

Discovery Report

FEMA Region X

Cordova Coastal, Alaska



FEMA

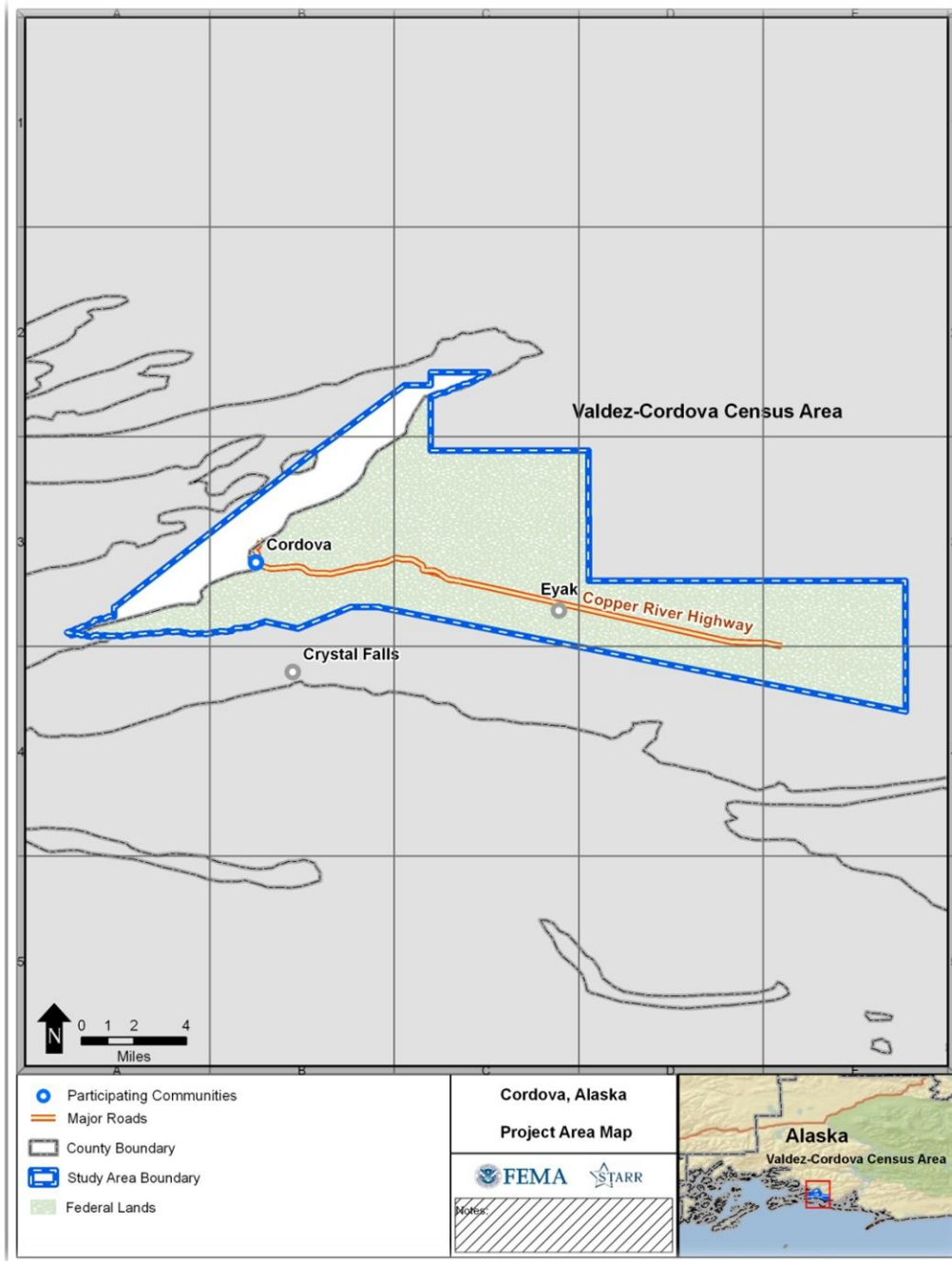
Prepared by



I. Watershed Description

Cordova is a small National Flood Insurance Program participating community located near the mouth of the Copper River in the Valdez-Cordova Census Area, Alaska. The city is at the head of Orca Inlet on the east side of Prince William Sound. Cordova is located within the Chugach National Forest. The city has a total area of 75.6 square miles, of which, 61.4 square miles of it is land and 14.3 square miles of it is water.

