Anonymous
1991

national trail study
environmental assessment

public review draft
june 1991

CORONADO EXPEDITION
Arizona/New Mexico/Texas/Oklahoma/Kansas

UNITED STATES DEPARTMENT OF THE INTERIOR / NATIONAL PARK SERVICE
DENVER SERVICE CENTER

NN027922

SUMMARY

At the request of Congress, the National Park Service studied the U.S. portion of the historic route of Francisco Vázquez de Coronado for possible inclusion in the National Trails System. In 1540-42, Coronado led the first fully documented European undertaking to explore what would later form the greater United States Southwest. The historically significant expedition traveled through the five present-day states of Arizona, New Mexico, Texas, Oklahoma, and Kansas – a journey of approximately 1,400 miles. The expedition was of major significance to American Indian and European peoples and cultures. For the Europeans, the expedition contributed information about previously unknown American Indian cultures, geographic data on North America, and descriptions of North American flora and fauna. For the Indians, it marked the beginning of an invasion and conquest of their lands. Their lives, religion, and culture were forever changed. The story of the expedition and its results is one of triumph and tragedy, and it was significant as a seminal event in shaping the multi-cultural development of the area through which it passed.

After extensive history and archeology research and a series of public scoping meetings, this draft trail study report was prepared. It presents the results of an analysis of the eligibility of the route taken by Coronado as a national historic or national scenic trail. The route was evaluated in accordance with criteria set forth in the National Trails System Act of 1968, as amended, for national historic trail designation. Because the act contains minimal criteria for evaluating national scenic trail designation, a set of criteria was developed (based on the act) and approved by the secretaries of the interior and agriculture in 1969. The "National Trail Eligibility" section of this document provides a complete list of the criteria for both national historic and national scenic trail designation and an analysis of the Coronado route relative to each criteria.

As determined through the analysis, which is summarized in this document, the Coronado expedition route does not currently meet the criteria required for national historic or scenic trail designation. However, because the expedition is of national and international significance, other options for commemorating the expedition should be considered.

Five alternatives were developed to present distinct options to the public and Congress, but elements from various options could be combined. NPS participation varies in the alternatives from a major role to no federal involvement. Based on this document and the public response, Congress may choose to enact legislation to implement one or more of the alternatives or a combination of the alternatives, or take no action. The five alternatives discussed and analyzed in this study are summarized below. No alternative is identified as preferred over the others.

Alternative A – Coronado Expedition Research Commission: A commission composed of experts in the fields of archeology, history, ethnography, and cultural geography would be established by Congress. Its purpose would be to locate – through in-depth field research – additional sites and key corridors that are essential to identifying the most accurate route possible for Coronado and his army. The commission would also coordinate a limited public education and interpretive program on a partnership basis with state, local, tribal and private entities. The commission would be required to complete its research in 5 years. Based on the additional research, a reevaluation of the national historic trail eligibility could be undertaken.

Alternative B – National Heritage Corridor: Established by Congress, the national corridor would preserve and interpret significant cultural and national resources and sites in a broad

NN027923

area. A network of roads would be identified to connect several existing and future commemorative and archeological sites associated with the Coronado expedition and related resources. The development of extensive partnerships with other federal, state, and local programs and grass roots initiatives would be necessary to protect and interpret these sites. NPS involvement would be limited.

Alternative C – Increased NPS Interpretation and Commemoration: Interpretation would be enhanced at existing national park system units and related sites to tell a more complete story of the Coronado expedition. Coronado National Memorial staff would have a major role in coordinating this comprehensive interpretive program. The potential for adding a new unit or units to the system could be explored to more fully commemorate and interpret the expedition and its effects on 16th century American Indian cultures.

Alternative D – State-Coordinated Commemoration: The five states would develop a program of coordinated commemoration and interpretation of the Coronado expedition. A symbolic route would be identified and marked that generally parallels the corridor thought to be traveled by Coronado, and provides access to and interpretation of related 16th century Indian sites. The federal government role would be of a limited nature; a separate agency, commission, or private group would coordinate activities.

Alternative E – No Action: Existing commemorative and interpretive programs and those planned by others would continue to be implemented. No additional efforts to commemorate the Coronado expedition would be taken by Congress or the National Park Service.

