
95% Confidence Interval (CI)			0.297–1.000		0.121–1.000
Radiodays (min.–max.)	61	113	54–122		360–629
N collared (n surviving)	1 (1)	2 (2)	2 (1)		2 (1)
Proportion surviving	1.000	1.000	0.500		0.500
Minimum Survival (95% CI)			0.017–1.000		0.034–1.000
Maximum Survival (95% CI)			1.000		0.220–1.000
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	0.753	1.000	1.000	1.000	0.828
95% Confidence Interval (CI)	0.562–1.000				0.707–0.970
Radiodays (min.–max.)	184–214	536–582	305	639–659	1905–1973
N collared (n surviving)	7 (6)	6 (6)	5 (5)	5 (5)	7 (6)
Proportion surviving	0.857	1.000	1.000	1.000	0.857
Minimum Survival (95% CI)	0.558–1.000				0.702–0.971
Maximum Survival (95% CI)	1.000				0.713–0.969



Table 13A-2c (con'd). Heisey-Fuller estimates of **two-year old** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year. Spring and annual survival estimates were calculated from May 1, for animals from 23 to 35 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>MALES (con'd)</b>					
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	206	552	392–488	567–796	2117–2442
N collared (n surviving)	6 (6)	6 (6)	8 (8)	6 (6)	8 (8)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1997–1998</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.856</b>	<b>1.000</b>	<b>1.000</b>	<b>0.767</b>
95% Confidence Interval (CI)		0.761–0.963			0.585–1.000
Radiodays (min.–max.)	203	539–639	130–246	174	1270–1486
N collared (n surviving)	7 (7)	7 (6)	4 (4)	2 (2)	7 (6)
Proportion surviving	1.000	0.857	1.000	1.000	0.857
Minimum Survival (95% CI)		0.736–0.966			0.551–1.000
Maximum Survival (95% CI)		0.780–0.961			0.615–0.995
<b>Average, 1981–1998</b>					
Heisey-Fuller Survival Estimate	<b>0.965</b>	<b>0.919</b>	<b>0.971</b>	<b>0.942</b>	<b>0.806</b>
95% Confidence Interval (CI)	0.953–0.978	0.908–0.931	0.961–0.981	0.916–0.969	0.786–0.827
Radiodays (min.–max.)	1667–1715	4157–4327	1800–2151	3188–3864	12872–14080
N collared (n surviving)	56 (55)	53 (49)	35 (34)	24 (23)	60 (52)
Proportion surviving	0.982	0.925	0.971	0.958	0.867
Minimum Survival (95% CI)	0.952–0.978	0.867–0.894	0.955–0.978	0.884–0.936	0.775–0.819
Maximum Survival (95% CI)	1.000	0.903–0.927	1.000	0.905–0.945	0.793–0.833

Table 13A-2d. Heisey-Fuller estimates of **adult** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year (hunting and poaching excluded). Spring and annual survival estimates were calculated from May 1, for animals older than 35 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>SEXES COMBINED</b>					
<b>1979–1980</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.– max.)	1471	4508–4649	3605–3666	8821–9060	21108–21442
N collared (n surviving)	69 (69)	60 (60)	60 (60)	59 (59)	69 (69)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1980–1981</b>					
Heisey-Fuller Survival Estimate	<b>0.983</b>	<b>1.000</b>	<b>1.000</b>	<b>0.947</b>	<b>0.935</b>
95% Confidence Interval (CI)	0.979–0.988			0.940–0.955	0.927–0.943
Radiodays (min.– max.)	3498–3742	5353–5781	3416–3721	8336–9107	20941–22691
N collared (n surviving)	67 (66)	61 (61)	56 (56)	56 (53)	67 (63)
Proportion surviving	0.985	1.000	1.000	0.946	0.940
Minimum Survival (95% CI)	0.978–0.987			0.928–0.944	0.914–0.931
Maximum Survival (95% CI)	0.980–0.988			0.939–0.955	0.924–0.941
<b>1981–1982</b>					
Heisey-Fuller Survival Estimate	<b>0.964</b>	<b>0.959</b>	<b>1.000</b>	<b>0.984</b>	<b>0.920</b>
95% Confidence Interval (CI)	0.958–0.971	0.952–0.967		0.980–0.988	0.911–0.929
Radiodays (min.– max.)	3238–3550	4329–4901	3325–3599	9041–9614	20792–22522
N collared (n surviving)	73 (71)	67 (65)	61 (61)	61 (60)	73 (68)
Proportion surviving	0.973	0.970	1.000	0.984	0.932
Minimum Survival (95% CI)	0.960–0.972	0.950–0.967		0.979–0.988	0.914–0.931
Maximum Survival (95% CI)	0.976–0.986	0.956–0.970		0.981–0.988	0.924–0.941
<b>1982–1983</b>					
Heisey-Fuller Survival Estimate	<b>0.969</b>	<b>0.955</b>	<b>1.000</b>	<b>0.949</b>	<b>0.883</b>
95% Confidence Interval (CI)	0.963–0.974	0.949–0.961		0.941–0.956	0.873–0.893
Radiodays (min.– max.)	3593–3908	5970–6299	3718–3912	8438–9263	22154–23849
N collared (n surviving)	78 (76)	67 (64)	62 (62)	60 (57)	78 (70)
Proportion surviving	0.974	0.955	1.000	0.950	0.897
Minimum Survival (95% CI)	0.943–0.958	0.949–0.961		0.940–0.955	0.851–0.873
Maximum Survival (95% CI)	0.964–0.975	0.951–0.963		0.962–0.974	0.875–0.894
<b>1983–1984</b>					
Heisey-Fuller Survival Estimate	<b>0.943</b>	<b>0.973</b>	<b>1.000</b>	<b>0.971</b>	<b>0.897</b>
95% Confidence Interval (CI)	0.937–0.950	0.969–0.977		0.966–0.976	0.889–0.905
Radiodays (min.– max.)	4042–4471	6342–6992	4132–4637	10011–10458	26080–27906
N collared (n surviving)	94 (90)	79 (77)	70 (70)	68 (66)	94 (86)
Proportion surviving	0.957	0.975	1.000	0.971	0.915
Minimum Survival (95% CI)	0.935–0.948	0.967–0.976		0.965–0.975	0.886–0.902
Maximum Survival (95% CI)	0.941–0.953	1.000		0.952–0.963	0.906–0.920
<b>1984–1985</b>					
Heisey-Fuller Survival Estimate	<b>0.971</b>	<b>0.970</b>	<b>0.986</b>	<b>0.957</b>	<b>0.905</b>
95% Confidence Interval (CI)	0.967–0.976	0.965–0.975	0.983–0.990	0.951–0.963	0.897–0.913
Radiodays (min.– max.)	4093–4333	5996–6323	4312–4322	10296–10680	25175–26136
N collared (n surviving)	83 (81)	77 (75)	72 (71)	70 (67)	83 (76)
Proportion surviving	0.976	0.974	0.986	0.957	0.916
Minimum Survival (95% CI)	0.982–0.989	0.952–0.963	0.983–0.990	0.953–0.964	0.899–0.915
Maximum Survival (95% CI)	0.983–0.989	0.965–0.975	1.000	0.966–0.976	0.909–0.925

Table 13A-2d (con'd). Heisey-Fuller estimates of **adult** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year (hunting and poaching excluded). Spring and annual survival estimates were calculated from May 1, for animals older than 35 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>SEXES COMBINED (con'd)</b>					
<b>1985–1986</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.945</b>	<b>0.964</b>	<b>0.963</b>	<b>0.880</b>
95% Confidence Interval (CI)		0.940–0.950	0.961–0.970	0.959–0.968	0.873–0.888
Radiodays (min.– max.)	4396–4613	7884–8333	4964–5262	11854–12687	30554–32349
N collared (n surviving)	98 (98)	96 (91)	86 (83)	82 (79)	98 (87)
Proportion surviving	1.000	0.948	0.965	0.963	0.888
Minimum Survival (95% CI)		0.938–0.949	0.961–0.969	0.937–0.945	0.856–0.871
Maximum Survival (95% CI)		0.975–0.981	0.963–0.971	0.958–0.967	0.869–0.885
<b>1986–1987</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.975</b>	<b>1.000</b>	<b>0.984</b>	<b>0.959</b>
95% Confidence Interval (CI)		0.971–0.979		0.980–0.988	0.954–0.965
Radiodays (min.– max.)	4410–4589	7065–7386	3924–4216	9008–9868	25460–27204
N collared (n surviving)	89 (89)	85 (83)	80 (80)	61 (60)	89 (86)
Proportion surviving	1.000	0.976	1.000	0.984	0.966
Minimum Survival (95% CI)		0.970–0.978		0.979–0.986	0.942–0.954
Maximum Survival (95% CI)		0.972–0.979		0.981–0.988	0.952–0.964
<b>1987–1988</b>					
Heisey-Fuller Survival Estimate	<b>0.951</b>	<b>0.920</b>	<b>0.988</b>	<b>1.000</b>	<b>0.876</b>
95% Confidence Interval (CI)	0.944–0.958	0.914–0.926	0.985–0.991		0.868–0.884
Radiodays (min.– max.)	3525–3570	7614–7837	4781–4925	11364–11512	29548–30097
N collared (n surviving)	99 (96)	91 (84)	79 (78)	76 (76)	99 (88)
Proportion surviving	0.970	0.923	0.987	1.000	0.889
Minimum Survival (95% CI)	0.943–0.957	0.912–0.925	0.985–0.990		0.865–0.881
Maximum Survival (95% CI)	0.960–0.972	0.915–0.927	0.986–0.991		0.867–0.883
<b>1988–1989</b>					
Heisey-Fuller Survival Estimate	<b>0.973</b>	<b>0.978</b>	<b>0.978</b>	<b>0.954</b>	<b>0.895</b>
95% Confidence Interval (CI)	0.970–0.976	0.975–0.980	0.976–0.981	0.951–0.958	0.891–0.899
Radiodays (min.– max.)	6601–6737	12061–12249	7927–8192	18932–19959	48023–49603
N collared (n surviving)	149 (146)	141 (138)	128 (125)	123 (117)	149 (134)
Proportion surviving	0.980	0.979	0.977	0.951	0.899
Minimum Survival (95% CI)	0.970–0.976	0.975–0.980	0.976–0.980	0.945–0.952	0.888–0.897
Maximum Survival (95% CI)	0.980–0.984	0.983–0.987	0.992–0.994	0.950–0.957	0.911–0.919
<b>1989–1990</b>					
Heisey-Fuller Survival Estimate	<b>0.974</b>	<b>0.917</b>	<b>0.973</b>	<b>0.924</b>	<b>0.807</b>
95% Confidence Interval (CI)	0.972–0.977	0.913–0.922	0.971–0.977	0.919–0.929	0.800–0.814
Radiodays (min.– max.)	6992–7370	10685–11069	6559–6825	15208–16110	40292–42222
N collared (n surviving)	131 (128)	125 (115)	111 (108)	103 (95)	131 (107)
Proportion surviving	0.977	0.920	0.973	0.922	0.817
Minimum Survival (95% CI)	0.940–0.947	0.913–0.922	0.970–0.976	0.918–0.929	0.792–0.805
Maximum Survival (95% CI)	0.990–0.993	0.916–0.925	0.972–0.977	0.941–0.949	0.812–0.826
<b>1990–1991</b>					
Heisey-Fuller Survival Estimate	<b>0.959</b>	<b>0.866</b>	<b>1.000</b>	<b>1.000</b>	<b>0.792</b>
95% Confidence Interval (CI)	0.954–0.963	0.859–0.874			0.782–0.803
Radiodays (min.– max.)	5844–6155	8281–8595	3172–3721	7399–8909	25634–28167
N collared (n surviving)	103 (99)	97 (84)	49 (49)	48 (48)	103 (86)
Proportion surviving	0.961	0.866	1.000	1.000	0.835
Minimum Survival (95% CI)	0.909–0.920	0.858–0.873			0.774–0.796
Maximum Survival (95% CI)	0.955–0.963	0.943–0.953			0.825–0.844

Table 13A-2d (con'd). Heisey-Fuller estimates of **adult** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year (hunting and poaching excluded). Spring and annual survival estimates were calculated from May 1, for animals older than 35 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>SEXES COMBINED (con'd)</b>					
<b>1991–1992</b>					
Heisey-Fuller Survival Estimate	<b>0.924</b>	<b>0.883</b>	<b>0.960</b>	<b>1.000</b>	<b>0.769</b>
95% Confidence Interval (CI)	0.914–0.934	0.864–0.903	0.947–0.976		0.745–0.793
Radiodays (min.–max.)	2939–3513	3019–3485	1501–1839	3473–4228	11849–14009
N collared (n surviving)	56 (52)	46 (42)	25 (24)	23 (23)	56 (47)
Proportion surviving	0.929	0.913	0.960	1.000	0.839
Minimum Survival (95% CI)	0.828–0.853	0.867–0.904	0.923–0.953		0.635–0.683
Maximum Survival (95% CI)	0.951–0.967	0.884–0.915	0.947–0.976		0.783–0.830
<b>1992–1993</b>					
Heisey-Fuller Survival Estimate	<b>0.966</b>	<b>0.938</b>	<b>0.966</b>	<b>1.000</b>	<b>0.877</b>
95% Confidence Interval (CI)	0.955–0.978	0.923–0.953	0.956–0.979		0.856–0.898
Radiodays (min.–max.)	847–1987	1936–3055	1085–2013	2567–4983	6435–12162
N collared (n surviving)	32 (31)	31 (29)	29 (28)	28 (28)	32 (28)
Proportion surviving	0.969	0.935	0.966	1.000	0.875
Minimum Survival (95% CI)	0.845–0.891	0.883–0.936	0.924–0.971		0.651–0.743
Maximum Survival (95% CI)	0.926–0.955	0.961–0.980	1.000		0.898–0.930
<b>1993–1994</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.941</b>	<b>0.952</b>	<b>0.974</b>	<b>0.888</b>
95% Confidence Interval (CI)		0.927–0.955	0.944–0.964	0.967–0.982	0.874–0.903
Radiodays (min.–max.)	2080–2491	3026–3412	2440–2639	5756–6350	14921–16381
N collared (n surviving)	50 (50)	47 (45)	42 (40)	39 (38)	50 (45)
Proportion surviving	1.000	0.957	0.952	0.974	0.900
Minimum Survival (95% CI)		0.908–0.936	0.943–0.963	0.920–0.943	0.840–0.871
Maximum Survival (95% CI)		0.927–0.955	1.000	0.966–0.982	0.870–0.900
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate	<b>0.946</b>	<b>0.963</b>	<b>1.000</b>	<b>0.929</b>	<b>0.868</b>
95% Confidence Interval (CI)	0.938–0.955	0.956–0.970		0.921–0.936	0.859–0.878
Radiodays (min.–max.)	3313–3445	4876–5110	4453–4816	10049–10825	25222–26645
N collared (n surviving)	85 (82)	82 (80)	71 (71)	69 (64)	85 (75)
Proportion surviving	0.965	0.976	1.000	0.928	0.882
Minimum Survival (95% CI)	0.923–0.940	0.956–0.970		0.920–0.935	0.851–0.869
Maximum Survival (95% CI)	0.957–0.971	0.958–0.971		0.926–0.939	0.869–0.887
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	<b>0.955</b>	<b>0.943</b>	<b>0.952</b>	<b>0.967</b>	<b>0.831</b>
95% Confidence Interval (CI)	0.949–0.961	0.936–0.949	0.947–0.960	0.961–0.973	0.820–0.842
Radiodays (min.–max.)	3864–4109	6225–6451	3715–3858	8943–9181	23266–24118
N collared (n surviving)	74 (71)	69 (65)	63 (60)	60 (58)	74 (62)
Proportion surviving	0.959	0.942	0.952	0.967	0.838
Minimum Survival (95% CI)	0.921–0.936	0.924–0.938	0.947–0.960	0.961–0.973	0.785–0.809
Maximum Survival (95% CI)	0.964–0.974	0.936–0.949	0.949–0.961	0.962–0.973	0.830–0.853
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	<b>0.975</b>	<b>0.976</b>	<b>0.979</b>	<b>0.957</b>	<b>0.895</b>
95% Confidence Interval (CI)	0.972–0.979	0.972–0.980	0.976–0.982	0.953–0.961	0.888–0.901
Radiodays (min.–max.)	4889–4957	7548–7648	5568–5728	13606–13899	32632–33253
N collared (n surviving)	103 (101)	101 (99)	97 (95)	93 (89)	103 (93)
Proportion surviving	0.981	0.980	0.979	0.957	0.903
Minimum Survival (95% CI)	0.972–0.979	0.972–0.980	0.976–0.982	0.952–0.961	0.887–0.901
Maximum Survival (95% CI)	0.985–0.990	0.973–0.980	0.977–0.983	0.953–0.962	0.900–0.912

Table 13A-2d (con'd). Heisey-Fuller estimates of **adult** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year (hunting and poaching excluded). Spring and annual survival estimates were calculated from May 1, for animals older than 35 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>SEXES COMBINED (con'd)</b>					
<b>1997–1998</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>0.977</b>	<b>1.000</b>	<b>0.974</b>	<b>1.000</b>	<b>0.952</b>
95% Confidence Interval (CI)	0.974–0.981		0.971–0.979		0.945–0.959
Radiodays (min.– max.)	5252–5269	7950–8148	4726–4968	3360	21965–22454
N collared (n surviving)	91 (89)	88 (88)	81 (79)	56 (56)	91 (88)
Proportion surviving	0.978	1.000	0.975	1.000	0.967
Minimum Survival (95% CI)	0.974–0.980		0.985–0.990		0.929–0.945
Maximum Survival (95% CI)	0.974–0.980		0.986–0.991		0.944–0.958
<b>Average, 1979–1998</b>					
<b>Heisey-Fuller Survival Estimate</b>	Seasonal averages are not possible for adults since the same individual may be recorded in more than one year. Annual averages span all years in a “staggered entry” design.				<b>0.909</b>
95% Confidence Interval (CI)					0.909–0.910
Radiodays (min.– max.)					544434–571933
N collared (n surviving)					537 (392)
Minimum Survival (95% CI)					0.907–0.908
Maximum Survival (95% CI)					0.911–0.912
<b>FEMALES</b>					
<b>1979–1980</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.– max.)	1142–1196	4048–4189	3050–3111	7378–7550	17921–18320
N collared (n surviving)	59 (59)	50 (50)	50 (50)	49 (49)	59 (59)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1980–1981</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>0.980</b>	<b>1.000</b>	<b>1.000</b>	<b>0.959</b>	<b>0.941</b>
95% Confidence Interval (CI)	0.975–0.986			0.951–0.967	0.932–0.950
Radiodays (min.– max.)	2978–3133	4479–4788	2928–3111	7134–7597	17643–18785
N collared (n surviving)	53 (52)	50 (50)	48 (48)	48 (46)	53 (50)
Proportion surviving	0.981	1.000	1.000	0.958	0.943
Minimum Survival (95% CI)	0.974–0.985			0.933–0.951	0.915–0.935
Maximum Survival (95% CI)	0.976–0.986			0.950–0.967	0.930–0.949
<b>1981–1982</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>0.979</b>	<b>0.955</b>	<b>1.000</b>	<b>0.981</b>	<b>0.923</b>
95% Confidence Interval (CI)	0.974–0.985	0.946–0.965		0.975–0.986	0.912–0.933
Radiodays (min.– max.)	2842–3009	3932–4304	2771–2984	7609–7983	17526–18613
N collared (n surviving)	59 (58)	56 (54)	51 (51)	51 (50)	59 (55)
Proportion surviving	0.983	0.964	1.000	0.980	0.932
Minimum Survival (95% CI)	0.973–0.985	0.945–0.964		0.975–0.986	0.909–0.931
Maximum Survival (95% CI)	0.974–0.985	0.950–0.966		0.976–0.986	0.915–0.935
<b>1982–1983</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>0.963</b>	<b>0.949</b>	<b>1.000</b>	<b>0.960</b>	<b>0.882</b>
95% Confidence Interval (CI)	0.956–0.970	0.942–0.957		0.953–0.968	0.871–0.893
Radiodays (min.– max.)	3066–3310	5234–5471	3230–3363	7381–8002	19346–20613
N collared (n surviving)	68 (66)	59 (56)	54 (54)	52 (50)	68 (61)
Proportion surviving	0.971	0.949	1.000	0.962	0.897
Minimum Survival (95% CI)	0.933–0.951	0.941–0.956		0.952–0.968	0.847–0.873
Maximum Survival (95% CI)	0.957–0.971	0.944–0.958		0.976–0.986	0.872–0.895

Table 13A-2d (con'd). Heisey-Fuller estimates of **adult** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year (hunting and poaching excluded). Spring and annual survival estimates were calculated from May 1, for animals older than 35 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>FEMALES (con'd)</b>					
<b>1983–1984</b>					
Heisey-Fuller Survival Estimate	<b>0.949</b>	<b>0.967</b>	<b>1.000</b>	<b>0.963</b>	<b>0.886</b>
95% Confidence Interval (CI)	0.942–0.957	0.961–0.973		0.956–0.970	0.876–0.897
Radiodays (min.–max.)	3413–3700	5174–5708	3294–3650	7853–8147	20544–22012
N collared (n surviving)	72 (69)	61 (59)	54 (54)	53 (51)	72 (65)
Proportion surviving	0.958	0.967	1.000	0.962	0.903
Minimum Survival (95% CI)	0.940–0.956	0.959–0.971		0.938–0.954	0.872–0.894
Maximum Survival (95% CI)	0.945–0.959	1.000		0.955–0.969	0.915–0.969
<b>1984–1985</b>					
Heisey-Fuller Survival Estimate	<b>0.962</b>	<b>0.937</b>	<b>0.981</b>	<b>0.960</b>	<b>0.872</b>
95% Confidence Interval (CI)	0.955–0.969	0.953–0.968	0.975–0.986	0.953–0.968	0.859–0.885
Radiodays (min.–max.)	3056–3296	4544–4783	3101–3111	7247–7565	18240–19047
N collared (n surviving)	60 (58)	54 (52)	51 (50)	50 (48)	60 (53)
Proportion surviving	0.967	0.963	0.980	0.960	0.883
Minimum Survival (95% CI)	0.975–0.986	0.935–0.953	0.975–0.986	0.933–0.951	0.862–0.887
Maximum Survival (95% CI)	0.977–0.987	0.953–0.968	1.000	0.951–0.967	0.875–0.899
<b>1985–1986</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.959</b>	<b>0.970</b>	<b>0.968</b>	<b>0.901</b>
95% Confidence Interval (CI)		0.954–0.964	0.965–0.975	0.963–0.974	0.892–0.909
Radiodays (min.–max.)	3330–3526	6403–6723	3995–4178	9304–9690	23963–25039
N collared (n surviving)	75 (75)	73 (70)	67 (65)	64 (62)	75 (68)
Proportion surviving	1.000	0.959	0.970	0.969	0.907
Minimum Survival (95% CI)		0.952–0.963	0.951–0.963	0.963–0.974	0.868–0.886
Maximum Survival (95% CI)		0.983–0.990	0.965–0.975	0.964–0.975	0.890–0.908
<b>1986–1987</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.985</b>	<b>1.000</b>	<b>0.979</b>	<b>0.965</b>
95% Confidence Interval (CI)		0.980–0.988		0.973–0.985	0.959–0.968
Radiodays (min.–max.)	3556–3724	5857–6120	3176–3361	6884–7479	19861–21227
N collared (n surviving)	68 (68)	65 (64)	62 (62)	47 (46)	68 (66)
Proportion surviving	1.000	0.985	1.000	0.979	0.971
Minimum Survival (95% CI)		0.981–0.988		0.972–0.985	0.957–0.971
Maximum Survival (95% CI)		0.982–0.989		0.975–0.986	0.960–0.972
<b>1987–1988</b>					
Heisey-Fuller Survival Estimate	<b>0.936</b>	<b>0.896</b>	<b>0.983</b>	<b>1.000</b>	<b>0.836</b>
95% Confidence Interval (CI)	0.925–0.946	0.886–0.905	0.979–0.987		0.824–0.845
Radiodays (min.–max.)	2652–2727	5824–5863	3561–3583	8625–8758	22185–22285
N collared (n surviving)	76 (73)	70 (63)	60 (59)	58 (58)	76 (65)
Proportion surviving	0.961	0.900	0.983	1.000	0.855
Minimum Survival (95% CI)	0.924–0.946	0.886–0.905	0.979–0.987		0.823–0.846
Maximum Survival (95% CI)	0.946–0.964	0.887–0.905	0.979–0.987		0.823–0.847
<b>1988–1989</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.968</b>	<b>0.979</b>	<b>0.968</b>	<b>0.920</b>
95% Confidence Interval (CI)		0.965–0.972	0.976–0.982	0.964–0.972	0.915–0.926
Radiodays (min.–max.)	4377–4437	8538–8568	5598–5691	13849–14248	34594–34958
N collared (n surviving)	103 (103)	101 (98)	93 (91)	91 (88)	103 (95)
Proportion surviving	1.000	0.970	0.978	0.967	0.922
Minimum Survival (95% CI)		0.965–0.972	0.975–0.982	0.964–0.972	0.913–0.925
Maximum Survival (95% CI)		0.987–0.991	0.987–0.991	0.965–0.972	0.945–0.954

Table 13A-2d (con'd). Heisey-Fuller estimates of **adult** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year (hunting and poaching excluded). Spring and annual survival estimates were calculated from May 1, for animals older than 35 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>FEMALES (con'd)</b>					
<b>1989–1990</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>0.978</b>	<b>0.947</b>	<b>0.977</b>	<b>0.919</b>	<b>0.836</b>
95% Confidence Interval (CI)	0.975–0.981	0.942–0.952	0.974–0.981	0.912–0.925	0.828–0.844
Radiodays (min.–max.)	5460–5565	8524–8602	5347–5436	12394–12876	32323–33077
N collared (n surviving)	102 (100)	97 (92)	89 (87)	84 (77)	102 (86)
Proportion surviving	0.980	0.948	0.978	0.917	0.843
Minimum Survival (95% CI)	0.942–0.951	0.943–0.952	0.974–0.981	0.912–0.925	0.830–0.846
Maximum Survival (95% CI)	0.987–0.991	0.954–0.962	0.975–0.981	0.938–0.948	0.836–0.852
<b>1990–1991</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>0.950</b>	<b>0.860</b>	<b>1.000</b>	<b>1.000</b>	<b>0.774</b>
95% Confidence Interval (CI)	0.944–0.955	0.851–0.869			0.760–0.788
Radiodays (min.–max.)	4746–4930	6598–6842	2501–2928	5889–7097	20240–22152
N collared (n surviving)	83 (79)	77 (66)	39 (39)	38 (38)	83 (68)
Proportion surviving	0.952	0.857	1.000	1.000	0.819
Minimum Survival (95% CI)	0.910–0.924	0.848–0.867			0.748–0.778
Maximum Survival (95% CI)	0.944–0.955	0.929–0.941			0.808–0.833
<b>1991–1992</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>0.902</b>	<b>0.874</b>	<b>0.943</b>	<b>1.000</b>	<b>0.706</b>
95% Confidence Interval (CI)	0.888–0.917	0.846–0.903	0.917–0.969		0.669–0.745
Radiodays (min.–max.)	2300–2772	2045–2456	1027–1304	2416–3020	7820–9616
N collared (n surviving)	41 (37)	34 (31)	17 (16)	16 (16)	41 (33)
Proportion surviving	0.902	0.912	0.941	1.000	0.805
Minimum Survival (95% CI)	0.823–0.854	0.804–0.868	0.885–0.937		0.553–0.625
Maximum Survival (95% CI)	0.937–0.960	0.872–0.916	0.916–0.969		0.682–0.763
<b>1992–1993</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>0.956</b>	<b>0.957</b>	<b>1.000</b>	<b>1.000</b>	<b>0.916</b>
95% Confidence Interval (CI)	0.938–0.974	0.941–0.974			0.893–0.940
Radiodays (min.–max.)	847–1489	1936–2227	1085–1464	2567–3624	6435–8897
N collared (n surviving)	24 (23)	23 (22)	22 (22)	22 (22)	24 (22)
Proportion surviving	0.958	0.957	1.000	1.000	0.917
Minimum Survival (95% CI)	0.845–0.891	0.883–0.936			0.651–0.743
Maximum Survival (95% CI)	0.900–0.943	0.944–0.975			0.859–0.910
<b>1993–1994</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>1.000</b>	<b>0.930</b>	<b>0.943</b>	<b>0.969</b>	<b>0.863</b>
95% Confidence Interval (CI)		0.913–0.948	0.930–0.956	0.958–0.980	0.844–0.883
Radiodays (min.–max.)	1714–1971	2545–2838	2014–2213	4699–5293	11919–13132
N collared (n surviving)	41 (41)	38 (36)	35 (33)	32 (31)	41 (36)
Proportion surviving	1.000	0.947	0.943	0.969	0.878
Minimum Survival (95% CI)		0.913–0.948	0.928–0.955	0.903–0.933	0.838–0.879
Maximum Survival (95% CI)		0.922–0.952	1.000	0.958–0.979	0.852–0.888
<b>1994–1995</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>0.938</b>	<b>0.957</b>	<b>1.000</b>	<b>0.911</b>	<b>0.837</b>
95% Confidence Interval (CI)	0.928–0.948	0.948–0.966		0.901–0.921	0.824–0.850
Radiodays (min.–max.)	2825–2957	4141–4375	3355–3779	7935–8711	19827–21250
N collared (n surviving)	68 (65)	65 (63)	55 (55)	55 (50)	68 (58)
Proportion surviving	0.956	0.969	1.000	0.909	0.853
Minimum Survival (95% CI)	0.910–0.932	0.948–0.965		0.899–0.920	0.815–0.841
Maximum Survival (95% CI)	0.949–0.966	0.951–0.967		0.908–0.926	0.834–0.860

Table 13A-2d (con'd). Heisey-Fuller estimates of **adult** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year (hunting and poaching excluded). Spring and annual survival estimates were calculated from May 1, for animals older than 35 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>FEMALES (con'd)</b>					
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.877</b>	<b>0.960</b>	<b>1.000</b>	<b>0.821</b>
95% Confidence Interval (CI)		0.837–0.919	0.952–0.968		0.806–0.836
Radiodays (min.–max.)	2986–3231	4806–5021	2951–3089	7131–7369	18117–18953
N collared (n surviving)	16 (16)	53 (50)	50 (48)	12 (12)	58 (48)
Proportion surviving	1.000	0.943	0.960	1.000	0.828
Minimum Survival (95% CI)		0.920–0.938	0.952–0.967		0.615–0.776
Maximum Survival (95% CI)		0.936–0.953	0.954–0.969		0.763–0.794
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	<b>0.965</b>	<b>0.966</b>	<b>0.985</b>	<b>0.955</b>	<b>0.881</b>
95% Confidence Interval (CI)	0.959–0.972	0.959–0.972	0.981–0.988	0.949–0.961	0.871–0.891
Radiodays (min.–max.)	3460–3528	5248–5348	3945–4057	9746–9881	22959–23374
N collared (n surviving)	73 (71)	71 (69)	68 (67)	66 (63)	73 (65)
Proportion surviving	0.973	0.972	0.985	0.955	0.890
Minimum Survival (95% CI)	0.959–0.972	0.959–0.972	0.965–0.975	0.948–0.961	0.871–0.891
Maximum Survival (95% CI)	0.979–0.987	0.960–0.972	0.981–0.988	0.965–0.975	0.887–0.906
<b>1997–1998</b>					
Heisey-Fuller Survival Estimate	<b>0.983</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.976</b>
95% Confidence Interval (CI)	0.979–0.988				0.969–0.983
Radiodays (min.–max.)	3620–3660	5436–5555	3330–3450	2640	15122–15401
N collared (n surviving)§	62 (61)	60 (60)	57 (57)	44 (44)	62 (61)
Proportion surviving*	0.984	1.000	1.000	1.000	0.984
Minimum Survival (95% CI)	0.961–0.973				0.944–0.963
Maximum Survival (95% CI)	0.979–0.988				0.969–0.983
<b>Average, 1979–1998</b>					
Heisey-Fuller Survival Estimate					<b>0.902</b>
95% Confidence Interval (CI)					0.901–0.902
Radiodays (min.–max.)					400186–419756
N collared (n surviving)					381 (265)
Minimum Survival (95% CI)					0.899–0.900
Maximum Survival (95% CI)					0.934–0.936
<b>MALES</b>					
<b>1979–1980</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	275	460	555	1443–1510	3122–3187
N collared (n surviving)	10 (10)	10 (10)	10 (10)	10 (10)	10 (10)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1980–1981</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.882</b>	<b>0.905</b>
95% Confidence Interval (CI)				0.811–0.961	0.852–0.962
Radiodays (min.–max.)	520–609	874–993	488–610	1202–1510	3298–3906
N collared (n surviving)	14 (14)	11 (11)	8 (8)	8 (7)	14 (13)
Proportion surviving	1.000	1.000	1.000	0.875	0.929
Minimum Survival (95% CI)				0.810–0.961	0.834–0.961
Maximum Survival (95% CI)				0.851–0.962	0.862–0.962



Table 13A-2d (con'd). Heisey-Fuller estimates of **adult** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year (hunting and poaching excluded). Spring and annual survival estimates were calculated from May 1, for animals older than 35 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>MALES (con'd)</b>					
<b>1981–1982</b>					
Heisey-Fuller Survival Estimate	<b>0.869</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.905</b>
95% Confidence Interval (CI)	0.786–0.960				0.851–0.962
Radiodays (min.–max.)	396–541	397–597	554–615	1432–1631	3266–3871
N collared (n surviving)	14 (13)	11 (11)	10 (10)	10 (10)	14 (13)
Proportion surviving	0.929	1.000	1.000	1.000	0.929
Minimum Survival (95% CI)	0.831–0.961				0.860–0.963
Maximum Survival (95% CI)	1.000				1.000
<b>1982–1983</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.872</b>	<b>0.890</b>
95% Confidence Interval (CI)				0.791–0.961	0.824–0.961
Radiodays (min.–max.)	527–598	736–828	488–549	1057–1261	2808–3236
N collared (n surviving)	10 (10)	8 (8)	8 (8)	8 (7)	10 (9)
Proportion surviving	1.000	1.000	1.000	0.875	0.900
Minimum Survival (95% CI)				0.781–0.962	0.802–0.961
Maximum Survival (95% CI)				0.819–0.961	0.830–0.961
<b>1983–1984</b>					
Heisey-Fuller Survival Estimate	<b>0.912</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.937</b>
95% Confidence Interval (CI)	0.864–0.963				0.907–0.968
Radiodays (min.–max.)	629–771	1168–1284	887–1001	2158–2311	5504–6059
N collared (n surviving)	22 (21)	18 (18)	16 (16)	15 (15)	22 (21)
Proportion surviving	0.955	1.000	1.000	1.000	0.955
Minimum Survival (95% CI)	0.856–0.962				0.905–0.967
Maximum Survival (95% CI)	0.885–0.965				0.915–0.969
<b>1984–1985</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	1037	1452–1540	1150	3049–3115	6935–7089
N collared (n surviving)	23 (23)	23 (23)	20 (20)	20 (20)	23 (23)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1985–1986</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.889</b>	<b>0.942</b>	<b>0.943</b>	<b>0.812</b>
95% Confidence Interval (CI)		0.855–0.925	0.916–0.969	0.917–0.969	0.774–0.852
Radiodays (min.–max.)	1066–1087	1481–1610	969–1084	2399–2846	6591–7310
N collared (n surviving)	23 (23)	23 (21)	19 (18)	18 (17)	23 (19)
Proportion surviving	1.000	0.913	0.947	0.944	0.826
Minimum Survival (95% CI)		0.846–0.922	0.911–0.968	0.818–0.890	0.760–0.845
Maximum Survival (95% CI)		0.920–0.970	1.000	0.911–0.968	0.783–0.857
<b>1986–1987</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.928</b>	<b>1.000</b>	<b>1.000</b>	<b>0.938</b>
95% Confidence Interval (CI)		0.893–0.965			0.909–0.968
Radiodays (min.–max.)	854–865	1208–1266	748–792	1973–2389	5598–5977
N collared (n surviving)	21 (21)	20 (19)	18 (18)	14 (14)	21 (20)
Proportion surviving	1.000	0.950	1.000	1.000	0.952
Minimum Survival (95% CI)		0.890–0.965			0.849–0.923
Maximum Survival (95% CI)		0.895–0.966			0.907–0.968

Table 13A-2d (con'd). Heisey-Fuller estimates of **adult** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year (hunting and poaching excluded). Spring and annual survival estimates were calculated from May 1, for animals older than 35 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>MALES (con'd)</b>					
<b>1987–1988</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	843–873	1790–1974	1220–1342	2606–2887	7249–7898
N collared (n surviving)	23 (23)	21 (21)	19 (19)	18 (18)	23 (23)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1988–1989</b>					
Heisey-Fuller Survival Estimate	<b>0.924</b>	<b>1.000</b>	<b>0.973</b>	<b>0.917</b>	<b>0.833</b>
95% Confidence Interval (CI)	0.910–0.937		0.965–0.982	0.902–0.933	0.814–0.852
Radiodays (min.–max.)	2138–2334	3401–3619	2146–2318	4932–5560	13068–14284
N collared (n surviving)	45 (42)	39 (39)	34 (32)	31 (28)	45 (38)
Proportion surviving	0.933	1.000	0.941	0.903	0.844
Minimum Survival (95% CI)	0.903–0.933		0.963–0.981	0.881–0.913	0.802–0.843
Maximum Survival (95% CI)	0.938–0.960		1.000	0.896–0.929	0.818–0.855
<b>1989–1990</b>					
Heisey-Fuller Survival Estimate	<b>0.960</b>	<b>0.802</b>	<b>0.952</b>	<b>1.000</b>	<b>0.723</b>
95% Confidence Interval (CI)	0.945–0.976	0.769–0.837	0.932–0.972		0.684–0.764
Radiodays (min.–max.)	1471–1744	2069–2375	1151–1328	2718–3083	7659–8780
N collared (n surviving)	28 (27)	27 (22)	21 (20)	18 (18)	28 (21)
Proportion surviving	0.964	0.815	0.952	1.000	0.750
Minimum Survival (95% CI)	0.916–0.949	0.763–0.823	0.926–0.971		0.652–0.726
Maximum Survival (95% CI)	1.000	0.767–0.835	0.937–0.974		0.713–0.792
<b>1990–1991</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.892</b>	<b>1.000</b>	<b>1.000</b>	<b>0.871</b>
95% Confidence Interval (CI)		0.858–0.926			0.828–0.916
Radiodays (min.–max.)	1098–1198	1607–1677	610–732	1510–1812	5106–5700
N collared (n surviving)	20 (20)	20 (18)	10 (10)	10 (10)	20 (18)
Proportion surviving	1.000	0.900	1.000	1.000	0.900
Minimum Survival (95% CI)		0.803–0.883			0.755–0.863
Maximum Survival (95% CI)		0.923–0.970			0.841–0.920
<b>1991–1992</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.905</b>	<b>1.000</b>	<b>1.000</b>	<b>0.915</b>
95% Confidence Interval (CI)		0.851–0.961			0.869–0.963
Radiodays (min.–max.)	639–741	900–1029	454–535	1057–1208	3743–4218
N collared (n surviving)	15 (15)	12 (11)	8 (8)	7 (7)	15 (14)
Proportion surviving	1.000	0.917	1.000	1.000	0.933
Minimum Survival (95% CI)		0.848–0.961			0.706–0.843
Maximum Survival (95% CI)		0.869–0.963			0.855–0.962
<b>1992–1993</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.882</b>	<b>0.867</b>	<b>1.000</b>	<b>0.767</b>
95% Confidence Interval (CI)		0.811–0.961	0.781–0.961		0.670–0.879
Radiodays (min.–max.)	437–498	721–828	410–549	906–1359	3265–6435
N collared (n surviving)	8 (8)	8 (7)	7 (6)	6 (6)	8 (6)
Proportion surviving	1.000	0.875	0.857	1.000	0.750
Minimum Survival (95% CI)		0.806–0.961	0.772–0.962		0.651–0.743
Maximum Survival (95% CI)		1.000	1.000		1.000

Table 13A-2d (con'd). Heisey-Fuller estimates of **adult** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year (hunting and poaching excluded). Spring and annual survival estimates were calculated from May 1, for animals older than 35 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>MALES (con'd)</b>					
<b>1993–1994</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	0.856
95% Confidence Interval (CI)					0.760–0.963
Radiodays (min.– max.)	366–520	481–574	365	1057	3002–3249
N collared (n surviving)	9 (9)	9 (9)	7 (7)	7 (7)	9 (8)
Proportion surviving	1.000	1.000	1.000	1.000	0.889
Minimum Survival (95% CI)					0.719–0.888
Maximum Survival (95% CI)					1.000
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	488	735	976	2114	5395
N collared (n surviving)	17 (17)	17 (17)	16 (16)	14 (14)	17 (17)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	1.000	0.937	0.923	1.000	0.868
95% Confidence Interval (CI)		0.908–0.968	0.884–0.964		0.824–0.915
Radiodays (min.– max.)	878	1419–1430	764–769	1812	5149–5165
N collared (n surviving)	16 (16)	16 (15)	13 (12)	12 (12)	16 (14)
Proportion surviving	1.000	0.938	0.923	1.000	0.875
Minimum Survival (95% CI)		0.908–0.968	0.885–0.964		0.823–0.915
Maximum Survival (95% CI)		0.908–0.968	0.952–0.967		0.824–0.915
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	0.964	0.962	0.928
95% Confidence Interval (CI)			0.951–0.977	0.948–0.976	0.910–0.947
Radiodays (min.– max.)	1429	2300	1623–1671	3860–4018	9673–9879
N collared (n surviving)	30 (30)	30 (30)	29 (28)	27 (26)	30 (28)
Proportion surviving	1.000	1.000	0.966	0.963	0.933
Minimum Survival (95% CI)			0.950–0.977	0.909–0.947	0.911–0.947
Maximum Survival (95% CI)			1.000	0.947–0.976	0.919–0.946
<b>1997–1998</b>					
Heisey-Fuller Survival Estimate	0.964	1.000	0.909	1.000	0.900
95% Confidence Interval (CI)	0.950–0.977		0.883–0.936		0.870–0.931
Radiodays (min.– max.)	1609–1632	2514–2593	1396–1518	720	6843–7053
N collared (n surviving)	29 (28)	28 (28)	24 (22)	12 (12)	29 (27)
Proportion surviving	0.966	1.000	0.917	1.000	0.931
Minimum Survival (95% CI)	0.950–0.977		0.940–0.974		0.872–0.932
Maximum Survival (95% CI)	1.000		0.946–0.978		0.969–0.983
<b>Average, 1979–1998</b>					
Heisey-Fuller Survival Estimate					0.933
95% Confidence Interval (CI)					0.932–0.934
Radiodays (min.– max.)					143608–151455
N collared (n surviving)					155 (127)
Minimum Survival (95% CI)					0.930–0.933
Maximum Survival (95% CI)					0.936–0.936

Table 13A-2e. Heisey-Fuller estimates of **adult** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year (hunting and poaching included). Spring and annual survival estimates were calculated from May 1, for animals older than 35 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>SEXES COMBINED</b>					
<b>1979–1980</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>0.983</b>	<b>1.000</b>	<b>0.983</b>
95% Confidence Interval (CI)			0.979–0.988		0.979–0.987
Radiodays (min.–max.)	1471	4508–4649	3545–3606	8821–9060	20897–21231
N collared (n surviving)	69 (69)	60 (60)	60 (59)	59 (59)	69 (68)
Proportion surviving	1.000	1.000	0.983	1.000	0.986
Minimum Survival (95% CI)			0.979–0.988		0.978–0.987
Maximum Survival (95% CI)			0.980–0.988		0.979–0.987
<b>1980–1981</b>					
Heisey-Fuller Survival Estimate	<b>0.983</b>	<b>1.000</b>	<b>1.000</b>	<b>0.947</b>	<b>0.935</b>
95% Confidence Interval (CI)	0.979–0.988			0.940–0.955	0.927–0.943
Radiodays (min.–max.)	3498–3742	5353–5781	3416–3721	8336–9107	20941–22691
N collared (n surviving)	67 (66)	61 (61)	56 (56)	56 (53)	67 (63)
Proportion surviving	0.985	1.000	1.000	0.946	0.940
Minimum Survival (95% CI)	0.978–0.987			0.928–0.944	0.914–0.931
Maximum Survival (95% CI)	0.980–0.988			0.939–0.955	0.924–0.941
<b>1981–1982</b>					
Heisey-Fuller Survival Estimate	<b>0.964</b>	<b>0.959</b>	<b>1.000</b>	<b>0.967</b>	<b>0.904</b>
95% Confidence Interval (CI)	0.958–0.971	0.952–0.967		0.962–0.973	0.895–0.914
Radiodays (min.–max.)	3238–3550	4329–4901	3325–3599	9041–9614	20792–22522
N collared (n surviving)	73 (71)	67 (65)	61 (61)	61 (59)	73 (67)
Proportion surviving	0.973	0.970	1.000	0.967	0.918
Minimum Survival (95% CI)	0.960–0.972	0.950–0.967		0.961–0.973	0.907–0.925
Maximum Survival (95% CI)	0.976–0.986	0.956–0.970		0.981–0.988	0.914–0.931
<b>1982–1983</b>					
Heisey-Fuller Survival Estimate	<b>0.953</b>	<b>0.955</b>	<b>1.000</b>	<b>0.949</b>	<b>0.867</b>
95% Confidence Interval (CI)	0.946–0.960	0.949–0.961		0.941–0.956	0.857–0.878
Radiodays (min.–max.)	3593–3908	5970–6299	3718–3912	8438–9263	22154–23849
N collared (n surviving)	78 (75)	67 (64)	62 (62)	60 (57)	78 (69)
Proportion surviving	0.962	0.955	1.000	0.950	0.885
Minimum Survival (95% CI)	0.943–0.958	0.949–0.961		0.940–0.955	0.851–0.873
Maximum Survival (95% CI)	0.964–0.975	0.951–0.963		0.962–0.974	0.875–0.894
<b>1983–1984</b>					
Heisey-Fuller Survival Estimate	<b>0.943</b>	<b>0.973</b>	<b>0.985</b>	<b>0.971</b>	<b>0.884</b>
95% Confidence Interval (CI)	0.937–0.950	0.969–0.977	0.983–0.989	0.966–0.976	0.875–0.892
Radiodays (min.–max.)	4042–4471	6342–6992	4132–4637	10011–10458	25848–27906
N collared (n surviving)	94 (90)	79 (77)	70 (69)	68 (66)	94 (85)
Proportion surviving	0.957	0.975	0.986	0.971	0.904
Minimum Survival (95% CI)	0.935–0.948	0.967–0.976	0.982–0.989	0.952–0.963	0.872–0.890
Maximum Survival (95% CI)	0.941–0.953	1.000	0.985–0.990	0.965–0.975	0.893–0.908
<b>1984–1985</b>					
Heisey-Fuller Survival Estimate	<b>0.971</b>	<b>0.955</b>	<b>0.986</b>	<b>0.957</b>	<b>0.878</b>
95% Confidence Interval (CI)	0.967–0.976	0.949–0.961	0.983–0.989	0.951–0.963	0.868–0.887
Radiodays (min.–max.)	4093–4333	5971–6298	4251–4261	9994–10473	24787–25843
N collared (n surviving)	83 (81)	77 (74)	71 (70)	70 (67)	83 (74)
Proportion surviving	0.976	0.961	0.986	0.957	0.892
Minimum Survival (95% CI)	0.982–0.989	0.937–0.950	0.983–0.989	0.938–0.950	0.872–0.890
Maximum Survival (95% CI)	0.983–0.989	0.945–0.961	1.000	0.950–0.962	0.880–0.898

Table 13A-2e (con'd). Heisey-Fuller estimates of **adult** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year (hunting and poaching included). Spring and annual survival estimates were calculated from May 1, for animals older than 35 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>SEXES COMBINED (con'd)</b>					
<b>1985–1986</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.935</b>	<b>0.964</b>	<b>0.938</b>	<b>0.848</b>
95% Confidence Interval (CI)		0.929–0.940	0.961–0.970	0.932–0.944	0.840–0.857
Radiodays (min.–max.)	4396–4613	7870–8319	4964–5262	11559–12425	30162–31990
N collared (n surviving)	98 (98)	96 (90)	86 (83)	82 (77)	98 (84)
Proportion surviving	1.000	0.938	0.965	0.939	0.857
Minimum Survival (95% CI)		0.927–0.938	0.961–0.969	0.912–0.925	0.825–0.841
Maximum Survival (95% CI)		0.964–0.971	0.963–0.971	0.931–0.943	0.836–0.853
<b>1986–1987</b>					
Heisey-Fuller Survival Estimate	<b>0.987</b>	<b>0.975</b>	<b>0.985</b>	<b>0.949</b>	<b>0.905</b>
95% Confidence Interval (CI)	0.984–0.990	0.971–0.979	0.983–0.989	0.942–0.957	0.897–0.913
Radiodays (min.–max.)	4410–4554	7065–7386	3944–4153	8703–9435	24794–26090
N collared (n surviving)	89 (88)	85 (83)	80 (79)	61 (58)	89 (82)
Proportion surviving	0.989	0.976	0.988	0.951	0.921
Minimum Survival (95% CI)	0.969–0.978	0.970–0.978	0.982–0.989	0.942–0.957	0.886–0.903
Maximum Survival (95% CI)	1.000	0.972–0.979	0.983–0.989	0.947–0.960	0.908–0.923
<b>1987–1988</b>					
Heisey-Fuller Survival Estimate	<b>0.936</b>	<b>0.908</b>	<b>0.974</b>	<b>1.000</b>	<b>0.843</b>
95% Confidence Interval (CI)	0.928–0.944	0.901–0.915	0.971–0.979		0.834–0.852
Radiodays (min.–max.)	3525–3570	7598–7821	4662–4806	11364–11512	29088–29637
N collared (n surviving)	99 (95)	91 (83)	79 (77)	76 (76)	99 (85)
Proportion surviving	0.960	0.912	0.975	1.000	0.859
Minimum Survival (95% CI)	0.943–0.957	0.901–0.914	0.971–0.979		0.841–0.858
Maximum Survival (95% CI)	0.960–0.972	0.904–0.917	0.972–0.979		0.844–0.861
<b>1988–1989</b>					
Heisey-Fuller Survival Estimate	<b>0.965</b>	<b>0.949</b>	<b>0.961</b>	<b>0.904</b>	<b>0.807</b>
95% Confidence Interval (CI)	0.961–0.968	0.946–0.952	0.960–0.965	0.900–0.909	0.801–0.813
Radiodays (min.–max.)	6601–6737	12178–12410	7594–7920	17492–18925	46173–48264
N collared (n surviving)	149 (145)	141 (134)	128 (123)	123 (111)	149 (121)
Proportion surviving	0.973	0.950	0.961	0.902	0.812
Minimum Survival (95% CI)	0.970–0.976	0.945–0.952	0.959–0.965	0.897–0.907	0.802–0.814
Maximum Survival (95% CI)	0.980–0.984	0.961–0.966	0.976–0.980	0.904–0.913	0.841–0.852
<b>1989–1990</b>					
Heisey-Fuller Survival Estimate	<b>0.974</b>	<b>0.917</b>	<b>0.973</b>	<b>0.924</b>	<b>0.807</b>
95% Confidence Interval (CI)	0.972–0.977	0.913–0.922	0.971–0.977	0.919–0.929	0.800–0.814
Radiodays (min.–max.)	6992–7370	10685–11069	6559–6825	15208–16110	40292–42222
N collared (n surviving)	131 (128)	125 (115)	111 (108)	103 (95)	131 (107)
Proportion surviving	0.977	0.920	0.973	0.922	0.817
Minimum Survival (95% CI)	0.940–0.947	0.913–0.922	0.970–0.976	0.918–0.929	0.792–0.805
Maximum Survival (95% CI)	0.990–0.993	0.916–0.925	0.972–0.977	0.941–0.949	0.812–0.826
<b>1990–1991</b>					
Heisey-Fuller Survival Estimate	<b>0.959</b>	<b>0.857</b>	<b>0.980</b>	<b>1.000</b>	<b>0.770</b>
95% Confidence Interval (CI)	0.954–0.963	0.849–0.864	0.975–0.986		0.758–0.781
Radiodays (min.–max.)	5844–6155	8201–8519	3032–3642	7399–8909	24961–27710
N collared (n surviving)	103 (99)	97 (83)	49 (48)	48 (48)	103 (84)
Proportion surviving	0.961	0.856	0.980	1.000	0.816
Minimum Survival (95% CI)	0.909–0.920	0.837–0.853	0.975–0.986		0.734–0.759
Maximum Survival (95% CI)	0.955–0.963	0.932–0.942	0.980–0.988		0.800–0.820

Table 13A-2e (con'd). Heisey-Fuller estimates of **adult** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year (hunting and poaching included). Spring and annual survival estimates were calculated from May 1, for animals older than 35 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>SEXES COMBINED (con'd)</b>					
<b>1991–1992</b>					
Heisey-Fuller Survival Estimate	<b>0.924</b>	<b>0.828</b>	<b>0.960</b>	<b>1.000</b>	<b>0.715</b>
95% Confidence Interval (CI)	0.914–0.934	0.806–0.852	0.947–0.976		0.689–0.742
Radiodays (min.–max.)	2939–3513	2897–3462	1501–1839	3473–4228	11056–13352
N collared (n surviving)	56 (52)	46 (40)	25 (24)	23 (23)	56 (45)
Proportion surviving	0.929	0.870	0.960	1.000	0.804
Minimum Survival (95% CI)	0.828–0.853	0.776–0.825	0.923–0.953		0.569–0.621
Maximum Survival (95% CI)	0.951–0.967	0.834–0.871	0.947–0.976		0.691–0.748
<b>1992–1993</b>					
Heisey-Fuller Survival Estimate	<b>0.966</b>	<b>0.938</b>	<b>0.966</b>	<b>1.000</b>	<b>0.877</b>
95% Confidence Interval (CI)	0.955–0.978	0.923–0.953	0.956–0.979		0.856–0.898
Radiodays (min.–max.)	847–1987	1936–3055	1085–2013	2567–4983	6435–12162
N collared (n surviving)	32 (31)	31 (29)	29 (28)	28 (28)	32 (28)
Proportion surviving	0.969	0.935	0.966	1.000	0.875
Minimum Survival (95% CI)	0.845–0.891	0.883–0.936	0.924–0.971		0.651–0.743
Maximum Survival (95% CI)	0.926–0.955	0.961–0.980	1.000		0.898–0.930
<b>1993–1994</b>					
Heisey-Fuller Survival Estimate	<b>0.972</b>	<b>0.881</b>	<b>0.922</b>	<b>0.974</b>	<b>0.792</b>
95% Confidence Interval (CI)	0.963–0.981	0.862–0.901	0.911–0.938	0.967–0.982	0.772–0.813
Radiodays (min.–max.)	2060–2491	2904–3387	2197–2457	5756–6350	13504–15150
N collared (n surviving)	50 (49)	47 (43)	42 (39)	39 (38)	50 (41)
Proportion surviving	0.980	0.915	0.929	0.974	0.820
Minimum Survival (95% CI)	0.942–0.962	0.856–0.891	0.909–0.937	0.920–0.943	0.748–0.787
Maximum Survival (95% CI)	0.961–0.980	0.861–0.901	0.969–0.984	0.966–0.982	0.763–0.806
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate	<b>0.946</b>	<b>0.928</b>	<b>0.972</b>	<b>0.929</b>	<b>0.815</b>
95% Confidence Interval (CI)	0.938–0.955	0.918–0.937	0.969–0.977	0.921–0.936	0.804–0.826
Radiodays (min.–max.)	3313–3445	4846–5097	4319–4743	10049–10825	24254–25837
N collared (n surviving)	85 (82)	82 (78)	71 (69)	69 (64)	85 (71)
Proportion surviving	0.965	0.951	0.972	0.928	0.835
Minimum Survival (95% CI)	0.923–0.940	0.917–0.936	0.959–0.968	0.920–0.935	0.798–0.820
Maximum Survival (95% CI)	0.957–0.971	0.939–0.955	0.969–0.977	0.926–0.939	0.811–0.834
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	<b>0.955</b>	<b>0.929</b>	<b>0.952</b>	<b>0.967</b>	<b>0.816</b>
95% Confidence Interval (CI)	0.949–0.961	0.921–0.936	0.947–0.960	0.961–0.973	0.805–0.828
Radiodays (min.–max.)	3864–4109	6204–6430	3715–3858	8943–9181	23033–23885
N collared (n surviving)	74 (71)	69 (64)	63 (60)	60 (58)	74 (61)
Proportion surviving	0.959	0.928	0.952	0.967	0.824
Minimum Survival (95% CI)	0.921–0.936	0.910–0.925	0.947–0.960	0.961–0.973	0.771–0.795
Maximum Survival (95% CI)	0.964–0.974	0.921–0.936	0.949–0.961	0.962–0.973	0.815–0.839
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	<b>0.975</b>	<b>0.964</b>	<b>0.979</b>	<b>0.957</b>	<b>0.884</b>
95% Confidence Interval (CI)	0.972–0.979	0.960–0.968	0.976–0.982	0.953–0.961	0.877–0.891
Radiodays (min.–max.)	4889–4957	7536–7636	5568–5728	13606–13899	32407–33028
N collared (n surviving)	103 (101)	101 (98)	97 (95)	93 (89)	103 (92)
Proportion surviving	0.981	0.970	0.979	0.957	0.893
Minimum Survival (95% CI)	0.972–0.979	0.960–0.968	0.976–0.982	0.952–0.961	0.876–0.891
Maximum Survival (95% CI)	0.985–0.990	0.960–0.969	0.977–0.983	0.953–0.962	0.889–0.902

Table 13A-2e (con'd). Heisey-Fuller estimates of **adult** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year (hunting and poaching included). Spring and annual survival estimates were calculated from May 1, for animals older than 35 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>SEXES COMBINED (con'd)</b>					
<b>1997–1998</b>					
Heisey-Fuller Survival Estimate	<b>0.977</b>	<b>0.977</b>	<b>0.974</b>	<b>1.000</b>	<b>0.903</b>
95% Confidence Interval (CI)	0.974–0.981	0.974–0.981	0.971–0.979		0.894–0.913
Radiodays (min.– max.)	5252–5269	7916–8114	4550–4792	3360	21302–21791
N collared (n surviving)	91 (89)	88 (86)	81 (79)	56 (56)	91 (85)
Proportion surviving	0.978	0.977	0.975	1.000	0.934
Minimum Survival (95% CI)	0.974–0.980	0.963–0.971	0.970–0.978		0.879–0.900
Maximum Survival (95% CI)	0.974–0.980	0.974–0.980	0.972–0.979		0.892–0.912
<b>Average, 1979–1998</b>					
Heisey-Fuller Survival Estimate					<b>0.859</b>
95% Confidence Interval (CI)	Seasonal averages are not possible for adults since the same individual may be recorded in more than one year. Annual averages span all years in a “staggered entry” design.				0.859–0.860
Radiodays (min.– max.)					454821–483453
N collared (n surviving)					537 (342)
Minimum Survival (95% CI)					0.855–0.856
Maximum Survival (95% CI)					0.863–0.864
<b>FEMALES</b>					
<b>1979–1980</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>0.980</b>	<b>1.000</b>	<b>0.980</b>
95% Confidence Interval (CI)			0.974–0.985		0.975–0.986
Radiodays (min.– max.)	1142–1196	4048–4189	2990–3051	7378–7550	17710–18109
N collared (n surviving)	59 (59)	50 (50)	50 (49)	49 (49)	59 (58)
Proportion surviving	1.000	1.000	0.980	1.000	0.983
Minimum Survival (95% CI)			0.974–0.985		0.974–0.985
Maximum Survival (95% CI)			0.975–0.986		0.975–0.986
<b>1980–1981</b>					
Heisey-Fuller Survival Estimate	<b>0.980</b>	<b>1.000</b>	<b>1.000</b>	<b>0.959</b>	<b>0.941</b>
95% Confidence Interval (CI)	0.975–0.986			0.951–0.967	0.932–0.950
Radiodays (min.– max.)	2978–3133	4479–4788	2928–3111	7134–7597	17643–18785
N collared (n surviving)	53 (52)	50 (50)	48 (48)	48 (46)	53 (50)
Proportion surviving	0.981	1.000	1.000	0.958	0.943
Minimum Survival (95% CI)	0.974–0.985			0.933–0.951	0.915–0.935
Maximum Survival (95% CI)	0.976–0.986			0.950–0.967	0.930–0.949
<b>1981–1982</b>					
Heisey-Fuller Survival Estimate	<b>0.979</b>	<b>0.955</b>	<b>1.000</b>	<b>0.961</b>	<b>0.904</b>
95% Confidence Interval (CI)	0.974–0.985	0.946–0.965		0.954–0.969	0.893–0.916
Radiodays (min.– max.)	2842–3009	3932–4304	2771–2984	7609–7983	17526–18651
N collared (n surviving)	59 (58)	56 (54)	51 (51)	51 (49)	59 (54)
Proportion surviving	0.983	0.964	1.000	0.961	0.915
Minimum Survival (95% CI)	0.973–0.985	0.945–0.964		0.954–0.969	0.889–0.913
Maximum Survival (95% CI)	0.974–0.985	0.950–0.966		0.976–0.986	0.915–0.935
<b>1982–1983</b>					
Heisey-Fuller Survival Estimate	<b>0.945</b>	<b>0.949</b>	<b>1.000</b>	<b>0.960</b>	<b>0.864</b>
95% Confidence Interval (CI)	0.936–0.953	0.942–0.957		0.953–0.968	0.852–0.876
Radiodays (min.– max.)	3066–3310	5234–5471	3230–3363	7381–8002	19346–20613
N collared (n surviving)	68 (65)	59 (56)	54 (54)	52 (50)	68 (60)
Proportion surviving	0.956	0.949	1.000	0.962	0.882
Minimum Survival (95% CI)	0.933–0.951	0.941–0.956		0.952–0.968	0.847–0.873
Maximum Survival (95% CI)	0.957–0.971	0.944–0.958		0.976–0.986	0.872–0.895

Table 13A-2e (con'd). Heisey-Fuller estimates of **adult** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year (hunting and poaching included). Spring and annual survival estimates were calculated from May 1, for animals older than 35 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>FEMALES (con'd)</b>					
<b>1983–1984</b>					
Heisey-Fuller Survival Estimate	<b>0.949</b>	<b>0.967</b>	<b>0.981</b>	<b>0.963</b>	<b>0.870</b>
95% Confidence Interval (CI)	0.942–0.957	0.961–0.973	0.977–0.986	0.956–0.970	0.859–0.882
Radiodays (min.–max.)	3413–3700	5174–5708	3636–4132	7853–8147	20344–21847
N collared (n surviving)	72 (69)	61 (59)	54 (53)	53 (51)	72 (64)
Proportion surviving	0.958	0.967	0.981	0.962	0.889
Minimum Survival (95% CI)	0.940–0.956	0.959–0.971	0.979–0.988	0.938–0.954	0.854–0.878
Maximum Survival (95% CI)	0.945–0.959	1.000	0.982–0.989	0.955–0.969	0.879–0.900
<b>1984–1985</b>					
Heisey-Fuller Survival Estimate	<b>0.962</b>	<b>0.937</b>	<b>0.981</b>	<b>0.960</b>	<b>0.872</b>
95% Confidence Interval (CI)	0.955–0.969	0.953–0.968	0.975–0.986	0.953–0.968	0.859–0.885
Radiodays (min.–max.)	3056–3296	4544–4783	3101–3111	7247–7565	18240–19047
N collared (n surviving)	60 (58)	54 (52)	51 (50)	50 (48)	60 (53)
Proportion surviving	0.967	0.963	0.980	0.960	0.883
Minimum Survival (95% CI)	0.975–0.986	0.935–0.953	0.975–0.986	0.933–0.951	0.862–0.887
Maximum Survival (95% CI)	0.977–0.987	0.953–0.968	1.000	0.951–0.967	0.875–0.899
<b>1985–1986</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.959</b>	<b>0.970</b>	<b>0.937</b>	<b>0.873</b>
95% Confidence Interval (CI)		0.954–0.964	0.965–0.975	0.930–0.945	0.864–0.883
Radiodays (min.–max.)	3330–3526	6403–6723	3995–4178	9160–9579	23797–24906
N collared (n surviving)	75 (75)	73 (70)	67 (65)	64 (60)	75 (66)
Proportion surviving	1.000	0.959	0.970	0.938	0.880
Minimum Survival (95% CI)		0.952–0.963	0.951–0.963	0.928–0.944	0.841–0.861
Maximum Survival (95% CI)		0.983–0.990	0.965–0.975	0.932–0.946	0.861–0.881
<b>1986–1987</b>					
Heisey-Fuller Survival Estimate	<b>0.983</b>	<b>0.985</b>	<b>1.000</b>	<b>0.935</b>	<b>0.914</b>
95% Confidence Interval (CI)	0.979–0.988	0.980–0.988		0.924–0.946	0.904–0.923
Radiodays (min.–max.)	3556–3689	5857–6120	3176–3361	6730–7046	19683–20592
N collared (n surviving)	68 (67)	65 (64)	62 (62)	47 (44)	68 (63)
Proportion surviving	0.985	0.985	1.000	0.936	0.926
Minimum Survival (95% CI)	0.980–0.988	0.981–0.988		0.924–0.946	0.889–0.910
Maximum Survival (95% CI)	1.000	0.982–0.989		0.928–0.948	0.919–0.938
<b>1987–1988</b>					
Heisey-Fuller Survival Estimate	<b>0.936</b>	<b>0.896</b>	<b>0.983</b>	<b>1.000</b>	<b>0.836</b>
95% Confidence Interval (CI)	0.925–0.946	0.886–0.905	0.979–0.987		0.824–0.845
Radiodays (min.–max.)	2652–2727	5824–5863	3561–3583	8625–8758	22185–22285
N collared (n surviving)	76 (73)	70 (63)	60 (59)	58 (58)	76 (65)
Proportion surviving	0.961	0.900	0.983	1.000	0.855
Minimum Survival (95% CI)	0.924–0.946	0.886–0.905	0.979–0.987		0.823–0.846
Maximum Survival (95% CI)	0.946–0.964	0.887–0.905	0.979–0.987		0.823–0.847
<b>1988–1989</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.949</b>	<b>0.979</b>	<b>0.935</b>	<b>0.871</b>
95% Confidence Interval (CI)		0.944–0.953	0.976–0.982	0.930–0.941	0.864–0.878
Radiodays (min.–max.)	4377–4437	8707–8719	5598–5691	13256–13806	33836–34369
N collared (n surviving)	103 (103)	101 (96)	93 (91)	91 (85)	103 (90)
Proportion surviving	1.000	0.950	0.978	0.934	0.874
Minimum Survival (95% CI)		0.944–0.953	0.975–0.982	0.928–0.939	0.862–0.876
Maximum Survival (95% CI)		0.965–0.972	0.987–0.991	0.942–0.952	0.903–0.915



Table 13A-2e (con'd). Heisey-Fuller estimates of **adult** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year (hunting and poaching included). Spring and annual survival estimates were calculated from May 1, for animals older than 35 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>FEMALES (con'd)</b>					
<b>1989–1990</b>					
Heisey-Fuller Survival Estimate	<b>0.978</b>	<b>0.947</b>	<b>0.977</b>	<b>0.919</b>	<b>0.836</b>
95% Confidence Interval (CI)	0.975–0.981	0.942–0.952	0.974–0.981	0.912–0.925	0.828–0.844
Radiodays (min.– max.)	5460–5565	8524–8602	5347–5436	12394–12876	32323–33077
N collared (n surviving)	102 (100)	97 (92)	89 (87)	84 (77)	102 (86)
Proportion surviving	0.980	0.948	0.978	0.917	0.843
Minimum Survival (95% CI)	0.942–0.951	0.943–0.952	0.974–0.981	0.912–0.925	0.830–0.846
Maximum Survival (95% CI)	0.987–0.991	0.954–0.962	0.975–0.981	0.938–0.948	0.836–0.852
<b>1990–1991</b>					
Heisey-Fuller Survival Estimate	<b>0.950</b>	<b>0.848</b>	<b>0.974</b>	<b>1.000</b>	<b>0.746</b>
95% Confidence Interval (CI)	0.944–0.955	0.839–0.858	0.967–0.982		0.732–0.761
Radiodays (min.– max.)	4746–4930	6594–6842	2422–2910	5889–7097	19855–21983
N collared (n surviving)	83 (79)	77 (65)	39 (38)	38 (38)	83 (66)
Proportion surviving	0.952	0.844	0.974	1.000	0.795
Minimum Survival (95% CI)	0.910–0.924	0.836–0.856	0.968–0.983		0.716–0.748
Maximum Survival (95% CI)	0.944–0.955	0.929–0.941	0.973–0.985		0.793–0.819
<b>1991–1992</b>					
Heisey-Fuller Survival Estimate	<b>0.902</b>	<b>0.874</b>	<b>0.943</b>	<b>1.000</b>	<b>0.706</b>
95% Confidence Interval (CI)	0.888–0.917	0.846–0.903	0.917–0.969		0.669–0.745
Radiodays (min.– max.)	2300–2772	2045–2456	1027–1304	2416–3020	7820–9616
N collared (n surviving)	41 (37)	34 (31)	17 (16)	16 (16)	41 (33)
Proportion surviving	0.902	0.912	0.941	1.000	0.805
Minimum Survival (95% CI)	0.823–0.854	0.804–0.868	0.885–0.937		0.553–0.625
Maximum Survival (95% CI)	0.937–0.960	0.872–0.916	0.916–0.969		0.682–0.763
<b>1992–1993</b>					
Heisey-Fuller Survival Estimate	<b>0.956</b>	<b>0.957</b>	<b>1.000</b>	<b>1.000</b>	<b>0.916</b>
95% Confidence Interval (CI)	0.938–0.974	0.941–0.974			0.893–0.940
Radiodays (min.– max.)	847–1489	1936–2227	1085–1464	2567–3624	6435–8897
N collared (n surviving)	24 (23)	23 (22)	22 (22)	22 (22)	24 (22)
Proportion surviving	0.958	0.957	1.000	1.000	0.917
Minimum Survival (95% CI)	0.845–0.891	0.883–0.936			0.651–0.743
Maximum Survival (95% CI)	0.900–0.943	0.944–0.975			0.859–0.910
<b>1993–1994</b>					
Heisey-Fuller Survival Estimate	<b>0.967</b>	<b>0.893</b>	<b>0.907</b>	<b>0.969</b>	<b>0.780</b>
95% Confidence Interval (CI)	0.955–0.978	0.871–0.916	0.890–0.926	0.958–0.980	0.756–0.805
Radiodays (min.– max.)	1694–1971	2441–2826	1832–2092	4699–5293	11160–12554
N collared (n surviving)	41 (40)	38 (35)	35 (32)	32 (31)	41 (33)
Proportion surviving	0.976	0.921	0.914	0.969	0.805
Minimum Survival (95% CI)	0.952–0.978	0.871–0.916	0.886–0.924	0.903–0.933	0.744–0.797
Maximum Survival (95% CI)	0.959–0.980	0.889–0.925	0.962–0.981	0.958–0.979	0.770–0.816
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate	<b>0.938</b>	<b>0.915</b>	<b>1.000</b>	<b>0.911</b>	<b>0.804</b>
95% Confidence Interval (CI)	0.928–0.948	0.904–0.927		0.901–0.921	0.790–0.818
Radiodays (min.– max.)	2825–2957	4111–4362	3355–3779	7935–8711	19373–20956
N collared (n surviving)	68 (65)	65 (61)	55 (55)	55 (50)	68 (56)
Proportion surviving	0.956	0.938	1.000	0.909	0.824
Minimum Survival (95% CI)	0.910–0.932	0.902–0.927		0.899–0.920	0.784–0.811
Maximum Survival (95% CI)	0.949–0.966	0.929–0.949		0.908–0.926	0.799–0.827

Table 13A-2e (con'd). Heisey-Fuller estimates of **adult** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year (hunting and poaching included). Spring and annual survival estimates were calculated from May 1, for animals older than 35 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>FEMALES (con'd)</b>					
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.877</b>	<b>0.960</b>	<b>1.000</b>	<b>0.821</b>
95% Confidence Interval (CI)		0.837–0.919	0.952–0.968		0.806–0.836
Radiodays (min.–max.)	2986–3231	4806–5021	2951–3089	7131–7369	18117–18953
N collared (n surviving)	16 (16)	53 (50)	50 (48)	12 (12)	58 (48)
Proportion surviving	1.000	0.943	0.960	1.000	0.828
Minimum Survival (95% CI)		0.920–0.938	0.952–0.967		0.615–0.776
Maximum Survival (95% CI)		0.936–0.953	0.954–0.969		0.763–0.794
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	<b>0.965</b>	<b>0.966</b>	<b>0.985</b>	<b>0.955</b>	<b>0.881</b>
95% Confidence Interval (CI)	0.959–0.972	0.959–0.972	0.981–0.988	0.949–0.961	0.871–0.891
Radiodays (min.–max.)	3460–3528	5248–5348	3945–4057	9746–9881	22959–23374
N collared (n surviving)	73 (71)	71 (69)	68 (67)	66 (63)	73 (65)
Proportion surviving	0.973	0.972	0.985	0.955	0.890
Minimum Survival (95% CI)	0.959–0.972	0.959–0.972	0.965–0.975	0.948–0.961	0.871–0.891
Maximum Survival (95% CI)	0.979–0.987	0.960–0.972	0.981–0.988	0.965–0.975	0.887–0.906
<b>1997–1998</b>					
Heisey-Fuller Survival Estimate	<b>0.983</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.976</b>
95% Confidence Interval (CI)	0.979–0.988				0.969–0.983
Radiodays (min.–max.)	3620–3660	5436–5555	3330–3450	2640	15122–15401
N collared (n surviving)	62 (61)	60 (60)	57 (57)	44 (44)	62 (61)
Proportion surviving	0.984	1.000	1.000	1.000	0.984
Minimum Survival (95% CI)	0.961–0.973				0.944–0.963
Maximum Survival (95% CI)	0.979–0.988				0.969–0.983
<b>Average, 1979–1998</b>					
Heisey-Fuller Survival Estimate					<b>0.872</b>
95% Confidence Interval (CI)	Seasonal averages are not possible for adults since the same individual may be recorded in more than one year. Annual averages span all years in a “staggered entry” design.				0.872–0.873
Radiodays (min.–max.)					356466–375417
N collared (n surviving)					381 (244)
Minimum Survival (95% CI)					0.868–0.870
Maximum Survival (95% CI)					0.875–0.876
<b>MALES</b>					
<b>1979–1980</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	275	460	555	1443–1510	3122–3187
N collared (n surviving)	10 (10)	10 (10)	10 (10)	10 (10)	10 (10)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1980–1981</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.882</b>	<b>0.905</b>
95% Confidence Interval (CI)				0.811–0.961	0.852–0.962
Radiodays (min.–max.)	520–609	874–993	488–610	1202–1510	3298–3906
N collared (n surviving)	14 (14)	11 (11)	8 (8)	8 (7)	14 (13)
Proportion surviving	1.000	1.000	1.000	0.875	0.929
Minimum Survival (95% CI)				0.810–0.961	0.834–0.961
Maximum Survival (95% CI)				0.851–0.962	0.862–0.962

Table 13A-2e (con'd). Heisey-Fuller estimates of **adult** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year (hunting and poaching included). Spring and annual survival estimates were calculated from May 1, for animals older than 35 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

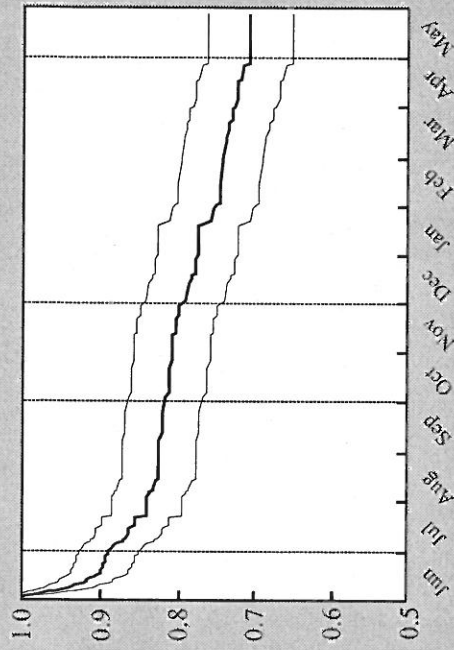
Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>MALES (con'd)</b>					
<b>1981–1982</b>					
Heisey-Fuller Survival Estimate	<b>0.869</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.905</b>
95% Confidence Interval (CI)	0.786–0.960				0.851–0.962
Radiodays (min.–max.)	396–541	397–597	554–615	1432–1631	3266–3871
N collared (n surviving)	14 (13)	11 (11)	10 (10)	10 (10)	14 (13)
Proportion surviving	0.929	1.000	1.000	1.000	0.929
Minimum Survival (95% CI)	0.831–0.961				0.860–0.963
Maximum Survival (95% CI)	1.000				1.000
<b>1982–1983</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.872</b>	<b>0.890</b>
95% Confidence Interval (CI)				0.791–0.961	0.824–0.961
Radiodays (min.–max.)	527–598	736–828	488–549	1057–1261	2808–3236
N collared (n surviving)	10 (10)	8 (8)	8 (8)	8 (7)	10 (9)
Proportion surviving	1.000	1.000	1.000	0.875	0.900
Minimum Survival (95% CI)				0.781–0.962	0.802–0.961
Maximum Survival (95% CI)				0.819–0.961	0.830–0.961
<b>1983–1984</b>					
Heisey-Fuller Survival Estimate	<b>0.912</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.937</b>
95% Confidence Interval (CI)	0.864–0.963				0.907–0.968
Radiodays (min.–max.)	629–771	1168–1284	887–1001	2158–2311	5504–6059
N collared (n surviving)	22 (21)	18 (18)	16 (16)	15 (15)	22 (21)
Proportion surviving	0.955	1.000	1.000	1.000	0.955
Minimum Survival (95% CI)	0.856–0.962				0.905–0.967
Maximum Survival (95% CI)	0.885–0.965				0.915–0.969
<b>1984–1985</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.937</b>	<b>1.000</b>	<b>0.948</b>	<b>0.895</b>
95% Confidence Interval (CI)		0.907–0.968		0.926–0.971	0.863–0.928
Radiodays (min.–max.)	1037	1427–1515	1150	2747–2908	6547–6796
N collared (n surviving)	23 (23)	23 (22)	20 (20)	20 (19)	23 (21)
Proportion surviving	1.000	0.957	1.000	0.950	0.913
Minimum Survival (95% CI)		0.908–0.968		0.923–0.970	0.862–0.928
Maximum Survival (95% CI)		0.914–0.969		0.928–0.971	0.868–0.930
<b>1985–1986</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.838</b>	<b>0.942</b>	<b>0.943</b>	<b>0.765</b>
95% Confidence Interval (CI)		0.797–0.880	0.916–0.969	0.917–0.969	0.722–0.810
Radiodays (min.–max.)	1066–1087	1467–1596	969–1084	2399–2846	6365–7084
N collared (n surviving)	23 (23)	23 (20)	19 (18)	18 (17)	23 (18)
Proportion surviving	1.000	0.870	0.947	0.944	0.783
Minimum Survival (95% CI)		0.784–0.875	0.911–0.968	0.818–0.890	0.705–0.800
Maximum Survival (95% CI)		0.857–0.926	1.000	0.911–0.968	0.732–0.815
<b>1986–1987</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.928</b>	<b>0.932</b>	<b>1.000</b>	<b>0.873</b>
95% Confidence Interval (CI)		0.893–0.965	0.899–0.966		0.831–0.917
Radiodays (min.–max.)	854–865	1208–1266	768–792	1973–2389	5111–5498
N collared (n surviving)	21 (21)	20 (19)	18 (17)	14 (14)	21 (19)
Proportion surviving	1.000	0.950	0.944	1.000	0.905
Minimum Survival (95% CI)		0.895–0.966	0.884–0.965		0.835–0.918
Maximum Survival (95% CI)		0.890–0.965	1.000		0.908–0.923

Table 13A-2e (con'd). Heisey-Fuller estimates of **adult** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year (hunting and poaching included). Spring and annual survival estimates were calculated from May 1, for animals older than 35 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

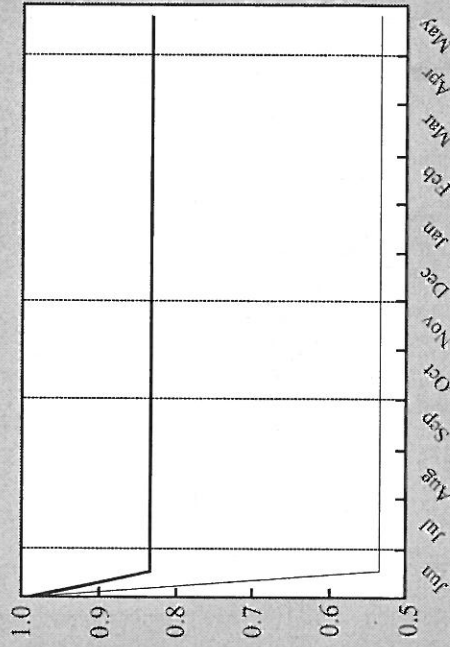
Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>MALES (con'd)</b>					
<b>1987–1988</b>					
Heisey-Fuller Survival Estimate	<b>0.936</b>	<b>0.949</b>	<b>0.946</b>	<b>1.000</b>	<b>0.864</b>
95% Confidence Interval (CI)	0.905–0.967	0.928–0.971	0.922–0.970		0.832–0.896
Radiodays (min.–max.)	843–873	1774–1958	1101–1223	2606–2887	6803–7452
N collared (n surviving)	23 (22)	21 (20)	19 (18)	18 (18)	23 (20)
Proportion surviving	0.957	0.952	0.947	1.000	0.870
Minimum Survival (95% CI)	1.000	0.928–0.971	0.922–0.970		0.868–0.930
Maximum Survival (95% CI)	1.000	0.935–0.973	0.931–0.972		0.880–0.934
<b>1988–1989</b>					
Heisey-Fuller Survival Estimate	<b>0.900</b>	<b>0.947</b>	<b>0.912</b>	<b>0.813</b>	<b>0.653</b>
95% Confidence Interval (CI)	0.884–0.915	0.936–0.959	0.895–0.929	0.787–0.839	0.623–0.680
Radiodays (min.–max.)	2138–2334	3367–3611	1935–2168	4085–4968	11976–13534
N collared (n surviving)	45 (41)	39 (37)	34 (31)	31 (25)	45 (30)
Proportion surviving	0.911	0.949	0.912	0.806	0.667
Minimum Survival (95% CI)	0.903–0.933	0.935–0.959	0.892–0.927	0.773–0.830	0.625–0.681
Maximum Survival (95% CI)	0.938–0.960	0.940–0.961	0.933–0.958	0.785–0.832	0.681–0.728
<b>1989–1990</b>					
Heisey-Fuller Survival Estimate	<b>0.960</b>	<b>0.802</b>	<b>0.952</b>	<b>1.000</b>	<b>0.723</b>
95% Confidence Interval (CI)	0.945–0.976	0.769–0.837	0.932–0.972		0.684–0.764
Radiodays (min.–max.)	1471–1744	2069–2375	1151–1328	2718–3083	7659–8780
N collared (n surviving)	28 (27)	27 (22)	21 (20)	18 (18)	28 (21)
Proportion surviving	0.964	0.815	0.952	1.000	0.750
Minimum Survival (95% CI)	0.916–0.949	0.763–0.823	0.926–0.971		0.652–0.726
Maximum Survival (95% CI)	1.000	0.767–0.835	0.937–0.974		0.713–0.792
<b>1990–1991</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.892</b>	<b>1.000</b>	<b>1.000</b>	<b>0.871</b>
95% Confidence Interval (CI)		0.858–0.926			0.828–0.916
Radiodays (min.–max.)	1098–1198	1607–1677	610–732	1510–1812	5106–5700
N collared (n surviving)	20 (20)	20 (18)	10 (10)	10 (10)	20 (18)
Proportion surviving	1.000	0.900	1.000	1.000	0.900
Minimum Survival (95% CI)		0.803–0.883			0.755–0.863
Maximum Survival (95% CI)		0.923–0.970			0.841–0.920
<b>1991–1992</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.731</b>	<b>1.000</b>	<b>1.000</b>	<b>0.737</b>
95% Confidence Interval (CI)		0.650–0.823			0.658–0.826
Radiodays (min.–max.)	639–741	852–1006	454–535	1057–1208	3236–3736
N collared (n surviving)	15 (15)	12 (9)	8 (8)	7 (7)	15 (12)
Proportion surviving	1.000	0.750	1.000	1.000	0.800
Minimum Survival (95% CI)		0.638–0.819			0.530–0.710
Maximum Survival (95% CI)		0.690–0.837			0.623–0.815
<b>1992–1993</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.882</b>	<b>0.867</b>	<b>1.000</b>	<b>0.767</b>
95% Confidence Interval (CI)		0.811–0.961	0.781–0.961		0.670–0.879
Radiodays (min.–max.)	437–498	721–828	410–549	906–1359	3265–6435
N collared (n surviving)	8 (8)	8 (7)	7 (6)	6 (6)	8 (6)
Proportion surviving	1.000	0.875	0.857	1.000	0.750
Minimum Survival (95% CI)		0.806–0.961	0.772–0.962		0.651–0.743
Maximum Survival (95% CI)		1.000	1.000		1.000

Table 13A-2e (con'd). Heisey-Fuller estimates of **adult** survival for all monitored insular Newfoundland caribou herds. Survival was estimated by sex, season and year (hunting and poaching included). Spring and annual survival estimates were calculated from May 1, for animals older than 35 months of age. Survival was estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving was calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals was not constant through all seasons.