Map 1: Image of Cordova Coastal Project Area Map (full size maps in appendix)



II. Project Description and Methodology

Discovery is the process of data collection, including information exchange between all governmental levels of stakeholders, spatial data presentation, and cooperative discussion with stakeholders to better understand the area, decide whether a flood risk project is appropriate, and if so, to collaborate on the project planning in detail. At this time, Discovery processes and requirements are still being defined; however, draft guidance is available from the draft *Appendix I – Discovery (fall 2010)*, and the draft *Meetings Guidance for FEMA Personnel (October 2010)*. In addition, there are several draft tools and templates at various stages of completion that were used to support the effort.

Region X initiated an extensive Discovery project in October 2010, with the Discovery of 24 watersheds/project areas in Idaho, Oregon, Washington, and Alaska, involving almost 200 communities. Essentially a pilot project for the Discovery process itself, RX Discovery involved data collection, community interviews, a meeting with stakeholders in the watershed, and development of recommendations based on an analysis of data and information gathered throughout the process.

Figure 1. Data Sources for Region X Discovery (project-specific data sources in Appendix)

Alaska State Geospatial Data Clearinghouse	FEMA Regional Office	National Oceanic and Atmospheric Administration (NOAA)
Oregon Department of Transportation	FEMA Map Service Center	NOAA Fisheries Service
Idaho Department of Transportation	FEMA Publications	NOAA National Geophysical Data Center
Idaho State Geospatial Data Clearinghouse	FEMA Community Information System	U.S. Army Corps of Engineers National Levee Database
Washington State Department of Transportation	FEMA Coordinated Needs Management System (CNMS)	U.S. Census Bureau
Community data, where available	FEMA HAZUS	U. S. Census - TIGER
Local, Regional, State website search	FEMA RX Inventory	U.S. Department of Agriculture
Developed based on community interview/meeting	FEMA Legacy Data	U.S. Fish and Wildlife Service
STARR	Data.gov	U.S. Geologic Survey
ESRI	National Atlas of the United States	

The Region X Discovery data collection entailed a massive collection of tabular and spatial data for all communities from Federal and State sources, as well as information collected through interviews with each community. The tabular data file in the Appendix provides detailed information about the data and its use in Discovery for this specific watershed. Data was used primarily in two ways – tabular data was documented on a Community Fact Sheet,