NN027924

CONTENTS

INTRODUCTION 1
STUDY PURPOSE 1
NATIONAL TRAILS SYSTEM 1

THE CORONADO EXPEDITION 5
DESCRIPTION 5
SIGNIFICANCE 9

SUMMARY OF HISTORICAL RESEARCH 10

DESCRIPTION OF THE STUDY AREA 15
NATURAL RESOURCES 15
Physical Environment 15
Climate 16
Flora and Fauna 17
CULTURAL RESOURCES 18
Archeological Sites 18
National Historic Landmarks 19
SOCIOECONOMIC ENVIRONMENT 19
Scenic Highways and Auto Tour Routes 19
National Park System Units 20
National Forests and National Grasslands 22
Indian Lands 22
Wilderness 23
Trails 23
Non-NPS Monuments, Memorials, and Local Museums 24
Other Resource Areas 24
Land Ownership and Use 26

NATIONAL TRAIL ELIGIBILITY 27
NATIONAL HISTORIC TRAIL CRITERIA 27
NATIONAL SCENIC TRAIL CRITERIA 28
ANALYSIS OF NATIONAL TRAIL FEASIBILITY AND DESIRABILITY 30

CORONADO EXPEDITION COMMEMORATION ALTERNATIVES 31
ALTERNATIVE A – CORONADO EXPEDITION RESEARCH COMMISSION 31
ALTERNATIVE B – NATIONAL HERITAGE CORRIDOR 32
ALTERNATIVE C – INCREASED NATIONAL PARK SERVICE INTERPRETATION AND COMMEMORATION 34
ALTERNATIVE D – STATE-COORDINATED COMMEMORATION 35
ALTERNATIVE E – NO ACTION 36

ENVIRONMENTAL CONSEQUENCES 37
ALTERNATIVE A – CORONADO EXPEDITION RESEARCH COMMISSION 37
ALTERNATIVE B – NATIONAL HERITAGE CORRIDOR 37
ALTERNATIVE C – INCREASED NATIONAL PARK SERVICE INTERPRETATION AND COMMEMORATION 39
ALTERNATIVE D – STATE-COORDINATED COMMEMORATION 39
ALTERNATIVE E – NO ACTION 40

NN027925

CONSULTATION AND COORDINATION 41

APPENDIXES
A: CORONADO NATIONAL TRAIL STUDY ACT 43
B: POSSIBLE CORONADO EXPEDITION ROUTE MAPS 45
C: CULTURAL SITES 55

SELECTED REFERENCES 63

STUDY PARTICIPANTS 67

MAPS

National Trails System 3
National Park Service Study Route, Coronado Expedition 13

NN027926

INTRODUCTION

STUDY PURPOSE

In 1988, Congress directed the secretary of the interior to study the U.S. portion of the historic route of Francisco Vázquez de Coronado for potential inclusion as a component of the National Trails System (see legislation in appendix A). A national trail study assesses the eligibility and, if eligible, the feasibility and desirability of authorizing a route, which in this case includes a swath of approximately 1,400 miles through Arizona, New Mexico, Texas, Oklahoma, and Kansas, as a national historic or scenic trail. The study is being carried out by an interdisciplinary team with representatives from the National Park Service's Denver Service Center and Southwest Regional Office in Santa Fe, assisted by personnel from the Western and Midwest Regional offices.

This document is a draft report on the results of the study. It also presents alternatives other than national trail authorization to commemorate the Coronado expedition. The document was prepared on the basis of extensive history and archeology research and input received at a series of public scoping meetings. The draft study report will be reviewed by the public before it is submitted to Congress. The document does not contain a proposal for a national trail, nor does it include a recommendation to implement any alternative. The National Park Service is consulting with state historic preservation officers during preparation of this study.

This document includes a general environmental assessment prepared in compliance with the National Environmental Policy Act; it includes analysis of the environmental effects of the conceptual alternatives described below. More detailed environmental analyses will be completed if Congress directs the National Park Service to implement one of the alternatives.

NATIONAL TRAILS SYSTEM

The National Trails System Act of 1968, as amended, institutes a national system of recreation, scenic, and historic trails. National **recreation** trails provide a variety of outdoor recreation uses in or reasonably accessible to urban areas. They are designated by the secretary of the interior or the secretary of agriculture. National **scenic** trails are extended routes, authorized by Congress, that provide recreation and the conservation and enjoyment of the nationally significant scenic, natural, or cultural qualities of the areas through which they pass. Scenic trails are primarily intended for hiking and other nonmotorized uses determined to be appropriate for each individual case, such as horseback riding, bicycling, crosscountry skiing, and nature study. Recreational use of scenic trails tends to be a more important management emphasis than natural and cultural history interpretation. Congress has established eight national scenic trails: the Appalachian, Pacific Crest, Continental Divide, North Country, Ice Age, Potomac Heritage, Natchez Trace, and Florida trails.

