
2017 Ada County Multi-Hazard Mitigation Plan: Volume 1—Countywide Elements

Appendix A. Hazard Mitigation Plan 2015 Progress Report

Ada County Hazard Mitigation Plan Annual Progress Report

Reporting Period: January 2014 to July 2015

Background: Ada County and its planning partners have developed its All Hazards Mitigation Plan to provide its vision for reducing its risk from all hazards by identifying resources, information, and strategies for risk reduction. Responding to programmatic requirements defined under the Disaster Mitigation act of 2000. This act required state and local governments to develop hazard mitigation plans as a condition for federal grant assistance. Over a 16 month period from March of 2010 to September of 2011, the partnership organized resources, assessed the risks to natural hazards within the planning area, developed planning goals and objectives, reviewed mitigation alternatives, and developed an action plan to address the probable impacts from natural hazards within The Ada County planning area. By completing this process, the Partnership has maintained its compliance with the parameters of the Disaster Mitigation Act, and thus leveraged hazard mitigation grant funding opportunities afforded under the Robert T. Stafford Act. Copies of the plan are available to the public throughout the Ada County Public Library system and it can be viewed on-line at:

<https://adacounty.id.gov/accem/Mitigation>

Summary Overview of the plan's progress

The performance period for the ACHMP became effective on December 22, 2011, with the final approval of the plan by FEMA region X. The initial performance period for this plan will be 5 years, with an anticipated update to the plan to occur in 2016. This progress report will covers the second 1-year reporting period for the plan. As of this reporting period, the performance period for this plan is considered to be **8%** complete. The ACHMP has targeted 227 hazard mitigation initiatives to be pursued by the Planning Partnership during the initial performance period of this plan update. As of the reporting period the following overall progress can be reported:

- **170 out of 226 initiatives (75 %) reported on-going action towards completion.**
- **20 out of 226 initiatives (9 %) were reported as being complete as of this reporting period.**
- **35 out of 226 initiatives (15 %) reported no action taken as of this reporting period**
- **3 of the initiatives were removed from the 2013 update.**
- **2 initiatives were removed in this update.**

These figures are the summation of the 2014-2015 report.

Purpose: The purpose of this report is to provide the governing bodies of the planning partnership, Stakeholders and the citizens of the Ada County planning area a progress report on the implementation of the action plan identified in the ACHMP. This report has been prepared by the planning team and was reviewed and confirmed by the ACHMP Steering Committee in accordance with section 7.2 of the plan. The Steering Committee reviewed and approved this progress report at their meeting held 11/12/2014. The objective of this evaluation is to ensure that there is a continuing and responsive planning process that will keep the ACHMP dynamic and responsive to the needs and capabilities of the planning partnership as well as providing the Steering Committee information on needs for improvements through the plan update process. This report will discuss the following:

- I.) Natural Hazard Events that have occurred within the last year
- II.) Changes in risk exposure within the planning area
- III.) Mitigation Success Stories
- IV.) Review of the action plan(s)
- V.) Changes in capability within the planning Area that could impact plan implementation
- VI.) Recommendations for changes/enhancement

The Steering Committee: The development of the plan was overseen by a steering committee that was made up of planning partners and stakeholders within the planning area. This oversight committee operated under a set of ground rules that they helped to establish and that that supported the primary objectives of the planning process. It was determined through the plan’s development process that a

TABLE PR-1. STEERING COMMITTEE MEMBERS		
Name	Title	Jurisdiction/Agency/Stakeholder
Angela Gilman ^a	County Engineer	Ada County
Phil Bandy ^b		Citizen, Ada County
Brian Terry	Program Coordinator	Micron, Inc.
Pete Wagner	Environmental\Safety Mgr.	United Water Idaho
Tim Nicholson	Maintenance Manager	Ada County Highway District
Brian Holmes	Weather Broadcaster	Public Information\Affairs
Mike Pellant	Board Member	Health Hills Initiative
Mike Winkle	Chief	Eagle Fire Department
Romeo Gervais	Deputy Chief- Fire Marshal	Boise Fire Department
Jerry McAdams	Captain, Wildfire Mitigation	Boise Fire Department (alternate)
Liz Paul	Boise River Campaign Coordinator	Idaho Rivers United
Mollie Mangerich	Environmental Programs Mgr.	City of Meridian
Steve Sweet	Engineer	Flood Control District 10 (alternate)
Mike Dimmick	Project Manager	Flood Control District 10
Susan Cleverley	Mitigation Planner	Idaho Bureau Of Homeland Security
Gary Pagel	Business Continuity Manager	Idaho Power Company
Rob Littrell	Emergency Mgt. Planner	Boise State University
JoAnn Gilpin	Interim Asst. Director, Security	Boise State University (alternate)
Rex Barrie	Water Master	Water District #63
a. Steering Committee Chairperson		b. Steering Committee Vice Chairperson

Steering committee will remain as a viable body to oversee the maintenance aspects of the plan as established in Chapter 7. This body will remain as organized in the established ground rules, but will be dynamic in its membership. It is anticipated that there will be turn-over in this membership annually that will be monitored via the progress reporting mechanism. It is also anticipated the Steering Committees role in overall plan implementation will be dynamic, based on the hazard mitigation needs of the Operational Area. At a minimum, the Steering Committee will provide technical review and oversight on the development of a performance period progress report. For this reporting period, the Steering Committee Membership is as indicated in table PR-1.

Natural Hazard Events within the Planning Area

During the reporting period, there was one natural hazard event within the planning area that had a measurable impact on people or property.

Changes in Risk exposure within the Planning Area

The ACHMP addressed the probable impact for the following natural hazard events within the planning area:

- Dam Failure
- Drought
- Earthquake
- Flood
- Landslide
- Severe Weather
- Volcano (Ash Fall)
- Wildland Fire

During the reporting period, there was no occurrence of any natural hazard event within the planning area that would alter or change the probability of occurrence, or ranking of risk for the natural hazards addressed by the ACHMP.

Mitigation Success Stories

- 1) Boise Project Board of Control is researching some new membrane products as a cost effective alternative to tiling the canals in the urban interface.
- 2) A grant was obtained to fund the long term solution to the bank stabilization project on the river's edge near the Wood Duck Island sub-division. Construction will begin in January of 2015.
- 3) Ada County is developing a Comprehensive Plan and will integrate elements of the Mitigation Plan into the planning process.
- 4) City of Boise approved an updated Flood Plain Ordinance in November of 2013 that will help reduce risk in the city.
- 5) City of Boise has coordinated several neighborhood chipper projects in multiple areas of the city to assist with removal of private property vegetation. It is anticipated this will continue in the future. Also two Firewise demonstration gardens have been constructed at Boise Fire Stations to support Firewise landscape design.
- 6) The Boise Fire Department is one of eighteen nationally designated hub organizations in the Fire Adapted Communities Learning Network (FACLN). As a hub organization they partner with state and local partners to promote FAC concepts, encourage communities to become Firewise, spread the Ready, Set, Go! message, engage in other public outreach and media messaging, work with the local business community and policy makers to reduce wildfire impacts, manage multiple wildfire mitigation projects, and help build local capacity for integrated wildfire mitigation through various measures.
- 7) Garden City has completed a 5 year water/sewer replacement plan.
- 8) City of Kuna has formally adopted the 2012 International Residential Building Code.
- 9) City of Meridian has begun vulnerability assessment of Supervisory Control and Data Acquisition equipment to include weather and flood elements.
- 10) City of Meridian is undergoing application for participation in the Community Rating System (CRS).
- 11) City of Meridian has updated and adopted a Flood Damage and Prevention Ordinance.

12) Boise Warm Springs Water District completed close out on its electrical transfer switch project.

Review of the Action Plan

This section will review the action plan of each planning partner and determine the status of each initiative. The following action plan matrix will provide the following information:

- Brief summary of the initiative
- Time Line
- Priority
- Status

Reviewers of this report should refer to Part 4 of the plan for more detailed descriptions of each initiative and the prioritization process. Under the “status” section of the following section the following comments with regards to each initiative:

- Was any element of the initiative carried out during the reporting period?
- If no action was completed, why?
- Is the timeline for implementation for the initiative still appropriate?
- If the initiative was completed, does it need to be changes or removed from the action plan?

**TABLE PR-2.
ACTION PLAN MATRIX**

Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
UNINCORPERATED ADA COUNTY(AC)				
AC001 —Evaluate the cost-effectiveness of raising the walls around the Courthouse basement entries. This action would mitigate the flood threat of water coming into the basement and flooding the electrical room and generator. Include the Parking structures to the east of the courthouse in the study				
No	Long Term	No		No Progress
AC002 —Install Bypass switches to 400 Benjamin—east electrical room to allow for tie-in of a back-up Generator. This would allow for the use of the space during a major event where COOP was needed.				
Yes	Long Term	No	Brief cost analysis conducted. Current budgetary restrictions prohibit action in the near future.	No Progress
AC003 —Perform a study on the most cost effective way to provide additional back-up power for the Courthouse to provide for full services. Look into the possibility of placing the Gen-Set on the roof of the facility to remove it from flood issues. This would take a structural investigation of the facility				
No	Long Term	No		No Progress
AC004 —Keep First Responder Facilities out of Flood areas where ever possible. When not possible due to response time issues, design the facilities to keep water from entering, i.e. retaining walls, raise finish floor elevations.				
No	Long Term	No		Ongoing
AC005 —Examine and determine the most cost effective method to harden irrigation canals (i.e. tiling) in areas of high urban interface to prevent the flooding of residences and businesses.				
No	Long Term	No	New York Canal is examining a new membrane type that would be cost-effective.	Ongoing
AC006 —Maintain community’s compliance and good standing under the National Flood Insurance program.				
Yes	Short Term	No		Ongoing
AC007 — Assess and prioritize non-structural seismic retrofit needs of County-owned facilities. Once appropriate, cost-effective retrofit measures have been identified, implement the actions based on available funding and resources.				
No	Short Term	No	Funding not currently available.	No Progress
AC008 —Continue outreach to Irrigation Districts in an effort to encourage their participation in the Mitigation Plan as planning partners.				
No	Long Term	No		Ongoing
AC009 —Coordinate with Idaho Bureau of Homeland Security (IBHS) and obtain detailed soils information for the County as a whole. Current seismic models may not accurately reflect potential damages to critical infrastructure and the built environment. This information is also necessary for more accurate Landslide risk assessment.				
Yes	Short Term	No	New maps produced by BHS have been added as map layers in the HAZUS model.	Complete
AC010 —Partner with members of the Idaho Silver Jackets to model multiple flow rates of the Boise River starting at flood stage (7000 cubic feet/sec) and continuing to the 500-year event (35,500 cubic feet/sec) from the diversion dam to the head of Eagle Island. Display the finished models as an interactive map on the NOAA Advanced Hydrologic Prediction Service webpage as an outreach to expand public awareness of flood potential to properties surrounding the river.				
Yes	Short Term	No	Model completed and on the AHPS website.	Complete

**TABLE PR-2.
ACTION PLAN MATRIX**

Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
AC011 —Coordinate with local fire agencies/districts to develop more detailed and accurate fire risk maps that address the current and proposed future wildland urban interface (WUI) from the jurisdictional level. Engage resources from the National Interagency Fire Center to assist with this process.				
Yes	Short Term	No	Boise Fire Department has applied for an AFG Grant on behalf of all community partners to develop the map.	Ongoing
AC012 —Consider appropriate higher regulatory standards that prevent or reduce risk to the built environment from the known hazards of concern.				
Yes	Short Term	No	New standards have been proposed for review.	Ongoing
AC013 —Maintain an active Public Outreach strategy using the web, emails and public presentations to inform the public how to personally prepare for and mitigate the hazards of concern.				
Yes	Short Term	No	Have expanded outreach efforts via email, literature and presentations.	Ongoing
AC015 —Maintain emergency alert phone system to notify residents of evacuations orders and procedures during a natural hazard event.				
Yes	Short Term	No	County has recently updated its system.	Ongoing
AC016 —Consider the formation of an Open Space and Mitigation District. The district would manage acquired lands using practices that balanced the needs of community open space and recreation with appropriate mitigation activities that reduce or eliminate 3 known hazards of concern. Purposed activities include but are not limited to the maintenance of lands purchased in the floodplain, slope stabilization through low biomass native vegetation projects and the creation and maintenance of fire safe buffers in the WUI.				
No	Long Term	No		No Progress
AC017 —Participate in Dam Failure and high water release exercises conducted by Corps of Engineers				
Yes	Short Term	No	County staff participates in exercises.	Ongoing
AC018 —Maintain an active dialogue with all the partners involved in the release rates of water from Lucky Peak Dam. Continue to seek a balance in the regulated flows that meets the needs of agricultural water users, flood control for urban areas and river recreationists.				
Yes	Short Term	No		Ongoing
AC019 —Partner with the City of Boise to determine the most cost effective means of stabilizing the bank of the Boise River at the edge of the Wood Duck Island subdivision. Complete the stabilization using the method prescribed by the analysis.				
Yes	Short Term	No	The short term fix for this site was completed in 2/13 in coordination with Boise City. A long term permanent fix to the stability issue has been funded. Design will be completed FY 2014 and construction in January 2015	Ongoing
AC020 —Continue to maintain/enhance the County's classification under the Community Rating System				
Yes	Short Term	No	Completed 5 year review. CRS rating improved , to Level 6.	Ongoing

**TABLE PR-2.
ACTION PLAN MATRIX**

Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
AC021 —Integrate Local Hazard Mitigation Plan into the Ada County Comprehensive Plan.				
No	Long Term	No	Ada County Comprehensive Plan is being developed for 2015.	Ongoing
AC022 —Where appropriate, support retrofitting, purchase, or relocation of structures located in hazard-prone areas to protect structures from future damage, with properties with exposure to repetitive losses as a priority.				
No	Long Term	No	Early stages of property identification have begun.	Ongoing
AC023 —Support County-wide initiatives identified in Volume 1.				
Yes	Short Term	No		Ongoing
AC024 —Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Volume 1.				
Yes	Short Term	No		Ongoing
AC025 —Where appropriate, relocate or harden governmental records and service facilities currently located in hazard-prone areas. If the facilities cannot be relocated, determine and employ the most cost-effective methodologies to protect facilities from future potential damage caused by the known hazards of concern.				
No	Long Term	No		No Progress
CITY OF BOISE (B)				
B-1 —City Hall Structural Seismic Retrofit; structural upgrade of the City Hall facility to bring it into compliance with current seismic building code standards.				
Yes	Short Term	No	Phase 1 of the work was completed in May 2013. Phase 2 is under construction and is anticipated to be complete in May 2015+.	Ongoing
B-2 —Esther Simplot Flood Channel (joint project with Boise City and Garden City); a flood study of the Boise River between Main St. and Veteran’s Memorial Park bridges is underway and expected to result in a project to construct side channels / channel modifications to greatly reduce flood potential in both Garden City and in Boise City				
Yes	Short Term	No	Some elements will be constructed in conjunction with the park this winter. Remaining elements that will provide the most benefit have not yet been funded.	Ongoing
B-3 —Identify the Wildland-Urban Interface (WUI) do a risk assessment (a GIS exercise looking at vegetation in the undeveloped area and age of homes) of this area. In addition conduct a multi-year effort to do Red Zone surveys of the homes in this area. This analysis would then lead into a pilot program (an anchor point) involving restoring native vegetation on public lands and incentivizing neighbors to alter vegetation on their property. Also see North Ada County Fire & Rescue (NACFR) Initiative #3.				
Yes	Long Term	No	Applied for a Western States Regional Grant to fund wildfire hazard mapping. Notification of selection is November of 2014 with awards in early 2015.	Ongoing

**TABLE PR-2.
ACTION PLAN MATRIX**

Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
B-4—Wildland Fire Prevention Programs/Education and Outreach (Implementation of the WUI Standards). Focus on fuel reduction on private property around new and existing homes via incentivizing homeowners, providing free debris pick-up and replacement fire wise vegetation at a discount.				
Yes	Long Term	No	Boise has coordinated several neighborhood chipper projects in multiple areas of the city to assist with removal of private property vegetation. It is anticipated this will continue in the future. Also two Firewise demonstration gardens have been constructed at Boise Fire Stations to support Firewise landscape design.	Ongoing
B-5—Fire Station Seismic Upgrades: Boise Fire has already identified two buildings with major seismic problems (including the Logistics/Maintenance building) at a cost of two million dollars. This project will perform a vulnerability assessment on 16 other Fire facilities and initiate upgrades. Also see N. Ada County Fire & Rescue Initiative #2.				
Yes	Long Term	No		Ongoing
B-6—Flood Containment Facility Maintenance: Continue to maintain foothills flood containment facilities such as the Cottonwood flood ponds and flume, etc.				
Yes	Long Term	No		Ongoing
B-7—Update Floodplain Ordinance: Evaluate existing floodplain ordinance to look for opportunities to strengthen requirements, decrease risks and promote/support the city’s “no adverse impact” floodplain management policy.				
Yes	Short Term	No	Flood plain ordinance approved by City Council in November of 2013.	Complete
B-8—Maintain Boise’s compliance and good standing under the National Flood Insurance Program (NFIP).				
Yes	Long Term	No		Ongoing
B-9—Continue to maintain/enhance the City’s classification under the Community Rating System				
Yes	Long Term	No		Ongoing
B-10—Integrate Local Hazard Mitigation Plan into the City of Boise Comprehensive Plan.				
No	Short Term	No		No Progress
B-11—Where appropriate, support retrofitting, purchase, or relocation of structures located in hazard-prone areas to protect structures from future damage, with properties with exposure to repetitive losses as a priority.				
No	Long Term	No		No Progress
B-12—Consider appropriate higher regulatory standards that prevent or reduce risk to the built environment from the known hazards of concern.				
Yes	Long Term	No	Flood plain ordinance approved by City Council in November of 2013, reviewing updates to the Boise City Wildland Urban Interface Code.	Ongoing
B-13—Support County-wide initiatives identified in Volume 1.				
Yes	Long Term	No		Ongoing
B-14—Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Volume 1.				
Yes	Long Term	No		Ongoing

**TABLE PR-2.
ACTION PLAN MATRIX**

Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
CITY OF EAGLE (E)				
E-1 —Partner with Federal Agencies to install electronic flow monitoring stations on the North Channel of the Boise River Eagle Rd Bridge and Dry Creek Drainage at the Eagle Rd Bridge. Both monitoring stations shall be capable of feeding data to USGS stream flow web site, or other applicable collection sources.				
Yes	Long Term	Yes	Monitoring station installation funding may be available but no funding has been identified to pay for annual maintenance costs. This project has been changed to a long term project as solutions for the annual costs are researched.	Ongoing
E-2 —Partner with ACHD on bridge replacement of Dry Creek Bridge @ Floating Feather, w/o Eagle Rd Replacement. Replace structure to increase freeboard reduce restriction on Dry Creek.				
Yes	Long Term	No	Initial meetings between city and ACHD have begun. Designs being finalized.	Ongoing
E-3 —Maintain community’s compliance and good standing under the National Flood Insurance program.				
Yes	Short Term	No		Ongoing
E-4 —Continue to maintain/enhance the City’s classification under the Community Rating System				
Yes	Short Term	No		Ongoing
E-5 —Integrate Local Hazard Mitigation Plan into the City of Eagle Comprehensive Plan.				
Yes	Long Term	No	Integration process is progressing.	Ongoing
E-6 —Where appropriate, support retrofitting, purchase, or relocation of structures located in hazard-prone areas to protect structures from future damage, with properties with exposure to repetitive losses as a priority.				
No	Long Term	No		No Progress
E-7 —Consider appropriate higher regulatory standards that prevent or reduce risk to the built environment from the known hazards of concern.				
Yes	Short Term	No		Ongoing
E-8 —Consider the formation of a Surface Water Utility district and/or a Capital Improvements program for drainage, as a method of funding the mitigation of stormwater impacts created by new development.				
No	Long Term	No		No Progress
E-9 —Partner with other appropriate agencies within the planning area, such as Ada County, in the development of a comprehensive stormwater management plan that will evaluate the projected impacts of future development in the watersheds that impact the City of Eagle and make regional recommendations to mitigate those impacts.				
No	Long Term	No		No Progress
E-10 —Support County-wide initiatives identified in Volume 1.				
Yes	Short Term	No		Ongoing
E-11 —Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Volume 1.				
Yes	Short Term	No		Ongoing

**TABLE PR-2.
ACTION PLAN MATRIX**

Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
GC1—Update and training on Emergency Action Plan				
Yes	Short Term	No		Ongoing
GC2—Establish emergency preparedness inventory with inspection and replacement plan				
Yes	Long Term	No	Timeline has changed based on staff availability to complete project by 2016.	Ongoing
GC3—Develop/update a Capital Improvement Plan for capital facilities/infrastructure within the City.				
Yes	Long Term	No	A 5-year water/sewer replacement plan in place.	Ongoing
GC4—Installation of manhole locking mechanisms in the floodway				
Yes	Short Term	No		Complete
GC5—Fresh water supply well house security camera installation.				
Yes	Long Term	No	All wells have surveillance systems installed. Booster station is only remaining site and we should have this taken care by the end of this fiscal year.	Ongoing
GC6—Garden City Parks security camera installation				
No	Long Term	No	Funding will be available February 2015 for installation of new camera system at Riverfront Park (Boys & Girls Club).	Ongoing
GC7—Streetlight replacement/conversion to alternative energy streetlights				
Yes	Short Term	No	The conversion is not cost effective at this time.	No Progress
GC8—Acquisition of vulnerable property within the floodplain for use as parks to mitigate flood waters				
No	Long Term	No	This will be done as budget allows, potential purchases are being monitored.	Ongoing
GC9—Purchase of equipment to aid in recovery from a flood event for the Library				
No	Long Term	No	Not currently within budget, alternate options are being researched.	Ongoing
GC10-- Maintain community's compliance and good standing under the National Flood Insurance program				
Yes	Short Term	No	City currently in good standing and working to remain so.	Ongoing
GC11-- Obtain portable generators for use in Ada County during power outages and other emergency situations				
Yes	Short Term	No	A portable generator was purchased last year that is capable of running all liftstations as well as two of our smaller domestic wells.	Complete
GC12—Continue to maintain/enhance the City's classification under the Community Rating System				
Yes	Short Term	No	Ongoing but have not received info from 2012 audit yet.	Ongoing

**TABLE PR-2.
ACTION PLAN MATRIX**

Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
C13—Integrate Local Hazard Mitigation Plan into the Garden City Comprehensive Plan.				
No	Short Term	No	Comp Plan under review-Mitigation Plan will be incorporated with update of Comp Plan.	Ongoing
GC14—Where appropriate, support retrofitting, purchase, or relocation of structures located in hazard-prone areas to protect structures from future damage, with properties with exposure to repetitive losses as a priority.				
Yes	Long Term	No		Ongoing
GC15—Consider appropriate higher regulatory standards that prevent or reduce risk to the built environment from the known hazards of concern.				
Yes	Short Term	No	Building Codes Updated.	Complete
GC16—Support County-wide initiatives identified in Volume 1.				
Yes	Short Term	No		Ongoing
GC17—Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Volume 1.				
Yes	Short Term	No	Review completed with PW and PLanning Department	Ongoing
CITY OF KUNA (K)				
K1—Standardized regulation of HVAC, and life safety codes				
Yes	Long Term	No	Adopted 2012 International Residential Building Code.	Complete
K2—Develop and maintain an inventory of City Critical facilities and infrastructure				
Yes	Long Term	No	Task to develop database has begun.	Ongoing
K3—Open space preservation in identified high risk hazard area.				
No	Long Term	No		Ongoing
K4-- Maintain community's compliance and good standing under the National Flood Insurance program				
Yes	Short Term	No		Ongoing
K5—Integrate Local Hazard Mitigation Plan into the City of Kuna Comprehensive Plan.				
No	Short Term	No		No Progress
K6—Where appropriate, support retrofitting, purchase, or relocation of structures located in hazard-prone areas to protect structures from future damage, with properties with exposure to repetitive losses as a priority.				
No	Long Term	No	No properties have been identified at this time.	Ongoing
K7—Consider appropriate higher regulatory standards that prevent or reduce risk to the built environment from the known hazards of concern.				
Yes	Long Term	No	Adopted 2012 International Residential Building Code.	Ongoing
K8—Support County-wide initiatives identified in Volume 1.				
Yes	Short Term	No		Ongoing

**TABLE PR-2.
ACTION PLAN MATRIX**

Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
K9—Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Volume 1.				
Yes	Short Term	No		Ongoing
CITY OF MERIDAIN (M)				
M-1—Conduct a survey of water, sewer, fire, and police infrastructure including power generation equipment, wastewater treatment plant facilities, communications, and Supervisory Control and Data Acquisition (SCADA) equipment to analyze vulnerability to severe weather and earthquake, then design and execute improvements to mitigate.				
Yes	Long Term	No	Vulnerability assessment is being conducted on SCADA systems. Will include weather/flood elements.	Ongoing
M-2—Become a “Firewise Community”				
No	Long Term	No	This is supported as a long term endeavor as the City does not have significant wildland urban interface areas where green space is most needed.	No Progress
M-3—Maintain compliance and good standing in the National Flood Insurance Program				
Yes	Long Term	No	Standing in NFIP is being maintained	Ongoing
M-4—Apply for participation in the Community Rating System (CRS) and Maintain Standing in CRS				
Yes	Short Term	No	CRS Application has been submitted and is under FEMA review.	Ongoing
M-5—Consider the creation of a surface water utility including fee collection.				
Yes	Long Term	Yes	Feasibility study ongoing to determine whether or not irrigaton district is feasible for City and whether a utility fee should be part of that district. No action on Stormwater Utility Fee analysis as City is not MS4 City.□	Ongoing
M-6—Develop a comprehensive surface water protection program, including a stormwater management plan that includes the creation of a capital improvements program for stormwater in support of a stormwater utility.				
Yes	Long Term	No	Capital improvement stormwater program is initiated. Continuing to develop elements of Comprehensive Surface Water Protection Plan.	Ongoing
M-7— Partner with ACHD to implement a culvert replacement program for approximately 15 crossings of Fivemile, Ninemile, and Tenmile Creeks including design and construction.				
No	Long Term	No	Culvert a N. Meridian Rd was upgraded during design phase to carry 100 yr flow in partnership with ACHD and MDC under Split Corridor, Pase II project. Other culverts, not identified under this program, upgraded but not counted against this initiative. Culvert upgrades will continue as road funding becomes available.	Ongoing

**TABLE PR-2.
ACTION PLAN MATRIX**

Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
M-8 — Partner with Idaho Transportation Department (ITD) to design and construct culvert improvements on Fivemile Creek at the I-84 / Eagle Road Interchange according to recommendations of “Fivemile Creek at Interstate 84—Eagle Road to Wells Street” Hydraulic Report, November 2008.				
Yes	Long Term	No	Construction occurring as scheduled per plan	Ongoing
M-9 —Perform a vulnerability assessment on the Ridenbaugh and New York Canal system in the Meridian Area of Impact.				
No	Long Term	Yes	Due to lack of resources priority has changed to long term.	No Progress
M-10 — Perform an assessment to determine housing areas that would benefit from foundation elevation projects. Work with homeowners to apply for grant funding for projects.				
No	Long Term	No	No action taken.	No Progress
M-11 — Integrate Local Hazard Mitigation Plan into the City of Meridian’s Comprehensive Plan.				
No	Short Term	No	Need to incorporate into next available update to Comp Plan	No Progress
M-12 —Consider appropriate higher regulatory standards that prevent or reduce risk to the built environment from the known hazards of concern.				
Yes	Short Term	Yes	Flood Damage Prevention Ordinance has been updated and adopted. □	Complete
M-13 — Where appropriate, support retrofitting, purchase, or relocation of structures located in hazard-prone areas to protect structures from future damage, with properties with exposure to repetitive losses as a priority.				
No	Long Term	No	No action taken.	No Progress
M-14 —Support County-wide initiatives identified in Volume 1.				
No	Short Term	No	Plan adopted, reveiws conducted, initiatives supported.	Ongoing
M-15 —Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Volume 1.				
Yes	Short Term	No	Attend planning, update and steering committee meetings.	Ongoing
CITY OF STAR (S)				
S-1 —Consider participation in the Community Rating System				
Yes	Short Term	No		Ongoing
S-2 —Integrate Local Hazard Mitigation Plan into the City of Star Comprehensive Plan.				
No	Short Term	No		No Progress
S-3 -Consider appropriate higher regulatory standards that prevent or reduce risk to the built environment from the known hazards of concern.				
Yes	Short Term	No		Ongoing

**TABLE PR-2.
ACTION PLAN MATRIX**

Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
S-4 — Where appropriate, support retrofitting, purchase, or relocation of structures located in hazard-prone areas to protect structures from future damage, with properties with exposure to repetitive losses as a priority.				
No	Long Term	No	Star will coordinate with Ada County in its upcoming property identification mapping efforts.	Ongoing
S-5 —Support County-wide initiatives identified in Volume 1.				
Yes	Short Term	No		Ongoing
S-6 —Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Volume 1.				
Yes	Short Term	No		Ongoing
#S-7 —Evaluate riverbank integrity of the Boise River in the areas of interface with buildings and infrastructure. Determine and employ the best methodology to either repair damaged areas or harden other areas that may directly threaten buildings or infrastructure during high flow events.				
Yes	Long Term	No	Bank repairs were made in May of 2012 in Ada County to stop flooding from a river breach into a irrigation canal that was forced beyond capacity which then threatened properties in Star.	Ongoing
ADA COUNTY EMERGENCY MEDICAL SERVICES DISTRICT (EMS)				
EMS-1 —Relocate Admin Building out of 100 year flood plain				
Yes	Short Term	No		Complete
EMS-2 —Develop a Continuity of Operations Plan (COOP).				
Yes	Short Term	No		Ongoing
EMS-3 —Evaluate flood, Dam Failure and earthquake risk of the Glenwood Station and identify cost-effective solutions to mitigate those risks.				
Yes	Long Term	No		Ongoing
EMS-4 —Evaluate flood, Dam Failure and earthquake risk to M15 station (200 W State St., Boise) this building has had flooding issues in the basement.				
Yes	Short Term	No		Ongoing
EMS 5 —Provide backup power to EMS response stations				
Yes	Long Term	No		Ongoing
EMS-6 —Evaluate exposure to EMS response stations that are co-located with Fire Departments and Hospitals				
Yes	Short Term	No		Ongoing
EMS-7 —Support County-wide initiatives identified in Volume 1.				
Yes	Short Term	No		Ongoing
EMS-8 —Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Volume 1.				
Yes	Short Term	No		Ongoing