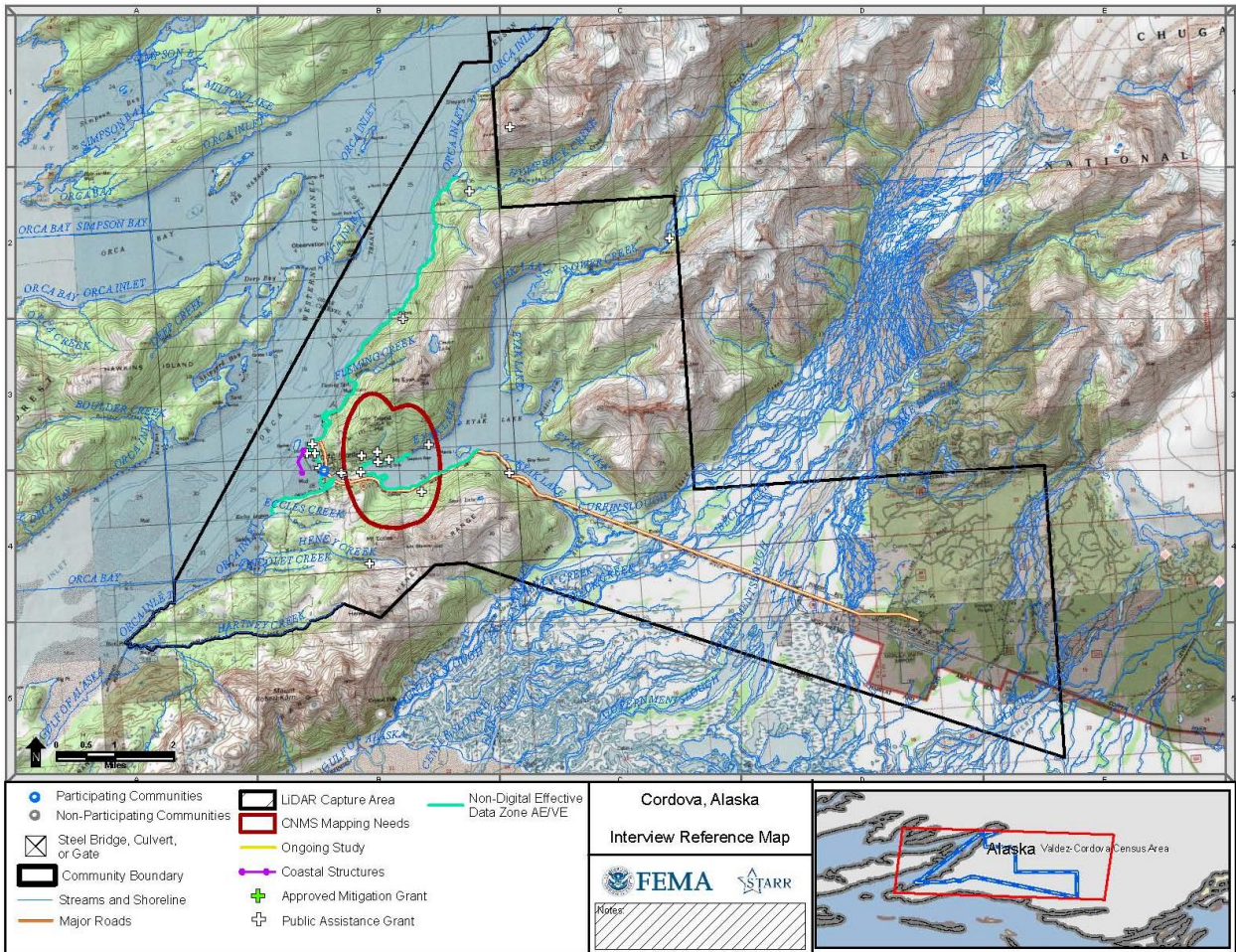
and spatial data was included in the Discovery Geodatabase, and is displayed on the Discovery maps, where appropriate. Full-sized Discovery maps are included in the appendix.

The second phase of the Region X Discovery effort involved a review of the collected data with community officials through a phone interview, and a request for additional information. Prior to the interview, community officials received information about the Discovery process, and a Fact Sheet and Interview Reference Map for their community. Communities were asked to identify “Areas and Points of Concern” based on their local knowledge and analysis of the data shown on the map. The Areas and Points of Concern (mapping needs, desired mitigation projects, etc.) were documented in the Discovery Geodatabase and discussed during the Discovery Meeting.

