



EXECUTIVE SUMMARY

Home to more than 51,000 people¹, the Kenai Peninsula Borough (KPB) encompasses over 24,000 square miles. Due in part to the development of diverse key resources such as fishing, tourism, oil and gas development and timber, communities and facilities are distributed throughout the Borough. The size and substantial regional variations in climate and geographic features contribute to the Borough's vulnerability to natural hazards such as flooding, earthquakes, tsunamis, winter storms and wildfire. As such, it is important to identify and implement strategies to lessen the effects of these and other potential hazards on infrastructure, critical facilities and communities. While it is not possible to prevent natural disasters from occurring, it is feasible to minimize their impact to life and property with well-defined comprehensive hazard mitigation planning.

This document is a multi-jurisdictional All-Hazard Mitigation Plan developed by the Kenai Peninsula Borough (KPB) in coordination with the incorporated cities within the KPB, the Alaska Division of Homeland Security and Emergency Management (DHS&EM), and the Federal Emergency Management Agency (FEMA). This plan is designed to assist Borough residents, local and private organizations and other parties interested in natural hazard planning as well as coordinate planning efforts between government agencies. The plan is a living document, which will be updated on a 5-year cycle or reviewed within 90 days of a Presidential Disaster Declaration and updated as necessary within the following 12 months.

Due to limited resources, only five hazard sections were completed: floods, wildfires, earthquakes, weather and tsunamis and seiches. Additional sections for hazards such as volcanoes, avalanches, landslides, erosion and drought will be included in future plan updates. Information and general descriptions of these and other hazards may be found in the State of Alaska's All-Hazard Mitigation Plan².

The Introduction (Section 1.0) contains information about plan development and process, outreach, plan implementation and update processes, community profiles, critical facilities and risk assessments. Each of the five hazard specific sections (2.0 – 6.0) contain: 1) a history of hazard events in the KPB; 2) facilities and populations at risk; 3) potential strategies and implementation ideas to reduce loss from future hazard events; and 4) a resource directory.

All-Hazard Mitigation Plan Goals, Objectives and Strategies

Three overall goals were identified to mitigate the damaging effects of natural hazards that impact the Borough: ***protection, prevention and education.***

The following objectives were also identified to further define and direct the development of mitigation strategies. Strategies should:

- modify the impacts of hazard events by assisting individuals and communities to prepare for, respond to and recover from hazard events;

¹ Alaska Department of Labor and Workforce Development (ADLWD). 2002. Place Estimates 2000-2002 <http://146.63.75.50/research/pop/estimates/02T4-3.xls>.

² Alaska Division of Homeland Security and Emergency Management (ADHSEM). 2002b. State Hazard Mitigation Plan. Draft Updated August 2004. <http://www.ak-prepared.com/plans/mitigation/statehazmitplan.htm>.



EXECUTIVE SUMMARY

- reduce the susceptibility to damage and disruption by avoiding hazardous, uneconomic and unwise development in known hazard areas;
- protect the natural and beneficial values of floodplains, coastal areas and water resources; and
- reduce unnecessary economic losses and promote positive economic development by incorporating hazard assessment and mitigation into land use and development decisions.

For each hazard, strategies were further developed into implementation ideas and action items. The implementation ideas and action items are a detailed, though not exhaustive list of suggestions to reduce threats to life and property from each hazard and ultimately accomplish the plan goals and objectives.

Contributing Plans

Six incorporated cities are located within the KPB: Homer, Kachemak City, Kenai, Seldovia, Seward and Soldotna. With the exception of Seldovia¹, each City has completed its own Hazard Mitigation Plan. They have identified their key hazards; examined their hazard history; identified critical facilities and structures at risk; and identified potential mitigation measures to reduce damage to their communities from future events. The City plans are included as Annex Sections to this document and are also available from each City. In addition, The Port Graham Flood Mitigation Plan² and the Interagency All Lands/All Hands [Wildfire] Action Plan are included as Annexes to this plan. The All Lands/All Hands Plan was developed by an interagency coordinating committee³, of which the KPB is a member. Recently completed, the All Lands/All Hands Action Plan has been incorporated as the comprehensive Wildfire Hazard section of this plan.

The following table summarizes the implementation strategies developed for the five completed natural hazard sections, including possible coordinating agencies, plan goals addressed, a timeline and the location of the strategy in the plan.

¹ According to John Frohrip, Seldovia City Manager, Seldovia's All Hazard Mitigation Plan will be completed in 2005 in conjunction with their Emergency Response Plan (pers. comm.. Sept. 2004).

² Port Graham completed a Flood Mitigation Plan as a prerequisite for receiving Federal flood mitigation project funding. They do not currently intend to complete an all-hazard plan. Their Flood Mitigation Plan was included in this document to supplement the flood mitigation information for the Borough.

³ Formally known as the "Kenai Forest, Wildland Fire and Fuels Management Coordinating Committee".