**TABLE PR-2.
ACTION PLAN MATRIX**

Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
EAGLE FIRE PROTECTION DISTRICT (EFD)				
EFD01 —To continue to provide fire safety, fire prevention and Firewise education to our neighborhoods, schools and community via web pages, signage and outreach.				
Yes	Short Term	No		Ongoing
EFD02 —Partnering with the Healthy Hills Coalition develop demonstration areas using low bio-mass native vegetation that will decrease fire spread and damage from wildland fire.				
Yes	Short Term	No		Ongoing
EFD03 —To reduce the determined vegetation which can fuel a rapid spreading wildland fire through the means of mechanical mowing of invasive grass and brush in the wildland urban interface.				
No	Long Term	No	Not feasible for upcoming budgets .	No Progress
EFD04 —Partnering with adjoining jurisdictions in purchasing specialized equipment to reduce and eliminate invasive grasses through the means of applying herbicides and replanting of fire resistant native plant species in the wildland urban interface area(s)				
Yes	Short Term	No		Ongoing
EFD05 —Partnering with adjoining jurisdiction rehabilitate areas impacted by wildfire for wildlife while sustaining access to recreational trails and to prevent erosion.				
Yes	Short Term	No		Ongoing
EFD06 —Partner with Federal Agencies to install electronic flow monitoring stations on the North Channel of the Boise River Eagle Rd Bridge and Dry Creek Drainage at the Eagle Rd Bridge. Both monitoring stations shall be capable of feeding data to USGS stream flow web site, or other applicable collection sources.				
No	Short Term	No		Ongoing
EFD07 —Host Community wide open house to increase public awareness of all hazards within the Eagle Fire Protection District and response capabilities of the jurisdiction.				
Yes	Short Term	No	Event held every October.	Ongoing
Initiative EFD08 —Partner with appropriate local authorities to establish right-of-way and construct a roadway that will allow access on to State Hwy 44 from Plaza Dr. to enhance response capabilities for the Eagle Fire Department and Ada County Sheriff's Department.				
No	Long Term	No	Traffic flow and road plan issues currently inhibit progress.	No Progress
EFD10 —Support County-wide initiatives identified in Volume 1				
Yes	Short Term	No		Ongoing
EFD11 —Continue to support the implementation, monitoring, maintenance, and updating of the Plan, as defined in Volume 1.				
Yes	Short Term	No		Ongoing

**TABLE PR-2.
ACTION PLAN MATRIX**

Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
KUNA RURAL FIRE PROTECTION DISTRICT (KFD)				
KFD1 —Support County-wide initiatives identified in Volume 1				
Yes	Short Term	No		Ongoing
KFD2 —Continue to support the implementation, monitoring, maintenance, and updating of the Plan, as defined in Volume 1.				
Yes	Short Term	No		Ongoing
KFD3 —Comply with all applicable building and fire codes, as well as other regulations when constructing or significantly remodeling infrastructure facilities.				
Yes	Short Term	No		Ongoing
KFD4 —Ensure a reliable source of water for fire suppression (meeting acceptable standards for minimum volume and duration of flow) for existing and new development.				
Yes	Short Term	No		Ongoing
KFD5 —Develop and maintain a coordinated approach between fire jurisdictions and water supply agencies to identify needed improvements to the water distribution system, initially focusing on areas of highest wildfire hazard.				
Yes	Short Term	No		Ongoing
KFD6 —Ensure all dead-end segments of public roads in high hazard areas have at least a “T” intersection turn-around sufficient for typical wildland fire equipment.				
Yes	Short Term	No		Ongoing
KFD7 —Require that development in high fire hazard areas provide adequate access roads, onsite fire protection systems, evacuation signage and fire breaks.				
Yes	Short Term	No	Progress primarily in access roads.	Ongoing
KFD8 —Ensure adequate fire equipment road or fire road access to developed and open space areas.				
Yes	Short Term	No		Ongoing
KFD9 —Construct a Railroad overpass to access south side of Kuna for emergency access and evacuation routes. Approx. 70 trains pass through and often block access to large portion of the District.				
No	Long Term	No	Coordinated multi-jurisdictional effort taking place to identify options.	Ongoing
KFD10 —Evacuation routes, map and mark evacuation options from southern portion of District. Provide public education in regards to evacuations.				
No	Short Term	No		No Progress
KFD11 —Increase communication capabilities between agencies, coordination of radio types and use of existing and new systems.				
Yes	Short Term	No	Continued participation in the Emergency Communications Planning Committee.	Ongoing

**TABLE PR-2.
ACTION PLAN MATRIX**

Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
KFD12 —Establish a local weather station, current information provided is often inaccurate due to the location and geographical differences within the county and our District.				
No	Short Term	No	Lack of funding may change this to a long term initiative.	No Progress
KFD13 —Identify & obtain necessary emergency response training and equipment for water/flood related response and rescue.				
Yes	Short Term	No		Ongoing
KFD14 —Identify & obtain necessary emergency response training and equipment for hazardous materials. Natural hazards present high risk with rail cargo involving hazardous material spills and fires.				
Yes	Short Term	No		Ongoing
MERIDIAN RURAL FIRE PROTECTION DISTRICT (MRFD)				
MRFD 01—Public Education continues through community presentations as well as school presentations. Focus is on home safety and fire prevention.				
Yes	Short Term	No		Ongoing
MRFD 02 -Support implementation of the county-wide initiatives identified in Chapter 20 of Volume 1				
Yes	Short Term	No		Ongoing
MRFD 03- Support implementation of the plan maintenance strategy identified in Chapter 7 of Volume 1.				
Yes	Short Term	No		Ongoing
NORTH ADA COUNTY FIRE AND RESCUE (NACFR)				
NACFR-1—Consistent Standards for Development in High-Risk/Underserved Areas				
Work with other agencies and jurisdictions to develop and implement consistent WUI (wildland-urban interface) development and construction standards for sprinklers in new construction in the urban interface where fire stations and/or water supplies for firefighting are absent or inadequate. Educate developers and builders in WUI construction and landscaping best practices as part of all new development in the wildland-urban interface. (Boise Initiatives 3 and 4).				
Yes	Short Term	No	See Boise Initiatives 3 and 4	Ongoing
NACFR-2—Conduct Wildland-Urban Interface GIS-Based Hazard Assessment				
Develop a wildfire and landslide risk-assessment for vegetation and slope in undeveloped areas. Also assess risk associated with mature landscape and construction standards for already developed areas. (Boise Initiative-3)				
Yes	Short Term	No	See Boise Initiative 3	Ongoing
NACFR-3—Earthquake retrofitting of Fire Stations 18, 20				
Assess stations for structural and non-structural earthquake mitigation measures. Install or retrofit to reduce impact of earthquake (Boise Initiative-5).				
Yes	Short Term	No	Station 16 was assessed for earthquake hazards. Mitigation strategies will be ongoing and dependant upon funding.	Ongoing

**TABLE PR-2.
ACTION PLAN MATRIX**

Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
NACFR-4—Firewise Community Program for Residents in the Foothills				
Obtain Firewise Community Certification for Hidden Springs. Conduct Firewise Homeowners Workshops.				
Yes	Short Term	No		Complete
NACFR-5—Develop Community Emergency Response Team Pilot Program for Hidden Springs				
The Hidden Springs Community is an example of an underserved “leapfrog” development. Fire and EMS response is delayed, and current funding does not allow full time staffing of a fire station. This initiative would help organize the Community to support its residents and assist public safety responders in the event of any natural or human caused emergency. The initiative would include training, exercise, and purchase of training materials and required equipment and supplies. The initiative would also provide funding for staff to administer the initiative (could be combined with Initiatives 1, 2 and 8, and shared with Boise Fire Department).				
Yes	Short Term	No	An EMS Quick Response Unit has been purchased, and equipped, and EMTs recruited and trained. Ada County Emergency Management has also completed CERT Training for the Community.	Complete
NACFR-6—Location/Construction Study for New flood/earthquake Resistant Fire Station to Replace Station 16				
Initiate a study to identify the optimal location and construction plans to mitigate both flood and earthquake hazards in a new fire station to replace the Glenwood Fire Station 16.				
The current Glenwood Station 16 is constructed in the 500 year flood plain, on the boundary with the 100 year flood plain. It is located just upstream from the Glenwood Bridge, where it would be quickly inundated if the bridge were to obstruct water flow. In addition, the 60s-era Station is constructed of unreinforced masonry. This initiative would help the District identify a location and design a structure that would be optimally located for service delivery, and resistant to floods and earthquakes.				
Yes	Short Term	No	A standard of care study has been conducted, and indicates that the current location is the optimal location for providing structural fire response. The current building is being assessed for cost-effective mitigation actions, and more extensive mitigation efforts will be undertaken when funding allows replacement of the current structure.	Ongoing
NACFR-7—Construct new flood/earthquake Resistant Fire Station				
In conjunction with Initiative-6 above, this Initiative would construct a new, flood and earthquake resistant Fire Station 16.				
The current Glenwood Station 16 is constructed in the 500 year flood plain, on the boundary with the 100 year flood plain. It is located just upstream from the Glenwood Bridge, where it would be quickly inundated if the bridge were to obstruct water flow. In addition, the 60s-era Station is constructed of unreinforced masonry. This initiative would help the District build a replacement Fire Station that would be optimally located for service delivery, and resistant to floods and earthquakes.				
No	Long Term	No	Refer to NACFR - 6 information.	No Progress
NACFR-9—Support County-wide initiatives identified in Volume 1				
Yes	Long Term	No		Ongoing

**TABLE PR-2.
ACTION PLAN MATRIX**

Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
NACFR-10 —Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Volume 1.				
Yes	Long Term	No		Ongoing
STAR JOINT FIRE PROTECTION DISTRICT (SFD)				
SFD1 —Construct a new Fire Station on the South of Boise River outside of the floodplain and dam failure inundation area.				
No	Long Term	No	Budget constraints	No Progress
SFD2 —Support County-wide initiatives identified in Volume 1.				
Yes	Short Term	No		Ongoing
SFD3 —Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Volume 1.				
Yes	Short Term	No		Ongoing
WHITNEY FIRE PROTECTION DISTRICT (WFD)				
WFD-1 —Enforce existing wildland urban interface standards in Ada County				
Yes	Short Term	No		Ongoing
WFD-2 —Require Local Fire District Approval of Water and Access Requirements for all projects.				
Yes	Short Term	No		Ongoing
WFD-3 —Promote adoption of Firewise for development within the wildland urban interface Overlay				
Yes	Short Term	No		Ongoing
WFD-4 —Support County-wide initiatives identified in Volume 1.				
Yes	Short Term	No		Ongoing
WFD-5 —Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Volume 1.				
Yes	Short Term	No		Ongoing
BOISE WARM SPRINGS WATER DISTRICT (BWSWD)				
BWSWD-1 —Purchase and install electrical transfer switch to support emergency generator connection. Any incident resulting in a prolonged (greater than 24 hours) electrical power outage at the BWSWD pump house during the winter season can result in patron homes freezing domestic water pipes. The installation of an electrical transfer switch with plug-ins to accommodate a portable generator can ensure continued and abundant geothermal heat is available to our patrons. Maintaining geothermal heat in patron’s homes will eliminate potential frozen and bursting pipes.				
Yes	Short Term	No	This Project is completed with final close out finished in October of 2013.	Complete

**TABLE PR-2.
ACTION PLAN MATRIX**

Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
BWSWD-2 —Install fourteen lateral line shutoff valves to isolate a lateral line break from the 12 inch main line. Any break or leak in a two inch lateral supply line off the mainline can result in the entire geothermal system being shut down due to the inability to isolate the lateral line from the main line pressure. The ability to isolate broken or leaking lateral lines will ensure the entire geothermal system does not have to be shut down during repair work.				
No	Short Term	No	The District is evaluating priorities given that Ada County Highway District is rebuilding Warm Springs Ave in 2014. Their project will force BWSWD to change projected projects in the next couple of years.	Ongoing
BWSWD-3 —Support County-wide initiatives identified in Volume 1.				
Yes	Short Term	No	BWSWD will continue to supporting county-wide initiatives.	Ongoing
BWSWD-4 —Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Volume 1.				
Yes	Short Term	No	BWSWD is an active participant.	Ongoing
DRAINAGE DISTRICT #4 (DD4)				
DD4-1 —Initiate a community meeting with representatives from DD4; ACHD; HOAs and Thurman Mill Irrigation Company to discuss flooding issues in the areas of Willowdale and Pintail streets in Garden City.				
Yes	Short Term	No		Complete
DD4-2 —Assist ACHD and HOAs in identifying options for reducing repeated flooding in the areas of Willowdale and Pintail streets; to include: identifying responsible parties, identifying an engineering evaluation process, researching project funding sources, and establishing timelines for completion.				
Yes	Short Term	No		Complete
DD4-3 —Home Owner Associations and ACHD select an engineering option to mitigate recurring flooding in the Willowdale and Pintail street areas of Garden City.				
Yes	Short Term	No		Complete
DD4-4 —Provide coordination with ACHD and HOAs to ensure compliance with Chapter 29, Title 42 of the Idaho Code while performing any modifications that may impact Drainage District #4's area of responsibility.				
Yes	Short Term	No		Ongoing
DD4-5 —Retrofit drain structure/system in the areas of Willowdale and Pintail streets in Garden City, Idaho in order to provide flooding relief for homeowners and ACHD.				
Yes	Long Term	No	Project plans complete, project is on hold until funding is available. FEMA grant application was unsuccessful.	Ongoing
DD4-6 —Complete a study of the Drainage District #4 to identify ditch capacity, restriction points, hazard areas, and District boundary.				
Yes	Long Term	No		Ongoing
DD4-7 —Support County-wide initiatives identified in Volume 1.				
Yes	Long Term	No		Ongoing

**TABLE PR-2.
ACTION PLAN MATRIX**

Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
DD4-8 —Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Volume 1.				
Yes	Long Term	No		Ongoing
EAGLE SEWER DISTRICT (ESD)				
ESD-1 —Mace Road Lift Station Assessment and Flood Protection: Survey the Mace Road Lift Station and determine potential exposure to flooding. If survey reveals the lift station is susceptible to flooding, take measures to reduce flooding exposure such as berming or constructing dike walls.				
Yes	Short Term	No		Complete
ESD-2 —Lagoon Berm Evaluation and Stabilization: High flow velocities during flooding events could potentially cause erosion at the toe of the lagoon berms and, although unlikely, possibly cause structural failure. Perform hydraulic modeling of the river channel and estimate potential of erosion of the lagoon berm. If deemed necessary, the placement of rip-rap and/or other measures would be pursued to reduce lagoon dike erosion.				
Yes	Short Term	No		Ongoing
ESD-3 —Headworks Facility Decommission: A new Headworks Building has been built by the District, leaving the old headworks abandoned and unused. This structure would be removed and the surrounding small dike improved to reduce potential erosion during flooding events.				
Yes	Short Term	No		Complete
ESD-4 —Raise Portions of the Wastewater Treatment Plant Facility Access Road: Portion of the road leading to the wastewater treatment facility are below the 100-year and 500-year flood elevations. To ensure that District staff can access wastewater treatment facilities during a flooding event, low sections of access road should be raised.				
No	Short Term	No		No Progress
ESD-5 —Control Building and Outbuilding Berm Option: To protect the Operations and several outbuildings at the wastewater treatment site against possible flooding, a small berm might be constructed around the perimeter of this area.				
No	Long Term	No	New facility plan is currently being developed. This and other options will be reviewed during this process.	Ongoing
ESD-6 —Continue the implementation, monitoring, maintenance, and updating of this Plan				
Yes	Short Term	No		Ongoing
ESD-7 —Support County-wide initiatives				
Yes	Short Term	No		Ongoing
JOINT SCHOOL DISTRICT #2 (JSD2)				
JSD2-1 —Conduct structural and nonstructural feasibility studies and retrofits of district facilities to minimize injuries and damage from flood, earthquake and severe weather.				
Yes	Long Term	No		Ongoing
JSD2-2 —Install hail guards over roof top HVAC units.				
Yes	Long Term	No		Ongoing
JSD2-3 —Train Maintenance staff to perform visual screening for potential seismic hazards.				
Yes	Short Term	No		Ongoing

**TABLE PR-2.
ACTION PLAN MATRIX**

Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
JSD2-4—Install drainage collectors at district facilities experiencing flooding.				
Yes	Long Term	No	Installation being done as budget allows.	Ongoing
JSD2-6—Develop and maintain a Continuity of Operations Plan (COOP)				
Yes	Short Term	No	Monthly meetings continue to review and update processes.	Ongoing
JSD2-7—Partner with Ada County Emergency Management for disaster response and preparedness including District Emergency Operations Plan and City Evacuation Plans.				
Yes	Short Term	No		Ongoing
JSD2-8—Partner with cities and county to provide public education and awareness of potential natural disasters in Ada County.				
Yes	Long Term	No		Ongoing
JSD2-9—Continue to support the implementation, maintenance, and updating of the Ada County Hazard Mitigation Plan.				
Yes	Short Term	No		Ongoing
JSD2-10—Support County-wide initiatives identified in Volume 1.				
Yes	Short Term	No		Ongoing
JSD2-11—Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Volume 1.				
Yes	Short Term	No		Ongoing
INDEPENDENT SCHOOL DISTRICT OF BOISE (BSD)				
BSD-1—Seismic Engineer Study of Over-Roofed/Unreinforced Structures				
Yes	Short Term	No	Completed studies on Capital HS, Lowell, Roosevelt, Monroe, North and new projects as remodels continue and completed seismic strengthening.	Ongoing
BSD-2—Backup Power to Shelter Facilities (high school and junior high school sites)				
Yes	Long Term	No	Shelter facilities designated in conjunction with Red Cross	Ongoing
BSD-3—Partner with ACEM for disaster response and preparedness, including updates to the county emergency operations plan.				
Yes	Short Term	No		Ongoing
BSD-4—Continue internal (staff) and external (student/family) hazard education programs.				
Yes	Short Term	No	Dissemination of Monthly ACEM newsletters. Site level staff training. ICS100 SC training for all site administrators. EOP training for all staff in Aug 2013	Ongoing
BSD-5—Integrate site and district emergency operations plan documents into County-wide emergency operations plan				
Yes	Short Term	No	County EOP is being enhanced with Standard Operating Procedures. Integration will be based on final version of plan.	Ongoing

**TABLE PR-2.
ACTION PLAN MATRIX**

Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
BSD -6 —Support County-wide initiatives identified in Volume 1.				
Yes	Short Term	No		Ongoing
BSD-7 —Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Volume 1.				
Yes	Short Term	No		Ongoing
GREATER BOISE AUDITORIUM DISTRICT (GBAD)				
GBAD-1 —Elevate Critical Equipment From Basement				
No	Long Term	No		No Progress
GBAD-2 —Flood Proof Critical Equipment In Basement				
No	Long Term	No		No Progress
GBAD-3 —Secure Drop Ceiling Light Fixtures To Standard				
No	Long Term	No		No Progress
GBAD-4 —Water Storage Tank				
No	Long Term	No		No Progress
GBAD-5 —Support, Monitor, and Continually Update This Plan				
Yes	Short Term	No		Ongoing
GBAD-6 —Support and Be Actively Involved With Ada County Plan				
Yes	Short Term	No		Ongoing
ADA COUNTY HIGHWAY DISTRICT (ACHD)				
ACHD 1 —Pintail/Drake/Widgeon Flooding. Partner with DD4. Ongoing flooding problem for 10+ years. Hydrovac truck must pump during routine storms. Storm drain under capacity, two 18” pipes converge and leave as one 18”. ACHD is initiating topographic surveys to look at solutions.				
Yes	Long Term	No	ACHD needs to obtain permanent easements to do further repairs. HOA fixed some of the issues and flooding is not as bad as before.	Ongoing
ACHD 2 —Dry Creek Bridge @ Floating Feather, w/o Eagle Rd Replacement. Replace structure to increase freeboard reduce restriction on Dry Creek.				
No	Long Term	No	Bridge is 24 years old with a sufficiency rating of 82. Remove No work currently planned. Will replace Bridge #35 (north of Old Barn) at Eagle Road in FY17.	
ACHD 3 —Meridian Culvert Replacements. Partner with City of Meridian. Ninemile Creek at: E Watertower Lane, E Franklin Road, N Meridian Rd, Ten Mile Road, W Ustick Road. Tenmile Creek at: Locust Grove Rd. Eightmile Creek at: Overland Rd. Fivemile Creek at: S Topaz Ave, S Jade Ave, S Rackham Way, S Eagle Road, S Wells Street, E Pine Street, E Badley Ave				

**TABLE PR-2.
ACTION PLAN MATRIX**

Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
Yes	Long Term	No	<p>9 Mile at Watertower – This will be done when future development happens in the area. No current work planned.</p> <p>9 Mile at Franklin - No current work planned. Installed storm drain in 2nd Street to Bower to relieve capacity problems on 9 Mile in 2004.</p> <p>9 Mile at Meridian – Bridge #124DX was replaced and upsized with an aluminum CMP with MSC 2. The pipe also has a concrete slab over it.</p> <p>9 Mile at Ten Mile – Bridge #113P was replaced in 2015 and upsized to a 95” x 67” elliptical aluminum pipe.</p> <p>9 Mile at Ustick – This will be done with a future ACHD road project and is 10 years out.</p> <p>10 Mile at Locust Grove – Bridge # 229 was built in 1985 and is rated at 72. It is part of our Integrated Five Year Work Plan (IFYWP) and will be reconstructed in 2019-2020.</p> <p>8 Mile at Overland - No current work planned.</p> <p>5 Mile at S. Topaz - It is part of our Integrated Five Year Work Plan (IFYWP) and will be reconstructed in 2019-2020.</p> <p>5 Mile at S. Jade - It is part of our Integrated Five Year Work Plan (IFYWP) and will be reconstructed in 2019-2020.</p> <p>5 Mile at Rackham – Will require partnership with ITD.</p> <p>5 Mile at Wells – Bridge #261 was built in 1965 and has a rating of 81.8. It will be replaced in the next 10-15 years.</p> <p>5 Mile at Pine – This is getting replaced with the Pine Locust Grove to Main project in 2018-2019.</p> <p>5 Mile at Badley – Bridge #133 is a 10’ CMP built in 1998 with the Sterling Subdivision. It has a rating of 91.8. No current work planned.</p>	Ongoing
ACHD 4—Snowflake & Crocus (Lakewood Sub., SE Boise). Realign storm drain from the back yards to the street, increase pipe size to reduce restriction. Ongoing problem for ACHD Drainage crews. Hydrovac truck must pump during routine storms.				
Yes	Long Term	No	Public Outreach on over watering to neighboring community has reduced issue.	Ongoing
ACHD 5—Pave Dry Creek Rd., SH55/Seaman’s Gulch.				
Yes	Short Term	No		Complete
ACHD 6—Create a Stormwater Utility				
Yes	Long Term	No	Internal planning process underway.	Ongoing
ACHD 7—Remove sediment from all public street stormwater ponds (approx. 600)				
Yes	Long Term	No	Ongoing cleaning of ACHD stormwater ponds.	Ongoing
ACHD 8—Support County-wide initiatives identified in Volume 1.				
Yes	Short Term	No		Ongoing

**TABLE PR-2.
ACTION PLAN MATRIX**

Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
ACHD 9 —Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Volume 1.				
Yes	Short Term	No		Ongoing
FLOOD CONTROL DISTRICT #10 (FCD-10)				
FCD-10#1 —Repair bank erosion, various sites, District-wide				
Yes	Short Term	No		Ongoing
FCD-10 #2 —Irrigation Diversion Headgate Flood Mitigation				
Yes	Short Term	No		Ongoing
FCD-10 #3 —Remove accumulated sediment from Boise River and Dry Creek channels				
Yes	Short Term	No		Ongoing
FCD-10 #4 —Develop long-term plan to manage Boise River split at the head of Eagle Island				
Yes	Long Term	No		Ongoing
FCD-10 #5 —Develop short-term plan to manage Dry Creek flow along Brookwood neighborhood				
No	Short Term	No		No Progress
FCD-10 #6 —Update FEMA mapping within the District				
Yes	Short Term	No		Ongoing
FCD-10 #7 —Develop floodplain mitigation techniques to apply to various depleted/inactive gravel pits occurring within the District				
Yes	Long Term	No	New flood modeling of this portion of the river will be completed by Summer 2015.	Ongoing
FCD-10 #8 —Description: Remove naturally occurring vegetation blockages in the stream channels				
Yes	Short Term	No	Operating on curent USACE permit through 2017.	Ongoing
FCD-10 #9 —Support County-wide initiatives identified in Volume 1.				
Yes	Short Term	No		Ongoing
FCD-10 #10 —Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Volume 1.				
Yes	Short Term	No		Ongoing
COUNTY-WIDE INITIATIVES (CW)				
CW-1 —Sponsor and maintain a natural-hazard informational website to include the following types of information:				
<ul style="list-style-type: none"> • Hazard-specific information such as warning, private property mitigation alternatives, important facts on risk and vulnerability • Pre- and post-disaster information such as notices of grant funding availability • CRS creditable information • Links to planning partners’ pages, FEMA and Idaho Bureau of Homeland Security • Natural hazard mitigation plan information such as progress reports, mitigation success stories, update strategies, Steering Committee meetings. 				

**TABLE PR-2.
ACTION PLAN MATRIX**

Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
Yes	Short Term	No	Plan review in progress. Documentation provided to CRS communities to assist with annual reports. Web links to partners maintained.	Ongoing
CW-2 —The Steering Committee will remain as a viable body over time to monitor progress of the plan, provide technical assistance to planning partners and oversee the update of the plan according to schedule. This body will continue to operate under the ground rules established at its inception.				
Yes	Short Term	No	Staff changes will change the membership from time to time, but the Committee itself will remain viable.	Ongoing
CW-3 —All planning partners that committed to the update effort will formally adopt this plan when pre-adoption approval has been granted by IBHS and FEMA Region X. Each planning partner will adhere to the plan maintenance protocol identified in this plan. All actions under this initiative will be coordinated by ACEM				
Yes	Short Term	No		Complete
CW-4 —Continue to implement ongoing public outreach programs administered by ACEM. Seek opportunities to promote the mitigation of natural hazards within the planning area, utilizing information contained within this plan.				
Yes	Short Term	No		Ongoing
CW-5 —Seek the use of the best available data, science and technology to update the risk assessment to this plan as that data, science, technology and funding resources become available.				
Yes	Long Term	No	Currently working toward improved fire mapping in the WUI.	Ongoing
CW-6 —Continue to support and coordinate with the Idaho Silver Jackets program.				
Yes	Short Term	No		Ongoing
CW-7 — Provide technical support and coordination for available grant funding opportunities to the planning partnership				
Yes	Short Term	No		Ongoing
CW-8 —Participate as a cooperating partners with FEMA and other stakeholders in FEMA’s RiskMAP initiative				
Yes	Short Term	No	Provided all risk-related data created by the development of this plan to federal partners.	Complete
CW-9 — Leverage public outreach partnering capabilities (such as CERT) within the planning area to promote a uniform and consistent message on the importance of proactive hazard mitigation.				
Yes	Short Term	No		Ongoing
CW-10 — Coordinate mitigation planning and project efforts within the planning area to leverage all resources available to the planning partnership.				
Yes	Short Term	No	Continue to support planning partners as needed.	Ongoing
CW-11 — Where appropriate, support retrofitting, purchase, or relocation of structures located in hazard-prone areas to protect structures from future damage, with repetitive and severe repetitive loss properties as a priority. Seek opportunities to leverage partnerships within the planning area in these pursuits.				
Yes	Long Term	No	Properties located within floodway are being evaluated for viable open space use if purchased.	Ongoing

**TABLE PR-2.
ACTION PLAN MATRIX**

Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
Yes	Short Term	No	CW-12 — Utilize information contained within the Ada County Hazard Mitigation Plan to support updates to other emergency management plans in effect within the planning area.	Ongoing
No	Long Term	No	CW-13 —Using the most current HAZUS model and other data available, examine exposure and level of risk to the known hazards of concern for first responder facilities and identified potential sheltering sites.	No Progress
Yes	Long Term	No	CW-14 — Based on identified risks, relocate or structurally harden first responder facilities as needed. Relocation may not be an option based on response requirements of the organization. Study of NACFR station #16 completed. Station cannot be relocated. Funding to harden the structure not currently available.	No Progress
No	Long Term	No	CW-15 — Using the most current HAZUS model and other data available, categorize potential sheltering sites from lowest to highest exposure to the known hazards of concern. Identify partners that own the sheltering sites and encourage building enhancements at those sites that would allow for operations during a major disaster event.	No Progress

Changes within the Planning area that may impact implementation of the plan

During the reporting period, there were no significant changes within the planning area that would have a profound impact on the implementation of the plan. All technical, regulatory and financial capabilities identified by the Planning Partnership during the plan's development remain consistently in place throughout the planning area.

