



An analysis of pack and saddle stock grazing areas in the Bob Marshall Wilderness, Montana  
by Thomas Willard Johnson

A thesis submitted in partial fulfillment of the requirements for the degree of MASTER OF SCIENCE  
in Range Science

Montana State University

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**Abstract:**

A study was conducted in the South Fork of the Flathead River drainage, Bob Marshall Wilderness for the purpose of describing and classifying the principal grazing areas used by recreational pack and saddle stock. Forty-two sample stands were subjectively chosen to represent the range in types of grazing areas. Quantitative sampling methods were used to determine species canopy coverage, productivity and physical characteristics of sample stands. Stand groupings were determined using cluster analysis and a two-dimensional ordination technique, as well as field observations. Six community types and five phases were identified as follows: *Festuca scabrella*-*Stipa richardsonii* community type, *Artemisia tridentata* phase, *Festuca idahoensis* phase; *Agropyron spicatum*-*Festuca idahoensis* community type; *Stipa occidentalis*-*Koeleria cristata* community type, *Danthonia unispicata* phase, *Poa oratensis* phase, *Phleum oratense* phase; *Poa oratensis* community type; *Pinus contorta*-*Calamagrostis rubescens* community type; *SymDhoricaros albus*-*Amelanchier alnifolia* community type. Environmental and vegetational characteristics of each of these community types are described. Environmental factors possibly important in the distribution, composition and maintenance of these communities are discussed.

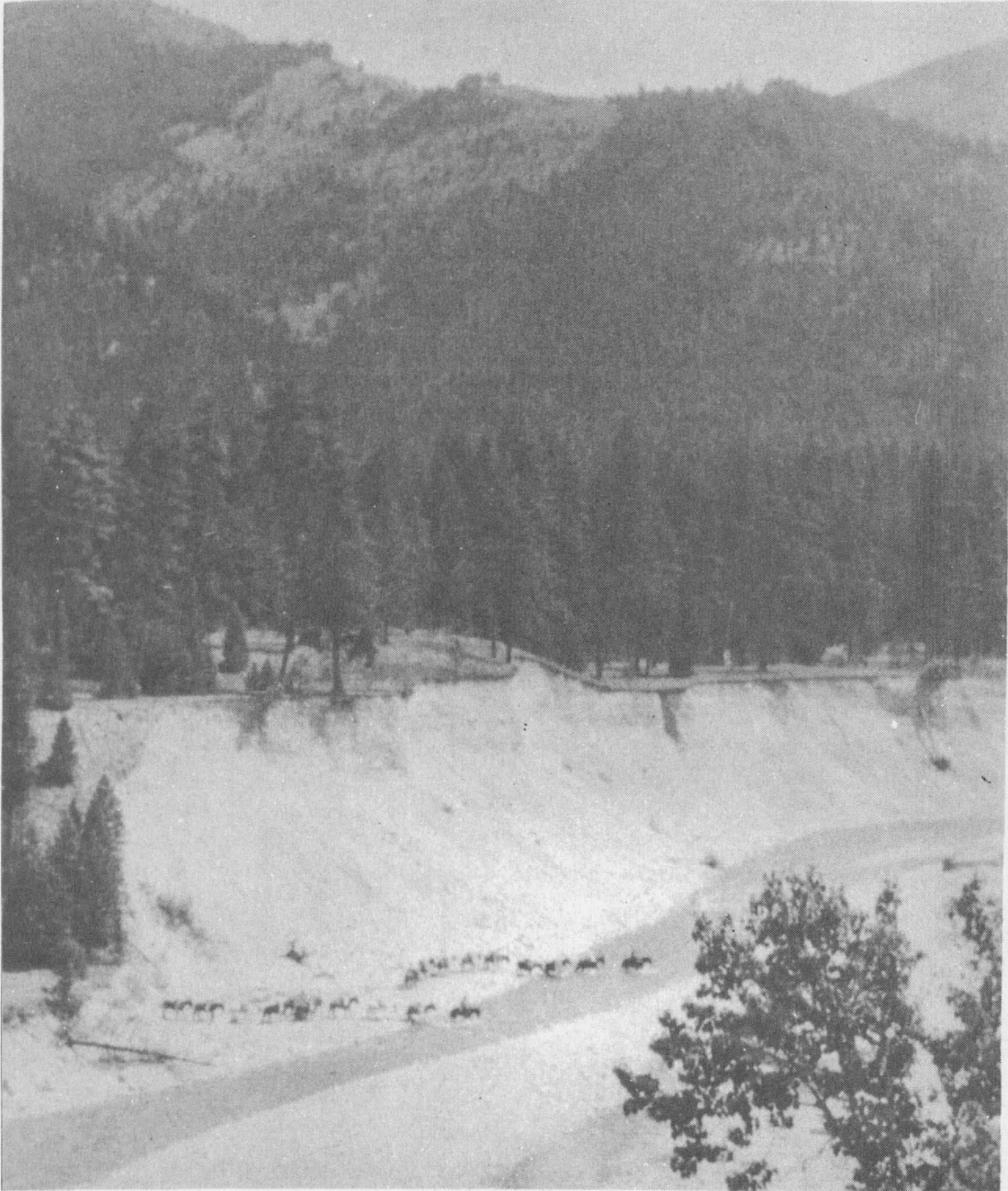
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FRONTISPIECE