Figure 2. Fact Sheet, page 1, for Cordova. (tabular data in appendix)

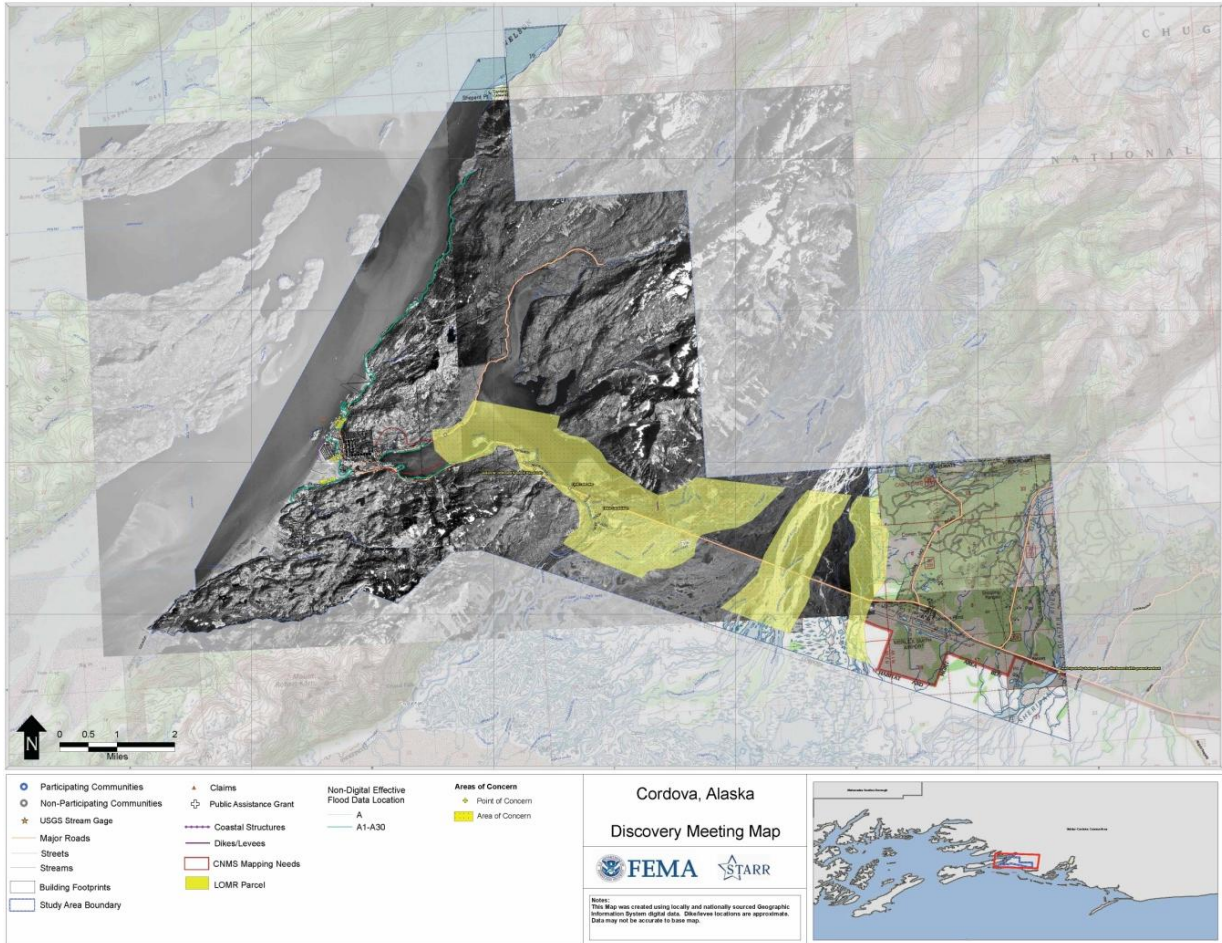
RX Discovery 2010: Cordova Coastal		Page 1	
Fact Sheet: Cordova, Alaska			
CID:	020037	EIS/FIRM:	Effective Date: 10/1/1978 Level of Study: Detailed Study, A4/A8 Zones Last Community Meeting: unknown
LOMCS:	5	Last CAV/CAC Date:	04/10/2003
CRS Status			
Class:	n/a	SFHA Discount:	n/a
Effective:	n/a	Non-SFHA Discount:	n/a
Demographics		Social Characteristics	
Population:	2,454	Non-English Speakers:	8%
Median Age:	37	High School+ Education:	89%
Elderly (65+):	7%	Bachelors+ Education:	21%
Native:	10%		
Industrial			
Population in labor force:	62.6%		
Median income:	\$50,114		
Top 5 Industries:			
	16%	Educational, health and social services	
	14%	Agriculture, forestry, fishing and hunting, and mining	
	10%	Transportation and warehousing, and utilities	
	10%	Retail trade	
	9%	Manufacturing	
Presidentially Declared Disasters			
Flood-related total:	19	(August 1967 - October 2009)	
Recent flood related:	10	(April 2002 - October 2009)	
Other hazards:	Earthquake, Fire, Severe Storms, Landslides, Mudslides, Tidal Surges, Severe Winter Storms, Coastal Erosion, High Winds, Severe freezing, Heavy rains and landslide, Avalanches		
