

Discovery Report

FEMA Region X

Valdez Project Area, Alaska



FEMA

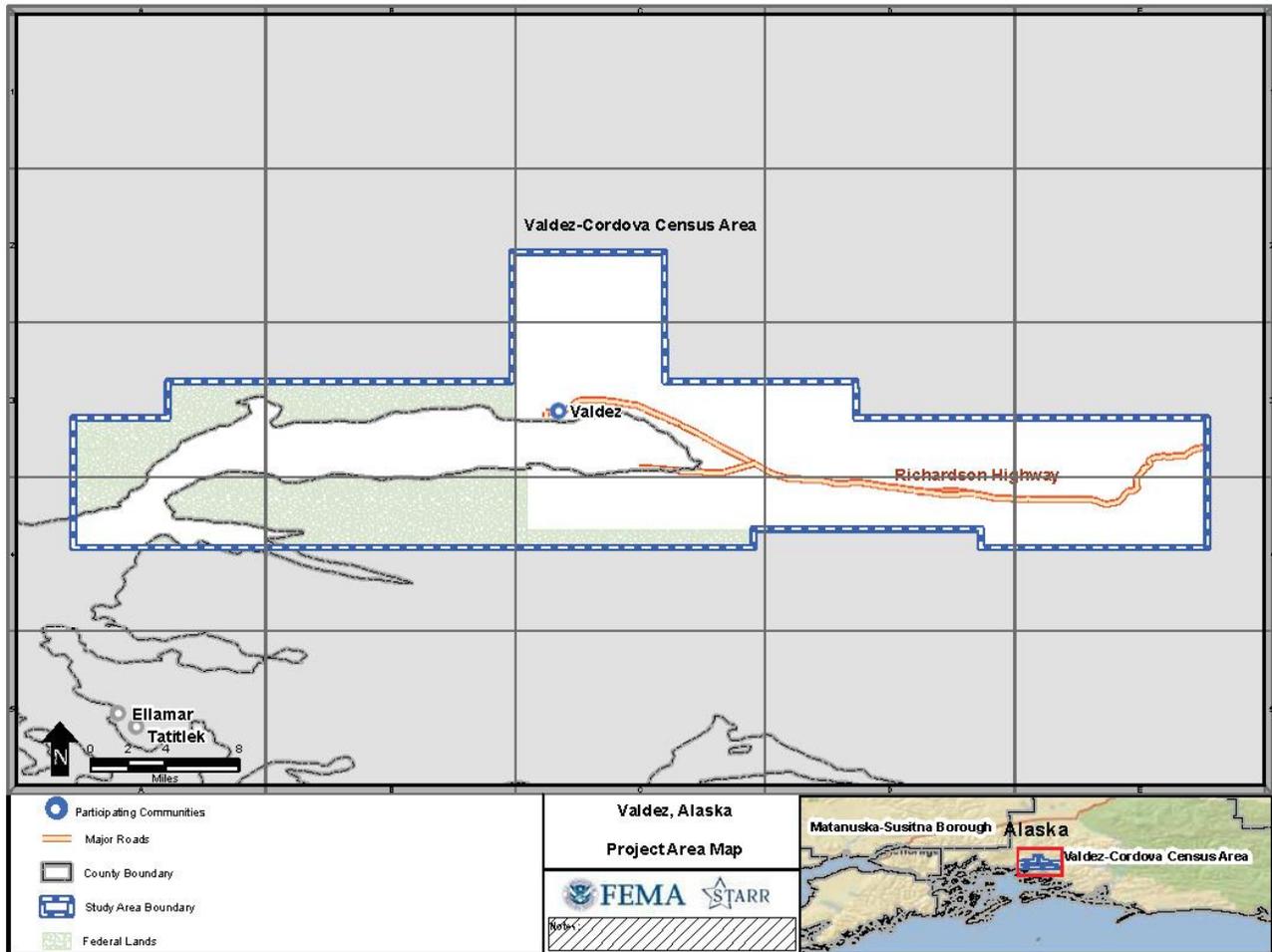
Prepared by



I. Watershed Description

The Valdez Project Area is located in south central Alaska, at the head of a fjord in Prince William Sound. It is surrounded by the heavily glaciated Chugach Mountain Range and Port Valdez. The Valdez Project Area, with an area of approximately 265 square miles, is located on the coast of Port Valdez and near the terminus of the Lowe River. An airport, the Alaska Marine Highway ferry system, and the Richardson Highway are the major transportation modes into the area. The original Valdez town site was severely damaged during the 1964 earthquake. Liquefaction of the glacial silts produced an underwater landslide where a portion of the city's coastline sheared off and caused a local tsunami. The town was relocated to its present location on more stable ground.