Recommendations for Changes or Enhancements: Based on the review of this report by the Hazard Mitigation Plan Steering Committee, the following recommendations will be noted for future updates or revisions to the plan:

- _____
- _____
- _____
- _____
- _____
- _____

Public review notice: *The contents of this report are considered to be public knowledge and have been prepared for total public disclosure. Copies of the report have been provided to the governing bodies of all planning partners, the local media outlets, and posted on the Ada County -Hazard Mitigation Plan website. Any questions or comments regarding the contents of this report should be directed to:*

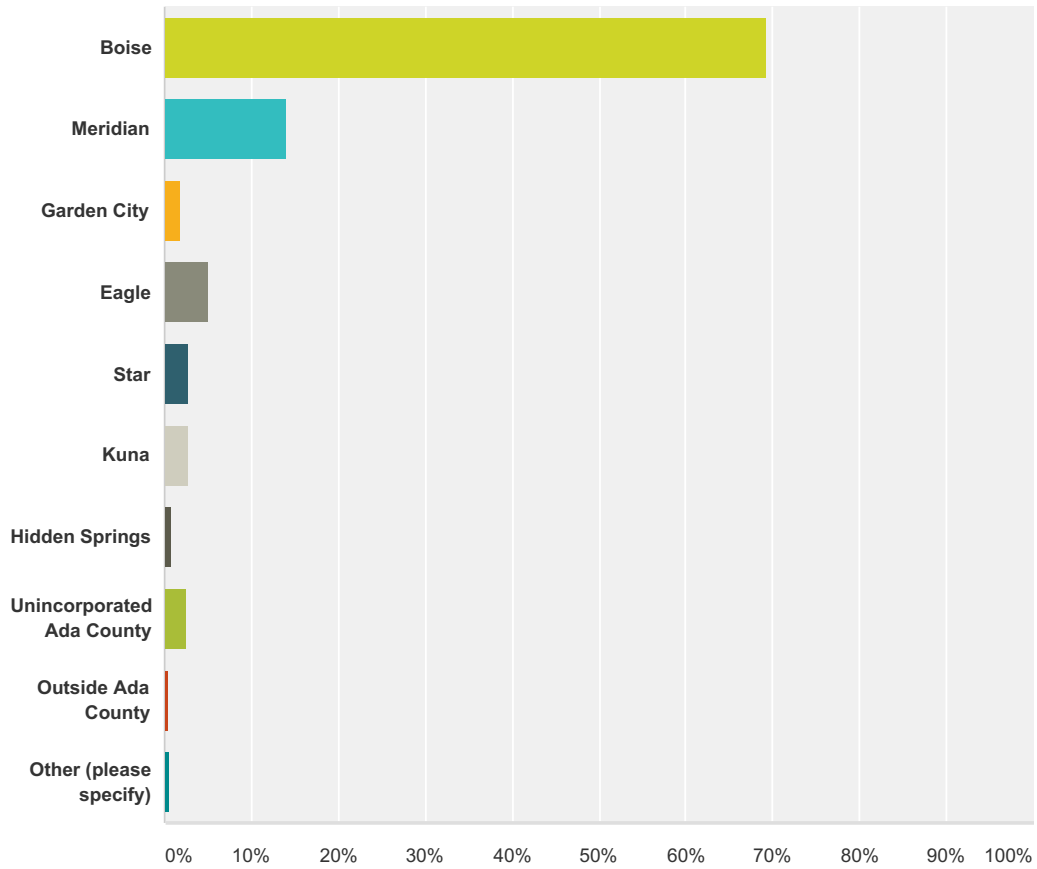
*Paul "Crash" Marusich
Public Education and Mitigation
Ada County Emergency Management
www.accem.org
Office: (208) 577-4750
Fax: (208) 577-4759*

2017 Ada County Multi-Hazard Mitigation Plan: Volume 1—Countywide Elements

Appendix B. Public Outreach

Q1 Where do you live?

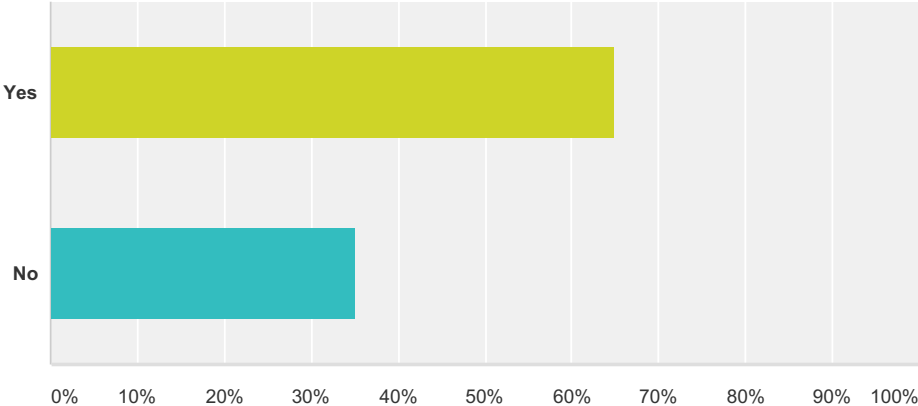
Answered: 2,280 Skipped: 10



Answer Choices	Responses
Boise	69.21% 1,578
Meridian	13.95% 318
Garden City	1.89% 43
Eagle	4.91% 112
Star	2.68% 61
Kuna	2.68% 61
Hidden Springs	0.92% 21
Unincorporated Ada County	2.59% 59
Outside Ada County	0.48% 11
Other (please specify)	0.70% 16
Total	2,280

Q2 Do you work in Ada County?

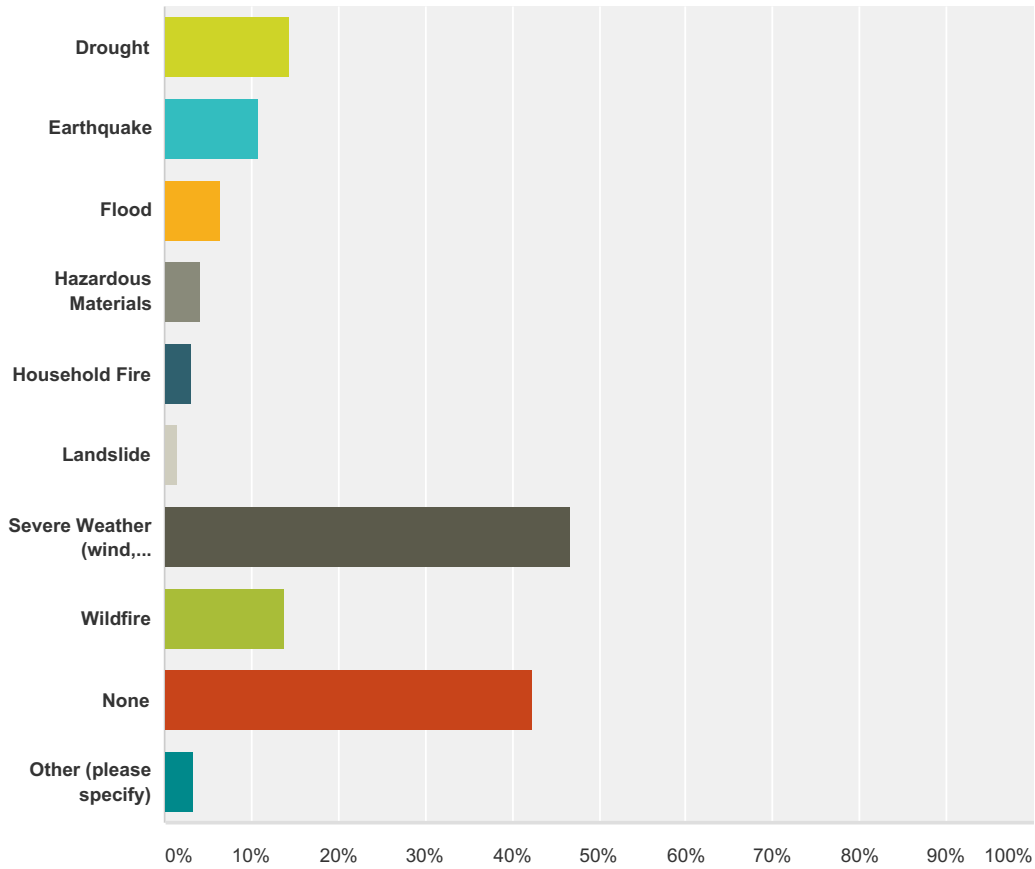
Answered: 2,260 Skipped: 30



Answer Choices	Responses	
Yes	65.00%	1,469
No	35.00%	791
Total		2,260

Q3 Which of the following hazard events have you or anyone in your household experienced in the past within Ada County? (Check all that apply)

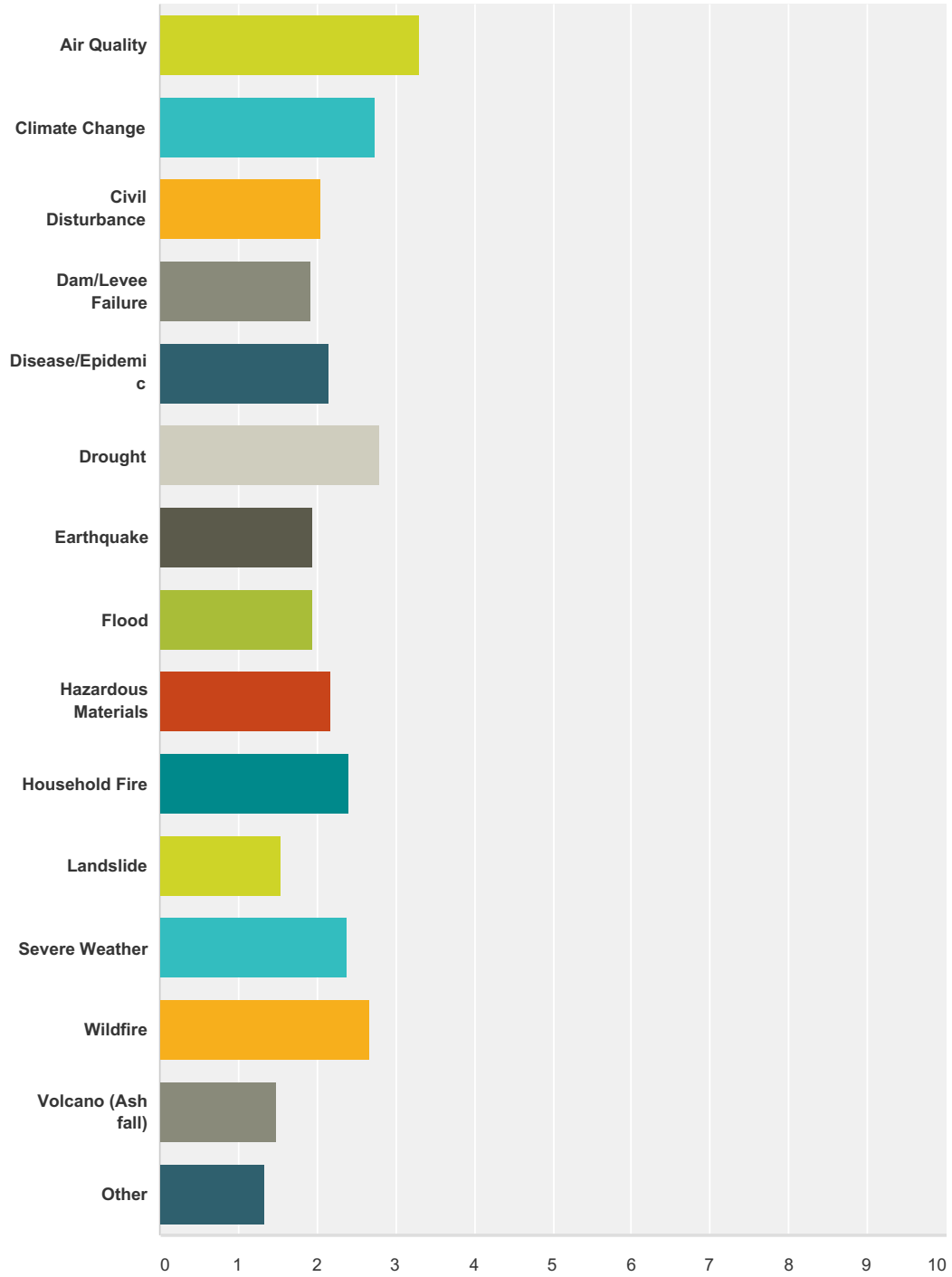
Answered: 2,245 Skipped: 45



Answer Choices	Responses	
Drought	14.34%	322
Earthquake	10.96%	246
Flood	6.37%	143
Hazardous Materials	4.10%	92
Household Fire	3.03%	68
Landslide	1.38%	31
Severe Weather (wind, lightning, winter storm, etc.)	46.82%	1,051
Wildfire	13.67%	307
None	42.41%	952
Other (please specify)	3.30%	74
Total Respondents: 2,245		

Q4 How concerned are you about the following hazards in Ada County? (Check one response for each hazard)

Answered: 2,078 Skipped: 212



	Not Concerned	Somewhat Concerned	Concerned	Very Concerned	Extremely Concerned	Total	Weighted Average
--	---------------	--------------------	-----------	----------------	---------------------	-------	------------------

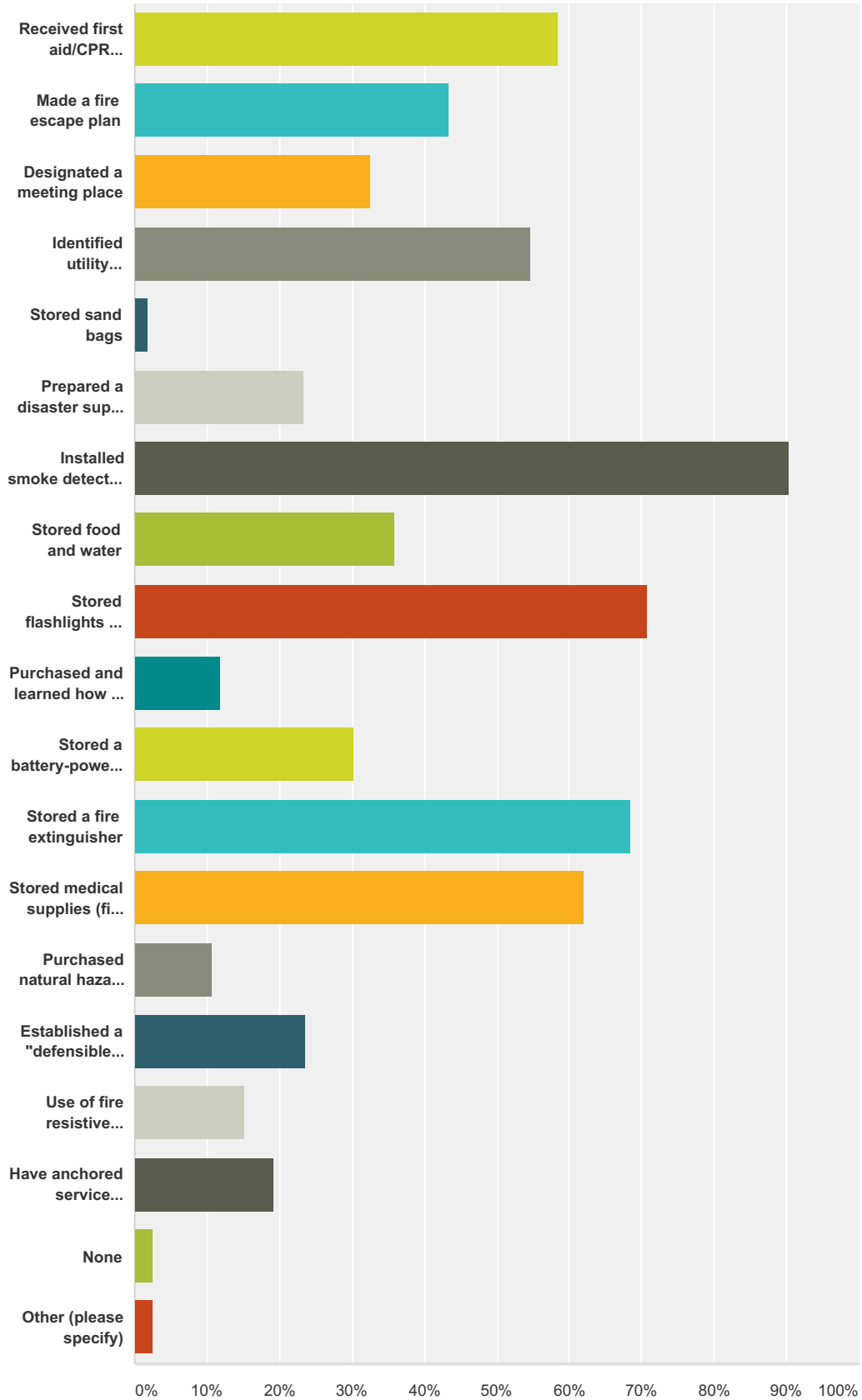
Ada County Survey: Hazard Mitigation Planning

Air Quality	5.71% 118	21.73% 449	28.46% 588	25.41% 525	18.68% 386	2,066	3.30
Climate Change	27.22% 555	20.45% 417	19.23% 392	17.90% 365	15.20% 310	2,039	2.73
Civil Disturbance	39.53% 795	30.38% 611	19.24% 387	8.50% 171	2.34% 47	2,011	2.04
Dam/Levee Failure	41.61% 848	34.69% 707	15.41% 314	5.54% 113	2.75% 56	2,038	1.93
Disease/Epidemic	31.44% 637	36.67% 743	20.24% 410	8.79% 178	2.86% 58	2,026	2.15
Drought	11.92% 243	30.18% 615	31.80% 648	18.30% 373	7.80% 159	2,038	2.80
Earthquake	39.52% 803	35.43% 720	17.52% 356	6.15% 125	1.38% 28	2,032	1.94
Flood	39.19% 796	35.80% 727	17.04% 346	6.30% 128	1.67% 34	2,031	1.95
Hazardous Materials	31.30% 632	35.36% 714	21.15% 427	9.16% 185	3.02% 61	2,019	2.17
Household Fire	19.61% 397	39.67% 803	26.04% 527	10.23% 207	4.45% 90	2,024	2.40
Landslide	62.39% 1,256	24.74% 498	9.29% 187	2.53% 51	1.04% 21	2,013	1.55
Severe Weather	21.93% 446	37.02% 753	26.65% 542	11.11% 226	3.29% 67	2,034	2.37
Wildfire	20.85% 423	27.06% 549	25.48% 517	16.41% 333	10.20% 207	2,029	2.68
Volcano (Ash fall)	65.87% 1,320	23.20% 465	7.78% 156	2.05% 41	1.10% 22	2,004	1.49
Other	83.94% 580	5.50% 38	5.93% 41	1.45% 10	3.18% 22	691	1.34

Q5 Which of the following steps has your household taken to prepare for a hazard event? (Check all that apply)

Answered: 2,074 Skipped: 216

Ada County Survey: Hazard Mitigation Planning



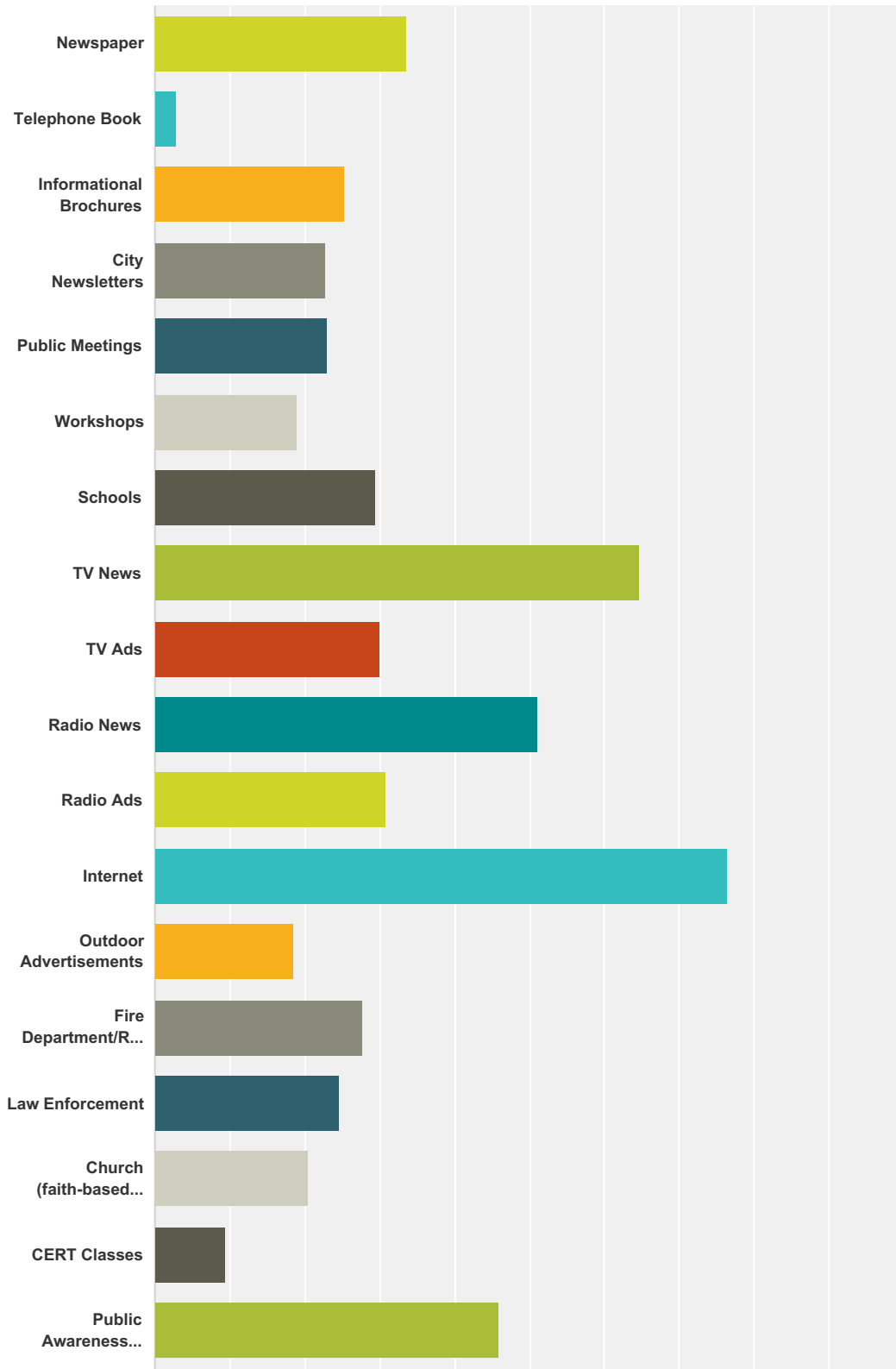
Answer Choices	Responses	
Received first aid/CPR training	58.53%	1,214

Ada County Survey: Hazard Mitigation Planning

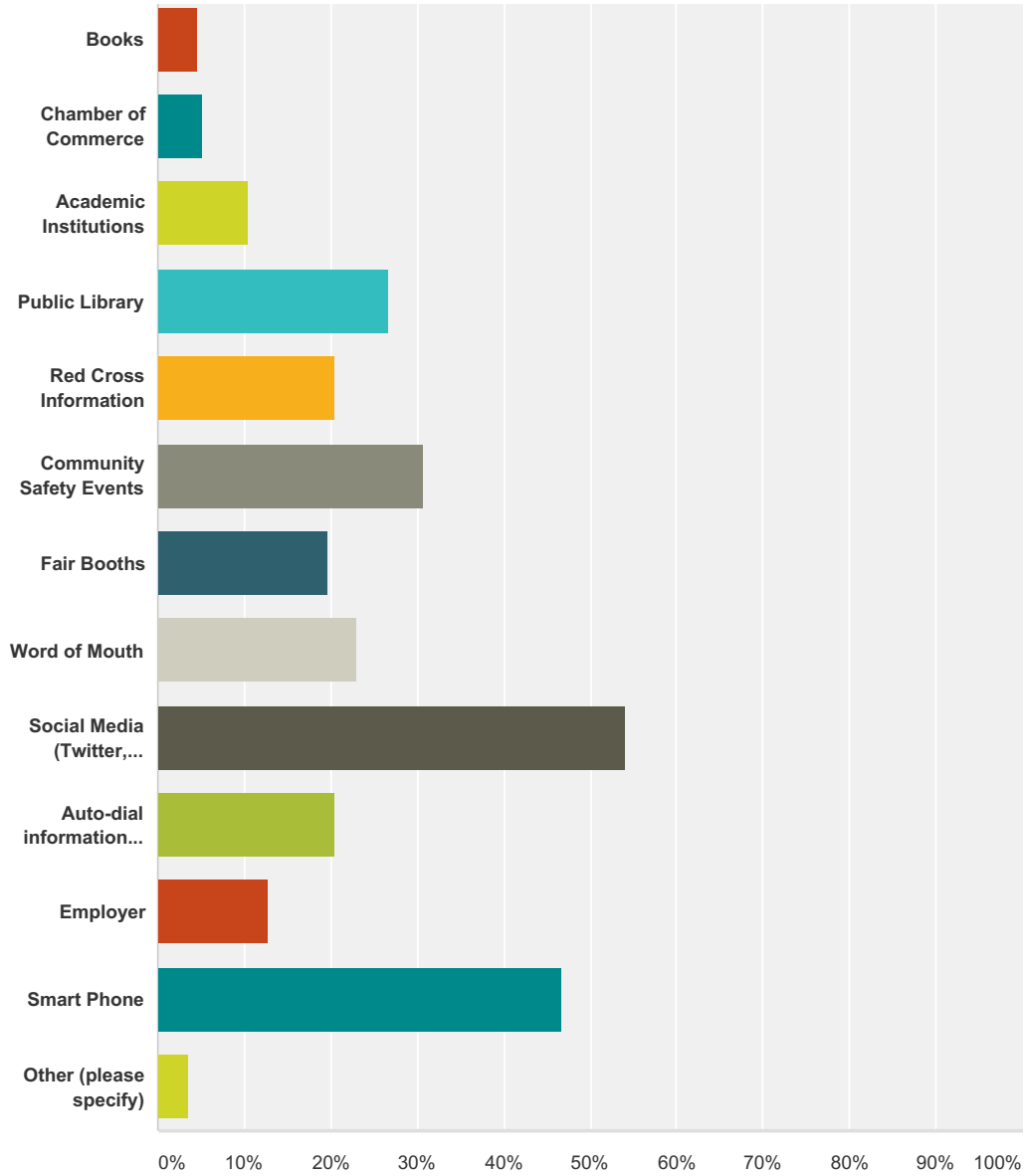
Made a fire escape plan	43.39%	900
Designated a meeting place	32.50%	674
Identified utility shutoffs	54.68%	1,134
Stored sand bags	1.78%	37
Prepared a disaster supply kit	23.34%	484
Installed smoke detectors on each level of the house	90.31%	1,873
Stored food and water	35.97%	746
Stored flashlights and batteries	70.73%	1,467
Purchased and learned how to program a NOAA Weather Radio	11.91%	247
Stored a battery-powered radio	30.23%	627
Stored a fire extinguisher	68.51%	1,421
Stored medical supplies (first aid kit, medications)	62.01%	1,286
Purchased natural hazard insurance (Flood, Earthquake, Wildfire)	10.70%	222
Established a "defensible space" around your home	23.53%	488
Use of fire resistive landscapes	15.28%	317
Have anchored service utilities to my home (water heater, furnace, wood stove, etc.)	19.14%	397
None	2.41%	50
Other (please specify)	2.46%	51
Total Respondents: 2,074		

Q6 Which of the following methods do you think are most effective for providing hazard and disaster information? (Check all that apply)

Answered: 2,069 Skipped: 221



Ada County Survey: Hazard Mitigation Planning



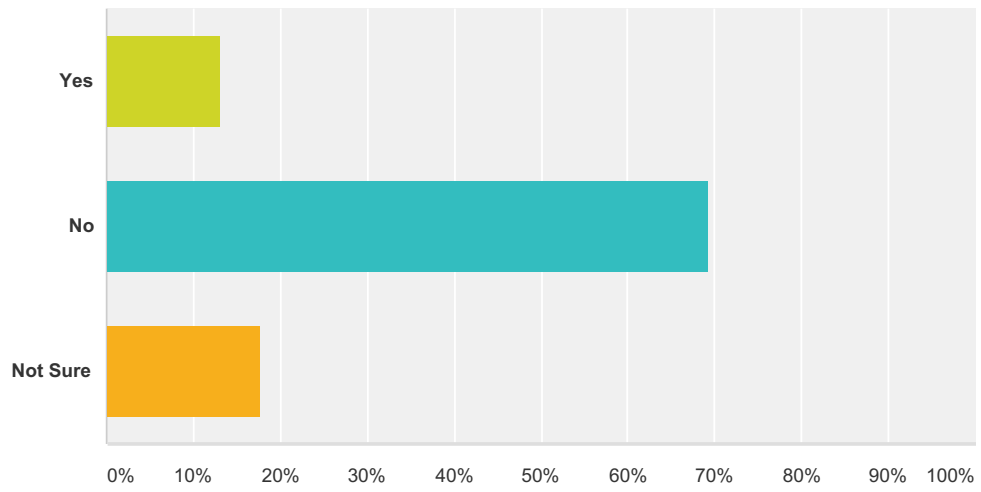
Answer Choices	Responses
Newspaper	33.64% 696
Telephone Book	2.90% 60
Informational Brochures	25.28% 523
City Newsletters	22.67% 469
Public Meetings	22.96% 475
Workshops	18.90% 391
Schools	29.48% 610
TV News	64.77% 1,340
TV Ads	30.11% 623
Radio News	51.18% 1,059

Ada County Survey: Hazard Mitigation Planning

Radio Ads	30.98%	641
Internet	76.51%	1,583
Outdoor Advertisements	18.56%	384
Fire Department/Rescue	27.84%	576
Law Enforcement	24.70%	511
Church (faith-based institutions)	20.44%	423
CERT Classes	9.47%	196
Public Awareness Campaign (e.g., Flood Awareness Week, Winter Storm Preparedness Month)	45.87%	949
Books	4.49%	93
Chamber of Commerce	5.27%	109
Academic Institutions	10.44%	216
Public Library	26.63%	551
Red Cross Information	20.40%	422
Community Safety Events	30.59%	633
Fair Booths	19.72%	408
Word of Mouth	22.91%	474
Social Media (Twitter, Facebook, LinkedIn)	53.99%	1,117
Auto-dial information from "9-1-1" center	20.44%	423
Employer	12.81%	265
Smart Phone	46.74%	967
Other (please specify)	3.58%	74
Total Respondents: 2,069		

Q7 Is your property located in or near an identified floodplain?

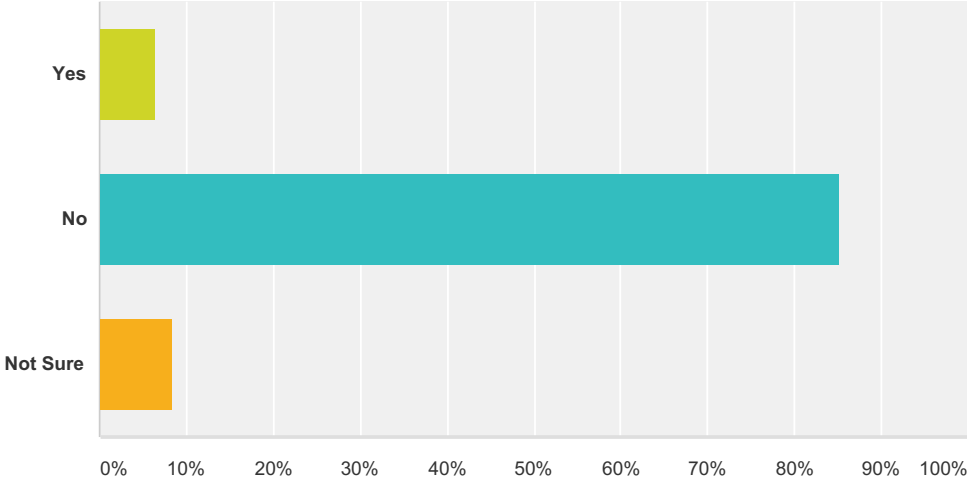
Answered: 2,069 Skipped: 221



Answer Choices	Responses
Yes	13.10% 271
No	69.21% 1,432
Not Sure	17.69% 366
Total	2,069

Q8 Do you have flood insurance?