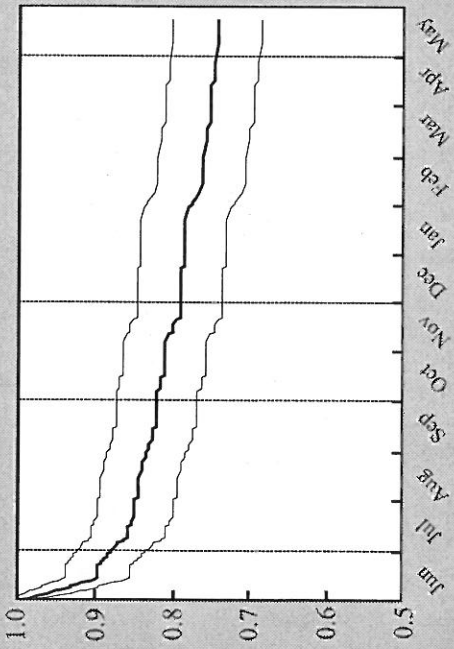
Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>MALES (con'd)</b>					
<b>1993–1994</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.820</b>	<b>1.000</b>	<b>1.000</b>	<b>0.856</b>
95% Confidence Interval (CI)		0.695–0.969			0.760–0.963
Radiodays (min.– max.)	366–520	463–561	365	1057	2344–2596
N collared (n surviving)	9 (9)	9 (8)	7 (7)	7 (7)	9 (8)
Proportion surviving	1.000	0.889	1.000	1.000	0.889
Minimum Survival (95% CI)		0.597–0.868			0.542–0.793
Maximum Survival (95% CI)		0.693–0.969			0.760–0.963
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>0.881</b>	<b>1.000</b>	<b>0.861</b>
95% Confidence Interval (CI)			0.843–0.921		0.813–0.912
Radiodays (min.– max.)	488	735	964	2114	4881
N collared (n surviving)	17 (17)	17 (17)	16 (14)	14 (14)	17 (15)
Proportion surviving	1.000	1.000	0.875	1.000	0.882
Minimum Survival (95% CI)			0.842–0.921		0.813–0.912
Maximum Survival (95% CI)			0.843–0.921		0.813–0.912
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.877</b>	<b>0.923</b>	<b>1.000</b>	<b>0.801</b>
95% Confidence Interval (CI)		0.837–0.919	0.884–0.964		0.746–0.859
Radiodays (min.– max.)	878	1398–1409	764–769	1812	4916–4932
N collared (n surviving)	16 (16)	16 (14)	13 (12)	12 (12)	16 (13)
Proportion surviving	1.000	0.875	0.923	1.000	0.813
Minimum Survival (95% CI)		0.836–0.919	0.952–0.967		0.746–0.859
Maximum Survival (95% CI)		0.838–0.919	0.885–0.964		0.747–0.859
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.961</b>	<b>0.964</b>	<b>0.962</b>	<b>0.892</b>
95% Confidence Interval (CI)		0.946–0.976	0.951–0.977	0.948–0.976	0.869–0.915
Radiodays (min.– max.)	1429	2288	1623–1671	3860–4018	9448–9654
N collared (n surviving)	30 (30)	30 (29)	29 (28)	27 (26)	30 (27)
Proportion surviving	1.000	0.967	0.966	0.963	0.900
Minimum Survival (95% CI)		0.946–0.976	0.950–0.977	0.909–0.947	0.868–0.914
Maximum Survival (95% CI)		0.946–0.978	1.000	0.947–0.976	0.870–0.916
<b>1997–1998</b>					
Heisey-Fuller Survival Estimate	<b>0.964</b>	<b>0.929</b>	<b>0.909</b>	<b>1.000</b>	<b>0.748</b>
95% Confidence Interval (CI)	0.950–0.977	0.912–0.948	0.883–0.936		0.701–0.798
Radiodays (min.– max.)	1609–1632	2480–2559	1220–1342	720	6180–6390
N collared (n surviving)	29 (28)	28 (26)	24 (22)	12 (12)	29 (24)
Proportion surviving	0.966	0.929	0.917	1.000	0.828
Minimum Survival (95% CI)	0.950–0.977	0.877–0.919	0.877–0.933		0.696–0.796
Maximum Survival (95% CI)	1.000	0.910–0.947	0.889–0.938		0.705–0.801
<b>Average, 1979–1998</b>					
Heisey-Fuller Survival Estimate					<b>0.816</b>
95% Confidence Interval (CI)					0.813–0.819
Radiodays (min.– max.)					97715–107314
N collared (n surviving)					155 (98)
Minimum Survival (95% CI)					0.805–0.811
Maximum Survival (95% CI)					0.821–0.826



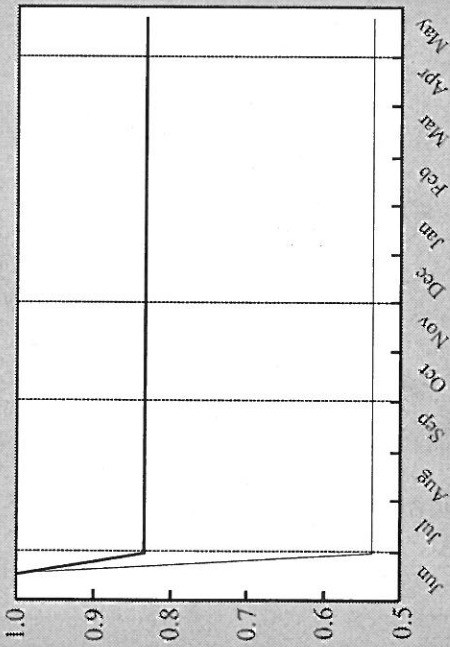
Males, 1979-1998 (N=317)



Males, 1979-1980 (N=7)



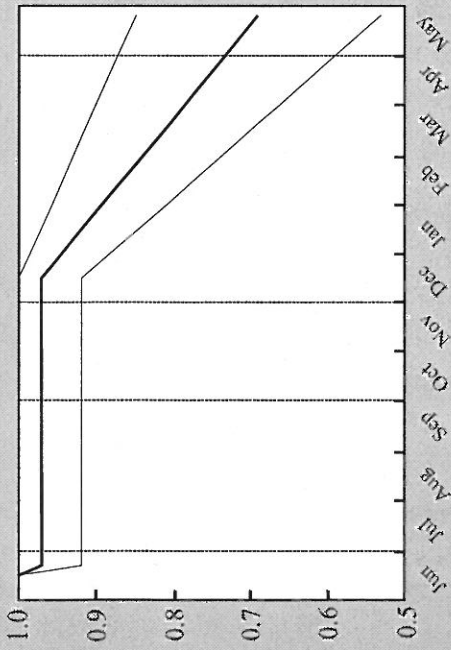
Females, 1979-1998 (N=257)



Females, 1979-1980 (N=6)

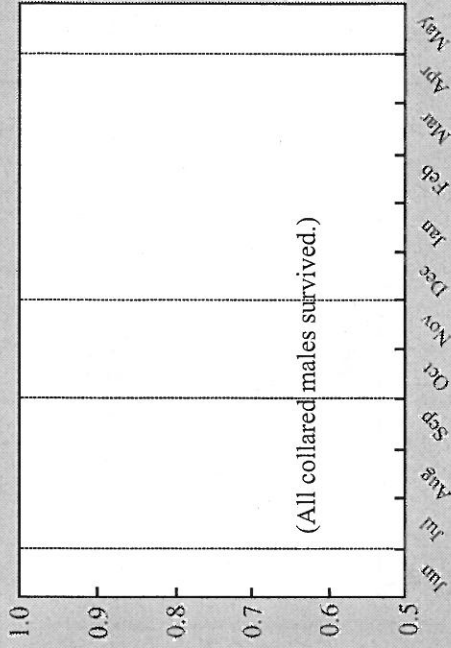
Month / Season

Fig. 13A-1a. Kaplan-Meier survival estimates for calves from all insular Newfoundland caribou herds, from June 1 to May 31, combining data from 1979-1998 (top), and as annual estimates (bottom). Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring and to calf abandonment.

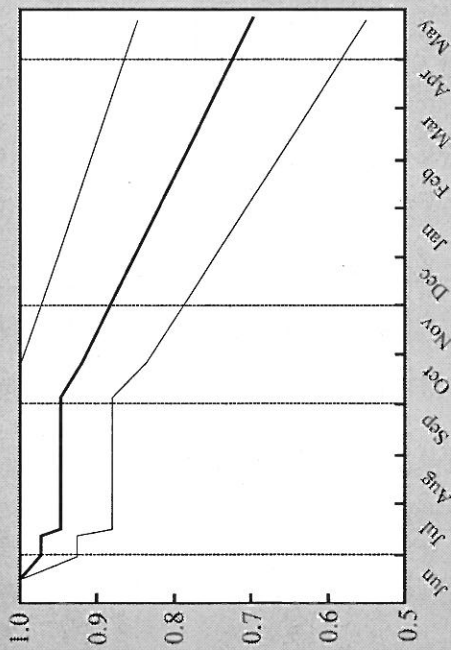


Calf Survival

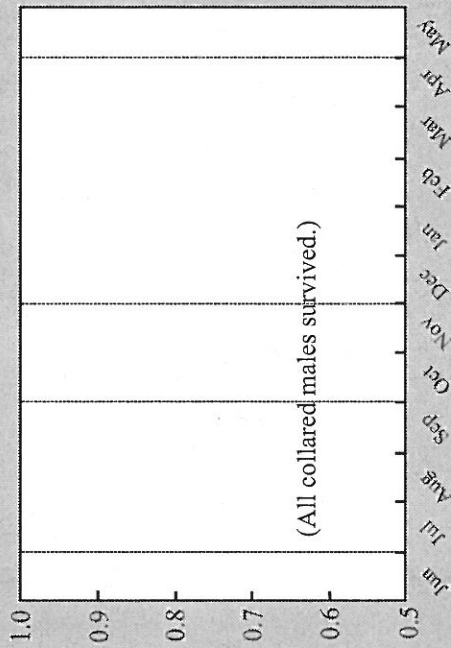
Females, 1980-1981 (N=13)



Males, 1980-1981 (N=18)



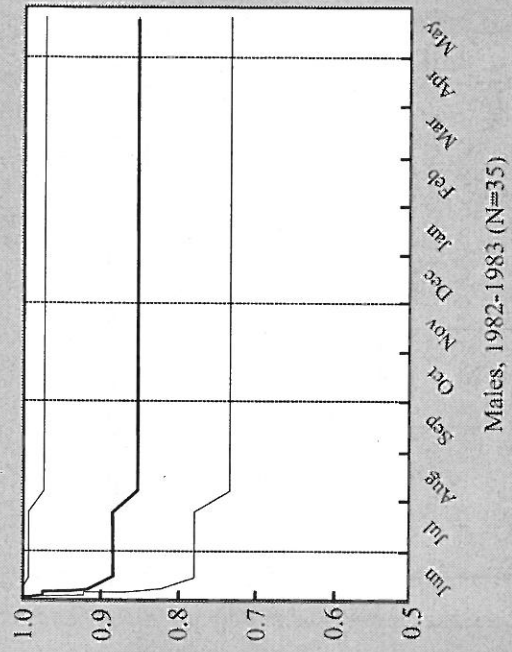
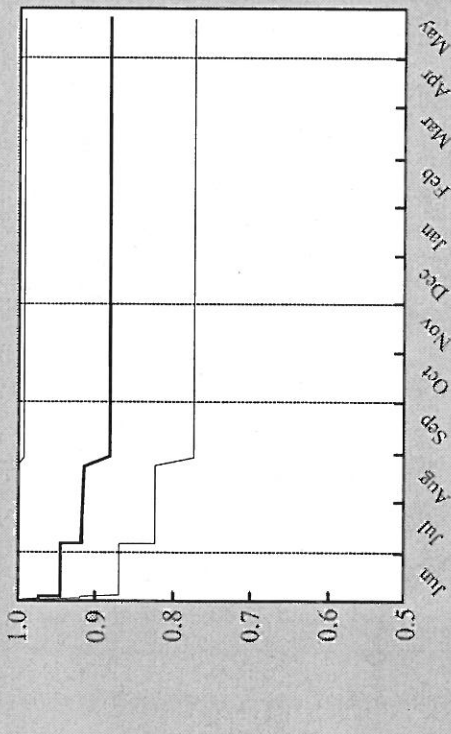
Females, 1981-1982 (N=10)



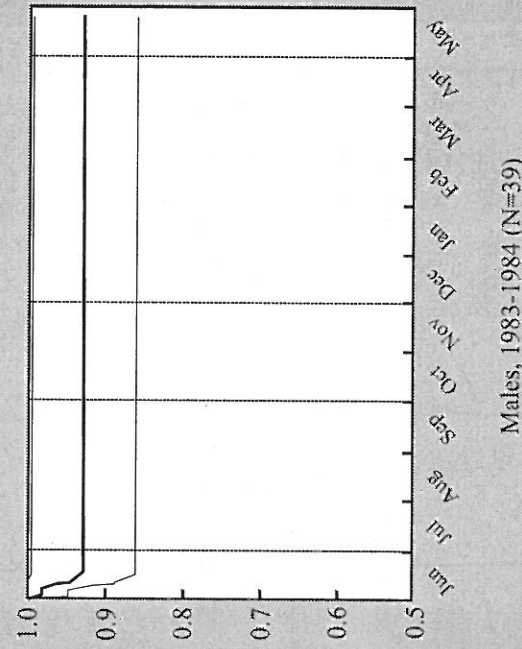
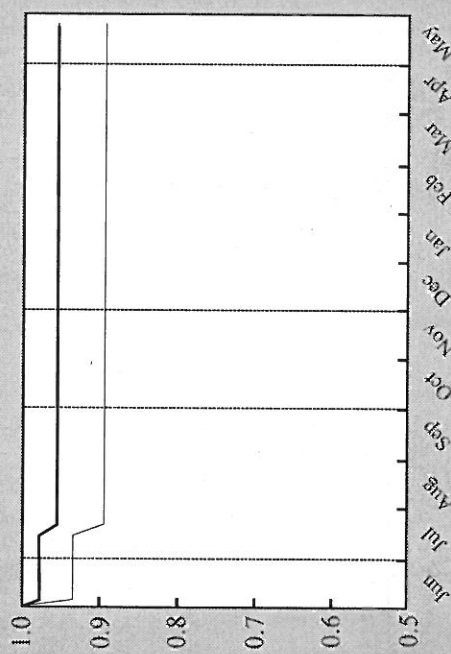
Males, 1981-1982 (N=13)

Month / Season

Fig. 13A-1a (con'd). Annual Kaplan-Meier survival estimates for calves from all insular Newfoundland caribou herds, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring and to calf abandonment.



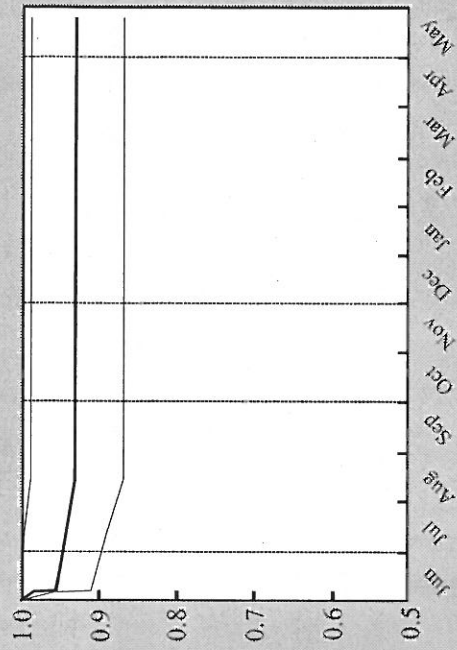
Calf Survival



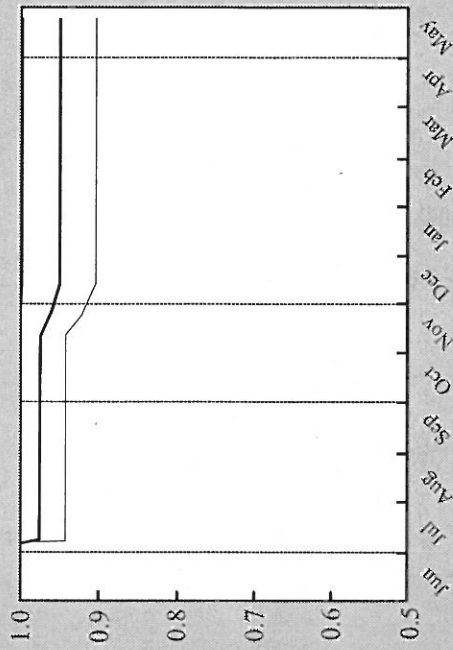
Month / Season

Fig. 13A-1a (con'd). Annual Kaplan-Meier survival estimates for calves from all insular Newfoundland caribou herds, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring and to calf abandonment.



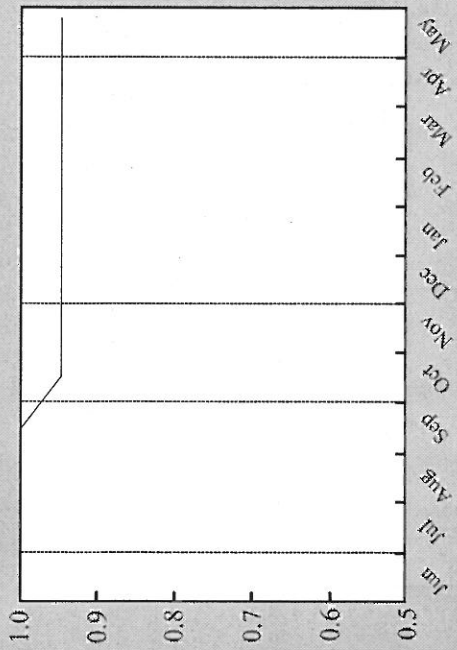


Males, 1984-1985 (N=27)

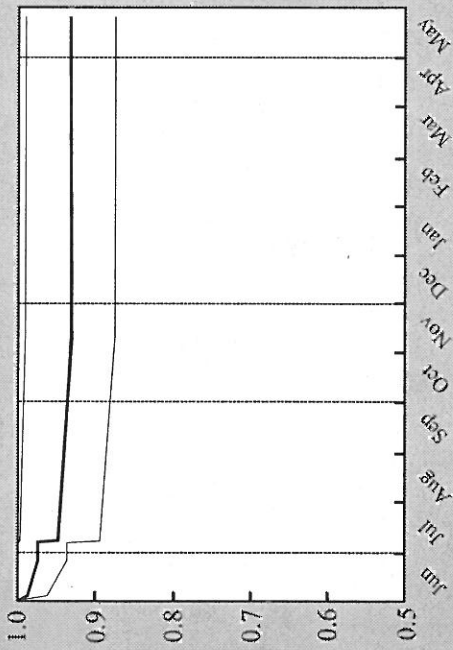


Males, 1987-1988 (N=24)

Month / Season



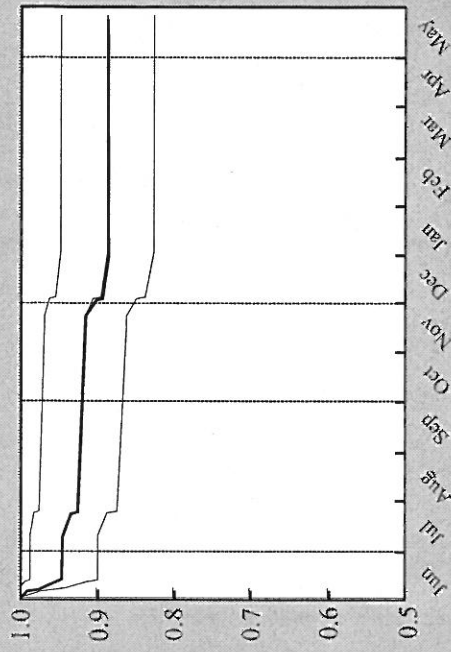
Females, 1984-1985 (N=22)



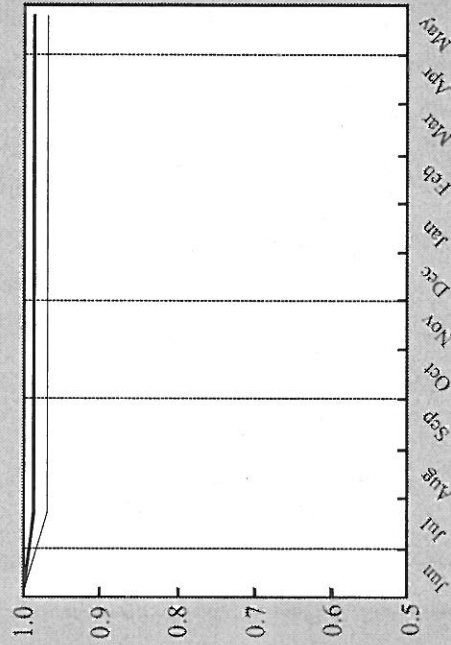
Females, 1987-1988 (N=22)

Calf Survival

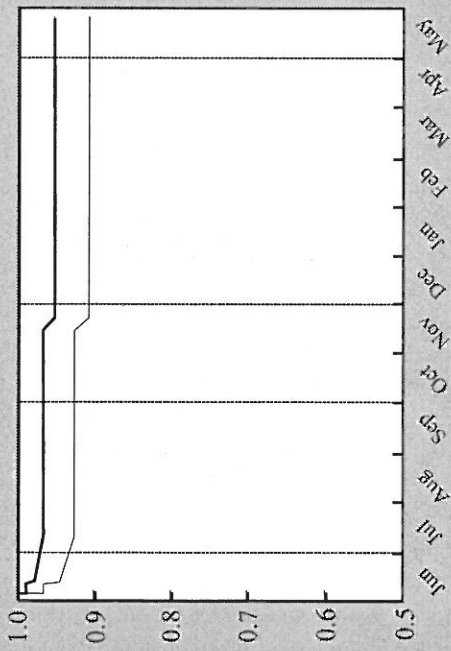
Fig. 13A-1a (con'd). Annual Kaplan-Meier survival estimates for calves from all insular Newfoundland caribou herds, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines), vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring and to calf abandonment.



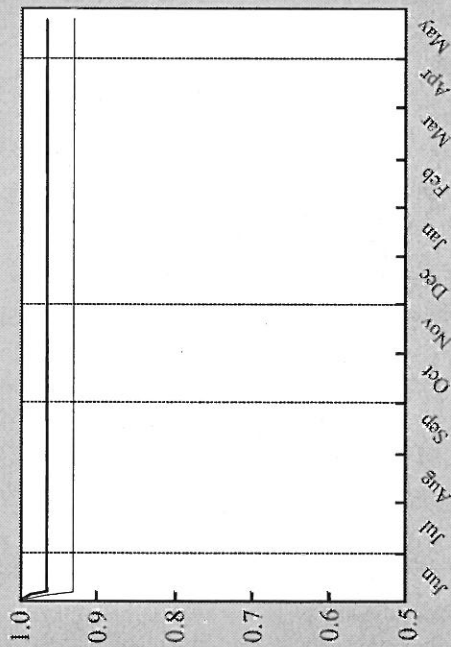
Males, 1988-1989 (N=26)



Males, 1989-1990 (N=9)



Females, 1988-1989 (N=17)



Females, 1989-1990 (N=7)

Month / Season

Fig. 13A-1a (con'd). Annual Kaplan-Meier survival estimates for calves from all insular Newfoundland caribou herds, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring and to calf abandonment.

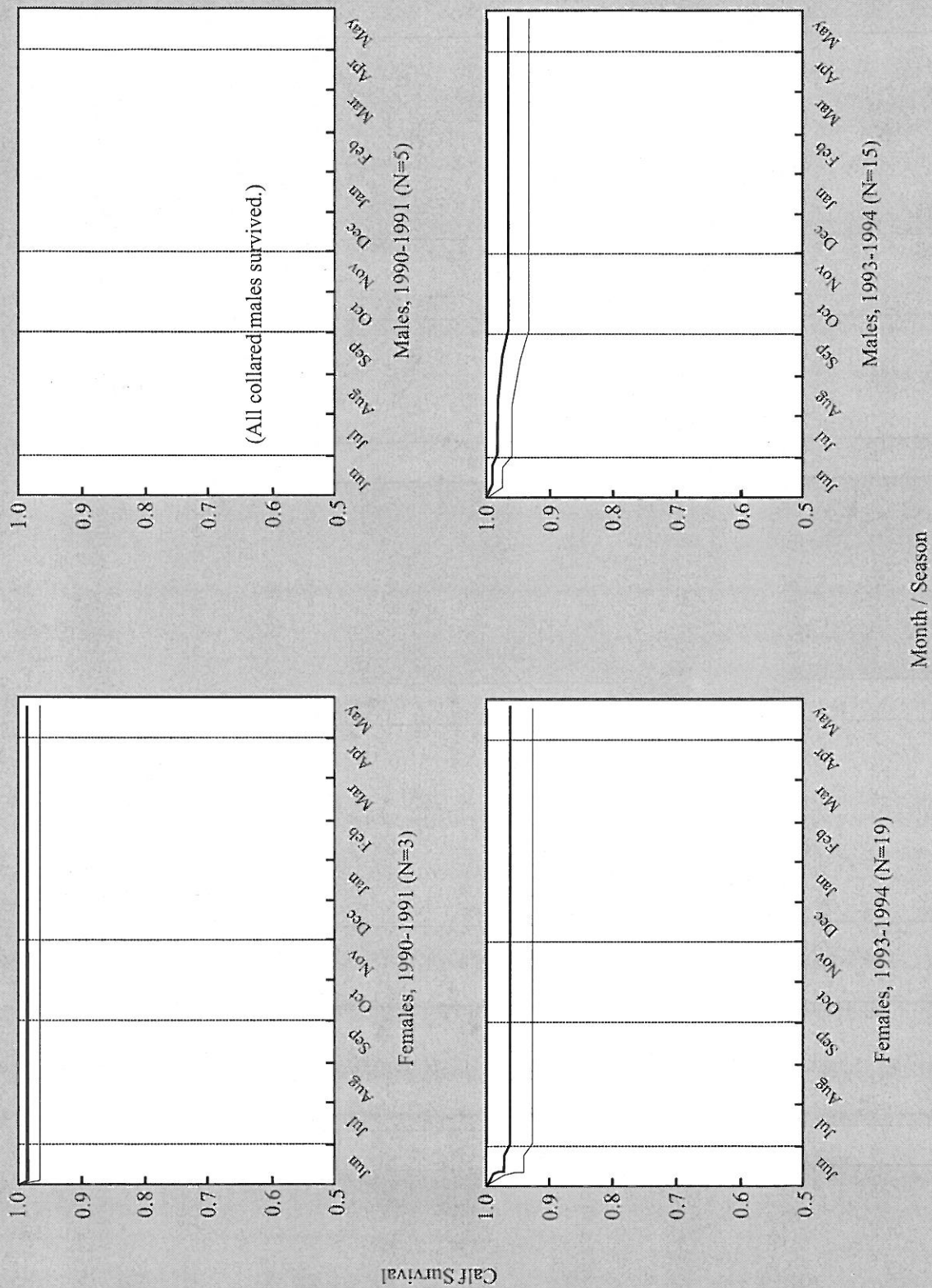
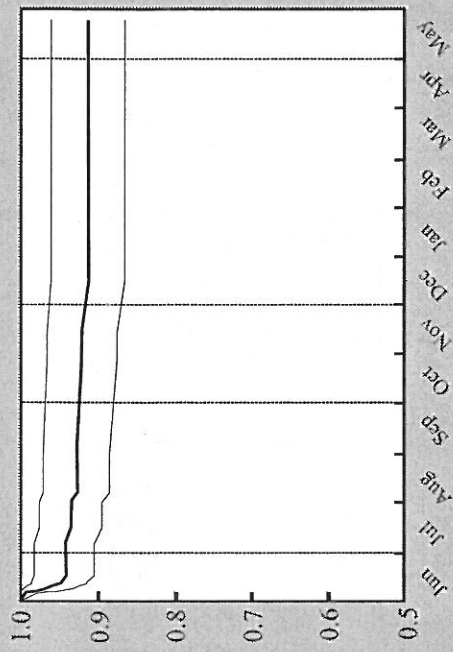
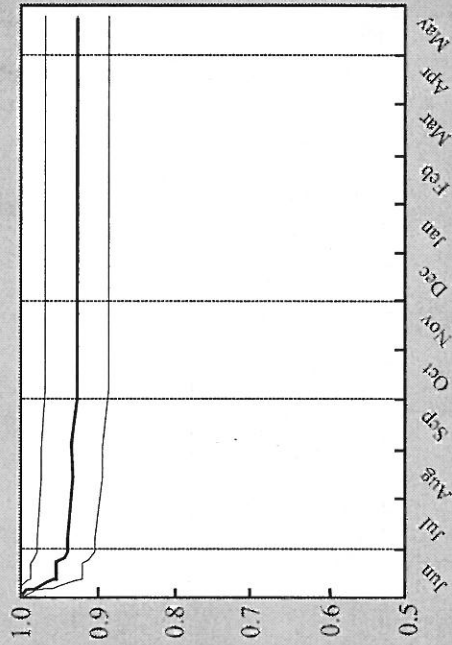


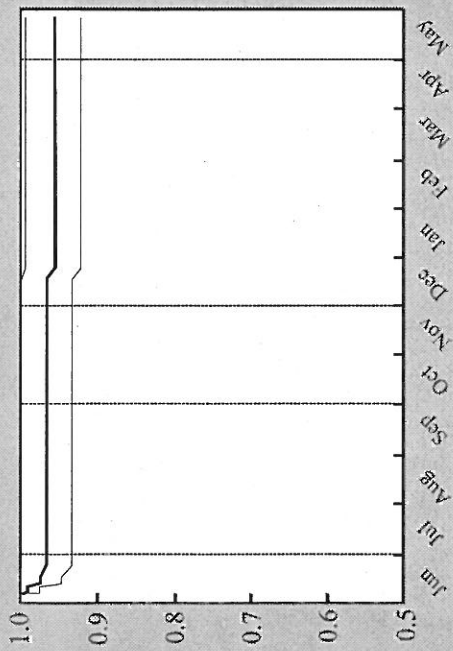
Fig. 13A-1a (con'd). Annual Kaplan-Meier survival estimates for calves from all insular Newfoundland caribou herds, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring and to calf abandonment.



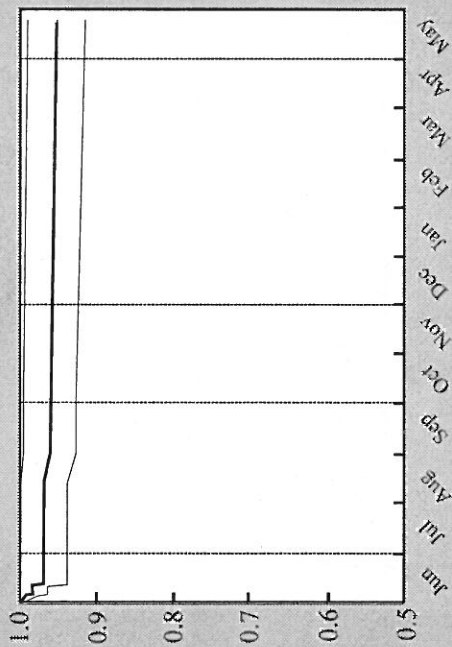
Males, 1994-1995 (N=32)



Males, 1995-1996 (N=22)



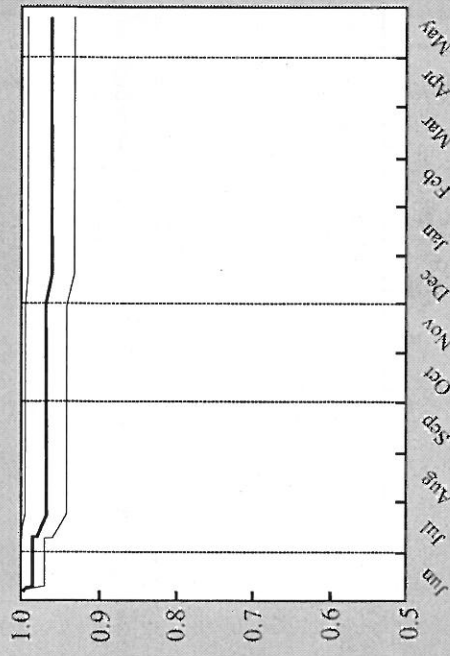
Females, 1994-1995 (N=24)



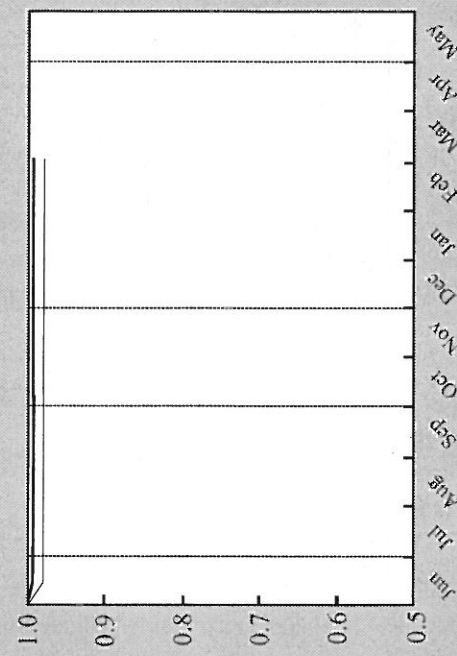
Females, 1995-1996 (N=20)

Month / Season

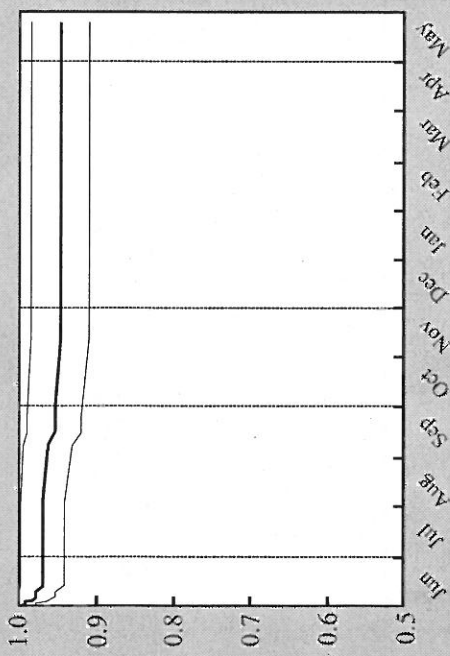
Fig. 13A-1a (con'd). Annual Kaplan-Meier survival estimates for calves from all insular Newfoundland caribou herds, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring and to calf abandonment.



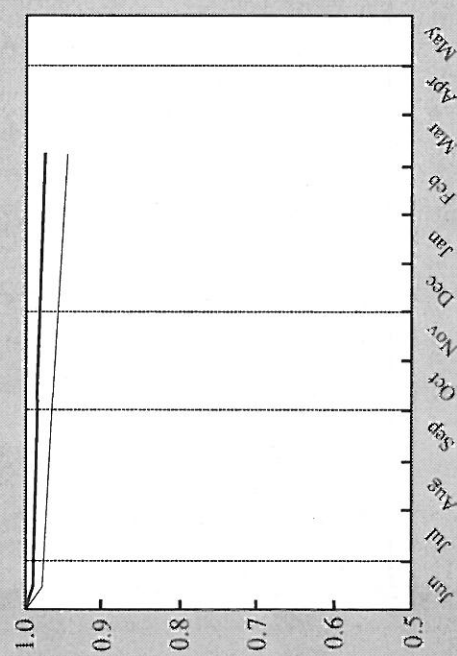
Males, 1996-1997 (N=26)



Males, 1997-1998 (N=6)



Females, 1996-1997 (N=21)



Females, 1997-1998 (N=8)

Month / Season

Fig. 13A-1a (con't). Annual Kaplan-Meier survival estimates for calves from all insular Newfoundland caribou herds, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring and to calf abandonment. Data for 1998 are censored on February 24.

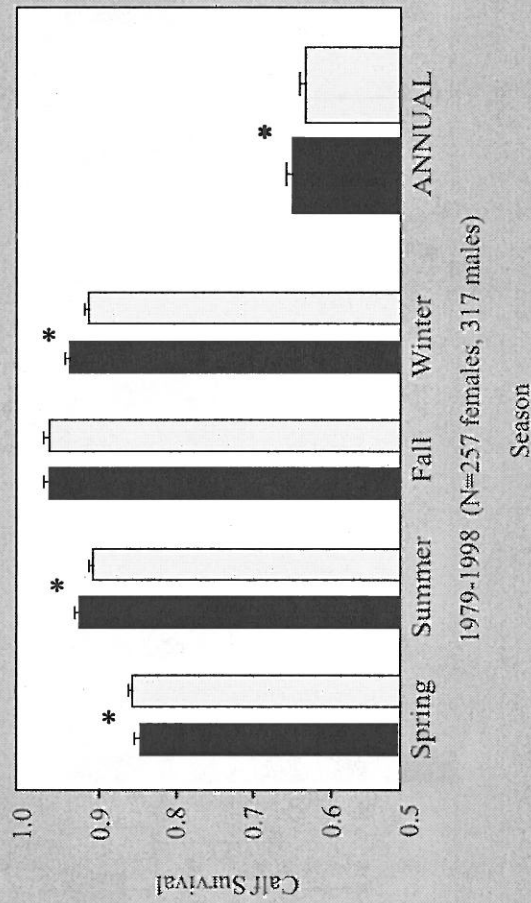
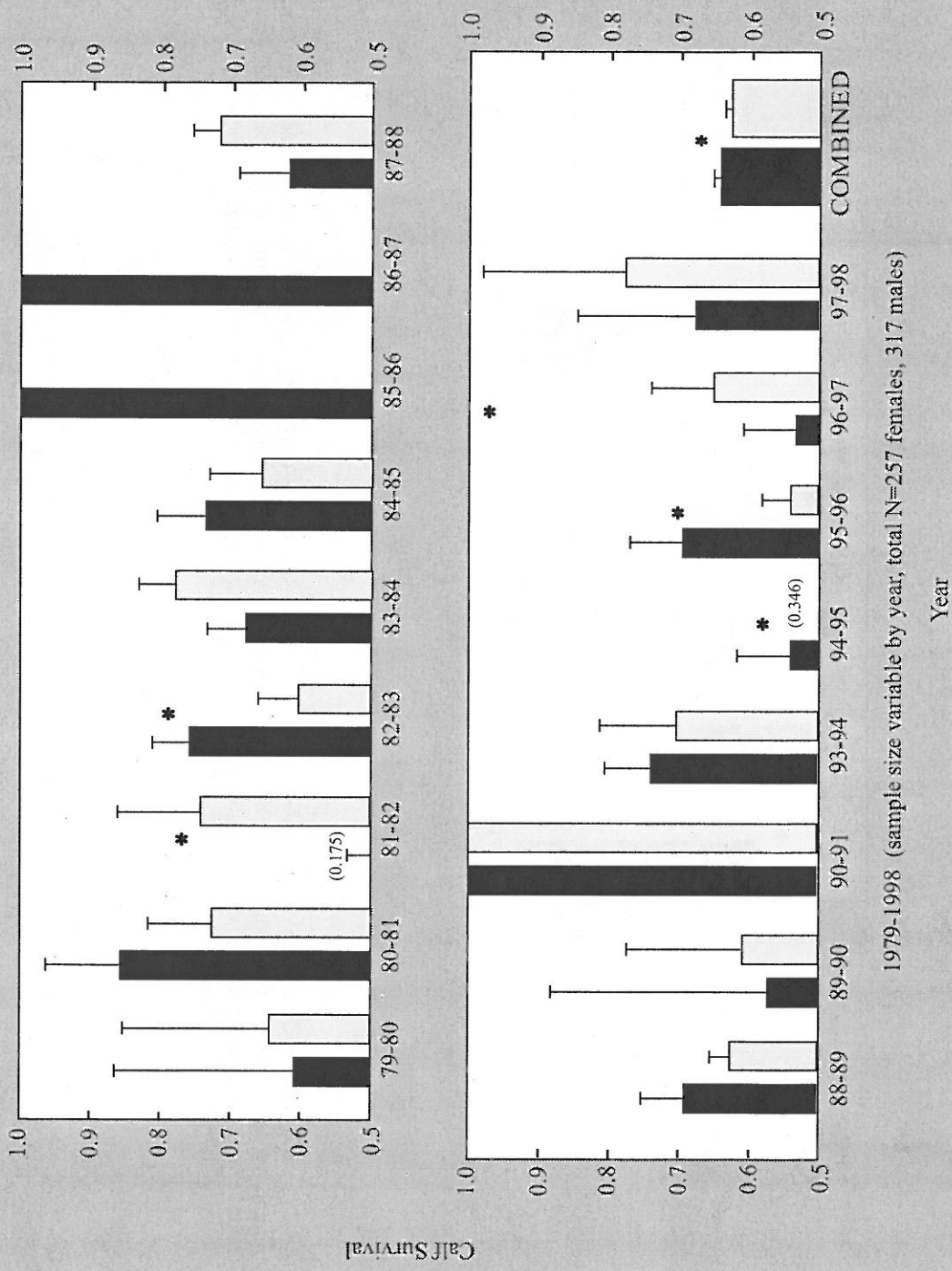


Fig. 13A-1a (con'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) calves, by season and as annual estimates (wide bars), combining data from 1979-1998 for all insular Newfoundland caribou herds; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes in seasonal and annual estimates; cases where all animals survived do not permit statistical comparison. All calculations exclude cases of mortality related to collaring.



1979-1998 (sample size variable by year, total N=257 females, 317 males)

Fig. 13A-1a (con'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) calves, by year and combining data for all years 1979-1998 (wide bars), for all insular Newfoundland caribou herds; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.

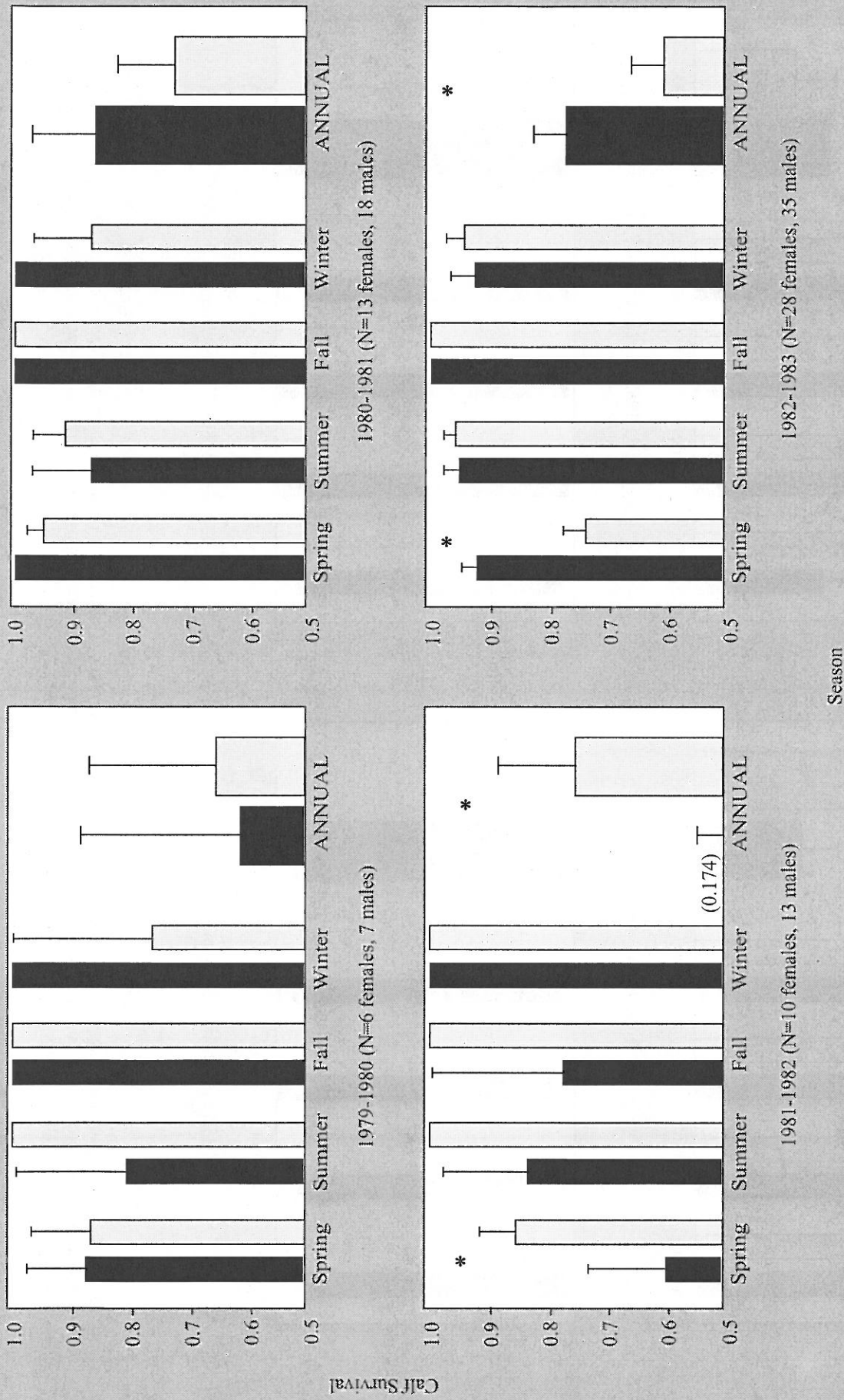
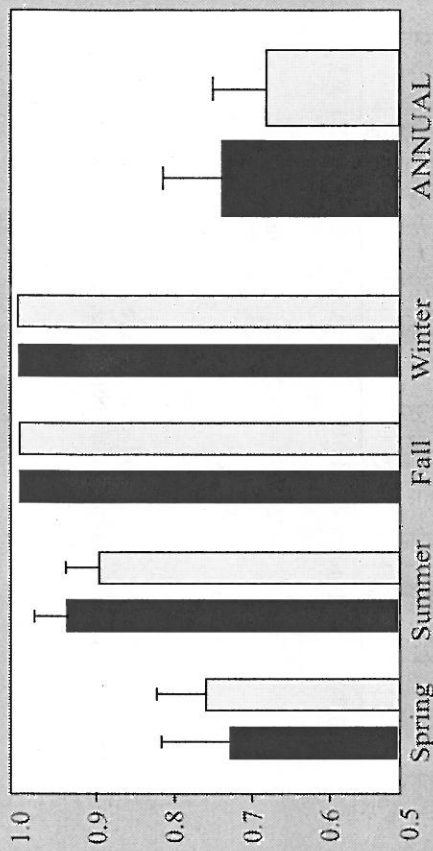
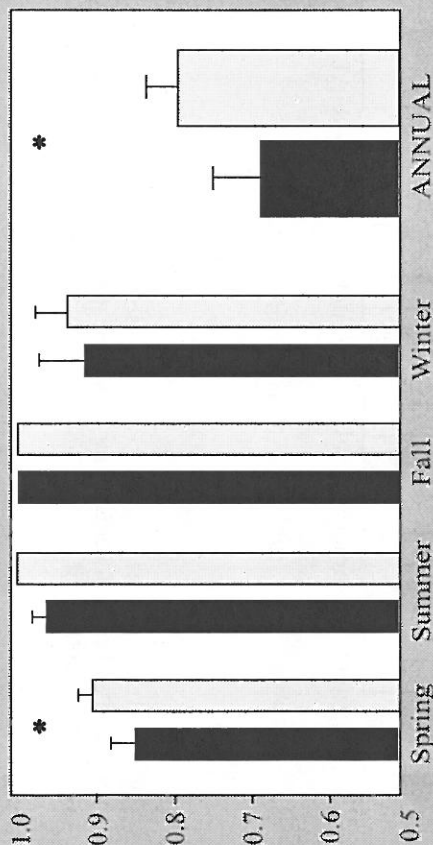


Fig. 13A-1a (con'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) calves, by season and year (wide bars), for all insular Newfoundland caribou herds; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.

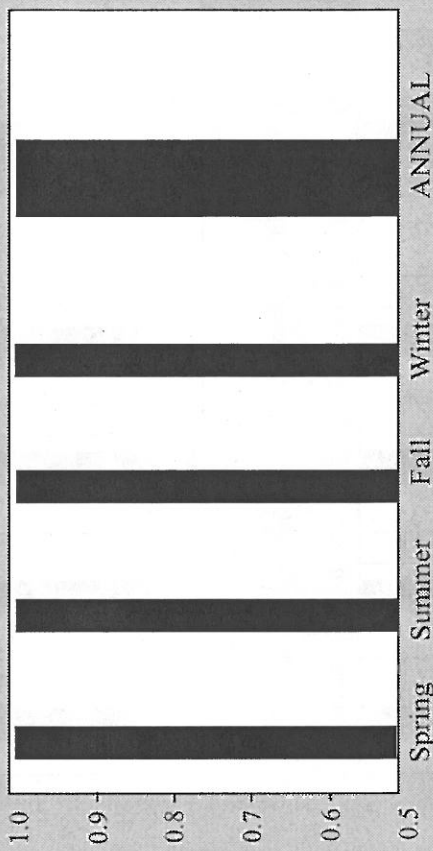




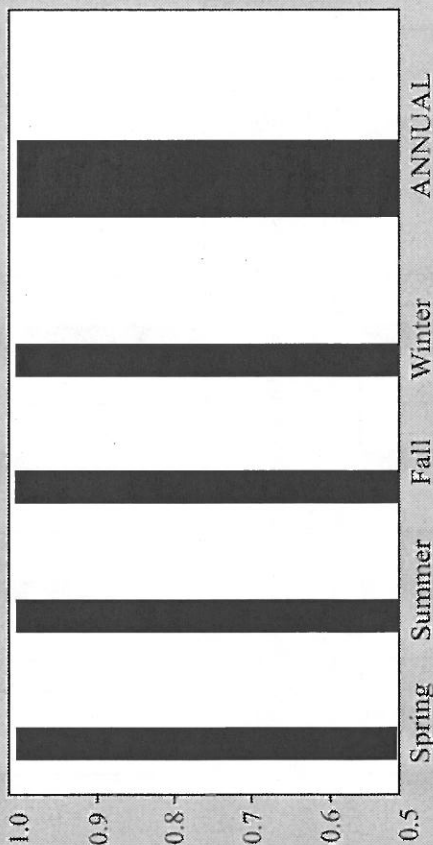
1983-1984 (N=35 females, 39 males)



1986-1987 (N=1 female, 0 males)

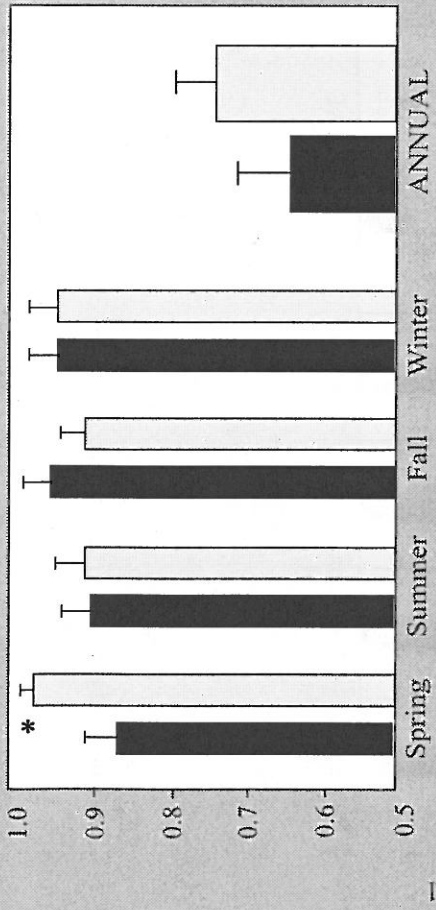


1985-1986 (N=1 female, 0 males)

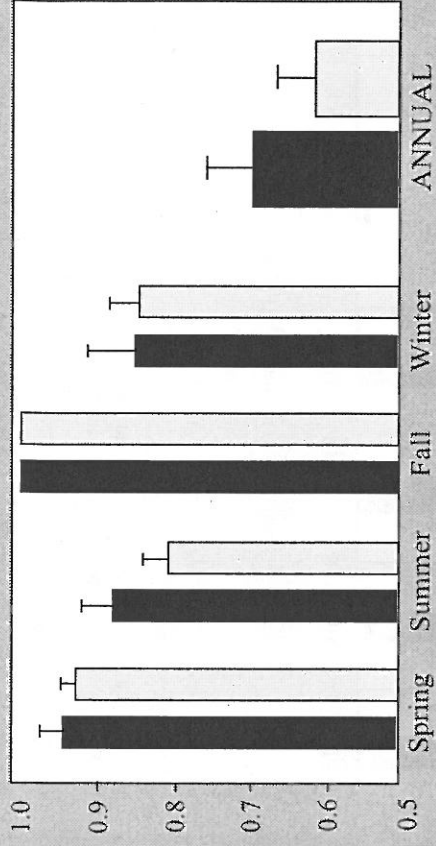


Season

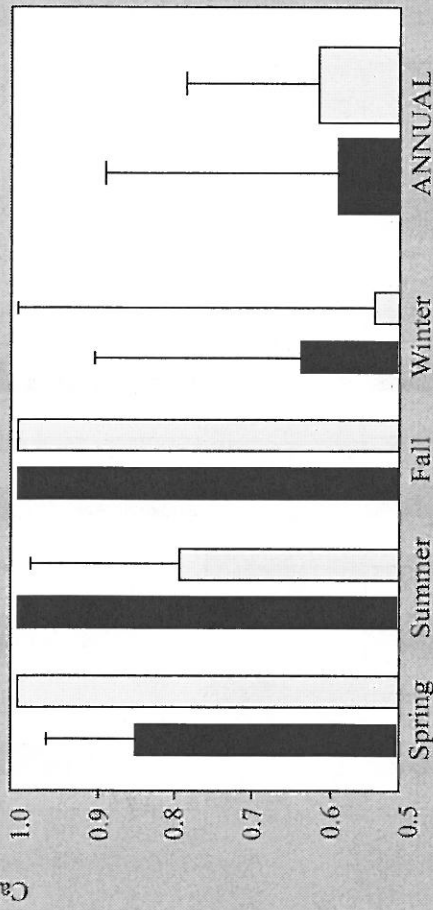
Fig. 13A-1a (con'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) calves, by season and year (wide bars), for all insular Newfoundland caribou herds; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.



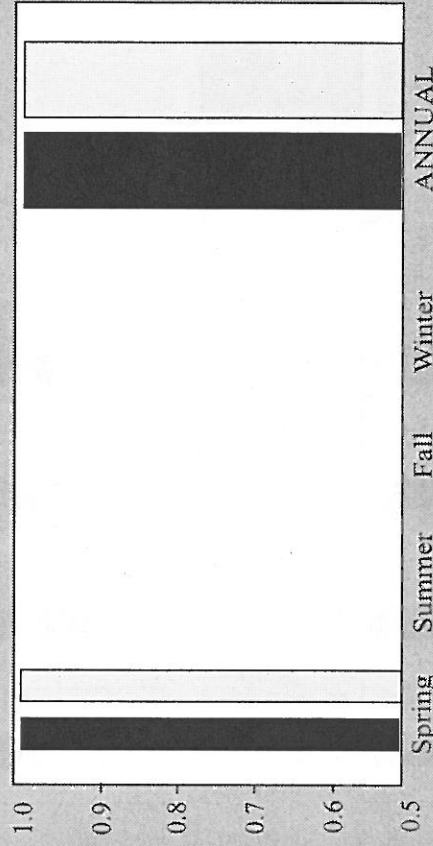
1987-1988 (N=22 females, 24 males)



1988-1989 (N=17 females, 26 males)



1989-1990 (N=7 females, 9 males)



1990-1991 (N=3 females, 5 males)

Season

Fig. 13A-1a (con'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) calves, by season and year (wide bars), for all insular Newfoundland caribou herds; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.

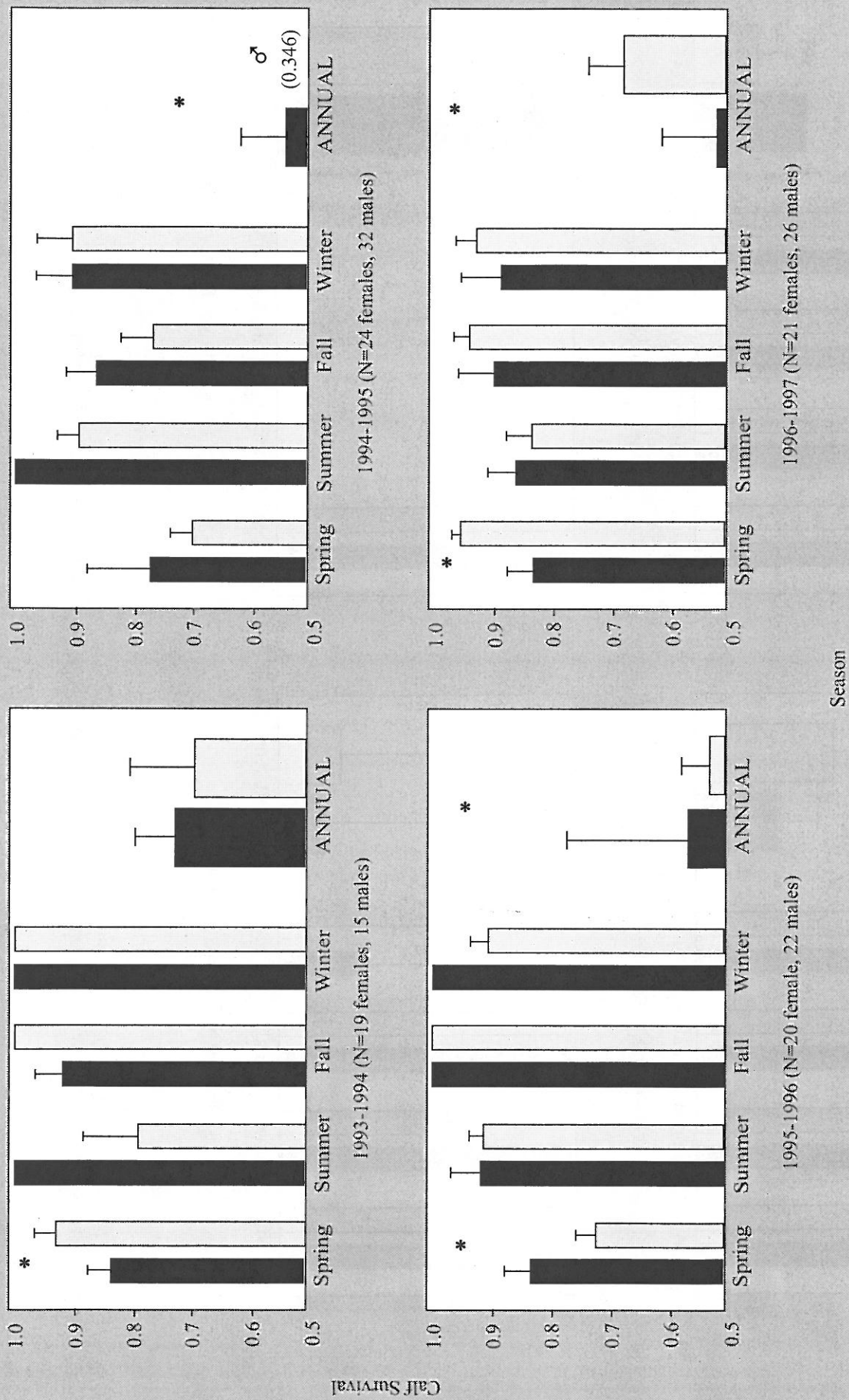


Fig. 13A-1a (con'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) calves, by season and year (wide bars), for all insular Newfoundland caribou herds; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.

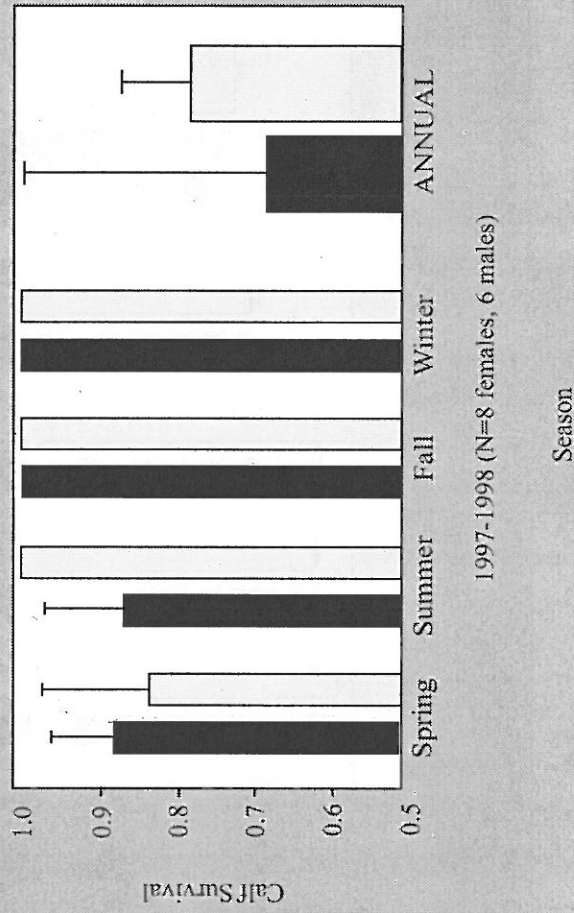
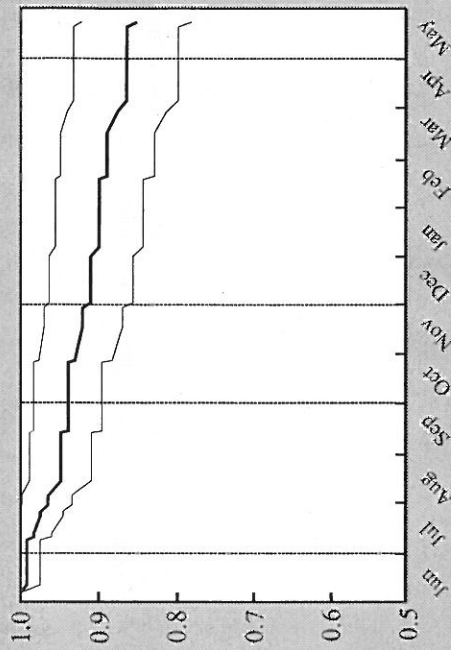
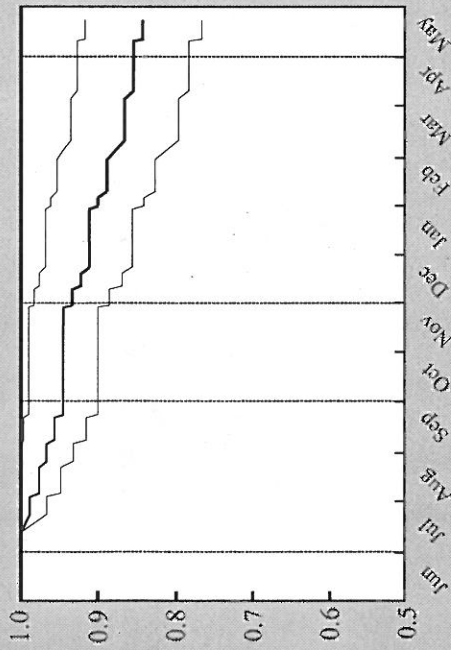


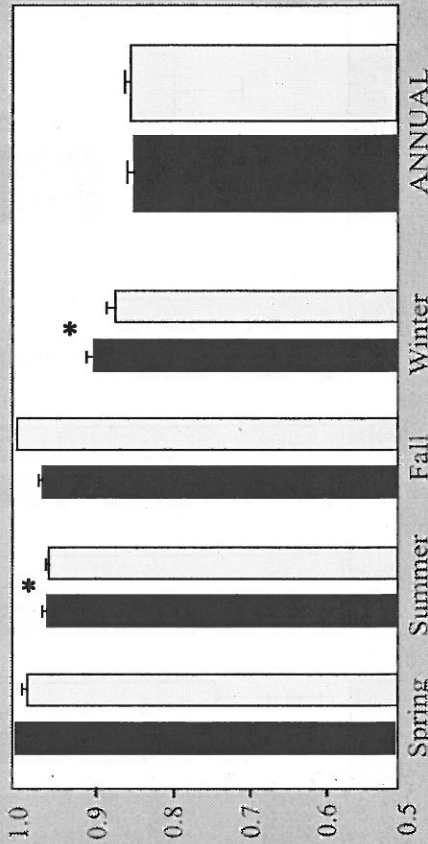
Fig. 13A-1a (con'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) calves, by season and year (wide bars), for all instilar Newfoundland caribou herds; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.



Males, 1979-1998 (N=122)



Females, 1979-1998 (N=102)



Both Sexes, 1979-1998 (N=102 females, 122 males)

Month / Season

Fig. 13A-1b. Kaplan-Meier (top) and Heisey-Fuller (bottom) survival estimates for yearlings from all insular Newfoundland caribou herds, from June 1 to May 31, combining data from 1979-1998. Kaplan-Meier estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries used in Heisey-Fuller calculations. Heisey-Fuller estimates are for females (solid bars) and males (light bars), by season and as annual estimates (wide bars); error bars show upper 95% confidence limits. Asterisks indicate differences between sexes in seasonal and annual estimates; cases of all animals surviving do not permit statistical comparisons. All calculations exclude cases of mortality related to collaring.

