



Seward/Bear Creek Flood Service Area

The mission of the Flood Service Area is to provide flood planning, protection, and mitigation services, in coordination with the appropriate agencies, to reduce the risk of flood damage to private and public property, through addressing issues that best reflect a fair use of the tax-levy for watershed-wide benefit.



Seward Hwy, Airport & City of Seward
Salmon Creek & Resurrection River 2012

PLANNING

Table 4-3 Hazard Identification Matrix

Hazard	Probability	Magnitude / Severity
Erosion	3 – Likely Event is probable within the next three years. History of events is greater than 20 percent but less than or equal to 33 percent likely per year.	2 – Limited Complete shutdown of critical facilities for more than one week. More than 10 percent of property is severely damaged.
Flood	4 - Highly Likely Event has up to 1 in 1-year chance of occurring (1/1=100 percent). History of events is greater than 33 percent likely per year. <i>[Future climate change influenced weather patterns could potentially increase the 100-year flood recurrence probability to a more frequent 50-year event equivalent by the year 2050.]</i>	2 – Limited Complete shutdown of critical facilities for more than one week. More than 10 percent of property is severely damaged.
Ground Failure (Avalanche, Landslide/ Debris Flow, Subsidence)	3 – Likely Event has up to 1 in 3 years chance of occurring (1/3=33 percent). History of events is greater than 20 percent but less than or equal to 33 percent likely per year.	3 - Critical Injuries and/or illnesses result in permanent disability. Complete shutdown of critical facilities for at least two weeks.
Tsunami & Seiche	4 - Highly Likely As it is not possible to predict when a tsunami will occur, an event is forecast to be highly likely to occur, though the recurrence interval is unknown.	4 - Catastrophic Multiple injuries and/or deaths. Complete shutdown of facilities for 30 or more days. More than 50 percent of property is severely damaged.

Table 6-8 SBCFSA Mitigation Action Plan (MAP) Matrix

Action ID	Description	Priority	Responsible Entity	Timeframe	Potential Funding	Benefit-Costs (B/C) / Technical Feasibility (T/F)
Flooding: Reduce potential Flood (FL) vulnerability, damage, and loss.						
FL 6.1	Pursue funding to improve and update Flood Insurance Rate Maps, as well as other maps and plans that may be more appropriate, such as the Seward Mapped Flood Data Area (SMFDA map), Drainage Plans, Sediment Management Plans or Watershed Management Plans in order to meet other goals.	High	SBCFSA	Ongoing	City, KPB, Tribe, HMA Program ANA, USACE, NRCS	B/C: Improving regulatory maps and developing plans will greatly reduce potential infrastructure and residential losses. Project costs would outweigh potential damages from flooding.
FL 6.2	Identify and list repetitively flooded structures and infrastructure, analyze the threat to these facilities, and raise mitigation action priorities.	High	SBCFSA	Ongoing	City, KPB, FEMA HMA, AFG, FP&S, SAFER, ANA, EEFSP	B/C: Repetitive damage reduction is a high priority for FEMA and will therefore benefit the community greatly. Coordinated planning to reduce losses and damage to structures and community residents.
FL 6.3	Apply for grant funding to assist critical facilities, public infrastructure, and residential properties with elevating flood threatened structures at least two feet above the identified Base Flood Elevation (BFE). (Current FEMA minimum is 1 ft. above BFE.)	High	SBCFSA	1-5 years	City, KPB, Tribe, HMA Program ANA, NRCS, USACE	B/C: Acquiring funding is essential for the SBCFSA as there are limited funds available to accomplish effective mitigation actions. This project would exceed FEMA minimum requirements for flood threatened structures by at least one foot.