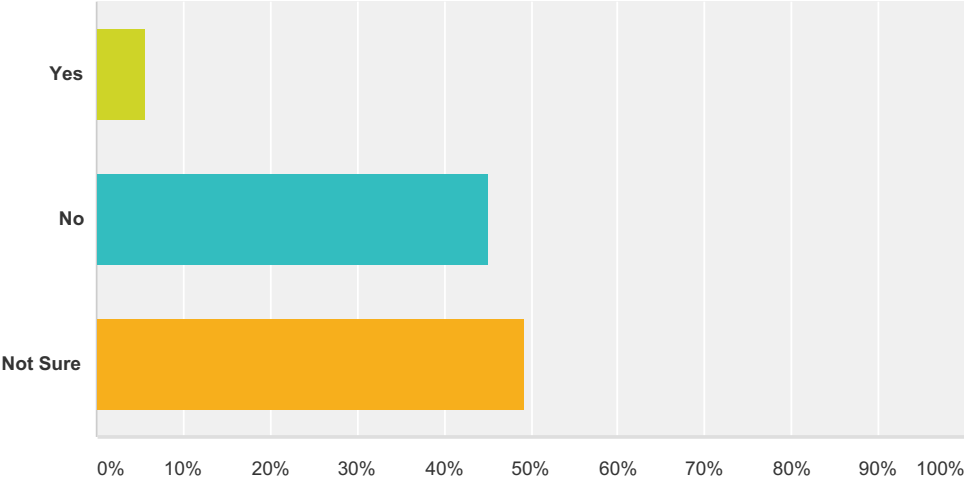
Answered: 2,072 Skipped: 218



Answer Choices	Responses	
Yes	6.47%	134
No	85.23%	1,766
Not Sure	8.30%	172
Total		2,072

Q9 Is your property located near an earthquake fault?

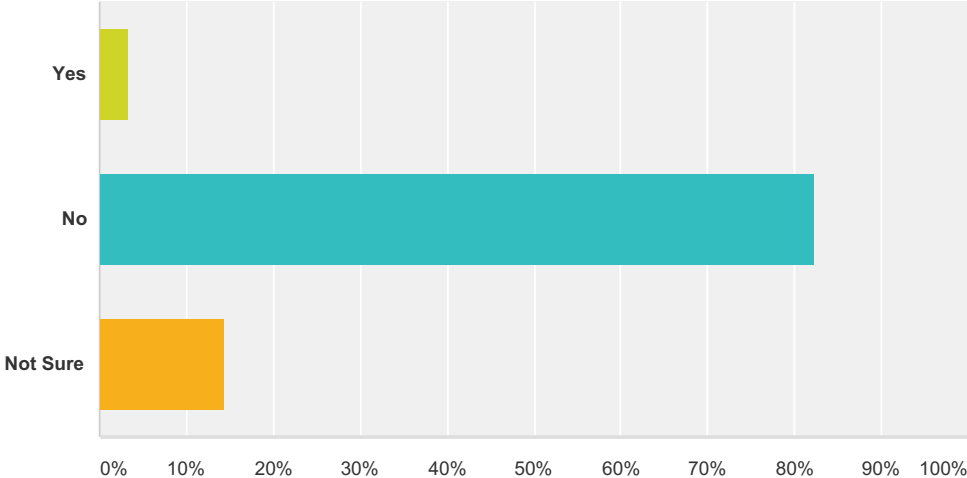
Answered: 2,064 Skipped: 226



Answer Choices	Responses
Yes	5.67% 117
No	45.11% 931
Not Sure	49.22% 1,016
Total	2,064

Q10 Do you have earthquake insurance?

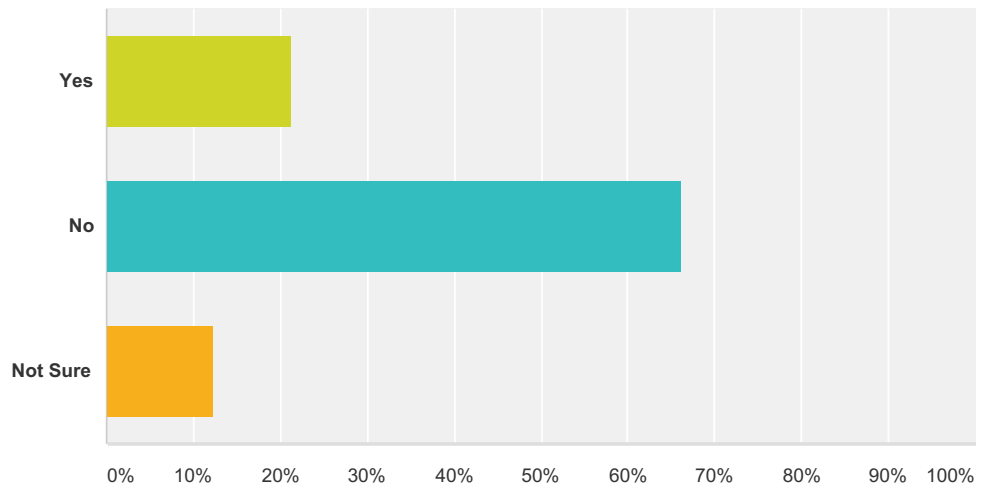
Answered: 2,064 Skipped: 226



Answer Choices	Responses
Yes	3.34% 69
No	82.17% 1,696
Not Sure	14.49% 299
Total	2,064

Q11 Is your property located in an area at risk for wildfires?

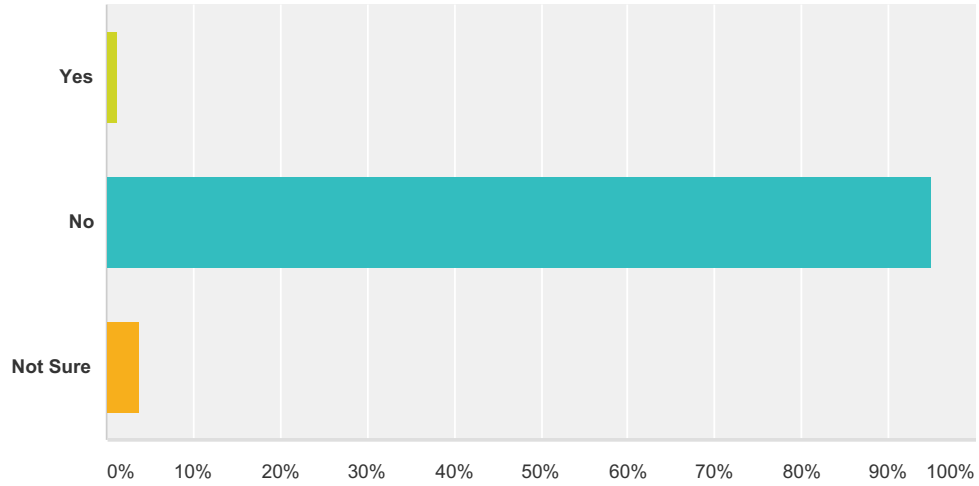
Answered: 2,064 Skipped: 226



Answer Choices	Responses
Yes	21.37% 441
No	66.23% 1,367
Not Sure	12.40% 256
Total	2,064

Q12 Have you ever had problems getting homeowner's or renter's insurance due to risks from natural hazards?

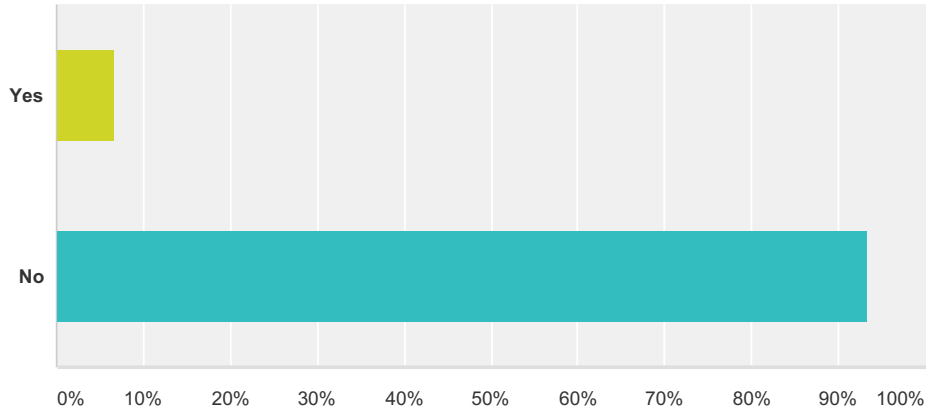
Answered: 2,067 Skipped: 223



Answer Choices	Responses
Yes	1.16% 24
No	95.07% 1,965
Not Sure	3.77% 78
Total	2,067

Q13 Do you have any special access or functional needs within your household that would require early warning or specialized response during disasters?

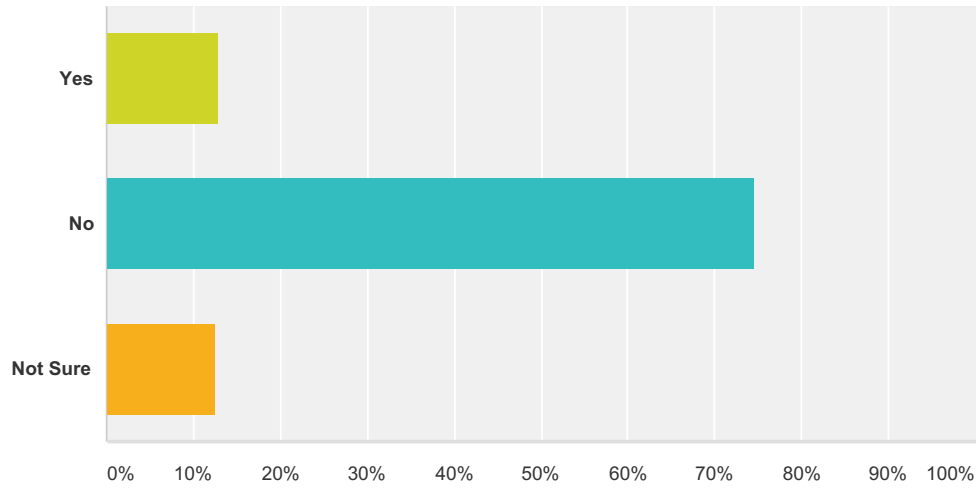
Answered: 2,055 Skipped: 235



Answer Choices	Responses
Yes	6.62% 136
No	93.38% 1,919
Total	2,055

Q14 Was the presence of a hazard risk zone (e.g., dam failure zone, flood zone, landslide hazard area, high fire risk area) disclosed to you by a real estate agent, seller, or landlord before you purchased or moved into your home?

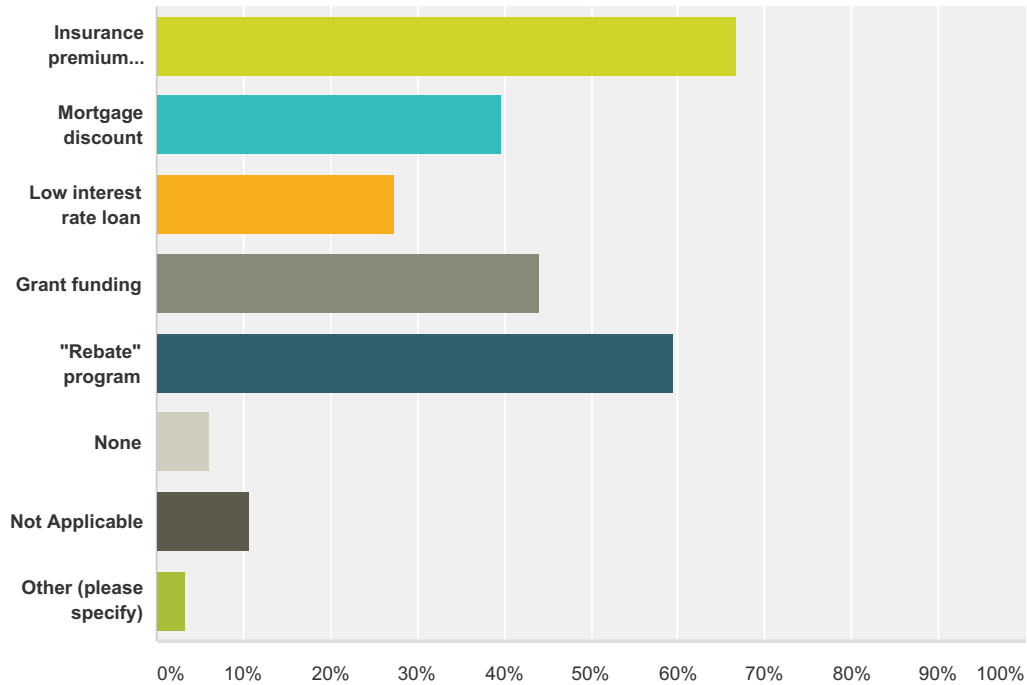
Answered: 1,905 Skipped: 385



Answer Choices	Responses
Yes	12.91% 246
No	74.54% 1,420
Not Sure	12.55% 239
Total	1,905

Q15 If you own your home, which of the following incentives would encourage you to spend money to retrofit your home to protect against disasters? (Check all that apply)

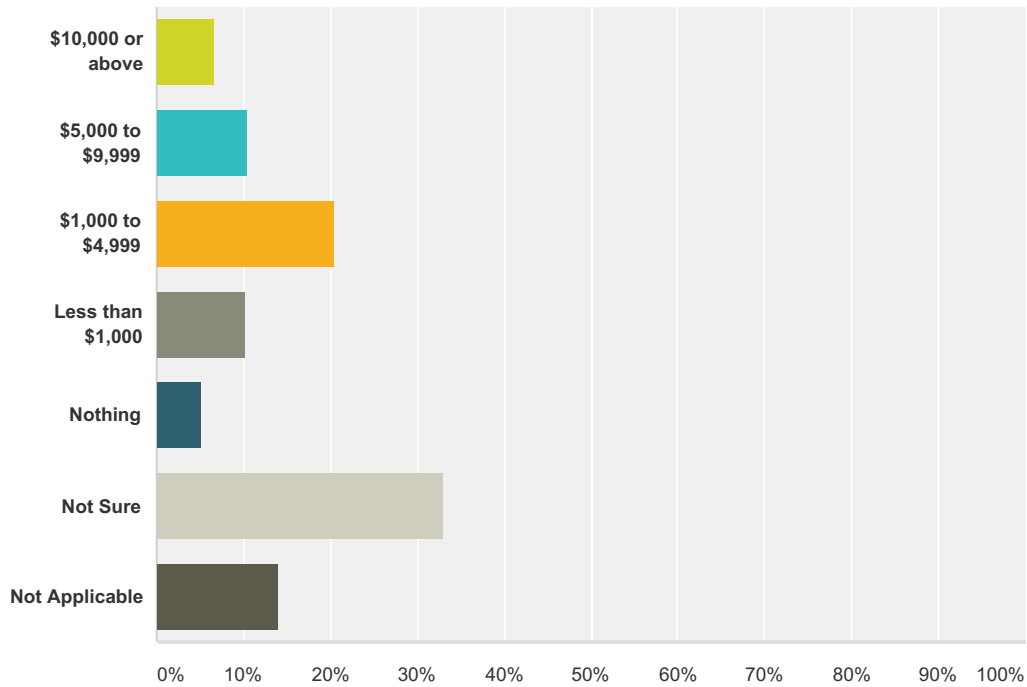
Answered: 1,897 Skipped: 393



Answer Choices	Responses
Insurance premium discount	66.79% 1,267
Mortgage discount	39.75% 754
Low interest rate loan	27.25% 517
Grant funding	44.12% 837
'Rebate' program	59.46% 1,128
None	6.01% 114
Not Applicable	10.70% 203
Other (please specify)	3.32% 63
Total Respondents: 1,897	

Q16 If you own a home, how much money would you be willing to spend to retrofit your home to reduce risks associated with disasters? (for example, by elevating a home above the flood level, performing seismic upgrades, or replacing a combustible roof with non-combustible roofing)

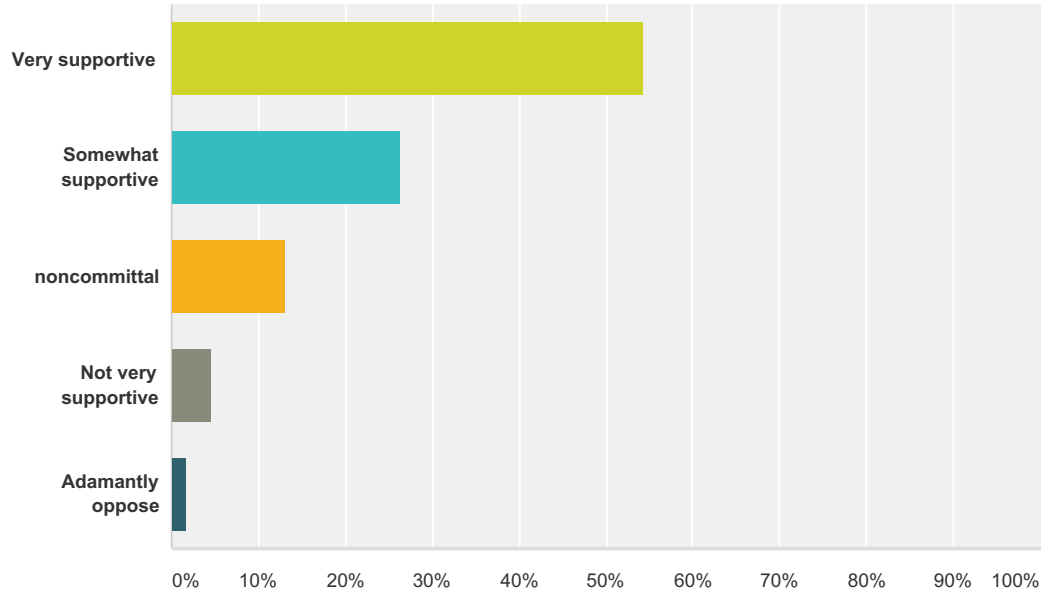
Answered: 1,895 Skipped: 395



Answer Choices	Responses	
\$10,000 or above	6.70%	127
\$5,000 to \$9,999	10.34%	196
\$1,000 to \$4,999	20.42%	387
Less than \$1,000	10.29%	195
Nothing	5.17%	98
Not Sure	32.98%	625
Not Applicable	14.09%	267
Total		1,895

Q17 How supportive are you of the restriction on land use within known high-hazard areas?

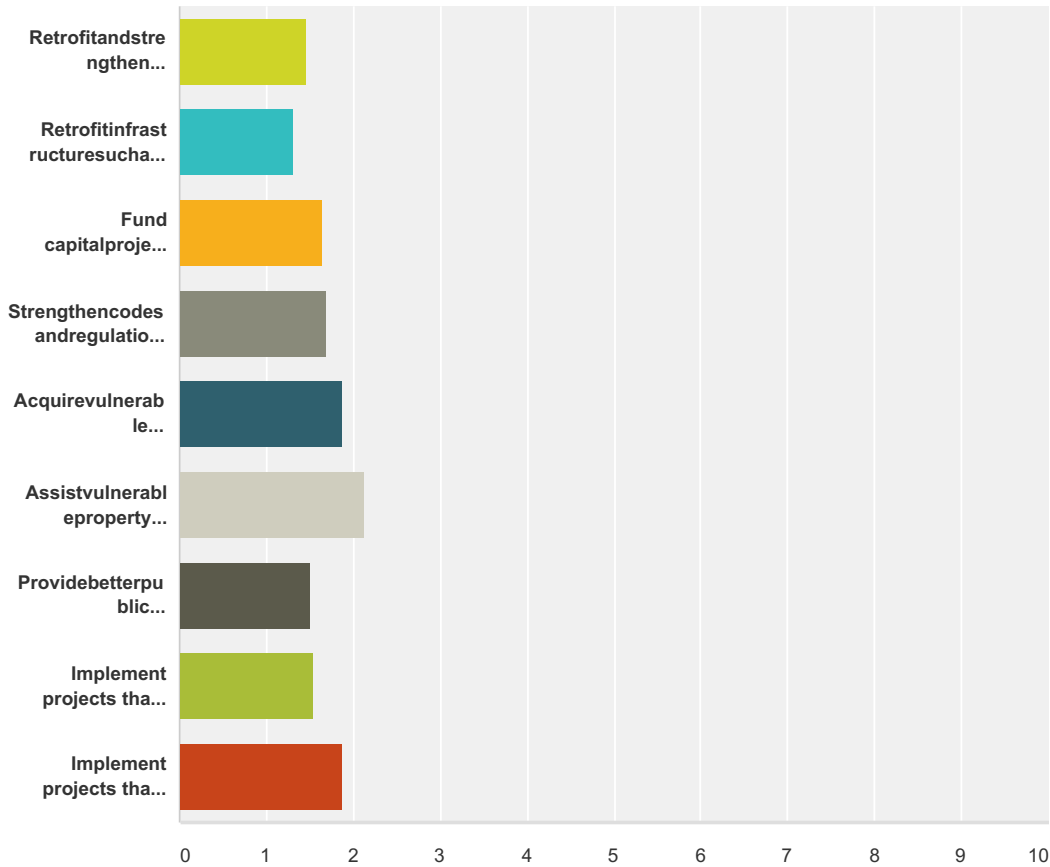
Answered: 1,903 Skipped: 387



Answer Choices	Responses	Count
Very supportive	54.28%	1,033
Somewhat supportive	26.22%	499
noncommittal	13.19%	251
Not very supportive	4.68%	89
Adamantly oppose	1.63%	31
Total		1,903

Q18 What types of projects do you believe the Local, State or Federal agencies should be doing in order to reduce damage and disruption from hazard events within Ada County? Please rank each option as a high, medium or low priority.

Answered: 1,859 Skipped: 431



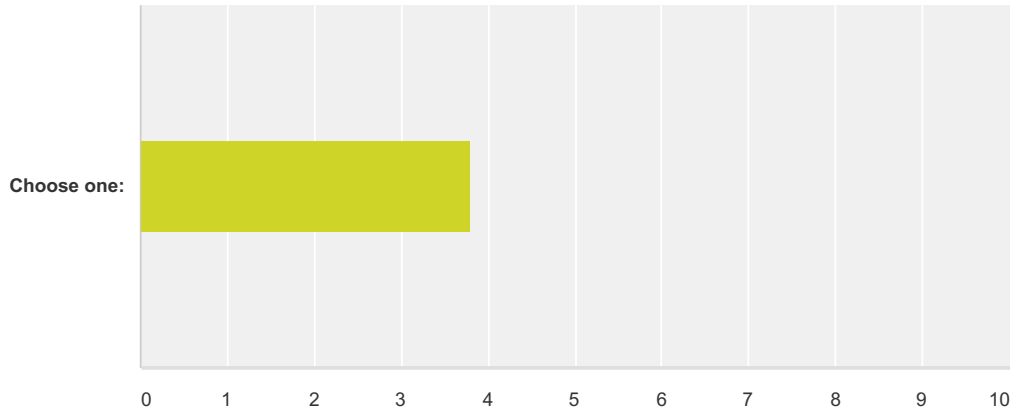
	High	Medium	Low	Total	Weighted Average
Retrofit and strengthen essential facilities such as police, fire, schools and hospitals.	60.49% 1,096	32.28% 585	7.23% 131	1,812	1.47
Retrofit infrastructure such as roads, bridges, drainage facilities, levees, water supply, waste water and power supply facilities.	73.13% 1,339	22.88% 419	3.99% 73	1,831	1.31
Fund capital projects such as dams, levees, floodwalls, drainage improvements and bank stabilization projects.	46.30% 831	42.01% 754	11.70% 210	1,795	1.65
Strengthen codes and regulations to include higher regulatory standards in hazard areas.	46.30% 833	37.85% 681	15.84% 285	1,799	1.70
Acquire vulnerable properties and maintain open space.	36.97% 661	37.86% 677	25.17% 450	1,788	1.88
Assist vulnerable property owners with securing funding for mitigation.	19.86% 352	47.29% 838	32.84% 582	1,772	2.13

Ada County Survey: Hazard Mitigation Planning

Provide better public information about risk, and the exposure to hazards within the operational area.	55.70% 1,006	37.93% 685	6.37% 115	1,806	1.51
Implement projects that restore the natural environments capacity to absorb the impacts from natural hazards.	54.90% 992	35.92% 649	9.19% 166	1,807	1.54
Implement projects that mitigate the potential impacts from climate change.	40.02% 712	32.32% 575	27.66% 492	1,779	1.88

Q19 Please indicate how you feel about the following statement: It is the responsibility of government (local, state and federal) to provide education and programs that promote citizen actions that will reduce exposure to the risks associated with hazards.

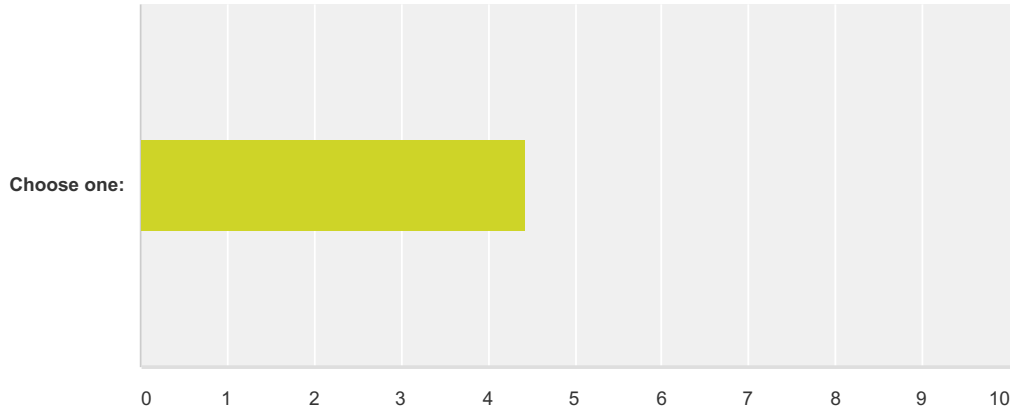
Answered: 1,891 Skipped: 399



	Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Strongly Agree	Total	Weighted Average
Choose one:	6.08% 115	8.20% 155	14.65% 277	42.62% 806	28.45% 538	1,891	3.79

Q20 Please indicate how you feel about the following statement: It is my responsibility to educate myself and take actions that will reduce my exposure to the risks associated with natural hazards.

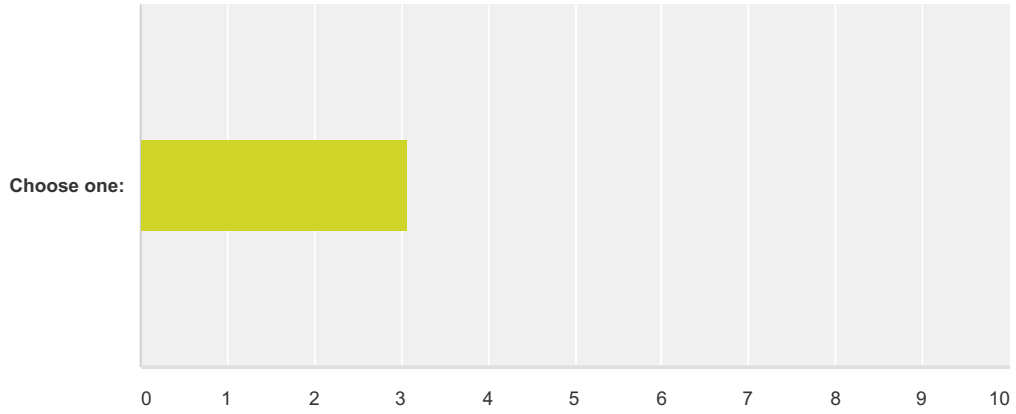
Answered: 1,896 Skipped: 394



	Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Strongly Agree	Total	Weighted Average
Choose one:	3.74% 71	1.69% 32	3.53% 67	30.70% 582	60.34% 1,144	1,896	4.42

Q21 Please indicate how you feel about the following statement: Information about the risks associated with natural hazards is readily available and easy to locate.