National **historic** trails are extended routes, authorized by Congress, that follow nationally significant, original routes of travel as closely as possible. Their purpose is to identify and protect the historic route and its remnants and artifacts for public use and enjoyment. Congress has established nine national historic trails: the Lewis and Clark, Oregon, Mormon, Iditarod, Overmountain Victory, Trail of Tears, Nez Perce, Santa Fe, and Juan Bautista de Anza trails. To qualify as a national historic trail, the trail must, among other things, meet three special criteria in the National Trail Systems Act: (1) It must be a trail or route established by historic use, its location must be sufficiently known, and it

NN027927

should generally follow the historic route accurately; (2) it must be of national significance with respect to any of several broad facets of American history: and (3) it must have significant potential for public recreational use or historic interest based on historic interpretation and appreciation. If Congress authorizes a national historic or scenic trail, a management plan is developed to define the designated route more accurately and to specify actions necessary to provide for public use and resource protection.

The National Trails System depends on grass-roots public support to protect, interpret, acquire, develop, and maintain the trails. Unlike national recreation trails, national scenic trails and national historic trails include an ongoing federal administrative responsibility. The role of the federal agency with primary responsibility for administering a trail is one of coordinating and stimulating the efforts of other federal agencies, state and local governments, private organizations, and individuals. Other than administrative costs, federal spending on such trails will usually consist of limited financial assistance on a cost-share basis to locally initiated projects. Local volunteer time and labor for trail-related activities, such as on-the-ground trail building for scenic trails, is essential. The administering agency can also provide technical assistance on a broad range of trail-related actions, including acquisition, development, protection, resource management, interpretation, and maintenance.

NN027928

SUMMARY OF HISTORY RESEARCH

At the beginning of this study, the National Park Service conducted historical and archeological archival research of Vázquez de Coronado's route. Spanish colonial archives and library collections in Spain, Mexico, and the United States were researched for new primary sources related to the expedition's personnel, route, and material culture. New transcriptions and translations were made of some of the early documents, and errors in previous translations were noted in an effort to reconcile the scanty, vague, and sometimes contradictory information in existing documents.

A bibliographic analysis of place names related to the expedition was compiled (NPS 1990a), and a historical dictionary of place names associated with the expedition was developed (NPS 1990b). Despite these comprehensive efforts, no startling new information that would aid in geographically locating the route emerged from the history research.

Published ethnographic data relating to the entrada are also meager and inconclusive. Many American Indian groups encountered by Coronado's expedition have emigrated from one locale to another, or were decimated by disease. Villages were abandoned and new ones built, place names were changed or forgotten, and the Spanish tribal designations are no longer viable. Scholars do not agree on the names or cultures of the groups encountered by the expedition.

Research was conducted in major libraries across the Southwest to collate secondary sources that describe and evaluate potential Coronado routes (NPS 1990c). Scholars' suggestions regarding the location of the route have been based on various permutations of topography, botany, ethnohistory, archeology, place names, prehistoric Indian trails, and other factors. All these ideas were compared, analyzed, and used to identify potential routes and to focus the archeological research on the most likely of these routes.

Archeological research began with development of a "profile" of site and artifact characteristics indicative of the 1540 entrada. With the use of this profile, research was conducted in state and university files and archives to identify sites showing Spanish presence during the 16th century; American Indian sites that may have been occupied during Coronado's entrada; abandoned sites or landmarks such as Chichilticalli, mentioned in the Spanish accounts; and 16th century Spanish artifacts held by institutions and individuals. Research focused on the routes Coronado himself would have traversed in the continental United States, but not in Mexico. Several side trips were taken by Coronado's lieutenants, but these were not researched in depth by the study team due to an interpretation of the congressional intent for the study and time and funding constraints to complete the extensive research work. In general, less is known about these side trips than about the main expedition.