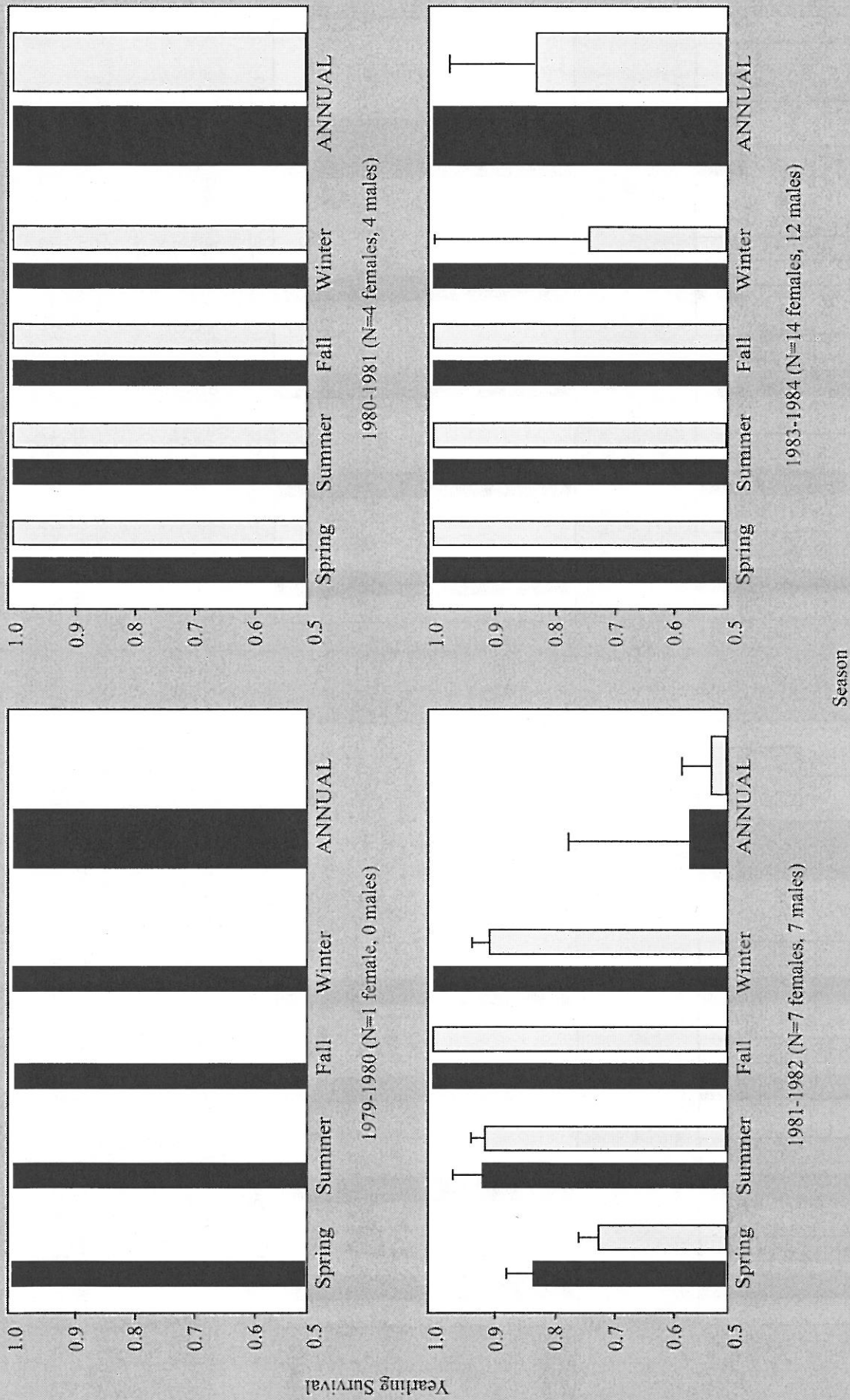
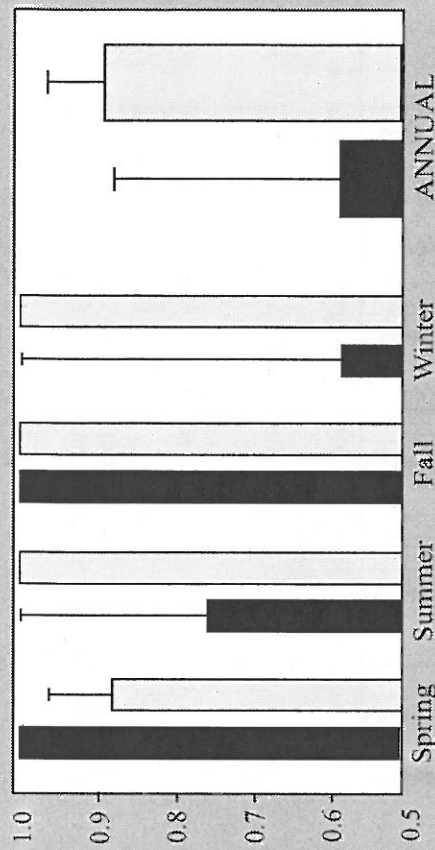
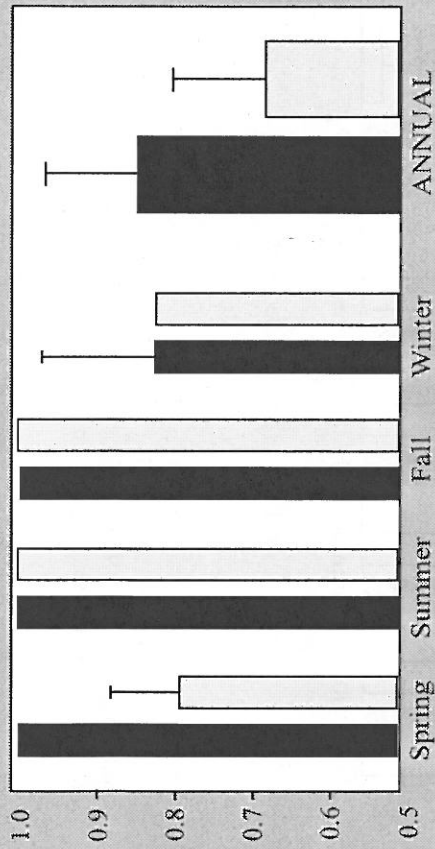


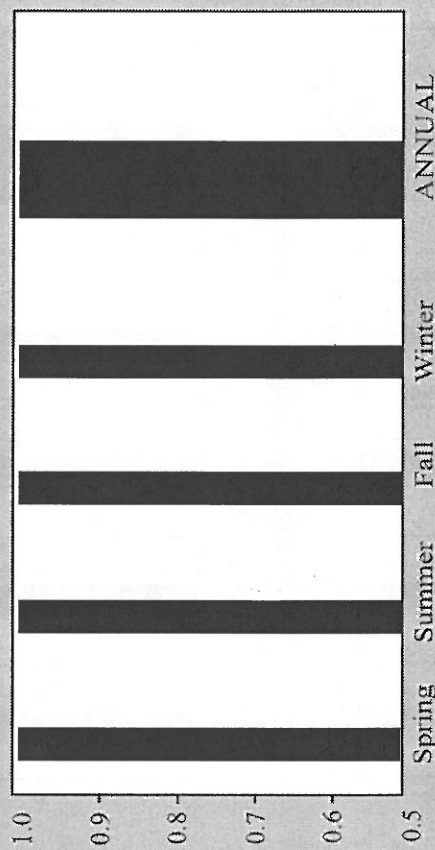
Fig. 13A-1b (con'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) yearlings, by season and as annual estimates (wide bars), combining data from 1979-1998 for all insular Newfoundland caribou herds; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes in seasonal and annual estimates; cases of all animals surviving do not permit statistical comparisons.



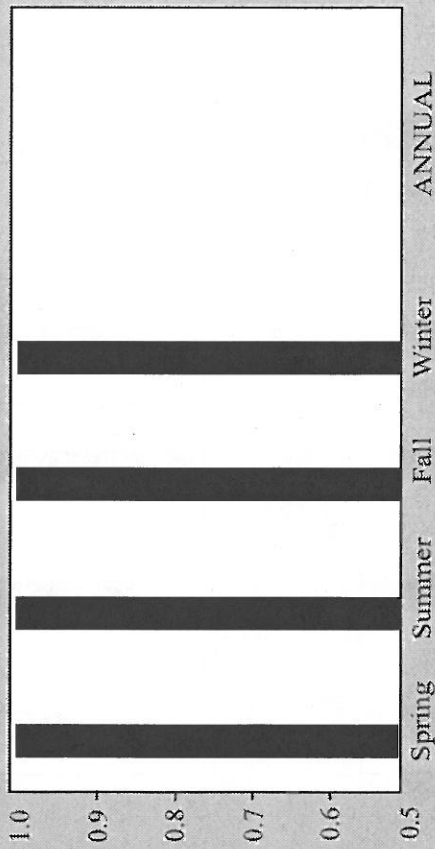
1985-1986 (N=10 females, 14 males)



1984-1985 (N=9 females, 13 males)



1987-1988 (N=1 female, 0 males)



1986-1987 (N=1 female, 0 males)

Season

Fig. 13A-1b (cont'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) yearlings, by season and as annual estimates (wide bars), combining data from 1979-1998 for all insular Newfoundland caribou herds; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes in seasonal and annual estimates; cases of all animals surviving do not permit statistical comparisons.

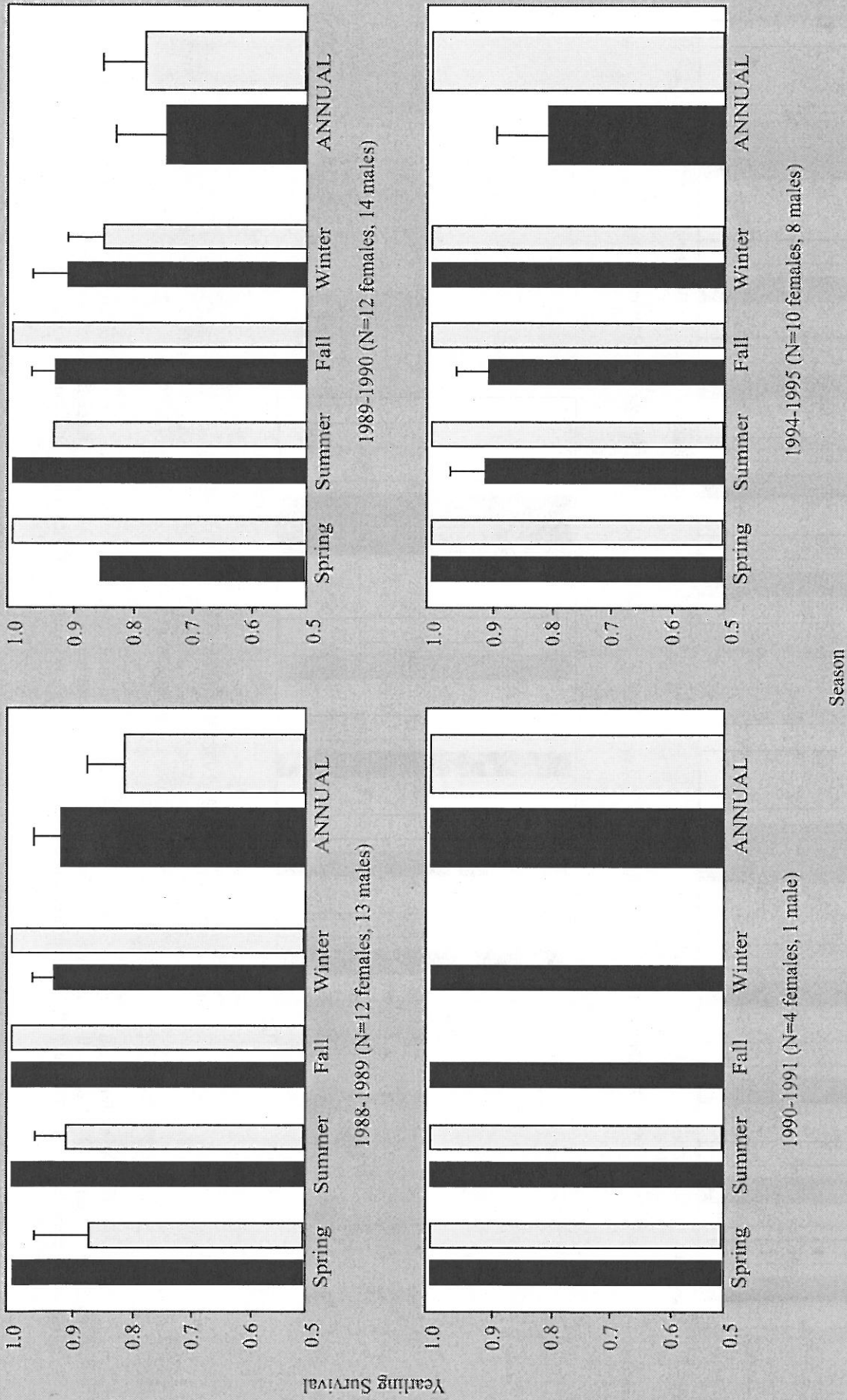
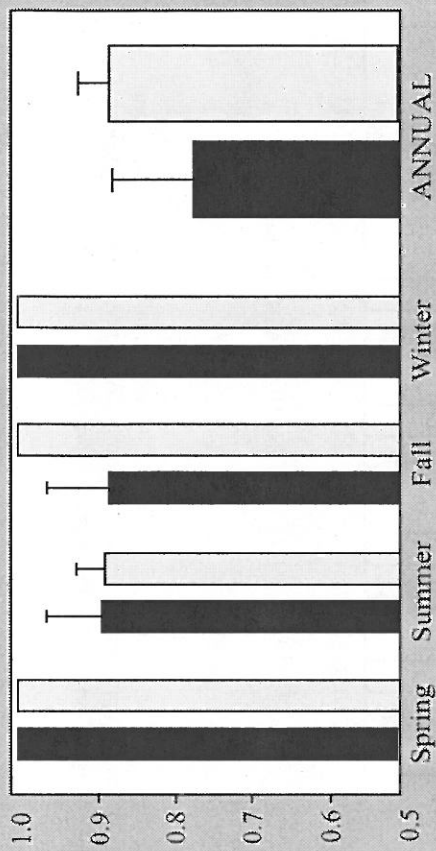
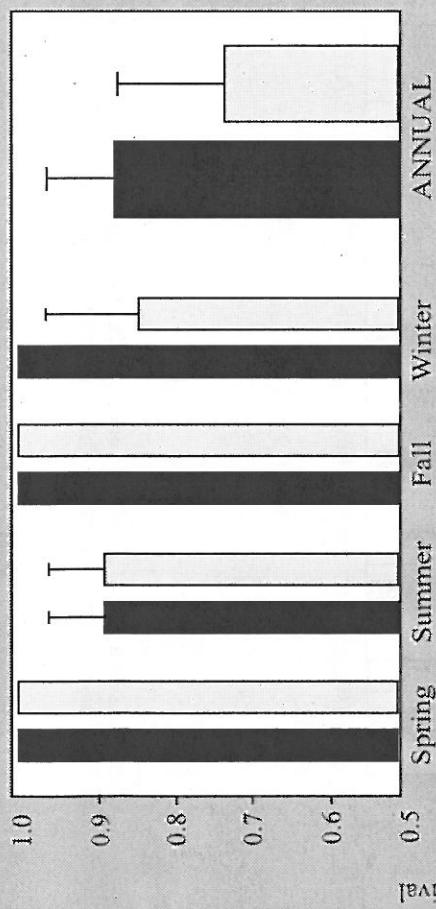


Fig. 13A-1b (con't). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) yearlings, by season and as annual estimates (wide bars), combining data from 1979-1998 for all insular Newfoundland caribou herds; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes in seasonal and annual estimates; cases of all animals surviving do not permit statistical comparisons.

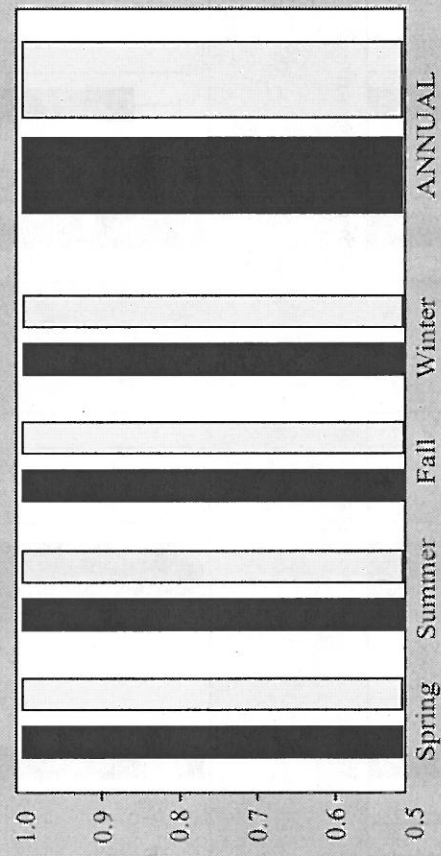




1996-1997 (N=9 females, 18 males)



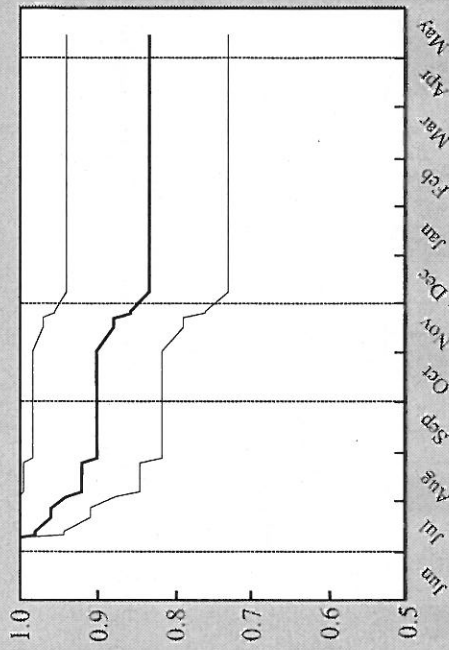
1995-1996 (N=9 females, 8 males)



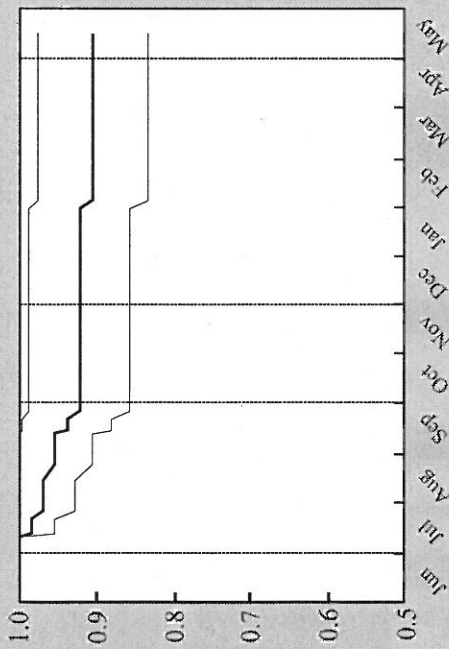
1997-1998 (N=1 female, 5 males)

Season

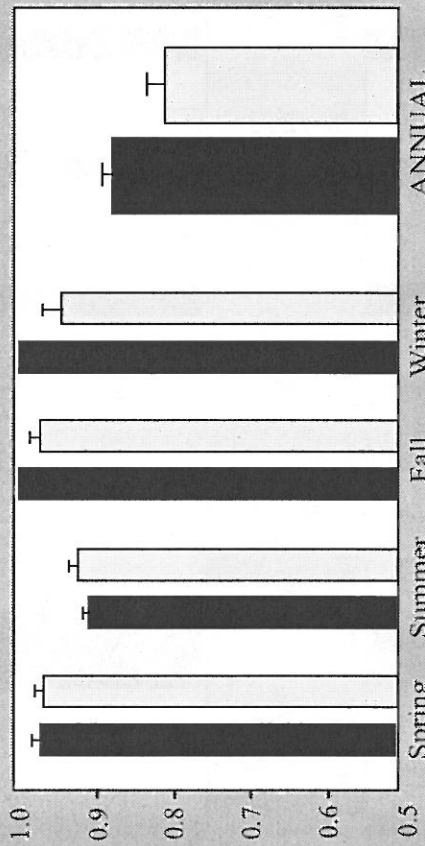
Fig. 13A-1b (con'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) yearlings, by season and as annual estimates (wide bars), combining data from 1979-1998 for all insular Newfoundland caribou herds; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes in seasonal and annual estimates; cases of all animals surviving do not permit statistical comparisons.



Males, 1979-1998 (N=56)



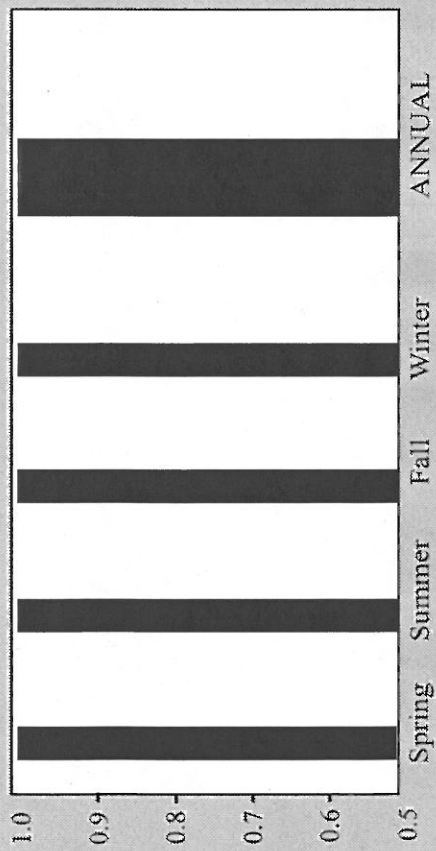
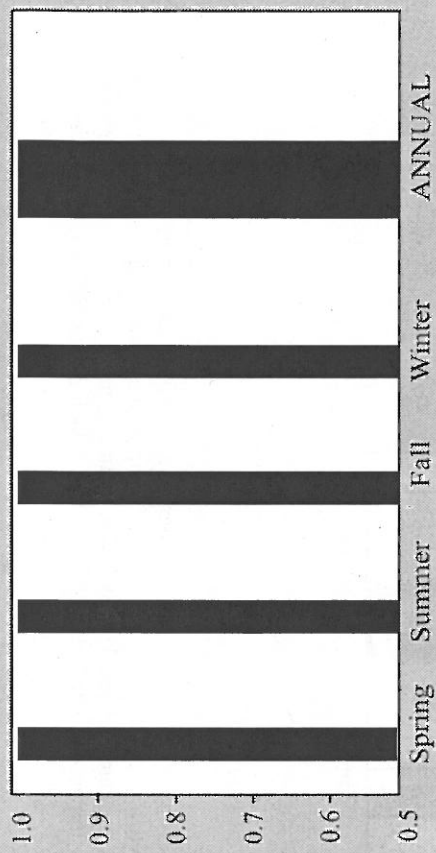
Females, 1979-1998 (N=67)



Both Sexes, 1979-1998 (N=67 females, 56 males)

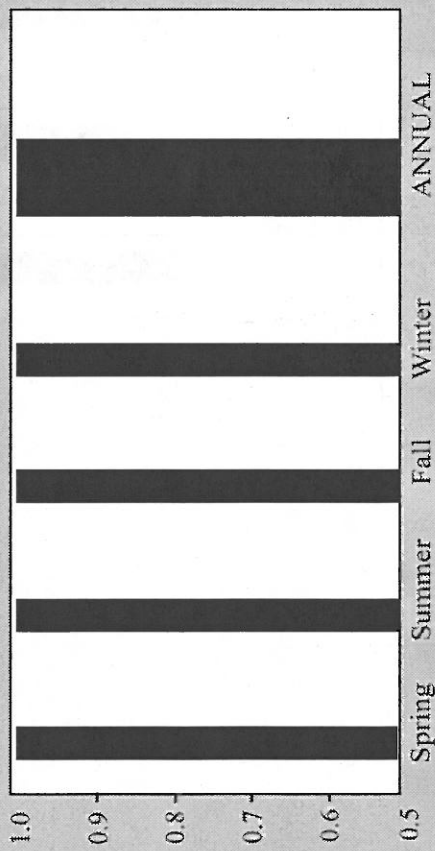
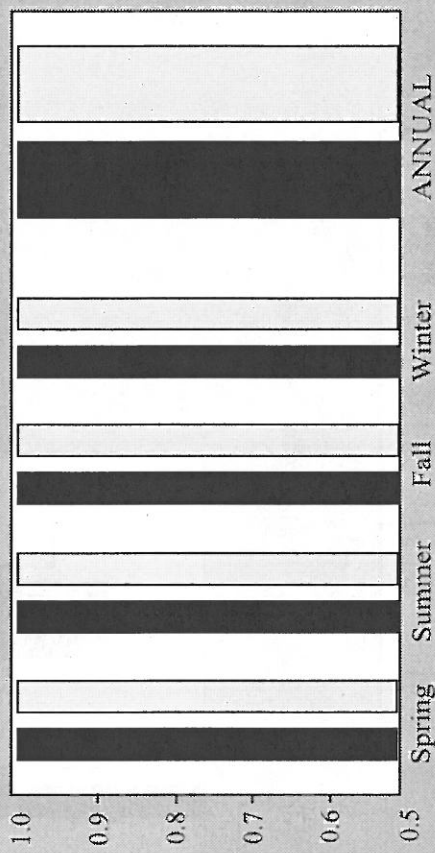
Month / Season

Fig. 13A-1c. Kaplan-Meier (top) and Heisey-Fuller (bottom) survival estimates for two-year-olds from all insular Newfoundland caribou herds, from June 1 to May 31, combining data from 1979-1998. Kaplan-Meier estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries used in Heisey-Fuller calculations. Heisey-Fuller estimates are for females (solid bars) and males (light bars), by season and as annual estimates (wide bars); error bars show upper 95% confidence limits. Asterisks indicate differences between sexes in seasonal and annual estimates; cases of all animals surviving do not permit statistical comparisons. All calculations exclude cases of mortality related to collaring.



1980-1981 (N=1 female, 0 males)

1979-1980 (N=5 females, 0 males)



1982-1983 (N=3 females, 3 males)

1981-1982 (N=3 females, 1 male)

Season

Two-Year Old Survival

Fig. 13A-1c (con'td). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) two-year-olds, by season and year (wide bars), for all insular Newfoundland caribou herds; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.

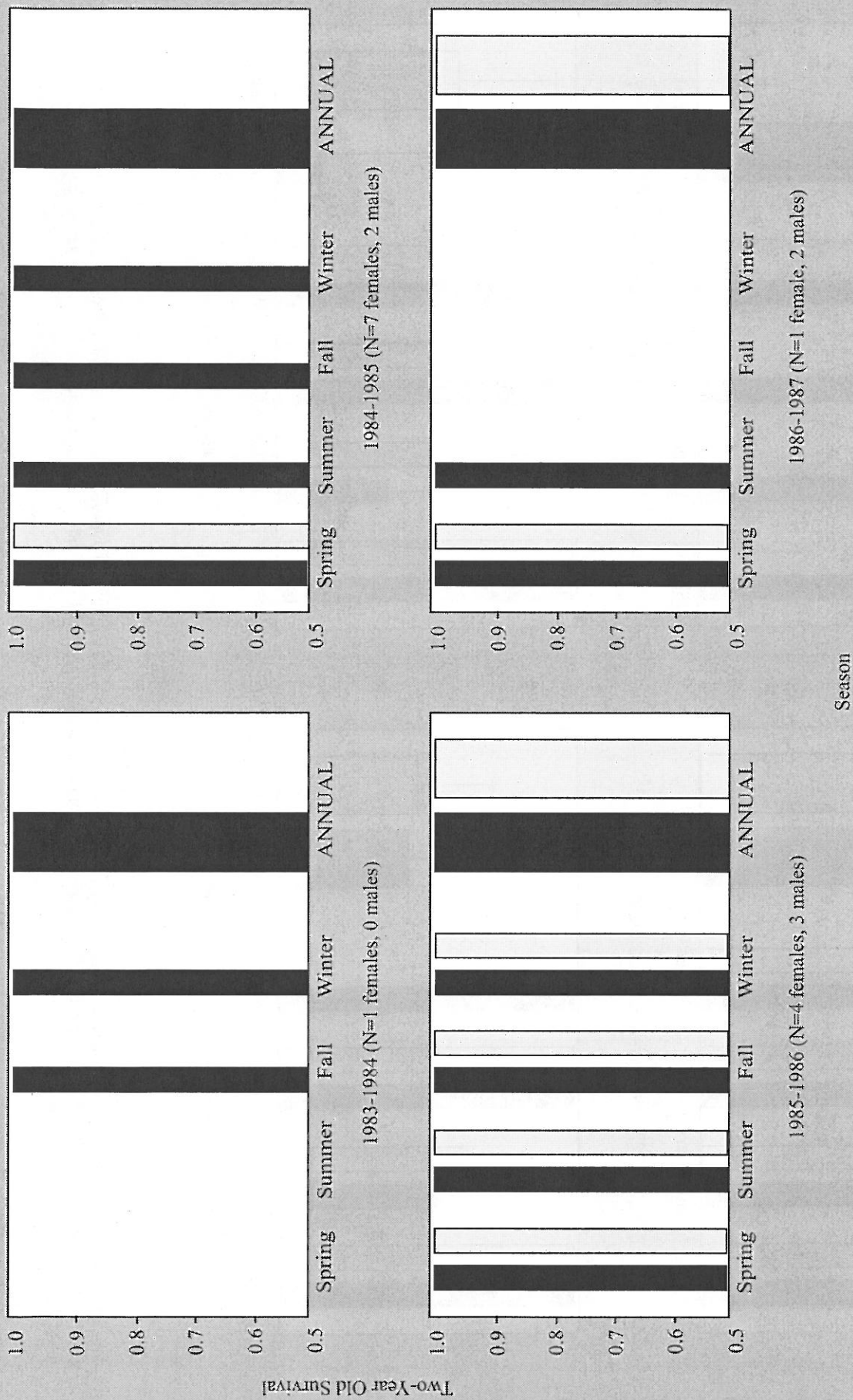
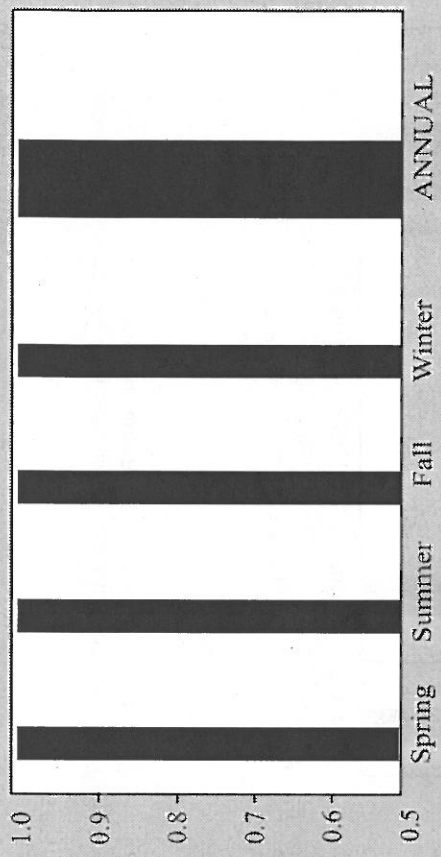
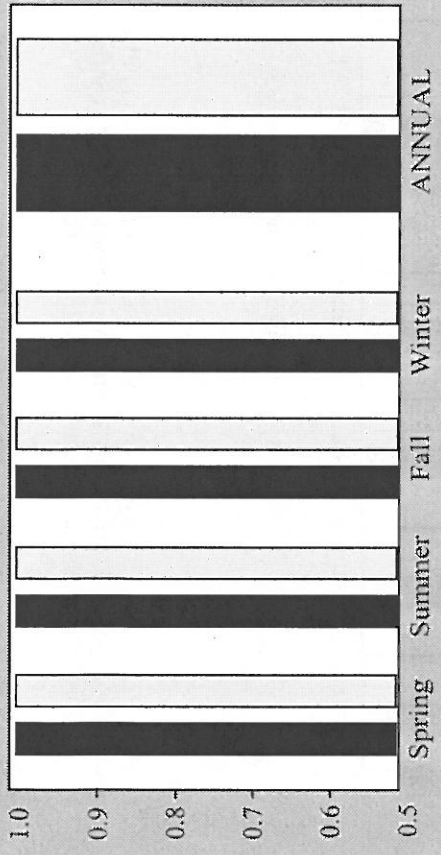


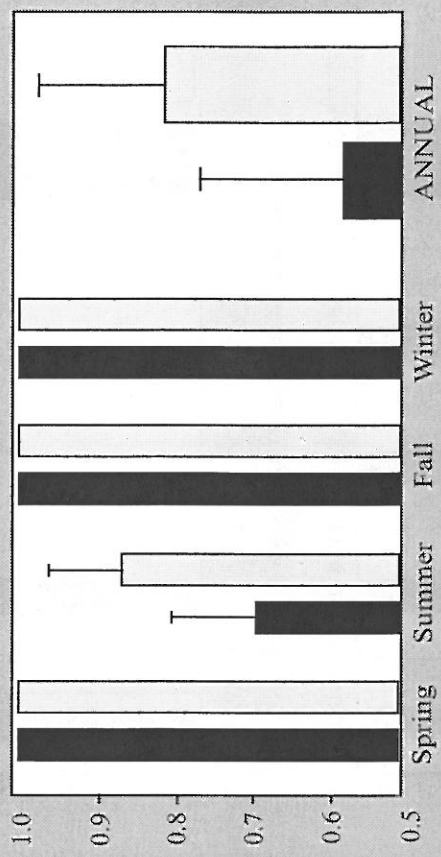
Fig. 13A-1c (con'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) two-year-olds, by season and year (wide bars), for all insular Newfoundland caribou herds; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.



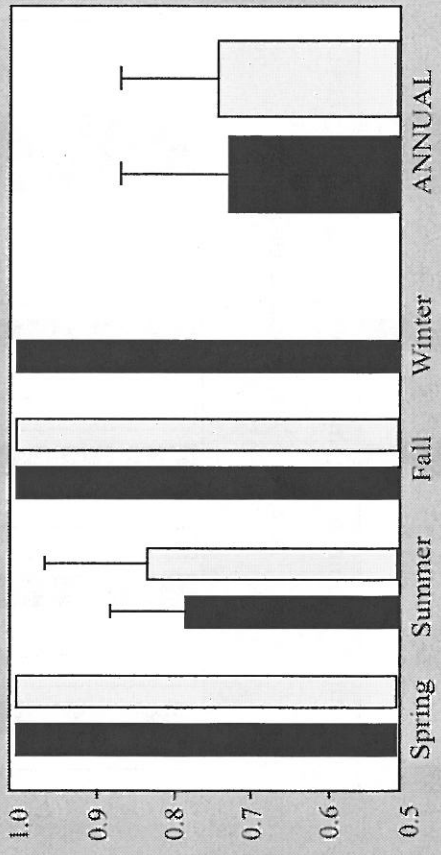
1988-1989 (N=1 female, 0 males)



1987-1988 (N=1 female, 2 males)



1990-1991 (N=10 females, 9 males)



1989-1990 (N=12 females, 9 male)

Season

Fig. 13A-1c (con't d). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) two-year-olds, by season and year (wide bars), for all insular Newfoundland caribou herds; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.

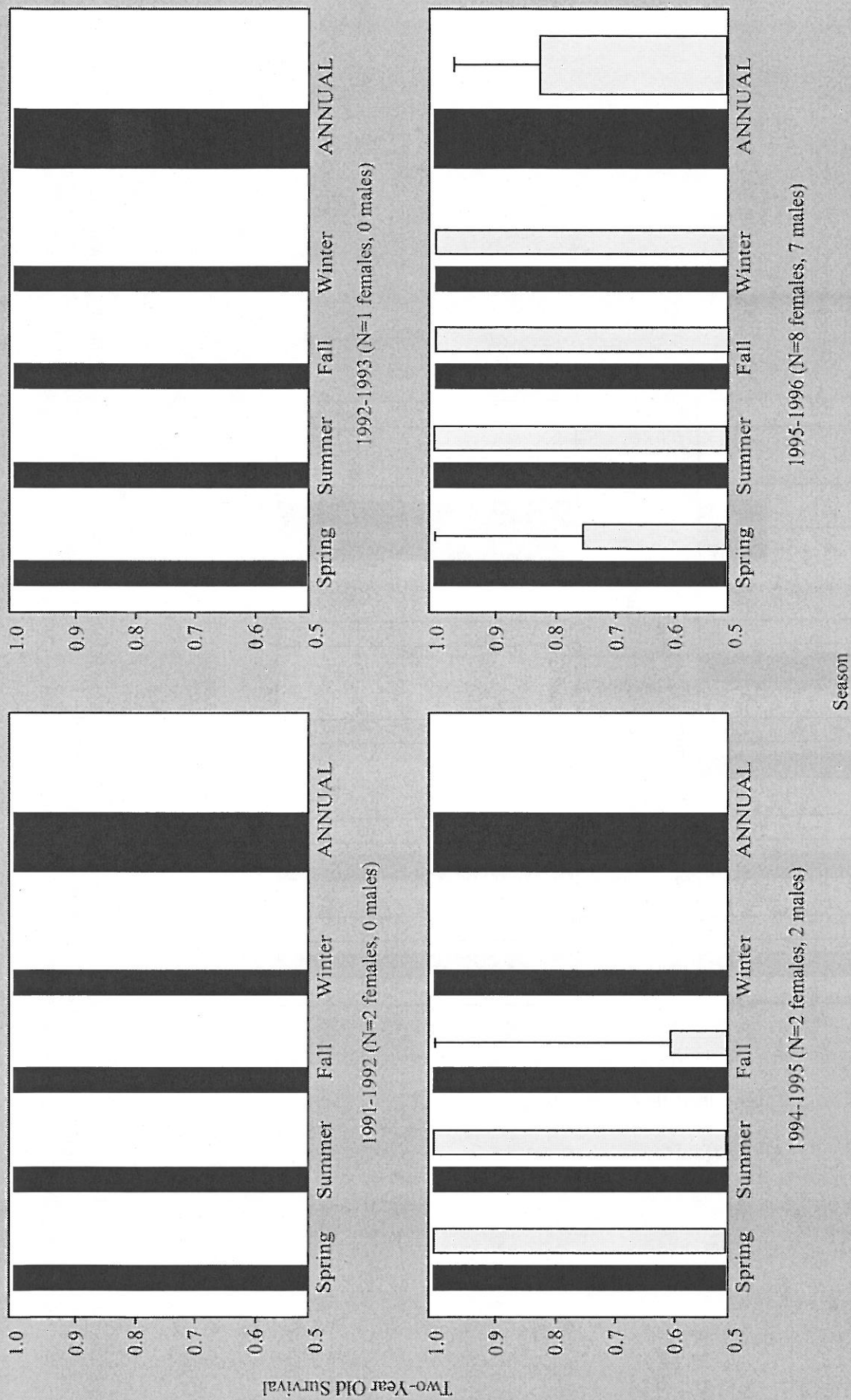


Fig. 13A-1c (con'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) two-year-olds, by season and year (wide bars), for all insular Newfoundland caribou herds; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.

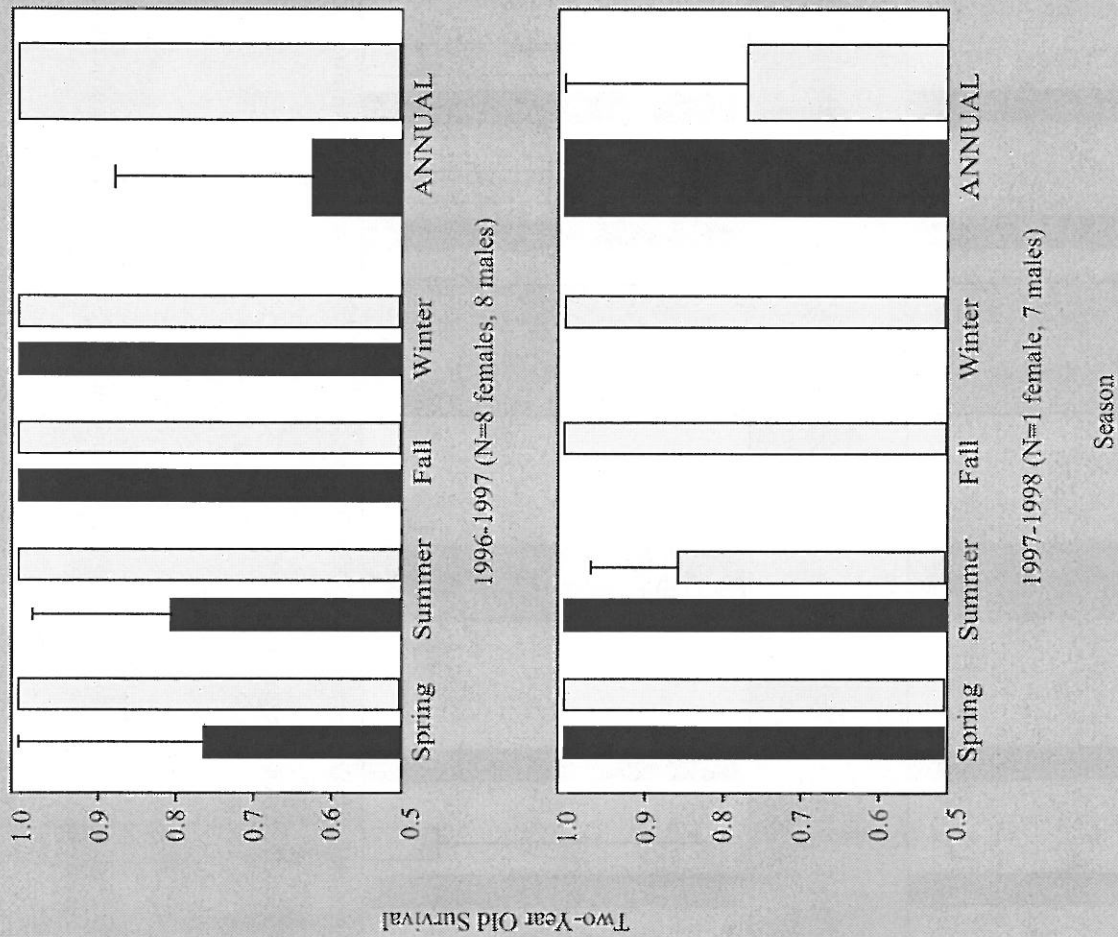
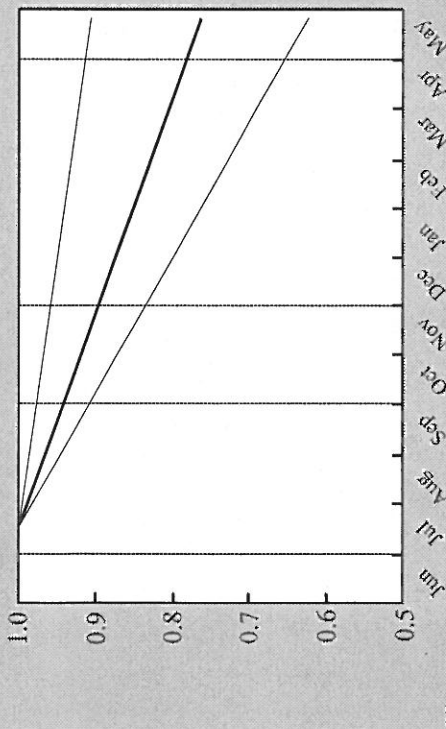
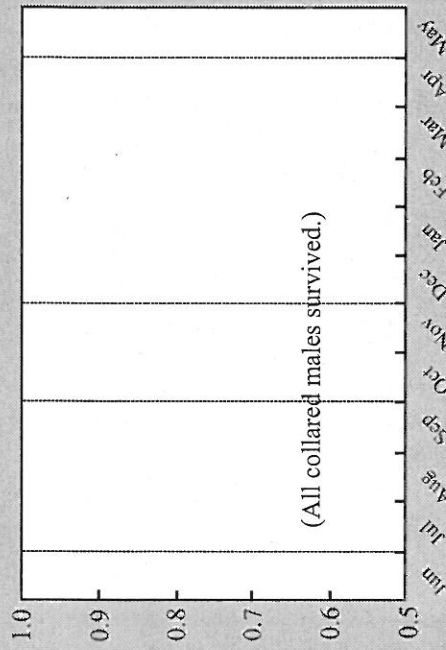


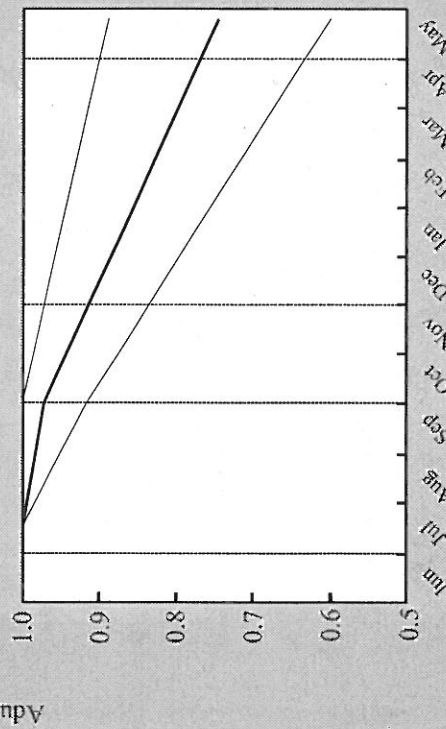
Fig. 13A-1c (con'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) two-year-olds, by season and year (wide bars), for all insular Newfoundland caribou herds; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.



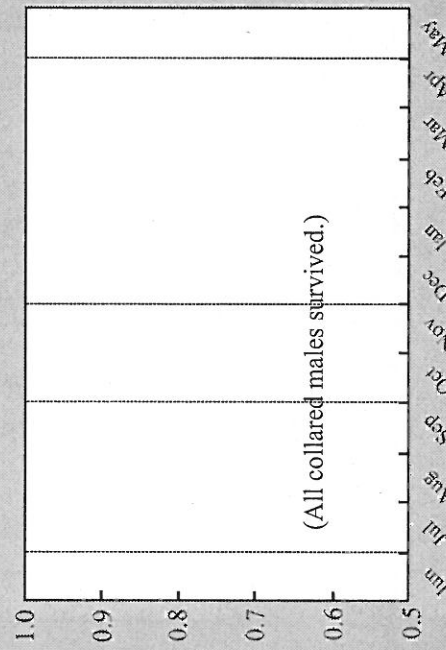
Females, 1979-1980 (N=59)



Males, 1979-1980 (N=10)



Females, 1979-1980 (N=59)

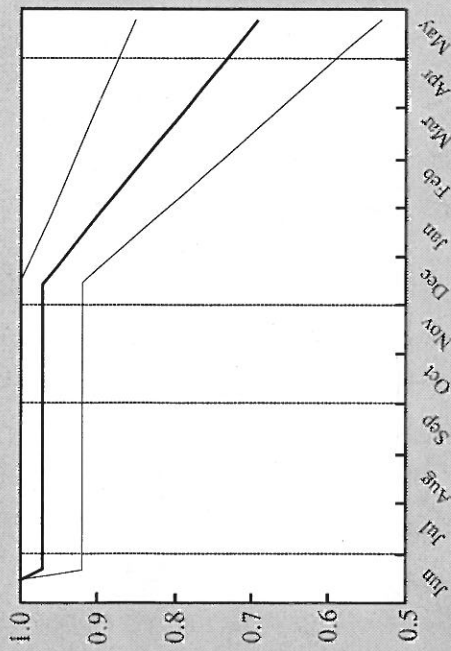


Males, 1979-1980 (N=10)

Month / Season

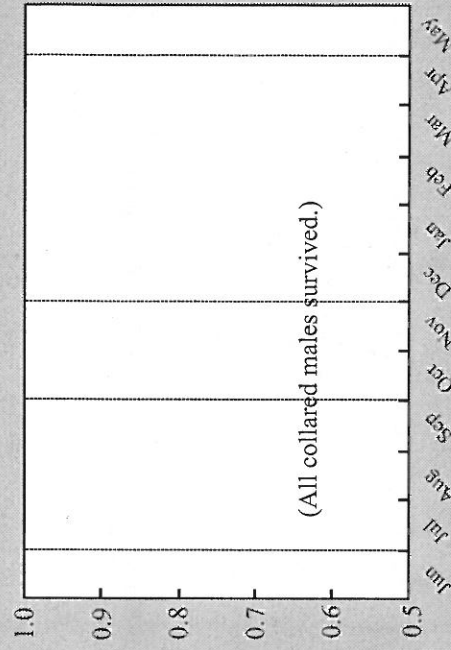
Fig. 13A-1d. Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from all insular Newfoundland caribou herds, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.



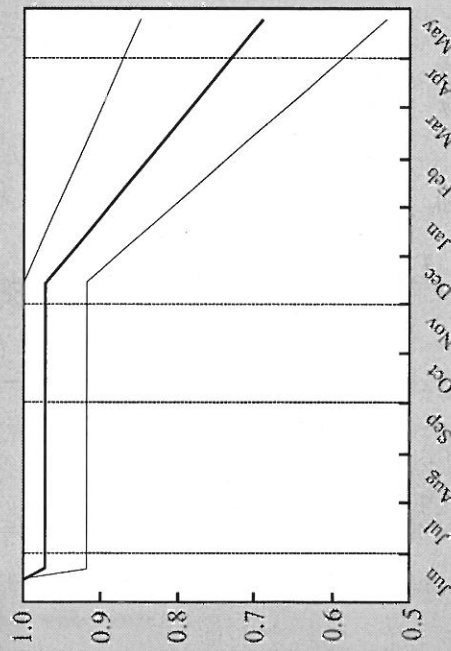


Adult Survival

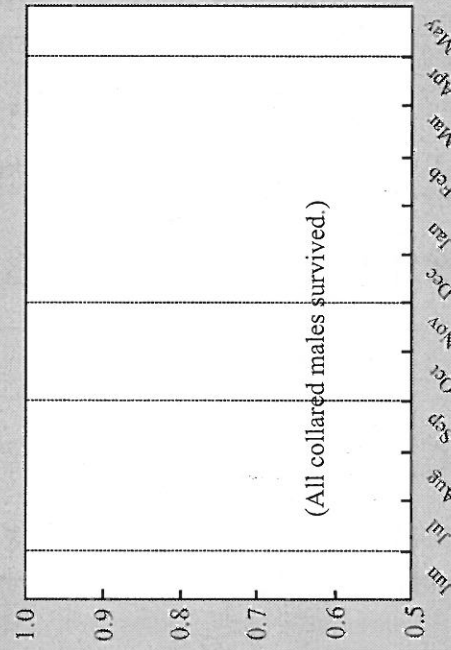
Females, 1980-1981 (N=59)



Males, 1980-1981 (N=10)



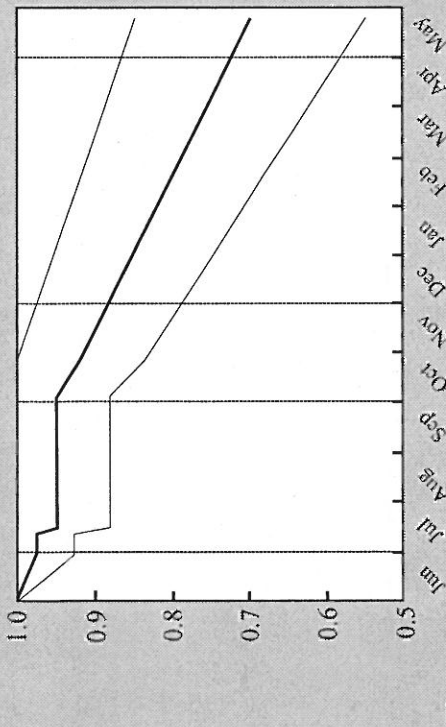
Females, 1980-1981 (N=59)



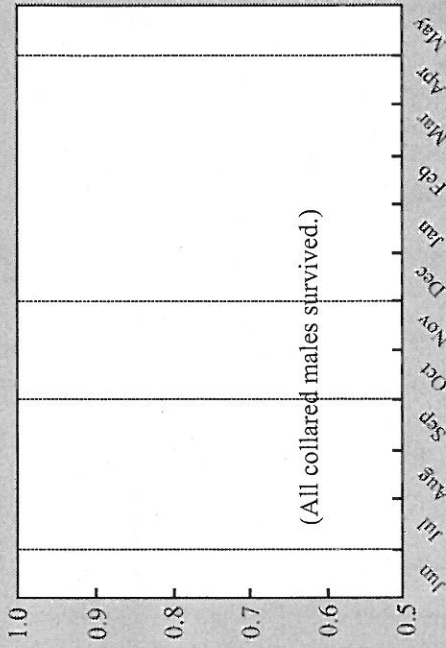
Males, 1980-1981 (N=10)

Month / Season

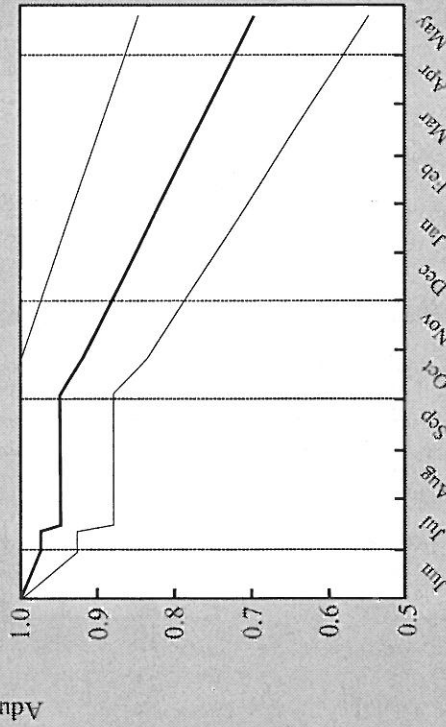
Fig. 13A-1d (con'd). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from all insular Newfoundland caribou herds, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.



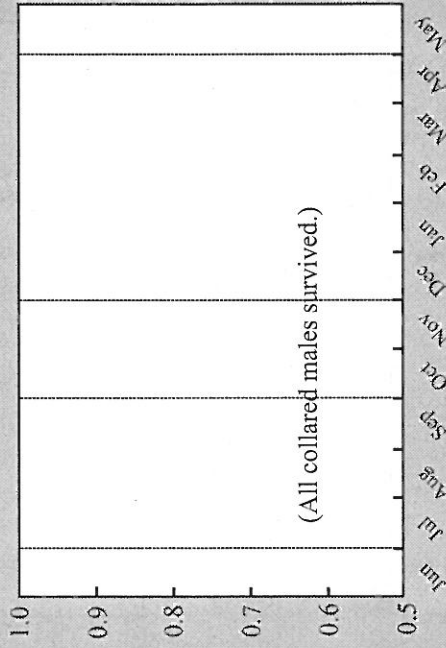
Females, 1981-1982 (N=59)



Males, 1981-1982 (N=14)



Females, 1981-1982 (N=59)



Males, 1981-1982 (N=14)

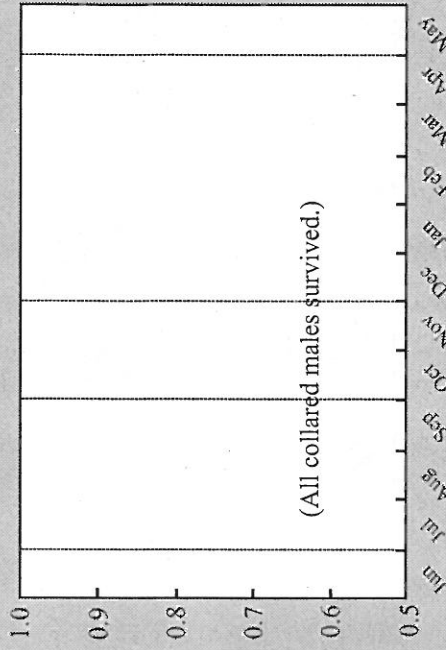
Month / Season

Fig. 13A-1d (con'td). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from all insular Newfoundland caribou herds, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.

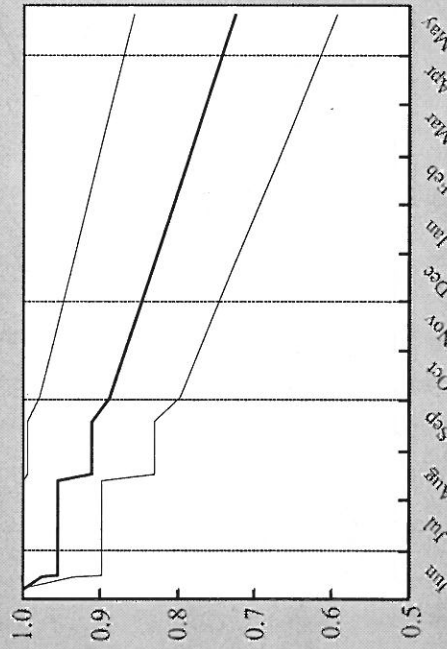


Adult Survival

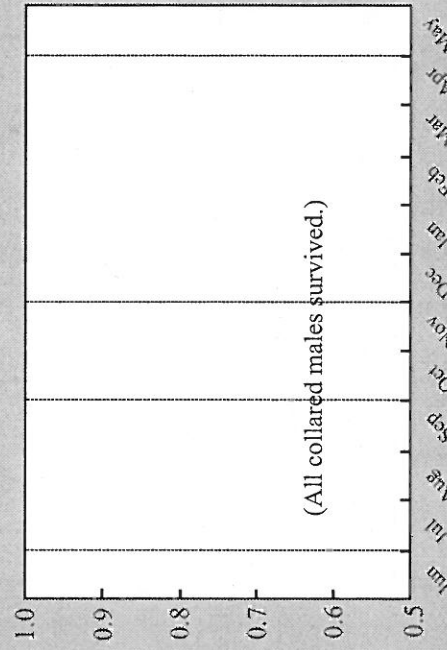
Females, 1982-1983 (N=68)



Males, 1982-1983 (N=10)



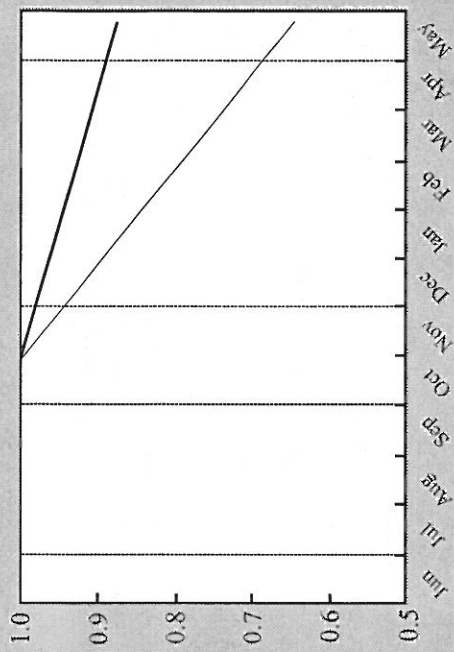
Females, 1982-1983 (N=68)



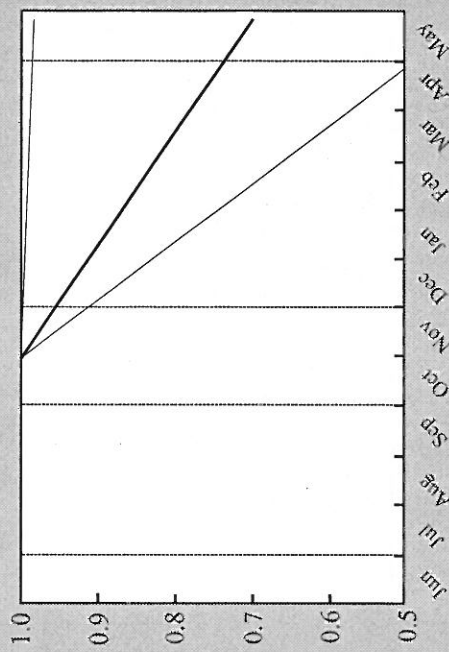
Males, 1982-1983 (N=10)

Month / Season

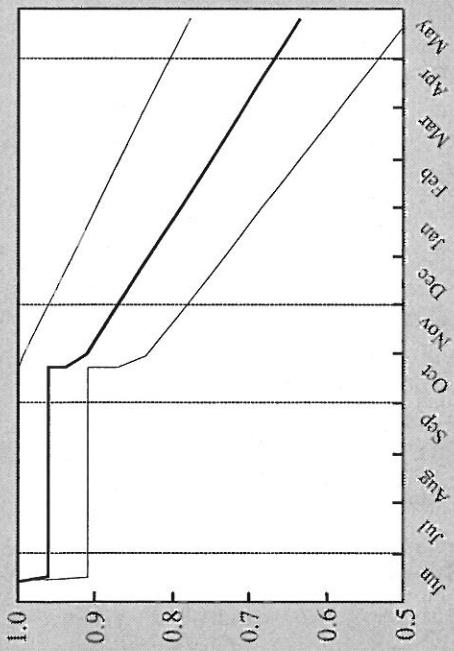
Fig. 13A-1d (con'd). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from all insular Newfoundland caribou herds, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.



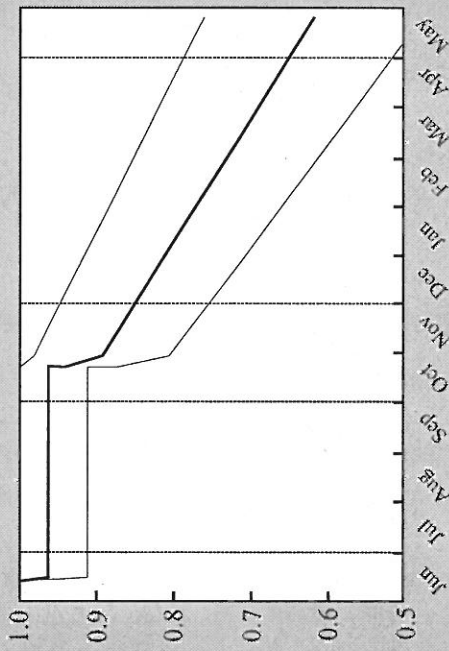
Males, 1983-1984 (N=22)



Males, 1983-1984 (N=22)



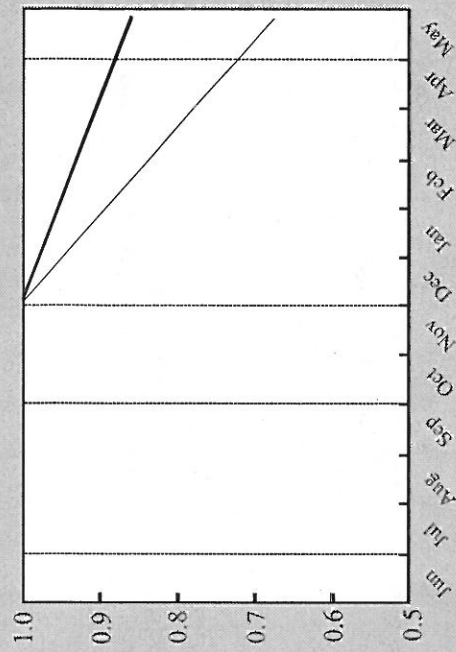
Females, 1983-1984 (N=72)



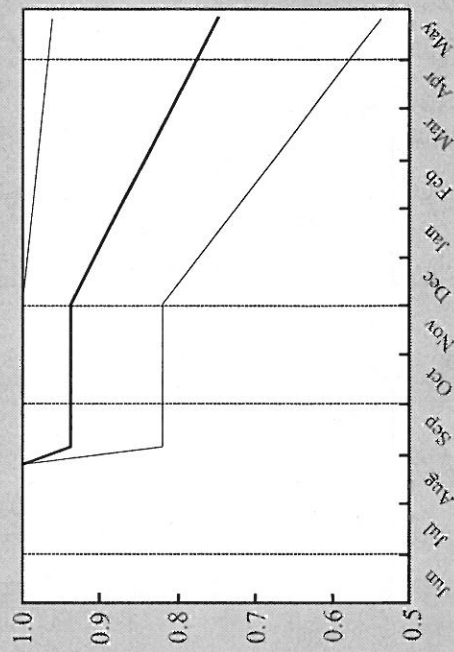
Females, 1983-1984 (N=72)

Month / Season

Fig. 13A-1d (con'd). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from all insular Newfoundland caribou herds, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.

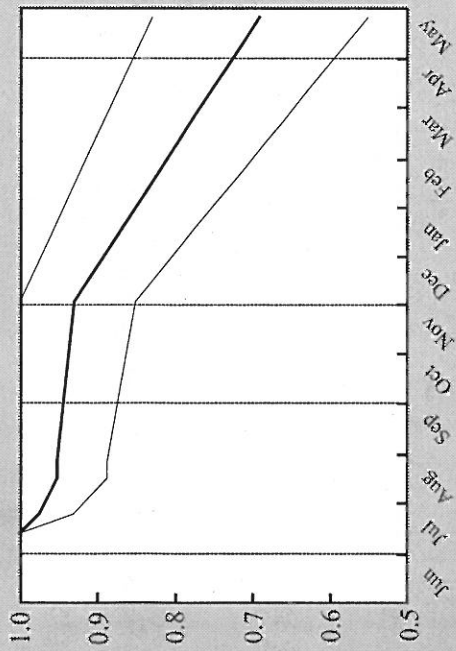


Males, 1984-1985 (N=23)

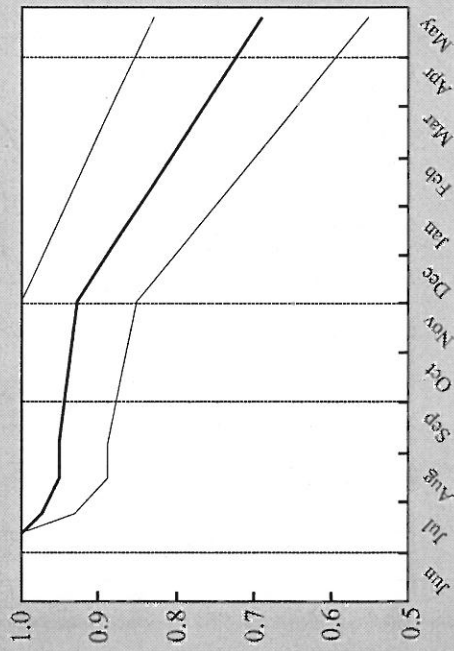


Males, 1984-1985 (N=23)

Month / Season



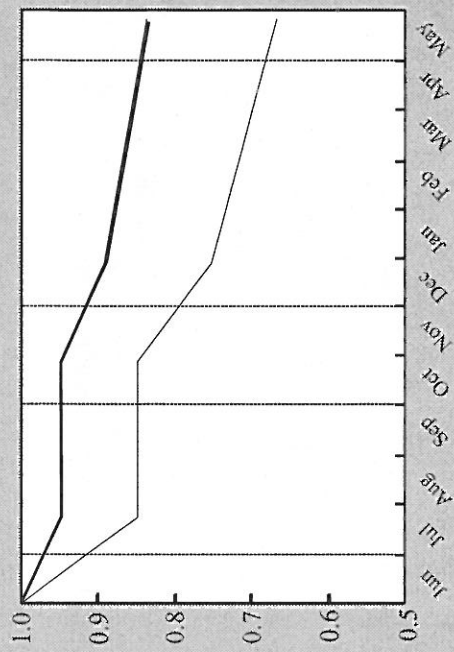
Females, 1984-1985 (N=60)



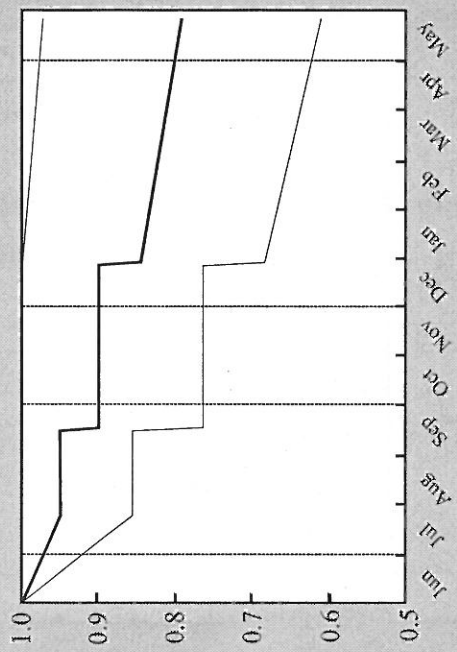
Females, 1984-1985 (N=60)

Adult Survival

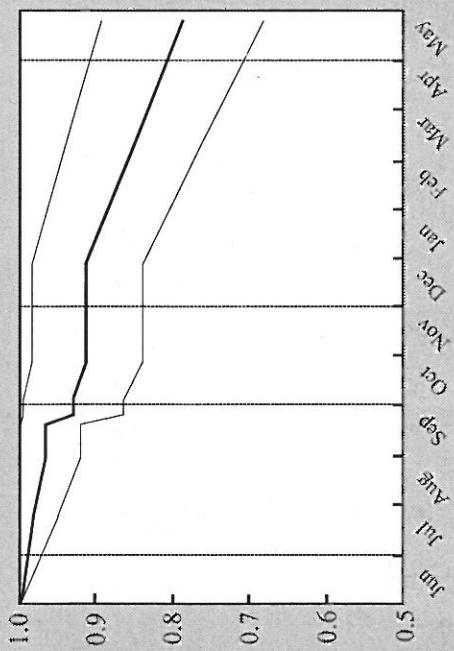
Fig. 13A-1d (con'd). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from all insular Newfoundland caribou herds, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.



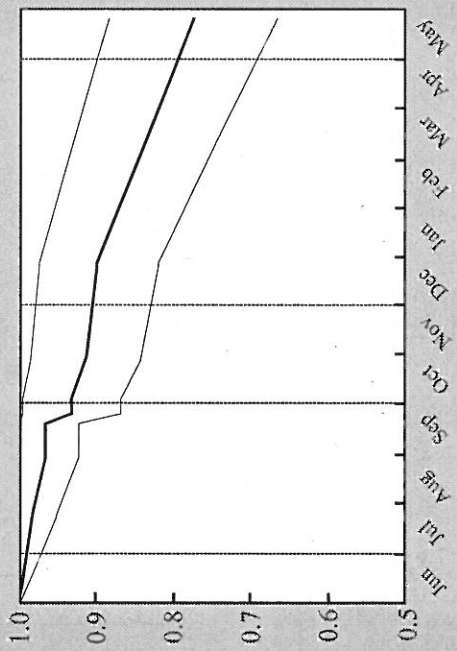
Males, 1985-1986 (N=23)



Males, 1985-1986 (N=23)



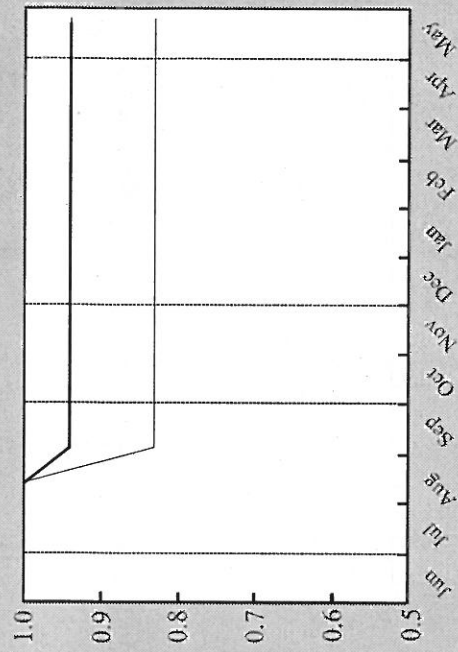
Females, 1985-1986 (N=75)



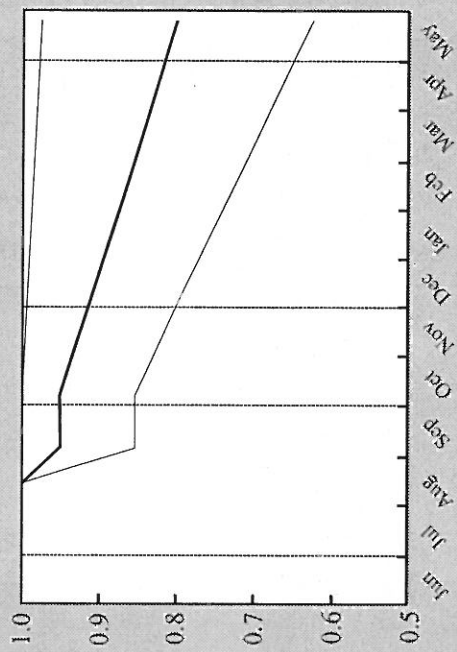
Females, 1985-1986 (N=75)

Month / Season

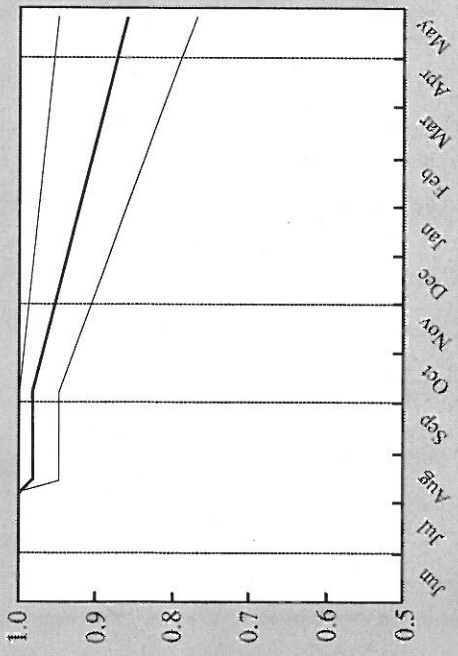
Fig. 13A-1d (con'd). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from all insular Newfoundland caribou herds, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.



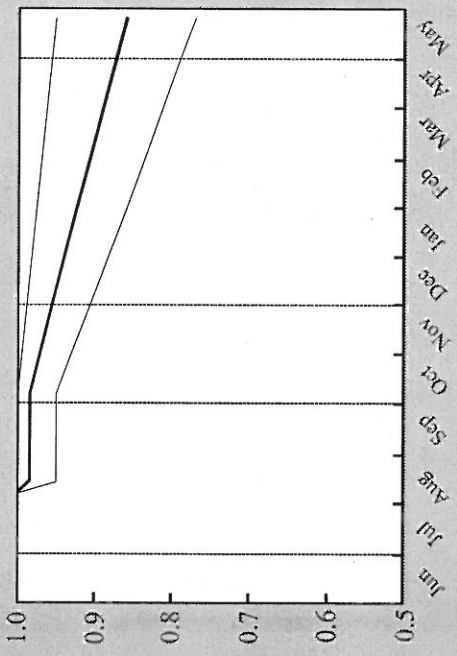
Males, 1986-1987 (N=21)



Males, 1986-1987 (N=21)



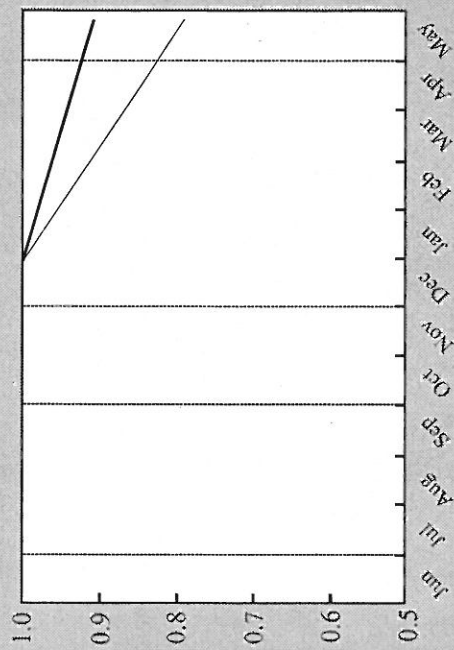
Females, 1986-1987 (N=68)



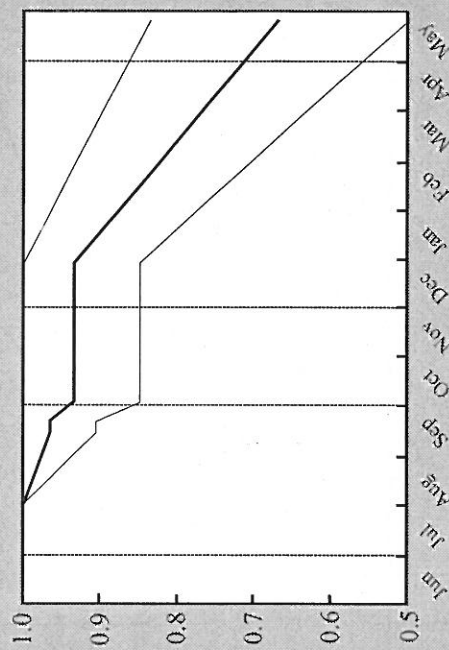
Females, 1986-1987 (N=68)

Month / Season

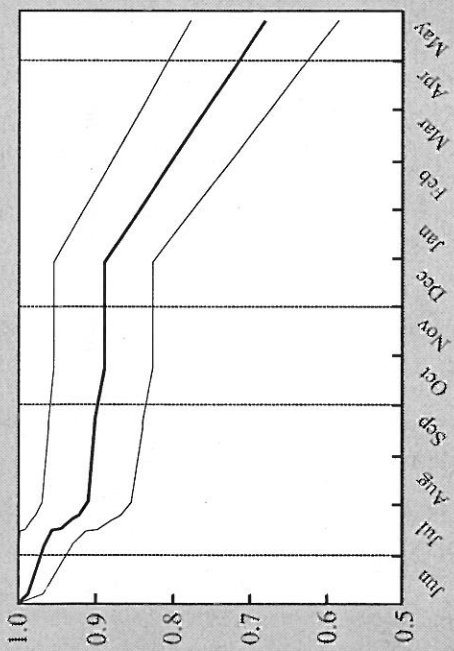
Fig. 13A-1d (con'd). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from all insular Newfoundland caribou herds, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.