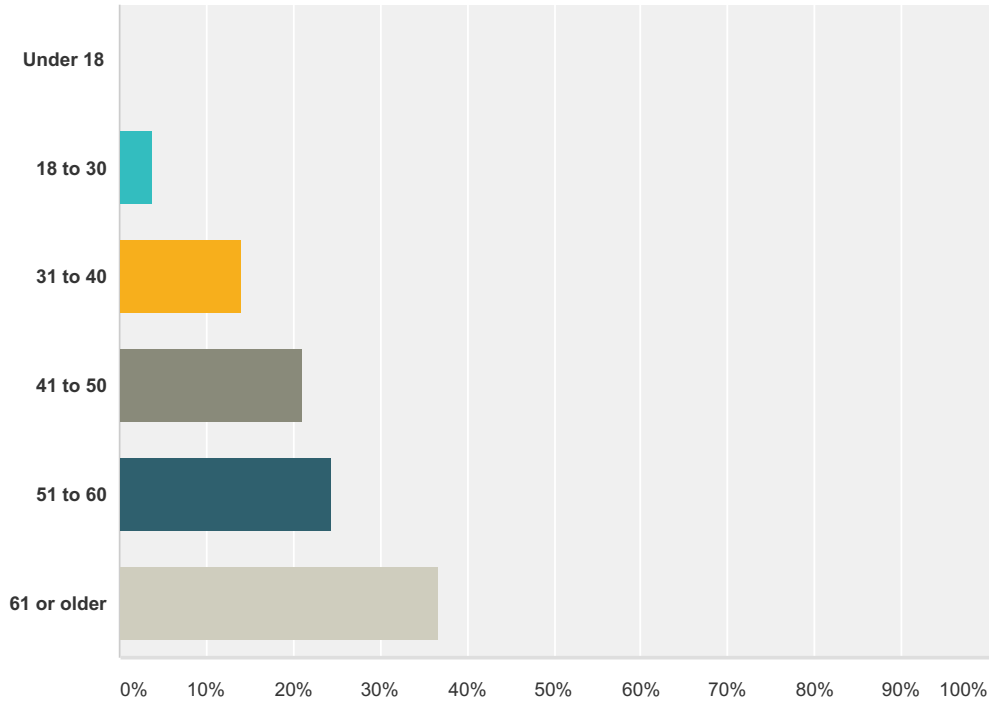
Answered: 1,900 Skipped: 390



	Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Strongly Agree	Total	Weighted Average
Choose one:	6.89% 131	25.32% 481	31.00% 589	28.00% 532	8.79% 167	1,900	3.06

Q22 Please indicate your age range:

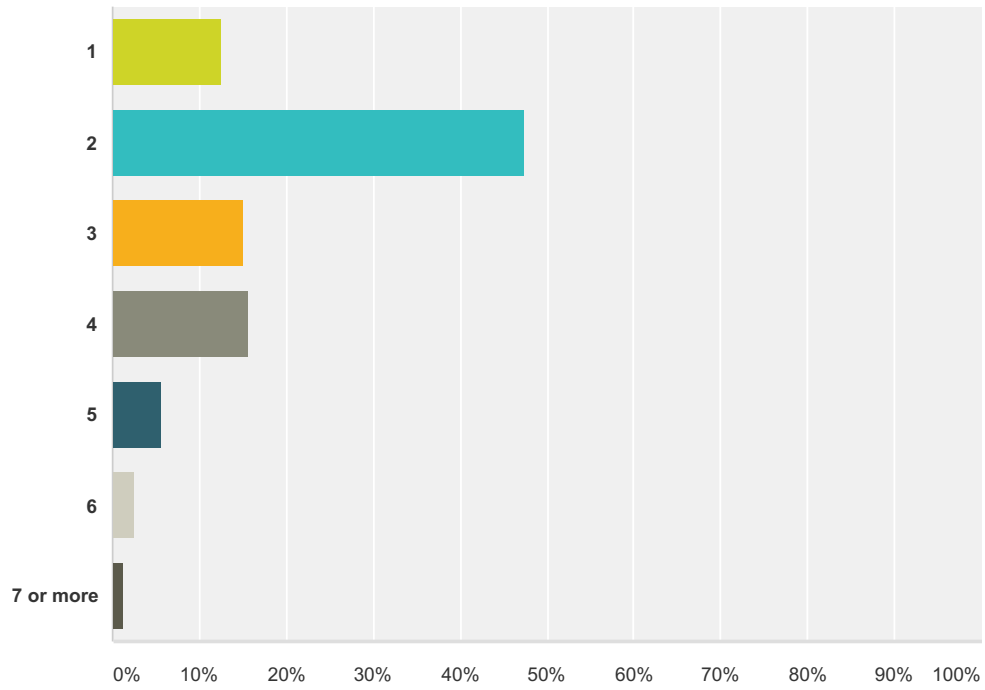
Answered: 1,888 Skipped: 402



Answer Choices	Responses
Under 18	0.00% 0
18 to 30	3.81% 72
31 to 40	13.98% 264
41 to 50	21.08% 398
51 to 60	24.36% 460
61 or older	36.76% 694
Total	1,888

Q23 How many people currently live in your household?

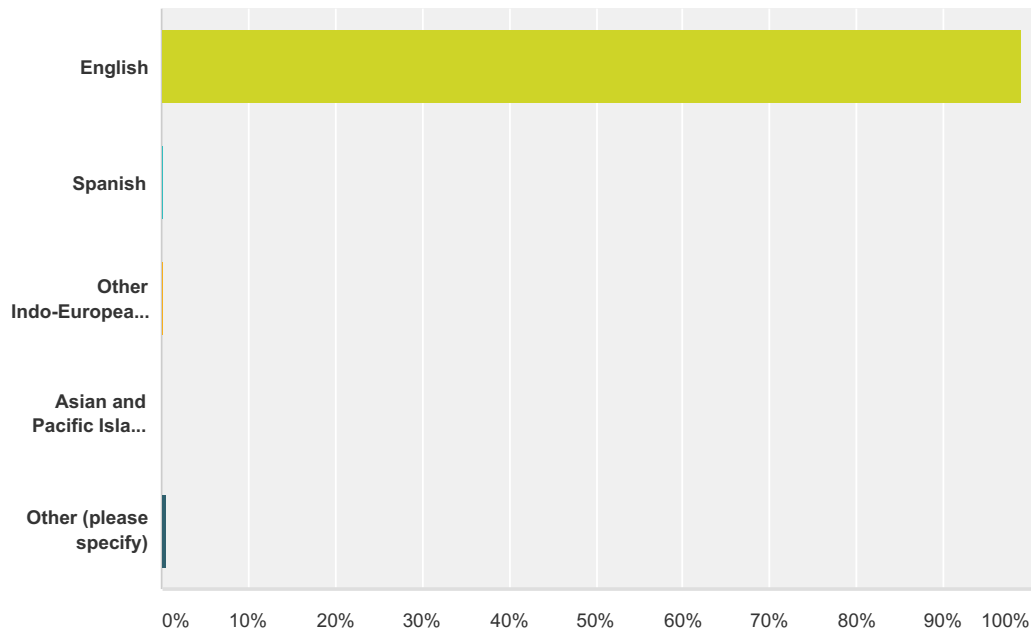
Answered: 1,886 Skipped: 404



Answer Choices	Responses	
1	12.46%	235
2	47.45%	895
3	15.06%	284
4	15.69%	296
5	5.67%	107
6	2.44%	46
7 or more	1.22%	23
Total		1,886

Q24 Please indicate the primary language spoken in your household.

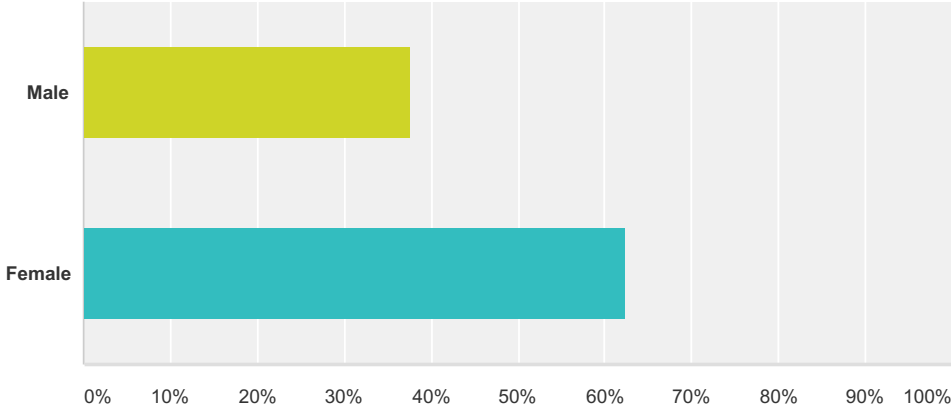
Answered: 1,887 Skipped: 403



Answer Choices	Responses	Count
English	98.94%	1,867
Spanish	0.16%	3
Other Indo-European Languages	0.21%	4
Asian and Pacific Island Languages	0.05%	1
Other (please specify)	0.64%	12
Total		1,887

Q25 Please indicate your gender:

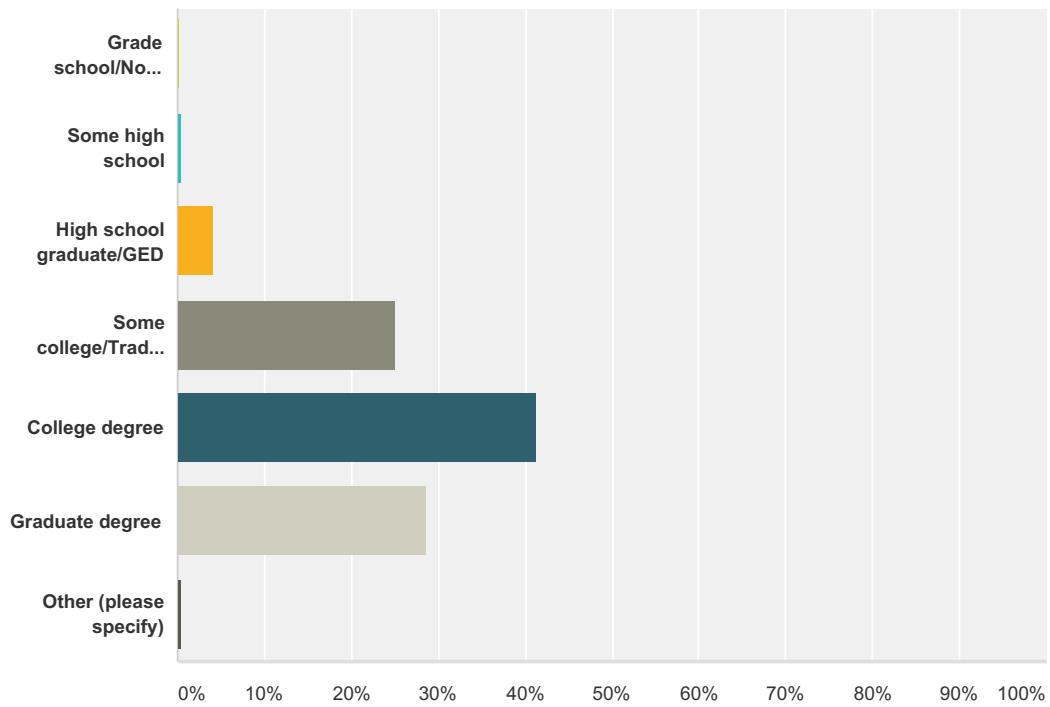
Answered: 1,869 Skipped: 421



Answer Choices	Responses
Male	37.56% 702
Female	62.44% 1,167
Total	1,869

Q26 Please indicate your highest level of education.

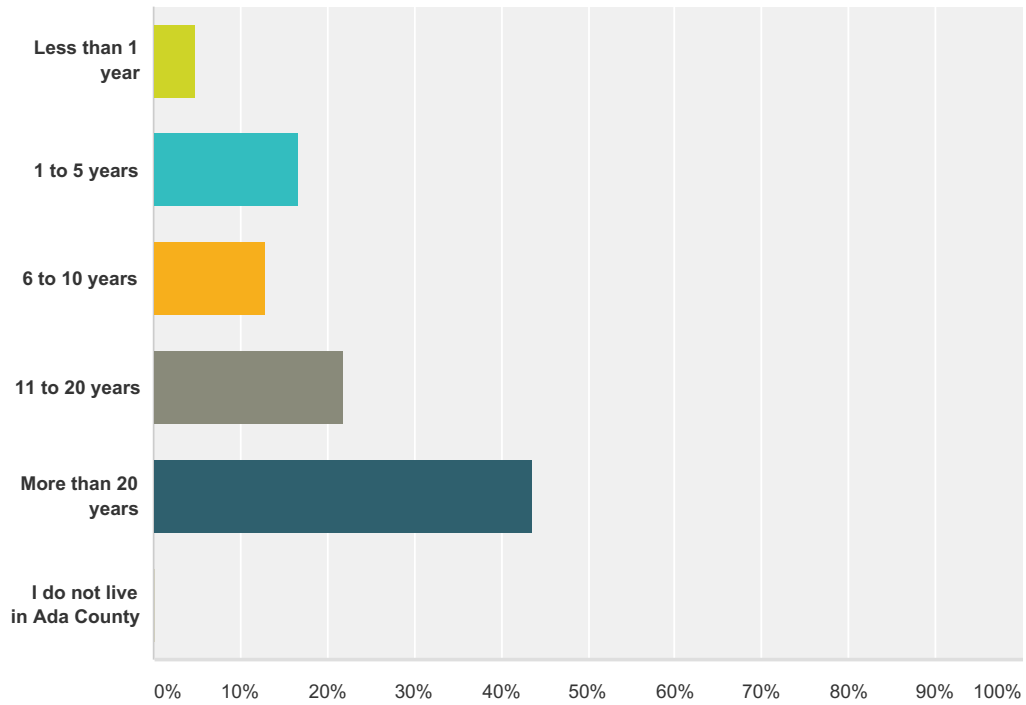
Answered: 1,887 Skipped: 403



Answer Choices	Responses
Grade school/No schooling	0.11% 2
Some high school	0.32% 6
High school graduate/GED	4.08% 77
Some college/Trade school	25.12% 474
College degree	41.39% 781
Graduate degree	28.56% 539
Other (please specify)	0.42% 8
Total	1,887

Q27 How long have you lived in Ada County?

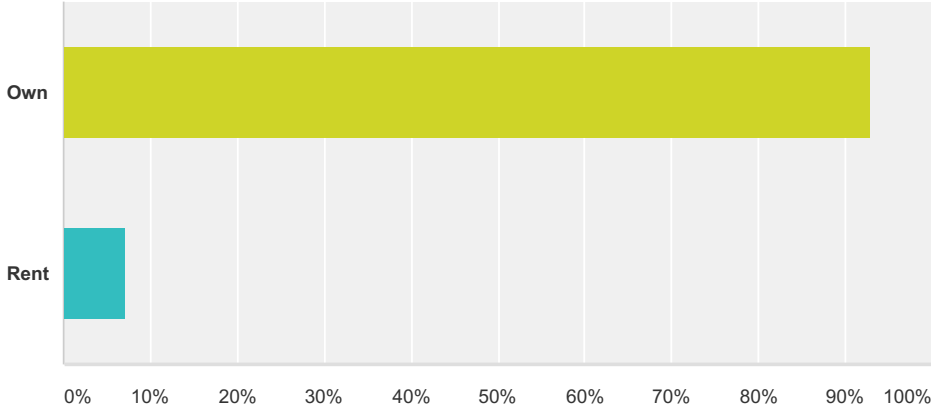
Answered: 1,883 Skipped: 407



Answer Choices	Responses
Less than 1 year	4.73% 89
1 to 5 years	16.68% 314
6 to 10 years	12.90% 243
11 to 20 years	21.83% 411
More than 20 years	43.60% 821
I do not live in Ada County	0.27% 5
Total	1,883

Q28 Do you own or rent your place of residence?

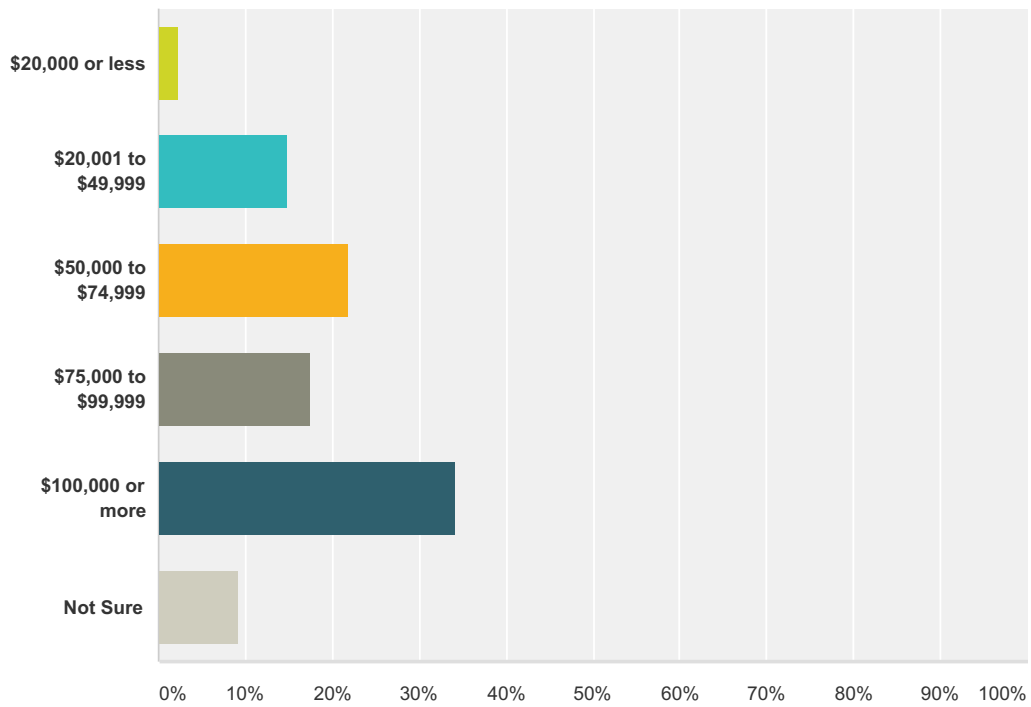
Answered: 1,881 Skipped: 409



Answer Choices	Responses
Own	92.98% 1,749
Rent	7.02% 132
Total	1,881

Q29 How much is your gross household income?

Answered: 1,804 Skipped: 486



Answer Choices	Responses	
\$20,000 or less	2.33%	42
\$20,001 to \$49,999	14.80%	267
\$50,000 to \$74,999	21.90%	395
\$75,000 to \$99,999	17.57%	317
\$100,000 or more	34.15%	616
Not Sure	9.26%	167
Total		1,804

2017 Ada County Multi-Hazard Mitigation Plan: Volume 1—Countywide Elements

Appendix C. Concepts and Methods Used for Hazard Mapping

C. CONCEPTS AND METHODS USED FOR HAZARD MAPPING

EARTHQUAKE MAPPING

Liquefaction Susceptibility

Liquefaction data was provided by the Idaho Geological Survey. This database is distributed through INSIDE Idaho, a geospatial data clearinghouse for the state of Idaho. Liquefaction occurs during strong earthquake ground shaking when saturated, cohesionless earth materials lose strength because of high excess pore-water pressure. The database was produced using 1) a standard methodology relating deposit age, texture (grain size and sorting), and environment of deposition to liquefaction susceptibility, and, 2) depth to the local water table. The database uses 1:100,000-scale geologic map information and water well records. The water well data have uncertainties in data quality and location. For each geologic map unit, a score between 0-5 was assigned for each classifying factor based upon unit descriptions. The methods and data used to make this map are described in detail in Phillips and Welhan, 2011. This dataset covers the Boise Metro area. A liquefaction susceptibility default value of 0 (Underlain by bedrock. Liquefaction will not occur even where saturated except in the case of undocumented cohesionless materials.) was used for the remainder of the County.

National Earthquake Hazard Reduction Program Soils

National Earthquake Hazard Reduction Program (NEHRP) site class data was provided by the Idaho Geologic Survey. This database is distributed through INSIDE Idaho, a geospatial data clearinghouse for the state of Idaho. The intensity of ground shaking during an earthquake varies according to the nature of near-surface materials. NEHRP site classes quantify this effect and permit adjustment of expected ground motion. Site classes B, BC, C, D, and E are used. Classification of sites is largely based upon a geologic map (Othberg and Stanford, 1992, IGS GM-18, scale 1:100,000) and a compilation of standard penetration test N (blows/ft) data from geotechnical foundation reports in the project area. This work is a regional screening exercise based upon widely separated localities at a scale of 1:100,000. Site-specific geotechnical investigations are required to determine actual ground conditions for individual building sites. The methods and data used to make this map are described in detail in Phillips and Welhan, 2011. This dataset covers the Boise Metro area. A NEHRP soil default value of D was used for the remainder of the County.

Probabilistic Peak Ground Acceleration Maps

Probabilistic peak ground acceleration data are generated by Hazus-MH 2.2. In Hazus' probabilistic analysis procedure, the ground shaking demand is characterized by spectral contour maps developed by the U.S. Geological Survey (USGS) as part of a 2008 update of the National Seismic Hazard Maps. USGS probabilistic seismic hazard maps are revised about every six years to reflect newly published or thoroughly reviewed earthquake science and to keep pace with regular updates of the building code. Hazus includes maps for eight probabilistic hazard levels: ranging from ground shaking with a 39-percent probability of being exceeded in 50 years (100-year return period) to the ground shaking with a 2-percent probability of being exceeded in 50 years (2,500-year return period). Earthquake mapping for this plan used the 100-year and 500-year probabilistic events.

Shake Maps

A shake map is designed as a rapid response tool to portray the extent and variation of ground shaking throughout the affected region immediately following significant earthquakes. Ground motion and intensity maps are derived from peak ground motion amplitudes recorded on seismic sensors (accelerometers), with interpolation based on estimated amplitudes where data are lacking, and site amplification corrections. Color-coded instrumental intensity maps are derived from empirical relations between peak ground motions and Modified Mercalli intensity. For this plan, shake maps were prepared by the USGS for one earthquake scenario:

- An earthquake on the Squaw Creek fault with the following characteristics:
 - Magnitude: 7.0
 - Epicenter: N 44.22 W 116.22
 - Depth: 15 km

FLOOD MAPPING

Flood hazard areas are a combination of effective FEMA Digital Flood Insurance Rate Maps (DFIRMs) dated December 2015, and preliminary FEMA DFIRM flood studies performed by the US Army Corps of Engineers. Flood boundaries from the USACE flood studies were used outside of seclusion zones, designated by FEMA Region X, along the Boise River and Ninemile Creek. Inside the seclusion zones, depth grids from the 2010 Ada County Hazard Mitigation Plan were updated to reflect all LOMR changes through March 2016. The 2010 depth grids were based off of effective FEMA 100- and 500-year boundaries, USACE Boise River flood studies and an Idaho Department of Water Resources Boise River Flood Study. All depth grids were updated with a new Ada County Boise Foothills, LiDAR-based, one-foot horizontal resolution DEM where possible.

LANDSLIDE MAPPING

A dataset of steep slopes was generated using a combination of the Boise Foothills 1-foot DEM and a U.S. Geological Survey 10-meter DEM. Two slope classifications were created: 15 to 30 percent and greater than 30 percent.

WILDFIRE MAPPING

The wildfire exposure analysis was performed using the Bureau of Land Management’s (BLM) Relative Risk to Communities from Wildland Fire Hazard (2007) dataset intersected with Wildland Urban Interface (WUI) datasets for Ada County (2008) and the City of Boise (2010).

The BLM Relative Risk to Communities from Wildland Fire Hazard data was downloaded from the INSIDE Idaho geospatial data clearinghouse. This dataset was designed to characterize mid-scale patterns across Idaho of the risks of wildland fire to communities. It was assumed that a relative measure of the risks to communities from wildland fire could be characterized by integrating relative wildland fire risk, relative wildland fire hazard, and wildland urban interface. That is, within the wildland urban interface, risks are directly associated with the probability that an area will burn, as well as the likely fire behavior that would occur if that area did in fact burn. It was assumed that burn probability and likely fire behavior would contribute equally to the risks to communities. Agriculture, rock, urban, and water were not assigned a burn probability or relative fire behavior. The methodology used to create this data is described in detail in the dataset metadata available from the INSIDE Idaho geospatial data clearinghouse.

The WUI datasets were provided by Ada County and the City of Boise. The Ada County WUI boundary was established to minimize the potential spreading of fires from wildland areas to structures. Standards have been

established for this area to apply to new construction, alteration, moving, or change of use of habitable structures, with the intent to reduce the threat of loss of life and property from fire. The City of Boise dataset was created assist the City in identifying properties that are subject to additional fire protection standards for development. The purpose of the dataset is to define areas with higher wildfire risk and subject those areas to increased FIREWISE standards for development.

DAM FAILURE MAPPING

Dam failure inundation area data (2010) for Lucky Peak Dam & Reservoir, provided by the US Army Corps of Engineers, identifies the maximum pool inundation area. This is the area inundated by dam failure occurring when the pool elevation is at the top of the impounding structure. This data was prepared in accordance with the Federal Guidelines for Dam Safety (FEMA Publication 64, FEMA 2004).

LIGHTNING MAPPING

The lightning strikes dataset (2016) was provided by the National Weather Service. The total number of lightning strikes per area (2000 – 20016) was converted to an average lightning strike per square mile figure.

REFERENCES

Phillips, William M., and Welhan, John A., 2011, NEHRP Site Class and Liquefaction Susceptibility Maps for the Boise Metro Area, Idaho. Idaho Geological Survey. Published August 2011.

2017 Ada County Multi-Hazard Mitigation Plan: Volume 1—Countywide Elements

Appendix D. Boise River Enhancement Plan



Boise River Enhancement Plan

Boise River Enhancement Network

Table of Contents



The Boise River P.1-11



(Photo: Charles Knowles/Shutterstock)

Part 1 of this plan describes the background and setting of the river, the current need for cooperative planning, the vision for the river and the process through which this plan was created.

The plan is designed to convey important and complex concepts through simple text and visual aids. Though supported by previous studies and expert opinion, it is not filled with detailed source information. This information can be found in the appendices and BREN meeting minutes (available online).

Essential Features P.12-29



(Photo: Leo A. Giles)

Part 2 is divided into four major ecological subject areas identified as critical for enhancement of the river: Geomorphology, Fisheries and Aquatic Habitat, Wetland and Riparian Habitat and Water Quality.

Each section includes a narrative, clearly identified key issues within the subject area and the most appropriate and effective enhancement opportunities identified through the planning process.

Realizing the Vision P.30-40



(Photo: Gary O. Grimm/BREN Network)

Part 3 addresses how the enhancement vision can be realized through summarizing past and current efforts within the watershed, examples from other watersheds and identifying which types of projects bring the greatest benefits to multiple ecological subject areas. The plan identifies how, what and where enhancement can be achieved to bring the most effective benefits to the river.

“We are a network of people that live, work and play in the Boise River watershed and are dedicated to promoting the ecological enhancement of the river”

Boise River Enhancement Plan

Preferred Citation:

Boise River Enhancement Network (BREN).
2015. Boise River Enhancement Plan.
Boise, Idaho

Prepared for:

Boise River Enhancement Network

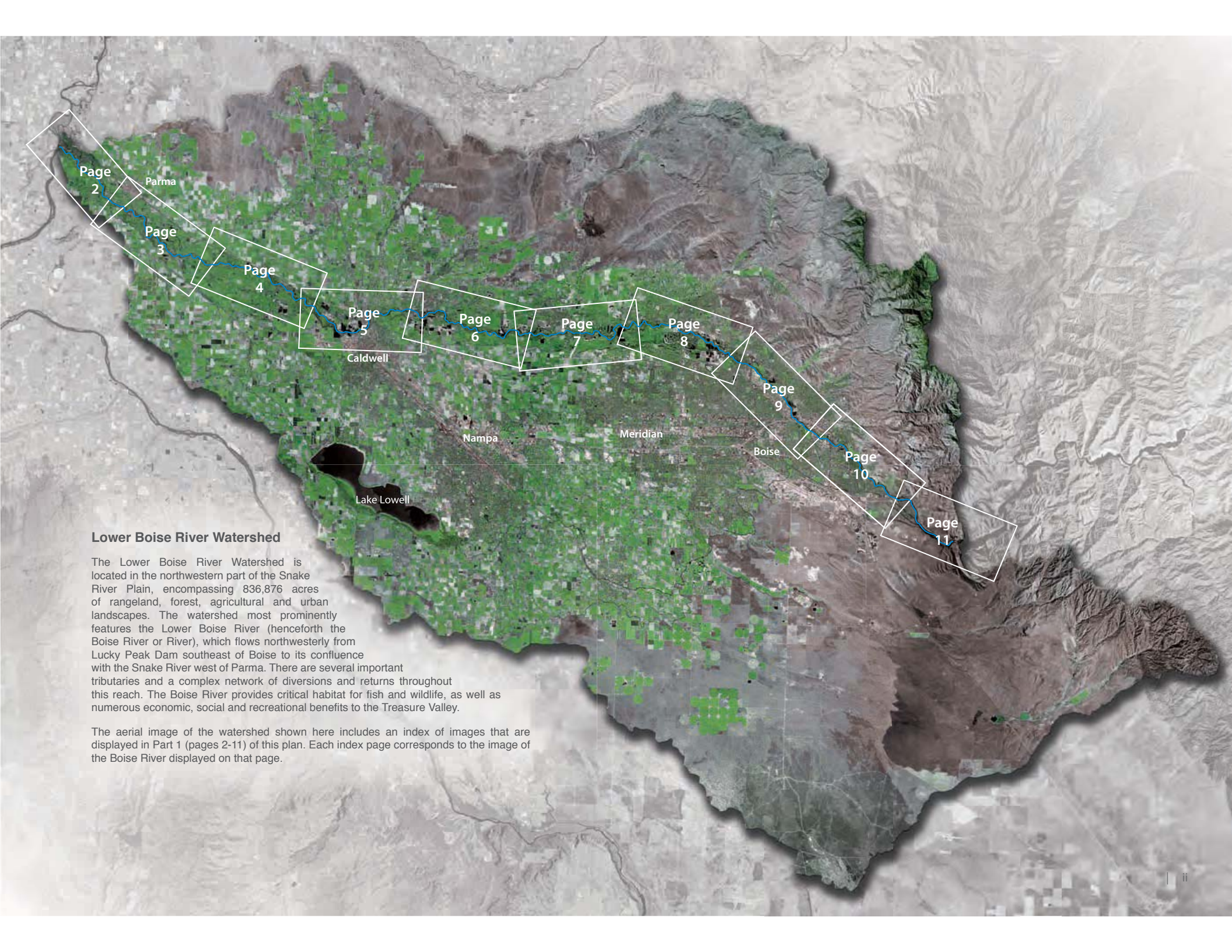
Prepared by:

Ecosystem Sciences Foundation
202 N. 9th Street, suite 400
Boise, Idaho 83702
208.383.0226

Disclaimer: Any electronic form, facsimile or hard copy of the original document (email, text, table, and/or figure), if provided, and any attachments are only a copy of the original document. The original document is stored by Boise River Enhancement Network.

Copyright© 2015 by Boise River Enhancement Network. All rights reserved.

Cover photo: Boise River.
DAK/Shutterstock



Lower Boise River Watershed

The Lower Boise River Watershed is located in the northwestern part of the Snake River Plain, encompassing 836,876 acres of rangeland, forest, agricultural and urban landscapes. The watershed most prominently features the Lower Boise River (henceforth the Boise River or River), which flows northwesterly from Lucky Peak Dam southeast of Boise to its confluence with the Snake River west of Parma. There are several important tributaries and a complex network of diversions and returns throughout this reach. The Boise River provides critical habitat for fish and wildlife, as well as numerous economic, social and recreational benefits to the Treasure Valley.

The aerial image of the watershed shown here includes an index of images that are displayed in Part 1 (pages 2-11) of this plan. Each index page corresponds to the image of the Boise River displayed on that page.



PART 1

INTRODUCTION

BOISE RIVER



Why is this Plan Needed?

At an October 2011 Boise River Workshop, over 120 participants identified the most important next step to enhance the Boise River; “Continue this group and develop a plan.”

In early 2011, interested local stakeholders came together to plan a workshop on environmental enhancement opportunities on the Boise River. All interested individuals and organizations were welcome to participate to foster an open and inclusive planning process. An Organizing Committee that included non-profit and for-profit staff, volunteers and agency representatives agreed on the goal of the workshop, “To increase opportunities for public and private ecosystem enhancement of the Lower Boise River by establishing networks, building knowledge, envisioning possibilities and tackling challenges.”