Potential archeological sites and artifacts were mapped and used in conjunction with the Coronado narratives and various secondary sources to try to more clearly define an approximate route. Results of the NPS research, including a potential route shown on USGS topographic maps (NPS 1990c), were distributed to about 60 Coronado experts, and their comments were used in further refinement of the potential routes. This research document was revised for study team use and is on file at NPS offices (NPS 1991). Additional details on the research undertaken for the study and an extensive bibliography can be found in the document.

Archeological research was frustrated by several factors: With the exception of winters spent in the Rio Grande valley, the Coronado expedition spent little time in any one area. These explorers brought

NN027929

only necessities, procuring much of their food, clothing, and forage along the route. Thus, few material traces of their passing were left behind. Other 16th century Spanish activities have obscured the archeological record of Coronado's time, and past archeological work has focused on prehistoric or Spanish Colonial period sites.

In the majority of cases, archeological site and artifact evidence is very general and does not provide the specific detail needed to identify metal, beads, glass, ceramics, or other artifacts that may have been left behind by Coronado's expedition. Too often, 16th century artifacts lack provenance that would tie them to a specific site on the ground or to a particular group.

Although there is no incontrovertible archeological evidence of Coronado's entrada in the present-day United States, several levels of confidence can be identified for these historical and archeological data. When 16th century artifacts like glass beads and crossbow bolts from Zuni and Pecos are examined within the historical context of the expedition narratives and ethnographic accounts by Zuni people, scholars agree that Coronado's expedition visited these areas. Combined archeological and historical evidence also strongly suggests that site(s) near Bernalillo, New Mexico, represent Coronado's winter encampment(s). Historical descriptions of the Quiviran villages are mirrored in the archeological remains at Great Bend Aspect sites in Kansas. These prehistoric sites also clearly show evidence of Spanish presence and of continuing trade and contact with the Pecos, New Mexico, area consistent with the narratives.

Topographic and cultural features and groups mentioned by the Spaniards provide another level of information. No archeological evidence of Coronado's entrada has been found at Acoma, but Spanish descriptions of the great rock Acuco, with villages atop its almost inaccessible cliffs, leave no doubt that the Spaniards visited this pueblo. The narratives also indicate that Coronado and his group explored the Rio Grande from perhaps the Socorro area northward to Taos, and they describe pueblos in what is probably the Galisteo Basin and along some of the tributaries of the Rio Grande. It is fairly well agreed that Coronado's party marched along a portion of the Arkansas River in Kansas.

Definition of other features and the routes between these sites is much less clear. Because of ambiguities and gaps in the narratives, few scholars are agreed on the route through Arizona, Texas, or eastern New Mexico. Data on the route through Oklahoma and northeastern New Mexico are lacking. Arguments for routes in these areas and between key sites in New Mexico are based on a number of variables, including specific geographic features (barrancas like those of Colima), fauna, and flora; presence of aboriginal trails and the use of Indian guides; topographic limitations (e.g., caprock, steep canyons, malpais); measurements of time, distance, and direction described in the narratives; ease of travel for a mounted army driving livestock; the presence of wood, water, and forage; and descriptions of American Indian groups.