Insurance			
Total Premiums:	\$ 8,961	Variances:	0
Total Coverage:	\$ 2,703,500	Rep Losses:	0
Total Policies:	10	BCX Zone Claims:	1
A Zone Policies:	3	A Zone Claims:	0
V Zone Policies:	0	AE/A# Zone Claims:	0
Retention:	2 policies, \$64,529 coverage	V Zone Claims:	0
		D Zone Claims:	0
Mitigation Projects and Other Grants			
Mitigation Project:	Severe winter storm and avalanches produced a declared disaster in 2000. Acquisition/relocation of private structures - riverine - \$738,920, 25% local cost share. (Disaster # 1316)		
Mitigation Project:	Earthquake in 2002: 205.4; Non Structural Retrofitting/Rehabilitating Public Structures - Seismic; Anchor lights in district buildings - \$17,350, 25% local cost share. (Disaster # 1440)		
Mitigation Plans			
	City of Cordova, Local Hazard Mitigation Plan		
Effective:	September 2008		
Expires:	September 2013		
Other Plans			
	Alaska State Hazard Mitigation Plan, October 2010.		
Levees and Other Flood Control Structures			
Identifier:	None known to be 65.10 compliant		
Accreditation Status:			
Environmentally Sensitive Areas:			
Critical Species:			
Environmentally Sensitive Index:			
Wetlands:			
CoBRAs:	n/a		
OPAs:	n/a		