Map 1: Image of the Valdez 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 At this time, Discovery processes and requirements are still being defined; however, draft guidance is available from the draft *Appendix I – Discovery (fall 2010)*, and the draft *Meetings Guidance for FEMA Personnel (October 2010)*.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,

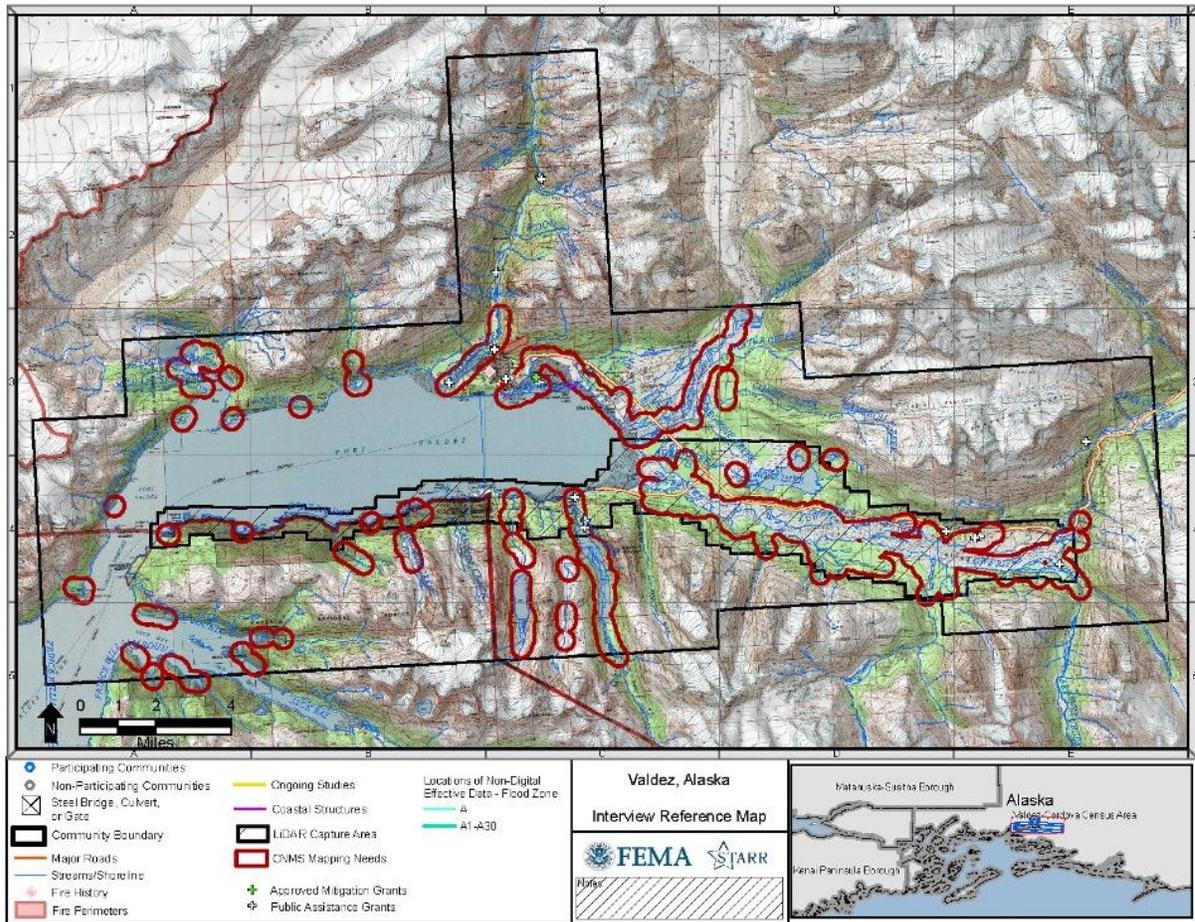
and spatial data was included in the Discovery Geodatabase, and is displayed on the Discovery maps, where appropriate. Full-sized Discovery maps are included in the appendix.