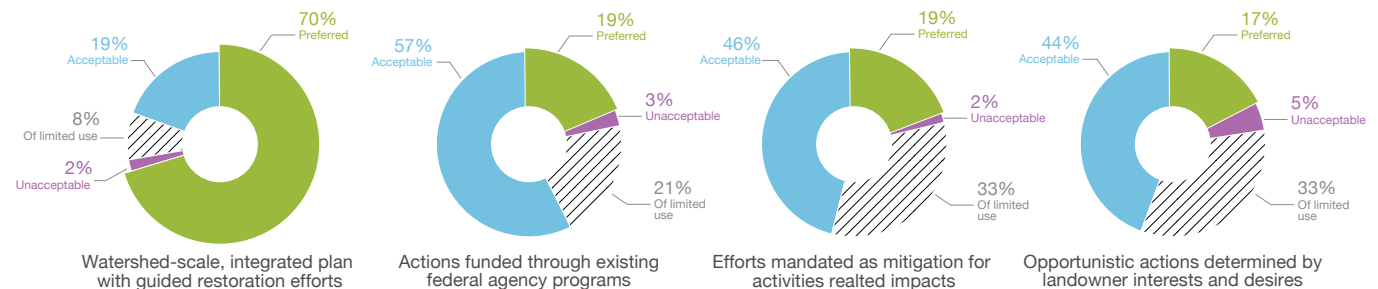
The workshop, titled “From Vision to Reality,” brought 106 of the area’s practitioners, experts, academics, decision makers, and active citizens together for a substantive discussion about the challenges and opportunities for environmental enhancement of the Boise River. The results of the workshop, as measured from breakout session input and an online survey, identified key enhancement goals and interests, challenges to enhancement, approaches to enhancements and key next steps. Participants identified that the most important next step to enhance the Boise River was to “Continue this group and develop a plan.”

Following the workshop, a group of interested organizations came together to form the Boise River Enhancement Network (BREN). This group received a grant from the Bureau of Reclamation’s WaterSMART program to establish a watershed group and write a watershed enhancement plan. BREN then used the results of the workshop to design a process and to identify key subject areas on which to focus the effort. This plan is a result of these efforts to provide the essential next step in the enhancement of the Boise River.

Approaches to Restoration

Please rate the following approaches to restoration/enhancement on the Boise River (Preferred, Acceptable, Of Limited Use, Unacceptable).

PERCENT OF RESPONSES



The Lower Boise River Watershed

The Lower Boise River Watershed begins at the Lucky Peak Dam where the Boise River emerges from the foothills southeast of Boise. Lucky Peak is one of three storage reservoirs located above the watershed that were constructed by the U.S. Bureau of Reclamation and the U.S. Army Corps of Engineers to provide irrigation, hydroelectricity and flood control to the Treasure Valley. Several irrigation diversion dams are also located below Lucky Peak Dam; the uppermost and largest being the century-old Boise River Diversion Dam that serves the New York Canal which terminates at Lake Lowell. As the Boise River flows from Lucky Peak to its confluence with the Snake River, land use shifts from primarily urban to agricultural. The River floodplain is wooded to varying extents throughout this reach, consisting mainly of willow and ecologically important black cottonwood that provide critical wildlife habitat. The Treasure Valley is the most populous region in the state with a population of nearly 630,000 people. Population growth, changing water demand and land use patterns coupled with climate change will put pressure on natural resources.

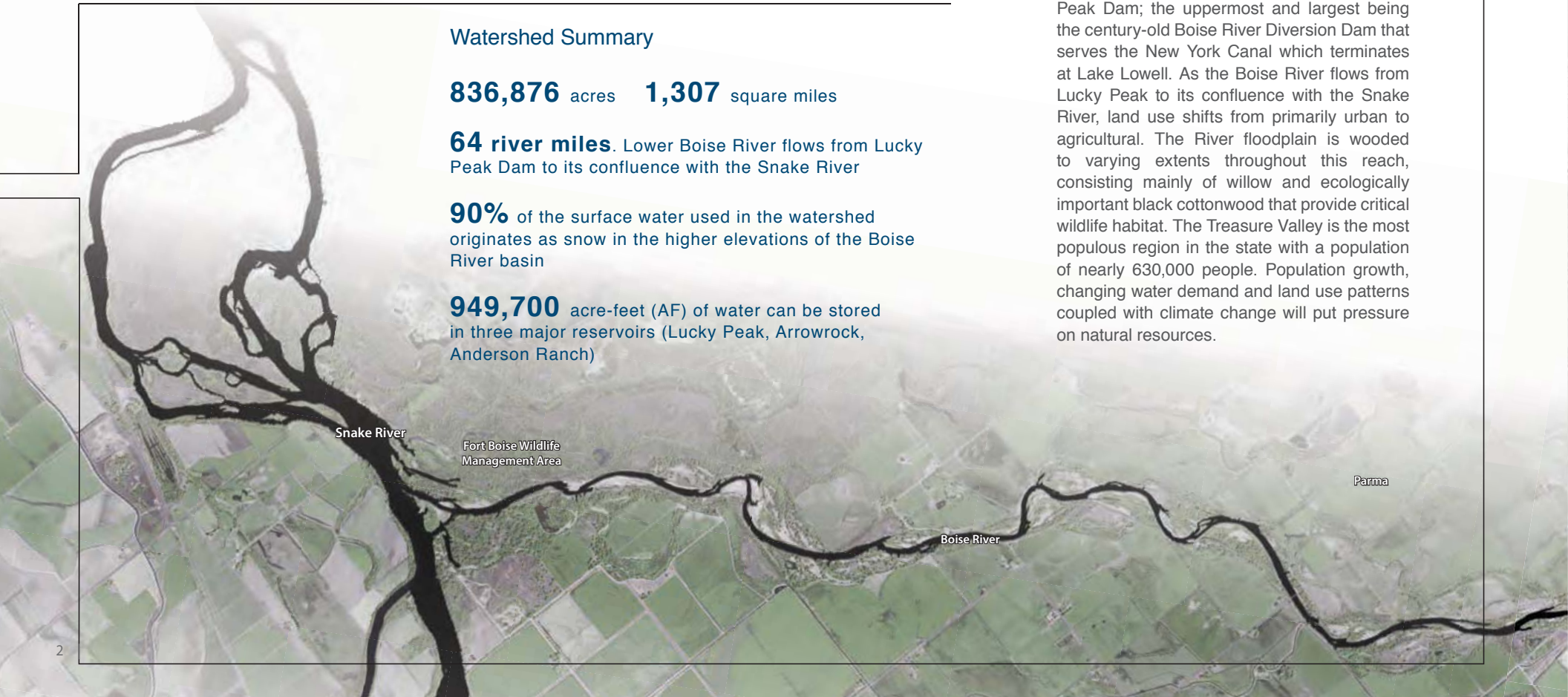
Watershed Summary

836,876 acres **1,307** square miles

64 river miles. Lower Boise River flows from Lucky Peak Dam to its confluence with the Snake River

90% of the surface water used in the watershed originates as snow in the higher elevations of the Boise River basin

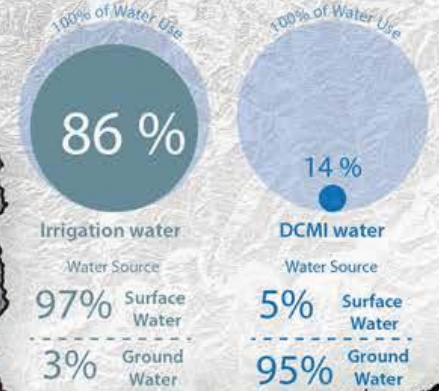
949,700 acre-feet (AF) of water can be stored in three major reservoirs (Lucky Peak, Arrowrock, Anderson Ranch)



Lower

Boise River Watershed

Water Use
Water use falls into two categories: domestic, commercial, municipal, and industrial (DCMI) and irrigation.
In 2010, total DCMI demand was estimated at 228,535 AF (14%), while irrigation water demand was estimated at 1.45 million AF (86%).
(IDWR 2015)



Elevation Range
6,575' ↑ ↓ 2,200'

Average
Precipitation
10"

Canyon
County

Caldwell

Ada
County

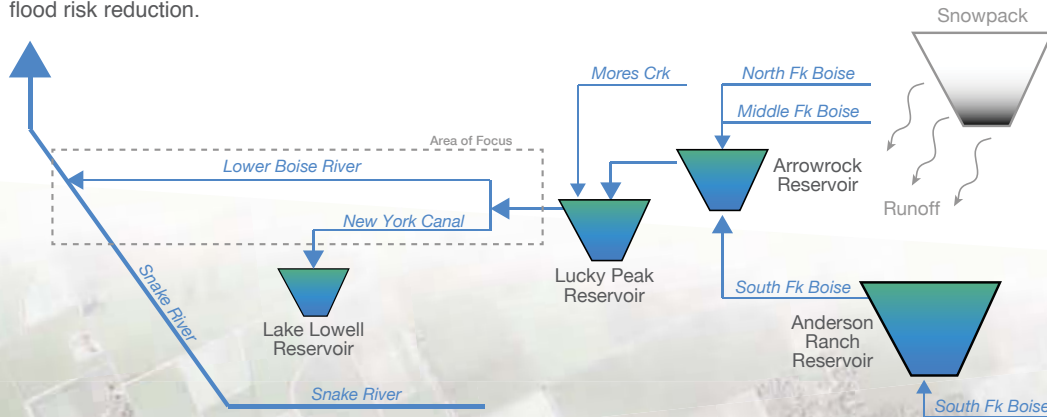
Boise

Boise River

How the River Works

The headwaters of the Boise River are formed by snow and rain in the mountains of south-central Idaho, including the Boise, Sawtooth, Smokey and Soldier mountains. This winter snowpack represents the natural storage for the Boise River. Climate change threatens the future size of this natural reservoir. The three forks of the upper watershed (North, Middle and South) converge just east of Boise before the river emerges from the mountains to the plain. Between 1909 and 1955, three large dams with a storage capacity of around 950,000 acre-feet were constructed primarily for irrigation with a secondary purpose of flood risk reduction.

The River historically experienced a different flow regime than it does today due to the flow regulation provided by the storage reservoirs. Historic peak flows averaged over 13,000 cfs and were recorded over 35,000 cfs (1895). Since the completion of Lucky Peak Dam in 1955, peak flows have averaged around 4,500 cfs with a maximum discharge of just below 10,000 cfs (1983). Without the existing dam infrastructure, recent late fall and winter flows would have averaged around 1,000 cfs; regulated winter flows average below 500 cfs.

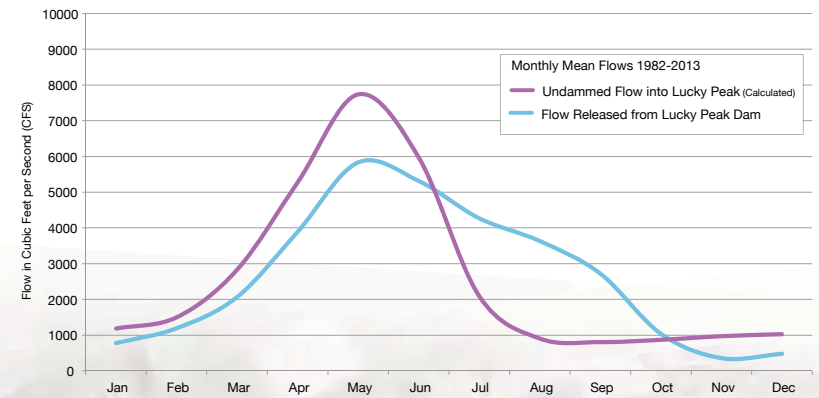


The Boise River System of Dams, Reservoirs and Major Diversions.
Major Dam Construction Timeline: 1909 – Boise River Diversion Dam and the New York Canal; 1915 – Arrowrock Dam; 1950 – Anderson Ranch Dam; 1955 – Lucky Peak Dam

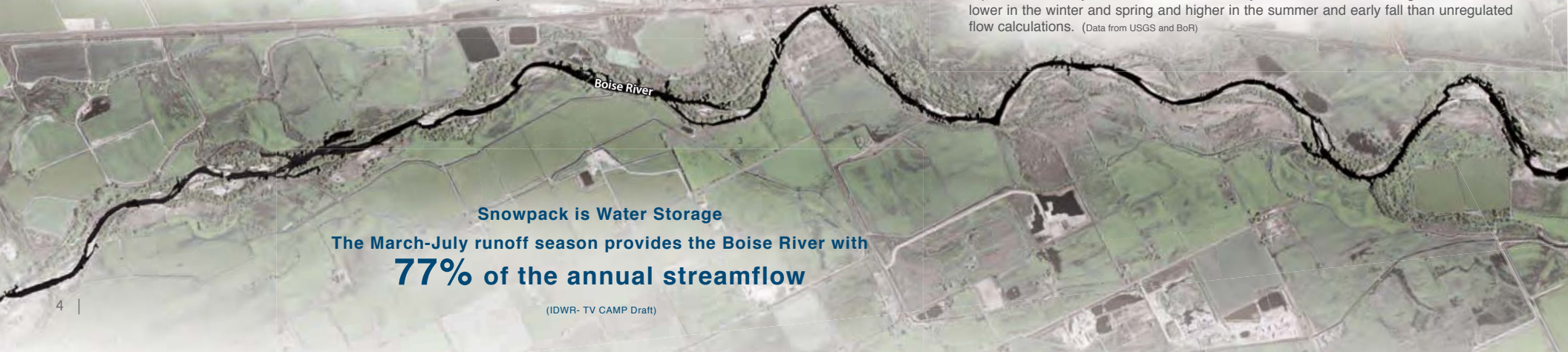


(Photo: Charles Knowles/Shutterstock)

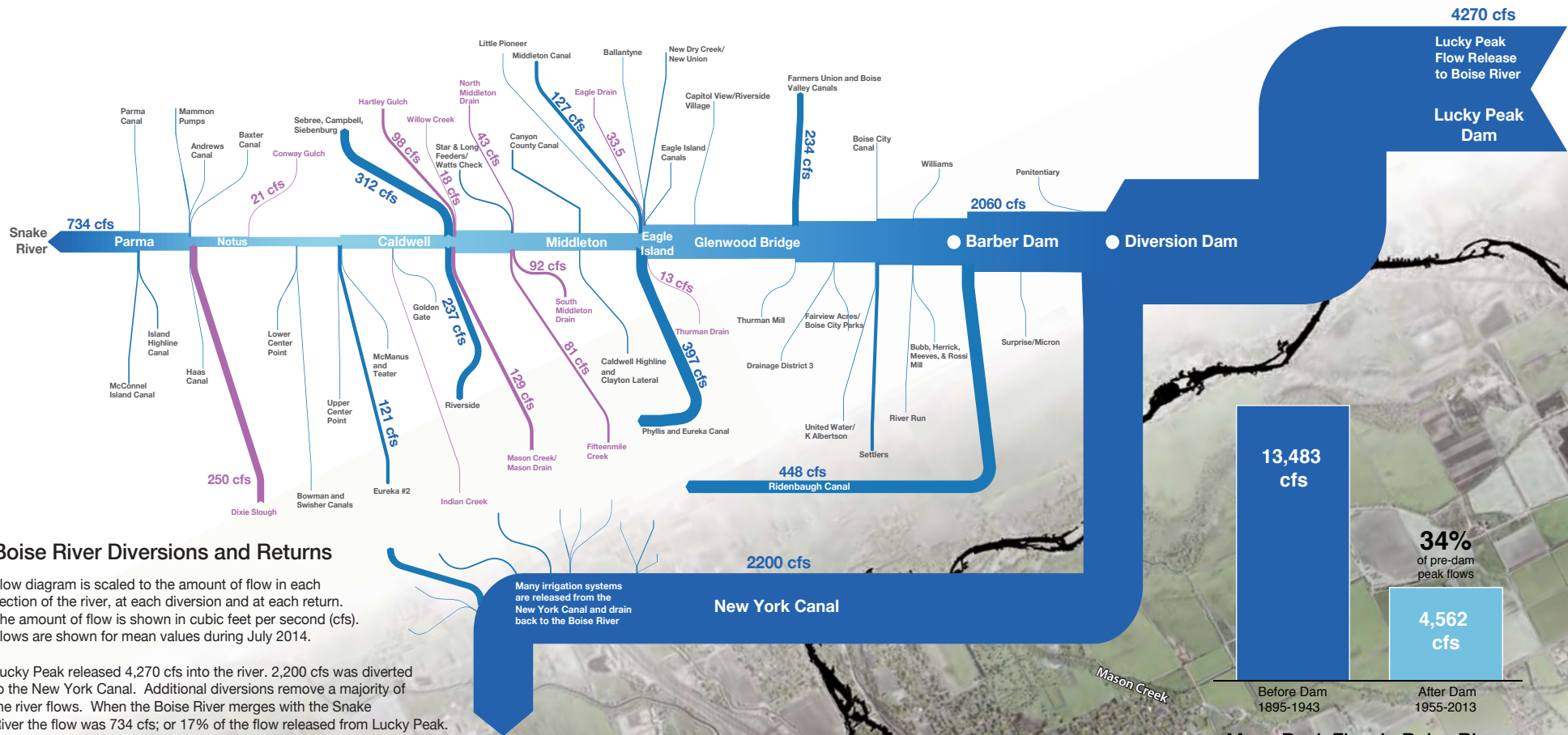
Boise Diversion Dam. Water from the Boise River is diverted into the New York Canal.



Mean Monthly Flows Comparison. The purple line is a calculated discharge in the river at Lucky Peak Dam site if the existing dams were not in place. The blue line represents monthly mean releases from Lucky Peak Dam. Note that regulated flows are lower in the winter and spring and higher in the summer and early fall than unregulated flow calculations. (Data from USGS and BoR)



Snowpack is Water Storage
The March-July runoff season provides the Boise River with 77% of the annual streamflow



Boise River Diversions and Returns

Flow diagram is scaled to the amount of flow in each section of the river, at each diversion and at each return. The amount of flow is shown in cubic feet per second (cfs). Flows are shown for mean values during July 2014.

Lucky Peak released 4,270 cfs into the river. 2,200 cfs was diverted to the New York Canal. Additional diversions remove a majority of the river flows. When the Boise River merges with the Snake River the flow was 734 cfs; or 17% of the flow released from Lucky Peak.

FLOW cfs **RETURN cfs**

Not shown in the diagram is the interaction between the surface water and the groundwater. Groundwater plays an important role in the river system. IDWR has identified the need for comprehensive aquifer management planning to ensure water demand can be met in the future.

(Data from Idaho DEQ)

Many irrigation systems are released from the New York Canal and drain back to the Boise River

Mean Peak Flow in Boise River Before and After Lucky Peak Dam

(Data from Susan Stacy "As the River Rises" and USGS.)

A Regulated River

The irrigation water derived from the Boise River has shaped the Treasure Valley and brought prosperity and production to the arid landscape. The water stored in the upper reservoirs is released throughout the irrigation season and diverted through a vast and complex network of canals and returns. The economic benefits of this system are tremendous. However, it has had a dramatic effect on the River ecosystem. Groundwater and surface water quality and quantity, channel form, sediment transport processes, floodplain connection and habitat value have all been altered.

What the River Provides

The Boise River ecosystem historically provided abundant fish and wildlife habitat. Salmon and other native fish occupied its waters and the wooded floodplain provided critical wildlife habitat in an arid landscape. The river has always provided for human inhabitants as well; it first provided a water supply, transportation, hunting grounds, fishing opportunities and material resources for Native Americans, followed by fur traders, prospectors and early settlers. Most recently it has provided the irrigation water that has fueled the economic growth of the Treasure Valley. The River has gone through three distinct periods: it was once wild and untamed, then controlled and heavily polluted, and now it is in a period of stewardship and improvement. Over the past 50 years, the River's health has improved dramatically through stakeholder investment. Today, the Boise River continues to water hundreds of thousands of acres. Its associated wetland and riparian systems filter and dilute pollutants, attenuate floods and erosion and provide habitat for many species of birds and other wildlife. The Boise River supports an urban and rural fishery that includes native and non-native fish, cold water salmonids and desirable game fish.

There are numerous recreational opportunities both in and near the water. The River is now a much-loved amenity to residents and is acknowledged as contributing to the regional economy, public health and quality of life.

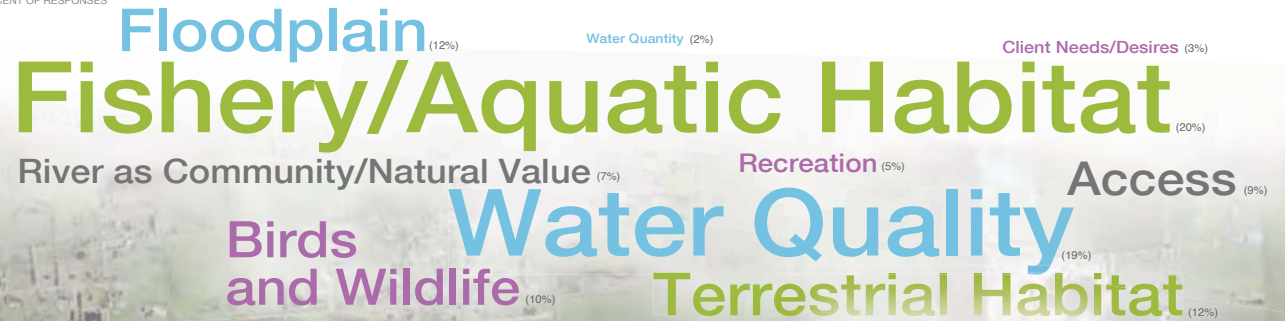
Despite everything that the River provides, citizens, scientific experts and agency personnel recognize that the river is not realizing its potential. In an online survey as part of the 2011 workshop, 90% of survey participants rated the Boise River's health as "limited and needs improvement" or "significant environmental issues exist, but the River is not imperiled." This plan identifies how ecological enhancement can improve the health and function of the Boise River, protecting the investments stakeholders have made and creating a living legacy for future generations to enjoy.



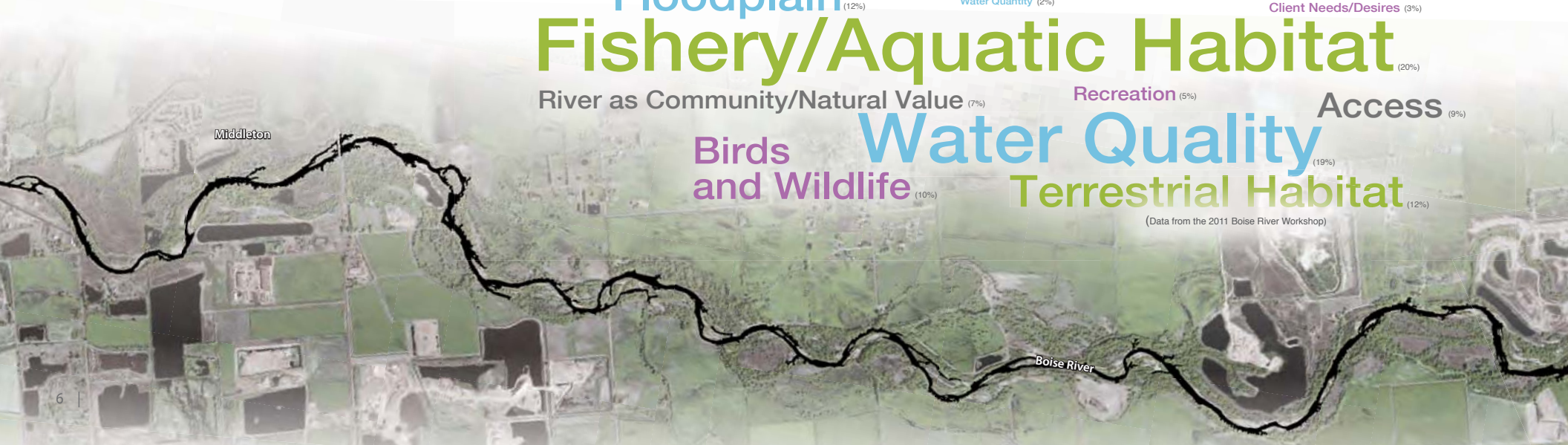
What are your enhancement goals and interests?

In breakout work sessions participants were asked to describe their interests and goals for river enhancement. The tag cloud of words represents the scale of each response with the percentage in parenthesis.

PERCENT OF RESPONSES



(Data from the 2011 Boise River Workshop)



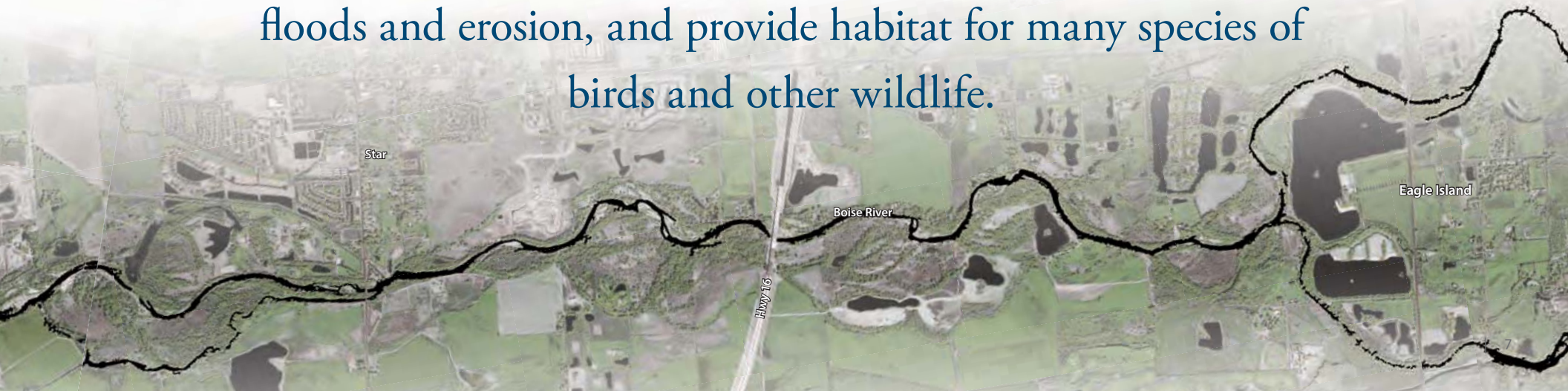


(Photo: Ken Mischel/BREN Network)



(Photo: IDAM/Shutterstock)

The Boise River provides numerous ecosystem services such as water supply, recreation and aesthetics. Its associated wetland and riparian systems filter and dilute pollutants, attenuate floods and erosion, and provide habitat for many species of birds and other wildlife.





Eagle Island

Eagle Island State Park

Hwy 55

West Boise Wastewater Treatment Plant

Black Cottonwoods

Healthy Riparian Trees Provide Shade and Wildlife Habitat

Native Trees and Plants



Multituse Recreation

Connected Floodplain

Larger Habitat Patches

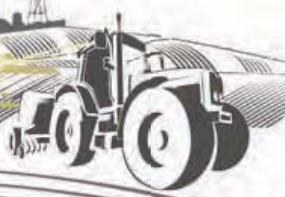
Cover for Aquatic Life

Channel Complexity

Cool Clean Water

InStream Habitat / Large Wood

Healthy Substrate



Sustainable Agriculture

A Boise River that provides diverse habitat and multiple uses, benefiting the ecosystem and citizens now and into the future.

VISION

What Could the River Be?

A healthy, functioning Boise River will offer improved benefits to the entire watershed.

Envision a river that flows through broad and diverse wetland and riparian habitats on a connected floodplain that supports fish and wildlife and buffers against adjacent land uses; its waters containing complex habitat and clean, cool water and a healthy fishery, while supplying ample water for urban and agricultural uses. An enhanced Boise River will provide numerous recreation and educational opportunities, be an economic driver of prosperity in the Treasure Valley, and serve as an example of what can be accomplished by sustainable, collaborative management.