EXECUTIVE SUMMARY

Mitigation Strategy	Potential Participants	Plan Goals			Timeline	Location in Plan
		Protection	Prevention	Education		
Floods						
Complete a Borough-wide flood hazard risk assessment.	KPB, Incorporated Cities, Alaska Department of Transportation and Public Facilities (ADOT&PF), Permitting Agencies, Kachemak Bay Research Reserve (KBRR), Coastal Training Program Alaska (CTP Alaska).	X	X		In Progress	Section 2.0
Develop mechanisms to enhance floodplain permit compliance.	KPB Planning, Road Service Area, GIS, Assessing and Management Information Services Departments	X	X	X	1-2 years and ongoing	Section 2.0
Improve KPB floodplain mapping and identify other effective tools or methods to assist with flood hazard assessment.	KPB, U.S. Army Corps of Engineers (USACOE), FEMA, U.S. Geological Survey (USGS), Incorporated Cities, State of Alaska Dept. of Community and Economic Development (DCED), KBRR	X	X		1-5 years (as funding allows)	Section 2.0
Cooperate with the City of Seward and the Seward/Bear Creek Flood Service Area Board to identify, prioritize and implement cost effective strategies for controlling flood damage.	KPB, City of Seward, Seward/Bear Creek Flood Service Area Board, USACOE, USGS, FEMA, DCED	X	X		1-5 years (as funding allows)	Section 2.0
Review and appropriately revise floodplain development standards and requirements.	Affected KPB Departments, USACOE, FEMA, DCED, Incorporated Cities	X	X		1-5 years (as staff and funding permit)	Section 2.0
Research and implement alternative floodplain management strategies.	KPB, Incorporated Cities, U.S. Army Corps of Engineers, FEMA, DCED, KBRR, CTP Alaska		X	X	Ongoing	Section 2.0
Evaluate Borough-maintained roads for floodplain hazards and potential flood reduction projects.	KPB, Private Non-Profit Organizations, FEMA, Alaska Division of Homeland Security and Emergency Management (DHS&EM)	X	X		Ongoing	Section 2.0
Protect and maintain beneficial floodplain natural values.	KPB, Private Non-Profit Organizations, Environmental Protection Agency (EPA), FEMA, Alaska Department of Environmental Conservation (ADEC), DNR/Parks, DNR/Office of Habitat Management and Permitting (OHMP), CTP Alaska	X		X	Ongoing	Section 2.0



EXECUTIVE SUMMARY

Promote positive economic development.	KPB, Private For-Profit and Non-Profit Organizations, EPA, FEMA, ADEC, DNR/Parks, DNR/OHMP		X	X	Ongoing	Section 2.0
Enhance existing emergency preparedness practices.	KPB, USGS, EPA, FEMA, USACOE, ADEC, DNR/Parks, DNR/OHMP	X		X	Both immediate and on-going	Section 2.0
Provide flood hazard and floodplain development education and information.	KPB, FEMA, Division of Community Advocacy, DCED, Cities of Homer and Seward			X	Ongoing	Section 2.0
Identify and develop partnership opportunities.	Local, State and Federal Agencies; Private For Profit and Non Profit Organizations and Other Interested Partners	X		X		Section 2.0
Wildfires¹						
Goal 1: Improve Fire Prevention and Protection						
Increase firefighting readiness and reduce the risks to homes and private property through prevention education.	USFS, State of Alaska Division of Forestry, USDI Fish and Wildlife Service, USDI BLM, USDI National Park Service, KPB, USDI Bureau of Indian Affairs, Cook Inlet Resources	X	X		5 years	Annex H
Goal 2: Reduce Hazardous Fuels						
Promote defensible space fuel reduction from “the back porch out” on 17,550 parcels of private land parcels containing structures.	USFS, State of Alaska Division of Forestry, USDI Fish and Wildlife Service, USDI BLM, USDI National Park Service, KPB, USDI Bureau of Indian Affairs, Cook Inlet Resources	X		X	5 years	Annex H
Conduct mechanical and prescribed fire fuel reduction in the Wildland Urban Interface (WUI) and outside the WUI on about 97,000 acres.	USFS, State of Alaska Division of Forestry, USDI Fish and Wildlife Service, USDI BLM, USDI National Park Service, KPB, USDI Bureau of Indian Affairs, Cook Inlet Resources	X	X		5 years	Annex H
Conduct mechanical fuel reduction adjacent to 641 miles of power lines.	USFS, State of Alaska Division of Forestry, USDI Fish and Wildlife Service, USDI BLM, USDI National Park Service, KPB, USDI Bureau of Indian Affairs, Cook Inlet Resources	X	X		5 years	Annex H
Conduct mechanical fuel reduction adjacent to 222 miles of highway/road evacuation routes.	USFS, State of Alaska Division of Forestry, USDI Fish and Wildlife Service, USDI BLM, USDI National Park Service, KPB, USDI Bureau of Indian Affairs, Cook Inlet Resources	X	X		5 years	Annex H

¹ From the Interagency All Lands/All Hands Action Plan Executive Summary, July 2004 Final Draft, Warren Oja (Team Leader).