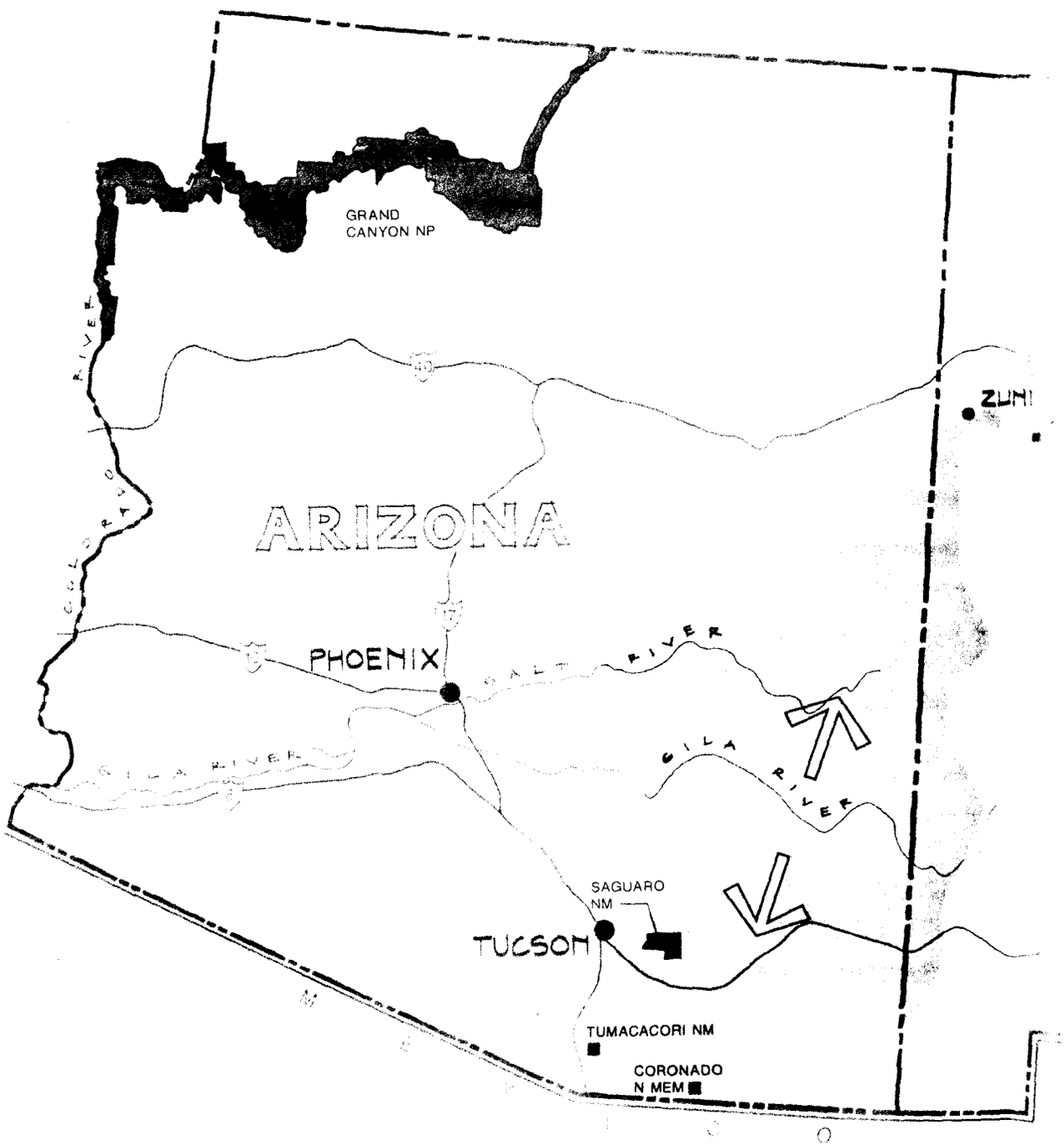
From these data it appears that upon leaving the Zuni pueblos, Coronado went across country in a southeasterly direction, reaching the Rio Grande somewhere in the vicinity of Socorro, New Mexico. From the Zuni area, the army went the "direct" route in a generally eastward direction through pine and juniper country, visiting Acoma en route to their winter camp on the Rio Grande. However, it is not clear whether the army went by the cliffs and ruins of El Morro, if they went through Zuni Pass or around the south end of the Zuni Mountains, whether they skirted the malpais to the north or the south. Some would argue they took the old Zuni-Acoma Trail across the malpais; others insist this would be impossible for a mounted army driving livestock. Only a few drainages lead into the towering mesas east of the malpais; the route through or around these areas is arguable. The narratives do not make it clear whether the army went due east from Acoma to the Rio Grande valley or cut north-