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 the city of Valdez (tabular data in appendix)

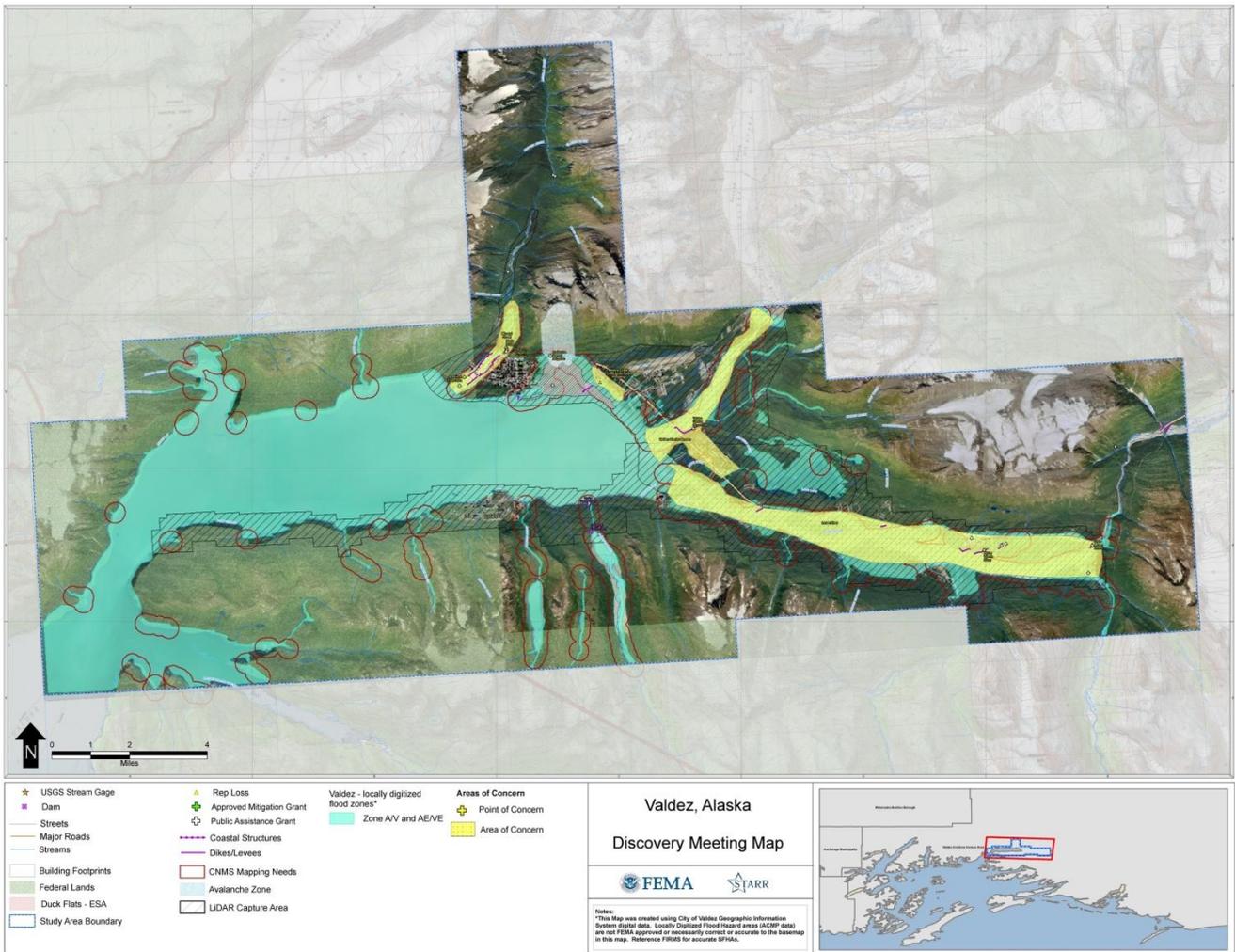
RX Discovery 2011: Valdez Coastal Watershed		Page 1	
Fact Sheet: Valdez, Alaska			
CID:	020094	FIS/FIRM:	Effective Date: 12/2/1987 Level of Study: Detailed Study, AH/A7, Coastal, Floodway Last Community Meeting: 6/19/1979
LOMCs:	5	Last CAV/CAC Date:	07/14/2006
CRS Status			
Class:	8	SFHA Discount:	10%
Effective:	10/1/2009	Non-SFHA Discount:	5%
Demographics		Social Characteristics	
Population:	10,195	Non-English Speakers:	9%
Median Age:	36	High School+ Education:	89%
Elderly (65+):	6%	Bachelors+ Education:	21%
Native:	13%		
Industrial			
Population in labor force:	66.6%		
Median income:	\$48,734		
Top 5 Industries:			
	18%	Educational, health and social services	
	14%	Transportation and warehousing, and utilities	
	9%	Public Administration	
	9%	Construction	
	8%	Arts, entertainment, recreation, accommodation and food services	
Presidentially-Declared Disasters			