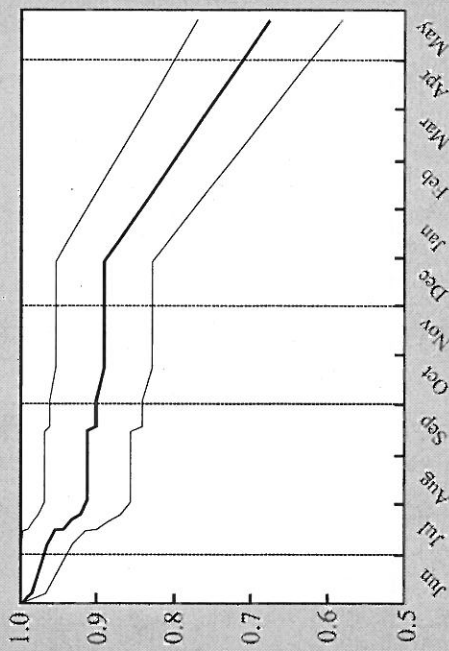
Males, 1987-1988 (N=24)



Males, 1987-1988 (N=24)



Females, 1987-1988 (N=76)

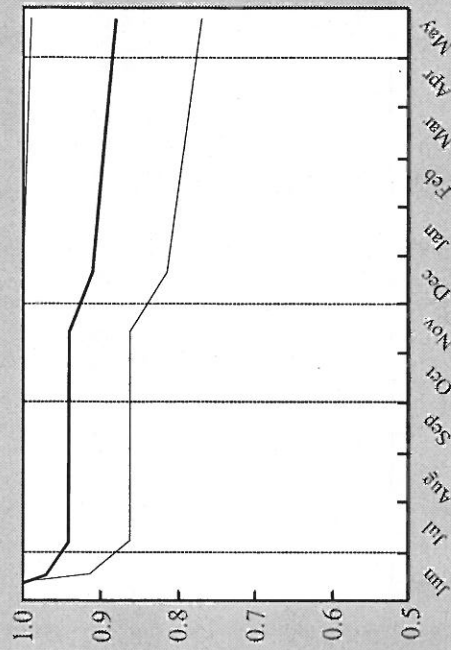


Females, 1987-1988 (N=76)

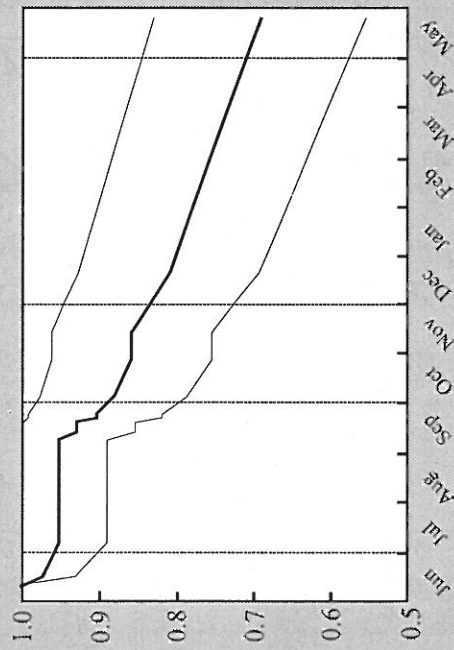
Month / Season

Fig. 13A-1d (con'd). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from all insular Newfoundland caribou herds, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.



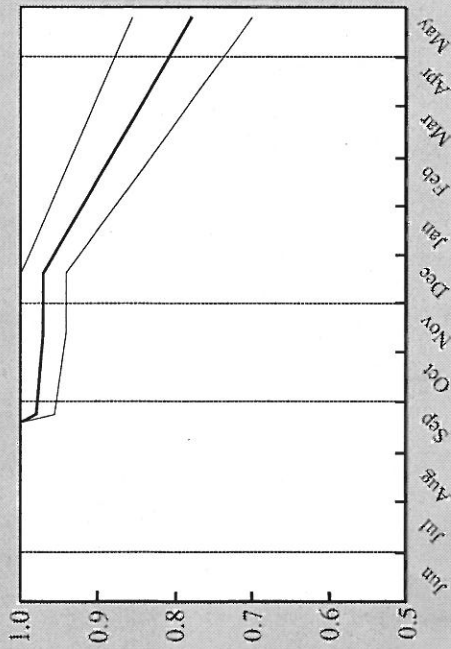


Males, 1988-1989 (N=45)

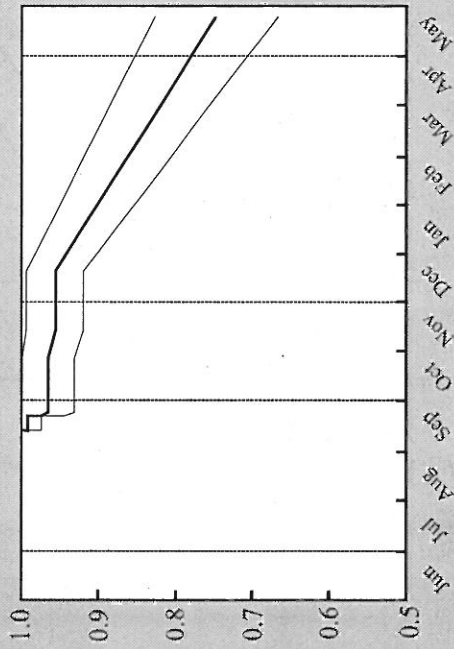


Males, 1988-1989 (N=45)

Month / Season



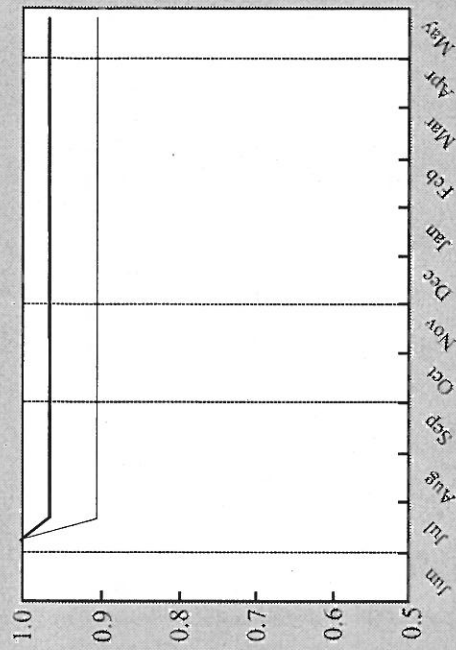
Females, 1988-1989 (N=103)



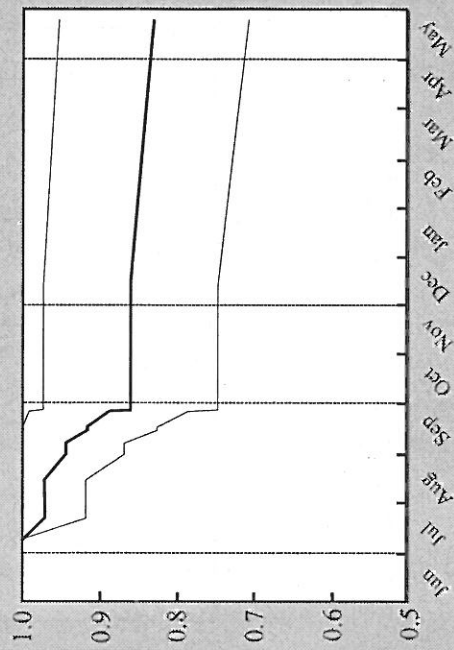
Females, 1988-1989 (N=103)

Adult Survival

Fig. 13A-1d (con'd). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from all insular Newfoundland caribou herds, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.

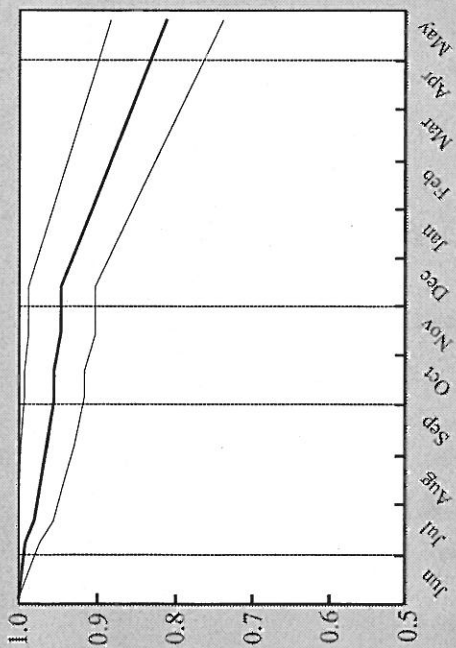


Males, 1989-1990 (N=28)

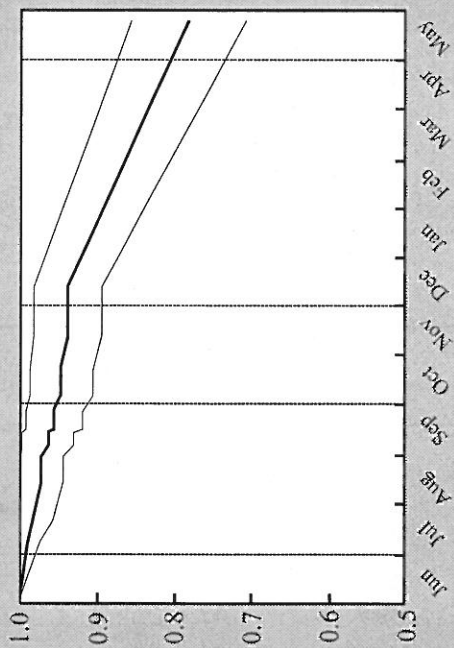


Males, 1989-1990 (N=28)

Month / Season



Females, 1989-1990 (N=102)



Females, 1989-1990 (N=102)

Adult Survival

Fig. 13A-1d (con'd). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from all insular Newfoundland caribou herds, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.

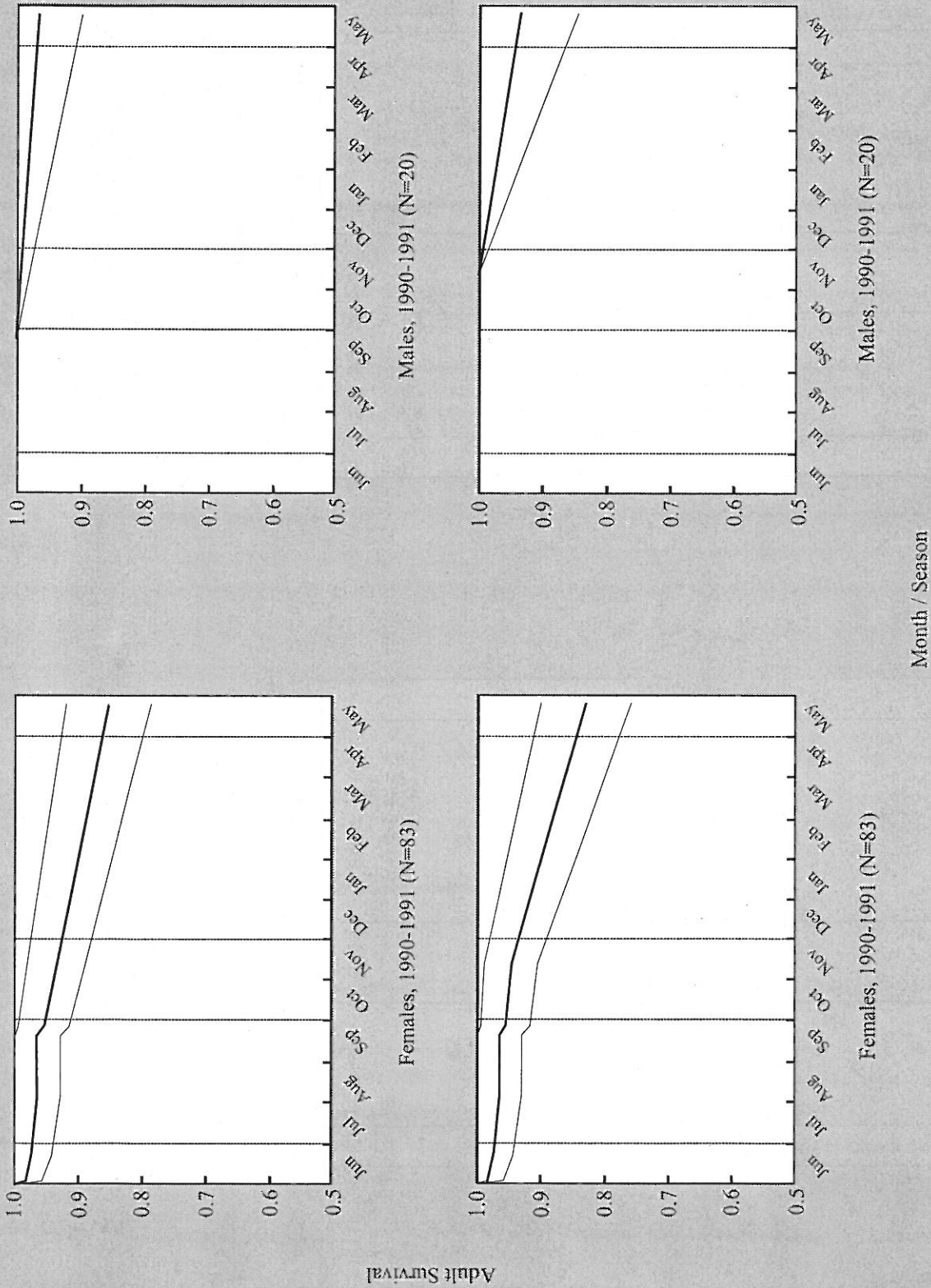
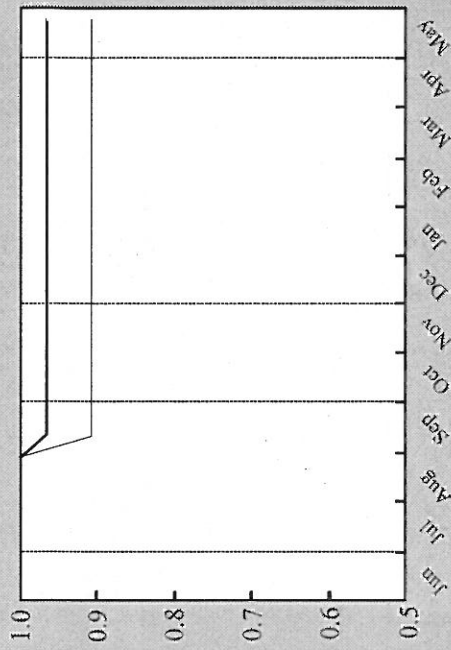
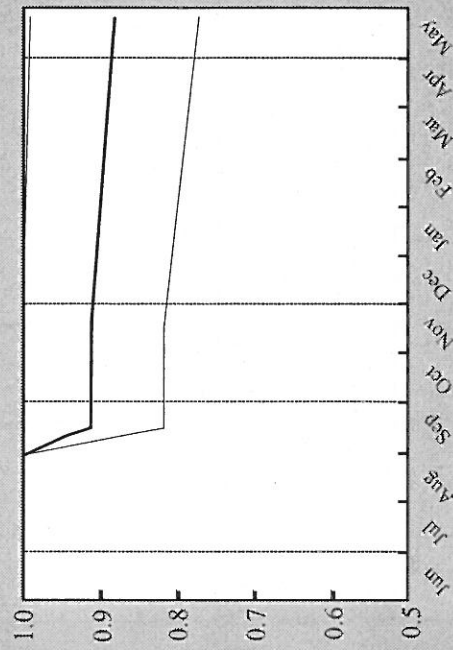


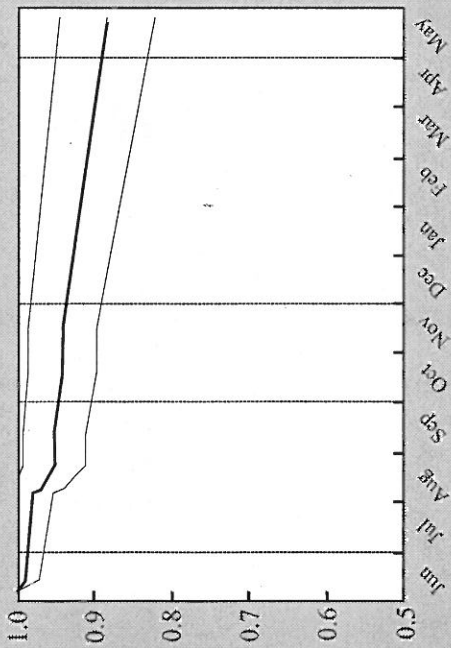
Fig. 13A-1d (con'd). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from all insular Newfoundland caribou herds, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.



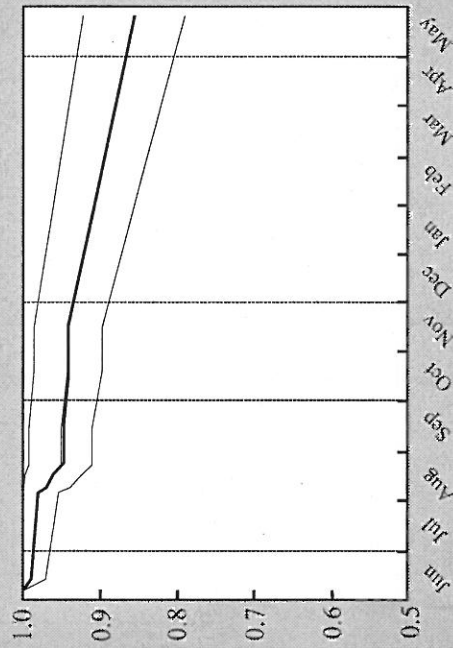
Males, 1991-1992 (N=15)



Males, 1991-1992 (N=15)



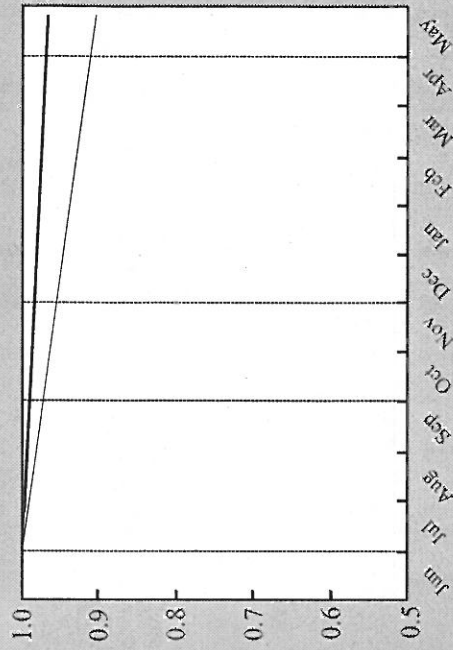
Females, 1991-1992 (N=41)



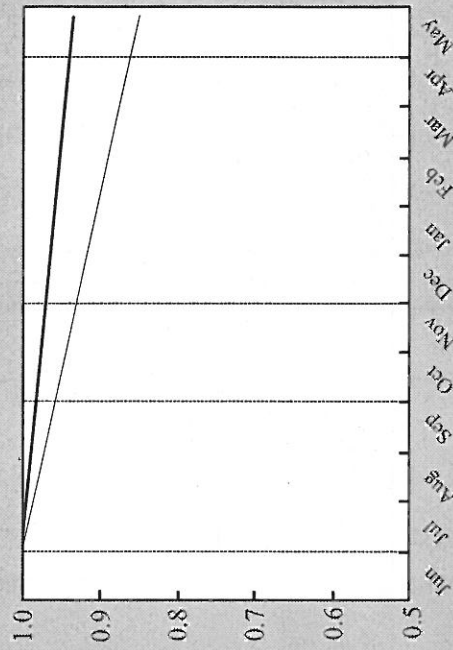
Females, 1991-1992 (N=41)

Month / Season

Fig. 13A-1d (con'd). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from all insular Newfoundland caribou herds, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.

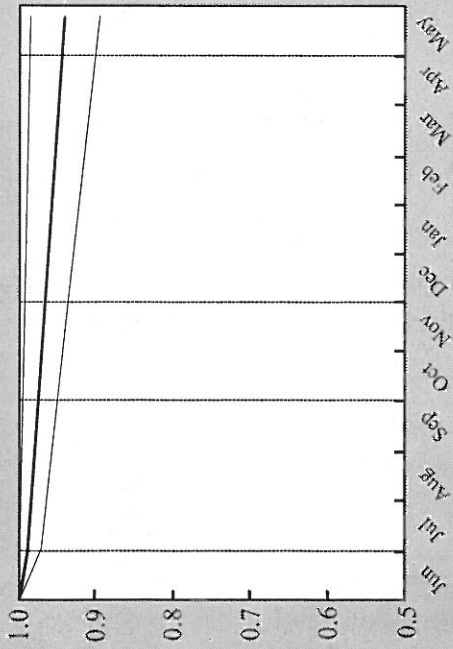


Males, 1992-1993 (N=8)

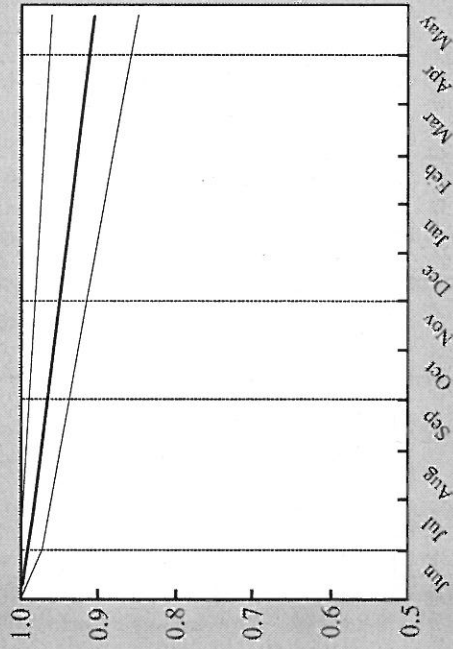


Males, 1992-1993 (N=8)

Month / Season

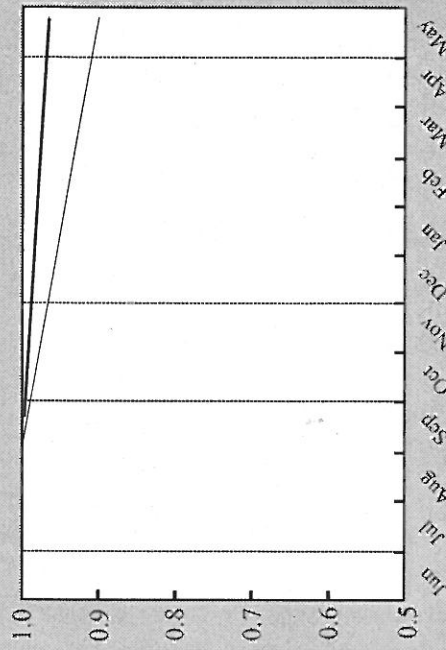


Females, 1992-1993 (N=24)

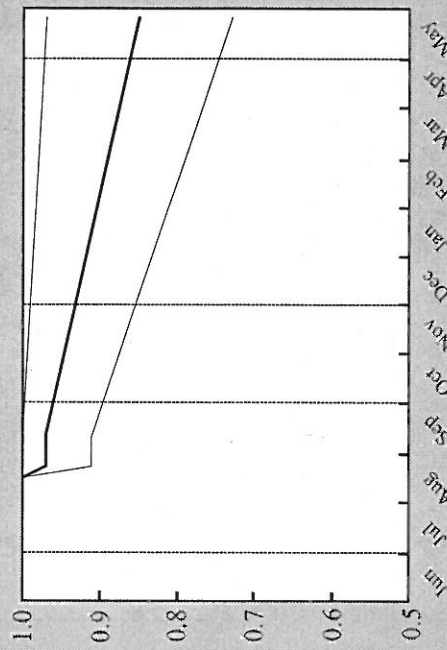


Females, 1992-1993 (N=24)

Fig. 13A-1d (con't). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from all insular Newfoundland caribou herds, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.

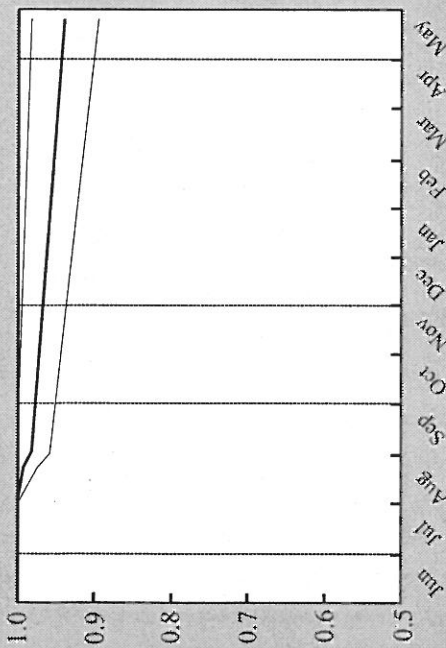


Males, 1993-1994 (N=9)

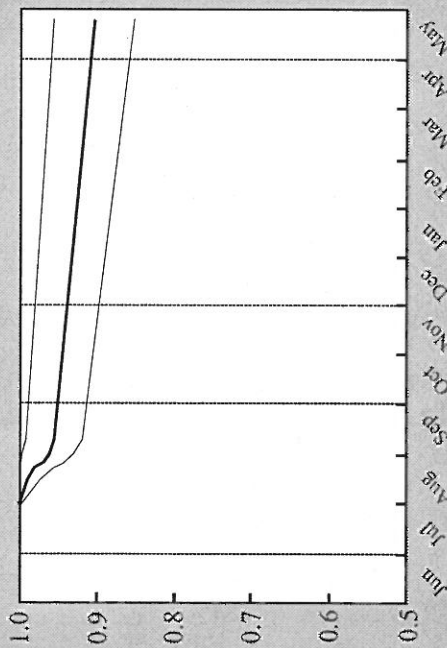


Males, 1993-1994 (N=9)

Month / Season

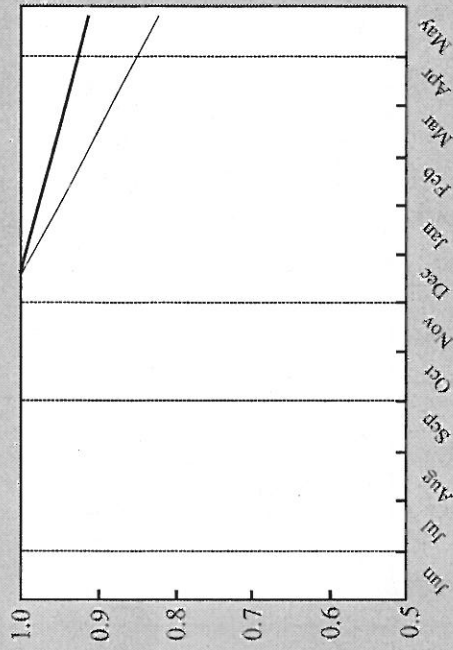


Females, 1993-1994 (N=41)

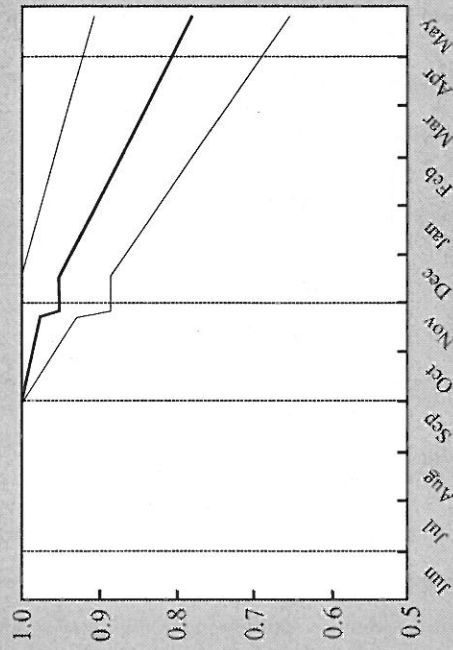


Females, 1993-1994 (N=41)

Fig. 13A-1d (con'd). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from all insular Newfoundland caribou herds, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.

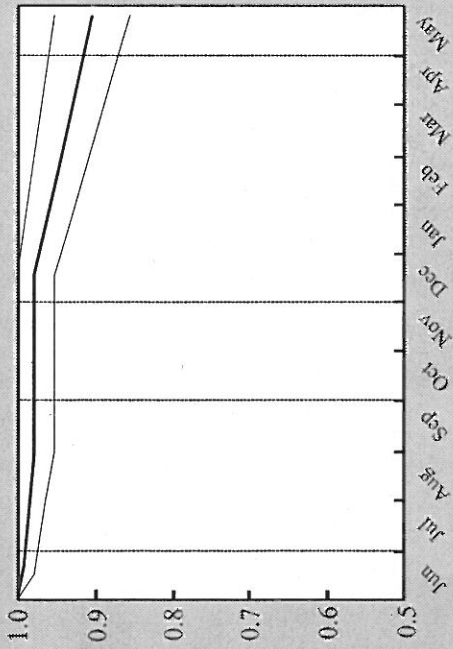


Males, 1994-1995 (N=17)

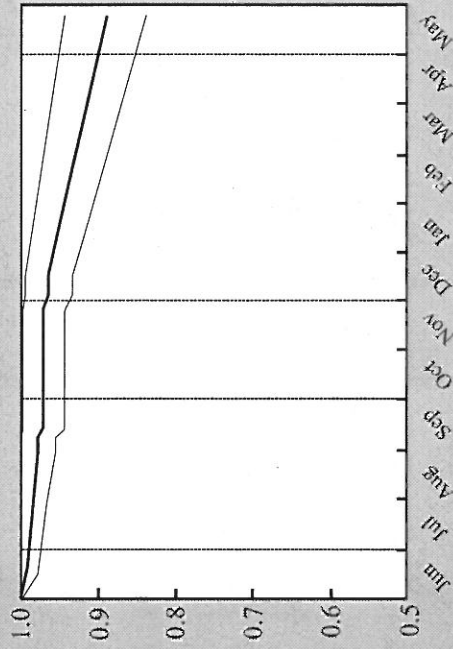


Males, 1994-1995 (N=17)

Month / Season

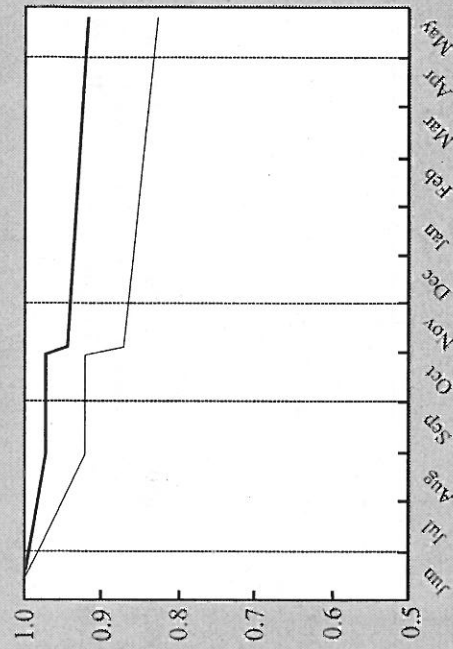


Females, 1994-1995 (N=68)

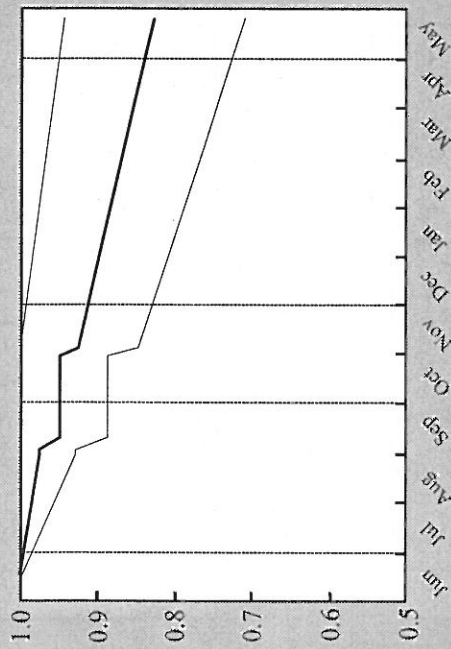


Females, 1994-1995 (N=68)

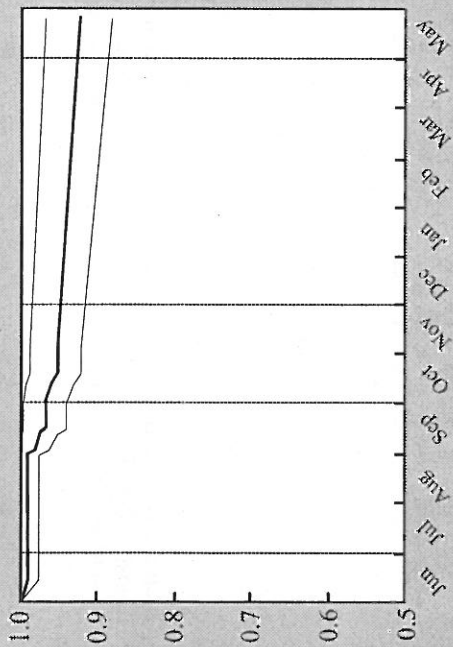
Fig. 13A-1d (con't'd). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from all insular Newfoundland caribou herds, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.



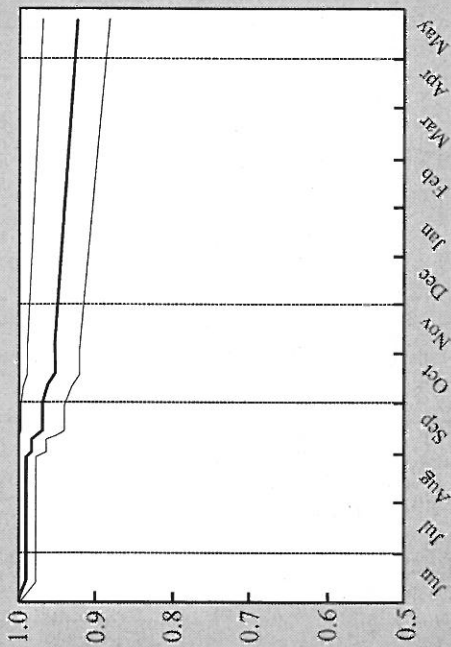
Males, 1995-1996 (N=16)



Males, 1995-1996 (N=16)



Females, 1995-1996 (N=16)

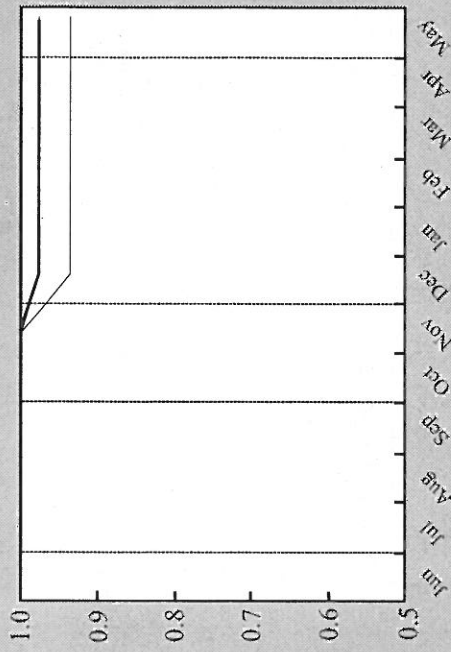


Females, 1995-1996 (N=16)

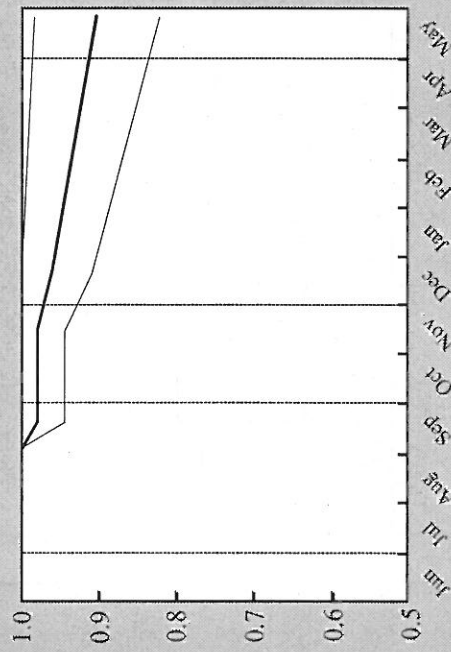
Month / Season

Fig. 13A-1d (con'd). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from all insular Newfoundland caribou herds, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.



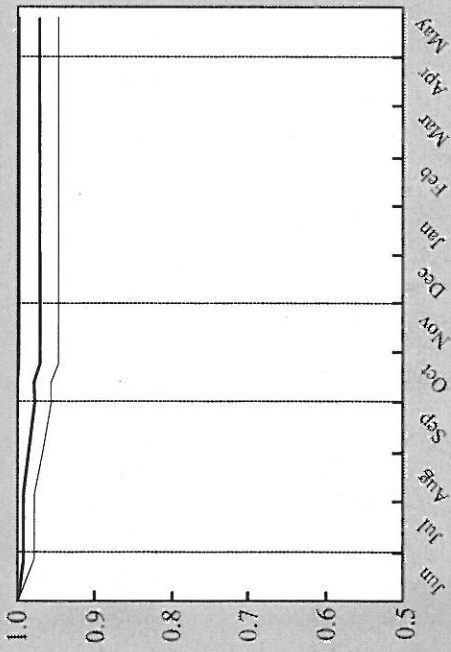


Males, 1996-1997 (N=30)

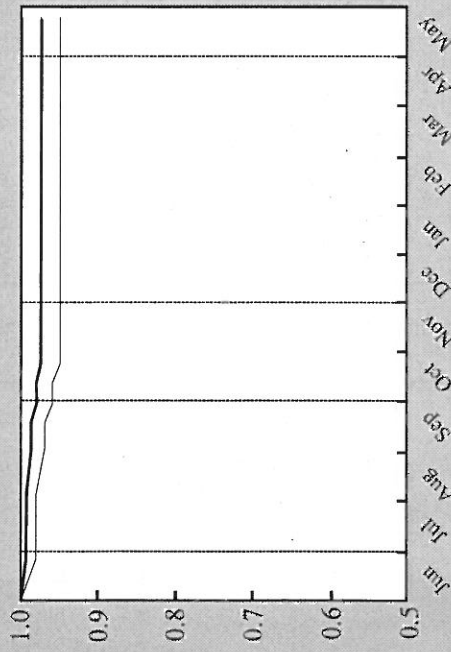


Males, 1996-1997 (N=30)

Month / Season

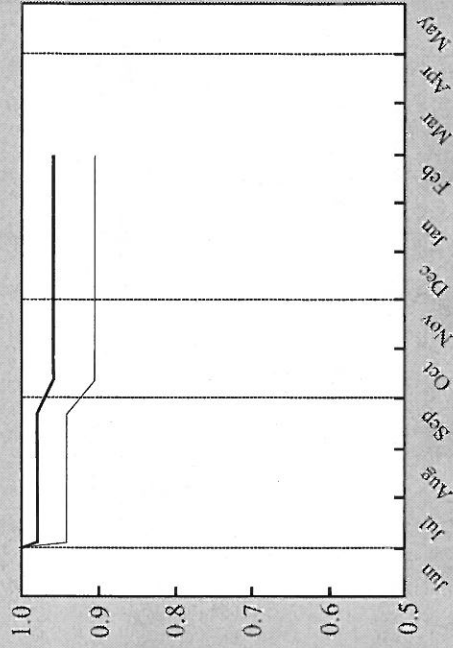


Females, 1996-1997 (N=73)

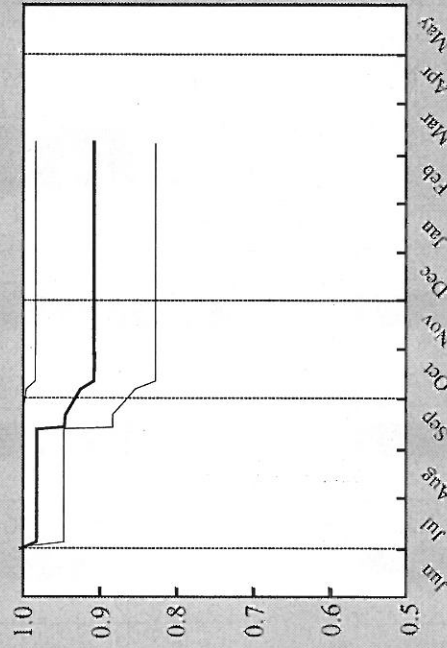


Females, 1996-1997 (N=73)

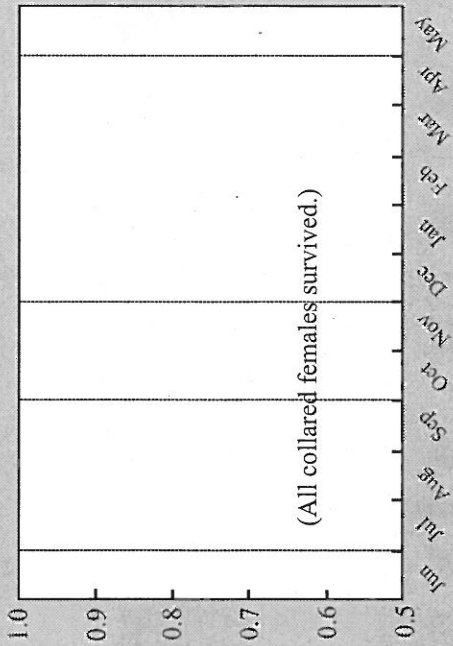
Fig. 13A-1d (con'd). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from all insular Newfoundland caribou herds, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.



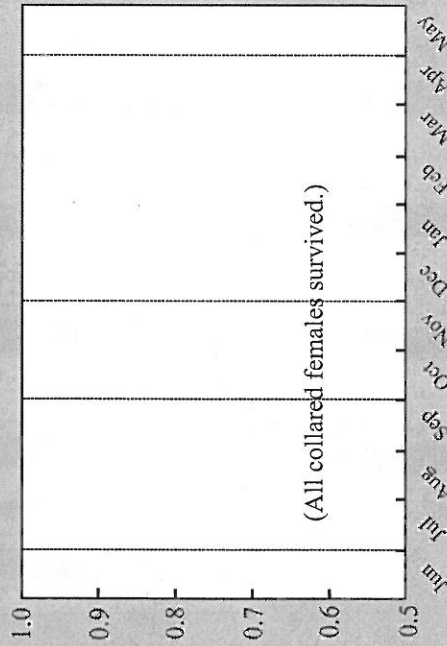
Males, 1997-1998 (N=29)



Males, 1997-1998 (N=29)



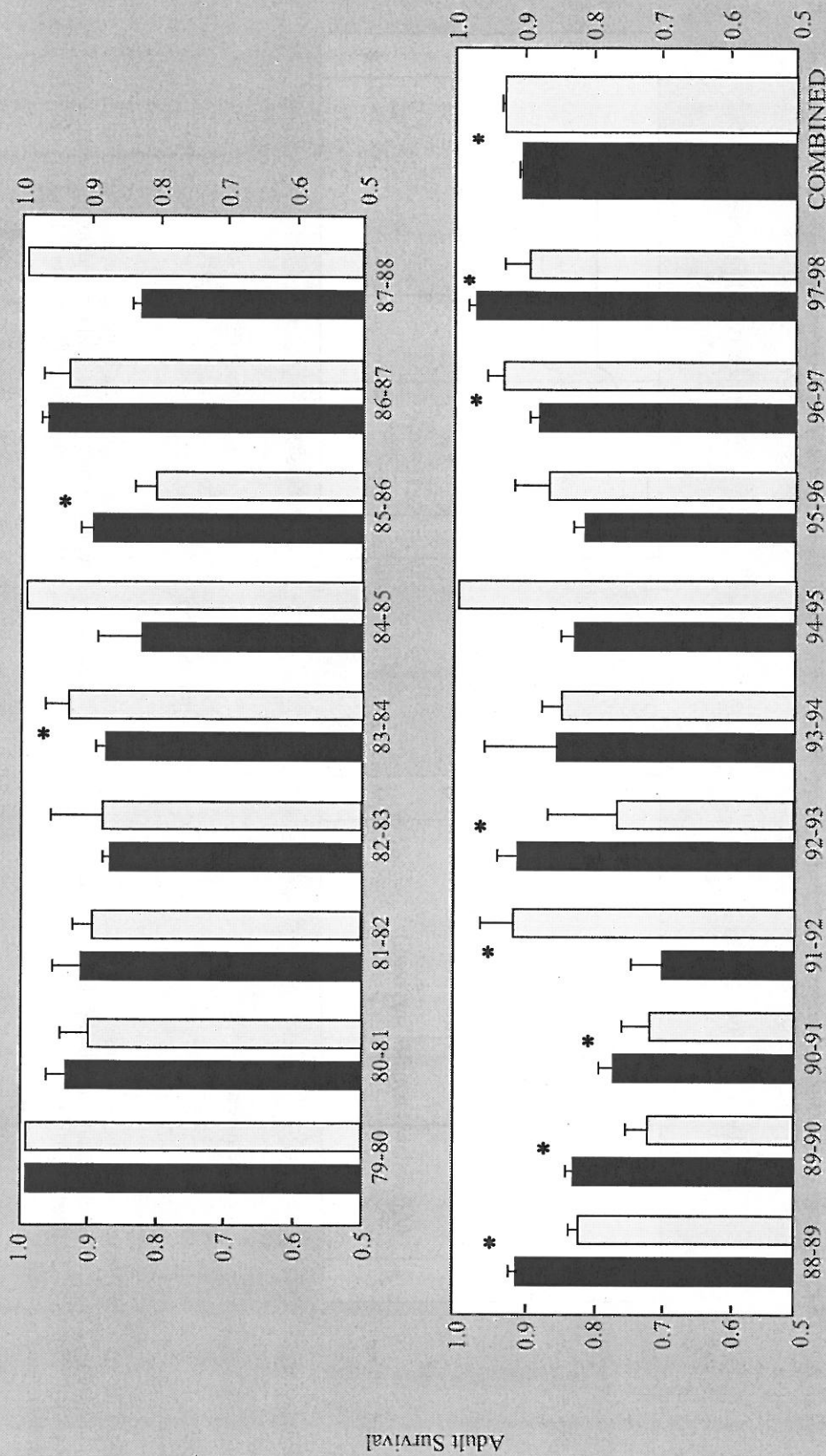
Females, 1997-1998 (N=62)



Females, 1997-1998 (N=62)

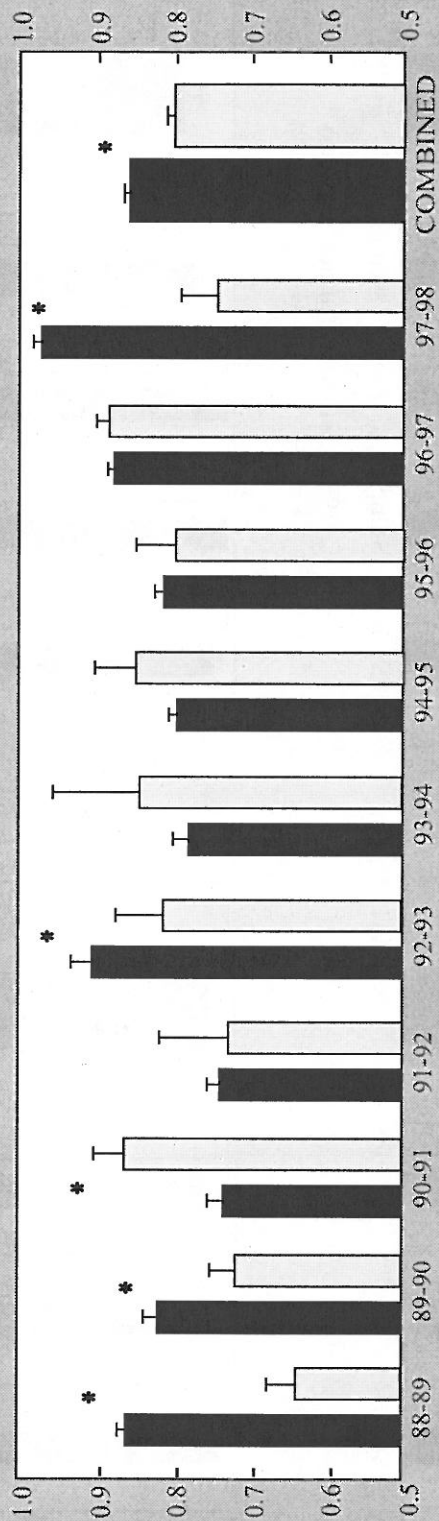
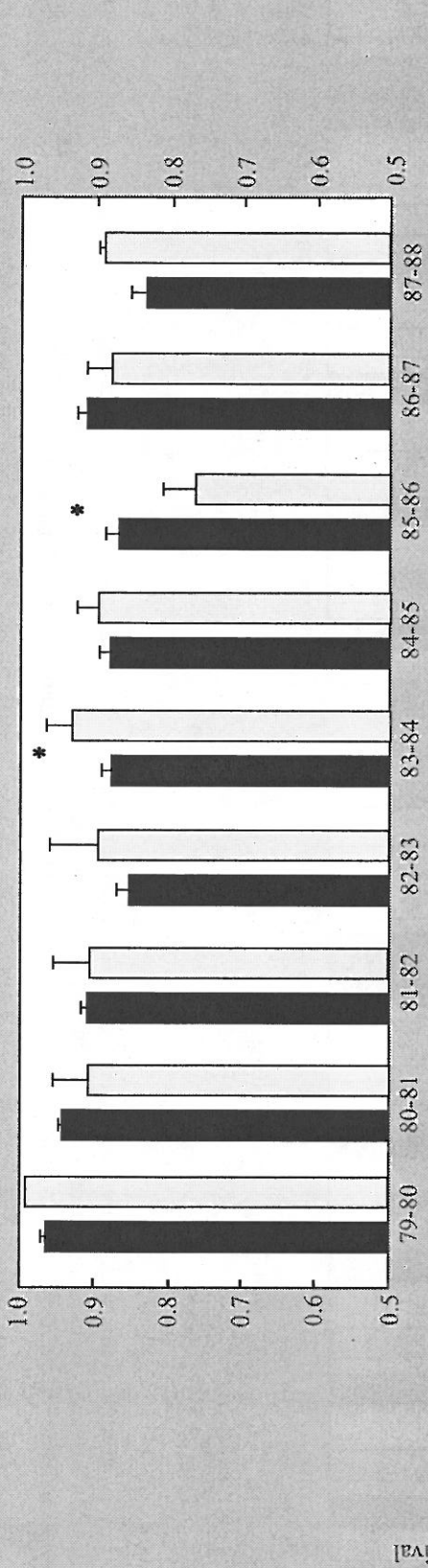
Month / Season

Fig. 13A-1d (con'd). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from all insular Newfoundland caribou herds, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring. Data for 1998 are censored on February 24.



Heisey-Fuller Estimates (for individual-year sample sizes, refer to Kaplan-Meier figures pp. 85-103; combined N=381 females, 155 males)

Fig. 13A-1d (con'd). Annual Heisey-Fuller survival estimates, excluding hunting and poaching, for adult females (solid bars) and males (light bars) from all insular Newfoundland caribou herds; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons. Calculations exclude cases of mortality related to collaring. Data for 1998 are censored on February 28.



Heisey-Fuller Estimates (for individual-year sample sizes, refer to Kaplan-Meier figures pp. 85-103; combined N=381 females, 155 males)

Fig. 13A-1d (con'd). Annual Heisey-Fuller survival estimates, including hunting and poaching, for adult females (solid bars) and males (light bars) from all insular Newfoundland caribou herds; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons. Calculations exclude cases of mortality related to collaring. Data for 1998 are censored on February 28.

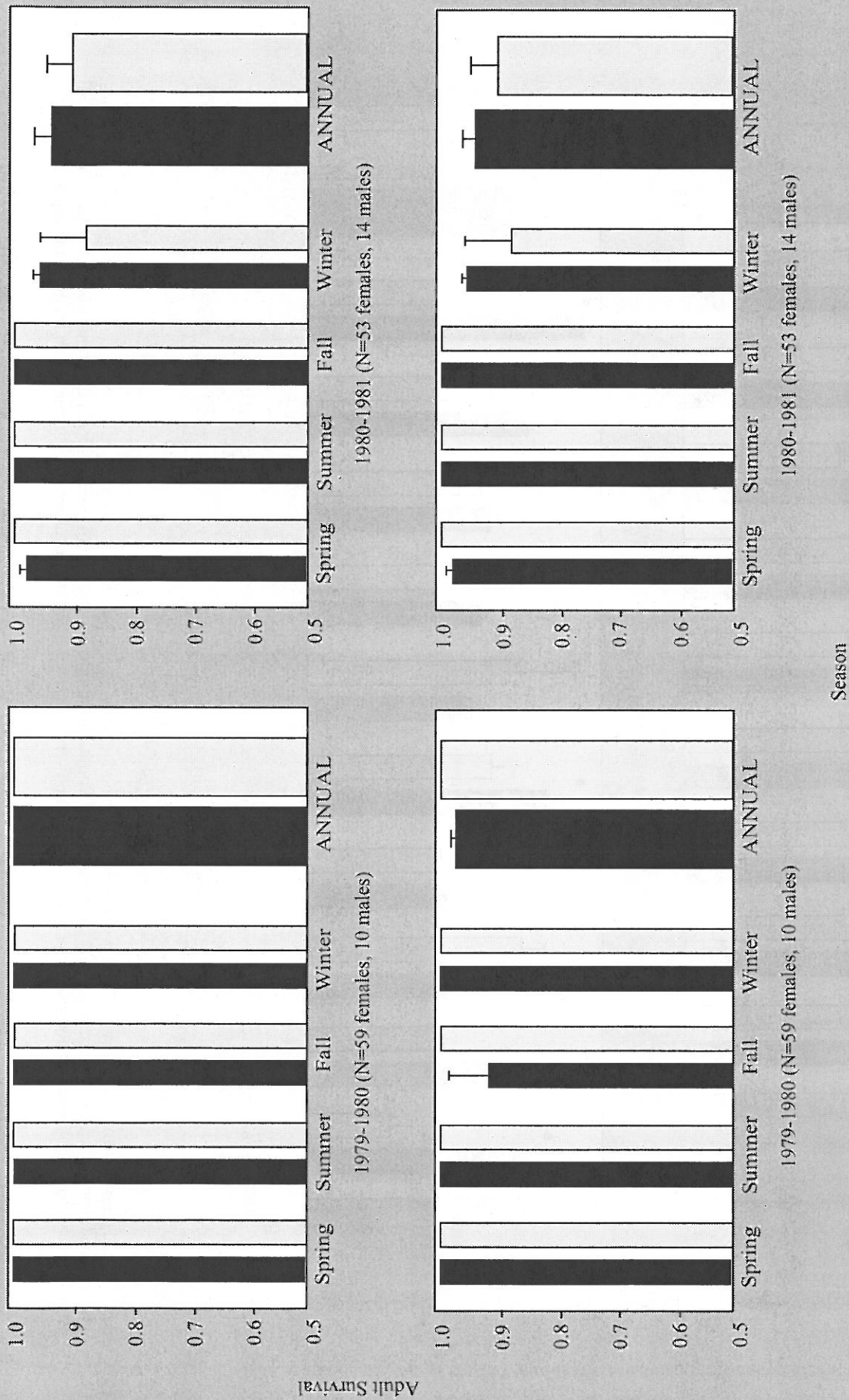


Fig. 13A-1d (con'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) adults, excluding hunting and poaching (top) and including hunting and poaching (bottom), by season and year (wide bars), for all insular Newfoundland caribou herds; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.

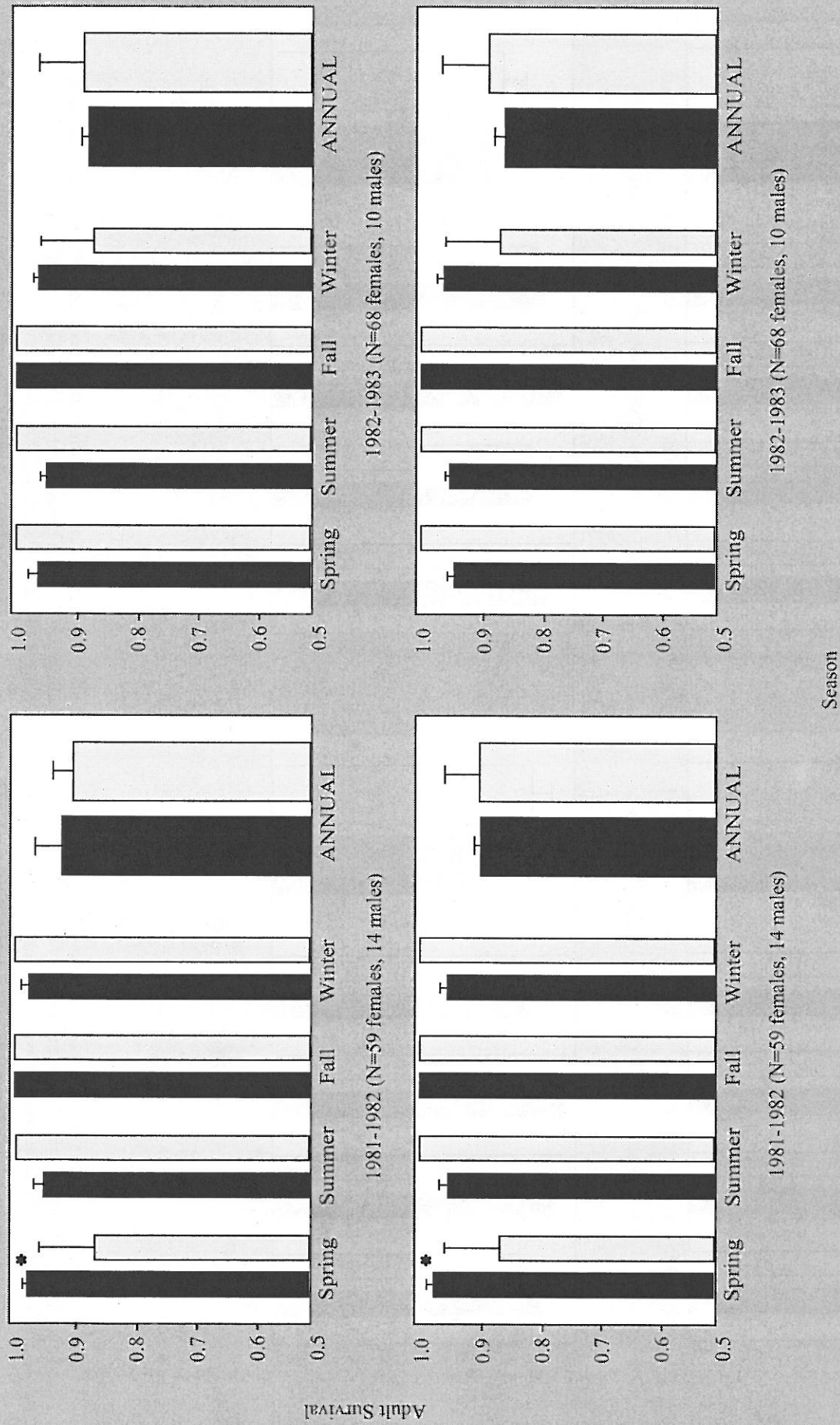


Fig. 13A-1d (con'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) adults, excluding hunting and poaching (top) and including hunting and poaching (bottom), by season and year, for all insular Newfoundland caribou herds; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.

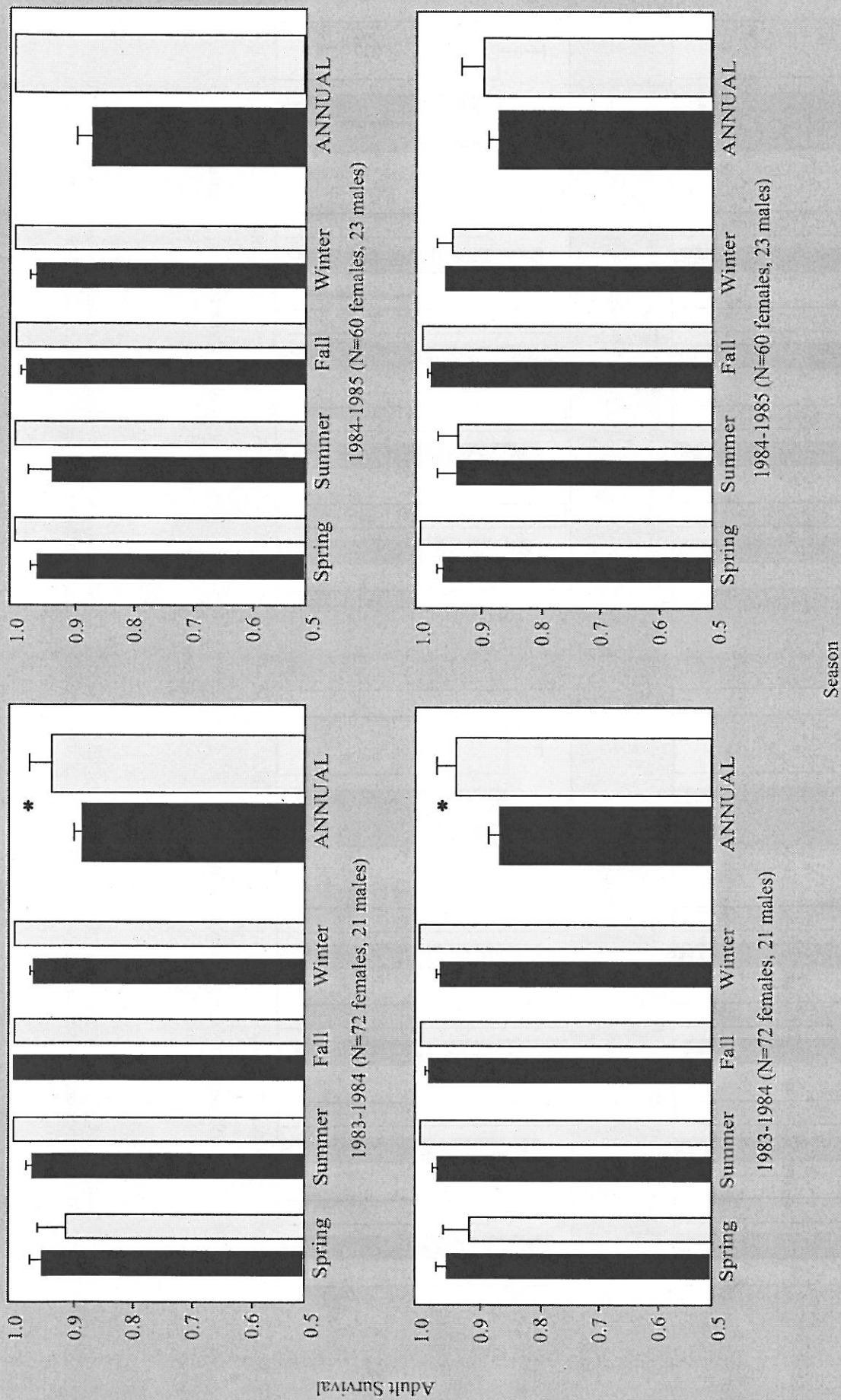


Fig. 13A-1d (con'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) adults, excluding hunting and poaching (top) and including hunting and poaching (bottom), by season and year (wide bars), for all insular Newfoundland caribou herds; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.

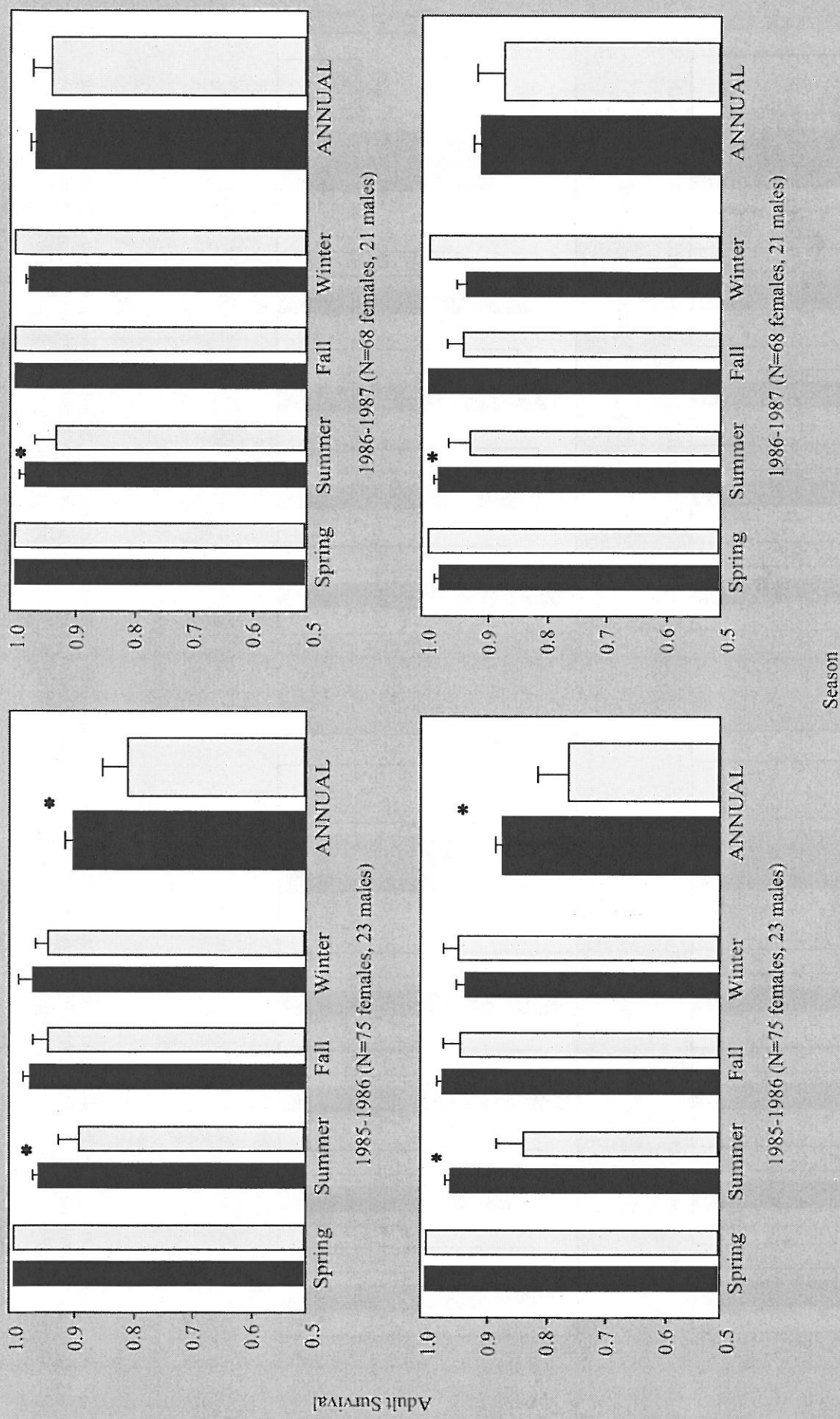


Fig. 13A-1d (con'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) adults, excluding hunting and poaching (top) and including hunting and poaching (bottom), by season and year (wide bars), for all insular Newfoundland caribou herds; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.



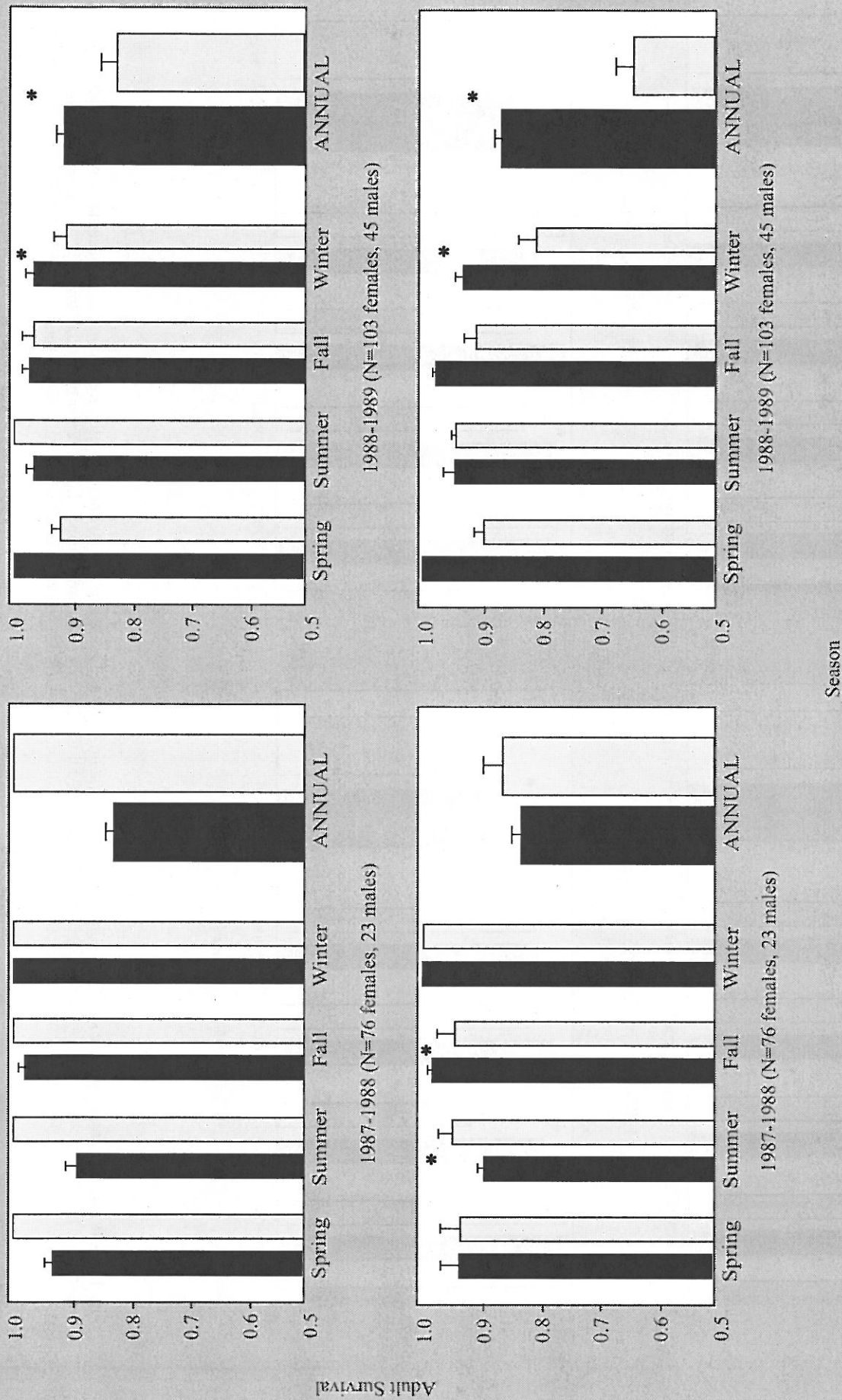


Fig. 13A-1d (con't). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) adults, excluding hunting and poaching (top) and including hunting and poaching (bottom), by season and year (wide bars), for all insular Newfoundland caribou herds; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.

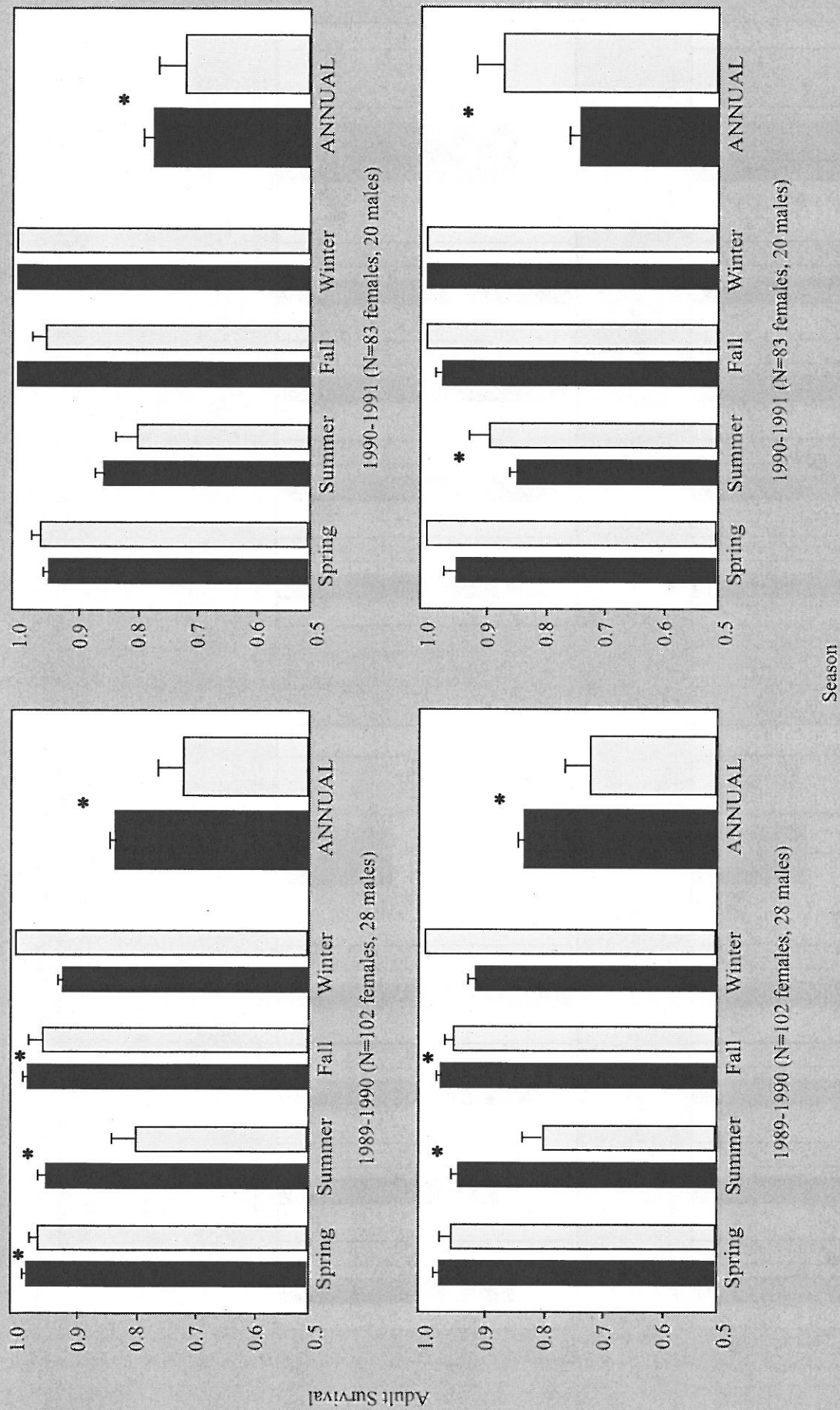


Fig. 13A-1d (con d). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) adults, excluding hunting and poaching (top) and including hunting and poaching (bottom), by season and year (wide bars), for all insular Newfoundland caribou herds; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.