Map 2. Image of Interview Reference Map for Cordova



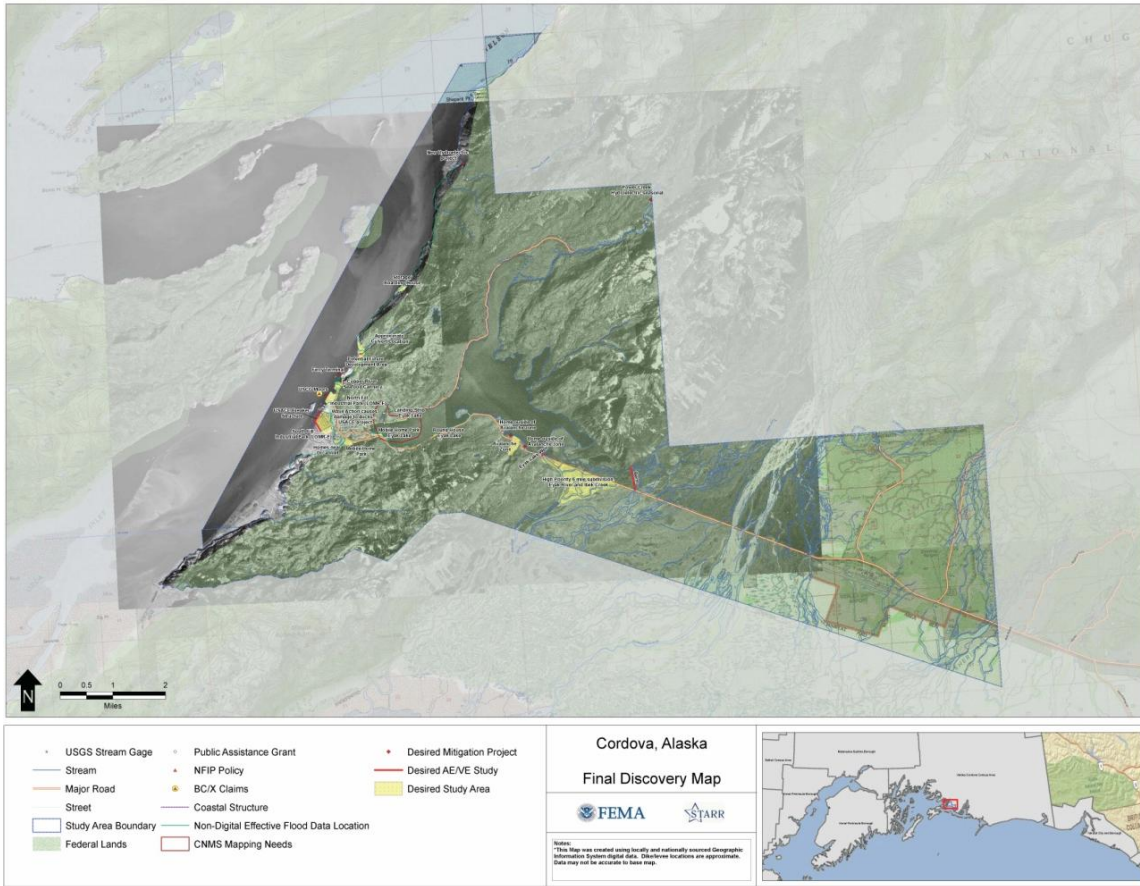
The third step was to hold a watershed-wide Discovery Meeting and facilitate discussion and data analysis of study needs, mitigation project needs, desired compliance support, and local flood risk awareness efforts. The discussion was stimulated using the Discovery Geodatabase display of relevant data. Attendees, including all affected communities and selected other stakeholders, cooperatively identified possible solutions for the Areas and Points of Concern shown on the Discovery Meeting Map. Solutions included recommendations of floodplain studies, mitigation projects, compliance issues, and ideas on how to improve the local flood risk communication programs.

Map 3. Image of the Cordova Coastal Discovery Meeting Map



The fourth phase of the Discovery effort involved an analysis of the data and information collected and discussed at the meeting, and recommendations as to the future relationship and activities between FEMA and the watershed communities. The Final Discovery Map indicates desired study areas and mitigation project locations, and the Discovery Report documents the results of data collection and conversation. If a Risk MAP project is to be initiated in this watershed, Discovery will be concluded with the finalization of a project scope and signed Project Charters, which indicate that all affected stakeholders agree to the terms of a funded project, including communication and data responsibilities.

Map 4. Image of Cordova Coastal Community Final Discovery Map



III. Risk MAP Needs

The results of the data collection and interviews were thoroughly discussed at the Discovery Meeting. The following sections include issues and situations that exist in Cordova that can be considered Risk MAP Needs, to be addressed with Risk MAP projects. Details and background on all issues can be found in the interview notes, meeting notes, and other files included in the appendix.

i. Floodplain Studies

Cordova’s Flood Insurance Study and Flood Insurance Rate Map (FIRM) were last updated in 1978. Cordova has both detailed and approximate coastal and riverine analysis. The date of last community meeting is unknown.

The Final Discovery Map should be referenced to view spatial data that may be indicative of study needs. The CNMS data suggested that a portion of one flooding source should be updated, though the community identified other, different areas for update. One claim has been identified in the B, C, or X zones and five LOMAs have been issued.

No LiDAR has been collected for the area but the City indicated that they have a high level of interest in obtaining topographic data, so there may be potential for a cost share.