ENVISION A BOISE RIVER THAT OFFERS:

Cool, Clean Water

- Healthy fish communities and associated fisheries
- Improved water supply for urban and agricultural uses
- Clean water for safe swimming and wading

A Healthy Ecosystem

- Protected areas that preserve natural function
- A connected floodplain that enhances habitat and reduces flood risk
- Improved instream habitat complexity that helps fish
- Increased native vegetation that benefits birds and wildlife
- A sustainable black cottonwood forest that shelters a diverse, native understory
- High quality wildlife habitat

Sustainable Recreation

- A healthy fish community and robust fisheries
- Better swimming and boating
- Safe public access with low impact on the ecosystem
- Increased recreation opportunities through multipurpose projects
- A place to connect with nature and with each other

Centerpiece of the Treasure Valley

- Enhancement of the river that benefits all citizens
- A healthy Boise River supports a healthy economy
- Our stewardship will inspire other cities
- Future generations will benefit from today's efforts



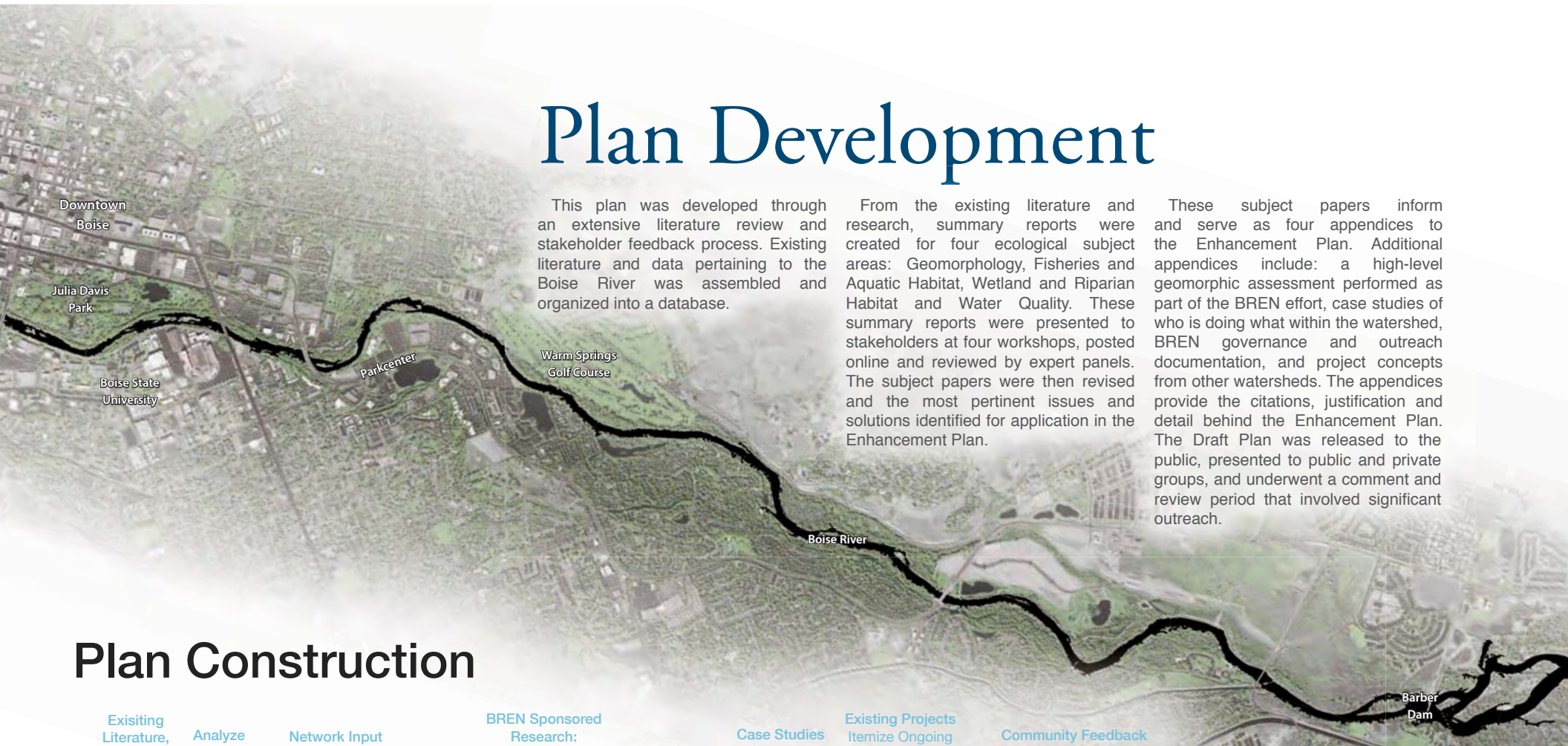
(Photo: Gary O. Grinnell/ENR Network)

Plan Development

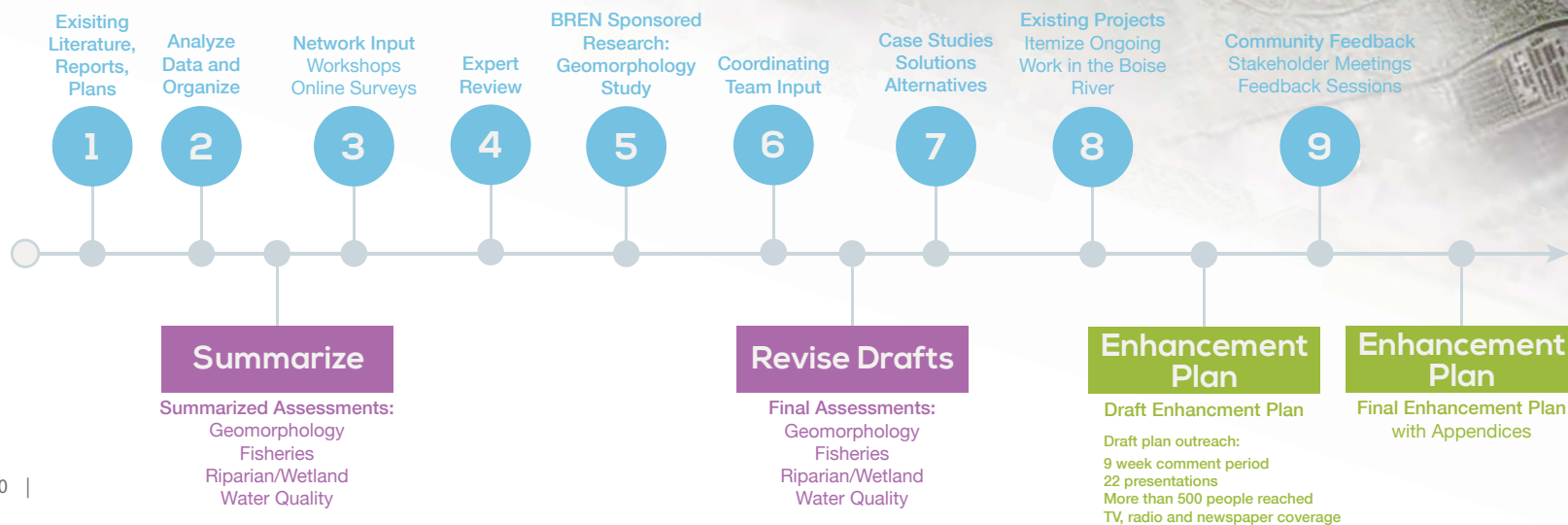
This plan was developed through an extensive literature review and stakeholder feedback process. Existing literature and data pertaining to the Boise River was assembled and organized into a database.

From the existing literature and research, summary reports were created for four ecological subject areas: Geomorphology, Fisheries and Aquatic Habitat, Wetland and Riparian Habitat and Water Quality. These summary reports were presented to stakeholders at four workshops, posted online and reviewed by expert panels. The subject papers were then revised and the most pertinent issues and solutions identified for application in the Enhancement Plan.

These subject papers inform and serve as four appendices to the Enhancement Plan. Additional appendices include: a high-level geomorphic assessment performed as part of the BREN effort, case studies of who is doing what within the watershed, BREN governance and outreach documentation, and project concepts from other watersheds. The appendices provide the citations, justification and detail behind the Enhancement Plan. The Draft Plan was released to the public, presented to public and private groups, and underwent a comment and review period that involved significant outreach.



Plan Construction



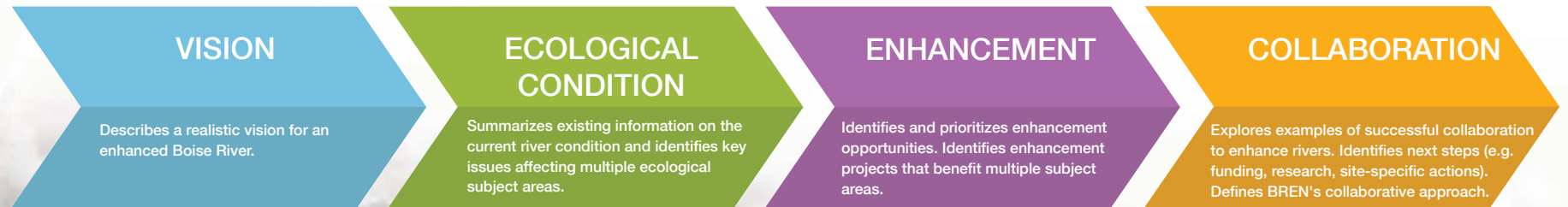
A Plan for the River

There is a diverse set of stakeholders in the Lower Boise River Watershed – municipalities; water users; local, state and federal agencies; water delivery entities; recreationists; Tribes; water and power companies; land owners; non-profit organizations; and others – each of which have their own goals, jurisdictions and constituents. Insufficient coordination and cooperation among stakeholders

has hindered efforts to address critical watershed issues, including habitat loss, floodplain development, water pollution and ecosystem function. The Boise River's future health relies on proper comprehensive management that focuses on the critical issues and utilizes effective solutions. Cooperative planning is essential for successful management and enhancement of the Lower Boise River.

The goal of this Enhancement Plan is to provide an overview of the ecological condition of the river, and to identify the key issues and most effective enhancement opportunities in the areas of Geomorphology, Fisheries and Aquatic Habitat, Wetland and Riparian Habitat and Water Quality. The Plan also identifies those projects that bring the greatest benefits to multiple ecological subject areas and the collaborative approach

necessary to achieve the vision. Important next steps include continuing outreach, research, funding and identification of site-specific actions.





PART 2

ESSENTIAL FEATURES

BOISE RIVER



Arrowrock and Lucky Peak Reservoirs
The Lower Boise River begins below Lucky Peak Dam. This is the last of three upstream dams that regulate flow for the Boise River. The image is looking downstream from just above Arrowrock Dam (foreground), across Lucky Peak with the Boise Valley in the background.

(Photo: Leo A. Geis)

Key Issues and Solutions for the River

Part 2 is divided into the four essential ecosystem components or “Essential Features” that are the focus of this plan: Geomorphology, Fisheries and Aquatic Habitat, Wetland and Riparian Habitat and Water Quality. Each section includes a narrative, key issues and enhancement opportunities pertaining to each subject area. The intent is to reduce each subject area down to its most essential elements that apply on a broad scale; there are numerous site-specific opportunities that cannot be detailed in this plan. The focus is on the most important issues and corresponding enhancement opportunities that result in the highest functional benefits to the river. Barriers to implementation include coordination, funding, and scientific and engineering challenges, among others. Land use

planning, economic and political forces all play a role. Projects that focus on “win-win” actions are most likely to be successfully implemented. Some solutions are complex and difficult to implement, others are simple and can be realized with fewer resources.

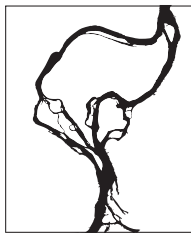
Each section is based on a corresponding appendix developed through a literature review and stakeholder feedback process, wherein the sources, justification and details can be found. Readers should use the Essential Features to identify the concepts to be addressed, then utilize the appendices to garner more detailed information. Often, site-specific investigations are necessary to implement enhancement actions.

- | | | |
|---|-----------------------------|---------|
| 1 | Geomorphology | page 14 |
| 2 | Fisheries & Aquatic Habitat | page 18 |
| 3 | Wetland & Riparian Habitat | page 22 |
| 4 | Water Quality | page 26 |

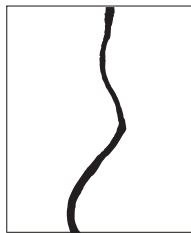
Essential Feature¹ Geomorphology

BOISE RIVER ENHANCEMENT PLAN

The river has been transformed from a meandering, braided gravel bed river that supported large runs of salmon, to a channelized, regulated river that flows through an urban and agricultural landscape. Alterations to the floodplain and hydrograph have resulted in a suite of geomorphic changes to this alluvial river system. Parts of the river exhibit a floodplain that has been narrowed or disconnected from the current hydrology, a hyporheic zone (where the local groundwater table and surface water are interacting) that has been reduced in area, channel substrate that has become armored or embedded, instream habitat that has been simplified, and sloughs and side channels that have been reduced. The changes to the hydrology and floodplain have created a geomorphic environment that is not aligned with the current hydrology, resulting in impacts to several ecosystem processes. Although there are pervasive conditions that affect the entire river, each reach and site has its own specific conditions that need to be evaluated on the appropriate scale.



Braided/Complex River Channel

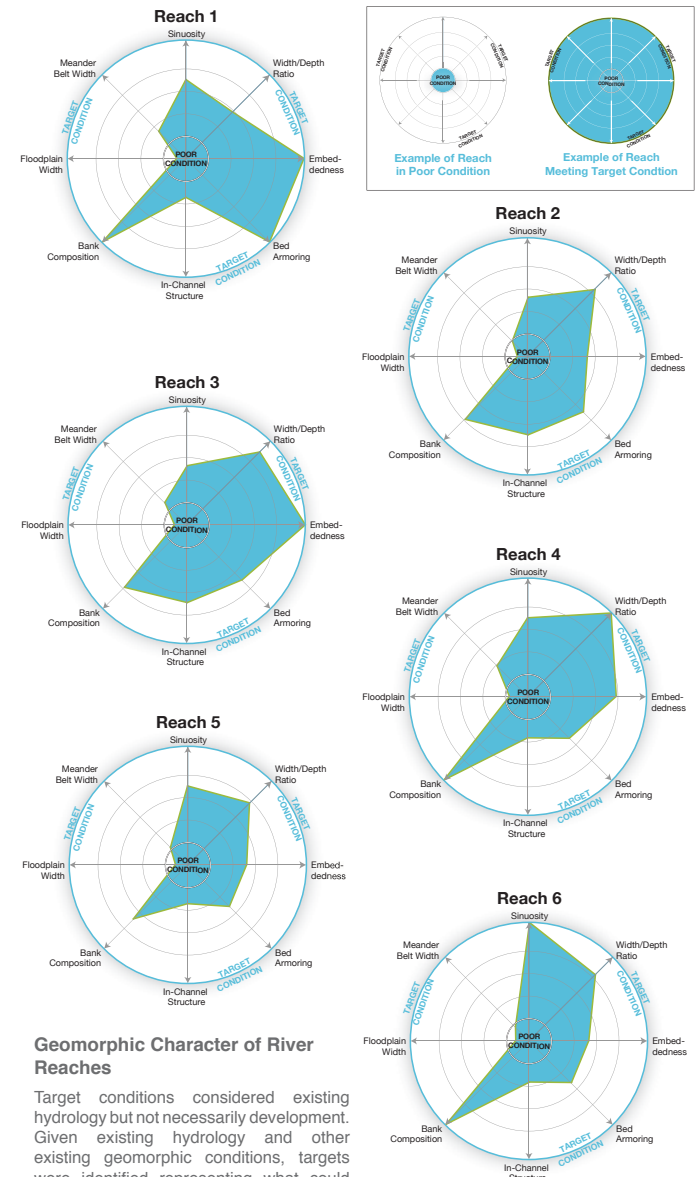


Channelized/Regulated River Channel

Current channel capacity ranges between 3,500 cfs and 10,000 cfs, although channel capacity varies in time and space due to changing conditions. Prior to channelization, high flows spread across the historically wide floodplain. Over the years, levees have been built and enlarged by individual land owners, cities, counties and local flood districts. Large snags, vegetation and debris are removed from sections of the river for recreation safety and flood risk reduction. The river channel lacks the roughness elements and instream complexity that historically provided habitat for fish and other aquatic organisms. The current channel form results in velocities that preclude refuge for salmonids in many locations during the spring and summer and create an abundance of shallow pool or glide habitat in the late fall, winter and early spring.

What is Geomorphology?

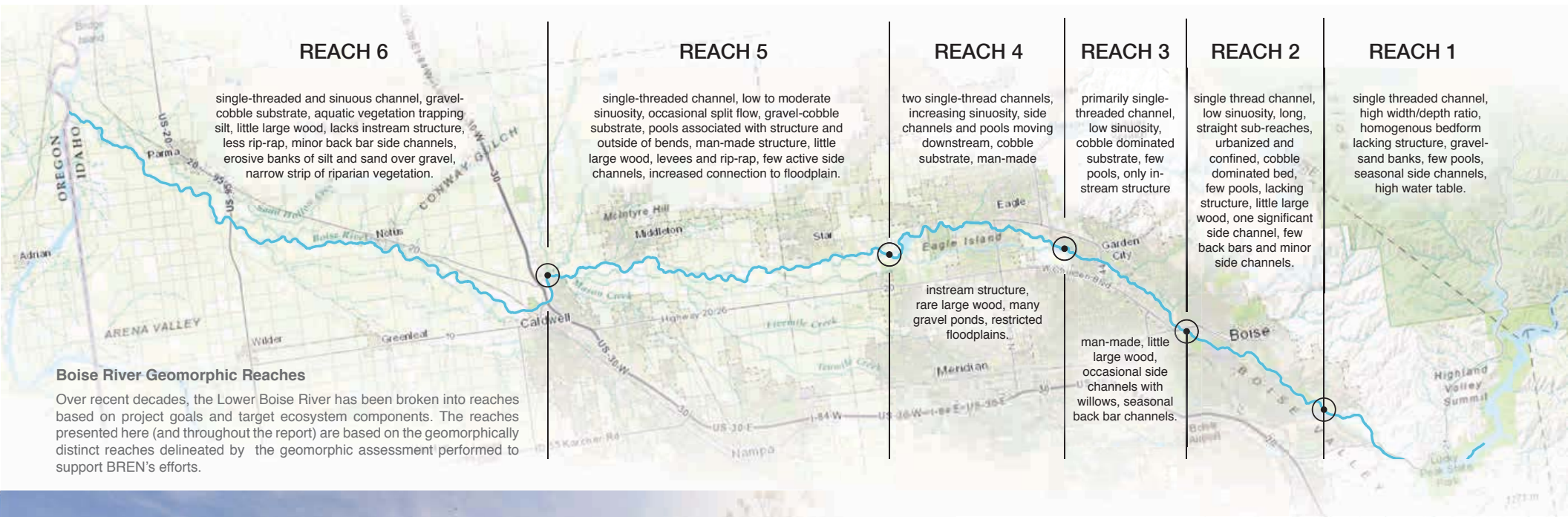
Geomorphology is the study of how the earth's surfaces change over time. In the case of the Boise River, geomorphology includes changes to the river's shape (form) as well as erosion, deposition and riparian function (processes) that drive those changes over time.



Geomorphic Character of River Reaches

Target conditions considered existing hydrology but not necessarily development. Given existing hydrology and other existing geomorphic conditions, targets were identified representing what could reasonably be expected to occur over the long-term given a best-case scenario. An appropriate goal would be to work toward those targets systematically and opportunistically when and where possible.

The targets should be used to aim projects in the most appropriate direction, but should not be used as objectives. The expectation should be to move closer toward targets not necessarily to meet targets across the board (which may never be 100% achievable). Where targets are met, diligent protection of these functions is a priority. (Data From Richardson and Gulinger 2015)

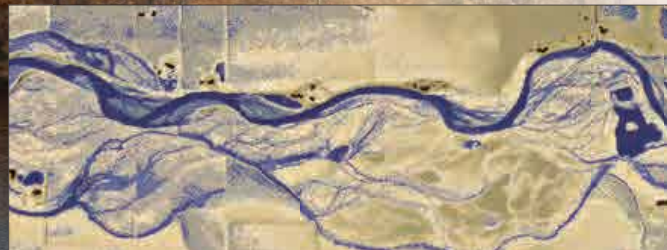


Boise River Geomorphic Reaches

Over recent decades, the Lower Boise River has been broken into reaches based on project goals and target ecosystem components. The reaches presented here (and throughout the report) are based on the geomorphically distinct reaches delineated by the geomorphic assessment performed to support BREN's efforts.



Confined River Channel - the channel in this reach exhibits confinement, poor channel form, lack of complexity and straightening.



Complex River Channel - the channel in this reach exhibits complexity, sinuosity and connected floodplain. Blue areas are low below the water surface in high flow conditions. Brown areas are well above the water surface.

Issues Affecting Geomorphology

The Boise River's geomorphic setting is generally not connected with current hydrology.

- 1 **Channel confinement and simplification**
The floodplain system has been encroached upon by development, agriculture, transportation infrastructure and flood control measures reducing geomorphic function.
- 2 **Altered flow regime**
Regulated flows differ in magnitude, duration and timing from the natural hydrology that formed the river channel and floodplain.
- 3 **Substrate**
Embeddedness and armoring have developed within the system as erosion and bank sediment transport processes are not functioning well.
- 4 **Channel form**
The thalweg (the deepest part of the channel) is poorly defined and there is low instream hydraulic complexity with high width-depth ratio at low flows and high instream velocity at high flows.

GEOMORPHOLOGY ENHANCEMENT OPPORTUNITIES

Enhancement of the river relies heavily on reconnecting the main channel with the floodplain, enlarging the hyporheic zone and improving sediment transport processes. Actions to improve natural river processes and enable the river to restore natural forms on its own will bring the greatest ecosystem benefit. Enhancement of the river must focus on current and possible future conditions and not seek to restore historic conditions.

1 Protect

Protect land, water and instream structure supporting favorable geomorphic conditions.

Protect areas within the active floodplain and/or meander belt width that have not been developed including agricultural land.

Protect existing natural instream structure (e.g. large wood), especially those structures creating hydraulic complexity by forming/maintaining split flows, side channels and large pools.

2 Improve natural river processes

Improve natural river processes enabling the river to restore natural forms on its own.

Allow the river to erode its banks and migrate in strategic locations.

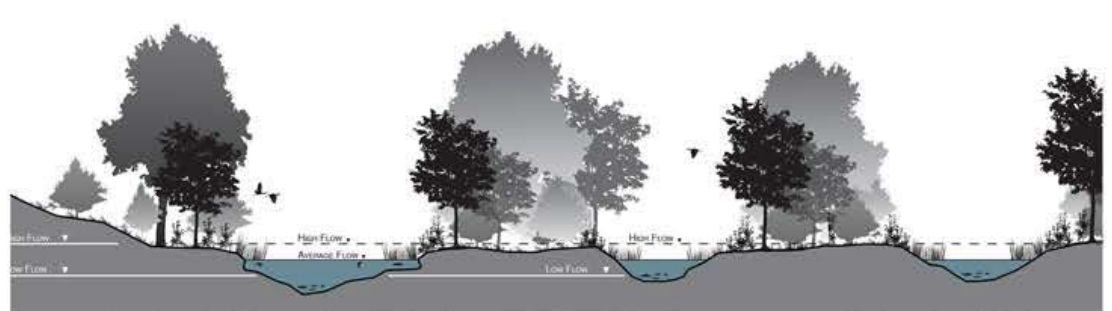
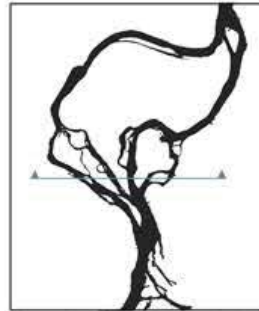
Enhance flows; particularly peak flows that promote channel dynamics and low flows that provide minimal habitat.

Partner with irrigators to improve existing irrigation diversion dams enabling more natural flow and sediment transport.

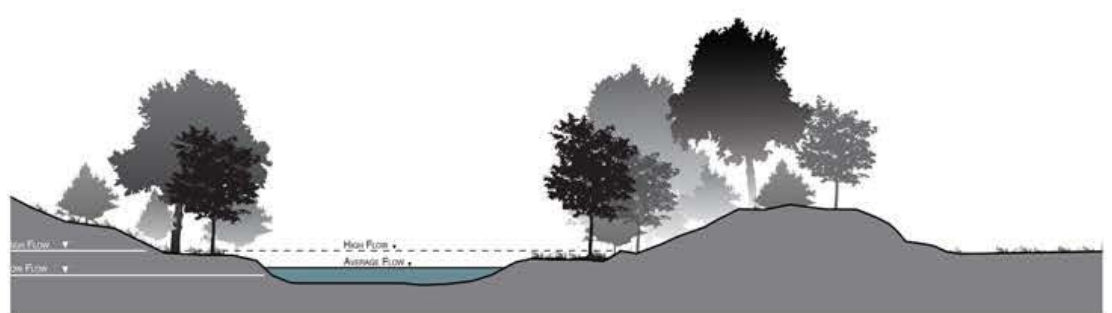
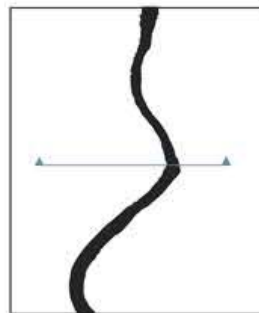
Lower or set-back levees where feasible enabling greater floodplain interaction.

Establish an appropriate meander belt width where feasible.

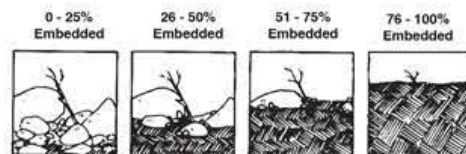
Reduce embeddedness by filtering silt and sand from stormwater by routing stormwater flow through existing or constructed wetlands.



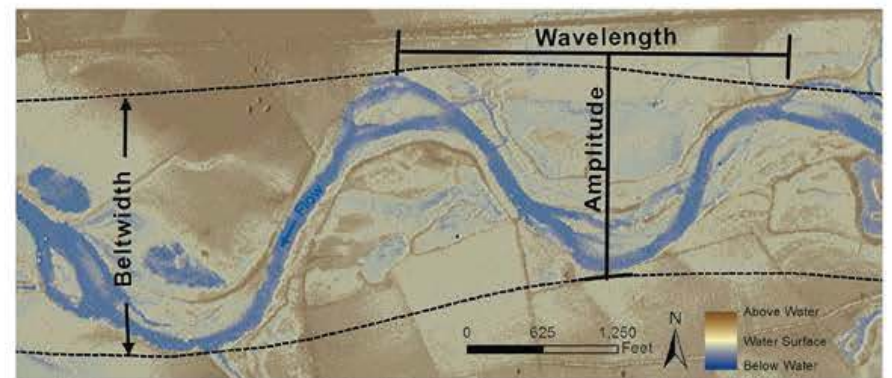
Complex River Channel: A more complex river channel with lower width to depth ratio, a well-defined thalweg, instream structure, side channels and riparian vegetation on the banks represents a target condition. At low flows, cover is provided by instream structure and vegetation; at high flows, the floodplain is accessed.



Confined Channel: Much of the river has a wide, shallow channel with that lacks structure and a thalweg (deepest portion). At low flows, the water's edge is pulled away from the banks and cover for fish and other organisms is diminished. At high flows the river is confined by levees, unable to access the floodplain.



Embeddedness - Refers to the extent to which rocks (gravel, cobble and boulders) and snags are covered or sunken into the silt, sand or mud of the stream bottom. Generally, as rocks become embedded, the surface area available to macroinvertebrates and fish (shelter, spawning, and egg incubation) is decreased.



Establish an appropriate meander belt width where feasible. The meander belt width is a theoretical value based on the maximum amplitude of one meander bend independent of levees or other infrastructure. The amplitude of meander bends typically grows until it reaches a maximum at which time the meander is cut off leaving behind an oxbow channel scar. Establishing an appropriate belt width will allow the river to function more naturally within a specified corridor while allowing a separate area for development and agriculture outside the belt width. (from Richardson and Gullinger 2015)

GEOMORPHOLOGY ENHANCEMENT OPPORTUNITIES



(Photo: Gary O. Grimm/BPCN Network)

Issue: A wide, shallow section of the Boise River. The section lacks a well-defined thalweg, instream structure, diverse bedform, floodplain connection, pools and cover for aquatic life.



(Photo: Rob Richardson)

Solution A: Well engineered logjams and boulders placed in the channel can create split flows. Point bars form behind and back bar side channels around them and are active at a wide range of flows.



(Photo: Rob Richardson)

Solution B: Low-profile barbs can improve channel complexity. The picture above is taken between two low-profile barbs constructed of logs with native bed material backfill. The barbs were designed to overtop at bankfull flow. Note the slow water between the barbs and the well-defined thalweg.



(Photo: Liz Paul)

Issue: Rip Rap is used to reduce erosion and protect land and infrastructure along the Boise River.



(Photo: GeoEngineers)

Solution: Root wads can be an alternative to rip-rap and other bank structures. When coupled with riparian plantings and lowering of floodplain surfaces, the floodplain can be reconnected to the channel and habitat value increased for many species.

3 Force river processes

Force river processes enabling the river to create improved forms.

Where appropriate, build engineered log jams or boulder obstructions at the head of strategic point bars to force a percentage of flow across the back of the bar creating a back-bar side channel that is active across a wide range of flows.

Build engineered log jams to force channel migration into areas of accessible floodplain and away from developments or other vital infrastructure.

Build engineered riffles with V-shaped cross-sections focusing flow into high-velocity chutes scouring pools downstream of the riffle. This type of application can create vertical instream complexity where lateral dynamism (channel migration and bar building) is unrealistic due to constraints or unachievable due to channel confinement.

Reduce overall instream width-to-depth ratio by adding bank structure, creating islands (split flow) and improving riparian conditions. Lower width-to-depth ratios improve thalweg development and improve shade and bank cover.

4 Construct forms that the river can maintain

Excavate side channels. Side channels can simultaneously enhance geomorphic function, improve hydraulic complexity and reduce flood risk.

Place whole trees and pieces of large wood into off-channel features. Large wood in side-channels, sloughs and alcoves promotes scour pool development during high flows, stabilizes banks, and provides shade/cover.

Essential Feature²

Fisheries AND Aquatic Habitat

BOISE RIVER ENHANCEMENT PLAN

Flow regulation from dams and irrigation infrastructure, channelization, floodplain development, introduced species and pollution has changed the fish and aquatic habitat of the River. Restoring native fish populations to historic levels is not a reasonable goal. However, the current fish and aquatic habitat provides important natural, cultural and economic resource values to the region. Improvements made to these resources over the past 25 years demonstrate that meaningful enhancement can be achieved; however, significant stressors remain within the system providing enhancement opportunities.

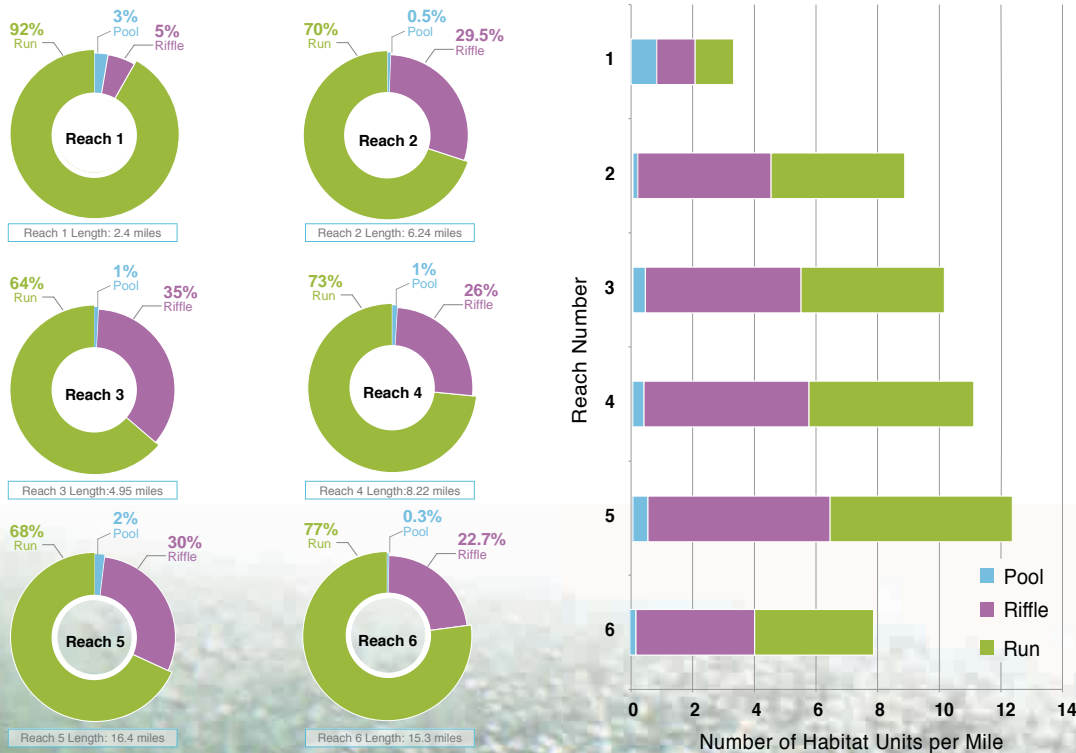
Twenty-two species of fish have been identified in the River. The upper 30 miles, from approximately Lucky Peak to Star, supports a cold-water fish community with higher biotic integrity than from Star to the confluence with the Snake, which supports cool and warm-water fish communities. The cold-water game fishery is composed of wild and hatchery rainbow trout, exotic brown trout and mountain

whitefish. Salmonid populations have increased dramatically since 1994. These increases can be attributed in part to higher and more consistent winter flows and improved water quality. The cool-warm water fishery is less well-understood. Introduced smallmouth bass, channel catfish and largemouth bass have established within the lower reaches or seasonally migrate upstream from the Snake River.