EXECUTIVE SUMMARY

Goal 3: Restore Forest Health and Desired Ecosystems						
Restore forest cover on about 199,000 acres.	USFS, State of Alaska Division of Forestry, USDI Fish and Wildlife Service, USDI BLM, USDI National Park Service, KPB, USDI Bureau of Indian Affairs, Cook Inlet Resources		X		5 years	Annex H
Goal 4: Promote Community Assistance						
Collaborative development of 20 Community Wildfire Protection Plans in the KPB as per direction from the Healthy Forests Restoration Act of 2003.	USFS, State of Alaska Division of Forestry, USDI Fish and Wildlife Service, USDI BLM, USDI National Park Service, KPB, USDI Bureau of Indian Affairs, Cook Inlet Resources	X		X	5 years	Annex H
Earthquakes						
Identify and prioritize studies and retrofit measures for KPB critical facilities and infrastructure that are seismically vulnerable.	KPB, Incorporated Cities, Local Emergency Planning Committee (LEPC), FEMA, DHS&EM	X	X		1-5 years (as funding allows)	Section 4.0
Encourage the reduction of non-structural and structural earthquake hazards in homes, businesses and government offices.	KPB Office of Emergency Management (OEM) and Capital Projects Departments, LEPC, Community Schools Program (KPB School District), DHS&EM, Local Realtors, Local Construction Companies, Incorporated Cities	X		X	Ongoing	Section 4.0
Encourage KPB residents to purchase earthquake hazard insurance.	KPB OEM and Capital Projects Departments, Local Insurance Companies	X		X	Ongoing	Section 4.0
Identify oil and gas producing facilities that pose a risk to the Kenai Peninsula Borough due to their proximity to active faults.	KPB OEM, Alaska Division of Geological & Geophysical Surveys (DNR), USGS, Local Oil and Gas Companies	X	X		Ongoing	Section 4.0
Perform earthquake hazard mapping for the Kenai Peninsula Borough and improve technical analysis of earthquake hazards.	KPB OEM and GIS Departments, Alaska Division of Geological & Geophysical Surveys (DNR), USGS, Incorporated Cities	X	X		Liquefaction-susceptibility maps (2-4 years)	Section 4.0
Augment KPB communications and facility support.	KPB OEM, Capital Projects and Road Service Area Departments, ADOT&PF, Local Utility Companies	X		X	Ongoing	Section 4.0
Conduct mock emergency exercises to identify response vulnerabilities.	KPB OEM, LEPC, Emergency Service Divisions, Incorporated Cities			X	Ongoing	Section 4.0
Minimize damage to residential structures in the unincorporated areas of the Kenai Peninsula Borough.	KPB; Incorporated Cities, Local Insurance Companies	X		X	Ongoing	Section 4.0



EXECUTIVE SUMMARY

Weather						
Increase public awareness of severe winter storm mitigation activities and emergency response.	National Weather Service (NWS), DHS&EM, KPB OEM, LEPC, Local Utility Companies, Incorporated Cities		X	X	Ongoing	Section 5.0
Enhance weather monitoring and warning systems.	NWS, DHS&EM, KPB OEM, LEPC, Incorporated Cities	X	X		Ongoing	Section 5.0
Expand local weather monitoring programs.	KPB OEM, NWS, DHS&EM, Police, Fire & Emergency Service Providers, Incorporated Cities	X	X		Ongoing	Section 5.0
Minimize damage to residential structures and private property in the Kenai Peninsula Borough.	NWS, KPB OEM, Capital Projects Division, LEPC, Community Schools Program (KPB School District), DHS&EM, FEMA, Local Realtors, Local Construction Companies, Incorporated Cities within the KPB	X	X	X	Ongoing	Section 5.0
Tsunamis and Seiches						
Increase public awareness of tsunami and seiche mitigation activities and emergency response.	Communities of Homer, Seward, Seldovia, Port Graham and Nanwalek, DHS&EM, KPB OEM, LEPC		X	X	Ongoing	Section 6.0
Conduct mock tsunami response exercises to identify response vulnerabilities.	KPB OEM, LEPC			X	Ongoing (2-4 years)	Section 6.0
Enhance tsunami-warning systems in KPB coastal communities.	NWS, DHS&EM, KPB OEM, LEPC, Incorporated Cities	X	X		Ongoing (2-4 years)	Section 6.0
Minimize tsunami damage to structures in the Kenai Peninsula Borough.	NWS, KPB OEM, Capital Projects Division, Planning, and Floodplain Programs, LEPC, Community Schools Program (KPB School District), DHS&EM, FEMA, Local Construction Companies, Incorporated Cities	X	X	X	Ongoing	Section 6.0