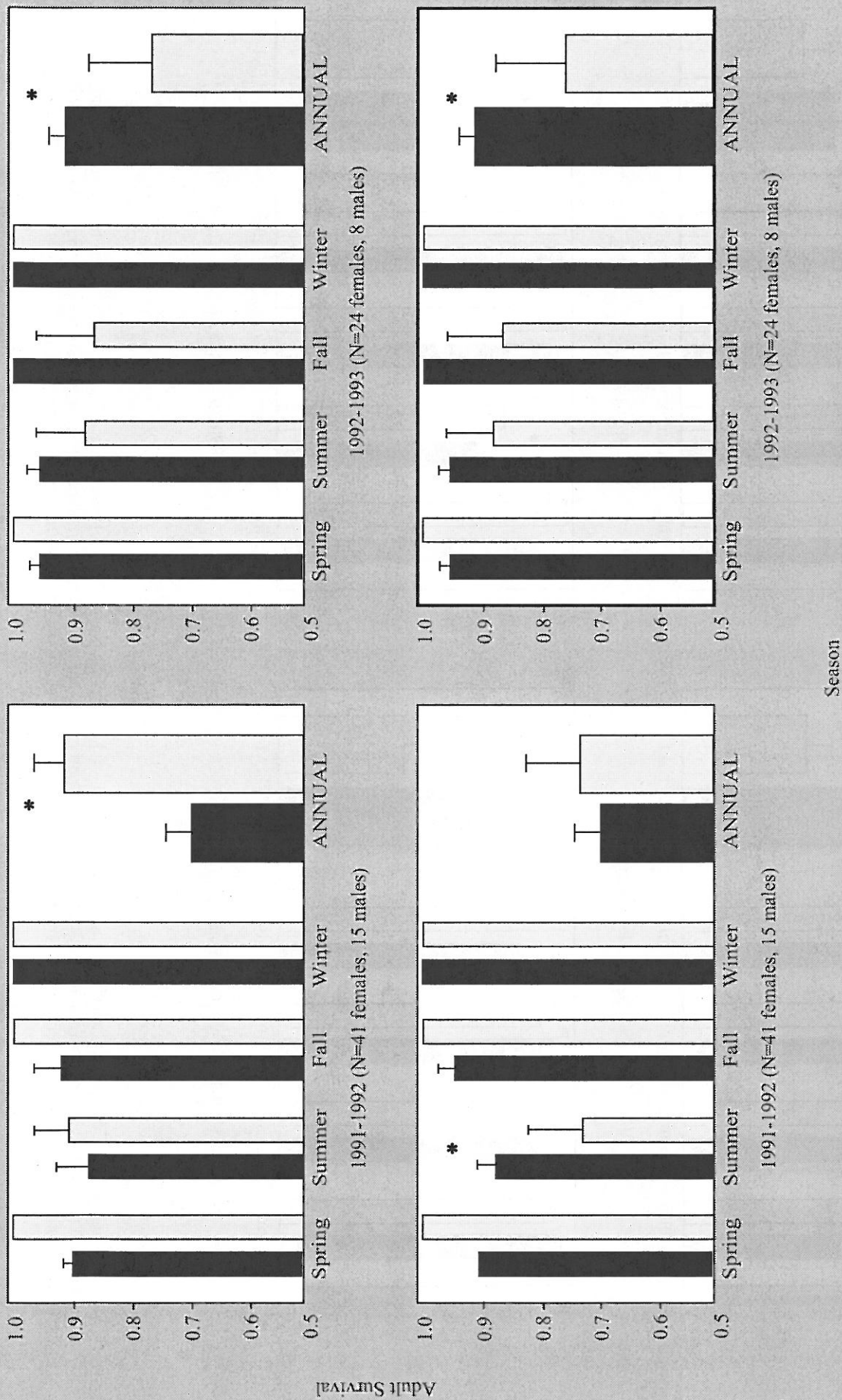


Fig. 13A-1d (con'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) adults, excluding hunting and poaching (top) and including hunting and poaching (bottom), by season and year, for all insular Newfoundland caribou herds; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.

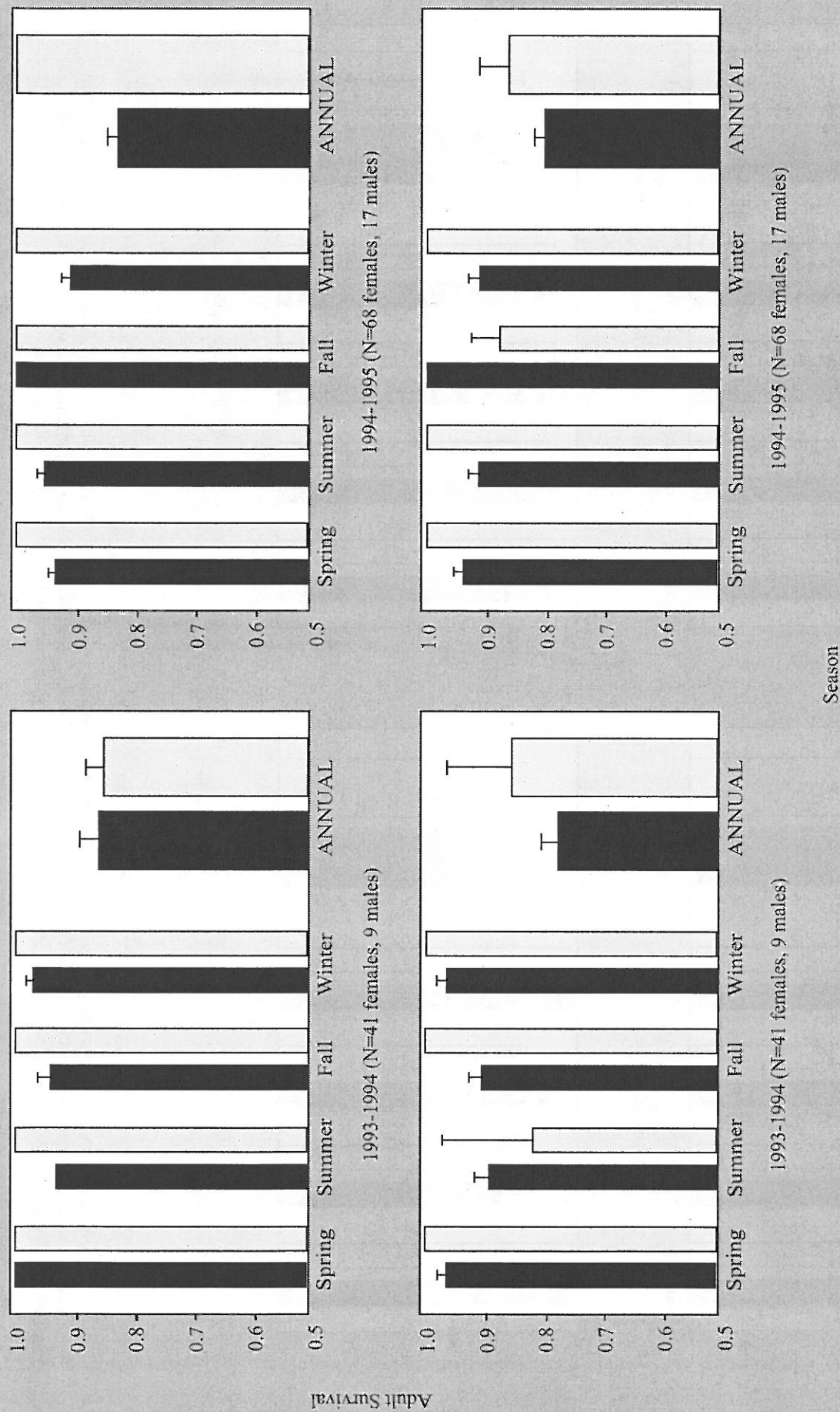


Fig. 13A-1d (con'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) adults, excluding hunting and poaching (top) and including hunting and poaching (bottom), by season and year (wide bars), for all insular Newfoundland caribou herds; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.

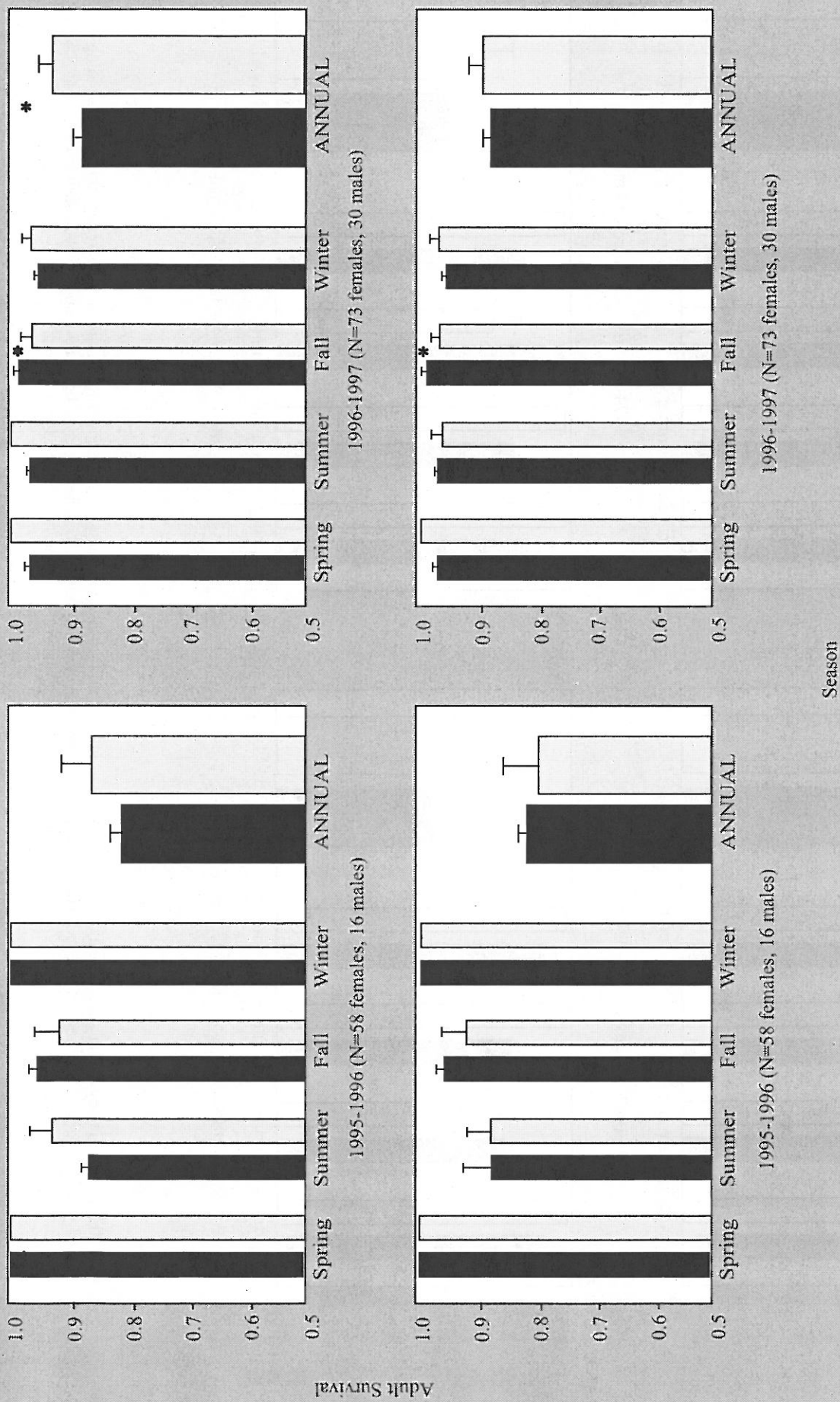


Fig. 13A-1d (cont'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) adults, excluding hunting and poaching (top) and including hunting and poaching (bottom), by season and year (wide bars), for all insular Newfoundland caribou herds; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.

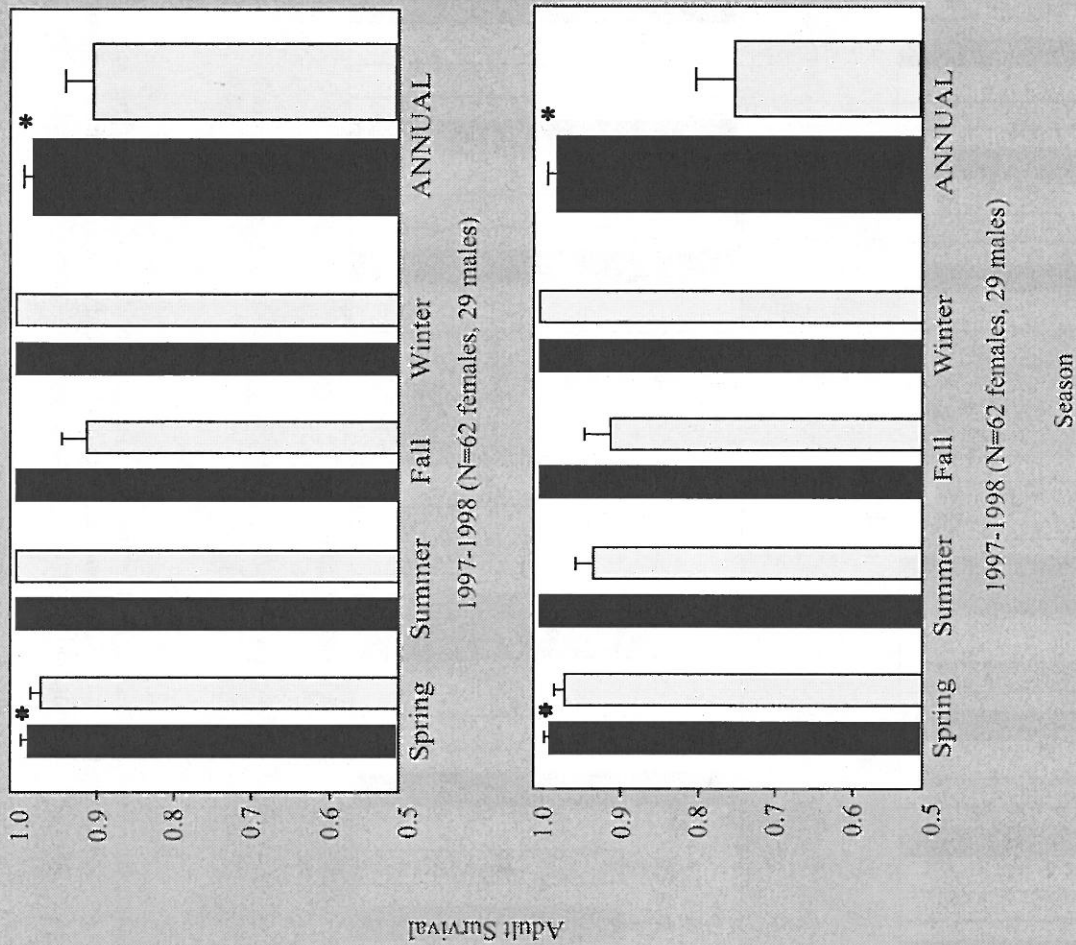
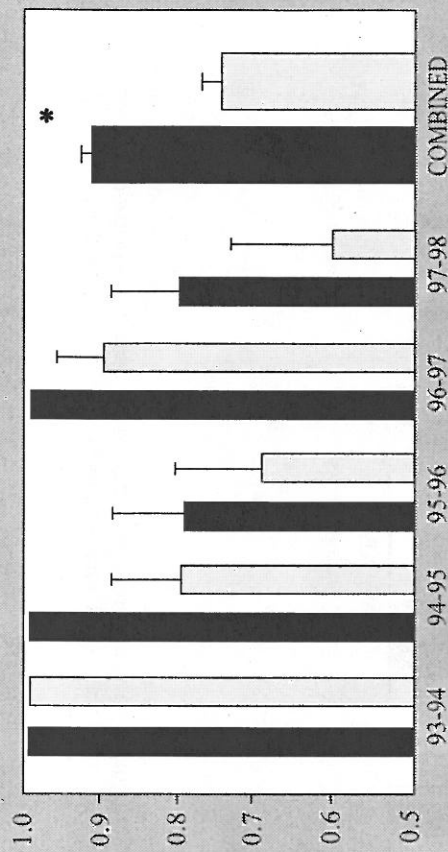
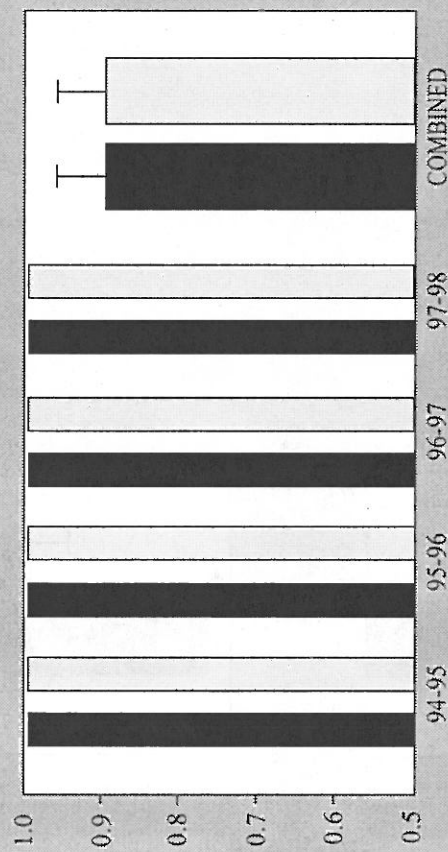


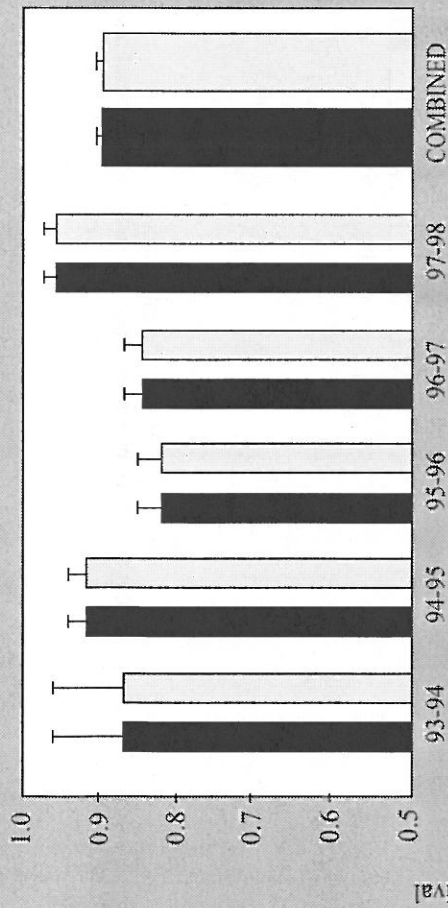
Fig. 13A-1d (con'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) adults, excluding hunting and poaching (top) and including hunting and poaching (bottom), by season and year (wide bars), for all insular Newfoundland caribou herds; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons. Data for 1998 are censored on February 24.



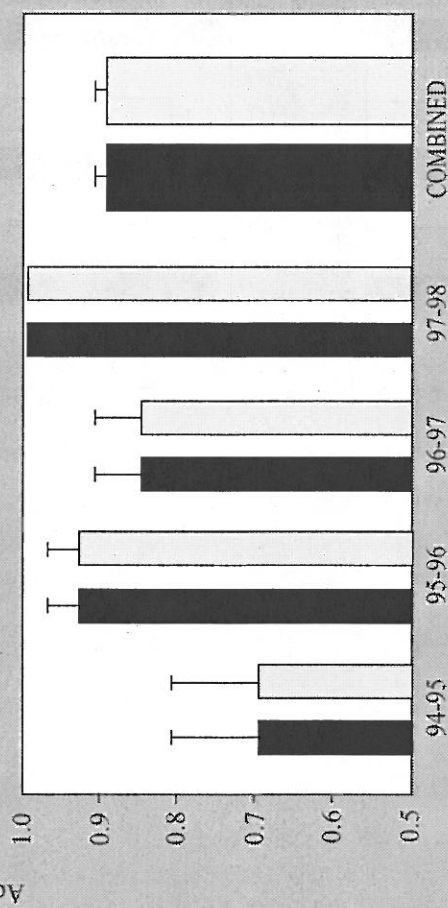
Buchans Caribou Herd, Males (N=19)



Corner Brook Lakes Caribou Herd, Males (N=4)

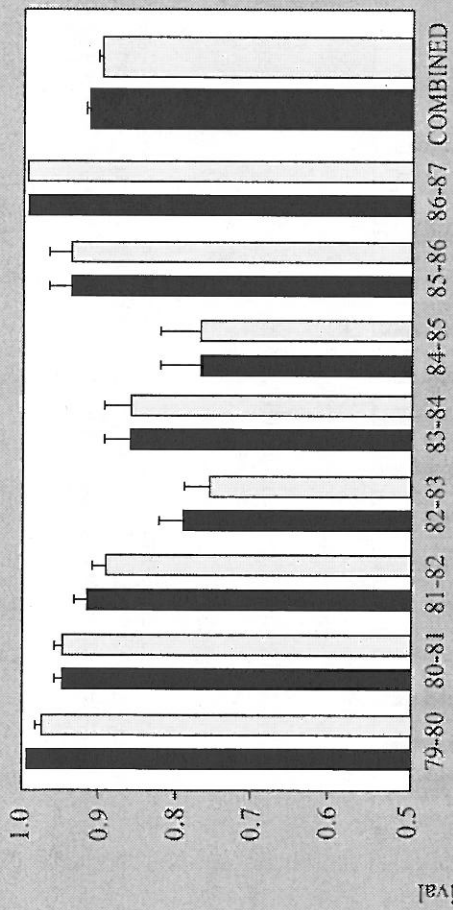


Buchans Caribou Herd, Females (N=45)

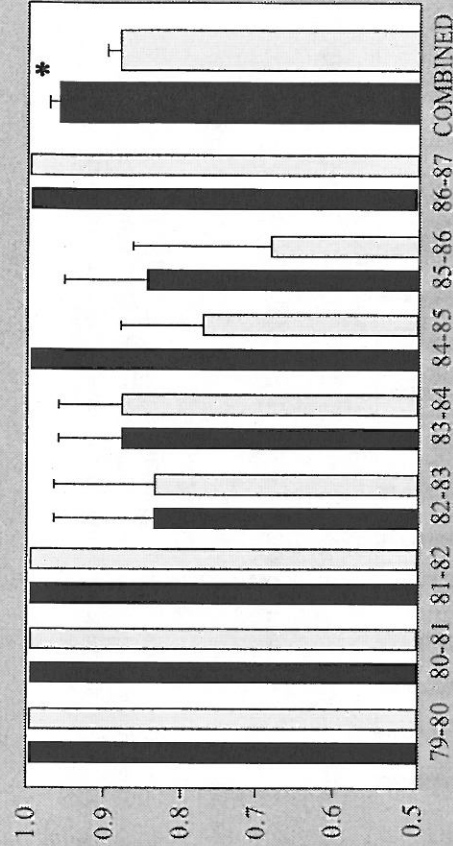


Corner Brook Lakes Caribou Herd, Females (N=17)

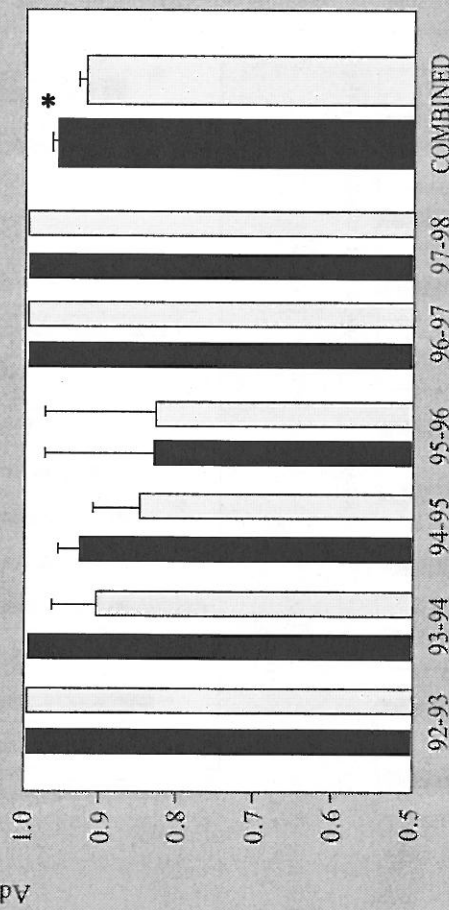
Fig. 13A-1e. Heisey-Fuller adult survival estimates, excluding hunting and poaching (solid bars) and including hunting and poaching (light bars), by herd, sex and year, and for all years combined during the monitoring period of each caribou herd shown (wide bars); error bars show upper 95% confidence limits. Asterisks indicate significant differences due to hunting and/or poaching for a given year; cases of all animals surviving do not permit statistical comparisons. Data for 1998 are censored on February 24.



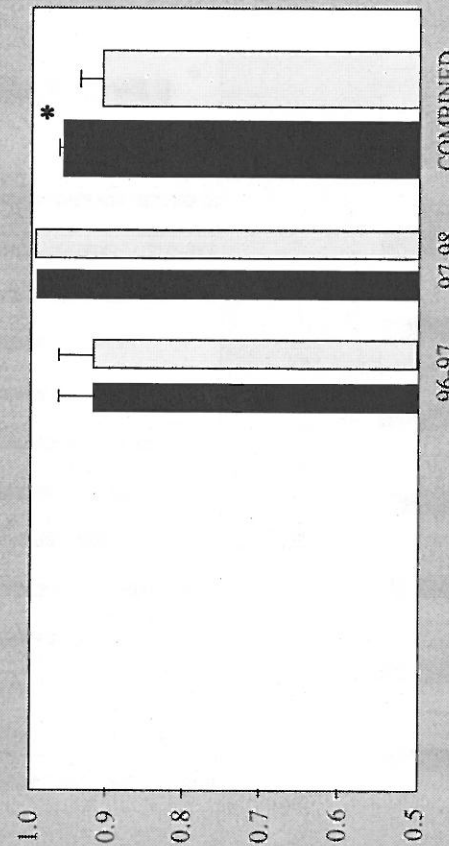
Grey River Caribou Herd, Females (N=82)



Grey River Caribou Herd, Males (N=25)



Gros Morne Caribou Herd, Females (N=35)

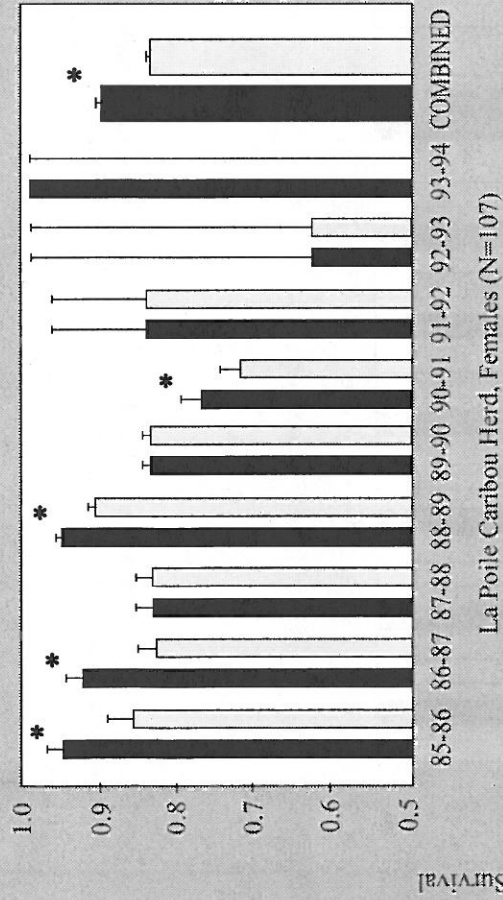


Gros Morne Caribou Herd, Males (N=16)

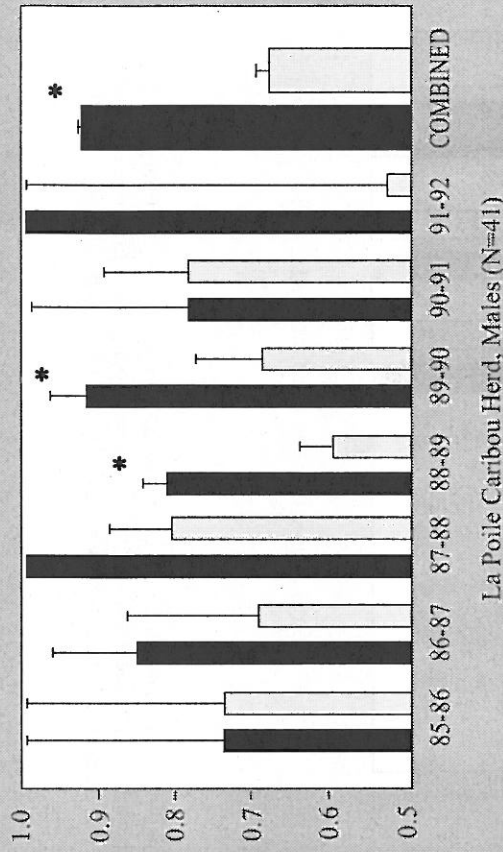
Year

Fig. 13A-1e (con'd). Heisey-Fuller adult survival estimates, excluding hunting and poaching (solid bars) and including hunting and poaching (light bars), by herd, sex and year, and for all years combined during the monitoring period of each caribou herd shown (wide bars); error bars show upper 95% confidence limits. Asterisks indicate significant differences due to hunting and/or poaching for a given year; cases of all animals surviving do not permit statistical comparisons. Data for 1998 are censored on February 24.

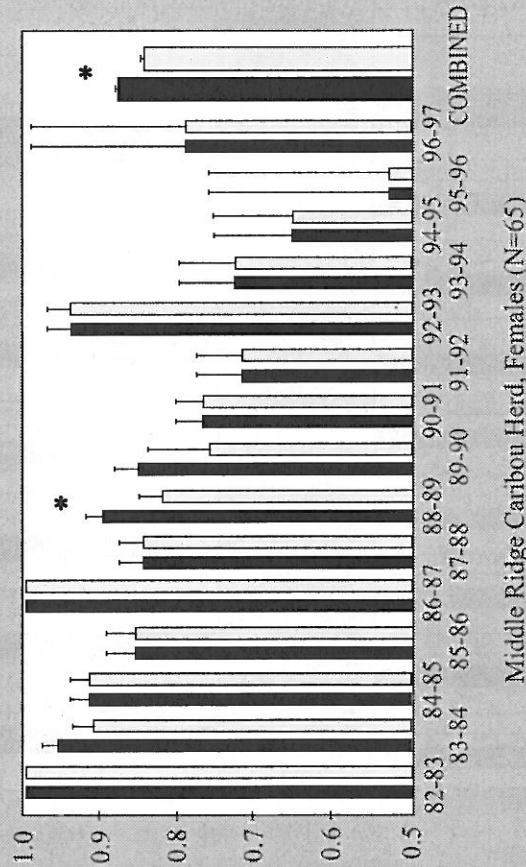




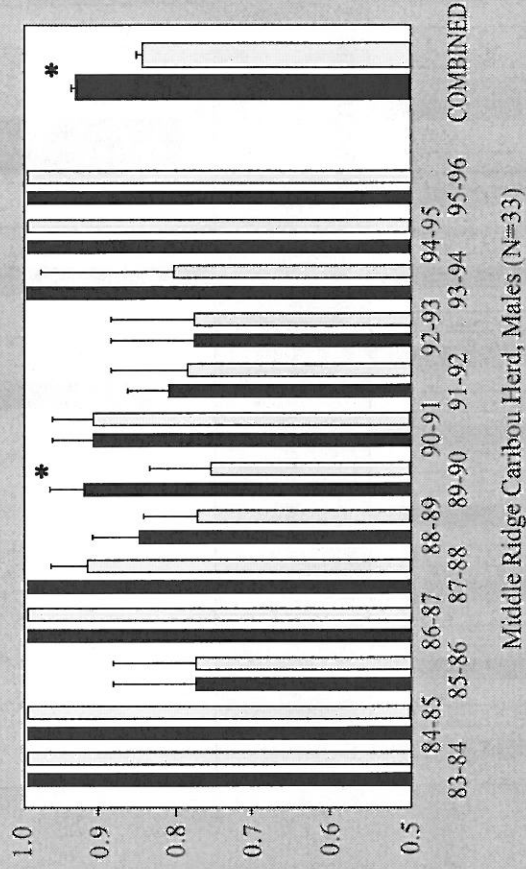
La Poile Caribou Herd, Females (N=107)



La Poile Caribou Herd, Males (N=41)



Middle Ridge Caribou Herd, Females (N=65)



Middle Ridge Caribou Herd, Males (N=33)

Year

Fig. 13A-1e (con'd). Heissey-Fuller adult survival estimates, excluding hunting and poaching (solid bars) and including hunting and poaching (light bars), by herd, sex and year, and for all years combined during the monitoring period of each caribou herd shown (wide bars); error bars show upper 95% confidence limits. Asterisks indicate significant differences due to hunting and/or poaching for a given year; cases of all animals surviving do not permit statistical comparisons.

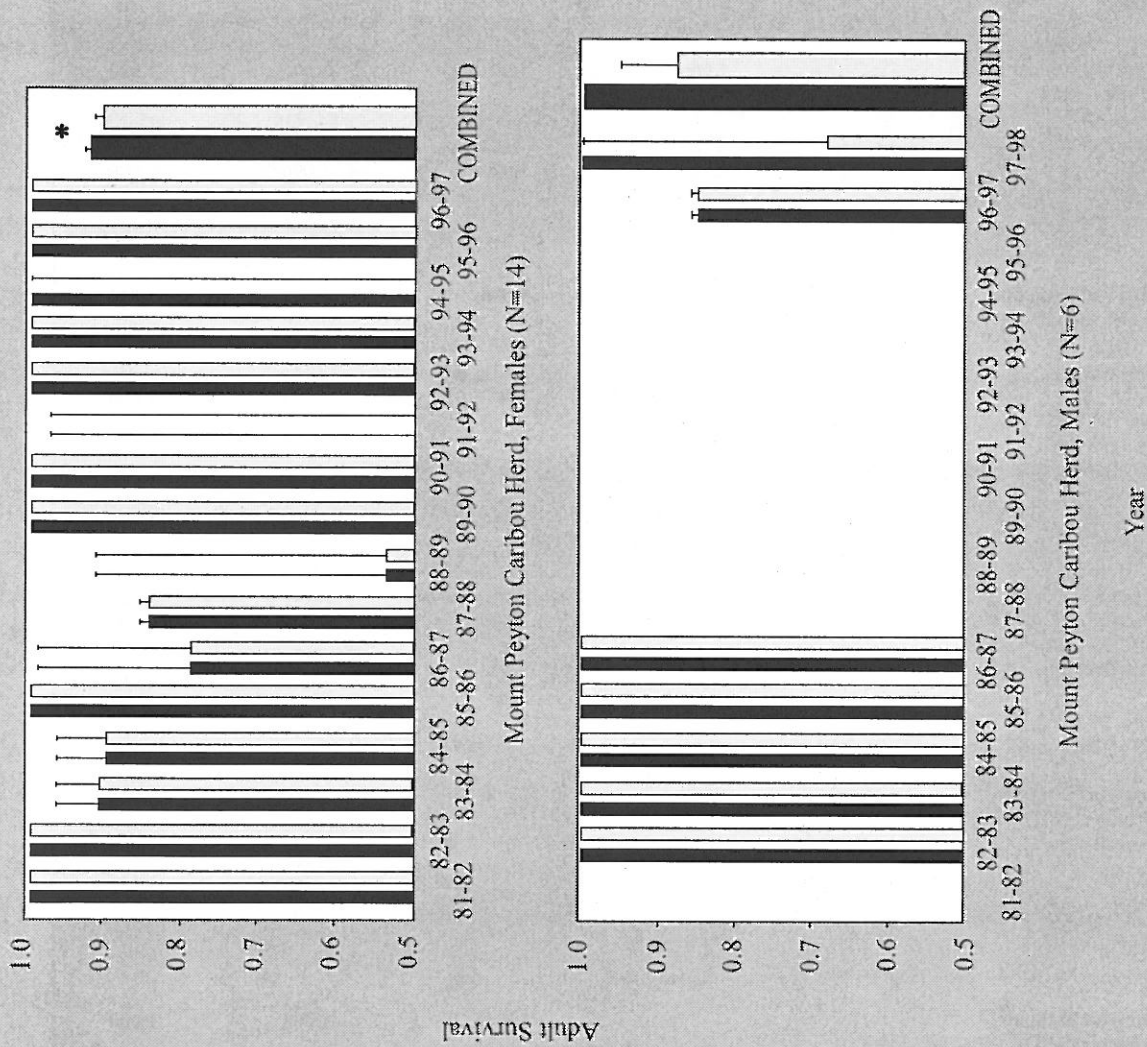


Fig. 13A-1e (con'd). Heisey-Fuller adult survival estimates, excluding hunting and poaching (solid bars) and including hunting and poaching (light bars), by herd, sex and year, and for all years combined during the monitoring period of each caribou herd shown (wide bars); error bars show upper 95% confidence limits. Asterisks indicate significant differences due to hunting and poaching for a given year; cases of all animals surviving do not permit statistical comparisons. Data for 1998 are censored on February 24.

Table 13A-3a. Heisey-Fuller estimates of two-year old survival for the Buchans Caribou Herd. Survival is estimated by sex, season and year. Spring and annual survival estimates are calculated from May 1, for animals from 23 to 35 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>SEXES COMBINED</b>					
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate		1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)		44	87–122	84–235	445–631
N collared (n surviving)		2 (2)	2 (2)	1 (1)	2 (2)
Proportion surviving		1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate			1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)			183	159	705
N collared (n surviving)			3 (3)	3 (3)	3 (3)
Proportion surviving			1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>Average, 1994–1997</b>					
Heisey-Fuller Survival Estimate		1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)		44	270–305	243–394	1150–1336
N collared (n surviving)		2 (2)	5 (5)	4 (4)	5 (5)
Proportion surviving		1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>FEMALES</b>					
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate		1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)		23	61	84	266
N collared (n surviving)		1 (1)	1 (1)	1 (1)	1 (1)
Proportion surviving		1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate			1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)			61	53	235
N collared (n surviving)			1 (1)	1 (1)	1 (1)
Proportion surviving			1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>Average, 1994–1997</b>					
Heisey-Fuller Survival Estimate		1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)		23	122	137	501
N collared (n surviving)		1 (1)	2 (2)	2 (2)	2 (2)
Proportion surviving		1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					

Table 13A-3a. (con'd). Heisey-Fuller estimates of two-year-old survival for the Buchans Caribou Herd. Survival is estimated by sex, season and year. Two-year-old spring and annual survival estimates are calculated from May 1, for animals from 23 to 35 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>MALES</b>					
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate		1.000	1.000		1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)		21	26–61		179–365
N collared (n surviving)		1 (1)	1 (1)		1 (1)
Proportion surviving		1.000	1.000		1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate			1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)			122	106	470
N collared (n surviving)			2 (2)	2 (2)	2 (2)
Proportion surviving			1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>Average, 1994–1997</b>					
Heisey-Fuller Survival Estimate		1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)		21	148–183	106–257	649–835
N collared (n surviving)		1 (1)	3 (3)	2 (2)	3 (3)
Proportion surviving		1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					

Table 13A-3b. Heisey-Fuller estimates of adult survival for the Buchans Caribou Herd. Survival is estimated by sex, season and year (hunting and poaching excluded). Spring and annual survival estimates are calculated from May 1, for animals older than 35 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>SEXES COMBINED</b>					
<b>1993–1994</b>					
<b>Heisey-Fuller Survival Estimate</b>			<b>0.904</b>	<b>1.000</b>	<b>0.894</b>
95% Confidence Interval (CI)			0.853–0.963		0.832–0.962
Radiodays (min.–max.)			562–583	1963–2114	3081–3131
N collared (n surviving)			14 (13)	13 (13)	14 (13)
Proportion surviving			0.929	1.000	0.929
Minimum Survival (95% CI)			0.841–0.963		0.820–0.962
Maximum Survival (95% CI)			1.000		1.000
<b>1994–1995</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>0.927</b>	<b>1.000</b>	<b>1.000</b>	<b>0.974</b>	<b>0.971</b>
95% Confidence Interval (CI)	0.890–0.965			0.966–0.982	0.962–0.981
Radiodays (min.–max.)	793–854	1266–1358	2440–2498	5738	12435–12646
N collared (n surviving)	42 (41)	41 (41)	40 (40)	38 (37)	42 (40)
Proportion surviving	0.976	1.000	1.000	0.974	0.952
Minimum Survival (95% CI)	1.000				0.868–0.905
Maximum Survival (95% CI)	1.000				0.962–0.981
<b>1995–1996</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>0.948</b>	<b>0.947</b>	<b>0.941</b>	<b>0.969</b>	<b>0.817</b>
95% Confidence Interval (CI)	0.937–0.960	0.935–0.959	0.930–0.956	0.958–0.979	0.795–0.839
Radiodays (min.–max.)	2279–2298	3349–3364	2001–2010	4715–4733	12588–12649
N collared (n surviving)	39 (37)	37 (35)	34 (32)	32 (31)	39 (32)
Proportion surviving	0.949	0.946	0.941	0.969	0.821
Minimum Survival (95% CI)	0.936–0.959	0.935–0.959	0.929–0.956	0.958–0.979	0.795–0.838
Maximum Survival (95% CI)	0.937–0.960	0.935–0.959	0.930–0.956	0.958–0.979	0.796–0.839
<b>1996–1997</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>0.968</b>	<b>0.935</b>	<b>1.000</b>	<b>0.956</b>	<b>0.883</b>
95% Confidence Interval (CI)	0.957–0.979	0.919–0.951		0.947–0.965	0.868–0.899
Radiodays (min.–max.)	1884–1891	2728–2736	2573–2575	6702–6722	14657–14694
N collared (n surviving)	49 (48)	48 (46)	45 (45)	45 (43)	49 (44)
Proportion surviving	0.980	0.958	1.000	0.956	0.898
Minimum Survival (95% CI)	0.957–0.979	0.919–0.951		0.947–0.965	0.868–0.899
Maximum Survival (95% CI)	1.000	0.919–0.951		0.971–0.984	0.891–0.920
<b>1997–1998</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>0.957</b>	<b>1.000</b>	<b>0.978</b>	<b>1.000</b>	<b>0.914</b>
95% Confidence Interval (CI)	0.948–0.966		0.972–0.985		0.897–0.930
Radiodays (min.–max.)	2743–2761	4140–4157	2693–2699	2142	12102–12139
N collared (n surviving)	47 (45)	45 (45)	44 (43)	42 (42)	47 (44)
Proportion surviving	0.957	1.000	0.977	1.000	0.936
Minimum Survival (95% CI)	0.948–0.966		0.972–0.985		0.897–0.930
Maximum Survival (95% CI)	0.972–0.984		0.972–0.985		0.898–0.930
<b>Average, 1993–1998</b>					
<b>Heisey-Fuller Survival Estimate</b>					<b>0.907</b>
95% Confidence Interval (CI)					0.903–0.910
Radiodays (min.–max.)					55553–56091
N collared (n surviving)					64 (49)
Minimum Survival (95% CI)					0.902–0.910
Maximum Survival (95% CI)					0.903–0.911

Table 13A-3b (con'd). Heisey-Fuller estimates of adult survival for the Buchans Caribou Herd. Survival is estimated by sex, season and year (hunting and poaching excluded). Spring and annual survival estimates are calculated from May 1, for animals older than 35 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>FEMALES</b>					
<b>1993–1994</b>					
Heisey-Fuller Survival Estimate			<b>0.881</b>	<b>1.000</b>	<b>0.869</b>
95% Confidence Interval (CI)			0.807–0.962		0.785–0.963
Radiodays (min.–max.)			441–462	1510–1661	2414–2464
N collared (n surviving)			11 (10)	10 (10)	11 (10)
Proportion surviving			0.909	1.000	0.909
Minimum Survival (95% CI)			0.787–0.963		0.766–0.964
Maximum Survival (95% CI)			1.000		1.000
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate	<b>0.906</b>	<b>1.000</b>	<b>1.000</b>	<b>0.965</b>	<b>0.919</b>
95% Confidence Interval (CI)	0.854–0.962			0.952–0.978	0.897–0.942
Radiodays (min.–max.)	610–671	990–1082	1708–1766	4228	8652–8863
N collared (n surviving)	30 (29)	29 (29)	28 (28)	28 (27)	30 (28)
Proportion surviving	0.967	1.000	1.000	0.964	0.933
Minimum Survival (95% CI)	1.000				0.720–0.889
Maximum Survival (95% CI)	1.000				0.943–0.975
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	<b>0.930</b>	<b>0.963</b>	<b>0.961</b>	<b>0.960</b>	<b>0.823</b>
95% Confidence Interval (CI)	0.912–0.948	0.950–0.977	0.947–0.976	0.944–0.975	0.795–0.852
Radiodays (min.–max.)	1669–1688	2466–2470	1542–1546	3658–3676	9367–9412
N collared (n surviving)	29 (27)	27 (26)	26 (25)	25 (24)	29 (24)
Proportion surviving	0.931	0.963	0.962	0.960	0.828
Minimum Survival (95% CI)	0.912–0.948	0.950–0.977	0.947–0.976	0.944–0.975	0.795–0.852
Maximum Survival (95% CI)	0.913–0.948	0.950–0.977	0.947–0.976	0.944–0.975	0.796–0.853
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	<b>0.959</b>	<b>0.916</b>	<b>1.000</b>	<b>0.942</b>	<b>0.847</b>
95% Confidence Interval (CI)	0.943–0.975	0.892–0.939		0.929–0.956	0.824–0.870
Radiodays (min.–max.)	1457–1464	2084–2092	1952–1954	5041–5061	10937–10974
N collared (n surviving)	37 (36)	36 (34)	34 (34)	34 (32)	37 (32)
Proportion surviving	0.973	0.944	1.000	0.941	0.865
Minimum Survival (95% CI)	0.943–0.975	0.892–0.939		0.928–0.955	0.823–0.870
Maximum Survival (95% CI)	1.000	0.893–0.940		0.961–0.980	0.854–0.897
<b>1997–1998</b>					
Heisey-Fuller Survival Estimate	<b>0.970</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.959</b>
95% Confidence Interval (CI)	0.960–0.980				0.944–0.975
Radiodays (min.–max.)	2009–2014	3036	2013	1683	8773–8778
N collared (n surviving)	34 (33)	33 (33)	33 (33)	33 (33)	34 (33)
Proportion surviving	0.971	1.000	1.000	1.000	0.971
Minimum Survival (95% CI)	0.960–0.980				0.943–0.975
Maximum Survival (95% CI)	0.960–0.980				0.944–0.975
<b>Average, 1993–1998</b>					
Heisey-Fuller Survival Estimate					<b>0.901</b>
95% Confidence Interval (CI)	Seasonal averages are not possible for adults since the same individual may be recorded in more than one year. Annual averages span all years in a “staggered entry” design.				0.896–0.907
Radiodays (min.–max.)					38430–38920
N collared (n surviving)					45 (34)
Minimum Survival (95% CI)					0.895–0.906
Maximum Survival (95% CI)					0.897–0.907

Table 13A-3b (con'd). Heisey-Fuller estimates of adult survival for the Buchans Caribou Herd. Survival is estimated by sex, season and year (hunting and poaching excluded). Spring and annual survival estimates are calculated from May 1, for animals older than 35 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>MALES</b>					
<b>1993–1994</b>					
Heisey-Fuller Survival Estimate			<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.– max.)			121	151–453	444–667
N collared (n surviving)			3 (3)	3 (3)	3 (3)
Proportion surviving			1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.– max.)	183	276	732	1510	3783
N collared (n surviving)	12 (12)	12 (12)	12 (12)	10 (10)	12 (12)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.902</b>	<b>0.876</b>	<b>1.000</b>	<b>0.798</b>
95% Confidence Interval (CI)		0.845–0.961	0.799–0.961		0.717–0.887
Radiodays (min.– max.)	610	883–894	459–464	1057	3221–3237
N collared (n surviving)	10 (10)	10 (9)	8 (7)	7 (7)	10 (8)
Proportion surviving	1.000	0.900	0.875	1.000	0.800
Minimum Survival (95% CI)		0.844–0.961	0.797–0.961		0.716–0.887
Maximum Survival (95% CI)		0.847–0.961	0.800–0.961		0.718–0.888
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.– max.)	427	644	621	1661	3720
N collared (n surviving)	12 (12)	12 (12)	11 (11)	11 (11)	12 (12)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1997–1998</b>					
Heisey-Fuller Survival Estimate	<b>0.923</b>	<b>1.000</b>	<b>0.914</b>	<b>1.000</b>	<b>0.804</b>
95% Confidence Interval (CI)	0.883–0.964		0.869–0.963		0.726–0.890
Radiodays (min.– max.)	729–752	1104–1121	680–686	459	3329–3361
N collared (n surviving)	13 (12)	12 (12)	11 (10)	9 (9)	13 (11)
Proportion surviving	0.923	1.000	0.909	1.000	0.846
Minimum Survival (95% CI)	0.882–0.964		0.868–0.963		0.725–0.890
Maximum Survival (95% CI)	1.000		0.869–0.963		0.727–0.891
<b>Average, 1993–1998</b>					
Heisey-Fuller Survival Estimate					<b>0.918</b>
95% Confidence Interval (CI)	Seasonal averages are not possible for adults since the same individual may be recorded in more than one year. Annual averages span all years in a “staggered entry” design.				0.907–0.930
Radiodays (min.– max.)					17123–17171
N collared (n surviving)					19 (15)
Minimum Survival (95% CI)					0.907–0.929
Maximum Survival (95% CI)					0.907–0.930

Table 13A-3c. Heisey-Fuller estimates of adult survival for the Buchans Caribou Herd. Survival is estimated by sex, season and year (hunting and poaching included). Spring and annual survival estimates are calculated from May 1, for animals older than 35 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>SEXES COMBINED</b>					
<b>1993–1994</b>					
Heisey-Fuller Survival Estimate			<b>0.904</b>	<b>1.000</b>	<b>0.894</b>
95% Confidence Interval (CI)			0.853–0.963		0.832–0.962
Radiodays (min.–max.)			562–583	1963–2114	3081–3131
N collared (n surviving)			14 (13)	13 (13)	14 (13)
Proportion surviving			0.929	1.000	0.929
Minimum Survival (95% CI)			0.841–0.963		0.820–0.962
Maximum Survival (95% CI)			1.000		1.000
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate	<b>0.927</b>	<b>1.000</b>	<b>0.951</b>	<b>0.974</b>	<b>0.885</b>
95% Confidence Interval (CI)	0.890–0.965		0.942–0.963	0.966–0.982	0.866–0.904
Radiodays (min.–max.)	793–854	1266–1358	2428–2486	5738	11921–12132
N collared (n surviving)	42 (41)	41 (41)	40 (38)	38 (37)	42 (38)
Proportion surviving	0.976	1.000	0.950	0.974	0.905
Minimum Survival (95% CI)	1.000		0.919–0.943		0.868–0.905
Maximum Survival (95% CI)	1.000		0.942–0.963		0.896–0.929
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	<b>0.948</b>	<b>0.921</b>	<b>0.941</b>	<b>0.969</b>	<b>0.790</b>
95% Confidence Interval (CI)	0.937–0.960	0.906–0.935	0.930–0.956	0.958–0.979	0.767–0.813
Radiodays (min.–max.)	2279–2298	3328–3343	2001–2010	4715–4733	12355–12416
N collared (n surviving)	39 (37)	37 (34)	34 (32)	32 (31)	39 (31)
Proportion surviving	0.949	0.919	0.941	0.969	0.795
Minimum Survival (95% CI)	0.936–0.959	0.906–0.935	0.929–0.956	0.958–0.979	0.766–0.813
Maximum Survival (95% CI)	0.937–0.960	0.906–0.935	0.930–0.956	0.958–0.979	0.768–0.814
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	<b>0.968</b>	<b>0.903</b>	<b>1.000</b>	<b>0.956</b>	<b>0.859</b>
95% Confidence Interval (CI)	0.957–0.979	0.884–0.923		0.947–0.965	0.842–0.877
Radiodays (min.–max.)	1884–1891	2716–2724	2573–2575	6702–6722	14433–14470
N collared (n surviving)	49 (48)	48 (45)	45 (45)	45 (43)	49 (43)
Proportion surviving	0.980	0.938	1.000	0.956	0.878
Minimum Survival (95% CI)	0.957–0.979	0.884–0.923		0.947–0.965	0.842–0.876
Maximum Survival (95% CI)	1.000	0.885–0.923		0.971–0.984	0.866–0.897
<b>1997–1998</b>					
Heisey-Fuller Survival Estimate	<b>0.957</b>	<b>0.978</b>	<b>0.954</b>	<b>1.000</b>	<b>0.855</b>
95% Confidence Interval (CI)	0.948–0.966	0.972–0.984	0.946–0.965		0.834–0.877
Radiodays (min.–max.)	2743–2761	4123–4140	2578–2584	2142	11668–11705
N collared (n surviving)	47 (45)	45 (44)	44 (42)	42 (42)	47 (42)
Proportion surviving	0.957	0.978	0.955	1.000	0.894
Minimum Survival (95% CI)	0.948–0.966	0.947–0.965	0.946–0.965		0.834–0.877
Maximum Survival (95% CI)	0.972–0.984	0.972–0.984	0.946–0.965		0.835–0.877
<b>Average, 1993–1998</b>					
Heisey-Fuller Survival Estimate					<b>0.861</b>
95% Confidence Interval (CI)	Seasonal averages are not possible for adults since the same individual may be recorded in more than one year. Annual averages span all years in a “staggered entry” design.				0.856–0.866
Radiodays (min.–max.)					51060–51598
N collared (n surviving)					64 (43)
Minimum Survival (95% CI)					0.856–0.865
Maximum Survival (95% CI)					0.857–0.867



Table 13A-3c (con'd). Heisey-Fuller estimates of adult survival for the Buchans Caribou Herd. Survival is estimated by sex, season and year (hunting and poaching included). Spring and annual survival estimates are calculated from May 1, for animals older than 35 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>FEMALES</b>					
<b>1993–1994</b>					
Heisey-Fuller Survival Estimate			<b>0.881</b>	<b>1.000</b>	<b>0.869</b>
95% Confidence Interval (CI)			0.807–0.962		0.785–0.963
Radiodays (min.–max.)			441–462	1510–1661	2414–2464
N collared (n surviving)			11 (10)	10 (10)	11 (10)
Proportion surviving			0.909	1.000	0.909
Minimum Survival (95% CI)			0.787–0.963		0.766–0.964
Maximum Survival (95% CI)			1.000		1.000
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate	<b>0.906</b>	<b>1.000</b>	<b>1.000</b>	<b>0.965</b>	<b>0.919</b>
95% Confidence Interval (CI)	0.854–0.962			0.952–0.978	0.897–0.942
Radiodays (min.–max.)	610–671	990–1082	1708–1766	4228	8652–8863
N collared (n surviving)	30 (29)	29 (29)	28 (28)	28 (27)	30 (28)
Proportion surviving	0.967	1.000	1.000	0.964	0.933
Minimum Survival (95% CI)	1.000				0.720–0.889
Maximum Survival (95% CI)	1.000				0.943–0.975
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	<b>0.930</b>	<b>0.963</b>	<b>0.961</b>	<b>0.960</b>	<b>0.823</b>
95% Confidence Interval (CI)	0.912–0.948	0.950–0.977	0.947–0.976	0.944–0.975	0.795–0.852
Radiodays (min.–max.)	1669–1688	2466–2470	1542–1546	3658–3676	9367–9412
N collared (n surviving)	29 (27)	27 (26)	26 (25)	25 (24)	29 (24)
Proportion surviving	0.931	0.963	0.962	0.960	0.828
Minimum Survival (95% CI)	0.912–0.948	0.950–0.977	0.947–0.976	0.944–0.975	0.795–0.852
Maximum Survival (95% CI)	0.913–0.948	0.950–0.977	0.947–0.976	0.944–0.975	0.796–0.853
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	<b>0.959</b>	<b>0.916</b>	<b>1.000</b>	<b>0.942</b>	<b>0.847</b>
95% Confidence Interval (CI)	0.943–0.975	0.892–0.939		0.929–0.956	0.824–0.870
Radiodays (min.–max.)	1457–1464	2084–2092	1952–1954	5041–5061	10937–10974
N collared (n surviving)	37 (36)	36 (34)	34 (34)	34 (32)	37 (32)
Proportion surviving	0.973	0.944	1.000	0.941	0.865
Minimum Survival (95% CI)	0.943–0.975	0.892–0.939		0.928–0.955	0.823–0.870
Maximum Survival (95% CI)	1.000	0.893–0.940		0.961–0.980	0.854–0.897
<b>1997–1998</b>					
Heisey-Fuller Survival Estimate	<b>0.970</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.959</b>
95% Confidence Interval (CI)	0.960–0.980				0.944–0.975
Radiodays (min.–max.)	2009–2014	3036	2013	1683	8773–8778
N collared (n surviving)	34 (33)	33 (33)	33 (33)	33 (33)	34 (33)
Proportion surviving	0.971	1.000	1.000	1.000	0.971
Minimum Survival (95% CI)	0.960–0.980				0.943–0.975
Maximum Survival (95% CI)	0.960–0.980				0.944–0.975
<b>Average, 1993–1998</b>					
Heisey-Fuller Survival Estimate					<b>0.901</b>
95% Confidence Interval (CI)	Seasonal averages are not possible for adults since the same individual may be recorded in more than one year. Annual averages span all years in a “staggered entry” design.				0.896–0.907
Radiodays (min.–max.)					38430–38920
N collared (n surviving)					45 (34)
Minimum Survival (95% CI)					0.895–0.906
Maximum Survival (95% CI)					0.897–0.907

Table 13A-3c (con'd). Heisey-Fuller estimates of adult survival for the Buchans Caribou Herd. Survival is estimated by sex, season and year (hunting and poaching included). Spring and annual survival estimates are calculated from May 1, for animals older than 35 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>MALES</b>					
<b>1993–1994</b>					
Heisey-Fuller Survival Estimate			<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)			121	151–453	444–667
N collared (n surviving)			3 (3)	3 (3)	3 (3)
Proportion surviving			1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>0.844</b>	<b>1.000</b>	<b>0.800</b>
95% Confidence Interval (CI)			0.788–0.904		0.720–0.889
Radiodays (min.–max.)	183	276	720	1510	3269
N collared (n surviving)	12 (12)	12 (12)	12 (10)	10 (10)	12 (10)
Proportion surviving	1.000	1.000	0.833	1.000	0.833
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.809</b>	<b>0.876</b>	<b>1.000</b>	<b>0.694</b>
95% Confidence Interval (CI)		0.734–0.891	0.799–0.961		0.596–0.807
Radiodays (min.–max.)	610	862–873	459–464	1057	2988–3004
N collared (n surviving)	10 (10)	10 (8)	8 (7)	7 (7)	10 (7)
Proportion surviving	1.000	0.800	0.875	1.000	0.700
Minimum Survival (95% CI)		0.732–0.890	0.797–0.961		0.595–0.807
Maximum Survival (95% CI)		0.736–0.891	0.800–0.961		0.597–0.807
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.864</b>	<b>1.000</b>	<b>1.000</b>	<b>0.901</b>
95% Confidence Interval (CI)		0.777–0.961			0.844–0.961
Radiodays (min.–max.)	427	632	621	1661	3496
N collared (n surviving)	12 (12)	12 (11)	11 (11)	11 (11)	12 (11)
Proportion surviving	1.000	0.917	1.000	1.000	0.917
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1997–1998</b>					
Heisey-Fuller Survival Estimate	<b>0.923</b>	<b>0.919</b>	<b>0.806</b>	<b>1.000</b>	<b>0.605</b>
95% Confidence Interval (CI)	0.883–0.964	0.876–0.963	0.731–0.890		0.500–0.733
Radiodays (min.–max.)	729–752	1087–1104	565–571	459	2895–2927
N collared (n surviving)	13 (12)	12 (11)	11 (9)	9 (9)	13 (9)
Proportion surviving	0.923	0.917	0.818	1.000	0.692
Minimum Survival (95% CI)	0.882–0.964	0.791–0.905	0.729–0.890		0.498–0.732
Maximum Survival (95% CI)	1.000	0.876–0.963	0.732–0.890		0.502–0.733
<b>Average, 1993–1998</b>					
Heisey-Fuller Survival Estimate					<b>0.749</b>
95% Confidence Interval (CI)	Seasonal averages are not possible for adults since the same individual may be recorded in more than one year. Annual averages span all years in a “staggered entry” design.				0.726–0.773
Radiodays (min.–max.)					12630–12678
N collared (n surviving)					19 (9)
Minimum Survival (95% CI)					0.726–0.773
Maximum Survival (95% CI)					0.726–0.774

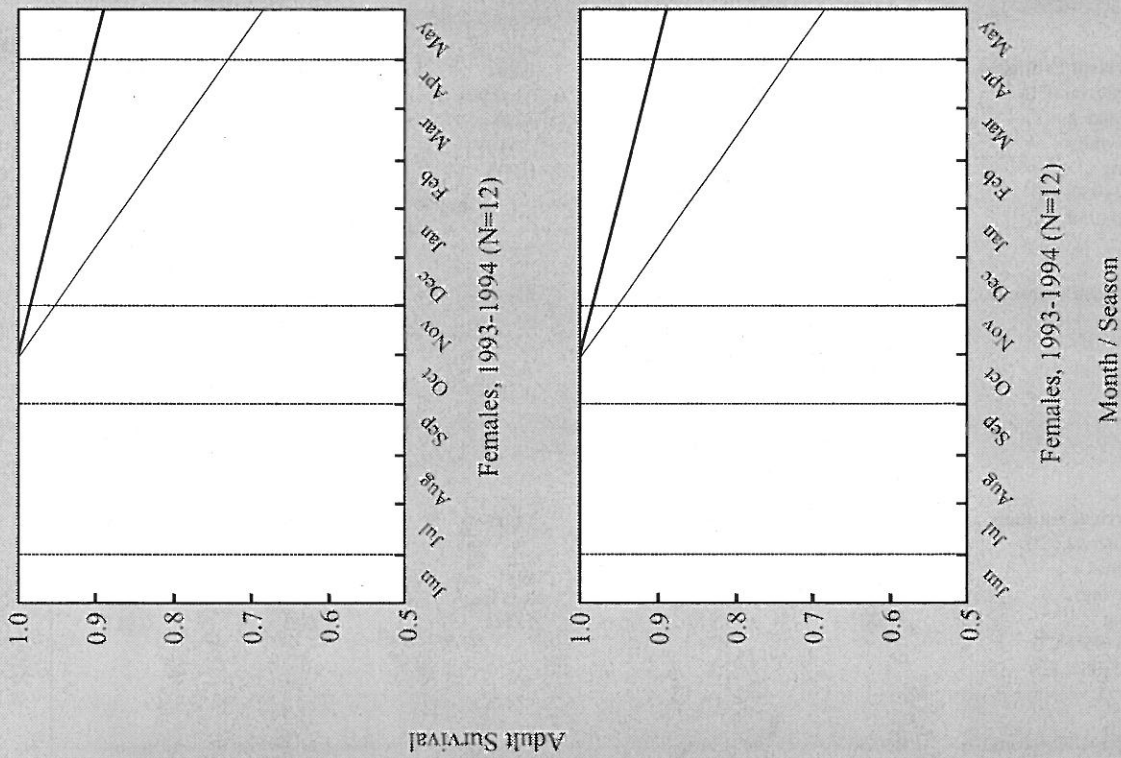
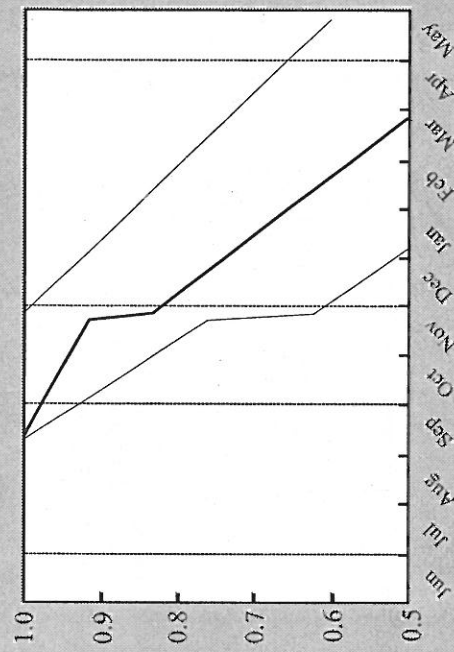
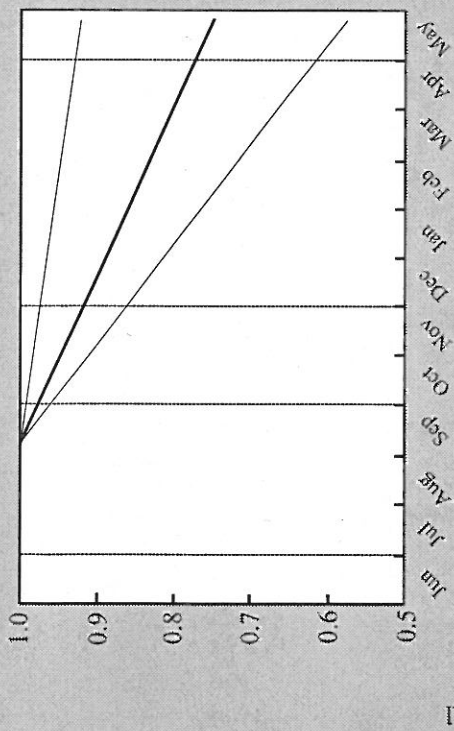
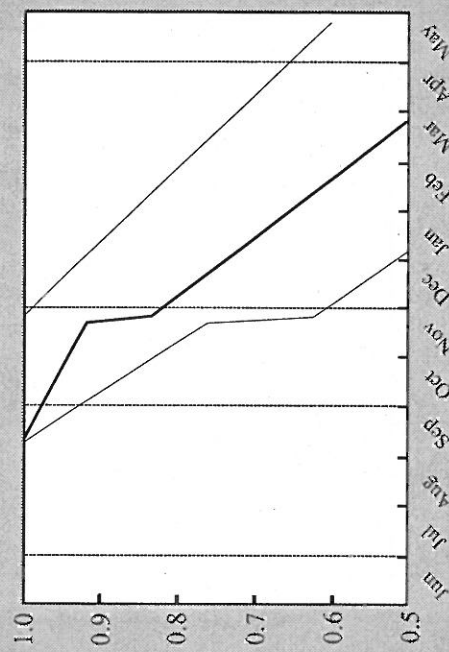
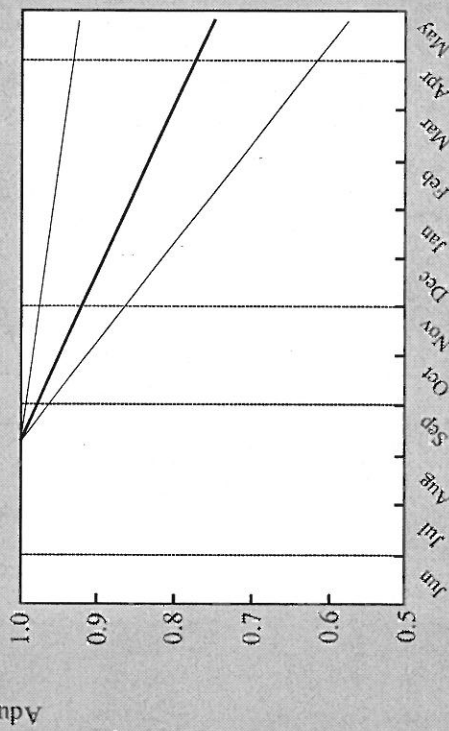


Fig. 13A-2a. Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults (females only) from the Buchans Caribou Herd, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring. There were 12 animals collared outside the normal collaring period, October 16-20, 1993.



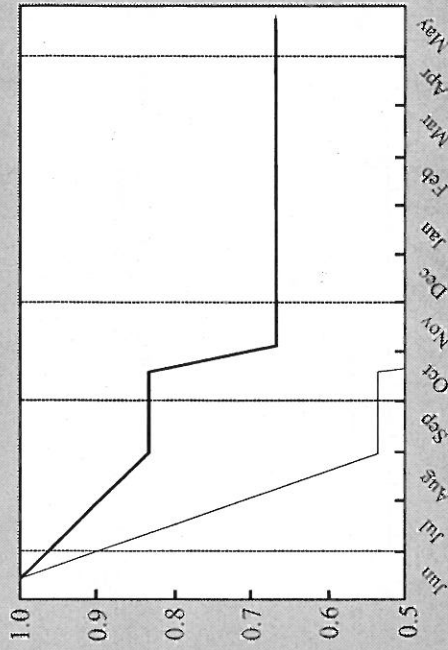
Females, 1994-1995 (N=30)

Males, 1994-1995 (N=12)

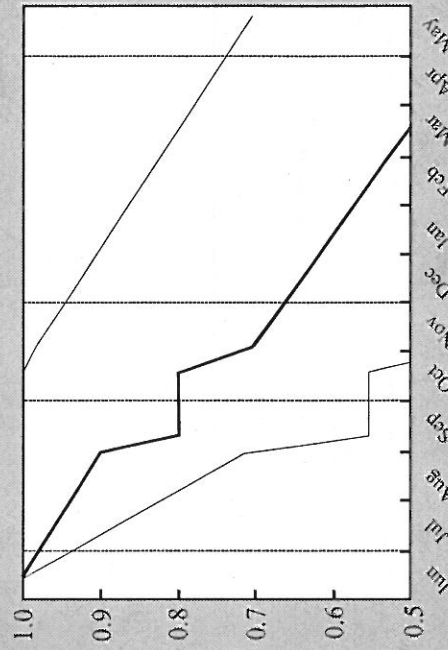


Month / Season

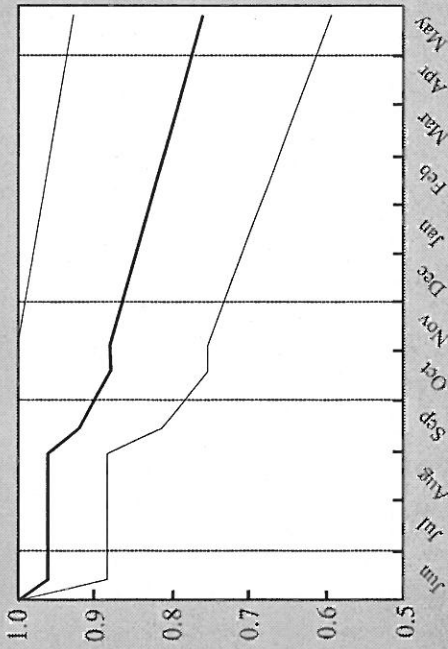
Fig. 13A-2a (con'd). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from the Buchans Caribou Herd, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.



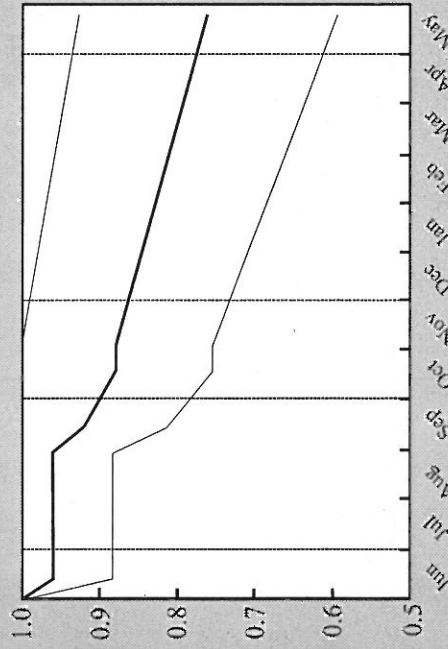
Males, 1995-1996 (N=10)



Males, 1995-1996 (N=10)



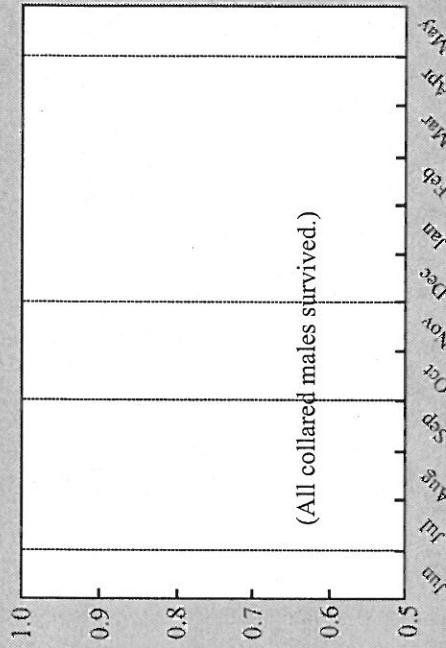
Females, 1995-1996 (N=29)



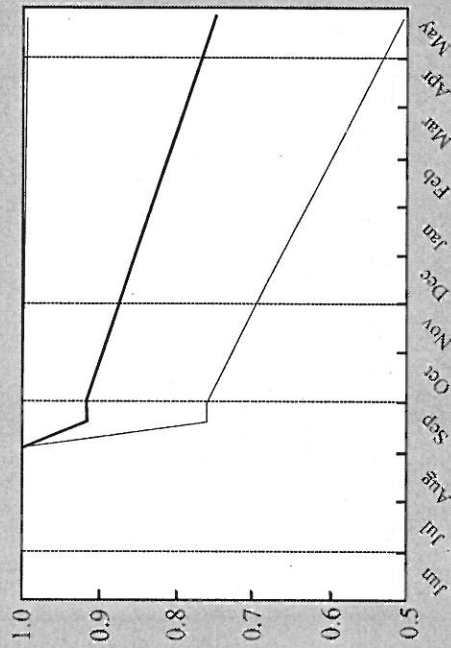
Females, 1995-1996 (N=29)

Month / Season

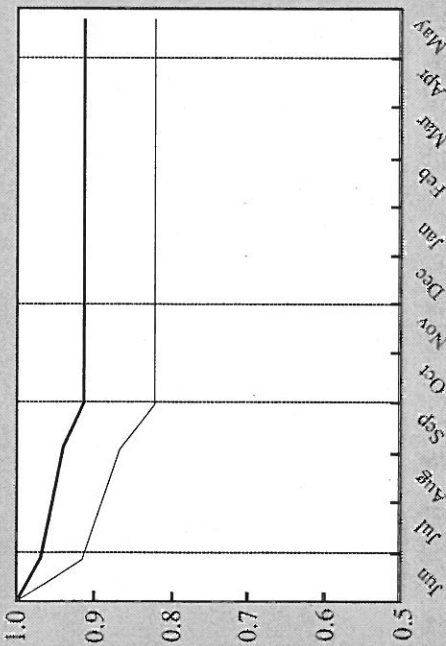
Fig. 13A-2a (con'd). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from the Buchans Caribou Herd, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.



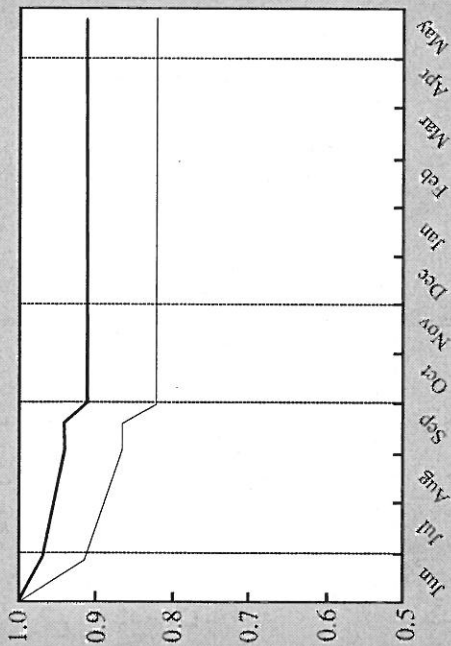
Males, 1996-1997 (N=12)



Males, 1996-1997 (N=12)



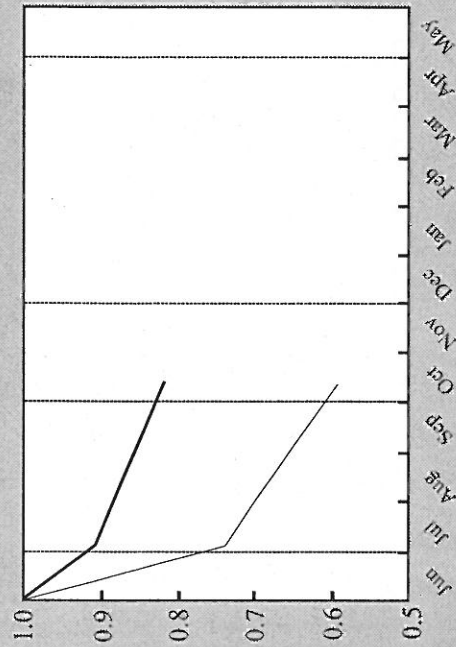
Females, 1996-1997 (N=37)



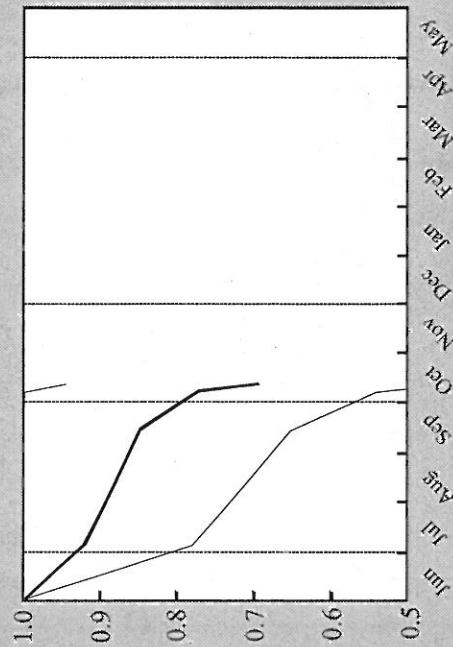
Females, 1996-1997 (N=37)

Month / Season

Fig. 13A-2a (con'd). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from the Buchans Caribou Herd, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.