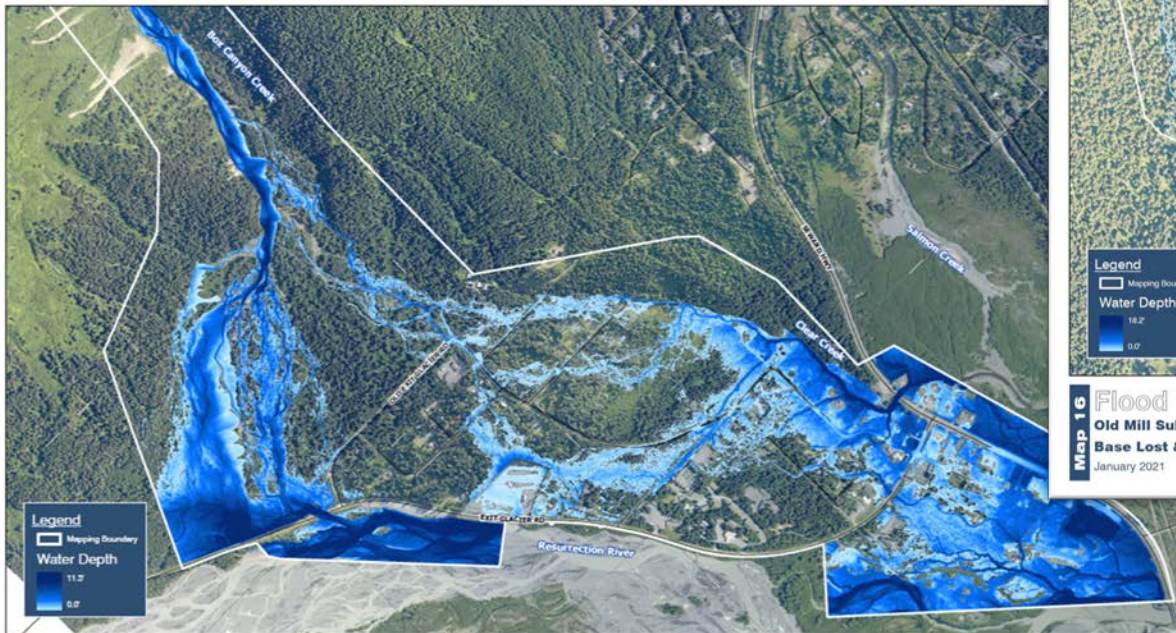
PLANNING

Priority Rank	Project Description	Responsible Entity	Time frame	Potential Funding	Benefit-Cost Feasibility	Estimated Project Costs
1	<p>Japanese Creek Long-term Mitigation</p> <ul style="list-style-type: none"> USACE Section 205 feasibility study Sediment Management Catch Basin & Plan Municipal Allotment/ Acquisition/ Easement of DNR Parcel 14424003 for Sediment Management Acquisition/ Easement of UA parcel(s) 14403078 and/or 14403079 Seek funding for Construction TBD - Max \$5 million match, can include lands, easements and in-kind services 	USACE KPB SBCFSA City	1-2 years	USACE \$450,000, SBCFSA \$180,000 City of Seward \$135,000 KPB \$135,000 KPB/SBCFSA/City Partnership Funding	BC 10.6 – 14.8 Technically feasible	Feasibility study \$900,000 50% Local Match \$450,000
2	<p>Box Canyon Creek Project Planning (for Future Armoring of Water Diversion Structure)</p> <ul style="list-style-type: none"> USDA Small Land Track Conveyance/ Easement CIRI Easement/ Partnership Agreement 	KPB SBCFSA USDA CIRI	1-2 years	KPB & CIRI Co-applicants for Hazard Mitigation Grant, Potential USACE Section 205	BC undetermined (Costs higher than typical HMGP grant)	Minimal for Project Planning; Construction Undetermined
3	<p>Sediment Management & Maintenance Program</p> <ul style="list-style-type: none"> Kwechak Creek – pilot project Spring 2021 Sawmill Creek – DNR approved – pilot project 2020 Salmon Creek – Spring 2021 – initial survey, benchmark installation, design plans, pre- & post project surveys Lost Creek – benchmark installation Box Canyon Creek – ground control points installation Japanese Creek – short-term material removal project & downstream channel extension Continued surveys – hydrologic/ meteorological data collection 	SBCFSA AKDOT&PF KPB City AKRR Private Owners	1-2 years, ongoing	SBCFSA Contract Services, SBCFSA Fund Balance, Partnership Funding	BC undetermined	Initial, Pre- & Post-Project Surveys, Design Plans Approx. \$17,000 per site