NN027930

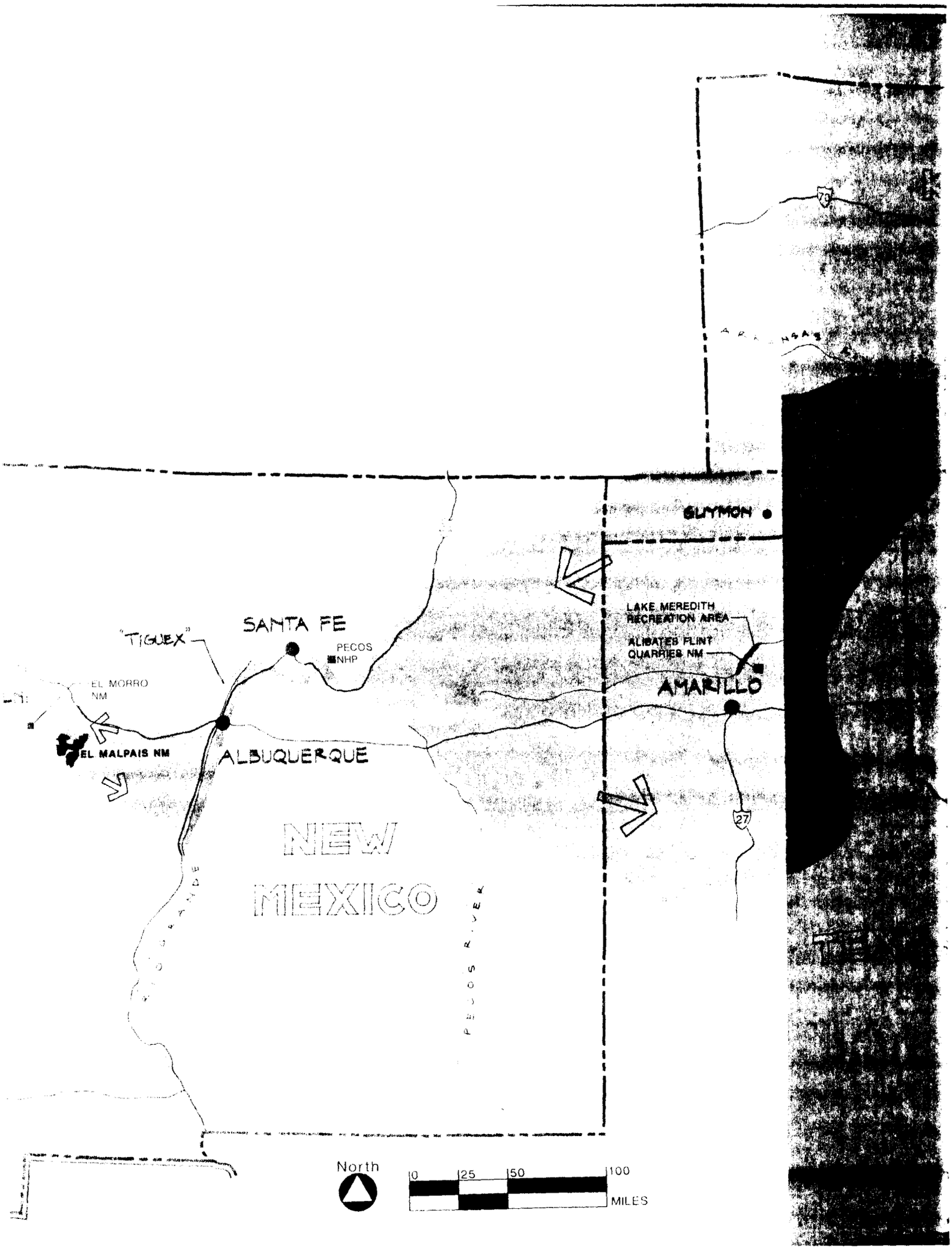
eastward to the vicinity of Bernalillo. It appears that the Spaniards encountered barrancas in northern Texas, probably in the Palo Duro Canyon and/or Canadian River systems.

In conclusion, with the exception of some relatively short pieces of the route in New Mexico and Kansas, the historical, ethnographic, and archeological evidence is at present too fragmentary and vague to confidently identify Coronado's route between known sites. The Study Area map on the next page displays a broad zone of uncertainty over much of the route. The narrow sections indicate zones where the route is more accurately defined and agreed upon. The zone reflects a range of possibilities for interpreting the evidence and a lack of agreement among recognized experts on the corridor for the Coronado expedition. An even broader array of possible routes, as suggested by a dozen scholars, is displayed on a series of maps in appendix B. Conclusions drawn in this document are based on the array of routes and the zone of uncertainty and on the inability to define a more precise route that is agreed upon by the many scholars in the field, not upon the route that was included in the history research study submitted for scholarly review.