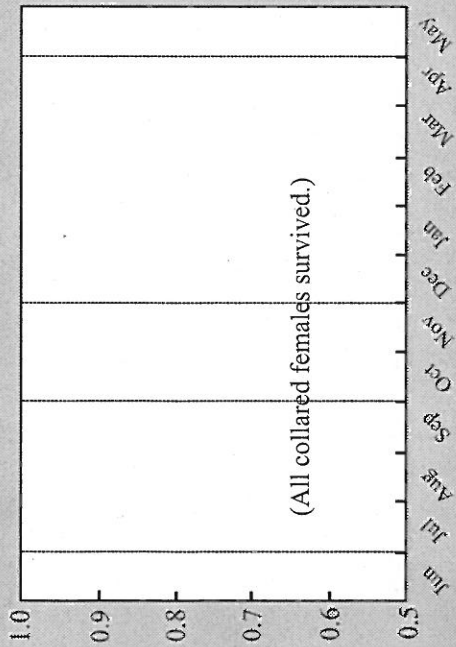


Males, 1997-1998 (N=13)

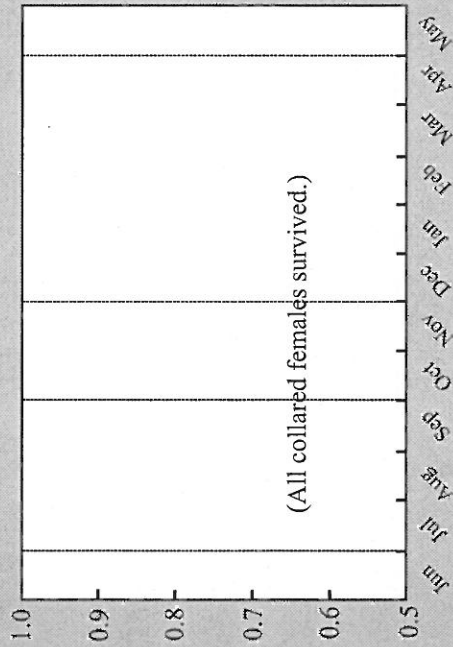


Males, 1997-1998 (N=13)

Month / Season

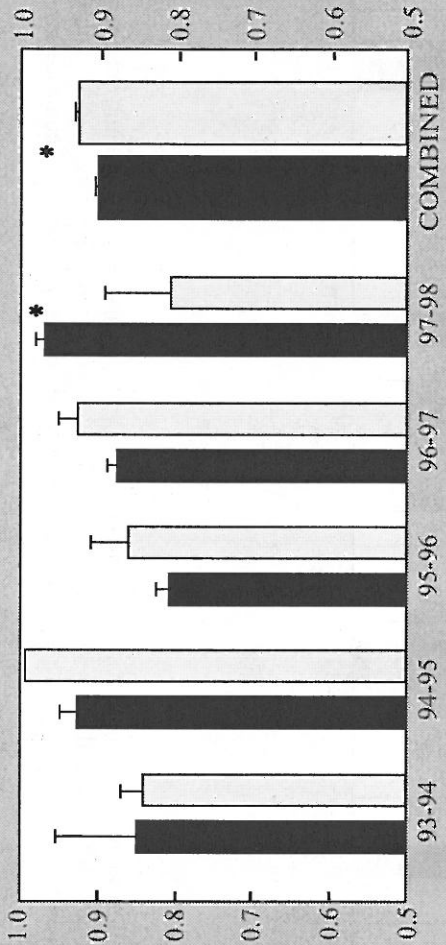


Females, 1997-1998 (N=34)



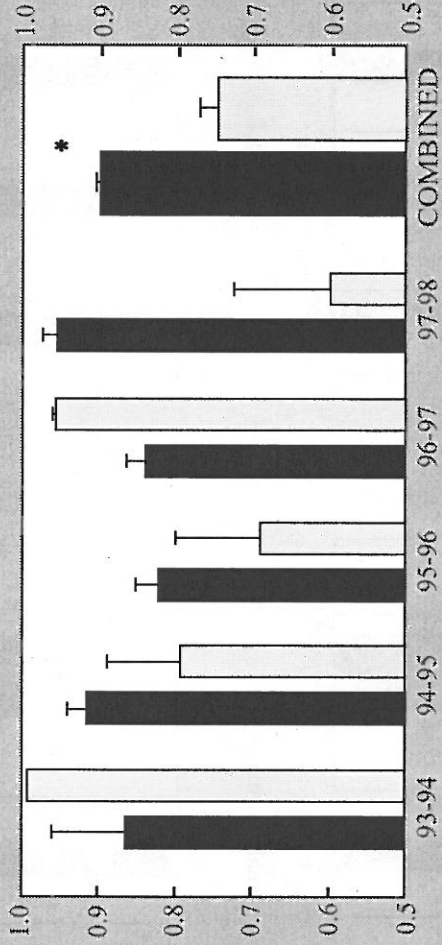
Females, 1997-1998 (N=34)

Fig. 13A-2a (con'd). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from the Buchans Caribou Herd, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring. Data for 1998 are censored on September 15.



Adult Survival

Heisey-Fuller Estimates, excluding hunting and poaching  
(for individual-year sample sizes refer to Kaplan-Meier figures pp.128-132; combined N=45 females, 19 males)

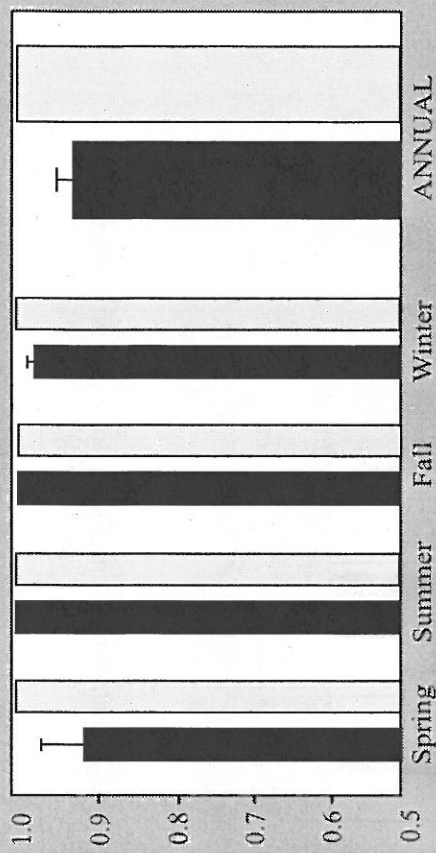


Year

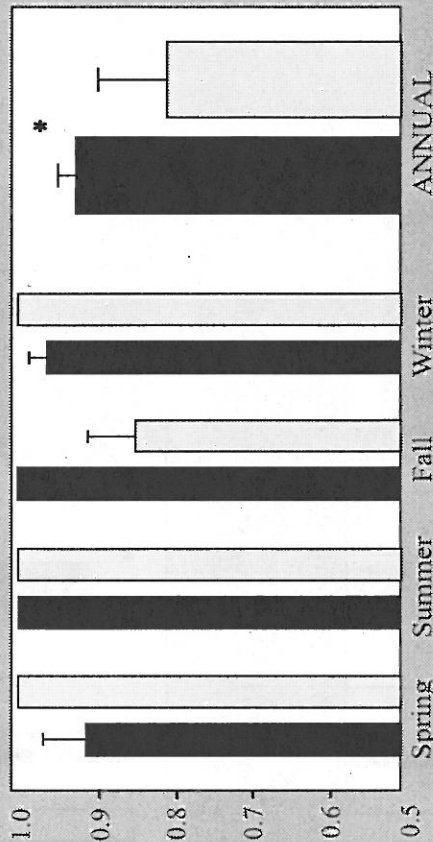
Heisey-Fuller Estimates, including hunting and poaching  
(for individual-year sample sizes refer to Kaplan-Meier figures pp.128-132; combined N=45 females, 19 males)

Fig. 13A-2a (con'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) adults, for the Buchans Caribou Herd; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.

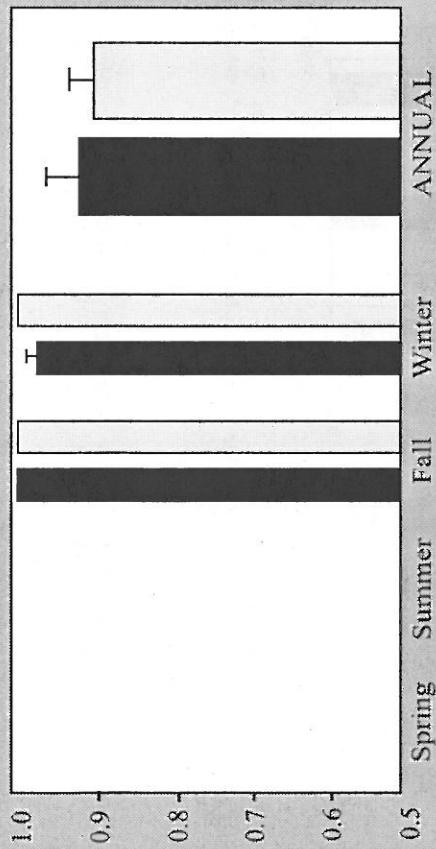




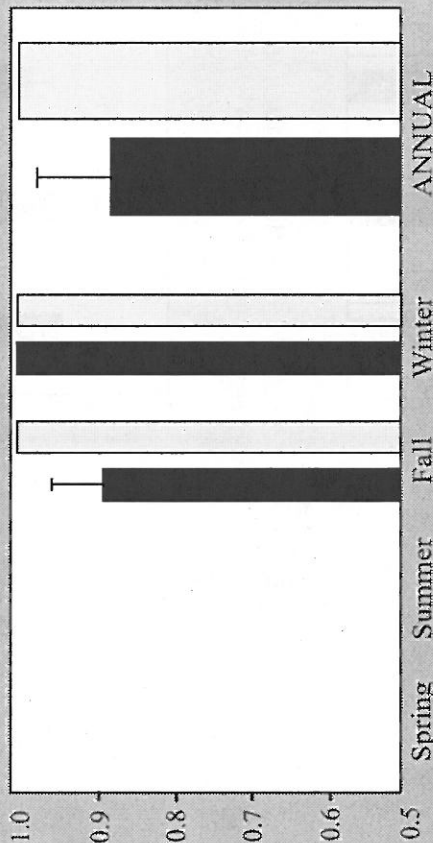
1994-1995 (N=29 females, 12 males)



1994-1995 (N=29 females, 12 males)



1993-1994 (N=11 females, 3 males)



1993-1994 (N=11 females, 3 males)

Season

Fig. 13A-2a (con'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) adults, excluding hunting and poaching (top) and including hunting and poaching (bottom), by season and year (wide bars), for the Buchans Caribou Herd; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.

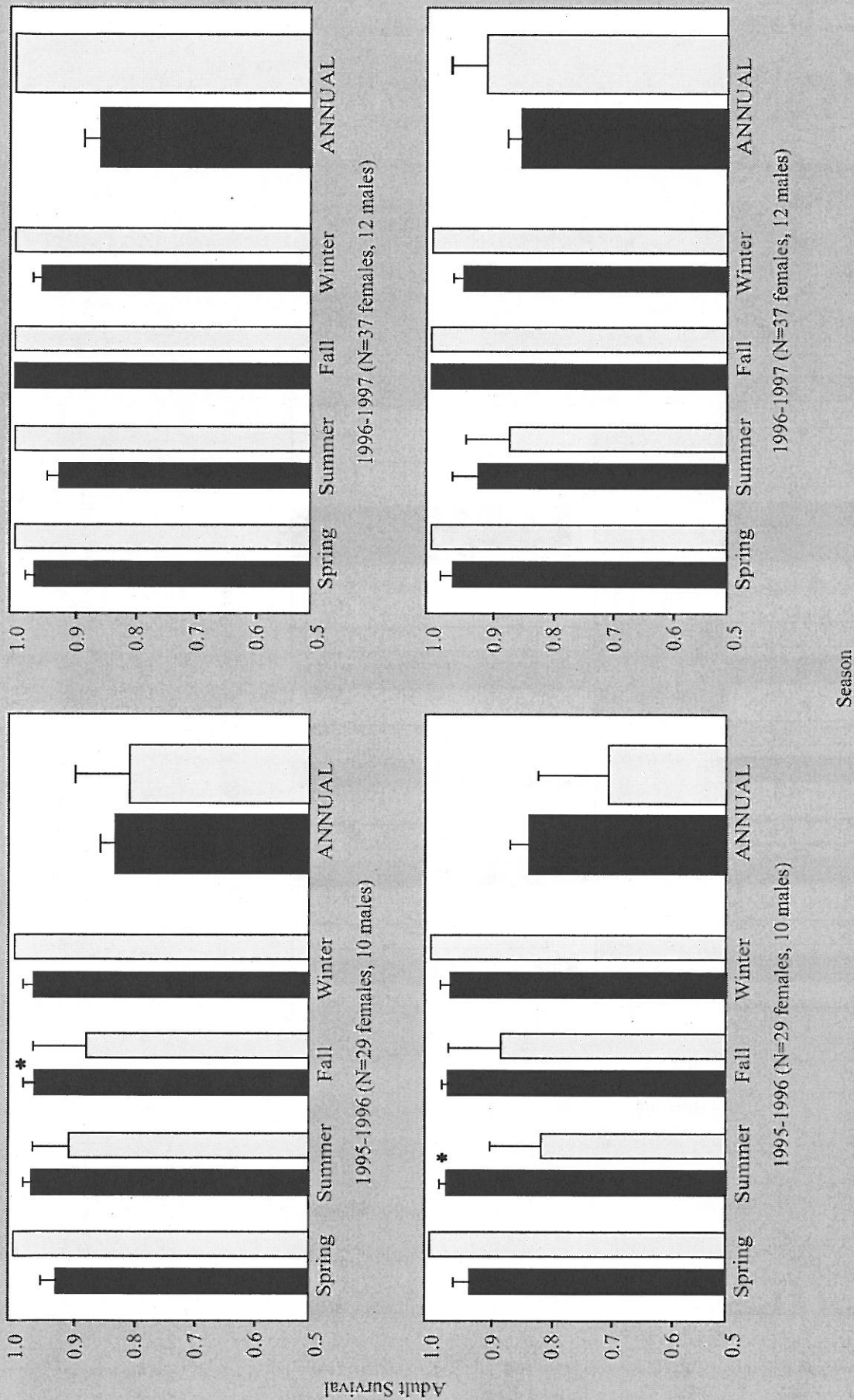


Fig. 13A-2a (con'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) adults, excluding hunting and poaching (top) and including hunting and poaching (bottom), by season and year (wide bars), for the Buchans Caribou Herd; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.

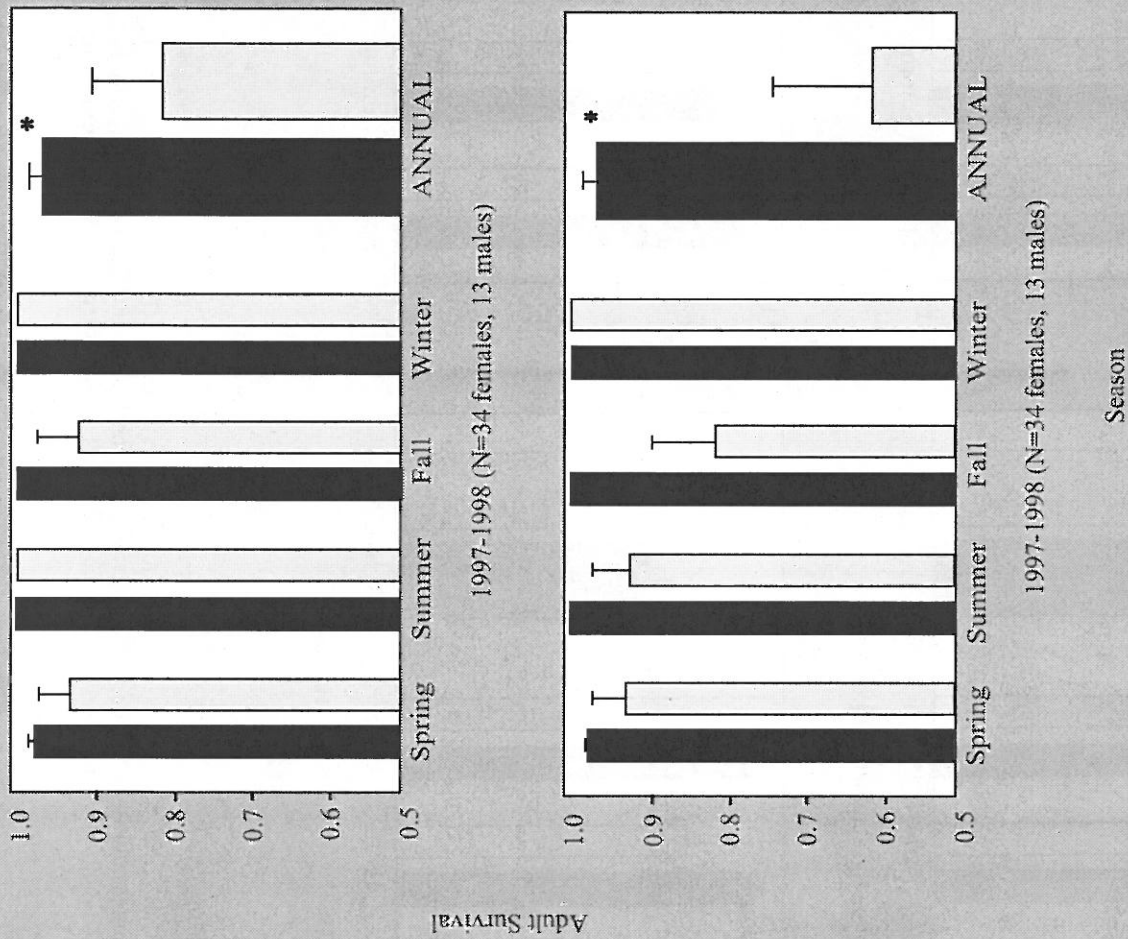


Fig. 13A-2a (con'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) adults, excluding hunting and poaching (top) and including hunting and poaching (bottom), by season and year (wide bars), for all insular Newfoundland caribou herds; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.

Table 13A-4a. Heisey-Fuller estimates of calf survival for the Corner Brook Lakes Caribou Herd. Survival is estimated by sex, season and year. Spring and annual survival estimates exclude May, because calves are born at variable dates midway through the spring season (all calves are assigned a birth date of June 1). Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (June 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (June 1–April 30)
<b>SEXES COMBINED</b>					
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate	<b>0.616</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.353</b>
95% Confidence Interval (CI)	0.487–0.778				0.156–0.796
Radiodays (min.–max.)	183–192	302–313	150–183	302	937–990
N collared (n surviving)	9 (6)	4 (4)	3 (3)	2 (2)	9 (6)
Proportion surviving	0.667	1.000	1.000	1.000	0.667
Minimum Survival (95% CI)	0.477–0.776				0.166–0.790
Maximum Survival (95% CI)	0.497–0.781				0.146–0.804
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	<b>0.706</b>	<b>0.803</b>	<b>1.000</b>	<b>1.000</b>	<b>0.417</b>
95% Confidence Interval (CI)	0.613–0.811	0.659–0.978			0.262–0.662
Radiodays (min.–max.)	257–262	404–436	244	604	1509–1546
N collared (n surviving)	11 (9)	6 (5)	4 (4)	4 (4)	11 (7)
Proportion surviving	0.727	0.833	1.000	1.000	0.636
Minimum Survival (95% CI)	0.610–0.810	0.671–0.976			0.257–0.661
Maximum Survival (95% CI)	0.617–0.812	0.645–0.982			0.267–0.663
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>0.862</b>	<b>0.661</b>	<b>0.613</b>
95% Confidence Interval (CI)			0.778–0.963	0.504–0.867	0.484–0.778
Radiodays (min.–max.)	256–260	652–654	387–427	722–746	2017–2087
N collared (n surviving)	10 (10)	8 (8)	7 (6)	6 (4)	10 (7)
Proportion surviving	1.000	1.000	0.857	0.667	0.700
Minimum Survival (95% CI)			0.765–0.963	0.499–0.867	0.476–0.776
Maximum Survival (95% CI)			1.000	0.389–0.760	0.491–0.780
<b>1997–1998</b>					
Heisey-Fuller Survival Estimate	<b>0.866</b>	<b>0.926</b>	<b>1.000</b>	<b>1.000</b>	<b>0.745</b>
95% Confidence Interval (CI)	0.813–0.911	0.889–0.965			0.668–0.830
Radiodays (min.–max.)	412–426	1192–1196	755	1044	3380–3421
N collared (n surviving)	15 (13)	13 (12)	12 (12)	12 (12)	15 (13)
Proportion surviving	0.867	0.923	1.000	1.000	0.800
Minimum Survival (95% CI)	0.818–0.913	0.888–0.965			0.666–0.830
Maximum Survival (95% CI)	0.824–0.915	1.000			0.670–0.831
<b>Average, 1994–1998</b>					
Heisey-Fuller Survival Estimate	<b>0.807</b>	<b>0.931</b>	<b>0.961</b>	<b>0.893</b>	<b>0.579</b>
95% Confidence Interval (CI)	0.787–0.828	0.914–0.949	0.949–0.977	0.861–0.927	0.540–0.620
Radiodays (min.–max.)	1108–1173	2550–2691	1513–1670	2672–2847	7843–8381
N collared (n surviving)	45 (37)	31 (29)	26 (25)	24 (22)	45 (32)
Proportion surviving	0.822	0.935	0.962	0.917	0.711
Minimum Survival (95% CI)	0.784–0.826	0.913–0.948	0.947–0.976	0.818–0.890	0.535–0.617
Maximum Survival (95% CI)	0.795–0.834	0.955–0.978	0.953–0.978	0.860–0.927	0.559–0.634
<b>FEMALES</b>					
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	69–72	184	89–122	151	493–529
N collared (n surviving)	3 (3)	2 (2)	2 (2)	1 (1)	3 (3)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					

Table 13A-4a (con'd). Heisey-Fuller estimates of calf survival for the Corner Brook Lakes Caribou Herd. Survival is estimated by sex, season and year. Spring and annual survival estimates exclude May, because calves are born at variable dates midway through the spring season (all calves are assigned a birth date of June 1). Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (June 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (June 1–April 30)
<b>FEMALES (con'd)</b>					
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	72–74	92	61	151	376–378
N collared (n surviving)	3 (3)	1 (1)	1 (1)	1 (1)	3 (3)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>0.764</b>	<b>0.663</b>	<b>0.539</b>
95% Confidence Interval (CI)			0.585–0.996	0.393–1.000	0.326–0.890
Radiodays (min.–max.)	117	368	204–244	361–382	1050–1111
N collared (n surviving)	5 (5)	4 (4)	4 (3)	3 (2)	5 (3)
Proportion surviving	1.000	1.000	0.750	0.667	0.600
Minimum Survival (95% CI)			0.511–0.971	0.217–0.941	0.338–0.887
Maximum Survival (95% CI)			1.000	0.383–1.000	0.313–0.894
<b>1997–1998</b>					
Heisey-Fuller Survival Estimate	<b>0.875</b>	<b>0.867</b>	<b>1.000</b>	<b>1.000</b>	<b>0.685</b>
95% Confidence Interval (CI)	0.796–0.961	0.781–0.961			0.540–0.868
Radiodays (min.–max.)	221–228	640–644	389	522	1749–1783
N collared (n surviving)	8 (7)	7 (6)	6 (6)	6 (6)	8 (6)
Proportion surviving	0.875	0.857	1.000	1.000	0.750
Minimum Survival (95% CI)	0.793–0.961	0.780–0.961			0.536–0.868
Maximum Survival (95% CI)	0.799–0.961	1.000			0.544–0.868
<b>Average, 1994–1998</b>					
Heisey-Fuller Survival Estimate	<b>0.940</b>	<b>0.931</b>	<b>0.923</b>	<b>0.881</b>	<b>0.699</b>
95% Confidence Interval (CI)	0.912–0.968	0.897–0.966	0.883–0.964	0.807–0.962	0.626–0.753
Radiodays (min.–max.)	479–524	1284–1380	720–877	1185–1357	3668–4138
N collared (n surviving)	19 (18)	14 (13)	13 (12)	11 (10)	19 (15)
Proportion surviving	0.947	0.929	0.923	0.909	0.789
Minimum Survival (95% CI)	0.911–0.968	0.897–0.966	0.900–0.966	0.721–0.888	0.620–0.779
Maximum Survival (95% CI)	0.920–0.970	1.000	0.876–0.968	0.806–0.962	0.659–0.796
<b>MALES</b>					
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate	<b>0.459</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.108</b>
95% Confidence Interval (CI)	0.275–0.758				0.004–1.000
Radiodays (min.–max.)	114–120	118–129	61	151	444–461
N collared (n surviving)	6 (3)	2 (2)	1 (1)	1 (1)	6 (3)
Proportion surviving	0.500	1.000	1.000	1.000	0.500
Minimum Survival (95% CI)	0.287–0.758				0.003–1.000
Maximum Survival (95% CI)	0.264–0.759				0.005–1.000
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	<b>0.615</b>	<b>0.755</b>	<b>1.000</b>	<b>1.000</b>	<b>0.312</b>
95% Confidence Interval (CI)	0.486–0.777	0.566–1.000			0.147–0.663
Radiodays (min.–max.)	185–188	312–344	183	453	1133–1168
N collared (n surviving)	8 (5)	5 (4)	3 (3)	3 (3)	8 (4)
Proportion surviving	0.625	0.800	1.000	1.000	0.500
Minimum Survival (95% CI)	0.482–0.776	0.545–1.000			0.153–0.662
Maximum Survival (95% CI)	0.489–0.777	0.585–1.000			0.142–0.664

Table 13A-4a (con'd). Heisey-Fuller estimates of calf survival for the Corner Brook Lakes Caribou Herd. Survival is estimated by sex, season and year. Spring and annual survival estimates exclude May, because calves are born at variable dates midway through the spring season (all calves are assigned a birth date of June 1). Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (June 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (June 1–April 30)
<b>MALES (con'd)</b>					
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.659</b>	<b>0.709</b>
95% Confidence Interval (CI)				0.385–1.000	0.477–1.000
Radiodays (min.–max.)	139–143	284–286	183	361–364	967–976
N collared (n surviving)	5 (5)	4 (4)	3 (3)	3 (2)	5 (4)
Proportion surviving	1.000	1.000	1.000	0.667	0.800
Minimum Survival (95% CI)				0.383–1.000	0.474–1.000
Maximum Survival (95% CI)				0.387–1.000	0.479–1.000
<b>1997–1998</b>					
Heisey-Fuller Survival Estimate	<b>0.833</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.782</b>
95% Confidence Interval (CI)	0.717–0.967				0.619–0.990
Radiodays (min.–max.)	161–168	460	305	435	1361–1368
N collared (n surviving)	6 (5)	5 (5)	5 (5)	5 (5)	6 (5)
Proportion surviving	0.833	1.000	1.000	1.000	0.833
Minimum Survival (95% CI)	0.723–0.968				0.618–0.990
Maximum Survival (95% CI)	0.723–0.966				0.620–0.990
<b>Average, 1994–1998</b>					
Heisey-Fuller Survival Estimate	<b>0.707</b>	<b>0.926</b>	<b>1.000</b>	<b>0.898</b>	<b>0.466</b>
95% Confidence Interval (CI)	0.665–0.751	0.889–0.965		0.838–0.962	0.392–0.553
Radiodays (min.–max.)	599–619	1174–1219	732	1400–1403	3905–3973
N collared (n surviving)	25 (18)	16 (15)	12 (12)	12 (11)	25 (16)
Proportion surviving	0.720	0.938	1.000	0.917	0.640
Minimum Survival (95% CI)	0.660–0.748	0.891–0.965		0.838–0.962	0.389–0.551
Maximum Survival (95% CI)	0.670–0.754	0.886–0.966		0.838–0.962	0.396–0.555

Table 13A-4b. Heisey-Fuller estimates of yearling survival for the Corner Brook Lakes Caribou Herd. Survival is estimated by sex, season and year. Spring and annual survival estimates are calculated from May 1, for animals from 11 to 23 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>SEXES COMBINED</b>					
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	29	92	61	151	365
N collared (n surviving)	1 (1)	1 (1)	1 (1)	1 (1)	1 (1)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	0.846	1.000	0.833
95% Confidence Interval (CI)			0.750–0.965		0.717–0.968
Radiodays (min.–max.)	174	552	361–366	693–754	1968–2034
N collared (n surviving)	6 (6)	6 (6)	6 (5)	5 (5)	6 (5)
Proportion surviving	1.000	1.000	0.833	1.000	0.833
Minimum Survival (95% CI)			0.746–0.966		0.722–0.967
Maximum Survival (95% CI)			1.000		0.712–0.969
<b>1997–1998</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	87	276	183	261	903
N collared (n surviving)	3 (3)	3 (3)	3 (3)	3 (3)	3 (3)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>Average, 1995–1998</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	0.905	1.000	0.892
95% Confidence Interval (CI)			0.856–0.963		0.828–0.961
Radiodays (min.–max.)	290	920	605–610	1041–1102	3172–3238
N collared (n surviving)	10 (10)	10 (10)	10 (9)	9 (9)	10 (9)
Proportion surviving	1.000	1.000	0.900	1.000	0.900
Minimum Survival (95% CI)			0.854–0.963		0.826–0.961
Maximum Survival (95% CI)			1.000		0.830–0.961
<b>FEMALES</b>					
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	29	92	61	151	365
N collared (n surviving)	1 (1)	1 (1)	1 (1)	1 (1)	1 (1)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	0.605	1.000	0.538
95% Confidence Interval (CI)			0.297–1.000		0.206–1.000
Radiodays (min.–max.)	58	184	117–122	151–178	573–605
N collared (n surviving)	2 (2)	2 (2)	2 (1)	1 (1)	2 (1)
Proportion surviving	1.000	1.000	0.500	1.000	0.500
Minimum Survival (95% CI)			0.278–1.000		0.195–1.000
Maximum Survival (95% CI)			1.000		0.217–1.000

Table 13A-4b (con'd). Heisey-Fuller estimates of yearling survival for the Corner Brook Lakes Caribou Herd. Survival is estimated by sex, season and year. Spring and annual survival estimates are calculated from May 1, for animals from 11 to 23 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>FEMALES (con'd)</b>					
<b>1997–1998</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	29	92	61	87	301
N collared (n surviving)	1 (1)	1 (1)	1 (1)	1 (1)	1 (1)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>Average, 1995–1998</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	0.778	1.000	0.736
95% Confidence Interval (CI)			0.612–0.989		0.527–1.000
Radiodays (min.–max.)	116	368	239–244	325–352	1175–1207
N collared (n surviving)	4 (4)	4 (4)	4 (3)	3 (3)	4 (3)
Proportion surviving	1.000	1.000	0.750	1.000	0.750
Minimum Survival (95% CI)			0.604–0.992		0.521–1.000
Maximum Survival (95% CI)			1.000		0.533–1.000
<b>MALES</b>					
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	116	368	244	542–576	1395–1429
N collared (n surviving)	4 (4)	4 (4)	3 (3)	4 (4)	4 (4)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1997–1998</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	58	184	122	174	602
N collared (n surviving)	2 (2)	2 (2)	5 (5)	2 (2)	2 (2)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>Average, 1996–1998</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	174	552	366	716–750	1997–2031
N collared (n surviving)	6 (6)	6 (6)	6 (6)	6 (6)	6 (6)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					



Table 13A-4c. Heisey-Fuller estimates of two-year old survival for the Corner Brook Lakes Caribou Herd. Survival is estimated by sex, season and year. Spring and annual survival estimates are calculated from May 1, for animals from 23 to 35 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>SEXES COMBINED</b>					
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	0.365		0.193
95% Confidence Interval (CI)			0.026–1.000		0.000–1.000
Radiodays (min.–max.)	61	92	28–61		181–264
N collared (n surviving)	1 (1)	1 (1)	1 (0)		1 (0)
Proportion surviving	1.000	1.000	0.000		0.000
Minimum Survival (95% CI)			0.000–1.000		0.000–1.000
Maximum Survival (95% CI)			1.000		0.002–1.000
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	24	184	122	302	715
N collared (n surviving)	2 (2)	2 (2)	2 (2)	2 (2)	2 (2)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	1.000				1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	0–29				0–74
N collared (n surviving)	1 (1)				1 (1)
Proportion surviving	1.000				1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1997–1998</b>					
Heisey-Fuller Survival Estimate	1.000	0.684	1.000	1.000	0.603
95% Confidence Interval (CI)		0.432–1.000			0.289–1.000
Radiodays (min.–max.)	87	215–271	122	174	694–750
N collared (n surviving)	3 (3)	3 (2)	2 (2)	2 (2)	3 (2)
Proportion surviving	1.000	0.667	1.000	1.000	0.667
Minimum Survival (95% CI)		0.372–1.000			0.270–1.000
Maximum Survival (95% CI)		0.484–1.000			0.308–1.000
<b>Average, 1994–1998</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	0.832	1.000	0.671
95% Confidence Interval (CI)			0.725–0.967		0.519–0.867
Radiodays (min.–max.)	201	583	333–610	563–1102	1906–3238
N collared (n surviving)	7 (7)	7 (7)	6 (5)	5 (5)	7 (5)
Proportion surviving	1.000	1.000	0.833	1.000	0.714
Minimum Survival (95% CI)			0.725–0.967		0.537–0.866
Maximum Survival (95% CI)			1.000		0.830–0.961
<b>FEMALES</b>					
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	14	92	61	151	350
N collared (n surviving)	1 (1)	1 (1)	1 (1)	1 (1)	1 (1)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					

Table 13A-4c (con'd). Heisey-Fuller estimates of two-year old survival for the Corner Brook Lakes Caribou Herd. Survival is estimated by sex, season and year. Spring and annual survival estimates are calculated from May 1, for animals from 23 to 35 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>FEMALES (con'd)</b>					
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	1.000				1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	0–29				0–74
N collared (n surviving)	1 (1)				1 (1)
Proportion surviving	1.000				1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>Average, 1995–1998</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	43	105–182	61–305	87–352	296–839
N collared (n surviving)	2 (2)	2 (2)	2 (2)	2 (2)	2 (2)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>MALES</b>					
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	0.364		0.193
95% Confidence Interval (CI)			0.026–1.000		0.000–1.000
Radiodays (min.–max.)	61	92	28–61		181–264
N collared (n surviving)	1 (1)	1 (1)	1 (0)		1 (0)
Proportion surviving	1.000	1.000	0.000		0.000
Minimum Survival (95% CI)			0.000–1.000		0.000–1.000
Maximum Survival (95% CI)			1.000		0.002–1.000
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	10	92	61	151	365
N collared (n surviving)	1 (1)	1 (1)	1 (1)	1 (1)	1 (1)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1997–1998</b>					
Heisey-Fuller Survival Estimate	1.000	0.684	1.000	1.000	0.603
95% Confidence Interval (CI)		0.432–1.000			0.289–1.000
Radiodays (min.–max.)	87	215–271	122	174	694–750
N collared (n surviving)	3 (3)	3 (2)	2 (2)	2 (2)	3 (2)
Proportion surviving	1.000	0.667	1.000	1.000	0.667
Minimum Survival (95% CI)		0.372–1.000			0.270–1.000
Maximum Survival (95% CI)		0.484–1.000			0.308–1.000
<b>Average, 1994–1998</b>					
Heisey-Fuller Survival Estimate	1.000	0.860	0.778	1.000	0.572
95% Confidence Interval (CI)		0.769–0.962	0.612–0.989		0.371–0.882
Radiodays (min.–max.)	158	399–455	211–244	325–375	1240–1379
N collared (n surviving)	5 (5)	7 (6)	4 (3)	3 (3)	5 (3)
Proportion surviving	1.000	0.857	0.750	1.000	0.600
Minimum Survival (95% CI)		0.686–0.972	0.558–1.000		0.395–0.878
Maximum Survival (95% CI)		0.641–0.982	1.000		0.347–0.887

Table 13A-4d. Heisey-Fuller estimates of adult survival for the Corner Brook Lakes Caribou Herd. Survival is estimated by sex, season and year (hunting and poaching excluded). Spring and annual survival estimates are calculated from May 1, for animals older than 35 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>SEXES COMBINED</b>					
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate	<b>0.833</b>	<b>0.898</b>	<b>1.000</b>	<b>1.000</b>	<b>0.727</b>
95% Confidence Interval (CI)	0.772–0.900	0.839–0.961			0.643–0.821
Radiodays (min.–max.)	666–674	854–862	549	1359	3428–3444
N collared (n surviving)	12 (10)	10 (9)	9 (9)	9 (9)	12 (9)
Proportion surviving	0.833	0.900	1.000	1.000	0.750
Minimum Survival (95% CI)	0.770–0.899	0.839–0.961			0.643–0.821
Maximum Survival (95% CI)	0.773–0.900	0.840–0.961			0.644–0.822
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.943</b>	<b>0.942</b>
95% Confidence Interval (CI)				0.917–0.969	0.915–0.969
Radiodays (min.–max.)	646	1564	1037	2567	6089
N collared (n surviving)	17 (17)	17 (17)	17 (17)	17 (16)	17 (16)
Proportion surviving	1.000	1.000	1.000	0.941	0.941
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	<b>0.941</b>	<b>1.000</b>	<b>0.937</b>	<b>1.000</b>	<b>0.878</b>
95% Confidence Interval (CI)	0.914–0.969		0.911–0.969		0.839–0.920
Radiodays (min.–max.)	1004	1472	936–944	2203–2237	5615–5657
N collared (n surviving)	17 (16)	16 (16)	16 (15)	15 (15)	17 (15)
Proportion surviving	0.941	1.000	0.938	1.000	0.882
Minimum Survival (95% CI)			0.910–0.969		0.838–0.920
Maximum Survival (95% CI)			0.911–0.969		0.840–0.920
<b>1997–1998</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	854	1288	854	1218	4214
N collared (n surviving)	14 (14)	14 (14)	14 (14)	14 (14)	14 (14)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>Average, 1994–1998</b>					
Heisey-Fuller Survival Estimate					<b>0.895</b>
95% Confidence Interval (CI)	Seasonal averages are not possible for adults since the same individual may be recorded in more than one year. Annual averages span all years in a “staggered entry” design.				0.883–0.906
Radiodays (min.–max.)					19628–19688
N collared (n surviving)					21 (15)
Minimum Survival (95% CI)					0.883–0.906
Maximum Survival (95% CI)					0.884–0.906
<b>FEMALES</b>					
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate	<b>0.818</b>	<b>0.887</b>	<b>1.000</b>	<b>1.000</b>	<b>0.700</b>
95% Confidence Interval (CI)	0.749–0.894	0.818–0.961			0.605–0.810
Radiodays (min.–max.)	605–613	762–770	488	1208	3063–3079
N collared (n surviving)	11 (9)	9 (8)	8 (8)	8 (8)	11 (8)
Proportion surviving	0.818	0.889	1.000	1.000	0.727
Minimum Survival (95% CI)	0.747–0.894	0.817–0.961			0.604–0.809
Maximum Survival (95% CI)	0.750–0.894	0.819–0.961			0.606–0.810

Table 13A-4d (con'd). Heisey-Fuller estimates of adult survival for the Corner Brook Lakes Caribou Herd. Survival is estimated by sex, season and year (hunting and poaching excluded). Spring and annual survival estimates are calculated from May 1, for animals older than 35 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>FEMALES (con'd)</b>					
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	0.931	0.930
95% Confidence Interval (CI)				0.897–0.966	0.895–0.966
Radiodays (min.–max.)	561	1288	854	2114	5028
N collared (n surviving)	14 (14)	14 (14)	14 (14)	14 (13)	14 (13)
Proportion surviving	1.000	1.000	1.000	0.929	0.929
Minimum Survival (95% CI)				0.897–0.966	0.895–0.966
Maximum Survival (95% CI)				0.897–0.966	0.895–0.966
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	0.928	1.000	0.923	1.000	0.851
95% Confidence Interval (CI)	0.893–0.965		0.883–0.964		0.799–0.907
Radiodays (min.–max.)	821	1196	753–761	1750–1784	4520–4562
N collared (n surviving)	14 (13)	13 (13)	13 (12)	12 (12)	14 (12)
Proportion surviving	0.929	1.000	0.923	1.000	0.857
Minimum Survival (95% CI)			0.882–0.964		0.798–0.907
Maximum Survival (95% CI)			0.883–0.964		0.800–0.908
<b>1997–1998</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	671	1012	671	957	3311
N collared (n surviving)	11 (11)	11 (11)	11 (11)	11 (11)	11 (11)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>Average, 1994–1998</b>					
Heisey-Fuller Survival Estimate					0.894
95% Confidence Interval (CI)	Seasonal averages are not possible for adults since the same individual may be recorded in more than one year. Annual averages span all years in a “staggered entry” design.				0.881–0.907
Radiodays (min.–max.)					16219–16277
N collared (n surviving)					17 (12)
Minimum Survival (95% CI)					0.880–0.907
Maximum Survival (95% CI)					0.881–0.907
<b>MALES</b>					
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	61	92	61	151	365
N collared (n surviving)	1 (1)	1 (1)	1 (1)	1 (1)	1 (1)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	85	276	183	453	1061
N collared (n surviving)	3 (3)	3 (3)	3 (3)	3 (3)	3 (3)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					

Table 13A-4d (con'd). Heisey-Fuller estimates of adult survival for the Corner Brook Lakes Caribou Herd. Survival is estimated by sex, season and year (hunting and poaching excluded). Spring and annual survival estimates are calculated from May 1, for animals older than 35 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>MALES (con'd)</b>					
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	821	276	183	453	1095
N collared (n surviving)	3 (3)	3 (3)	3 (3)	3 (3)	3 (3)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1997–1998</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	183	276	183	261	903
N collared (n surviving)	3 (3)	3 (3)	3 (3)	3 (3)	3 (3)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>Average, 1994–1998</b>					
Heisey-Fuller Survival Estimate					0.898
95% Confidence Interval (CI)	Seasonal averages are not possible for adults since the same individual may be recorded in more than one year. Annual averages span all years in a "staggered entry" design.				0.842–0.959
Radiodays (min.–max.)					3409–3411
N collared (n surviving)					4 (3)
Minimum Survival (95% CI)					0.842–0.959
Maximum Survival (95% CI)					0.842–0.959

Table 13A-4e. Heisey-Fuller estimates of adult survival for the Corner Brook Lakes Caribou Herd. Survival is estimated by sex, season and year (hunting and poaching included). Spring and annual survival estimates are calculated from May 1, for animals older than 35 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>SEXES COMBINED</b>					
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate	<b>0.833</b>	<b>0.898</b>	<b>1.000</b>	<b>1.000</b>	<b>0.727</b>
95% Confidence Interval (CI)	0.772–0.900	0.839–0.961			0.643–0.821
Radiodays (min.–max.)	666–674	854–862	549	1359	3428–3444
N collared (n surviving)	12 (10)	10 (9)	9 (9)	9 (9)	12 (9)
Proportion surviving	0.833	0.900	1.000	1.000	0.750
Minimum Survival (95% CI)	0.770–0.899	0.839–0.961			0.643–0.821
Maximum Survival (95% CI)	0.773–0.900	0.840–0.961			0.644–0.822
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.943</b>	<b>0.942</b>
95% Confidence Interval (CI)				0.917–0.969	0.915–0.969
Radiodays (min.–max.)	646	1564	1037	2567	6089
N collared (n surviving)	17 (17)	17 (17)	17 (17)	17 (16)	17 (16)
Proportion surviving	1.000	1.000	1.000	0.941	0.941
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	<b>0.941</b>	<b>1.000</b>	<b>0.937</b>	<b>1.000</b>	<b>0.878</b>
95% Confidence Interval (CI)	0.914–0.969		0.911–0.969		0.839–0.920
Radiodays (min.–max.)	1004	1472	936–944	2203–2237	5615–5657
N collared (n surviving)	17 (16)	16 (16)	16 (15)	15 (15)	17 (15)
Proportion surviving	0.941	1.000	0.938	1.000	0.882
Minimum Survival (95% CI)			0.910–0.969		0.838–0.920
Maximum Survival (95% CI)			0.911–0.969		0.840–0.920
<b>1997–1998</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	854	1288	854	1218	4214
N collared (n surviving)	14 (14)	14 (14)	14 (14)	14 (14)	14 (14)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>Average, 1994–1998</b>					
Heisey-Fuller Survival Estimate					<b>0.895</b>
95% Confidence Interval (CI)	Seasonal averages are not possible for adults since the same individual may be recorded in more than one year. Annual averages span all years in a "staggered entry" design.				0.883–0.906
Radiodays (min.–max.)					19628–19688
N collared (n surviving)					21 (15)
Minimum Survival (95% CI)					0.883–0.906
Maximum Survival (95% CI)					0.884–0.906
<b>FEMALES</b>					
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate	<b>0.818</b>	<b>0.887</b>	<b>1.000</b>	<b>1.000</b>	<b>0.700</b>
95% Confidence Interval (CI)	0.749–0.894	0.818–0.961			0.605–0.810
Radiodays (min.–max.)	605–613	762–770	488	1208	3063–3079
N collared (n surviving)	11 (9)	9 (8)	8 (8)	8 (8)	11 (8)
Proportion surviving	0.818	0.889	1.000	1.000	0.727
Minimum Survival (95% CI)	0.747–0.894	0.817–0.961			0.604–0.809
Maximum Survival (95% CI)	0.750–0.894	0.819–0.961			0.606–0.810

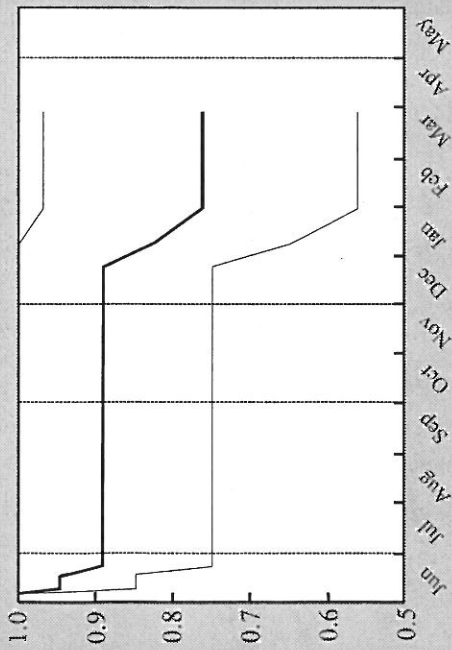
Table 13A-4e (con'd). Heisey-Fuller estimates of adult survival for the Corner Brook Lakes Caribou Herd. Survival is estimated by sex, season and year (hunting and poaching included). Spring and annual survival estimates are calculated from May 1, for animals older than 35 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>FEMALES (con'd)</b>					
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.931</b>	<b>0.930</b>
95% Confidence Interval (CI)				0.897–0.966	0.895–0.966
Radiodays (min.–max.)	561	1288	854	2114	5028
N collared (n surviving)	14 (14)	14 (14)	14 (14)	14 (13)	14 (13)
Proportion surviving	1.000	1.000	1.000	0.929	0.929
Minimum Survival (95% CI)				0.897–0.966	0.895–0.966
Maximum Survival (95% CI)				0.897–0.966	0.895–0.966
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	<b>0.928</b>	<b>1.000</b>	<b>0.923</b>	<b>1.000</b>	<b>0.851</b>
95% Confidence Interval (CI)	0.893–0.965		0.883–0.964		0.799–0.907
Radiodays (min.–max.)	821	1196	753–761	1750–1784	4520–4562
N collared (n surviving)	14 (13)	13 (13)	13 (12)	12 (12)	14 (12)
Proportion surviving	0.929	1.000	0.923	1.000	0.857
Minimum Survival (95% CI)			0.882–0.964		0.798–0.907
Maximum Survival (95% CI)			0.883–0.964		0.800–0.908
<b>1997–1998</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	671	1012	671	957	3311
N collared (n surviving)	11 (11)	11 (11)	11 (11)	11 (11)	11 (11)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>Average, 1994–1998</b>					
Heisey-Fuller Survival Estimate					<b>0.894</b>
95% Confidence Interval (CI)					0.881–0.907
Radiodays (min.–max.)					16219–16277
N collared (n surviving)					17 (12)
Minimum Survival (95% CI)					0.880–0.907
Maximum Survival (95% CI)					0.881–0.907
<b>MALES</b>					
<b>1994–1995</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	183	276	61	151	365
N collared (n surviving)	1 (1)	1 (1)	1 (1)	1 (1)	1 (1)
Proportion surviving	1.000	1.000	1.000	1.000	1.00
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1995–1996</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	85	276	183	453	1061
N collared (n surviving)	3 (3)	3 (3)	3 (3)	3 (3)	3 (3)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					

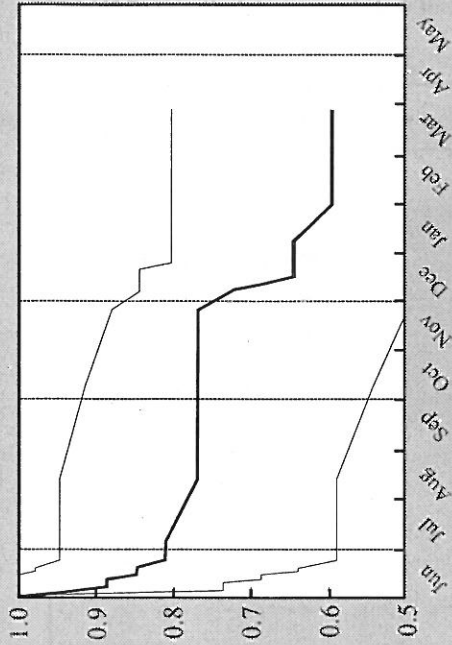
Table 13A-4e (con'd). Heisey-Fuller estimates of adult survival for the Corner Brook Lakes Caribou Herd. Survival is estimated by sex, season and year (hunting and poaching included). Spring and annual survival estimates are calculated from May 1, for animals older than 35 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>MALES (con'd)</b>					
<b>1996–1997</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	821	276	183	453	1095
N collared (n surviving)	3 (3)	3 (3)	3 (3)	3 (3)	3 (3)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1997–1998</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	183	276	183	261	903
N collared (n surviving)	3 (3)	3 (3)	3 (3)	3 (3)	3 (3)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>Average, 1994–1998</b>					
Heisey-Fuller Survival Estimate					0.898
95% Confidence Interval (CI)	Seasonal averages are not possible for adults since the same individual may be recorded in more than one year. Annual averages span all years in a "staggered entry" design.				0.842–0.959
Radiodays (min.– max.)					3409–3411
N collared (n surviving)					4 (3)
Minimum Survival (95% CI)					0.842–0.959
Maximum Survival (95% CI)					0.842–0.959

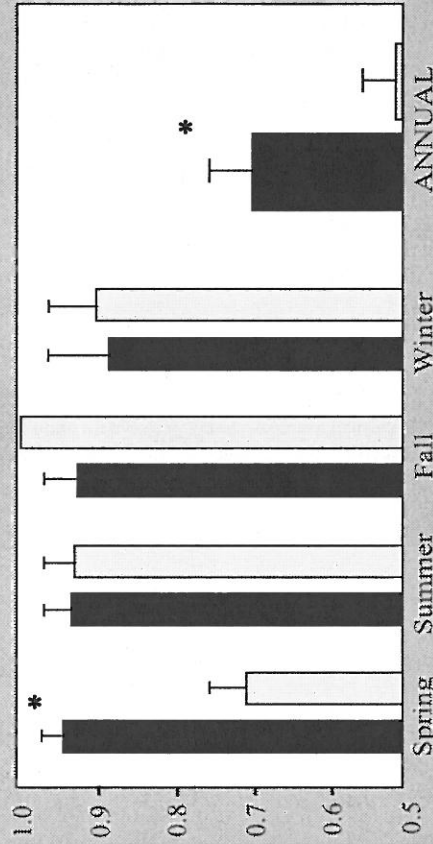




Females, 1993-1998 (N=19)



Males, 1993-1998 (N=25)

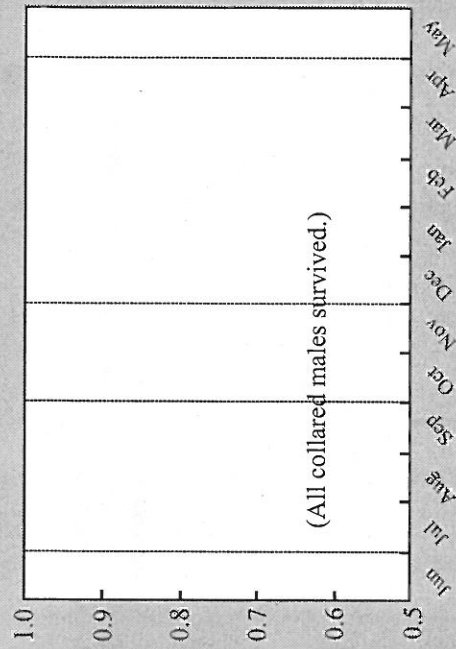


Heisey-Fuller Estimates, 1993-1998 (N=19 females, 25 males)

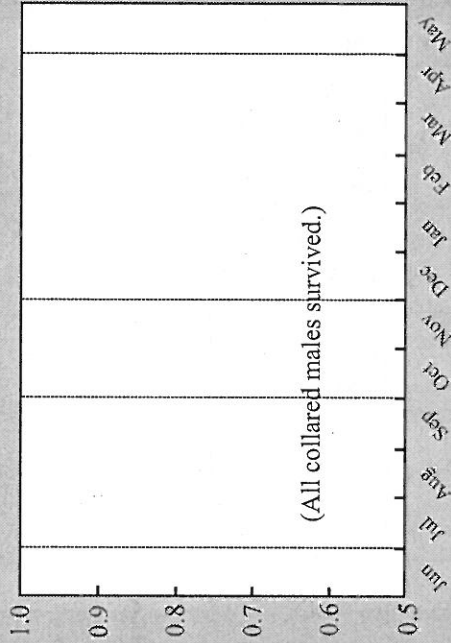
Month / Season

Fig. 13A-3a. Kaplan-Meier (top) and Heisey-Fuller (bottom) survival estimates for calves from the Corner Brook Lakes Caribou Herd, from June 1 to May 31, combining data from 1993-1998. Kaplan-Meier estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines), vertical dashed lines show (arbitrary) season boundaries used in Heisey-Fuller calculations. Heisey-Fuller estimates are for females (solid bars) and males (light bars), by season and as annual estimates (wide bars); error bars show upper 95% confidence limits. Asterisks indicate differences between sexes in seasonal and annual estimates; cases of all animals surviving do not permit statistical comparisons. All calculations exclude cases of mortality related to collaring and to calf abandonment. Data for 1998 are censored on February 28.

Calf Survival

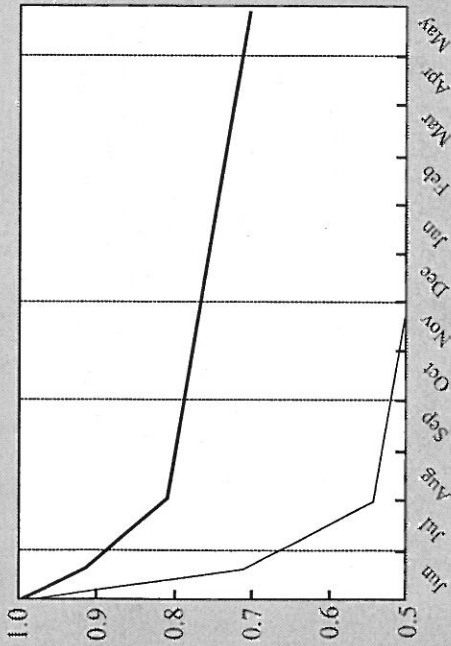


Males, 1994-1995 (N=1)

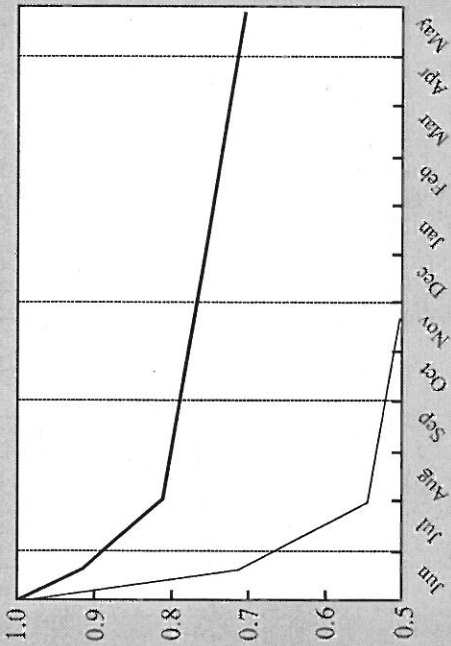


Males, 1994-1995 (N=1)

Month / Season

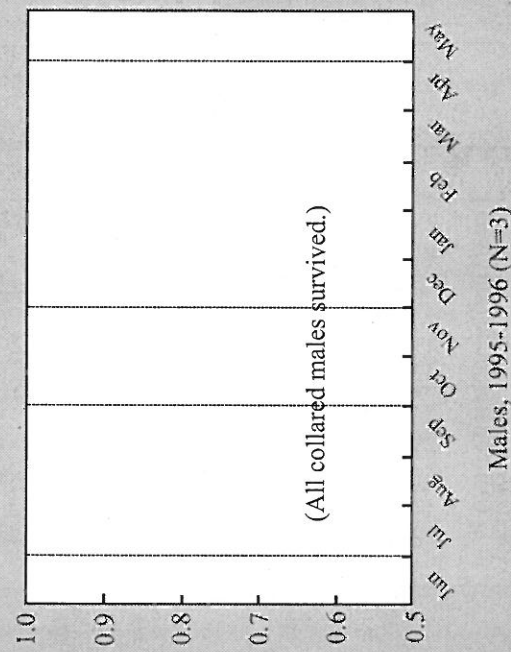
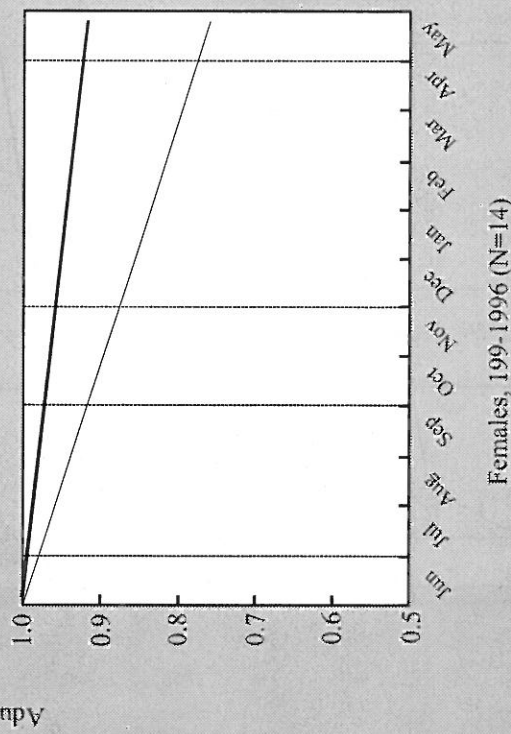
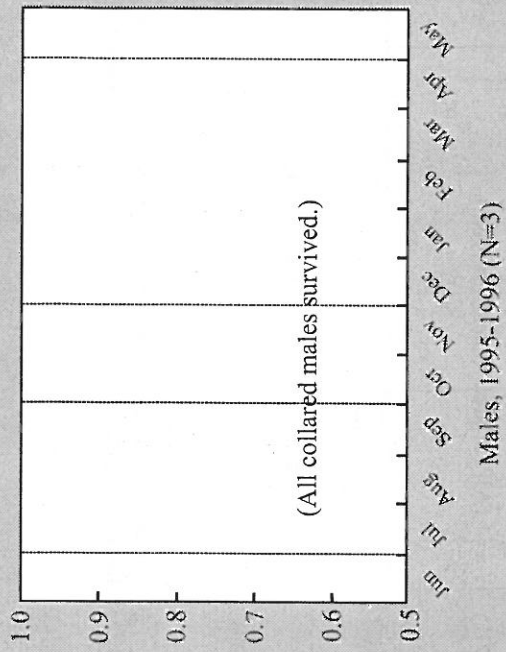
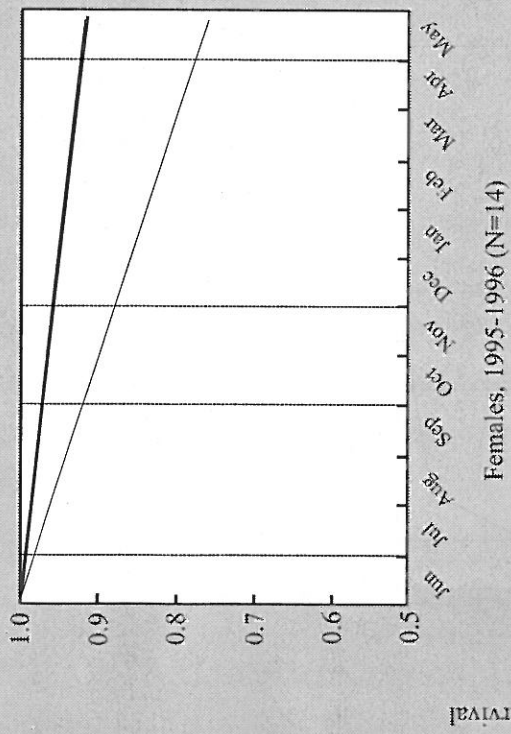


Females, 1994-1995 (N=11)



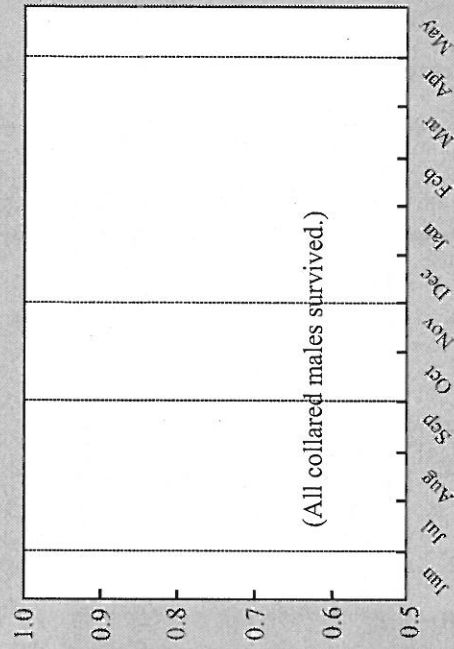
Females, 1994-1995 (N=11)

Fig. 13A-3b. Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adult from the Corner Brook Lakes Caribou Herd, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.

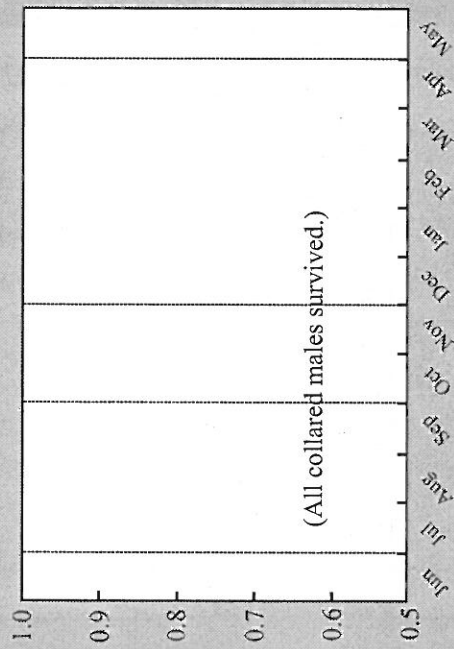


Month / Season

Fig. 13A-3b (con'd). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adult from the Corner Brook Lakes Caribou Herd, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.

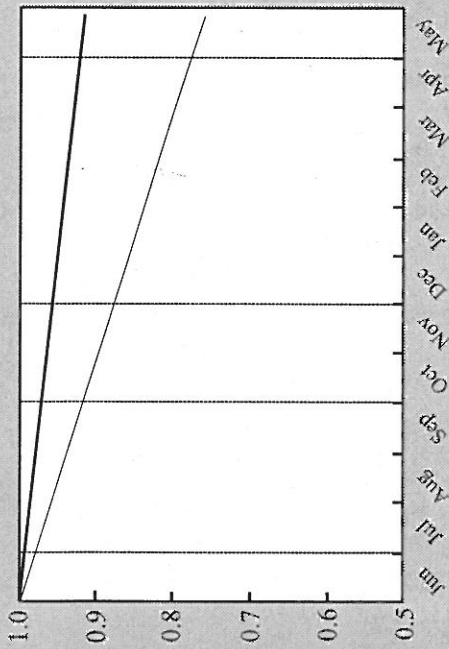


Males, 1996-1997 (N=3)

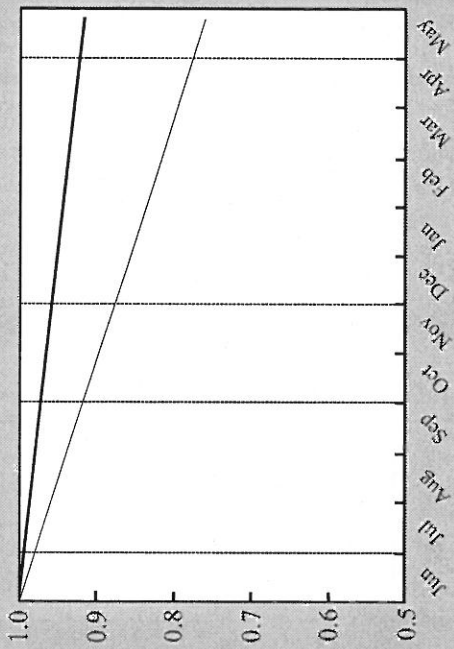


Males, 1996-1997 (N=3)

Month / Season

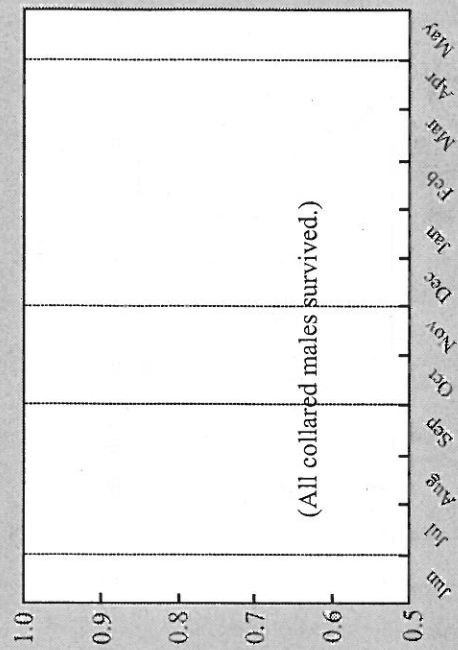


Females, 1996-1997 (N=14)

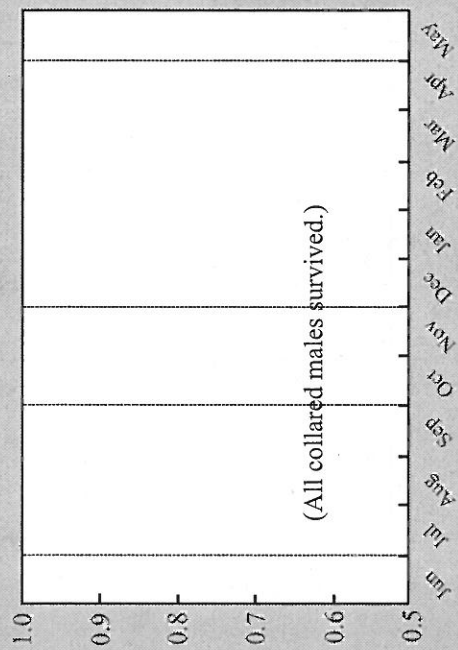


Females, 1996-1997 (N=14)

Fig. 13A-3b (con'd). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adult from the Corner Brook Lakes Caribou Herd, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.

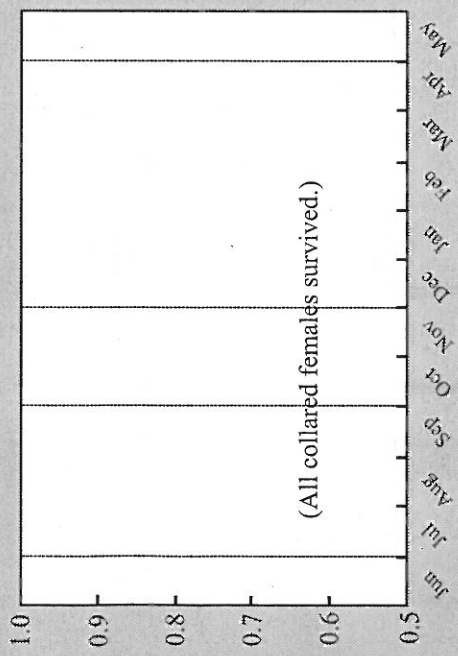


Males, 1997-1998 (N=3)

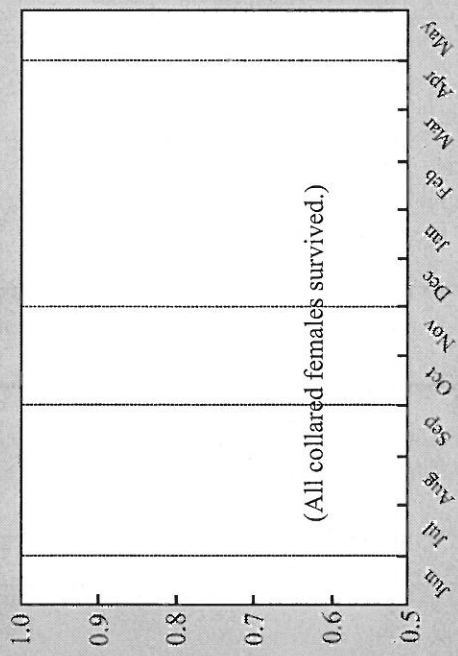


Males, 1997-1998 (N=3)

Month / Season

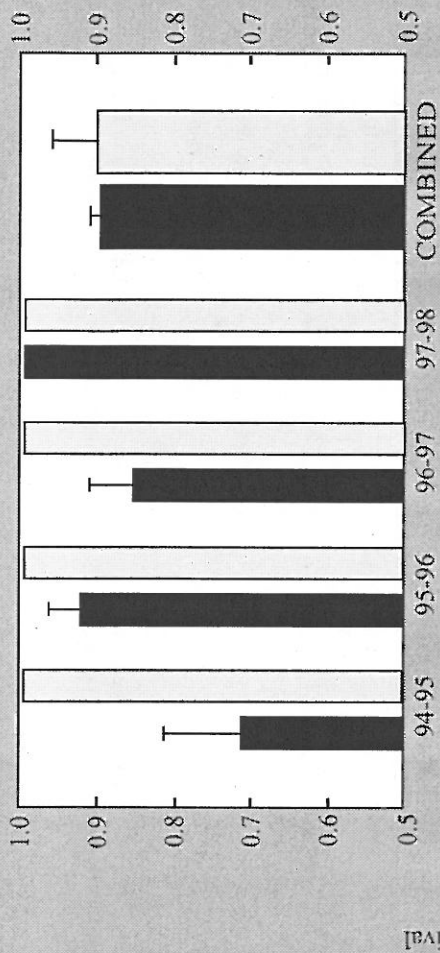


Females, 1997-1998 (N=11)

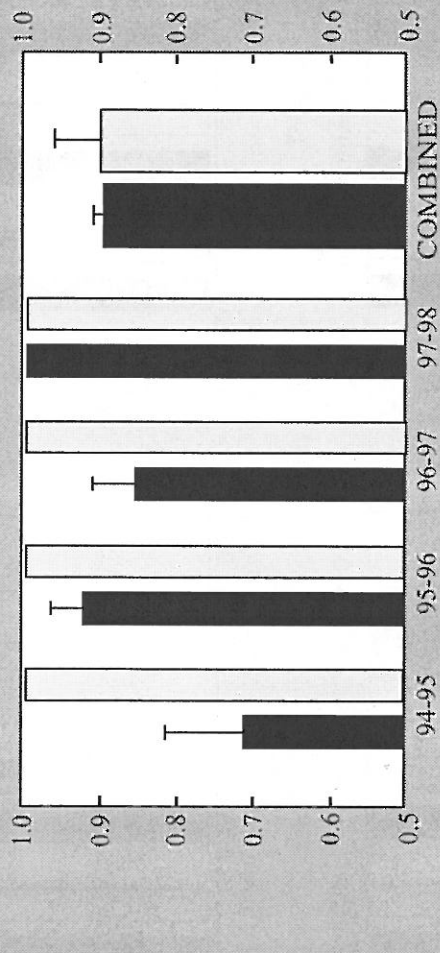


Females, 1997-1998 (N=11)

Fig. 13A-3b (con'd). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adult from the Corner Brook Lakes Caribou Herd, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.



Heisey-Fuller Estimates, excluding hunting and poaching  
(for individual-year sample sizes refer to Kaplan-Meier figures pp.151-154)



Heisey-Fuller Estimates, including hunting and poaching  
(for individual-year sample sizes refer to Kaplan-Meier figures pp.151-154)

Fig. 13A-3b (con'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) adults, for the Corner Brook Lakes Caribou Herd; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.

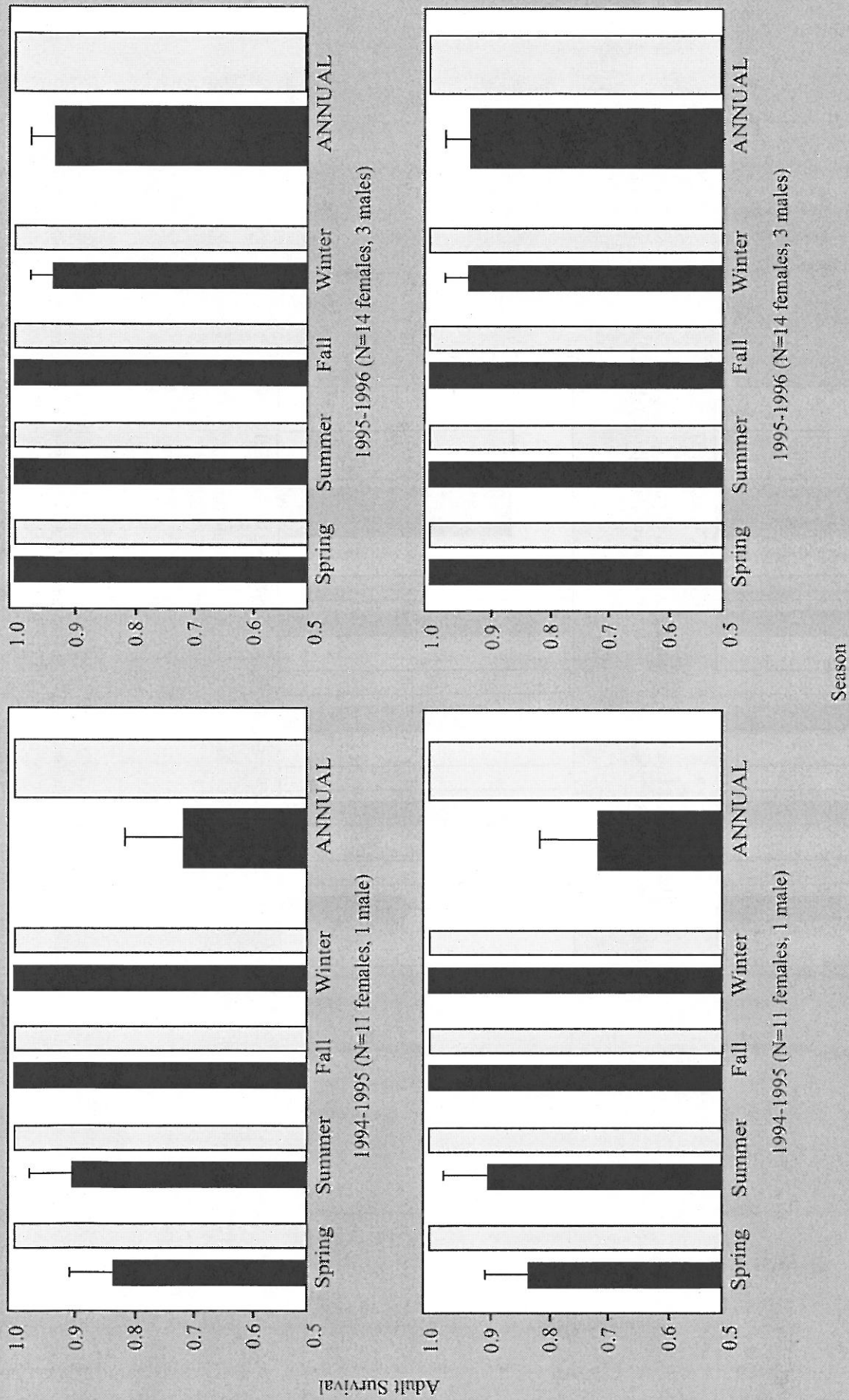
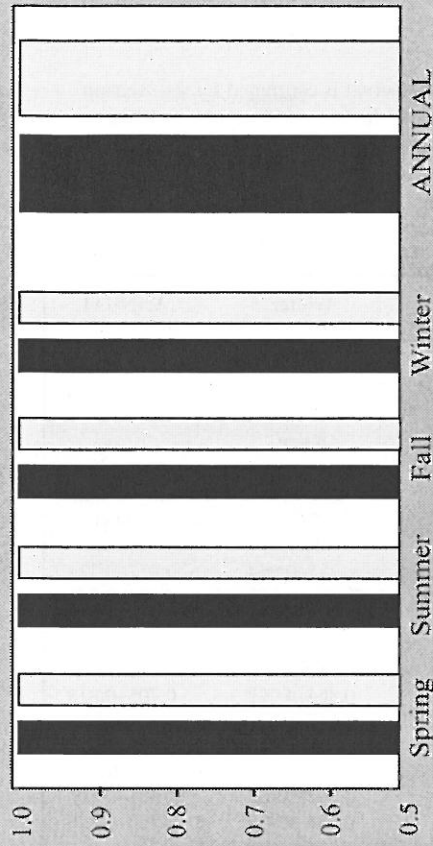
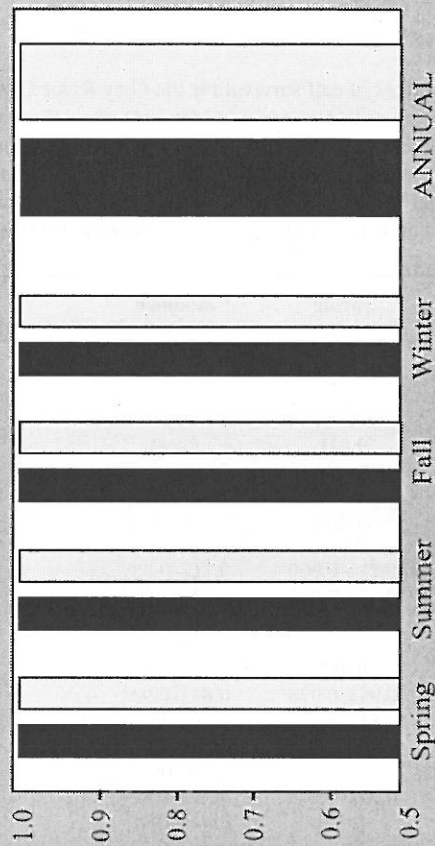


Fig. 13A-3b (con'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) adults, excluding hunting and poaching (top) and including hunting and poaching (bottom), by season and year (wide bars), for the Corner Brook Lakes Caribou Herd; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.