Flood-related total:	18	(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:	\$ 22,369	Variances:	0
Total Coverage:	\$ 7,364,300	Rep Losses:	3
Total Policies:	30	BCX Zone Claims:	1
A Zone Policies:	14	A Zone Claims:	0
V Zone Policies:	0	AE/A# Zone Claims:	4
Retention:	7 policies, \$68,030 coverage	V Zone Claims:	0
		D Zone Claims:	0
Mitigation Projects and Other Grants			
Acquisition Project:	Earthquake notification system for ADES and the SECC.		
Mitigation Plans:	City of Valdez, Local Hazard Mitigation Plan		
Effective:	June 2008		
Expires:	June 2013		
Other Plans:	Alaska State Hazard Mitigation Plan, October 2010.		
Leaves and Other Flood Control Structures			
Identifier:	None known to be 65.10 compliant		
Accreditation Status:			
Other:	Dikes along Lowe River adjacent to Alpine Woods and Nordic Subdivision. Dikes constructed in Mineral Creek protecting Cottonwood Subdivision and Blueberry Hill access road.		
Environmentally Sensitive Areas			
Critical Species:	None known		
Wetlands:	None known		
CoBRAs:	n/a		
OPAs:	n/a		
Tribal Areas:			
Tribe:	None identified		
Flooding Source:	n/a		