In 1984, Cordova’s harbor was expanded by the U.S. Army Corps of Engineers. This expansion encourages swell propagation into the mouth of the harbor. A breakwater structure was then constructed along the south, west, and northwest portion of the harbor to alleviate swell influences that resulted from that harbor widening. No levees were identified in the community.

Some areas were identified by community officials as needing a detailed coastal study or approximate study. The desired study areas are shown on the Final Discovery Map and listed below.

Table 2: Cordova Mapping Needs

STUDY AREA	STUDY LENGTH (miles)	LOCATION DESCRIPTION	STUDY TYPE
Cannery Road Loop	0.25	Near the loop at northern end of Cannery Road	Detailed Coastal
Cannery Road/ Fleming Creek	0.5	Coastline near Fleming Creek	Detailed Coastal
Seafood Lane	0.5	Coastline along Seafood Lane	Detailed Coastal
Eyak Lake	2.7	Shoreline study along the west end of the lake	Approximate
Eyak River	1	Near the lake	Detailed
Ibek Creek	1.2	The confluence of Ibek Creek and Eyak River	Approximate

ii. Mitigation Projects

The Cordova Mitigation Plan, prepared by the City of Cordova, became effective in September 2008 and will expire in September 2013. In addition to the mitigation projects identified in the plan, two other potential mitigation projects were discussed during Discovery:

Harbor Breakwater Extension – the city desires funding for the extension of the northern harbor breakwater to mitigate wind swell propagation into harbor.

Eyak Lake Weir – the city desires funding to improve or replace the weir/dam structure between Eyak Lake and Eyak River.

iii. Compliance

Data collected from CIS indicated that Cordova has not issued any variances to their floodplain management ordinances, so it may be assumed that the community is regulating to at least the minimum criteria required by FEMA. The most recent Community Assistance Visit was in April 2003.

iv. Communications

During the interview, the community indicated that they were interested in learning more about Risk MAP's communications support, and were open to a future meeting with FEMA to learn about how they can improve their flood risk communication programs. Currently, the community does not participate in the Community Rating System program.

Cordova is comprised of approximately 2,454 residents (U.S. Census, 2000). The median age in Cordova is 37 years, with approximately 7% of the population over 65 years, an average of 8% non-English speakers, and 10% Native Americans. An average of 62.6% of the population holds a high school diploma, and around 21% have a college degree. As of 2000, approximately 63% of residents over age 16 that desired employment were working, with a median annual income of approximately \$42,000. Residents work in educational, health, and social services; agriculture, forestry, fishing and hunting, and mining; and transportation, warehousing, and utilities.

Given the high population of non-English speakers and Native Americans, there may be a need for special outreach strategies for the City of Cordova. The local officials were interested in learning more about how to provide flood risk information to residents.

IV. Close

Local officials in the communities were interested in the Discovery process and Risk MAP, and are open to learning more about how they can begin to develop resiliency to flood events. They identified several areas for map updates and areas in which they could use additional FEMA support. It is recommended that the guidance document outlining the types of Mitigation Planning Technical Support that can be included in Risk MAP projects be evaluated with communities, once finalized. The local officials in Cordova would benefit from the implementation of Risk MAP projects.

V. Appendix – Discovery Files

Communications

- Contacts
 - Stakeholders: Names, Titles, Phone, Email, Website
 - Notification Dates
- Notifications/Invitations
 - A National Notification
 - B Regional Notification
 - C State Legislator Notification
 - C Congressional Notification
 - D Community Notification
 - E Floodplain Administrator Interview Request
 - Meeting Notes Distribution

Community Interviews

- Fact Sheet
- ***Interview Reference Maps***
- Interview Notes
- Locally-Provided Documents

Discovery Meeting

- Agenda
- Presentation
- Sign-In Sheet
- ***Discovery Meeting Map***
- Meeting Notes
- Draft Project Charter

Report

- Report
- ***Project Area Map***
- ***Final Discovery Map***
- Tabular Data, including Data Sources and Mapping Needs
- Geodatabase
- Database Updates