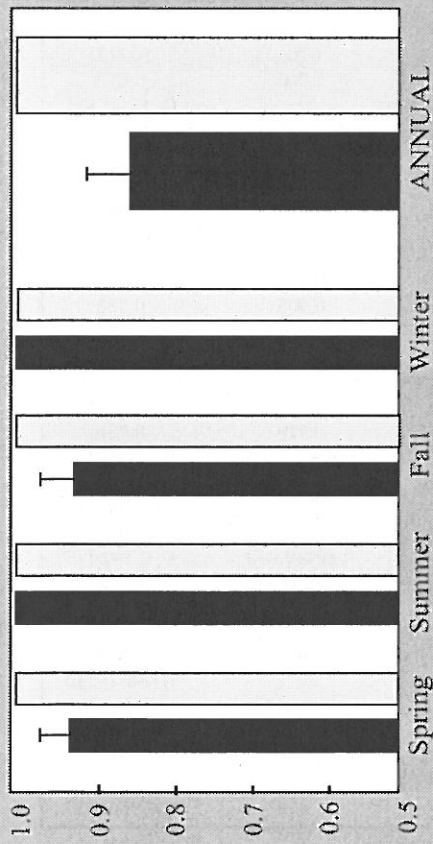


1997-1998 (N=11 females, 3 males)

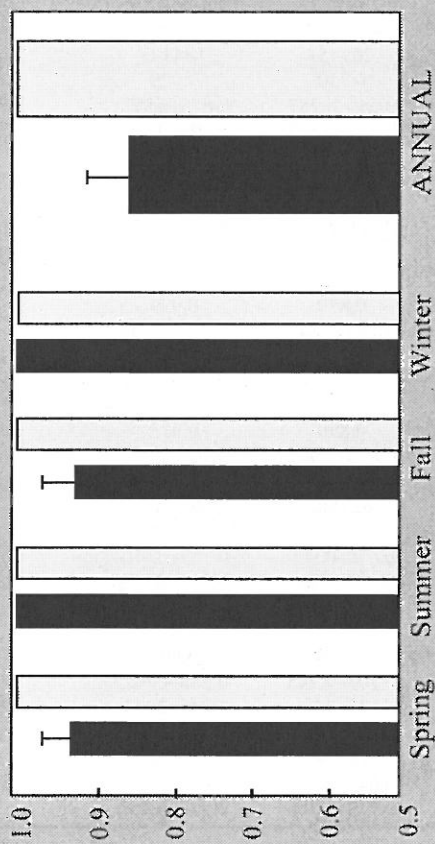


1997-1998 (N=11 females, 3 males)

Season



1996-1997 (N=14 females, 3 males)



1996-1997 (N=14 females, 3 males)

Fig. 13A-3b (con'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) adults, excluding hunting and poaching (top) and including hunting and poaching (bottom), by season and year (wide bars), for the Corner Brook Lakes Caribou Herd; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.



Table 13A-5a. Heisey-Fuller estimates of calf survival for the Grey River Caribou Herd. Survival is estimated by sex, season and year. Spring and annual survival estimates exclude May, because calves are born at variable dates midway through the spring season (all calves are assigned a birth date of June 1). Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (June 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (June 1–April 30)
<b>SEXES COMBINED</b>					
<b>1979–1980</b>					
Heisey-Fuller Survival Estimate	<b>0.841</b>	<b>0.890</b>	<b>1.000</b>	<b>0.858</b>	<b>0.606</b>
95% Confidence Interval (CI)	0.783–0.903	0.825–0.961		0.765–0.963	0.502–0.732
Radiodays (min.–max.)	334–348	775–815	427–488	944–1179	2480–2830
N collared (n surviving)	12 (10)	10 (9)	7 (7)	7 (6)	12 (8)
Proportion surviving	0.833	0.900	1.000	0.857	0.750
Minimum Survival (95% CI)	0.774–0.900	0.717–0.887		0.753–0.964	0.471–0.721
Maximum Survival (95% CI)	0.873–0.963	0.821–0.961		0.806–0.961	0.525–0.740
<b>1980–1981</b>					
Heisey-Fuller Survival Estimate	<b>0.965</b>	<b>0.882</b>	<b>1.000</b>	<b>0.912</b>	<b>0.759</b>
95% Confidence Interval (CI)	0.953–0.978	0.843–0.921		0.864–0.962	0.705–0.818
Radiodays (min.–max.)	833–854	1310–1532	692–854	1617–1951	4452–5191
N collared (n surviving)	30 (29)	22 (20)	12 (12)	11 (10)	30 (26)
Proportion surviving	0.967	0.909	1.000	0.909	0.867
Minimum Survival (95% CI)	0.952–0.978	0.793–0.879		0.862–0.962	0.681–0.806
Maximum Survival (95% CI)	1.000	0.825–0.915		0.888–0.965	0.723–0.826
<b>1981–1982</b>					
Heisey-Fuller Survival Estimate	<b>0.750</b>	<b>0.925</b>	<b>0.885</b>	<b>1.000</b>	<b>0.432</b>
95% Confidence Interval (CI)	0.704–0.799	0.886–0.965	0.820–0.962		0.334–0.560
Radiodays (min.–max.)	487–553	1101–1291	440–609	461–548	2489–3001
N collared (n surviving)	20 (15)	14 (13)	9 (8)	6 (6)	20 (13)
Proportion surviving	0.750	0.929	0.889	1.000	0.650
Minimum Survival (95% CI)	0.684–0.787	0.878–0.964	0.794–0.963		0.285–0.535
Maximum Survival (95% CI)	0.718–0.807	0.898–0.966	1.000		0.365–0.576
<b>1982–1983</b>					
Heisey-Fuller Survival Estimate	<b>0.832</b>	<b>0.930</b>	<b>1.000</b>	<b>0.896</b>	<b>0.649</b>
95% Confidence Interval (CI)	0.811–0.855	0.912–0.948		0.864–0.928	0.611–0.690
Radiodays (min.–max.)	927–1011	2433–2648	1372–1538	2547–2939	7223–8136
N collared (n surviving)	46 (40)	31 (29)	23 (23)	21 (19)	46 (36)
Proportion surviving	0.870	0.935	1.000	0.905	0.783
Minimum Survival (95% CI)	0.799–0.847	0.908–0.946		0.853–0.925	0.588–0.674
Maximum Survival (95% CI)	0.816–0.858	0.916–0.950		0.874–0.932	0.627–0.702
<b>1983–1984</b>					
Heisey-Fuller Survival Estimate	<b>0.890</b>	<b>0.975</b>	<b>1.000</b>	<b>0.910</b>	<b>0.756</b>
95% Confidence Interval (CI)	0.878–0.902	0.968–0.983		0.884–0.936	0.731–0.782
Radiodays (min.–max.)	1517–1571	3616–3797	2318–2403	2804–3478	10194–11164
N collared (n surviving)	62 (56)	46 (45)	37 (37)	37 (35)	62 (53)
Proportion surviving	0.742	0.978	1.000	0.946	0.855
Minimum Survival (95% CI)	0.876–0.900	0.967–0.983		0.894–0.940	0.717–0.773
Maximum Survival (95% CI)	0.880–0.903	0.969–0.983		0.898–0.942	0.740–0.789
<b>1984–1985</b>					
Heisey-Fuller Survival Estimate	<b>0.738</b>	<b>0.906</b>	<b>1.000</b>	<b>1.000</b>	<b>0.697</b>
95% Confidence Interval (CI)	0.703–0.745	0.888–0.925			0.666–0.730
Radiodays (min.–max.)	643–745	2746–2833	1708–1769	3737–4228	8754–9575
N collared (n surviving)	48 (41)	32 (29)	28 (28)	28 (28)	48 (38)
Proportion surviving	0.854	0.906	1.000	1.000	0.792
Minimum Survival (95% CI)	0.683–0.759	0.886–0.924			0.649–0.718
Maximum Survival (95% CI)	0.722–0.786	0.922–0.952			0.675–0.737

Table 13A-5a (con'd). Heisey-Fuller estimates of calf survival for the Grey River Caribou Herd. Survival is estimated by sex, season and year. Spring and annual survival estimates exclude May, because calves are born at variable dates midway through the spring season (all calves are assigned a birth date of June 1). Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (June 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (June 1–April 30)
<b>SEXES COMBINED (con'd)</b>					
<b>Average, 1979–1985</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>0.848</b>	<b>0.929</b>	<b>0.991</b>	<b>0.932</b>	<b>0.678</b>
95% Confidence Interval (CI)	0.844–0.853	0.925–0.933	0.990–0.993	0.926–0.938	0.670–0.686
Radiodays (min.–max.)	4743–6188	11981–15492	6809–9284	11741–18373	35274–49337
N collared (n surviving)	218 (191)	155 (145)	116 (115)	109 (103)	218 (174)
Proportion surviving	0.876	0.935	0.991	0.945	0.798
Minimum Survival (95% CI)	0.838–0.847	0.922–0.930	0.990–0.993	0.879–0.889	0.650–0.668
Maximum Survival (95% CI)	0.927–0.932	0.934–0.940	1.000	0.919–0.932	0.752–0.763
<b>FEMALES</b>					
<b>1979–1980</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>0.846</b>	<b>0.795</b>	<b>1.000</b>	<b>1.000</b>	<b>0.606</b>
95% Confidence Interval (CI)	0.742–0.964	0.644–0.982			0.420–0.875
Radiodays (min.–max.)	168–180	384–424	183–244	453–604	1188–1452
N collared (n surviving)	6 (5)	5 (4)	4 (4)	3 (3)	6 (4)
Proportion surviving	0.833	0.800	1.000	1.000	0.667
Minimum Survival (95% CI)	0.723–0.966	0.483–0.867			0.366–0.887
Maximum Survival (95% CI)	1.000	0.627–0.986			0.458–0.869
<b>1980–1981</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>1.000</b>	<b>0.862</b>	<b>1.000</b>	<b>1.000</b>	<b>0.855</b>
95% Confidence Interval (CI)		0.772–0.962			0.758–0.964
Radiodays (min.–max.)	352–354	541–649	305–366	749–906	1947–2275
N collared (n surviving)	13 (13)	10 (9)	5 (5)	5 (5)	13 (12)
Proportion surviving	1.000	0.900	1.000	1.000	0.923
Minimum Survival (95% CI)		0.737–0.966			0.734–0.966
Maximum Survival (95% CI)		0.783–0.962			0.775–0.962
<b>1981–1982</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>0.626</b>	<b>0.793</b>	<b>0.699</b>	<b>1.000</b>	<b>0.123</b>
95% Confidence Interval (CI)	0.501–0.781	0.640–0.981	0.459–1.000		0.016–0.909
Radiodays (min.–max.)	177–210	338–425	121–213	22–91	658–939
N collared (n surviving)	8 (5)	5 (4)	3 (2)	1 (1)	8 (3)
Proportion surviving	0.625	0.800	0.667	1.000	0.375
Minimum Survival (95% CI)	0.464–0.772	0.581–0.997	0.281–1.000		0.003–1.000
Maximum Survival (95% CI)	0.534–0.789	0.665–0.975	1.000		0.040–0.697
<b>1982–1983</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>0.939</b>	<b>0.920</b>	<b>1.000</b>	<b>0.861</b>	<b>0.734</b>
95% Confidence Interval (CI)	0.911–0.968	0.878–0.964		0.770–0.962	0.654–0.825
Radiodays (min.–max.)	449–478	1030–1209	551–687	936–1184	2936–3558
N collared (n surviving)	19 (18)	15 (14)	10 (10)	8 (7)	19 (16)
Proportion surviving	0.947	0.933	1.000	0.875	0.842
Minimum Survival (95% CI)	0.905–0.967	0.869–0.963		0.751–0.964	0.620–0.814
Maximum Survival (95% CI)	0.911–0.968	0.890–0.965		0.806–0.961	0.682–0.835
<b>1983–1984</b>					
<b>Heisey-Fuller Survival Estimate</b>	<b>0.853</b>	<b>0.943</b>	<b>1.000</b>	<b>0.888</b>	<b>0.683</b>
95% Confidence Interval (CI)	0.818–0.889	0.917–0.969		0.820–0.962	0.618–0.754
Radiodays (min.–max.)	559–574	1549–1568	976–1065	1144–1375	4228–4493
N collared (n surviving)	27 (24)	19 (18)	16 (16)	16 (15)	27 (22)
Proportion surviving	0.889	0.947	1.000	0.938	0.815
Minimum Survival (95% CI)	0.815–0.888	0.916–0.969		0.798–0.962	0.607–0.748
Maximum Survival (95% CI)	0.820–0.891	0.917–0.969		0.835–0.962	0.627–0.758

Table 13A-5a (con'd). Heisey-Fuller estimates of calf survival for the Grey River Caribou Herd. Survival is estimated by sex, season and year. Spring and annual survival estimates exclude May, because calves are born at variable dates midway through the spring season (all calves are assigned a birth date of June 1). Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (June 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (June 1–April 30)
<b>FEMALES (con'd)</b>					
<b>1984–1985</b>					
Heisey-Fuller Survival Estimate	<b>0.719</b>	<b>0.931</b>	<b>1.000</b>	<b>1.000</b>	<b>0.727</b>
95% Confidence Interval (CI)	0.642–0.805	0.897–0.966			0.663–0.797
Radiodays (min.–max.)	264–284	1262–1288	793–854	1582–1963	3851–4389
N collared (n surviving)	21 (18)	14 (13)	13 (13)	16 (16)	21 (17)
Proportion surviving	0.857	0.929	1.000	1.000	0.810
Minimum Survival (95% CI)	0.630–0.799	0.895–0.966			0.636–0.785
Maximum Survival (95% CI)	0.653–0.810	1.000			0.677–0.803
<b>Average, 1979–1985</b>					
Heisey-Fuller Survival Estimate	<b>0.851</b>	<b>0.902</b>	<b>0.980</b>	<b>0.945</b>	<b>0.660</b>
95% Confidence Interval (CI)	0.841–0.861	0.892–0.912	0.974–0.985	0.933–0.958	0.641–0.669
Radiodays (min.–max.)	1970–2711	5104–7035	2901–4316	4834–8437	14809–22499
N collared (n surviving)	94 (83)	68 (62)	50 (49)	46 (44)	94 (74)
Proportion surviving	0.883	0.912	0.980	0.957	0.787
Minimum Survival (95% CI)	0.835–0.856	0.887–0.908	0.973–0.985	0.871–0.893	0.616–0.658
Maximum Survival (95% CI)	0.941–0.951	0.918–0.931	1.000	0.925–0.954	0.753–0.778
<b>MALES</b>					
<b>1979–1980</b>					
Heisey-Fuller Survival Estimate	<b>0.835</b>	<b>1.000</b>	<b>1.000</b>	<b>0.753</b>	<b>0.606</b>
95% Confidence Interval (CI)	0.722–0.965			0.564–1.000	0.424–0.866
Radiodays (min.–max.)	166–168	391	244	491–575	1292–1378
N collared (n surviving)	6 (5)	5 (5)	4 (4)	4 (3)	6 (4)
Proportion surviving	0.833	1.000	1.000	0.750	0.667
Minimum Survival (95% CI)	0.720–0.965			0.529–1.000	0.409–0.868
Maximum Survival (95% CI)	0.724–0.965			0.595–0.994	0.439–0.864
<b>1980–1981</b>					
Heisey-Fuller Survival Estimate	<b>0.941</b>	<b>0.896</b>	<b>1.000</b>	<b>0.840</b>	<b>0.692</b>
95% Confidence Interval (CI)	0.915–0.969	0.836–0.961		0.731–0.966	0.594–0.806
Radiodays (min.–max.)	481–500	769–883	387–488	868–1045	2505–2916
N collared (n surviving)	17 (16)	12 (11)	7 (7)	6 (5)	17 (14)
Proportion surviving	0.941	0.917	1.000	0.833	0.824
Minimum Survival (95% CI)	0.912–0.968	0.739–0.892		0.731–0.966	0.563–0.798
Maximum Survival (95% CI)	1.000	0.819–0.960		0.779–0.962	0.618–0.813
<b>1981–1982</b>					
Heisey-Fuller Survival Estimate	<b>0.833</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.715</b>
95% Confidence Interval (CI)	0.771–0.900				0.586–0.872
Radiodays (min.–max.)	310–343	763–866	349–396	439–457	1831–2062
N collared (n surviving)	12 (10)	9 (9)	6 (6)	5 (5)	12 (10)
Proportion surviving	0.833	1.000	1.000	1.000	0.833
Minimum Survival (95% CI)	0.757–0.896				0.554–0.870
Maximum Survival (95% CI)	0.780–0.902				0.599–0.873
<b>1982–1983</b>					
Heisey-Fuller Survival Estimate	<b>0.713</b>	<b>1.000</b>	<b>1.000</b>	<b>0.910</b>	<b>0.611</b>
95% Confidence Interval (CI)	0.657–0.773			0.860–0.962	0.540–0.692
Radiodays (min.–max.)	418–473	1252–1288	760–790	1462–1665	3864–4216
N collared (n surviving)	25 (20)	14 (14)	12 (12)	12 (11)	25 (19)
Proportion surviving	0.800	1.000	1.000	0.917	0.760
Minimum Survival (95% CI)	0.637–0.762			0.846–0.961	0.520–0.681
Maximum Survival (95% CI)	0.675–0.783			0.866–0.963	0.553–0.699

Table 13A-5a (con'd). Heisey-Fuller estimates of calf survival for the Grey River Caribou Herd. Survival is estimated by sex, season and year. Spring and annual survival estimates exclude May, because calves are born at variable dates midway through the spring season (all calves are assigned a birth date of June 1). Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (June 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (June 1–April 30)
<b>MALES (con'd)</b>					
<b>1983–1984</b>					
Heisey-Fuller Survival Estimate	<b>0.912</b>	<b>1.000</b>	<b>1.000</b>	<b>0.925</b>	<b>0.811</b>
95% Confidence Interval (CI)	0.895–0.929			0.886–0.965	0.773–0.851
Radiodays (min.–max.)	958–997	2067–2229	1338–1342	1660–2103	5966–6671
N collared (n surviving)	27 (24)	27 (27)	21 (21)	21 (20)	35 (31)
Proportion surviving	0.914	1.000	1.000	0.952	0.886
Minimum Survival (95% CI)	0.893–0.928			0.866–0.963	0.757–0.844
Maximum Survival (95% CI)	0.897–0.930			0.897–0.966	0.782–0.856
<b>1984–1985</b>					
Heisey-Fuller Survival Estimate	<b>0.750</b>	<b>0.886</b>	<b>1.000</b>	<b>1.000</b>	<b>0.674</b>
95% Confidence Interval (CI)	0.697–0.808	0.849–0.923			0.618–0.735
Radiodays (min.–max.)	379–461	1484–1545	915	2155–2265	4903–5186
N collared (n surviving)	27 (23)	18 (16)	15 (15)	15 (15)	27 (21)
Proportion surviving	0.852	0.889	1.000	1.000	0.778
Minimum Survival (95% CI)	0.668–0.792	0.846–0.922			0.606–0.728
Maximum Survival (95% CI)	0.721–0.822	0.852–0.924			0.625–0.739
<b>Average, 1979–1985</b>					
Heisey-Fuller Survival Estimate	<b>0.844</b>	<b>0.961</b>	<b>1.000</b>	<b>0.922</b>	<b>0.699</b>
95% Confidence Interval (CI)	0.836–0.851	0.956–0.966		0.912–0.933	0.685–0.713
Radiodays (min.–max.)	2713–3417	6726–8306	3847–4907	6893–9846	20179–26476
N collared (n surviving)	122 (106)	85 (82)	65 (65)	62 (58)	122 (99)
Proportion surviving	0.869	0.965	1.000	0.935	0.811
Minimum Survival (95% CI)	0.830–0.845	0.952–0.961		0.875–0.894	0.668–0.698
Maximum Survival (95% CI)	0.911–0.921	0.955–0.965		0.904–0.928	0.747–0.768

Table 13A-5b. Heisey-Fuller estimates of yearling survival for the Grey River Caribou Herd. Survival is estimated by sex, season and year. Spring and annual survival estimates are calculated from May 1, for animals from 11 to 23 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>SEXES COMBINED</b>					
<b>1979–1980</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	32	92	61	151	365
N collared (n surviving)	1 (1)	1 (1)	1 (1)	1 (1)	1 (1)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1980–1981</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	188–203	392–557	244–305	569–672	1551–1957
N collared (n surviving)	6 (6)	5 (5)	4 (4)	4 (4)	6 (6)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1981–1982</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	274–369	490–888	136–426	302–876	1456–2906
N collared (n surviving)	11 (11)	8 (8)	3 (3)	2 (2)	11 (11)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1983–1984</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	465–632	708–1333	427–798	1057–1737	2945–5012
N collared (n surviving)	19 (19)	9 (9)	7 (7)	7 (7)	19 (19)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1984–1985</b>					
Heisey-Fuller Survival Estimate	0.823	1.000	0.884	0.779	0.784
95% Confidence Interval (CI)	0.756–0.897		0.813–0.961	0.613–0.989	0.723–0.850
Radiodays (min.–max.)	543–622	1213–1402	621–804	861–1756	3746–5121
N collared (n surviving)	20 (18)	16 (16)	10 (9)	4 (3)	20 (17)
Proportion surviving	0.900	1.000	0.900	0.750	0.850
Minimum Survival (95% CI)	0.717–0.889		1.000	0.728–0.967	0.670–0.831
Maximum Survival (95% CI)	0.753–0.897			0.874–0.963	0.756–0.863
<b>1985–1986</b>					
Heisey-Fuller Survival Estimate	0.929	0.931	0.875	0.606	0.786
95% Confidence Interval (CI)	0.894–0.966	0.897–0.966	0.795–0.962	0.317–1.000	0.726–0.851
Radiodays (min.–max.)	535–696	1263–1849	665–835	970–1487	3911–5631
N collared (n surviving)	23 (22)	15 (14)	10 (9)	2 (1)	23 (20)
Proportion surviving	0.957	0.933	0.900	0.500	0.870
Minimum Survival (95% CI)		0.878–0.934	0.795–0.962	0.759–0.965	0.721–0.825
Maximum Survival (95% CI)		0.895–0.966	0.795–0.962	0.849–0.962	0.766–0.899

Table 13A-5b (con'd). Heisey-Fuller estimates of yearling survival for the Grey River Caribou Herd. Survival is estimated by sex, season and year. Spring and annual survival estimates are calculated from May 1, for animals from 11 to 23 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>SEXES COMBINED (con'd)</b>					
<b>Average, 1979–1986</b>					
Heisey-Fuller Survival Estimate	<b>0.977</b>	<b>0.986</b>	<b>1.000</b>	<b>0.861</b>	<b>0.887</b>
95% Confidence Interval (CI)	0.970–0.984	0.983–0.990		0.842–0.882	0.877–0.898
Radiodays (min.–max.)	2533–2593	6121–6266	3229–3435	6384–6679	21021–21094
N collared (n surviving)	84 (83)	78 (77)	59 (59)	55 (50)	84 (77)
Proportion surviving	0.988	0.987	1.000	0.909	0.917
Minimum Survival (95% CI)	0.944–0.964	0.965–0.975		0.874–0.903	0.875–0.896
Maximum Survival (95% CI)	0.969–0.983	0.982–0.989		0.947–0.965	0.875–0.897
<b>FEMALES</b>					
<b>1979–1980</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	32	92	61	151	365
N collared (n surviving)	1 (1)	1 (1)	1 (1)	1 (1)	1 (1)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1980–1981</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	87–116	208–349	122–183	302–453	813–1226
N collared (n surviving)	3 (3)	3 (3)	2 (2)	2 (2)	3 (3)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1981–1982</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	129–195	221–433	75–182	151–302	671–1270
N collared (n surviving)	6 (6)	3 (3)	2 (2)	1 (1)	6 (6)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1983–1984</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	261	492–749	305–473	755–1057	2062–2828
N collared (n surviving)	9 (9)	6 (6)	5 (5)	5 (5)	9 (9)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1984–1985</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	202–219	432–444	244	397–604	1465–1700
N collared (n surviving)	7 (7)	6 (6)	4 (4)	4 (4)	7 (7)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					

Table 13A-5b (con'd). Heisey-Fuller estimates of yearling survival for the Grey River Caribou Herd. Survival is estimated by sex, season and year. Spring and annual survival estimates are calculated from May 1, for animals from 11 to 23 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>FEMALES (con'd)</b>					
<b>1985–1986</b>					
Heisey-Fuller Survival Estimate	1.000	0.759	1.000	0.549	0.589
95% Confidence Interval (CI)		0.573–1.000		0.219–1.000	0.395–0.878
Radiodays (min.–max.)	191–290	329–678	170–244	227–504	1044–2034
N collared (n surviving)	9 (9)	4 (3)	3 (3)	2 (1)	9 (7)
Proportion surviving	1.000	0.750	1.000	0.500	0.778
Minimum Survival (95% CI)		0.567–1.000		0.178–1.000	0.268–0.920
Maximum Survival (95% CI)		0.661–0.878		0.542–1.000	0.441–0.772
<b>Average, 1979–1986</b>					
Heisey-Fuller Survival Estimate	1.000	0.968	1.000	0.877	0.890
95% Confidence Interval (CI)		0.958–0.979		0.837–0.919	0.867–0.914
Radiodays (min.–max.)	1113–1146	2636–2745	1387–1465	2799–3071	9088–9417
N collared (n surviving)	37 (37)	33 (32)	25 (25)	23 (21)	37 (34)
Proportion surviving	1.000	0.970	1.000	0.913	0.919
Minimum Survival (95% CI)		0.919–0.951		0.867–0.930	0.862–0.911
Maximum Survival (95% CI)		0.954–0.978		0.932–0.972	0.867–0.914
<b>MALES</b>					
<b>1980–1981</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	87	184–208	122		
N collared (n surviving)	3 (3)	2 (2)	2 (2)	2 (2)	3 (3)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1981–1982</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	145–174	269–455	61–244	151–574	785–2947
N collared (n surviving)	5 (5)	5 (5)	1 (1)	1 (1)	5 (5)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1983–1984</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	147–371	216–584	122–325	302–680	883–2171
N collared (n surviving)	10 (10)	3 (3)	2 (2)	2 (2)	10 (10)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1984–1985</b>					
Heisey-Fuller Survival Estimate	0.747	1.000	1.000	0.805	0.684
95% Confidence Interval (CI)	0.636–0.876			0.663–0.977	0.582–0.803
Radiodays (min.–max.)	341–403	781–958	377–560	464–1152	2281–4402
N collared (n surviving)	13 (11)	10 (10)	7 (7)	6 (5)	13 (10)
Proportion surviving	0.846	1.000	1.000	0.833	0.769
Minimum Survival (95% CI)	0.622–0.875			0.508–1.000	0.642–0.821
Maximum Survival (95% CI)	1.000			0.801–0.961	1.000

Table 13A-5b (con'd). Heisey-Fuller estimates of yearling survival for the Grey River Caribou Herd. Survival is estimated by sex, season and year. Spring and annual survival estimates are calculated from May 1, for animals from 11 to 23 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>MALES (con'd)</b>					
<b>1985–1986</b>					
Heisey-Fuller Survival Estimate	<b>0.875</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.891</b>
95% Confidence Interval (CI)	0.795–0.962				0.826–0.962
Radiodays (min.–max.)	344–406	934–1171	495–591	743–983	2867–6790
N collared (n surviving)	11 (11)	11 (11)	9 (9)	8 (8)	14 (13)
Proportion surviving	1.000	1.000	1.000	1.000	0.929
Minimum Survival (95% CI)					0.848–0.962
Maximum Survival (95% CI)					1.000
<b>Average, 1980–1986</b>					
Heisey-Fuller Survival Estimate	<b>0.958</b>	<b>1.000</b>	<b>1.000</b>	<b>0.849</b>	<b>0.885</b>
95% Confidence Interval (CI)	0.941–0.975			0.812–0.887	0.867–0.904
Radiodays (min.–max.)	1387–1480	3376–3630	1842–1970	3585–3608	11604–12006
N collared (n surviving)	47 (46)	45 (45)	34 (34)	32 (29)	47 (43)
Proportion surviving	0.978	1.000	1.000	0.906	0.915
Minimum Survival (95% CI)	0.899–0.943			0.855–0.908	0.862–0.902
Maximum Survival (95% CI)	0.940–0.974			0.943–0.975	0.867–0.904



Table 13A-5c. Heisey-Fuller estimates of two-year old survival for the Grey River Caribou Herd. Survival is estimated by sex, season and year. Spring and annual survival estimates are calculated from May 1, for animals from 23 to 35 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>SEXES COMBINED</b>					
<b>1979–1980</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	90–122	368–460	244–305	604–755	1402–1738
N collared (n surviving)	2 (2)	4 (4)	4 (4)	4 (4)	5 (5)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1980–1981</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	29	92	61	151	364
N collared (n surviving)	1 (1)	1 (1)	1 (1)	1 (1)	1 (1)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1981–1982</b>					
Heisey-Fuller Survival Estimate	0.712	1.000	1.000	1.000	0.656
95% Confidence Interval (CI)	0.488–1.000				0.380–1.000
Radiodays (min.– max.)	73–116	184–345	122–183	302–453	743–1222
N collared (n surviving)	4 (3)	2 (2)	2 (2)	2 (2)	4 (3)
Proportion surviving	0.750	1.000	1.000	1.000	0.750
Minimum Survival (95% CI)	0.076–1.000				0.307–1.000
Maximum Survival (95% CI)					0.540–1.000
<b>1982–1983</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	58–145	368–644	244–427	604–1057	729–1820
N collared (n surviving)	4 (4)	4 (4)	4 (4)	4 (4)	4 (4)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1984–1985</b>					
Heisey-Fuller Survival Estimate	1.000	0.856	1.000	1.000	0.831
95% Confidence Interval (CI)		0.761–0.962			0.714–0.967
Radiodays (min.– max.)	231–290	590–793	366	831–906	1902–2279
N collared (n surviving)	7 (7)	7 (6)	6 (6)	6 (6)	7 (6)
Proportion surviving	1.000	0.857	1.000	1.000	0.857
Minimum Survival (95% CI)		0.761–0.962			0.703–0.968
Maximum Survival (95% CI)		0.825–0.961			0.753–0.963
<b>1985–1986</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	116–203	460–697	305–373	635–856	1338–2047
N collared (n surviving)	6 (6)	5 (5)	5 (5)	5 (5)	6 (6)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					

Table 13A-5c (con'd). Heisey-Fuller estimates of two-year old survival for the Grey River Caribou Herd. Survival is estimated by sex, season and year. Spring and annual survival estimates are calculated from May 1, for animals from 23 to 35 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>SEXES COMBINED (con'd)</b>					
<b>1986–1987</b>					
Heisey-Fuller Survival Estimate	1.000	1.000			1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	57–116	28–240			117–526
N collared (n surviving)	3 (3)	1 (1)			3 (3)
Proportion surviving	1.000	1.000			1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>Average, 1979–1987</b>					
Heisey-Fuller Survival Estimate	1.000	0.969	1.000	0.947	0.894
95% Confidence Interval (CI)		0.958–0.980		0.924–0.971	0.872–0.917
Radiodays (min.– max.)	1017–1041	2723–2724	1452	3311–3423	9678
N collared (n surviving)	33 (33)	34 (33)	26 (26)	22 (21)	36 (33)
Proportion surviving	1.000	0.971	1.000	0.955	0.917
Minimum Survival (95% CI)		0.885–0.923		0.888–0.938	0.871–0.916
Maximum Survival (95% CI)		0.955–0.979		1.000	0.871–0.916
<b>FEMALES</b>					
<b>1979–1980</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	90–122	368–460	244–305	604–755	1402–1738
N collared (n surviving)	2 (2)	4 (4)	4 (4)	4 (4)	5 (5)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1980–1981</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	29	92	61	151	364
N collared (n surviving)	1 (1)	1 (1)	1 (1)	1 (1)	1 (1)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1981–1982</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	58–87	184–276	122–183	302–453	728–1092
N collared (n surviving)	3 (3)	2 (2)	2 (2)	2 (2)	3 (3)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1982–1983</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	29–58	276–368	183–244	453–604	364–728
N collared (n surviving)	1 (1)	3 (3)	3 (3)	3 (3)	1 (1)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					

Table 13A-5c (con'd). Heisey-Fuller estimates of two-year old survival for the Grey River Caribou Herd. Survival is estimated by sex, season and year. Spring and annual survival estimates are calculated from May 1, for animals from 23 to 35 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>FEMALES (con'd)</b>					
<b>1984–1985</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	145–174	552–665	366	831–906	1746–1907
N collared (n surviving)	5 (5)	6 (6)	6 (6)	6 (6)	5 (5)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1985–1986</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	58–87	276–368	183–190	428–453	704–889
N collared (n surviving)	3 (3)	3 (3)	3 (3)	3 (3)	3 (3)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1986–1987</b>					
Heisey-Fuller Survival Estimate	1.000	1.000			1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	29–58	28–120			89–263
N collared (n surviving)	1 (1)	1 (1)			1 (1)
Proportion surviving	1.000	1.000			1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>Average, 1979–1986</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	583–635	1691–1802	1037–1065	2165–2567	6104–6663
N collared (n surviving)	19 (19)	21 (21)	16 (16)	15 (15)	22 (22)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>MALES</b>					
<b>1981–1982</b>					
Heisey-Fuller Survival Estimate	0.365				0.006
95% Confidence Interval (CI)	0.026–1.000				0.000–1.000
Radiodays (min.– max.)	15–29				15–130
N collared (n surviving)	1 (0)				1 (0)
Proportion surviving	0.000				0.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1982–1983</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	29–87	92–276	61–183	151–453	365–1092
N collared (n surviving)	3 (3)	1 (1)	1 (1)	1 (1)	3 (3)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					

Table 13A-5c (con'd). Heisey-Fuller estimates of two-year old survival for the Grey River Caribou Herd. Survival is estimated by sex, season and year. Spring and annual survival estimates are calculated from May 1, for animals from 23 to 35 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>MALES (con'd)</b>					
<b>1984–1985</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.086</b>			<b>0.118</b>
95% Confidence Interval (CI)		0.000–1.000			0.000–1.000
Radiodays (min.–max.)	86–116	38–128			156–372
N collared (n surviving)	2 (2)	1 (0)			2 (1)
Proportion surviving	1.000	0.000			0.500
Minimum Survival (95% CI)		0.000–1.000			0.000–1.000
Maximum Survival (95% CI)		0.126–1.000			0.038–1.000
<b>1985–1986</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	145–232	460–697	305–373	635–856	634–1158
N collared (n surviving)	7 (7)	5 (5)	5 (5)	5 (5)	3 (3)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1986–1987</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>			<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	57–116	28–240			28–263
N collared (n surviving)	3 (3)	1 (1)			2 (2)
Proportion surviving	1.000	1.000			1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>Average, 1981–1987</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>0.923</b>	<b>1.000</b>	<b>0.751</b>	<b>0.721</b>
95% Confidence Interval (CI)		0.883–0.964		0.561–1.000	0.635–0.820
Radiodays (min.–max.)	406–434	922–1032	387–560	856–1146	3015–3587
N collared (n surviving)	14 (14)	13 (12)	10 (10)	7 (6)	14 (11)
Proportion surviving	1.000	0.923	1.000	0.857	0.786
Minimum Survival (95% CI)		0.663–0.828		0.671–0.879	0.598–0.808
Maximum Survival (95% CI)		0.869–0.963		1.000	0.657–0.827

Table 13A-5d. Heisey-Fuller estimates of adult survival for the Grey River Caribou Herd. Survival is estimated by sex, season and year (hunting and poaching excluded). Spring and annual survival estimates are calculated from May 1, for animals older than 35 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>SEXES COMBINED</b>					
<b>1979–1980</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	1292–1346	4140–4281	2745–2806	6598–6795	16287–16711
N collared (n surviving)	54 (54)	45 (45)	45 (45)	44 (44)	54 (54)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1980–1981</b>					
Heisey-Fuller Survival Estimate	<b>0.978</b>	<b>1.000</b>	<b>1.000</b>	<b>0.976</b>	<b>0.954</b>
95% Confidence Interval (CI)	0.971–0.984			0.969–0.983	0.945–0.964
Radiodays (min.–max.)	2595–2766	3835–4144	2501–2684	6150–6609	15205–16359
N collared (n surviving)	47 (46)	43 (43)	41 (41)	41 (40)	47 (45)
Proportion surviving	0.979	1.000	1.000	0.976	0.957
Minimum Survival (95% CI)	0.970–0.984			0.946–0.965	0.925–0.946
Maximum Survival (95% CI)	0.972–0.984			0.968–0.983	0.943–0.963
<b>1981–1982</b>					
Heisey-Fuller Survival Estimate	<b>0.976</b>	<b>0.973</b>	<b>1.000</b>	<b>0.975</b>	<b>0.931</b>
95% Confidence Interval (CI)	0.969–0.983	0.964–0.981		0.967–0.983	0.919–0.943
Radiodays (min.–max.)	2445–2643	3230–3705	1899–2597	5870–6421	14478–15914
N collared (n surviving)	49 (48)	44 (43)	40 (40)	40 (39)	49 (46)
Proportion surviving	0.980	0.977	1.000	0.975	0.939
Minimum Survival (95% CI)	0.968–0.983	0.941–0.962		0.967–0.982	0.915–0.940
Maximum Survival (95% CI)	0.971–0.984	0.963–0.981		1.000	0.922–0.945
<b>1982–1983</b>					
Heisey-Fuller Survival Estimate	<b>0.949</b>	<b>0.911</b>	<b>1.000</b>	<b>0.923</b>	<b>0.799</b>
95% Confidence Interval (CI)	0.938–0.960	0.895–0.929		0.903–0.944	0.775–0.824
Radiodays (min.–max.)	2280–2576	2428–2648	1533–1538	3700–2939	10911–12537
N collared (n surviving)	44 (42)	34 (31)	29 (29)	27 (25)	44 (37)
Proportion surviving	0.955	0.912	1.000	0.926	0.841
Minimum Survival (95% CI)	0.936–0.959	0.916–0.950		0.874–0.932	0.765–0.818
Maximum Survival (95% CI)	0.970–0.984	0.949–0.977		0.945–0.978	0.794–0.838
<b>1983–1984</b>					
Heisey-Fuller Survival Estimate	<b>0.934</b>	<b>0.966</b>	<b>1.000</b>	<b>0.961</b>	<b>0.868</b>
95% Confidence Interval (CI)	0.918–0.951	0.954–0.978		0.946–0.976	0.846–0.892
Radiodays (min.–max.)	1517–2047	2948–3616	1881–2318	2804–3983	10194–11447
N collared (n surviving)	41 (39)	32 (31)	26 (26)	25 (24)	41 (37)
Proportion surviving	0.951	0.969	1.000	0.960	0.902
Minimum Survival (95% CI)	0.876–0.900	0.967–0.983		0.898–0.942	0.717–0.773
Maximum Survival (95% CI)	0.929–0.956	1.000		0.949–0.977	0.891–0.927
<b>1984–1985</b>					
Heisey-Fuller Survival Estimate	<b>0.965</b>	<b>0.957</b>	<b>1.000</b>	<b>0.918</b>	<b>0.884</b>
95% Confidence Interval (CI)	0.952–0.978	0.940–0.974		0.895–0.941	0.859–0.910
Radiodays (min.–max.)	1606–1769	2082–2320	1403	3426–3568	8746–9289
N collared (n surviving)	31 (30)	27 (26)	23 (23)	23 (21)	31 (27)
Proportion surviving	0.968	0.963	1.000	0.913	0.871
Minimum Survival (95% CI)	1.000	0.904–0.944		0.892–0.939	0.828–0.882
Maximum Survival (95% CI)	1.000	0.940–0.974		0.897–0.941	0.857–0.910

Table 13A-5d (con'd). Heisey-Fuller estimates of adult survival for the Grey River Caribou Herd. Survival is estimated by sex, season and year (hunting and poaching excluded). Spring and annual survival estimates are calculated from May 1, for animals older than 35 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>SEXES COMBINED (con'd)</b>					
<b>1985–1986</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	0.900	0.913
95% Confidence Interval (CI)				0.870–0.931	0.888–0.938
Radiodays (min.–max.)	1304–1383	2130–2261	1281–1295	2596–2926	7680–8265
N collared (n surviving)	25 (25)	24 (24)	21 (21)	21 (19)	25 (23)
Proportion surviving	1.000	1.000	1.000	0.905	0.920
Minimum Survival (95% CI)				0.856–0.926	0.807–0.870
Maximum Survival (95% CI)				0.873–0.932	0.883–0.936
<b>1986–1987</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000		1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	785–846	1132–1288	292–294		2272–2460
N collared (n surviving)	15 (15)	13 (13)	12 (12)		15 (15)
Proportion surviving	1.000	1.000	1.000		1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>Average, 1979–1987</b>					
Heisey-Fuller Survival Estimate					0.924
95% Confidence Interval (CI)	Seasonal averages are not possible for adults since the same individual may be recorded in more than one year. Annual averages span all years in a "staggered entry" design.				0.922–0.926
Radiodays (min.–max.)					88690–96059
N collared (n surviving)					107 (87)
Minimum Survival (95% CI)					0.919–0.923
Maximum Survival (95% CI)					0.925–0.929
<b>FEMALES</b>					
<b>1979–1980</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	1017	3680–3821	2440–2501	5868–6040	14487–14886
N collared (n surviving)	49 (49)	40 (40)	40 (40)	39 (39)	49 (49)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1980–1981</b>					
Heisey-Fuller Survival Estimate	0.976	1.000	1.000	0.974	0.951
95% Confidence Interval (CI)	0.968–0.983			0.966–0.982	0.940–0.961
Radiodays (min.–max.)	2368–2523	3559–3868	2318–2501	5697–6156	14066–15204
N collared (n surviving)	43 (42)	40 (40)	38 (38)	38 (37)	43 (41)
Proportion surviving	0.977	1.000	1.000	0.974	0.953
Minimum Survival (95% CI)	0.967–0.982			0.942–0.962	0.919–0.942
Maximum Survival (95% CI)	0.969–0.983			0.966–0.982	0.938–0.960
<b>1981–1982</b>					
Heisey-Fuller Survival Estimate	0.975	0.972	1.000	0.971	0.920
95% Confidence Interval (CI)	0.967–0.983	0.963–0.981		0.961–0.981	0.905–0.934
Radiodays (min.–max.)	2293–2460	3201–3539	2074–2226	5042–5394	12672–13680
N collared (n surviving)	40 (39)	37 (36)	34 (34)	34 (33)	40 (37)
Proportion surviving	0.975	0.973	1.000	0.971	0.925
Minimum Survival (95% CI)	0.966–0.982	0.938–0.960		0.961–0.980	0.902–0.933
Maximum Survival (95% CI)	0.968–0.983	0.962–0.981		1.000	0.909–0.937

Table 13A-5d (con'd). Heisey-Fuller estimates of adult survival for the Grey River Caribou Herd. Survival is estimated by sex, season and year (hunting and poaching excluded). Spring and annual survival estimates are calculated from May 1, for animals older than 35 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>FEMALES (con'd)</b>					
<b>1982–1983</b>					
Heisey-Fuller Survival Estimate	<b>0.942</b>	<b>0.896</b>	<b>1.000</b>	<b>0.952</b>	<b>0.796</b>
95% Confidence Interval (CI)	0.929–0.956	0.875–0.918		0.932–0.972	0.767–0.826
Radiodays (min.–max.)	1975–2210	2474–2711	1400–1533	2966–3558	9151–10380
N collared (n surviving)	38 (36)	29 (26)	24 (24)	22 (21)	38 (32)
Proportion surviving	0.947	0.897	1.000	0.955	0.842
Minimum Survival (95% CI)	0.926–0.954	0.873–0.917		0.929–0.972	0.756–0.819
Maximum Survival (95% CI)	0.964–0.982	0.884–0.923		0.942–0.975	0.784–0.837
<b>1983–1984</b>					
Heisey-Fuller Survival Estimate	<b>0.957</b>	<b>0.954</b>	<b>1.000</b>	<b>0.946</b>	<b>0.864</b>
95% Confidence Interval (CI)	0.940–0.974	0.935–0.973		0.922–0.970	0.833–0.897
Radiodays (min.–max.)	1322–1544	1752–2212	1098–1332	2643–2806	7094–8173
N collared (n surviving)	29 (28)	23 (22)	18 (18)	18 (17)	29 (26)
Proportion surviving	0.966	0.957	1.000	0.944	0.897
Minimum Survival (95% CI)	0.937–0.973	0.927–0.971		0.920–0.970	0.823–0.892
Maximum Survival (95% CI)	0.947–0.976	1.000		0.925–0.971	0.891–0.939
<b>1984–1985</b>					
Heisey-Fuller Survival Estimate	<b>0.945</b>	<b>0.929</b>	<b>1.000</b>	<b>0.873</b>	<b>0.773</b>
95% Confidence Interval (CI)	0.921–0.970	0.894–0.966		0.832–0.917	0.723–0.826
Radiodays (min.–max.)	996–1159	1222–1405	915	2151–2265	5452–5912
N collared (n surviving)	21 (20)	17 (16)	15 (15)	15 (13)	21 (17)
Proportion surviving	0.952	0.941	1.000	0.867	0.810
Minimum Survival (95% CI)	1.000	0.837–0.919		0.825–0.915	0.734–0.831
Maximum Survival (95% CI)	1.000	0.891–0.965		0.834–0.918	0.770–0.869
<b>1985–1986</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.935</b>	<b>0.939</b>
95% Confidence Interval (CI)				0.903–0.967	0.911–0.968
Radiodays (min.–max.)	909–988	1525–1617	976–983	2131–2316	5667–6061
N collared (n surviving)	18 (18)	17 (17)	16 (16)	16 (15)	18 (17)
Proportion surviving	1.000	1.000	1.000	0.938	0.944
Minimum Survival (95% CI)				0.898–0.966	0.793–0.879
Maximum Survival (95% CI)				0.907–0.968	0.908–0.968
<b>1986–1987</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>		<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	663–724	948–1104	210–252		1853–2112
N collared (n surviving)	12 (12)	11 (11)	10 (10)		12 (12)
Proportion surviving	1.000	1.000	1.000		1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>Average, 1979–1987</b>					
Heisey-Fuller Survival Estimate					<b>0.916</b>
95% Confidence Interval (CI)	Seasonal averages are not possible for adults since the same individual may be recorded in more than one year. Annual averages span all years in a "staggered entry" design.				0.913–0.919
Radiodays (min.–max.)					72155–78097
N collared (n surviving)					82 (64)
Minimum Survival (95% CI)					0.910–0.916
Maximum Survival (95% CI)					0.953–0.968

Table 13A-5d (con'd). Heisey-Fuller estimates of adult survival for the Grey River Caribou Herd. Survival is estimated by sex, season and year (hunting and poaching excluded). Spring and annual survival estimates are calculated from May 1, for animals older than 35 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>MALES</b>					
<b>1979–1980</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	275	430–460	305	730–755	1800–1825
N collared (n surviving)	5 (5)	5 (5)	5 (5)	5 (5)	5 (5)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1980–1981</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	227–243	276	183	453	1139–1155
N collared (n surviving)	4 (4)	3 (3)	3 (3)	3 (3)	4 (4)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1981–1982</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	150–183	29–166	310–371	828–1027	1806–2234
N collared (n surviving)	9 (9)	7 (7)	6 (6)	6 (6)	9 (9)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1982–1983</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	0.812	0.838
95% Confidence Interval (CI)				0.676–0.975	0.727–0.966
Radiodays (min.–max.)	305–366	460–552	305–366	690–873	1760–2157
N collared (n surviving)	6 (6)	5 (5)	5 (5)	5 (4)	6 (5)
Proportion surviving	1.000	1.000	1.000	0.800	0.833
Minimum Survival (95% CI)				0.660–0.978	0.678–0.974
Maximum Survival (95% CI)				0.733–0.966	0.739–0.965
<b>1983–1984</b>					
Heisey-Fuller Survival Estimate	0.858	1.000	1.000	1.000	0.879
95% Confidence Interval (CI)	0.764–0.963				0.804–0.961
Radiodays (min.–max.)	371–503	676–736	435–549	1057–1177	2818–3274
N collared (n surviving)	12 (11)	9 (9)	8 (8)	7 (7)	12 (11)
Proportion surviving	0.917	1.000	1.000	1.000	0.917
Minimum Survival (95% CI)	0.745–0.965				0.803–0.961
Maximum Survival (95% CI)	0.816–0.961				0.832–0.961
<b>1984–1985</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.–max.)	610	860–915	488	1275–1303	3294–3377
N collared (n surviving)	10 (10)	10 (10)	8 (8)	8 (8)	10 (10)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					



Table 13A-5d (con'd). Heisey-Fuller estimates of adult survival for the Grey River Caribou Herd. Survival is estimated by sex, season and year (hunting and poaching excluded). Spring and annual survival estimates are calculated from May 1, for animals older than 35 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>MALES (con'd)</b>					
<b>1985–1986</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.784</b>	<b>0.847</b>
95% Confidence Interval (CI)				0.625–0.985	0.743–0.965
Radiodays (min.–max.)	395	605–644	305–312	465–610	2013–2204
N collared (n surviving)	7 (7)	7 (7)	5 (5)	5 (4)	7 (6)
Proportion surviving	1.000	1.000	1.000	0.800	0.857
Minimum Survival (95% CI)				0.508–1.000	0.719–0.968
Maximum Survival (95% CI)				0.615–0.990	0.744–0.965
<b>1986–1987</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>		<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	122	184	42–82		348–419
N collared (n surviving)	3 (3)	2 (2)	2 (2)		3 (3)
Proportion surviving	1.000	1.000	1.000		1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>Average, 1979–1987</b>					
Heisey-Fuller Survival Estimate					<b>0.959</b>
95% Confidence Interval (CI)	Seasonal averages are not possible for adults since the same individual may be recorded in more than one year. Annual averages span all years in a "staggered entry" design.				0.951–0.967
Radiodays (min.–max.)					16535–17962
N collared (n surviving)					25 (23)
Minimum Survival (95% CI)					0.948–0.965
Maximum Survival (95% CI)					0.953–0.968

Table 13A-5e. Heisey-Fuller estimates of adult survival for the Grey River Caribou Herd. Survival is estimated by sex, season and year (hunting and poaching included). Spring and annual survival estimates are calculated from May 1, for animals older than 35 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>SEXES COMBINED</b>					
<b>1979–1980</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>0.978</b>	<b>1.000</b>	<b>0.978</b>
95% Confidence Interval (CI)			0.972–0.985		0.972–0.984
Radiodays (min.–max.)	1292–1346	4140–4281	2685–2746	6598–6795	16076–16500
N collared (n surviving)	54 (54)	45 (45)	45 (44)	44 (44)	54 (53)
Proportion surviving	1.000	1.000	0.978	1.000	0.981
Minimum Survival (95% CI)			0.972–0.985		0.971–0.984
Maximum Survival (95% CI)			0.973–0.985		0.972–0.984
<b>1980–1981</b>					
Heisey-Fuller Survival Estimate	<b>0.978</b>	<b>1.000</b>	<b>1.000</b>	<b>0.976</b>	<b>0.954</b>
95% Confidence Interval (CI)	0.971–0.984			0.969–0.983	0.945–0.964
Radiodays (min.–max.)	2595–2766	3835–4144	2501–2684	6150–6609	15205–16359
N collared (n surviving)	47 (46)	43 (43)	41 (41)	41 (40)	47 (45)
Proportion surviving	0.979	1.000	1.000	0.976	0.957
Minimum Survival (95% CI)	0.970–0.984			0.946–0.965	0.925–0.946
Maximum Survival (95% CI)	0.972–0.984			0.968–0.983	0.943–0.963
<b>1981–1982</b>					
Heisey-Fuller Survival Estimate	<b>0.976</b>	<b>0.973</b>	<b>1.000</b>	<b>0.951</b>	<b>0.910</b>
95% Confidence Interval (CI)	0.969–0.983	0.964–0.981		0.940–0.961	0.896–0.923
Radiodays (min.–max.)	2445–2643	3230–3705	1899–2597	4431–6421	14478–15914
N collared (n surviving)	49 (48)	44 (43)	40 (40)	40 (38)	49 (45)
Proportion surviving	0.980	0.977	1.000	0.950	0.918
Minimum Survival (95% CI)	0.968–0.983	0.941–0.962		0.939–0.961	0.890–0.919
Maximum Survival (95% CI)	0.971–0.984	0.963–0.981		1.000	0.922–0.945
<b>1982–1983</b>					
Heisey-Fuller Survival Estimate	<b>0.928</b>	<b>0.911</b>	<b>1.000</b>	<b>0.923</b>	<b>0.775</b>
95% Confidence Interval (CI)	0.916–0.941	0.895–0.929		0.903–0.944	0.750–0.801
Radiodays (min.–max.)	1011–1693	2428–2648	1533–1538	3700–2939	8136–9912
N collared (n surviving)	44 (41)	34 (31)	29 (29)	27 (25)	44 (36)
Proportion surviving	0.932	0.912	1.000	0.926	0.818
Minimum Survival (95% CI)	0.816–0.858	0.916–0.950		0.874–0.932	0.627–0.702
Maximum Survival (95% CI)	0.913–0.948	0.949–0.977		0.945–0.978	0.839–0.888
<b>1983–1984</b>					
Heisey-Fuller Survival Estimate	<b>0.934</b>	<b>0.966</b>	<b>1.000</b>	<b>0.961</b>	<b>0.868</b>
95% Confidence Interval (CI)	0.918–0.951	0.954–0.978		0.946–0.976	0.846–0.892
Radiodays (min.–max.)	1517–2047	2948–3616	1881–2318	2804–3983	10194–11447
N collared (n surviving)	41 (39)	32 (31)	26 (26)	25 (24)	41 (37)
Proportion surviving	0.951	0.969	1.000	0.960	0.902
Minimum Survival (95% CI)	0.876–0.900	0.967–0.983		0.898–0.942	0.717–0.773
Maximum Survival (95% CI)	0.929–0.956	1.000		0.949–0.977	0.891–0.927
<b>1984–1985</b>					
Heisey-Fuller Survival Estimate	<b>0.965</b>	<b>0.914</b>	<b>1.000</b>	<b>0.870</b>	<b>0.774</b>
95% Confidence Interval (CI)	0.952–0.978	0.891–0.939		0.841–0.901	0.740–0.809
Radiodays (min.–max.)	1606–1769	2057–2295	1403	3124–3361	8358–8996
N collared (n surviving)	31 (30)	27 (25)	23 (23)	23 (20)	31 (25)
Proportion surviving	0.968	0.926	1.000	0.870	0.806
Minimum Survival (95% CI)	1.000	0.862–0.911		0.834–0.897	0.752–0.817
Maximum Survival (95% CI)	1.000	0.891–0.939		0.846–0.903	0.771–0.838

Table 13A-5e (con'd). Heisey-Fuller estimates of adult survival for the Grey River Caribou Herd. Survival is estimated by sex, season and year (hunting and poaching included). Spring and annual survival estimates are calculated from May 1, for animals older than 35 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>SEXES COMBINED (con'd)</b>					
<b>1985–1986</b>					
Heisey-Fuller Survival Estimate	1.000	0.958	1.000	0.900	0.869
95% Confidence Interval (CI)		0.942–0.975		0.870–0.931	0.839–0.900
Radiodays (min.– max.)	1304–1383	2116–2247	1281–1295	2596–2926	7454–8039
N collared (n surviving)	25 (25)	24 (23)	21 (21)	21 (19)	25 (22)
Proportion surviving	1.000	0.958	1.000	0.905	0.880
Minimum Survival (95% CI)		0.941–0.974		0.856–0.926	0.762–0.833
Maximum Survival (95% CI)		0.945–0.975		0.873–0.932	0.832–0.896
<b>1986–1987</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000		1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	785–846	1132–1288	292–294		2272–2460
N collared (n surviving)	15 (15)	13(13)	12 (12)		15 (15)
Proportion surviving	1.000	1.000	1.000		1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>Average, 1979–1987</b>					
Heisey-Fuller Survival Estimate	Seasonal averages are not possible for adults since the same individual may be recorded in more than one year. Annual averages span all years in a "staggered entry" design.				0.898
95% Confidence Interval (CI)					0.896–0.901
Radiodays (min.– max.)					81684–89157
N collared (n surviving)					107 (82)
Minimum Survival (95% CI)					0.892–0.897
Maximum Survival (95% CI)					0.900–0.905
<b>FEMALES</b>					
<b>1979–1980</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	0.975	1.000	0.975
95% Confidence Interval (CI)			0.967–0.983		0.968–0.983
Radiodays (min.– max.)	1017	3680–3821	2380–2441	5868–6040	14276–14675
N collared (n surviving)	49 (49)	40 (40)	40 (39)	39 (39)	49 (48)
Proportion surviving	1.000	1.000	0.975	1.000	0.980
Minimum Survival (95% CI)			0.857–0.983		0.967–0.983
Maximum Survival (95% CI)			0.968–0.983		0.968–0.983
<b>1980–1981</b>					
Heisey-Fuller Survival Estimate	0.976	1.000	1.000	0.974	0.951
95% Confidence Interval (CI)	0.968–0.983			0.966–0.982	0.940–0.961
Radiodays (min.– max.)	2368–2523	3559–3868	2318–2501	5697–6156	14066–15204
N collared (n surviving)	43 (42)	40 (40)	38 (38)	38 (37)	43 (41)
Proportion surviving	0.977	1.000	1.000	0.974	0.953
Minimum Survival (95% CI)	0.967–0.982			0.942–0.962	0.919–0.942
Maximum Survival (95% CI)	0.969–0.983			0.966–0.982	0.938–0.960
<b>1981–1982</b>					
Heisey-Fuller Survival Estimate	0.975	0.972	1.000	0.943	0.895
95% Confidence Interval (CI)	0.967–0.983	0.963–0.981		0.929–0.956	0.879–0.912
Radiodays (min.– max.)	2293–2460	3201–3539	2074–2226	5042–5394	12672–13680
N collared (n surviving)	40 (39)	37 (36)	34 (34)	34 (32)	40 (36)
Proportion surviving	0.975	0.973	1.000	0.941	0.900
Minimum Survival (95% CI)	0.966–0.982	0.938–0.960		0.928–0.955	0.874–0.909
Maximum Survival (95% CI)	0.968–0.983	0.962–0.981		1.000	0.909–0.937

Table 13A-5e (con'd). Heisey-Fuller estimates of adult survival for the Grey River Caribou Herd. Survival is estimated by sex, season and year (hunting and poaching included). Spring and annual survival estimates are calculated from May 1, for animals older than 35 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

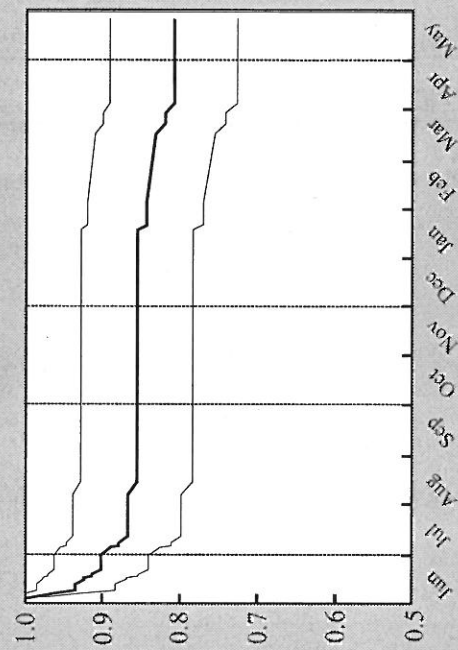
Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>FEMALES (con'd)</b>					
<b>1982–1983</b>					
Heisey-Fuller Survival Estimate	<b>0.916</b>	<b>0.896</b>	<b>1.000</b>	<b>0.952</b>	<b>0.762</b>
95% Confidence Interval (CI)	0.901–0.932	0.875–0.918		0.932–0.972	0.731–0.794
Radiodays (min.–max.)	1941–2185	2474–2711	1400–1533	2966–3558	8813–10051
N collared (n surviving)	38 (35)	29 (26)	24 (24)	22 (21)	38 (31)
Proportion surviving	0.921	0.897	1.000	0.955	0.816
Minimum Survival (95% CI)	0.893–0.928	0.873–0.917		0.929–0.972	0.714–0.784
Maximum Survival (95% CI)	0.934–0.958	0.884–0.923		0.942–0.975	0.747–0.805
<b>1983–1984</b>					
Heisey-Fuller Survival Estimate	<b>0.957</b>	<b>0.954</b>	<b>1.000</b>	<b>0.946</b>	<b>0.864</b>
95% Confidence Interval (CI)	0.940–0.974	0.935–0.973		0.922–0.970	0.833–0.897
Radiodays (min.–max.)	1322–1544	1752–2212	1098–1332	2643–2806	7094–8173
N collared (n surviving)	29 (28)	23 (22)	18 (18)	18 (17)	29 (26)
Proportion surviving	0.966	0.957	1.000	0.944	0.897
Minimum Survival (95% CI)	0.937–0.973	0.927–0.971		0.920–0.970	0.823–0.892
Maximum Survival (95% CI)	0.947–0.976	1.000		0.925–0.971	0.891–0.939
<b>1984–1985</b>					
Heisey-Fuller Survival Estimate	<b>0.945</b>	<b>0.929</b>	<b>1.000</b>	<b>0.873</b>	<b>0.773</b>
95% Confidence Interval (CI)	0.921–0.970	0.894–0.966		0.832–0.917	0.723–0.826
Radiodays (min.–max.)	996–1159	1222–1405	915	2151–2265	5452–5912
N collared (n surviving)	21 (20)	17 (16)	15 (15)	15 (13)	21 (17)
Proportion surviving	0.952	0.941	1.000	0.867	0.810
Minimum Survival (95% CI)	1.000	0.837–0.919		0.825–0.915	0.734–0.831
Maximum Survival (95% CI)	1.000	0.891–0.965		0.834–0.918	0.770–0.869
<b>1985–1986</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.935</b>	<b>0.939</b>
95% Confidence Interval (CI)				0.903–0.967	0.911–0.968
Radiodays (min.–max.)	909–988	1525–1617	976–983	2131–2316	5667–6061
N collared (n surviving)	18 (18)	17 (17)	16 (16)	16 (15)	18 (17)
Proportion surviving	1.000	1.000	1.000	0.938	0.944
Minimum Survival (95% CI)				0.898–0.966	0.793–0.879
Maximum Survival (95% CI)				0.907–0.968	0.908–0.968
<b>1986–1987</b>					
Heisey-Fuller Survival Estimate	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>		<b>1.000</b>
95% Confidence Interval (CI)					
Radiodays (min.–max.)	663–724	948–1104	210–252		1853–2112
N collared (n surviving)	12 (12)	11 (11)	10 (10)		12 (12)
Proportion surviving	1.000	1.000	1.000		1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>Average, 1979–1987</b>					
Heisey-Fuller Survival Estimate					<b>0.901</b>
95% Confidence Interval (CI)	Seasonal averages are not possible for adults since the same individual may be recorded in more than one year. Annual averages span all years in a "staggered entry" design.				0.898–0.904
Radiodays (min.–max.)					67588–73539
N collared (n surviving)					82 (62)
Minimum Survival (95% CI)					0.894–0.901
Maximum Survival (95% CI)					0.903–0.908

Table 13A-5e (con'd). Heisey-Fuller estimates of adult survival for the Grey River Caribou Herd. Survival is estimated by sex, season and year (hunting and poaching included). Spring and annual survival estimates are calculated from May 1, for animals older than 35 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

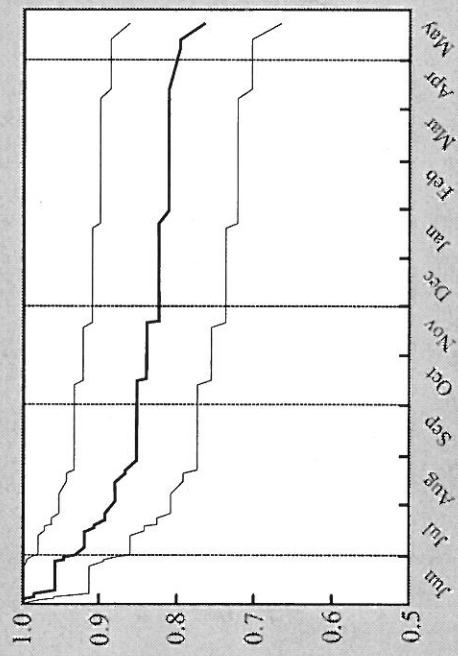
Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>MALES</b>					
<b>1979–1980</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	275	430–460	305	730–755	1800–1825
N collared (n surviving)	5 (5)	5 (5)	5 (5)	5 (5)	5 (5)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1980–1981</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	227–243	276	183	453	1139–1155
N collared (n surviving)	4 (4)	3 (3)	3 (3)	3 (3)	4 (4)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1981–1982</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	1.000	1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	150–183	29–166	310–371	828–1027	1806–2234
N collared (n surviving)	9 (9)	7 (7)	6 (6)	6 (6)	9 (9)
Proportion surviving	1.000	1.000	1.000	1.000	1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>1982–1983</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000	0.812	0.838
95% Confidence Interval (CI)				0.676–0.975	0.727–0.966
Radiodays (min.– max.)	305–366	460–552	305–366	690–873	1760–2157
N collared (n surviving)	6 (6)	5 (5)	5 (5)	5 (4)	6 (5)
Proportion surviving	1.000	1.000	1.000	0.800	0.833
Minimum Survival (95% CI)				0.660–0.978	0.678–0.974
Maximum Survival (95% CI)				0.733–0.966	0.739–0.965
<b>1983–1984</b>					
Heisey-Fuller Survival Estimate	0.858	1.000	1.000	1.000	0.879
95% Confidence Interval (CI)	0.764–0.963				0.804–0.961
Radiodays (min.– max.)	371–503	676–736	435–549	1057–1177	2818–3274
N collared (n surviving)	12 (11)	9 (9)	8 (8)	7 (7)	12 (11)
Proportion surviving	0.917	1.000	1.000	1.000	0.917
Minimum Survival (95% CI)	0.745–0.965				0.803–0.961
Maximum Survival (95% CI)	0.816–0.961				0.832–0.961
<b>1984–1985</b>					
Heisey-Fuller Survival Estimate	1.000	0.892	1.000	0.864	0.776
95% Confidence Interval (CI)		0.828–0.961		0.776–0.962	0.684–0.881
Radiodays (min.– max.)	610	835–890	488	973–1096	2906–3084
N collared (n surviving)	10 (10)	10 (9)	8 (8)	8 (7)	10 (8)
Proportion surviving	1.000	0.900	1.000	0.875	0.800
Minimum Survival (95% CI)		0.835–0.961		0.761–0.963	0.686–0.882
Maximum Survival (95% CI)		0.846–0.961		0.789–0.961	0.704–0.884

Table 13A-5e (con'd). Heisey-Fuller estimates of adult survival for the Grey River Caribou Herd. Survival is estimated by sex, season and year (hunting and poaching included). Spring and annual survival estimates are calculated from May 1, for animals older than 35 months of age. Survival is estimated using the midpoint between the last date the animal was determined to be alive and the first date the animal was a known mortality. Proportion surviving is calculated including censorship cases (slipped and malfunctioning collars). For this reason, and with a variable (midpoint) date of death determination, number of collared and surviving animals is not constant through all seasons.

Sex and Year	Spring (May 1–June 30)	Summer (July 1–September 30)	Fall (October 1–November 30)	Winter (December 1–April 30)	ANNUAL (May 1–April 30)
<b>MALES (con'd)</b>					
<b>1985–1986</b>					
Heisey-Fuller Survival Estimate	1.000	0.861	1.000	0.784	0.690
95% Confidence Interval (CI)		0.770–0.962		0.625–0.985	0.549–0.867
Radiodays (min.– max.)	395	591–630	305–312	465–610	1787–1978
N collared (n surviving)	7 (7)	7 (6)	5 (5)	5 (4)	7 (5)
Proportion surviving	1.000	0.857	1.000	0.800	0.714
Minimum Survival (95% CI)		0.760–0.963		0.508–1.000	0.509–0.867
Maximum Survival (95% CI)		0.776–0.962		0.615–0.990	0.550–0.868
<b>1986–1987</b>					
Heisey-Fuller Survival Estimate	1.000	1.000	1.000		1.000
95% Confidence Interval (CI)					
Radiodays (min.– max.)	122	184	42–82		348–419
N collared (n surviving)	3 (3)	2 (2)	2 (2)		3 (3)
Proportion surviving	1.000	1.000	1.000		1.000
Minimum Survival (95% CI)					
Maximum Survival (95% CI)					
<b>Average, 1979–1987</b>					
Heisey-Fuller Survival Estimate					0.884
95% Confidence Interval (CI)	Seasonal averages are not possible for adults since the same individual may be recorded in more than one year. Annual averages span all years in a "staggered entry" design.				0.870–0.899
Radiodays (min.– max.)					14096–15618
N collared (n surviving)					25 (20)
Minimum Survival (95% CI)					0.863–0.895
Maximum Survival (95% CI)					0.876–0.904



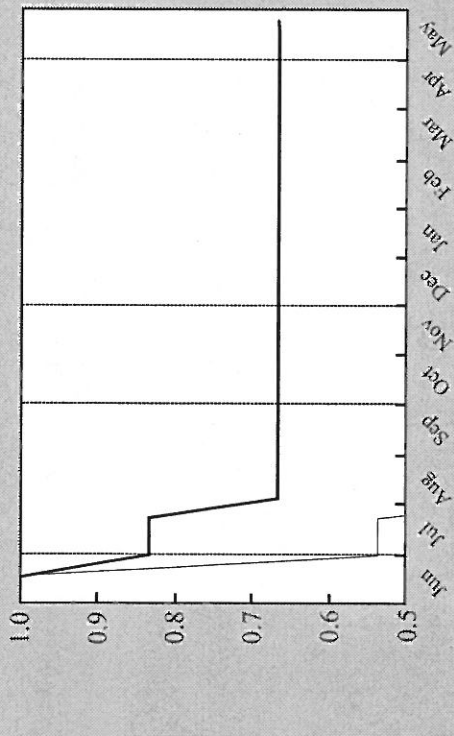
Males, 1979-1984 (N=123)



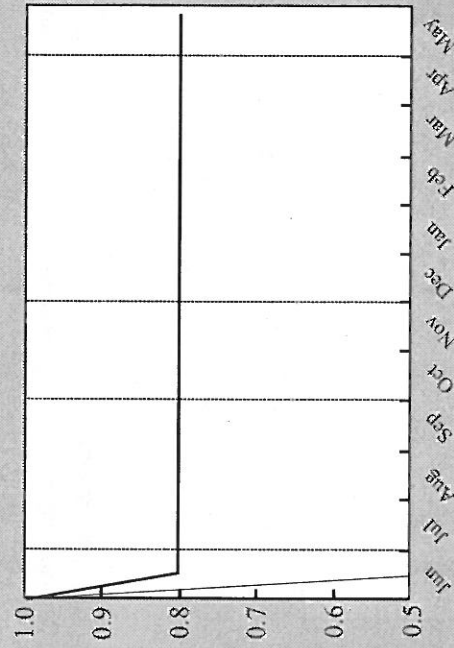
Females, 1979-1984 (N=94)

Month / Season

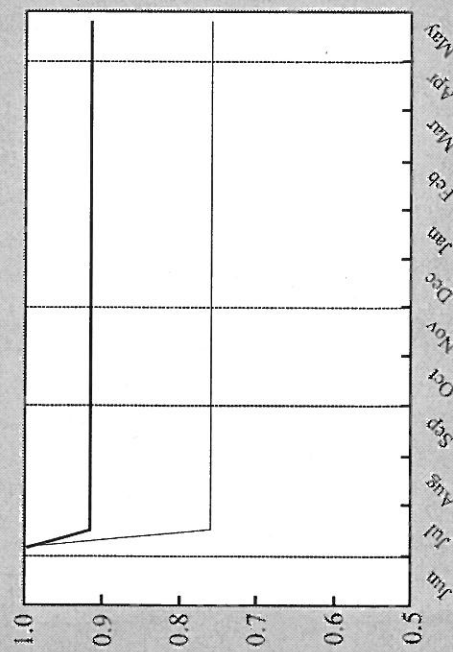
Fig. 13A-4a. Annual Kaplan-Meier survival estimates for calves from the Grey River Caribou Herd, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries used in Heisey-Fuller calculations. Calculations exclude cases of mortality related to collaring and calf abandonment.