Map 2. Image of Interview Reference Map for the Valdez Project Area



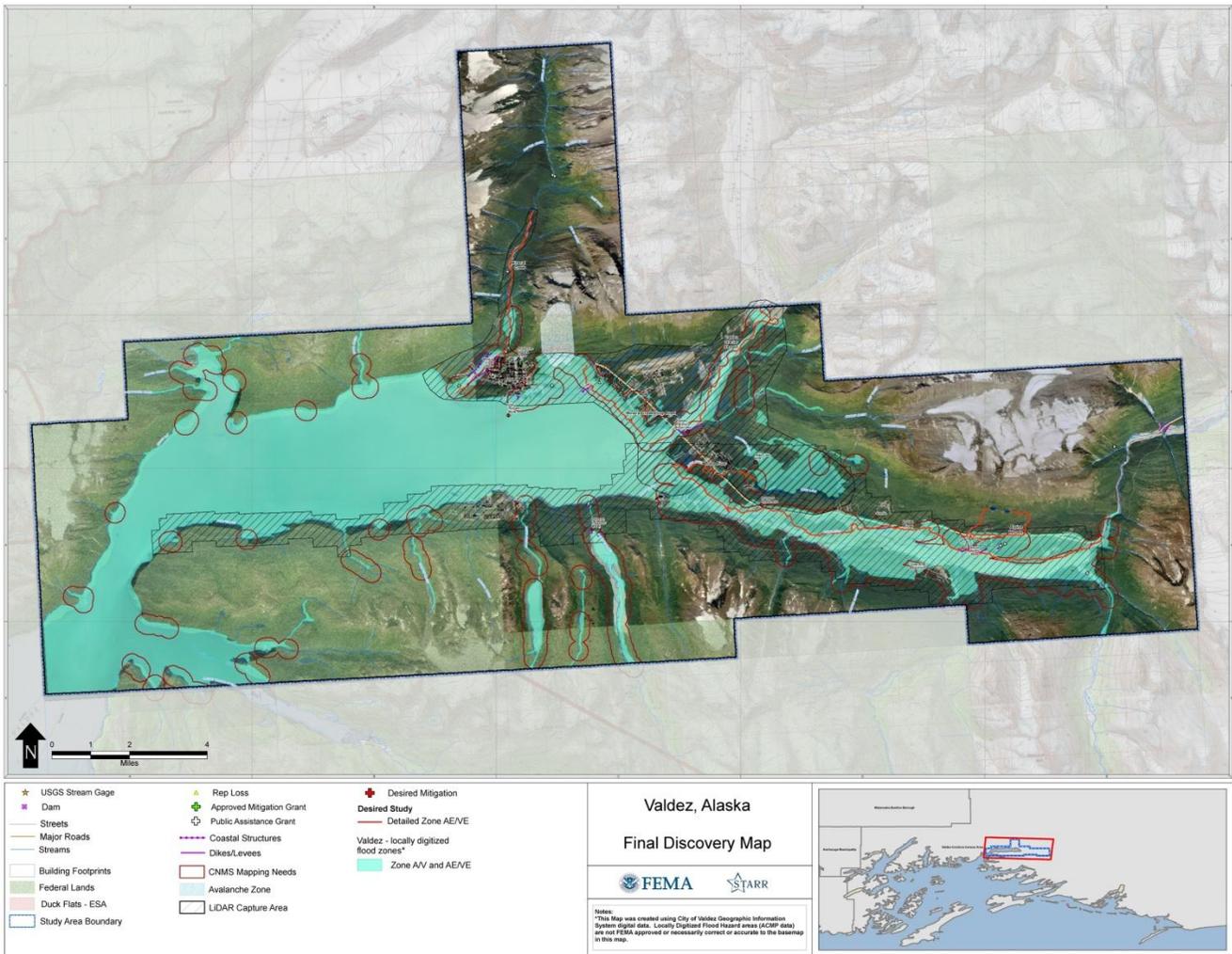
The third step was to hold a watershed-wide Discovery Meeting and facilitate discussion and data analysis of study needs, mitigation project needs, desired compliance support, and local flood risk awareness efforts. The discussion was stimulated using the Discovery Geodatabase display of relevant data. 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 Valdez Project Area 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 the Valdez Project Area 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 the Valdez Project Area 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

The city of Valdez Flood Insurance Study and Flood Insurance Rate Maps (FIRMs) were last updated in 1983. The city of Valdez has both detailed and approximate coastal and riverine studies. The last community meeting in the watershed was a Final Meeting held in June 1979.

The Final Discovery Map should be referenced to view spatial data that may be indicative of study needs. The CNMS data suggested that a number of flooding sources in the watershed should be updated. No claims have been made in the B, C, or X zones in Valdez during the communities' participation in the NFIP. There were three repetitive losses identified from the Community Information System's (CIS) tabular information but none in the spatial dataset. There have been five LOMAs issued across the project area, as identified in the CIS tabular information.

As shown on the Final Discovery Map, the city of Valdez has exiting LiDAR coverage for the south coastline of Port Valdez. Additionally, LiDAR collection is planned for the city of Valdez proper and the nearby flooding sources of Mineral Creek, Valdez Glacier Stream, Robe Lake and Robe River, and the northern portion of the Port Valdez coast.

At least three substantial levee systems were identified by the community as providing flood protection to infrastructure and residents. None of the levees are shown on the FIRM as providing flood protection. These levee systems were not identified in either the U.S. Army Corps of Engineers (USACE) National Levee Database, FEMA's Regional Flood Hazard Layers, or the Mid-Term Levee Inventory. The communities did not indicate that they had documentation at this time that the levees are 44 CFR 65.10 compliant but certification requirements were discussed at the Discovery Meeting.