Pack strings crossing White River, Bob Marshall Wilderness

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AREAS IN THE BOB MARSHALL WILDERNESS, MONTANA

by

THOMAS WILLARD JOHNSON

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of the requirements for the degree

of

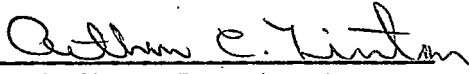
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in

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Approved:

  
Chairman, Graduate Committee

  
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MONTANA STATE UNIVERSITY  
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## TABLE OF CONTENTS

	PAGE
FRONTISPIECE . . . . .	i
TITLE PAGE . . . . .	ii
VITA . . . . .	iii
ACKNOWLEDGEMENTS . . . . .	iv
TABLE OF CONTENTS . . . . .	v
LIST OF TABLES . . . . .	vii
LIST OF FIGURES . . . . .	viii
ABSTRACT . . . . .	x
INTRODUCTION . . . . .	1
DESCRIPTION OF THE AREA . . . . .	4
Location and Physiology . . . . .	4
Climate . . . . .	7
Fire . . . . .	10
Geology . . . . .	12
Soils . . . . .	14
Vegetation . . . . .	17
History and Land Use . . . . .	20
Grazing . . . . .	24
Commercial Livestock Operations . . . . .	24
Recreational and Administrative Grazing . . . . .	24
Wildlife Grazing . . . . .	27
METHODS . . . . .	31
Stand Selection . . . . .	31
Vegetation . . . . .	31
Site and Soils . . . . .	33
Data Analysis . . . . .	34
RESULTS AND DISCUSSION . . . . .	36
Results of the Cluster Analysis . . . . .	36

Results of the Ordination . . . . .	40
Community Classification . . . . .	44
Description of Communities . . . . .	46
<u>Festuca scabrella-Stipa richardsonii</u> Community Type. . . . .	46
<u>Artemisia tridentata</u> Phase . . . . .	49
<u>Festuca idahoensis</u> Phase . . . . .	50
<u>Agropyron spicatum-Festuca idahoensis</u> Community Type . . . . .	52
<u>Stipa occidentalis-Koeleria cristata</u> Community Type. . . . .	55
<u>Danthonia unispicata</u> Phase . . . . .	59
<u>Poa pratensis</u> Phase . . . . .	60
<u>Phleum pratense</u> Phase . . . . .	61
<u>Poa pratensis</u> Community Type . . . . .	62
<u>Pinus contorta-Calamagrostis rubescens</u> Community Type. . . . .	64
<u>Symphoricarpos albus-Amelanchier alnifolia</u> (snowslides) Community Type . . . . .	66 67
Environmental Relationships . . . . .	68
Community Origin and Maintenance . . . . .	68
Community Composition . . . . .	71
SUMMARY . . . . .	79
LITERATURE CITED . . . . .	81
APPENDICES . . . . .	86























































































































































































































