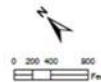
PROTECTION

Seward Mapped Flood Data Area (SMFDA) Update

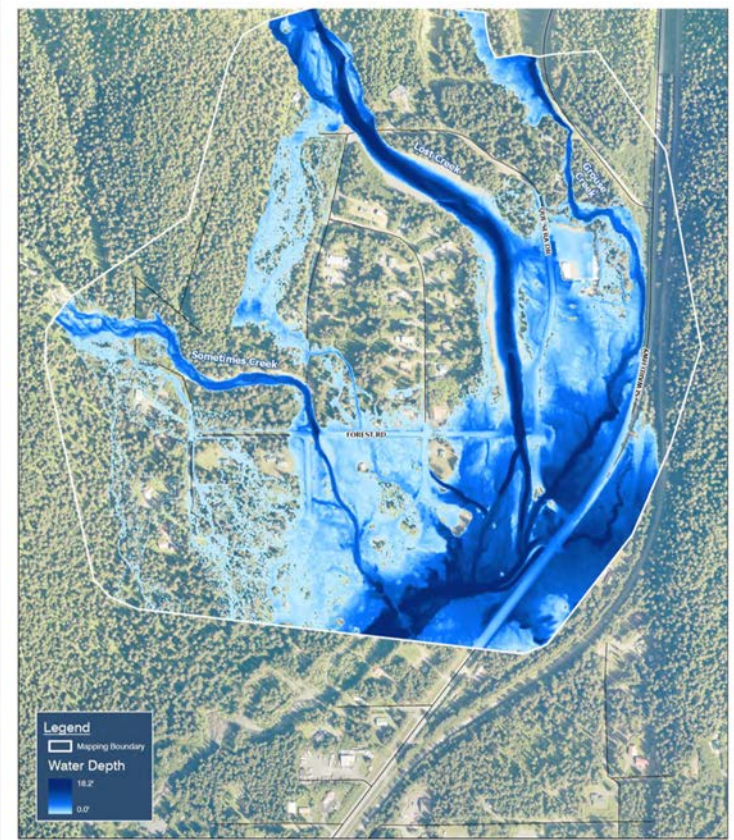
- Mapping update for three neighborhoods
 - Old Mill
 - Old Exit Glacier
 - Nashwoods
- Floodplain 21.06 code revisions



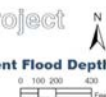
MAP 03 Flood Hazard Analyses Project
Old Exit Glacier Subdivision
Embankment Failure & Aggradation 1% AEP Flood Depths
January 2021



Seward-Bear
Creek Flood
Service Area



MAP 16 Flood Hazard Analyses Project
Old Mill Subdivision
Base Lost & Sometimes Creeks Extreme Event Flood Depths
January 2021



Seward-Bear
Creek Flood
Service Area

PROTECTION

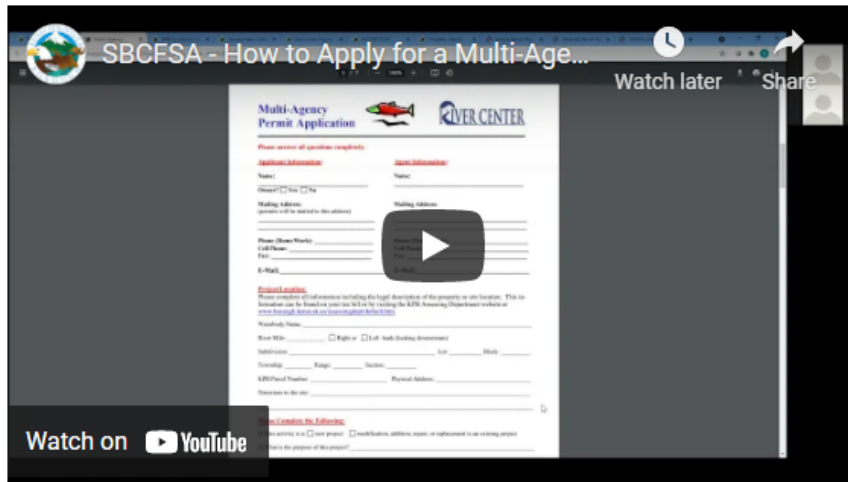
Permit application assistance & review

<https://www.kpb.us/service-areas/sbcfsa>

Multi-Agency Permit Application

Click [here](#) to download the River Center Permit Application for any development within the special flood hazard area.

How to Apply for a Multi-Agency Permit



How to Use the SBCFSA Parcel Viewer



PROTECTION



Kwechak Creek at Bruno Road

Emerging Situations

- Kwechak Creek at Bruno Rd
- Sawmill Creek at Nash Rd
- Lost Creek at Forest Rd
- Lost Creek Ice Jam Event



Lost Creek Ice Jam December 2020

LONG TERM MITIGATION

Sediment Management & Maintenance Program

- Regular Maintenance Sites
 - Kwechak Creek (Questawoods)
 - Sawmill Creek (Nashwoods)
 - Lost Creek (Old Mill)
 - Box Canyon Creek (Old Exit Glacier)
 - Salmon Creek (Clear Creek diversion area)



Japanese Creek alluvial fan



Japanese Creek Feasibility Study

- Partnership project
 - US Army Corps of Engineers
 - City of Seward
 - KPB/ SBCFSA

LONG TERM MITIGATION

Box Canyon Creek October 2018



Box Canyon Creek Project Planning

- Maintenance Permits
 - CIRI
 - US Forest Service
- Site Control

Hazard Mitigation Grant Programs

- Bruno Road Armoring & Drainage Improvements
- Forest Road Bridge Replacement



MORE PLANNING

Lowell Canyon Creek Tunnel Outlet October 2018



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<https://www.youtube.com/watch?v=hsNC0jTUwSA&authuser=0>