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

Table 2: Valdez Project Area Mapping Needs

STUDY AREA	STUDY LENGTH (miles)	LOCATION DESCRIPTION	STUDY TYPE
Low River	13.3	From Port Valdez upstream to the LiDAR extent	Detailed Riverine
Mineral Creek	5.7	From Port Valdez upstream to the LiDAR extent	Detailed Riverine
Valdez Glacier Stream	6.6	From Port Valdez upstream to the LiDAR extent	Detailed Riverine
Alpine Woods	4.3	Small drainages behind Alpine Woods Subdivision	Detailed Riverine
Mineral Creek Loop Road	3	Coastline along Mineral Creek Loop Road	Detailed Coastal
Robe River	3	From Port Valdez upstream to the outlet of Robe Lake	Detailed Riverine

ii. Mitigation Projects

The *Valdez Local Hazard Mitigation Plan* was developed with assistance from FEMA mitigation funds. It was adopted by the city in June of 2008 and expires in June of 2013. The plan identifies several local hazards to Valdez residents including floods, erosion, severe weather, wildland fire, earthquake, tsunami/seiche, and avalanche.

Several potential desired mitigation projects were identified by the community, including:

- Alpine Woods Dikes: Non-regulatory Risk MAP products to provide depth grids, a risk assessment, and training for levee accreditation
- Sixmile: Non-regulatory Risk MAP products to provide preparedness outreach and risk assessments
- Rainbow Apartments: Non-regulatory Risk MAP products to provide preparedness outreach and risk assessments
- Lowe River Subdivision: Non-regulatory Risk MAP products that provide outreach, depth grids, and risk assessment tools
- Valdez Glacier Stream Dike: Mitigation project to create another opening under the Richardson Highway
- Avalanche Hazard Areas: A Non-Regulatory Risk MAP risk assessment is desired for these areas
- Robe Lake Inlet: A contributing flood factors Non-Regulatory Risk MAP product and a mitigation project to restore the natural inlet to the lake
- Mineral Creek Dikes: training and outreach assistance
- UAF Tsunami Study: inundation mapping, outreach, mitigation, and a risk assessment
- Solomon Lake Dam Break: inundation mapping, outreach, mitigation, and a risk assessment

iii. Compliance

Data collected from CIS indicated that the city of Valdez has issues any variances to their floodplain management ordinances, so it may be assumed that the communities are regulating to at least the minimum criteria required by FEMA. The most recent FEMA Community Assistance Contact/Visit was in July 2006. The city requested more information and potentially training for certifying their levee systems to provide flood protection, where possible, as there are planned levee improvement project scheduled. No other trainings or compliance support were requested.

iv. Communications

In the interview, the city of Valdez officials indicated 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 program. The city of Valdez participates in the Community Rating System (CRS) program. The city of Valdez is comprised of approximately 4,036 residents (2000 Census data). The median age of residents of the city of Valdez is 35 years, with approximately 4% of the population over 65 years old, an average of about 6% non-English speakers, and about 7% Native Americans. An average of around 91% of the population holds a high school diploma, and around 22% have a college degree. As of 2000, approximately 68% of residents over age 16 that desired employment were working, with a median annual income of approximately \$66,500. Residents of the city work primarily in transportation and warehousing, and utilities and also educational, health and social services. There was nothing outstanding in the demographics data to indicate that special outreach strategies would be necessary for the city of Valdez.

The local officials were all interested in learning more about how to provide flood risk information to residents. Community representatives indicated the need for a 'local champion' for flood studies to keep the public informed and to allow public input throughout the process.

IV. Close

Local officials in the community were interested in the Discovery process and Risk MAP and 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. There are levees in the city that do not meet accreditation requirements, so the initiation of levee outreach well before any mapping project begins would be beneficial to the residents, local officials, and FEMA in avoiding confusion or appeals. The local officials in the city of Valdez would benefit from and welcome the implementation of Risk MAP projects.

V. Appendix – Discovery Files

Communications

- Contacts
 - Stakeholders
 - 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
 - Meeting Reminder

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