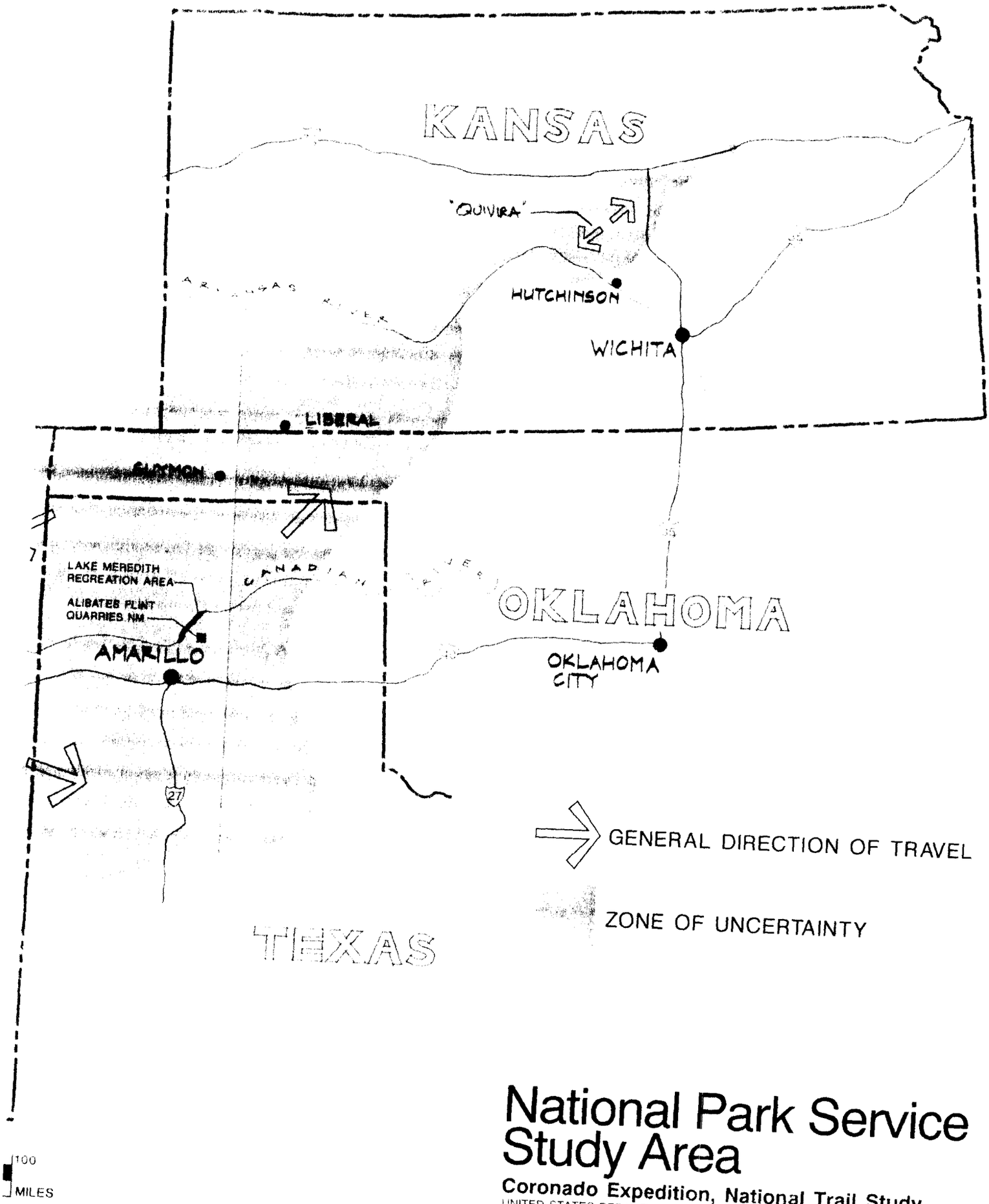
NN027931


GRAND
CANYON NP
ARIZONA
PHOENIX
SALT RIVER
GILA RIVER
GILA RIVER
COLORADO RIVER
SAGUARO
NM
TUCSON
TUMACACORI NM
CORONADO
N MEM
ZUNI

NN027932


GLYMON
LAKE MEREDITH RECREATION AREA
ALIBATES FLINT QUARRIES NM
AMARILLO
SANTA FE
"TIGUEX"
PECOS NHP
EL MORRO NM
EL MALPAIS NM
ALBUQUERQUE
NEW MEXICO
PECOS RIVER
79
27
North
0
25
50
100
MILES

NN027933



National Park Service Study Area

Coronado Expedition, National Trail Study

UNITED STATES DEPARTMENT OF THE INTERIOR • NATIONAL PARK SERVICE

DSC/JUNE 91/NTCOR/40001A

NN027934