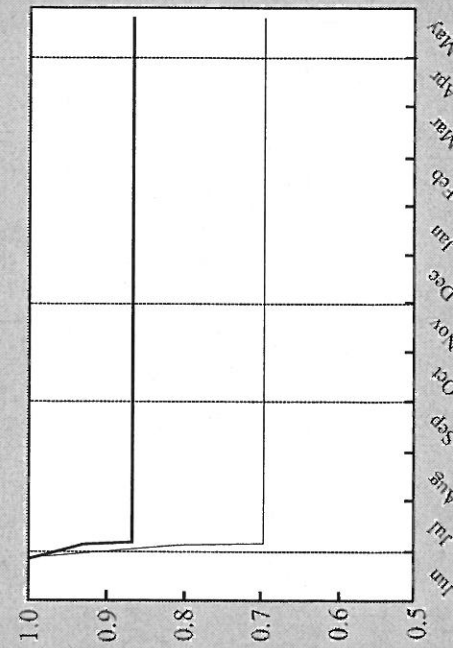
Females, 1979-1980 (N=6)



Females, 1980-1981 (N=13)



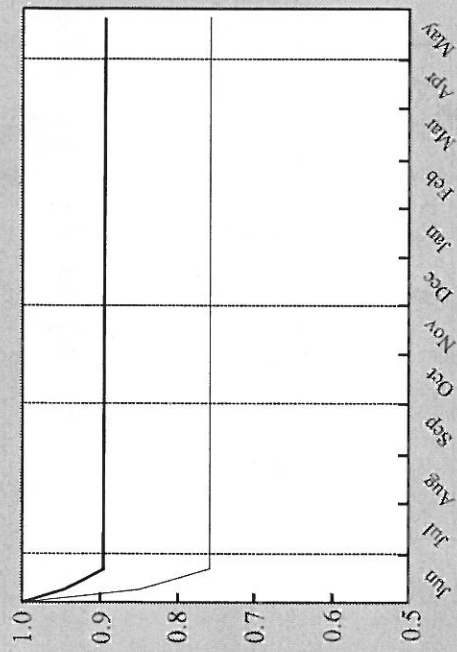
Males, 1980-1981 (N=17)



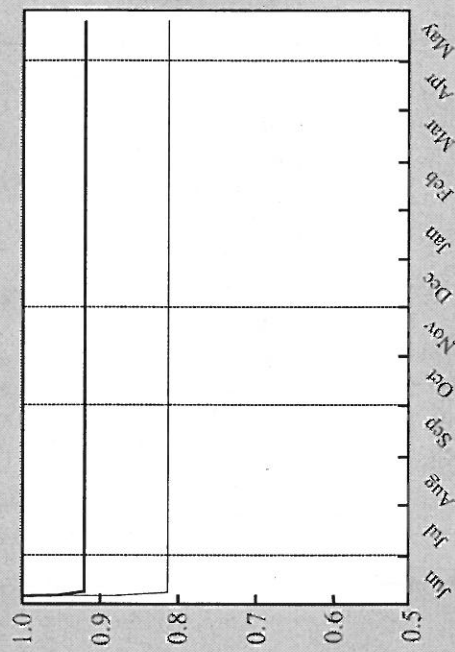
Month / Season

Fig. 13A-4a (con'd). Annual Kaplan-Meier survival estimates for calves from the Grey River Caribou Herd, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries used in Heisey-Fuller calculations. Calculations exclude cases of mortality related to collaring and calf abandonment.

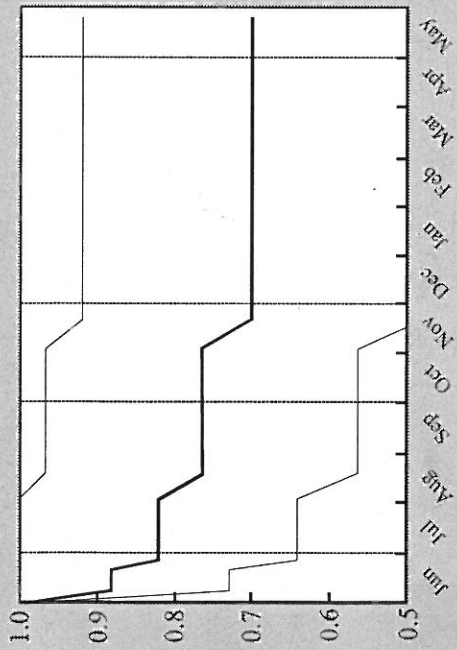




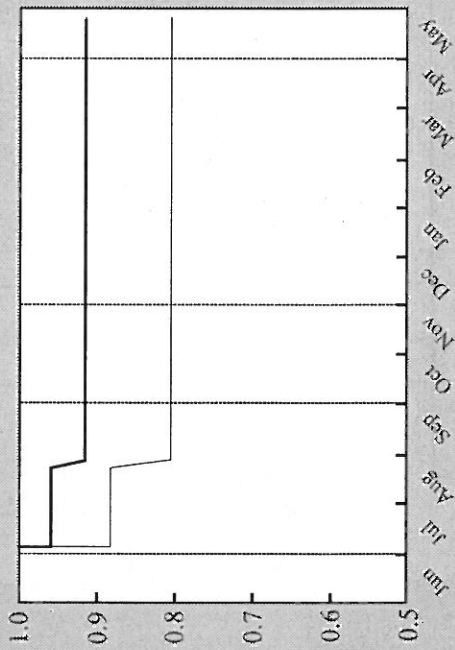
Males, 1981-1982 (N=12)



Males, 1982-1983 (N=25)



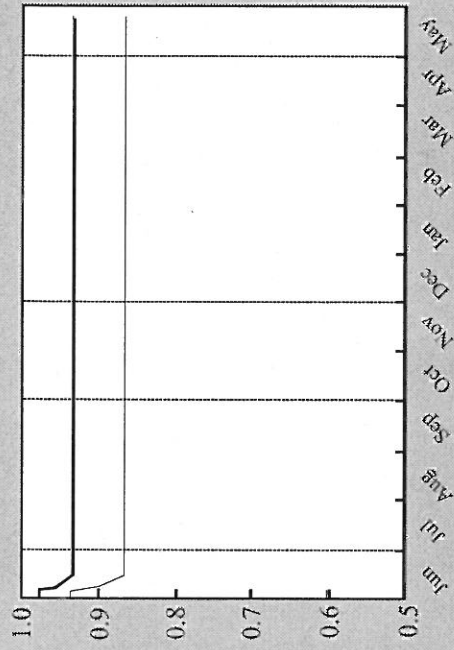
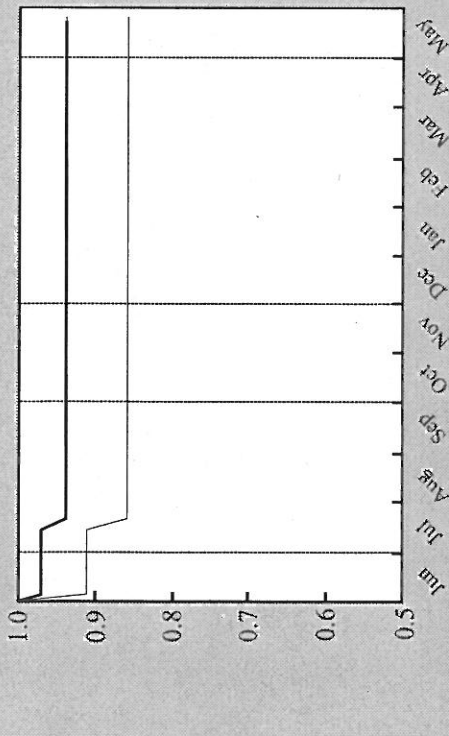
Females, 1981-1982 (N=8)



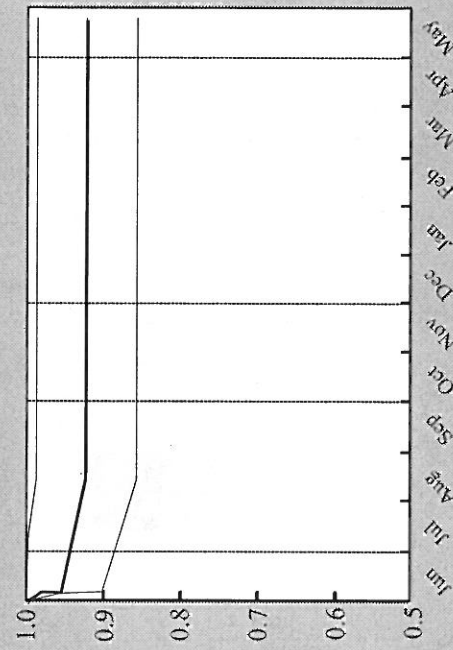
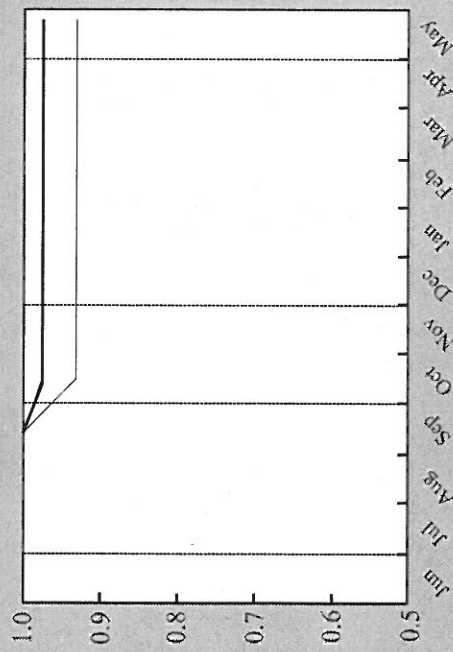
Females, 1982-1983 (N=19)

Month / Season

Fig. 13A-4a (con'd). Annual Kaplan-Meier survival estimates for calves from the Grey River Caribou Herd, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries used in Heisey-Fuller calculations. Calculations exclude cases of mortality related to collaring and calf abandonment.



Calf Survival



Month / Season

Fig. 13A-4a (con'd). Annual Kaplan-Meier survival estimates for calves from the Grey River Caribou Herd, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries used in Heisey-Fuller calculations. Calculations exclude cases of mortality related to collaring and calf abandonment.

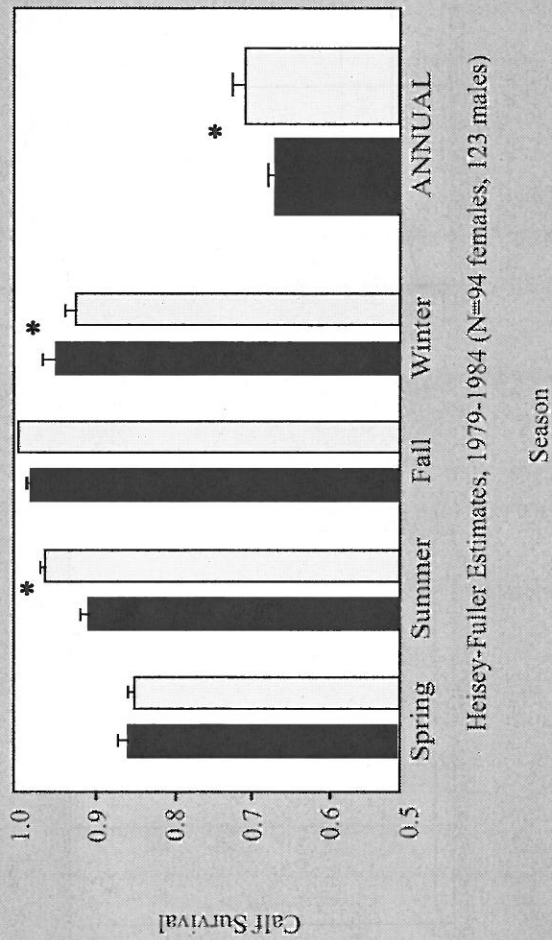


Fig. 13A-4a (con'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) calves, by season and as annual estimates (wide bars), combining data from 1979-1984 for the Grey River Caribou Herd; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes in seasonal and annual estimates; cases of all animals surviving do no permit statistical comparisons. All calculations exclude cases of mortality related to collaring and calf abandonment.

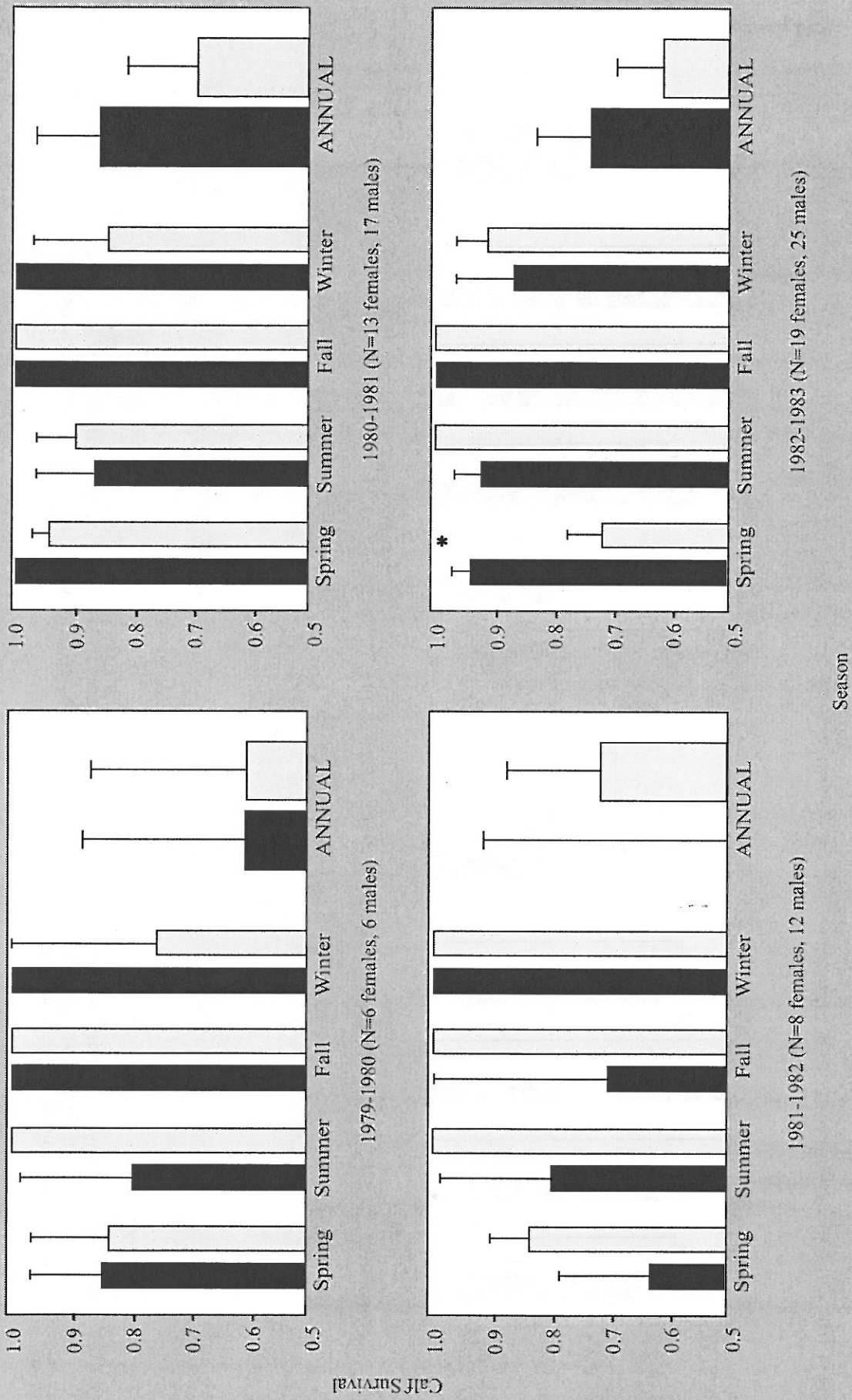


Fig. 13A-4a (con'd). Annual Heisey-Fuller survival estimates for female (solid bars) and male (light bars) calves, by season and year (wide bars), from the Grey River Caribou Herd; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.

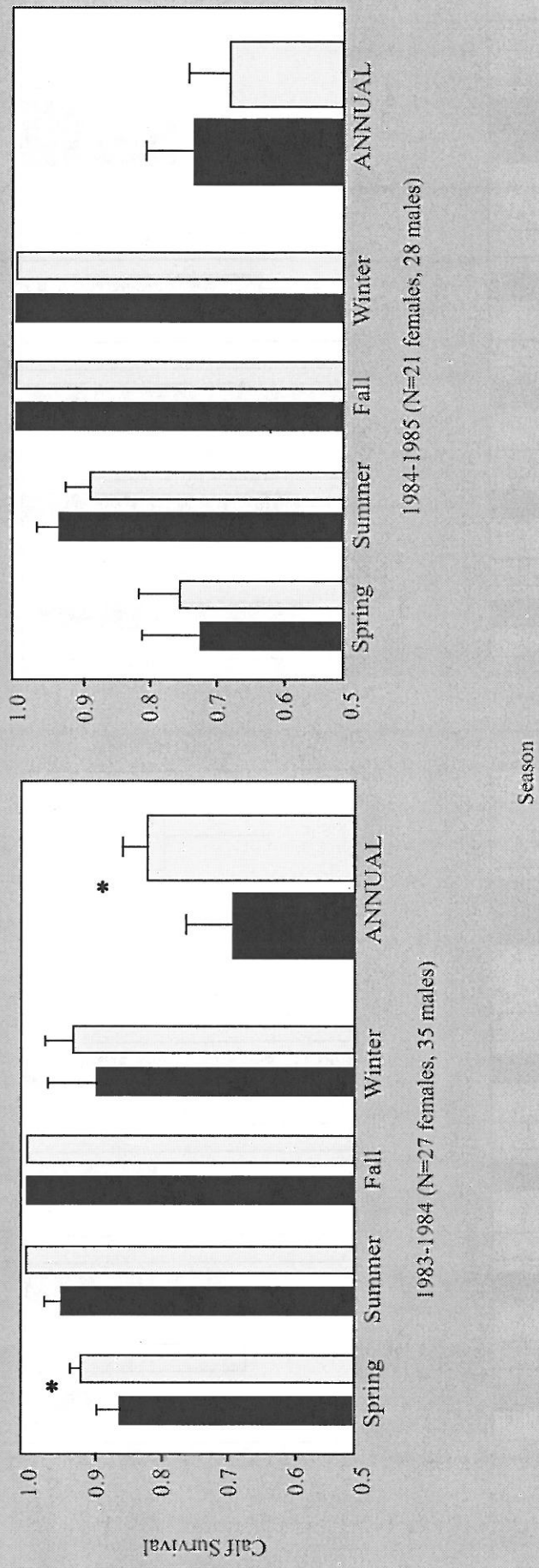
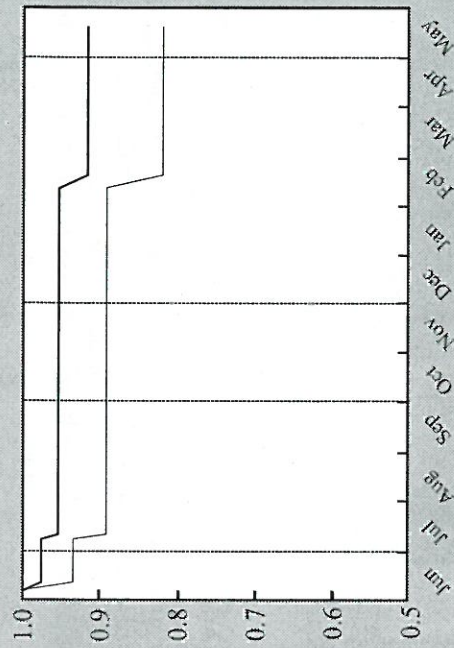
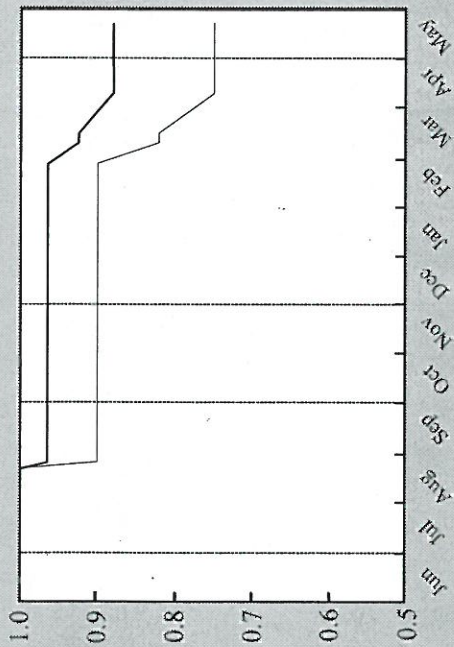


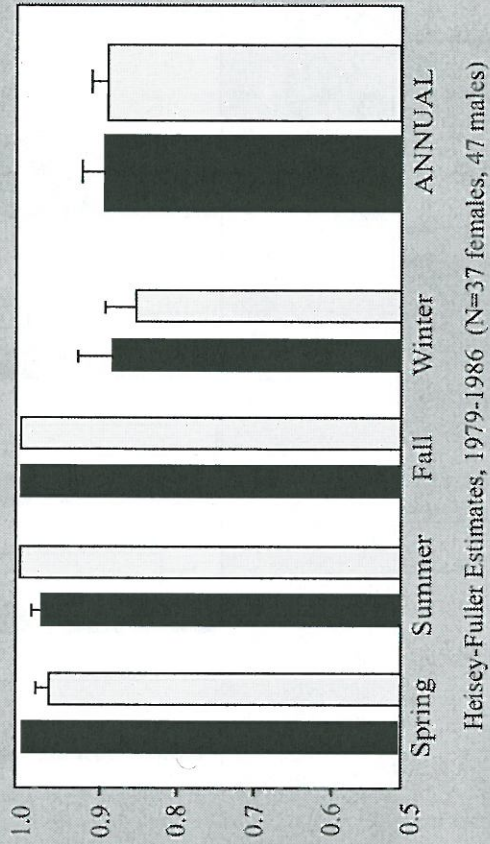
Fig. 13A-4a (con't). Annual Heisey-Fuller survival estimates for female (solid bars) and male (light bars) calves, by season and year (wide bars), from the Grey River Caribou Herd; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.



Males, 1979-1986 (N=47)

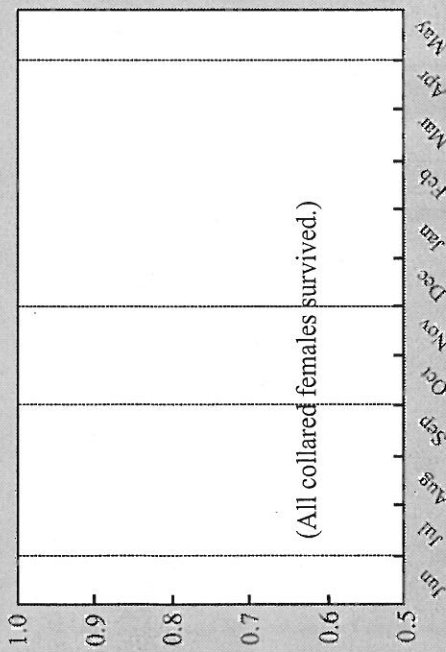


Females, 1979-1986 (N=37)

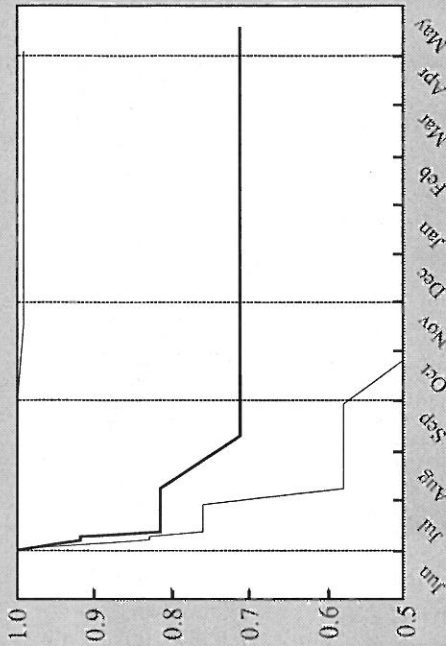


Month / Season

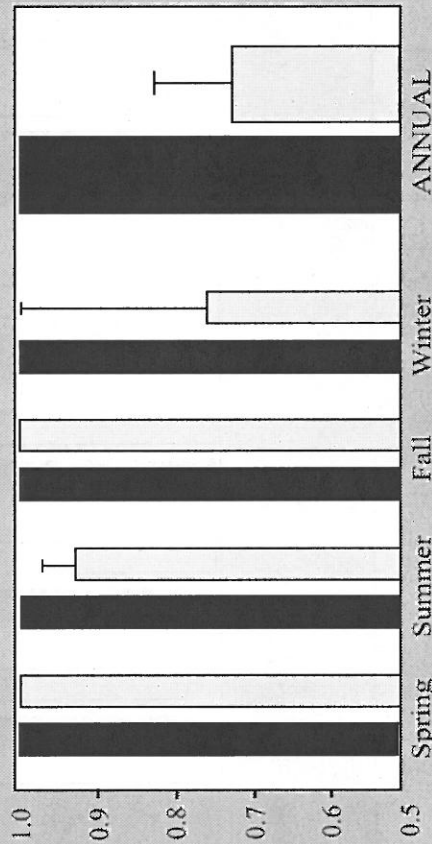
Fig. 13A-4b. Kaplan-Meier (top) and Heisey-Fuller (bottom) survival estimates for yearlings from the Grey River Caribou Herd, from June 1 to May 31, combining data from 1979-1986. Kaplan-Meier estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries used in Heisey-Fuller calculations. Heisey-Fuller estimates are for females (solid bars) and males (light bars), by season and as annual estimates (wide bars); error bars show upper 95% confidence limits. Asterisks indicate differences between sexes in seasonal and annual estimates; cases of all animals surviving do not permit statistical comparisons. All calculations exclude cases of mortality related to collaring.



Females, 1979-1986 (N=19)



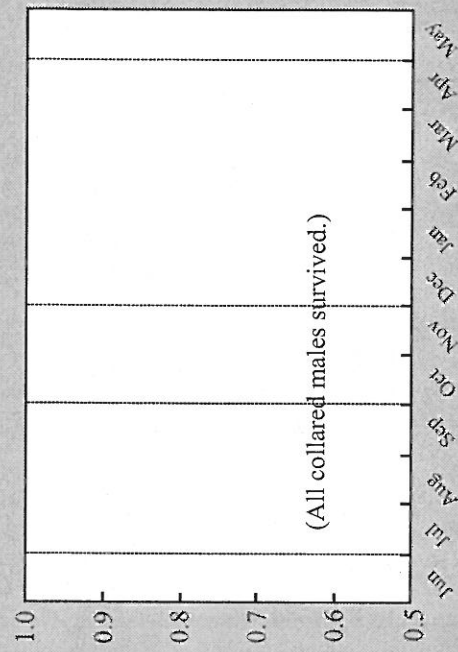
Males, 1979-1986 (N=14)



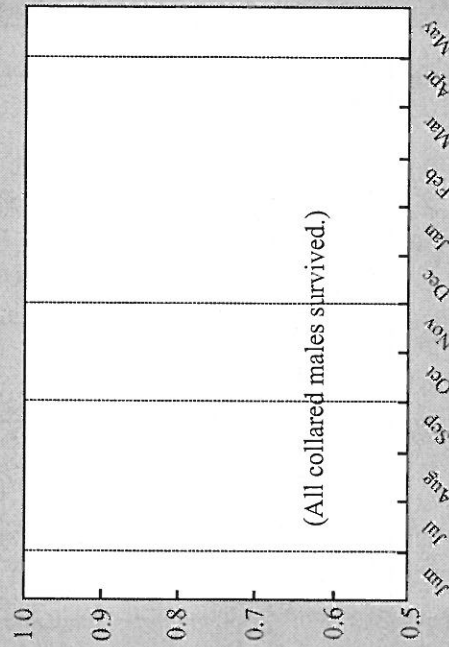
Heisey-Fuller Estimates, 1979-1986 (N=19 females, 14 males)

Month / Season

Fig. 13A-4c. Kaplan-Meier (top) and Heisey-Fuller (bottom) survival estimates for two-year-olds from the Grey River Caribou Herd, from June 1 to May 31, combining data from 1979-1986. Kaplan-Meier estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries used in Heisey-Fuller calculations. Heisey-Fuller estimates are for females (solid bars) and males (light bars), by season and as annual estimates (wide bars); error bars show upper 95% confidence limits. Asterisks indicate differences between sexes in seasonal and annual estimates; cases of all animals surviving do not permit statistical comparisons. All calculations exclude cases of mortality related to collaring.

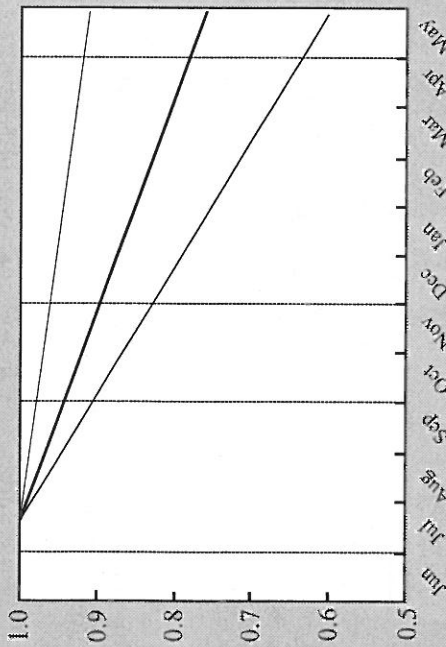


Males, 1979-1980 (N=5)

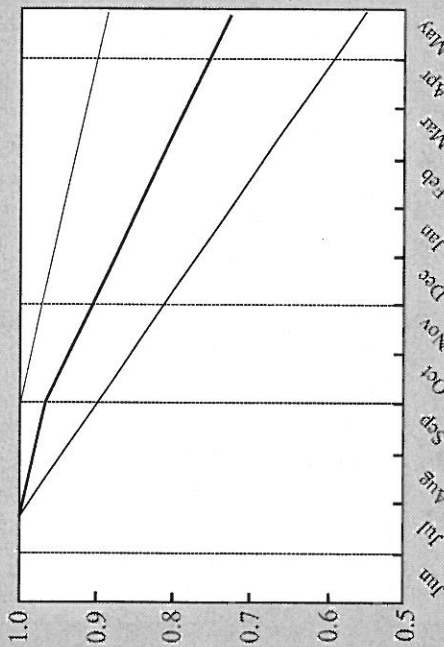


Males, 1979-1980 (N=5)

Month / Season



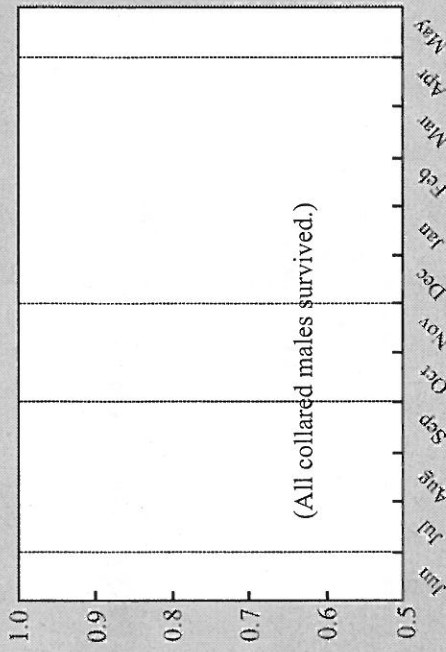
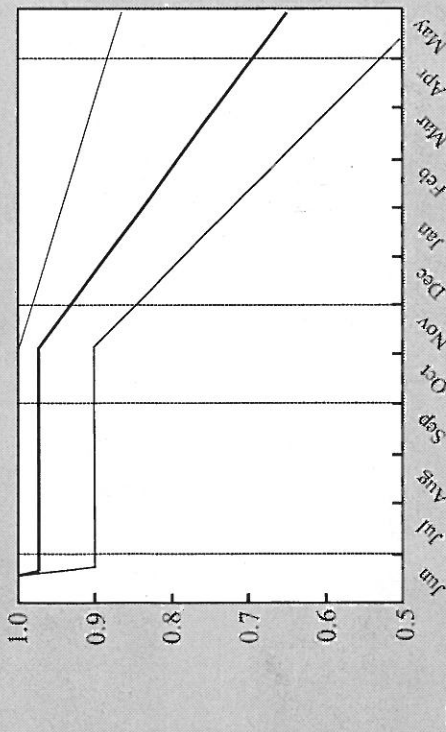
Females, 1979-1980 (N=49)



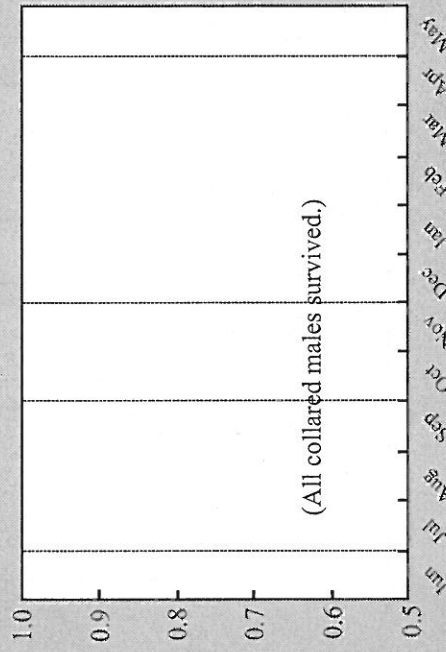
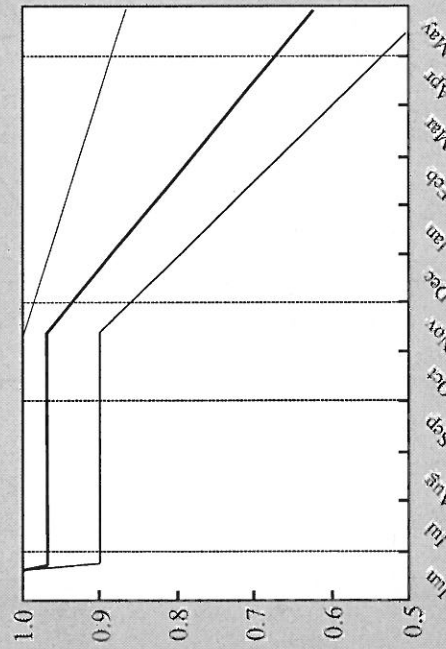
Females, 1979-1980 (N=49)

Fig. 13A-4d. Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from the Grey River Caribou Herd, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.



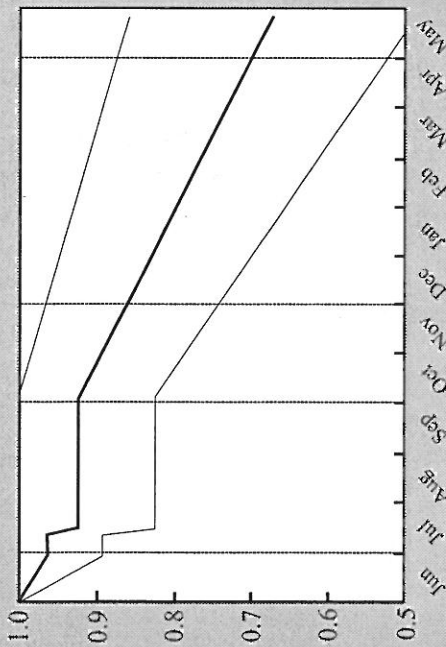


Adult Survival

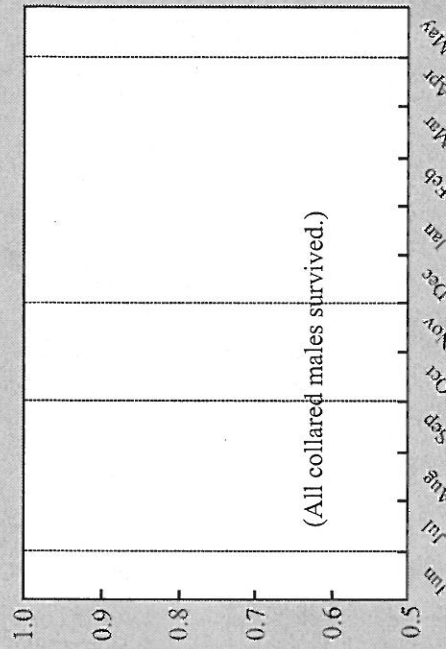


Month / Season

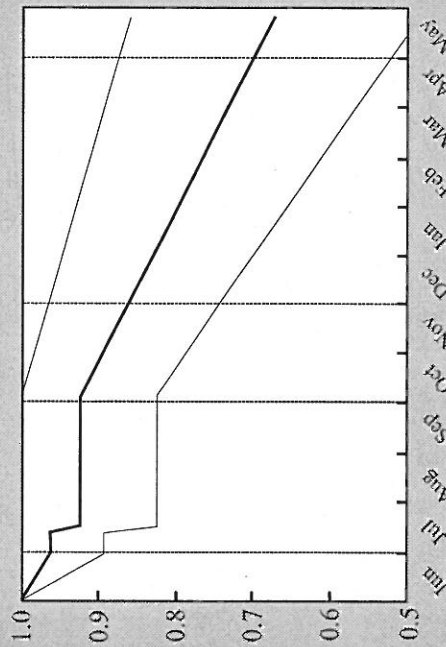
Fig. 13A-4d (con'd). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from the Grey River Caribou Herd, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.



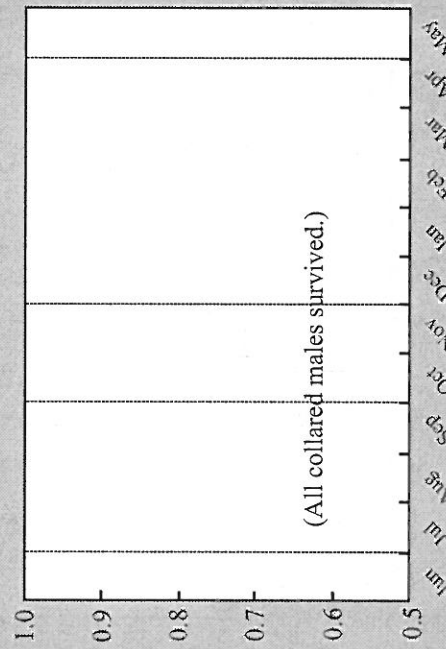
Females, 1981-1982 (N=40)



Males, 1981-1982 (N=9)



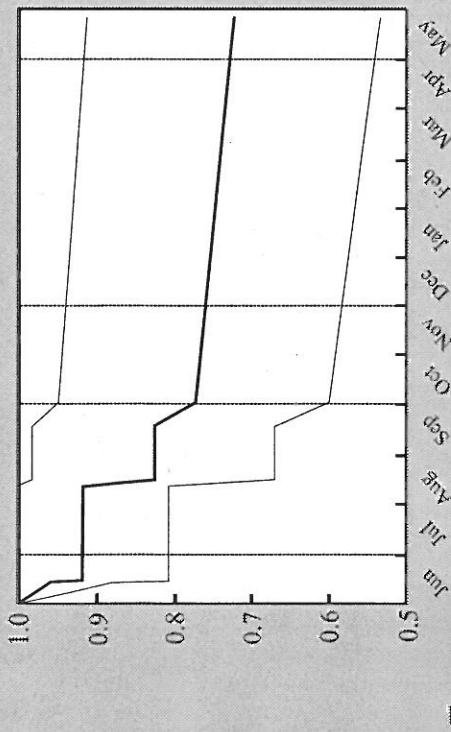
Females, 1981-1982 (N=40)



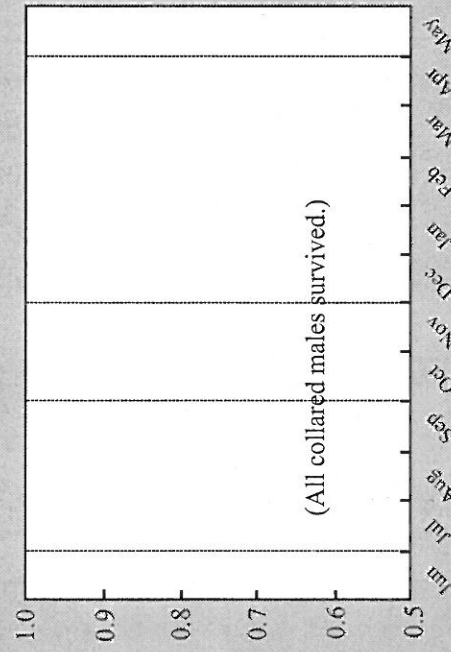
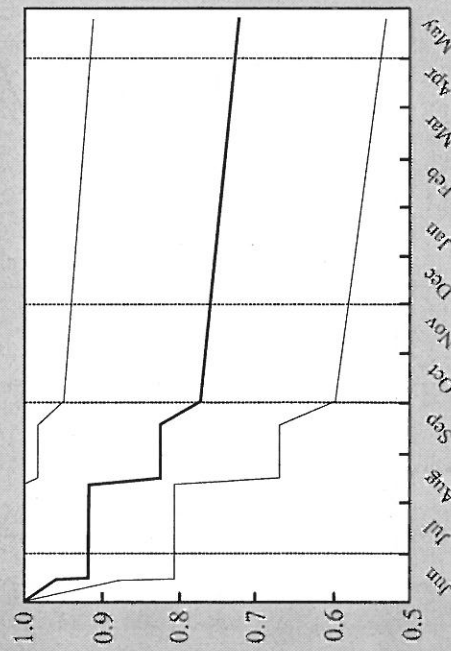
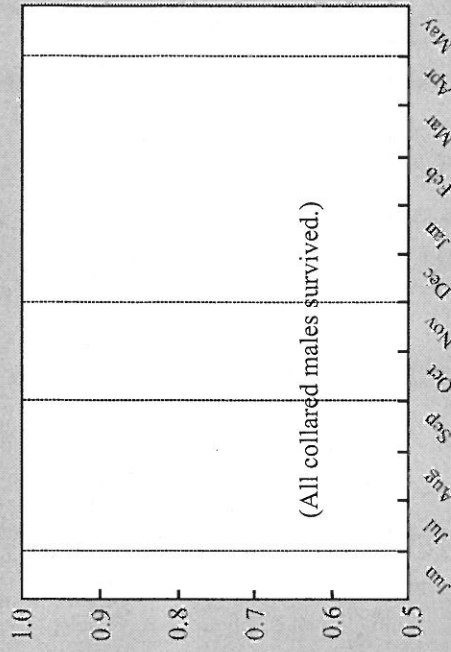
Males, 1981-1982 (N=9)

Month / Season

Fig. 13A-4d (con'd). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from the Grey River Caribou Herd, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.

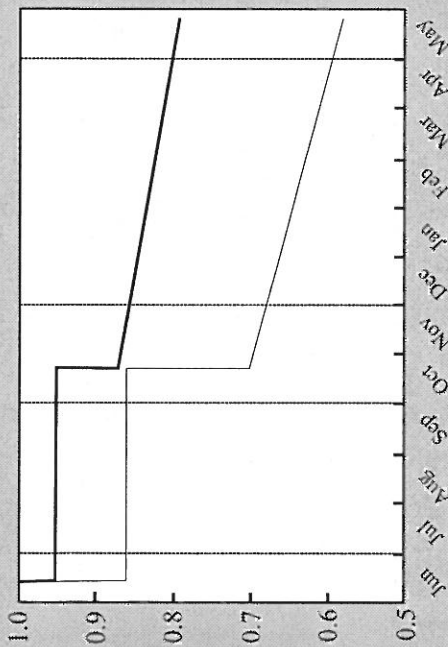


Adult Survival

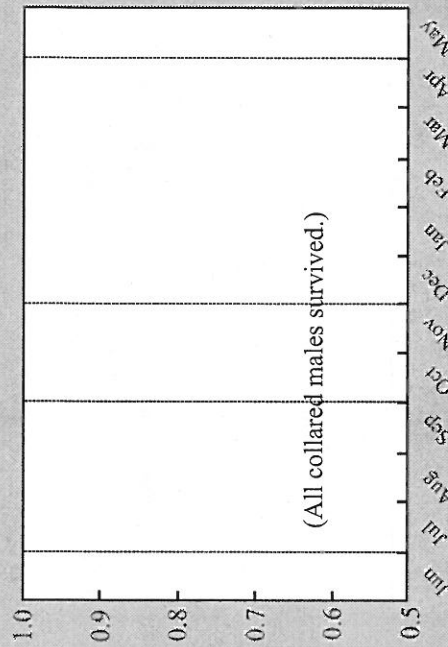


Month / Season

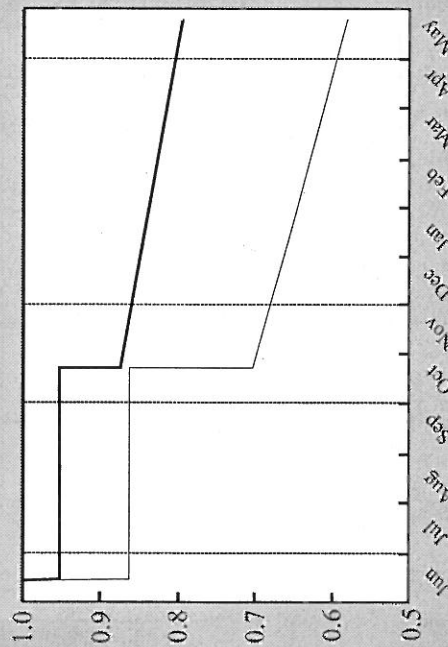
Fig. 13A-4d (con'd). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from the Grey River Caribou Herd, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.



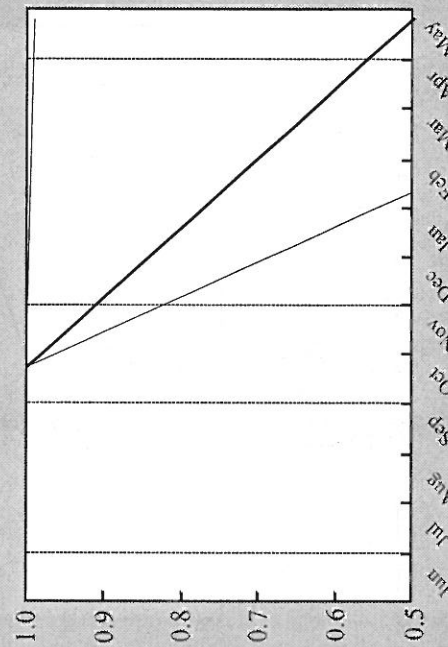
Females, 1983-1984 (N=29)



Males, 1983-1984 (N=12)



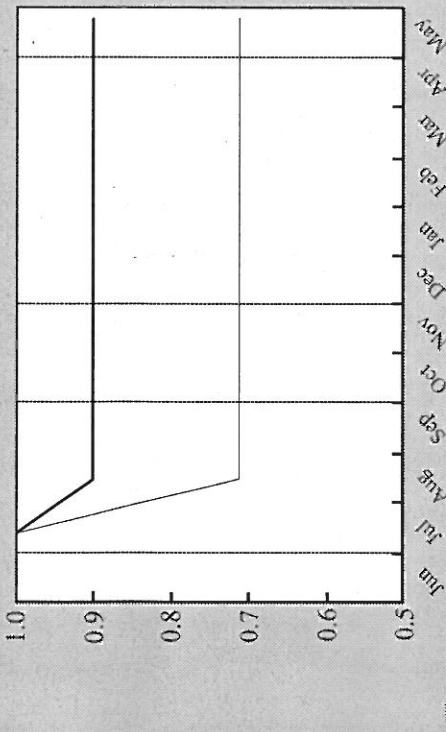
Females, 1983-1984 (N=29)



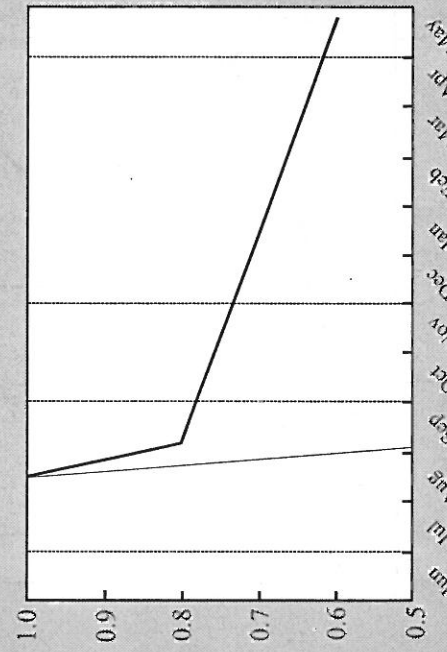
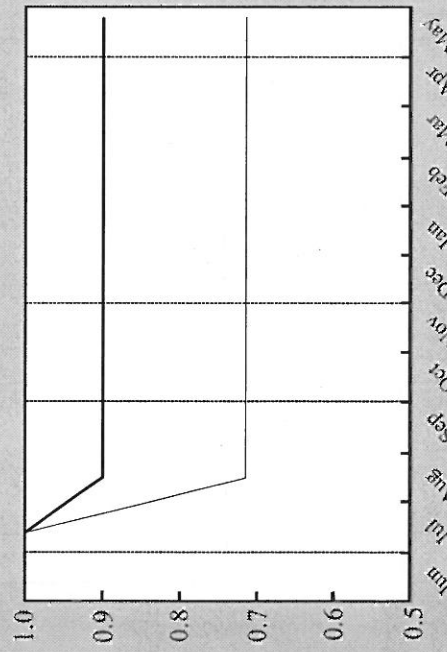
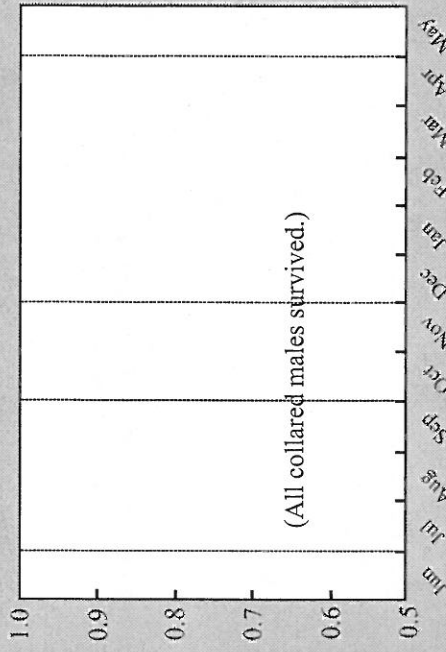
Males, 1983-1984 (N=12)

Month / Season

Fig. 13A-4d (con'd). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from the Grey River Caribou Herd, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.

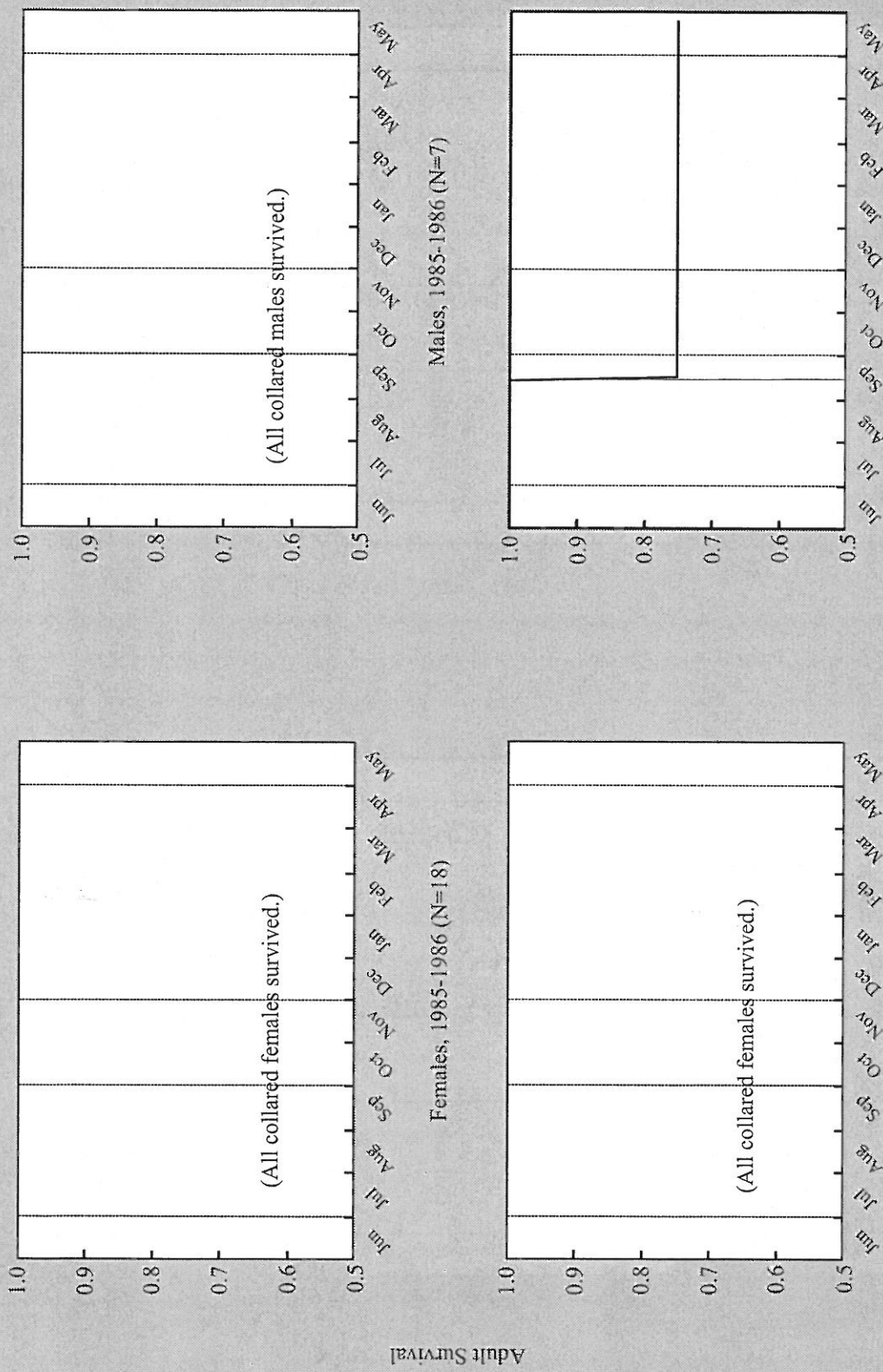


Adult Survival



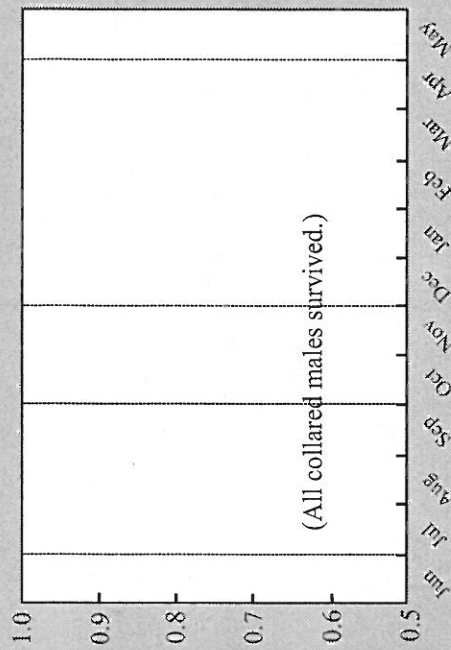
Month / Season

Fig. 13A-4d (con'd). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from the Grey River Caribou Herd, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.

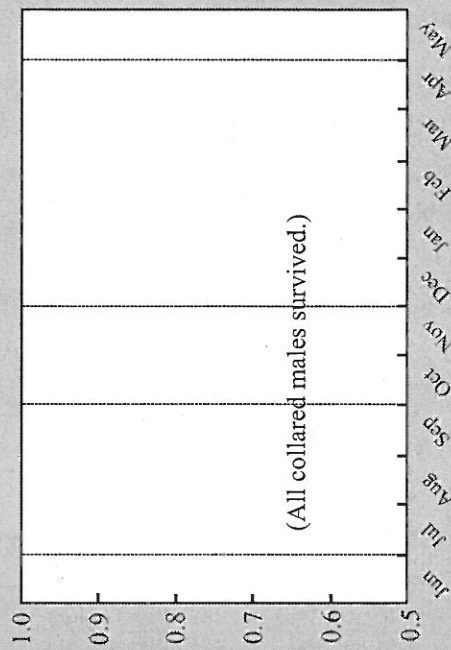


Month / Season

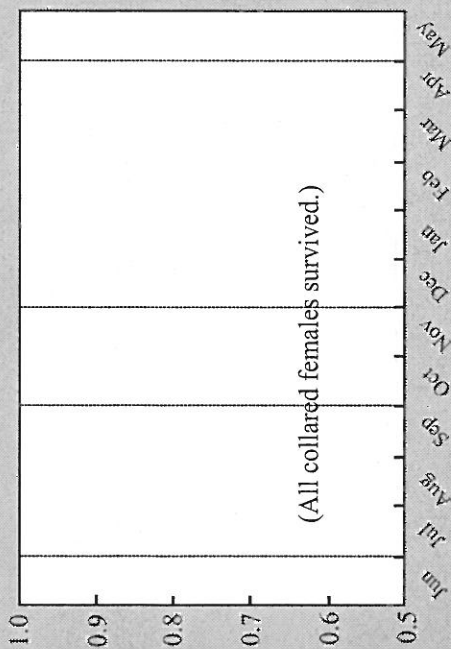
Fig. 13A-4d (con'd). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from the Grey River Caribou Herd, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.



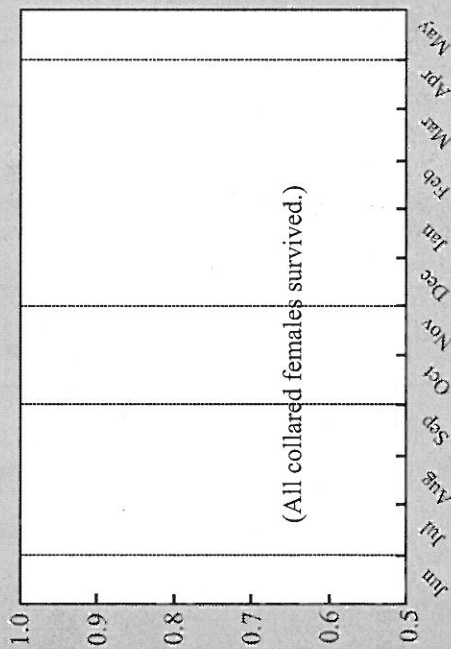
Males, 1986-1987 (N=3)



Males, 1986-1987 (N=3)



Females, 1986-1987 (N=12)



Females, 1986-1987 (N=12)

Month / Season

Fig. 13A-4d (con'd). Annual Kaplan-Meier survival estimates, excluding hunting and poaching (top) and including hunting and poaching (bottom), for adults from the Grey River Caribou Herd, from June 1 to May 31. Estimates are presented as heavy lines, and include 95% upper and lower confidence limits (light lines); vertical dashed lines show (arbitrary) season boundaries. Calculations exclude cases of mortality related to collaring.

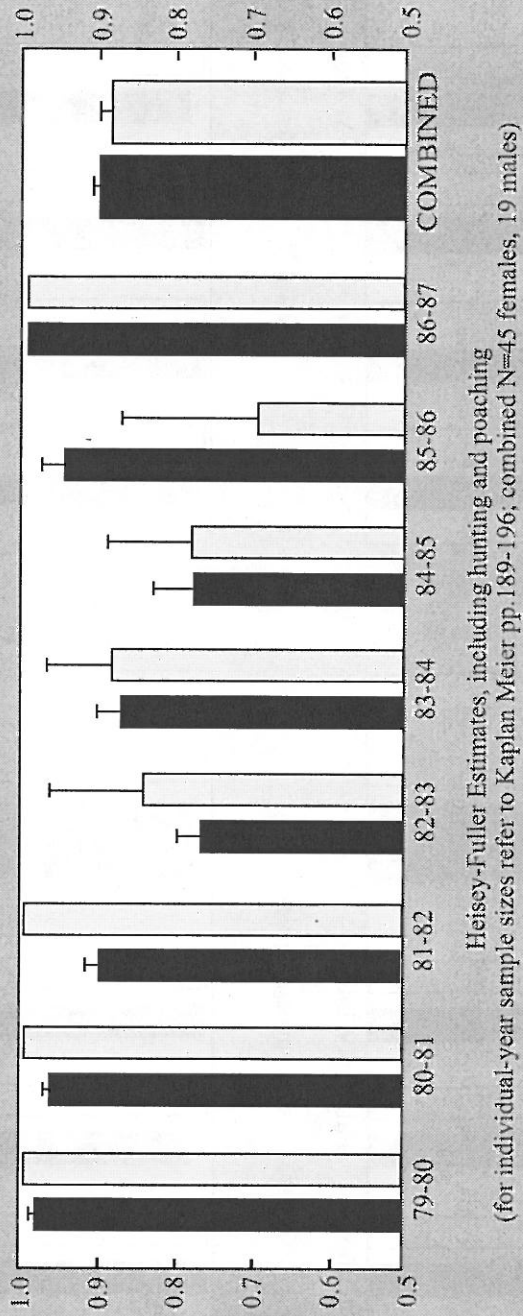
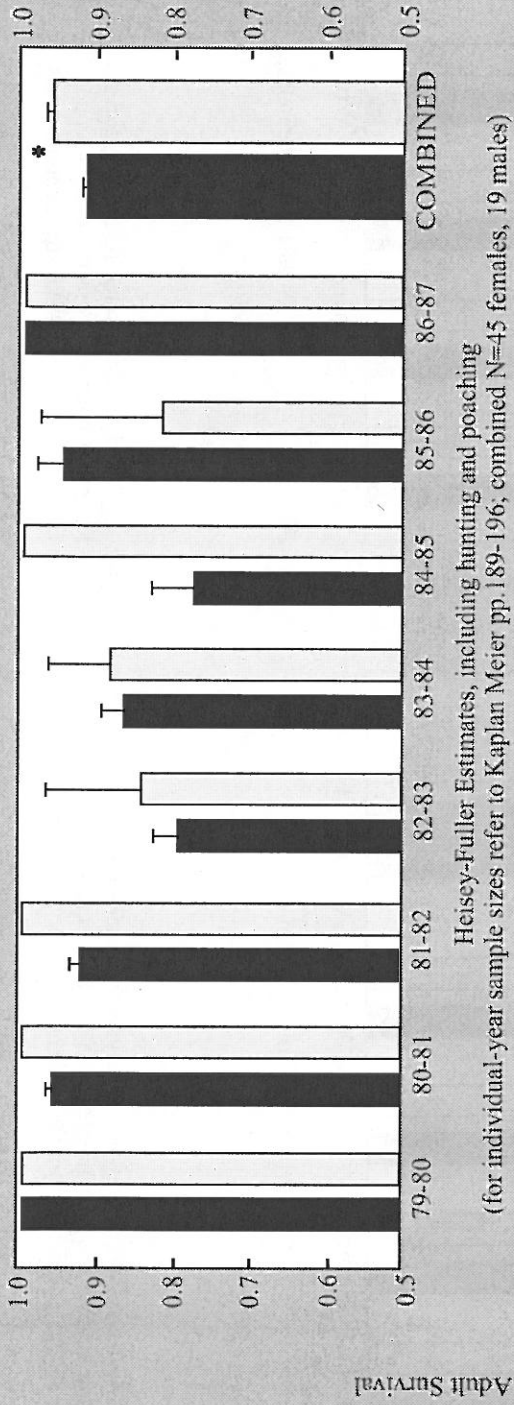
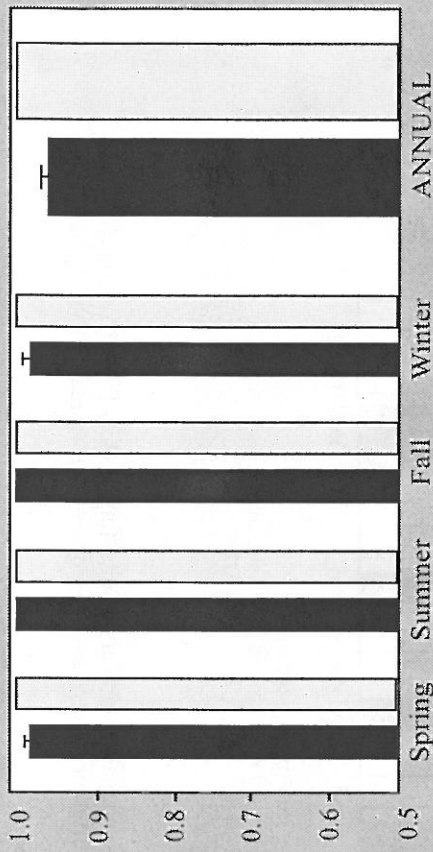
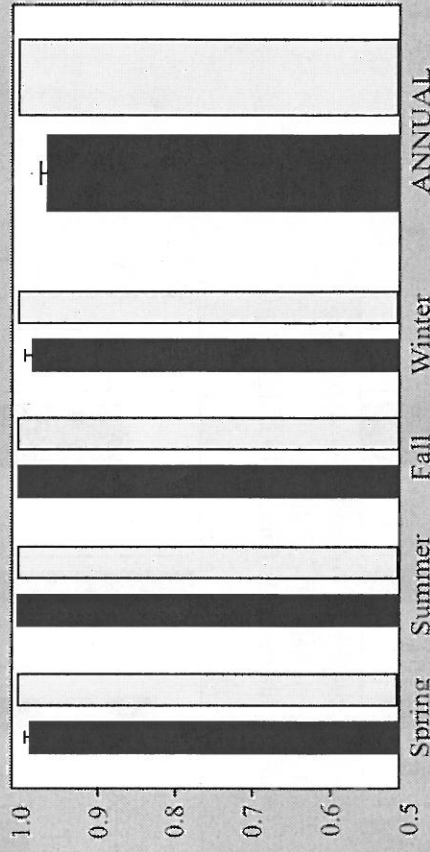


Fig. 13A-4d (con'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) adults, for the Grey River Caribou Herd; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.

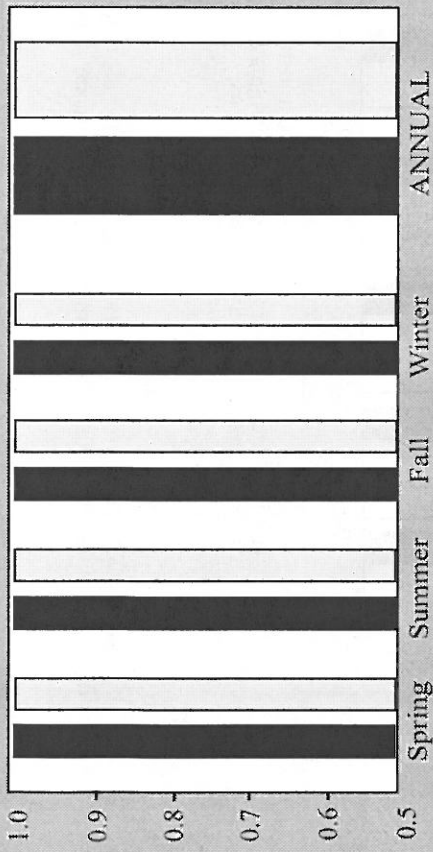




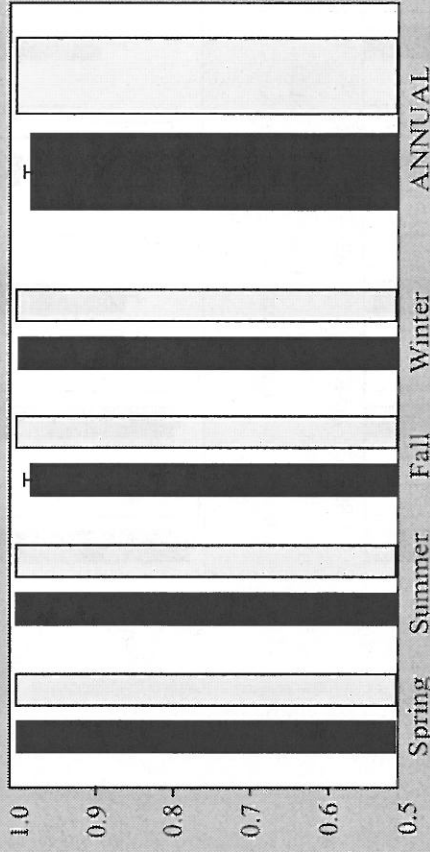
1980-1981 (N=43 females, 4 males)



1980-1981 (N=43 females, 4 males)



1979-1980 (N=49 females, 5 males)



1979-1980 (N=49 females, 5 males)

Season

Fig. 13A-4d (con'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) adults, excluding hunting and poaching (top) and including hunting and poaching (bottom), by season and year (wide bars), for the Grey River Caribou Herd; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.

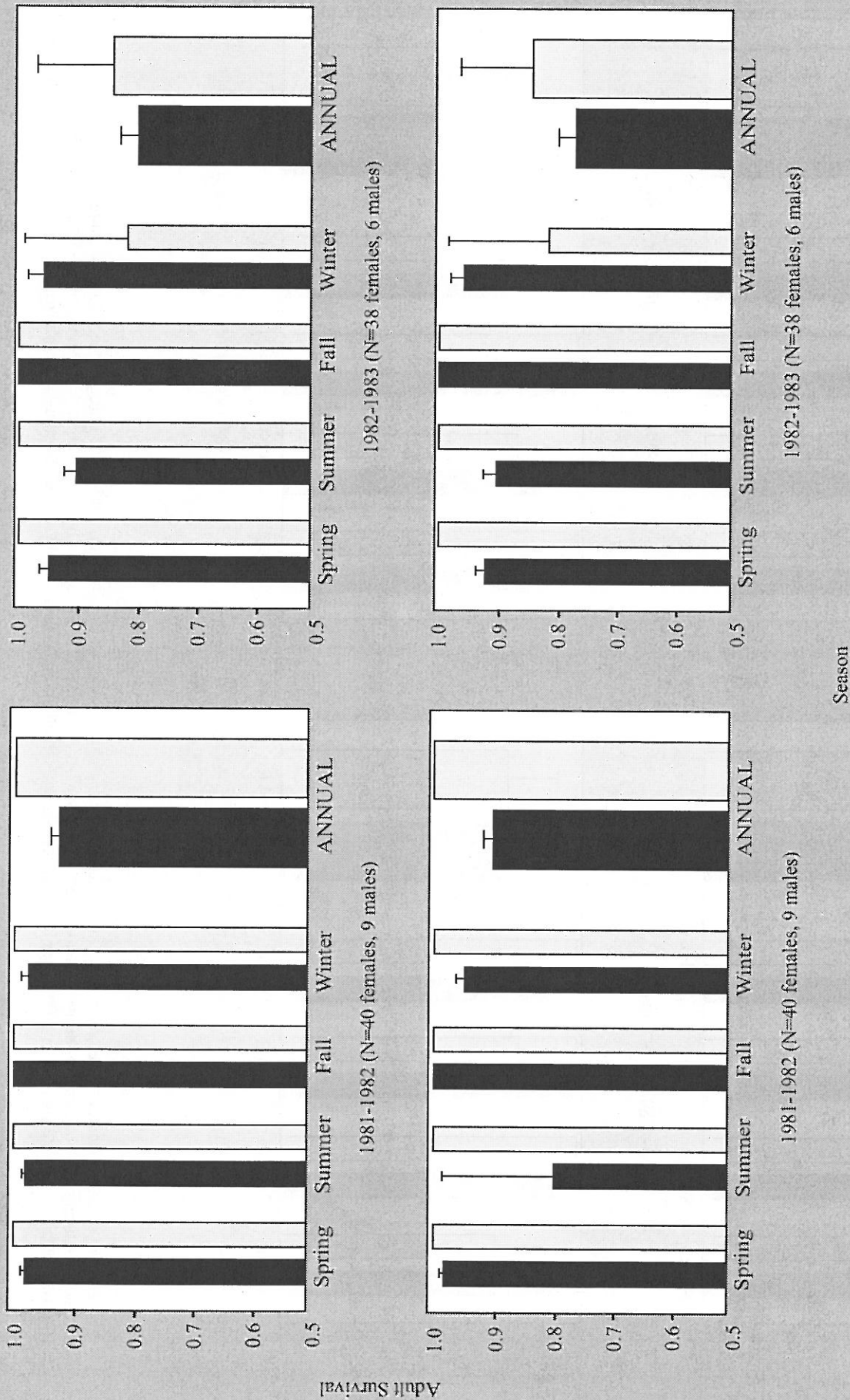
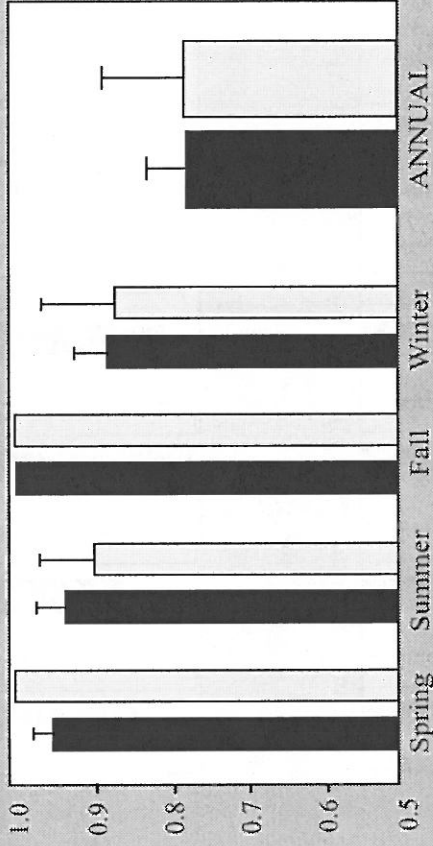
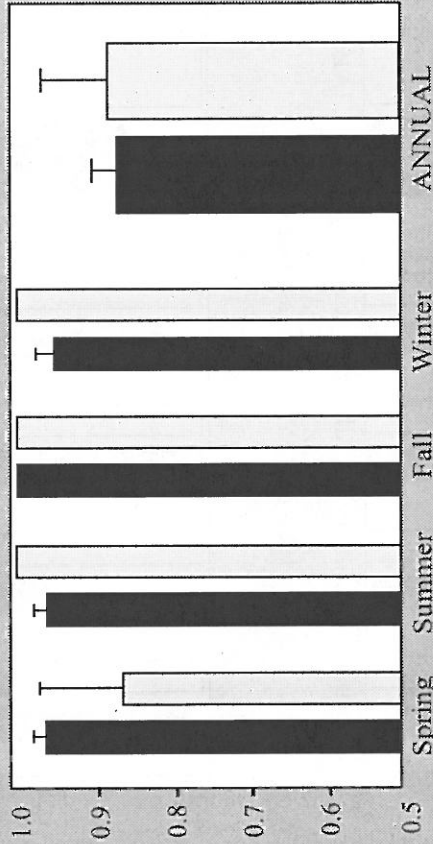
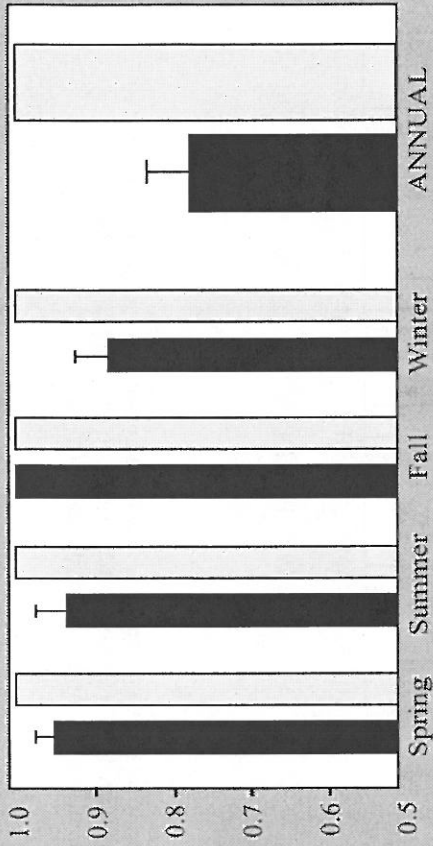
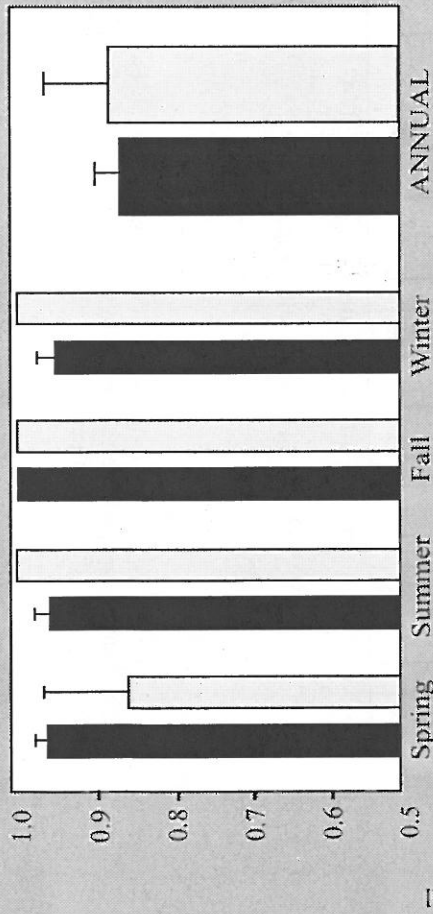


Fig. 13A-4d (con't). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) adults, excluding hunting and poaching (top) and including hunting and poaching (bottom), by season and year (wide bars), for the Grey River Caribou Herd; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.



Season

Fig. 13A-4d (con'd). Heisey-Fuller survival estimates for female (solid bars) and male (light bars) adults, excluding hunting and poaching (top) and including hunting and poaching (bottom), by season and year (wide bars), for the Grey River Caribou Herd; error bars show upper 95% confidence limits. Asterisks indicate significant differences between sexes; cases of all animals surviving do not permit statistical comparisons.