Decreased spring peak flows and increased summer flows, similar to many western river systems managed for flood control and irrigation water delivery, have reduced salmonid habitat. The reduction in spring peak flows results in decreased river bed mobilization, which leads to high embeddedness (when cobbles and other stream bed substrates are covered or closely packed by fine sediments). Elevated summer discharge coupled with channel confinement, lack of instream cover, roughness elements and complexity have led to stream velocities and habitat conditions that are not optimal for trout during much of the irrigation season (May – October). Decreased flows outside of the irrigation season (November – April) dewater near shore habitat leading to a loss of cover and habitat complexity for juvenile and adult fish, thus lowering fish survival. Riparian and wetland habitat along the River's banks and side channels are in need of enhancement. The location and quality of salmonid spawning habitat is unknown and requires investigation. Instream structure and cover is lacking and enhancement of these elements will benefit fisheries. Full-channel-spanning instream structures can inhibit or block upstream fish movement, as well as downstream sediment movement, but can create fish habitat. Fish can be entrained in the many diversions along the River, though the degree and location of entrainment is poorly understood. Poor water quality in lower sections of the River, including elevated temperatures, phosphorus and suspended sediment levels, impair the fish and other aquatic life. Land use, particularly urban development of the floodplain, poses a significant threat to the long-term health of the system.

Instream Habitat

The Boise River is approximately ¾ run habitat, ¼ riffle habitat and only a few pools (+/- 1%) during the irrigation season. Diversity of habitat (as measured by the number of habitat units per mile) varies along the river. Habitat measurements presented below were made along the thalweg (deepest part of the channel) in June and August 2013 by IDEQ.



Riffle-Run-Pool definitions

Riffle—shallow water with a turbulent water surface. The turbulence is caused by completely or partially submerged obstructions, often on the stream bottom.

Run—uniform, non-turbulent flow. Runs are deeper than riffles with a faster current velocity than pools.

Pool—reduced water velocity, water deeper than the surrounding areas, and the bottom is often concave in shape forming a depression in the profile of the stream's thalweg that would retain water if there were no flow in the channel.

Definitions adapted from: DEQ (Idaho Department of Environmental Quality). 2013. Beneficial Use Reconnaissance Program Field Manual for Streams. Boise, ID: DEQ.

Issues Affecting Fisheries and Aquatic Habitat

Although the aquatic habitat of the River has improved over the past 30 years, many stressors remain that reduce habitat quality.

- Channel confinement and simplification**

The River lacks instream cover (especially outside the irrigation season), habitat complexity, a well-defined thalweg (deepest part of the channel) and appropriate amounts of low-velocity resting areas preferred by many fish species, especially trout.

Riparian vegetation along stream banks needs enhancement and is displaced from the wetted area outside the irrigation season.

Urban and rural development continues to reduce the function and value of aquatic habitats by modifying the floodplain.
- Water quality**

Elevated temperature and sediment load decrease fish habitat quality.
- Infrastructure**

Instream structures can block fish passage and canals can entrain fish.
- Altered flow regime**

Altered flows influence sediment transport processes and habitat quality.
- Substrate**

Normal sediment recruitment is reduced due to upstream capture by dams. Bed mobility is reduced by embeddedness and armoring. In the lower reaches, abundant fine sediment inputs negatively impact fish habitat.

FISHERIES AND AQUATIC HABITAT ENHANCEMENT OPPORTUNITIES

Many opportunities to enhance habitat for fish and other aquatic organisms have been identified. Low winter flows are likely limiting the fishery and increased winter discharges would therefore benefit the resource; the extent of such benefits requires study. Protection of existing riparian and wetland habitat associated with the River is a priority, while enhancement of existing habitats, especially those that increase habitat complexity, would bring additional benefits.

There are several specific enhancement opportunities that could improve aquatic habitat. Reconnecting side channels may improve spawning and rearing habitat, though there are concerns about water quality impacts and the effectiveness of these projects. Leaving large wood in the river, placing boulders, and construction of artificial habitat elements would increase habitat complexity and cover for fish and other aquatic organisms; however these actions come with public safety concerns. Recruitment and development of cottonwood and willow riparian forest could be increased through creating appropriate surfaces or restoring river access to appropriate surfaces. Water quality could be improved through cooperative efforts that include the irrigation community, municipal, state and federal governments. Reconnecting and re-establishing the floodplain through setting levees back, excavation, conservation easements and municipal zoning would bring widespread benefits. Increasing the number of long-term monitoring stations and the data collected, the frequency of monitoring and involving the community in the process, including a centralized database the public can access, would increase support and awareness. These enhancement opportunities require collaboration and cooperation to achieve their goals.



Complex channel, roughness elements, cover:

The main channel currently lacks roughness elements (rock, large wood, etc.) that provide habitat diversity, cover and velocity breaks for salmonids. This can create high velocities with little cover for salmonids during the irrigation season. Snorkeling surveys in the 1980's observed rainbow trout predominantly utilized habitat near the banks and near large wood, while brown trout were almost exclusively found near large wood or rocks— highlighting the need for instream habitat elements.

These roughness elements also provide habitat for other aquatic organisms, including salmonid food sources. Outside the irrigation season, the water's edge is pulled away from riparian vegetation and cover, leading to increased fish mortality. A more complex channel will improve these conditions, as well as bring water quality, geomorphic and riparian benefits.



(Photo: Liz Paul / BREW)



(Photo: Trout Unlimited, Golden, CO)

Walling Creek (above left) flows just north of Marianne Williams Park. The City of Boise re-engineered the creek to reconnect it to the River instead of allowing it to flow into the Penitentiary Canal, as it had in the past. Reconnecting side channels and creating off-channel habitat are enhancement options that address the loss of channel complexity over the last 100 years. Where leaving large wood in the river is not practical, placing boulders in the river can create roughness and increase complexity of the stream channel. The boulders can narrow and deepen the channel and increase scour and deposition areas. Areas of turbulence and pools created by boulders can provide habitat and cover for fish year-round. On Clear Creek (above right) outside of Golden, CO, the local Trout Unlimited chapter placed boulders in the stream as part of a restoration project in 2009. The project has been met with widespread praise and has led to further projects in other reaches.

FISHERIES AND AQUATIC HABITAT ENHANCEMENT OPPORTUNITIES

Fish Passage and Entrainment

Instream structures can inhibit or block fish passage and canals can entrain (i.e. when fish enter canals or other areas that are unnatural or harmful) fish. Once key fish passage barriers and entrainment locations are identified, several enhancement options exist. Fish ladders have traditionally been used to provide fish passage (see Rock Creek example), but other options exist including engineered riffles (see Wychus Creek example), etc. Several types of fish screens are utilized to prevent fish but not water from entering canals (see Morrell Creek examples). Each site has its own suite of conditions that determine the most appropriate design.



Rock Creek, OR. A fish ladder was constructed to provide fish passage around an irrigation structure.



Morell Creek, OR. Both rotary drum (left) and flat panel screens were used on different diversions to prevent fish entrainment.



Wychus Creek, OR. A diversion structure that was a fish passage barrier (upper photo) was upgraded to provide fish passage by creating a "rock ramp" or engineered riffle (lower photo).

Boise Whitewater Park: an example of instream structure, fish passage and upgraded diversion for canal water conveyance

Simplified diagram of lay-flat stanchion dam (wicket dam, images to the left). When in use each stanchion is raised to impound water and sediment (top). When not in use, each stanchion is lowered reestablishing "normal" flow and sediment transport (bottom).

Boise River Whitewater Park wave (image on right). Sections of the dam

can be raised or lowered incrementally to shape waves, impound water for irrigation purposes, or increase flow and sediment passage. This type of diversion upgrade provides for recreational improvement, improved fish habitat and passage, improved geomorphic function and a more reliable and safe irrigation structure. The project also involved utilizing a former gravel pit for flood conveyance. This project by the City of Boise is an example of how ecological enhancement of the River can be achieved without sacrificing recreation, irrigation, or flood risk considerations.

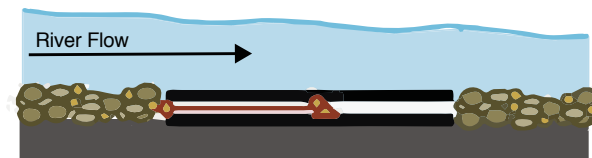
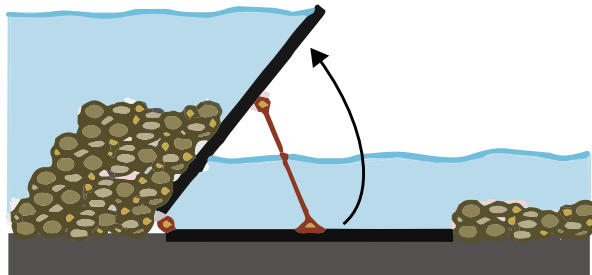


Photo: Cody Harrigan

- 1 **Protect**
Protect existing functional, unconfined areas where the floodplain is connected to the stream channel. Identify remaining segments of less confined channel and floodplain; act to maintain these areas through purchase or easement.
- 2 **Increase channel complexity**
Increase channel complexity through active interventions. Increase complexity and cover where possible with instream habitat enhancements and removing or setting back confining elements (e.g. levees). Re-establish and create side channel habitat and daylight (bring into an above-ground channel) tributaries to create confluence areas. Deeper, narrower channels will help with water quality (e.g. temperature).
- 3 **Modify elements of the flow regime**
Work with water managers to identify opportunities to modify the flow regime to benefit fish.
- 4 **Evaluate and upgrade irrigation infrastructure**
Determine which structures are the largest barriers to fish passage and which canals entrain the most fish. Upgrade these structures to increase fish passage and reduce entrainment.
- 5 **Intercept stormwater and irrigation returns**
Intercept stormwater and irrigation return water before it reaches the River. Increase water quality by removing fine sediments and other pollutants before they reach the River.



Essential Feature³ Wetlands AND Riparian Habitat

BOISE RIVER ENHANCEMENT PLAN

Due to a long history of land alteration, wetland and riparian areas along the Boise River and the region have been reduced in extent and function. The River channel has been confined and historic wetland and riparian floodplain areas have been filled or separated from the channel by levees and rip-rap, especially in the urban upper reaches. In the downstream areas, many historic sloughs have been converted for agricultural use or drained completely, although some agricultural drains have created wetlands. Today, numerous old gravel pits and ornamental ponds have created a large amount of open water habitat in off-channel locations along the River, but few have vegetated wetlands associated with them. Road construction, urbanization, floodplain development and flood control are currently larger threats to wetlands than historic factors. Grazing, recreation, dam operation

and flood control all impact the function of existing wetland and riparian habitats. The historic floodplain forests were a mix of cottonwood (*Populus balsamifera ssp. trichocarpa*), willow (*Salix spp.*), alder (*Alnus incana*), water birch (*Betula occidentalis*), Wood's rose (*Rosa woodsii*) and other riparian shrubs that extended far beyond the current width. Regeneration of black cottonwood (and to a lesser degree willow) has been negatively impacted by flow alteration, the lack of appropriate parafluvial surfaces (those formed by the river within the channel and scoured by flow events) and land development on the floodplain. More expansive and functional riparian floodplain forests will enhance the ecologic integrity of the river ecosystem.

Several other issues affect the function of existing wetlands and riparian areas. Flood risk reduction is a large issue due to development within the floodplain. Trees on the stream bank and large wood in the River continue to be removed for flood risk and recreational safety reasons. Invasive, non-native species, including false indigo (*Amorpha fruticosa*), several grasses, (e.g. reed canarygrass [*Phalaris arundinacea*], purple loosestrife (*Lythrum salicaria*), and various deciduous trees have colonized the riverbanks and decreased the function and value of these critical habitats. Despite the large amount of information that does exist, a comprehensive survey of the wetlands and riparian areas of the Boise River has never been performed, and is needed. Among many experts, conservation and protection of existing functional and high quality wetland and riparian areas is the highest priority action. IDFG and other professionals have identified high priority sites for conservation and protection including Fort Boise, Barber Pool Conservation Area, Eagle Island, the reach between Barber Pool and Warm Springs



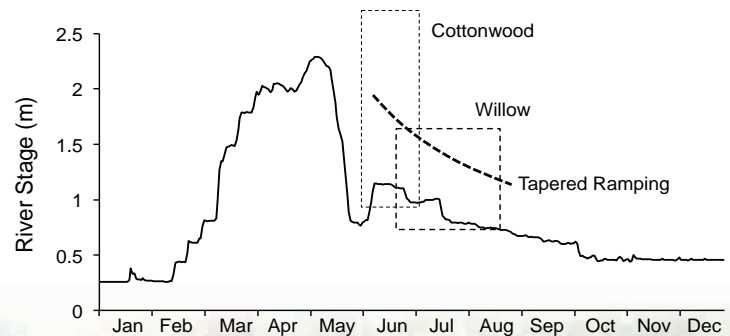
Development and Landuse Change: Road construction, urbanization and floodplain development are the largest threats to riparian and wetland areas along the river. Spring Meadows Riverfront Park (now Bethine Church River Trail) was designed to create a place for people to enjoy, while improving flood conveyance and increasing habitat diversity within the setback zone. While development reduced the riparian area, floodplain surfaces were lowered to increase floodplain connection in the area that remained. (Design and Images by Resource Systems Inc.)

Cottonwood: The black cottonwood (*Populus balsamifera* ssp. *trichocarpa*) riparian forest provides important habitat along the River. The cottonwood forest was historically vast and had an understory comprised of willow, alder, birch and rose; this has been replaced by a mix of native, non-native and invasive species. Black cottonwoods are viewed as a keystone species in the system, as many wildlife species, especially wintering and nesting bald eagles, rely on cottonwoods for critical habitat. Great blue herons build their rookeries in cottonwood galleries. These large trees shade the river and provide cover for numerous species. Flow regulation (especially the absence of large flow events), a lack of appropriate surfaces within the floodplain and floodplain loss have led to a severe reduction in cottonwood recruitment along the River.

Issues Affecting Wetland and Riparian Habitat

Wetland and riparian areas adjacent to the Boise River have been highly reduced in quality and quantity from historic levels.

- 1 **Wetland and riparian areas reduced and lost**
Historic dam construction, flow modifications, water diversion, channel confinement, draining and filling of wet areas, urbaization and conversion to agriculture led to a loss of wetland and riparian areas. Road construction, urbanization and floodplain development continue to decrease the wetland and riparian areas adjacent to the river.
- 2 **Existing wetland/riparian condition is being impaired**
Grazing, recreation, dam operations, and flood risk management actions impact the function of existing wetland and riparian areas.
- 3 **Riparian forest species are not reproducing by seed**
Regulated flows, channel confinement, and lack of appropriate surfaces have severely reduced the ability of native riparian species seed to germinate and establish.
- 4 **Invasive, non-native plant species are abundant**
Invasive, non-native weed species, false indigo, several grasses, and purple loosestrife (Idaho noxious weed) have colonized the riverbanks and decreased the function and value of these critical habitats.



Riparian Tree Recruitment and River Flows: Cottonwoods and willows require high flows that inundate bare surfaces at the correct elevation above the river for their seeds to establish. The boxes above represent the elevations and flows required to meet criteria. Additionally, the dashed line represents the falling limb, or ramping pattern, required for successful establishment. River flows in 2012 on the Boise created an event where these conditions were approached. (from Tiedemann and Rood 2015 in press)

WETLAND AND RIPARIAN HABITAT ENHANCEMENT OPPORTUNITIES

Golf Course, the reach below Garden City, and along the Boise River from Caldwell to Notus. Other enhancement tools include flood easements, re-contouring of the floodplain (including engineering floodplains to promote cottonwood recruitment), planting native species and clearing of non-native and invasive species.



(Photo: Gary Grimm)

Perkins Nature Area: An example of protection and enhancement. Duane Perkins and his wife Anna owned property on Eagle Island since the 1960's. At over 90 years old, Mr. Perkins decided to protect his land forever as a nature area. The Land Trust of the Treasure Valley, the trustee of this parcel, has pledged to uphold his desire for a nature area. A management plan is in place, including invasive plant removal and opportunities for enhancement. The prospect of utilizing the property as an outdoor lab for students is being explored.



(Photo: Gary Grimm/BREN Network)

Heron Rookery: The black cottonwood riparian forest provides important habitat. Black cottonwood trees in particular are directly related to the existence of heron rookeries. In addition to Great Blue Herons, double-crested cormorants also nest within the rookery. Rookeries are an important indicator of ecosystem health.



Head of Eagle Island / River Channel 1951: Aerial Image of the Boise River near the head of Eagle Island in 1951 before the completion of Lucky Peak Dam. The area had a complex floodplain scoured by high flows surrounded by an agricultural landscape.



Head of Eagle Island / River Channel 2011: Aerial Image of the Boise River near the head of Eagle Island in 2011, more than 50 years after the completion of Lucky Peak Dam. The river channel is simplified and the floodplain disconnected and confined by urban development and flood control.

WETLAND AND RIPARIAN HABITAT ENHANCEMENT OPPORTUNITIES

Hyatt Hidden Lakes Reserve

The Hyatt Hidden Lakes Reserve contains 28 acres of wetland habitat, 6 of which have qualified for wetland banking credits by The Wetlands Group, LLC. The Reserve is also the site of a pilot project implemented by the City of Boise and the Ada County Highway District to demonstrate appropriate methods for decentralized stormwater treatment using amended soils, sand filtration and wetland treatment. The Hyatt Hidden Lakes Reserve provides diverse habitat and refuge for birds and animals within its urban setting.



(Photo: Gary O. Gramm)

Marianne Williams Park

Marianne Williams Park is an example of a project that incorporates re-connecting the floodplain to river, off-channel wetland and riparian habitat creation and recreation enhancement. In 2012, the City of Boise (with help from The Land Group and The Wetlands Group) removed levees and designed floodplain surfaces to be inundated under the current hydrologic regime. Since construction, the River has flooded the park, reducing flow velocities, providing flood conveyance and recharging groundwater. Riparian and wetland vegetation has established and continues to develop within these areas to the benefit of fish, wildlife and recreation.



(Photo: Liz Paul / BREW)

Invasive Species

False Indigo (*Amorpha fruticosa* L.) is one of several invasive plant species that grows along the Boise River, easily outcompeting most native woody shrub species. In 2013, the Land Trust of the Treasure Valley partnered with Wells Fargo to remove substantial amount of false indigo from their property on Eagle Island. Other non-native/invasive plants of concern in the riparian corridor include purple loosestrife (*Lythrum salicaria*) and poison hemlock (*Conium maculatum*); management of these species is a priority.



(Photo: Mike McConnell)

Purple Loosestrife



(Photo: Washington State University)

False Indigo

Protection of existing functional areas from development and reconnection of the floodplain with the river channel are the essential strategies to enhance wetland and riparian habitat.

1 Protect

Protection of existing functional floodplains, wetlands and riparian habitat areas.

High quality wetland and riparian sites on public land could be protected by special status designations combined with long term enhancement and stewardship plans.

High quality wetland and riparian sites on private land could be purchased or easements acquired by land trusts or other public or private institutions and long-term enhancement and stewardship plans put in place.

Municipalities could create ordinances that protect floodplain areas from further development.

2 Remove levees and re-contour the floodplain

Removing or setting back levees that disconnect the floodplain from the river and lowering floodplain elevations allows wetland and riparian areas to re-establish. Well-designed floodplain and stream bank surfaces can promote natural regeneration of riparian forests.

3 Flood easements

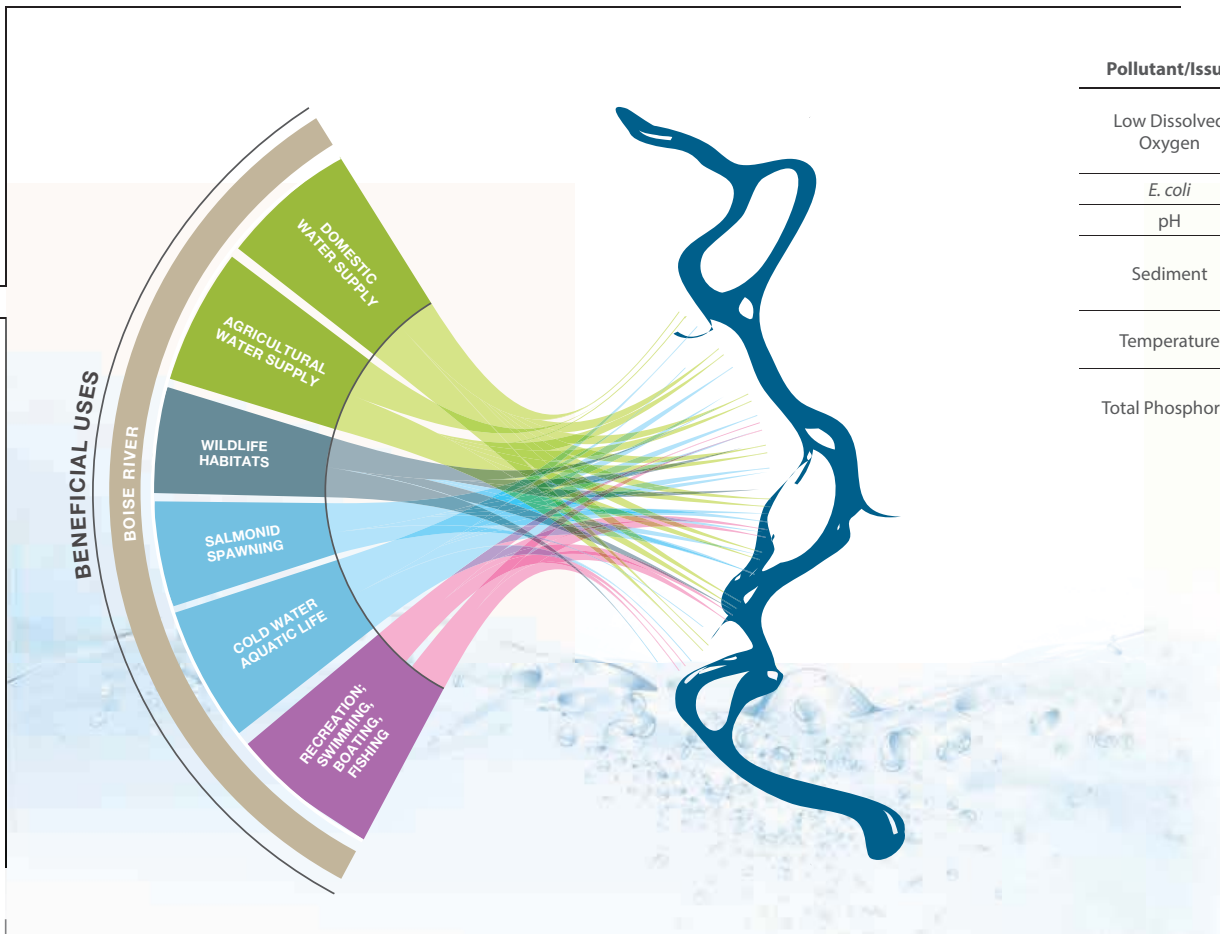
Areas having high flood risk could be purchased and vulnerable development cleared from the area. This could reduce flood risk and increase the area available to establish wetland and riparian habitat.

4 Invasive and non-native weed control

Non-native species have spread throughout the River and detract from wetland and riparian function and value. Implement a comprehensive invasive and non-native weed control program.

Essential Feature⁴ Water Quality

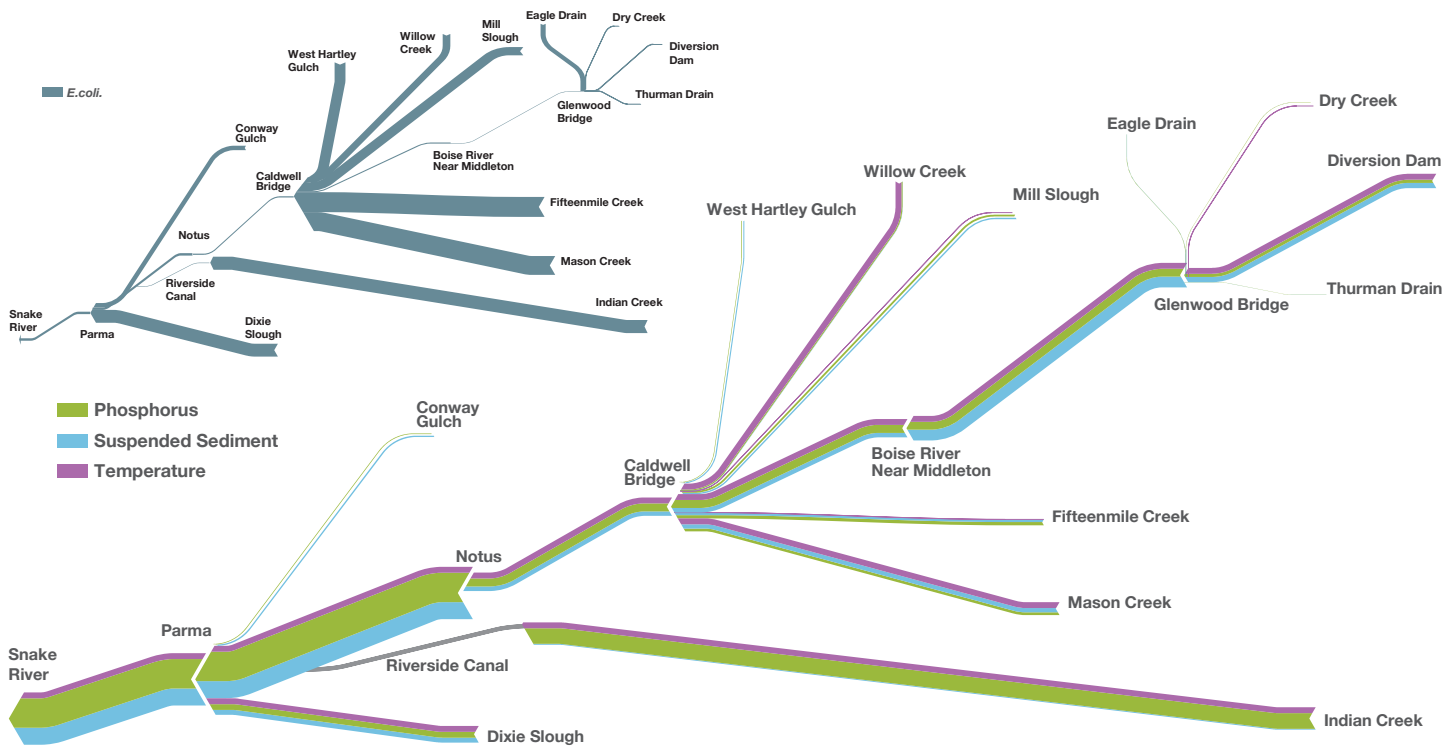
BOISE RIVER ENHANCEMENT PLAN



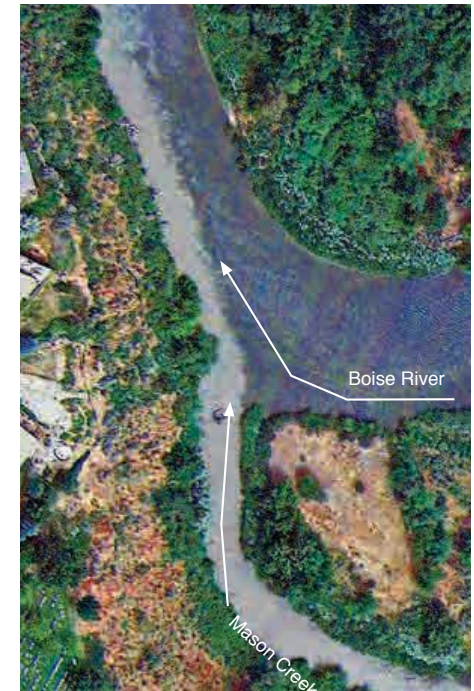
Clean water is essential for human consumptive use, swimming, boating, aesthetics and to support healthy fisheries, wildlife habitats and ecosystem function. Water quality is affected by discharge and runoff from cities, industry, agricultural lands, feed lots, and other land uses as well as channelization and flow alteration to accommodate development and water supply. The time of year, source of pollutants and flow volume can influence the concentration and loads of pollutants within the Boise River; this is further complicated by the complex interconnected system of tributaries, canals, laterals and drains.

Pollutant/Issue	Water Quality Criteria
Low Dissolved Oxygen	Cold Water Aquatic Life > 6 mg/L; Modified Aquatic Life > 4 mg/L Salmonid Spawning > 6 mg/L or 90% saturation 1 day minimum Intergravel > 5 mg/L for 1-day minimum or over 6 mg/L for 7-day average
<i>E. coli</i>	Geometric mean concentrations <126 colony forming units/100 mL
pH	between 6.5 and 9.5
Sediment	Total suspended sediment TMDL targets for select reaches of the Boise River are 50 mg/L for < 60 days and 80 mg/L for < 14 days. Proposed tributary targets are 20 mg/L for < 120 days.
Temperature	Cold Water Aquatic Life <22°C daily max and <19°C daily mean Salmonid Spawning <13°C daily max and <9°C daily mean
Total Phosphorus	As a tributary to the Snake, the Boise River must reach target concentrations of 0.07 mg/L May-September at its confluence as set by the Snake River-Hells Canyon TMDL. A TMDL for the Boise River is forthcoming.

The primary pollutants/issues of interest for the Lower Boise River are bacteria (*E. coli*), low dissolved oxygen, phosphorus, temperature and sediment. Water quality standards are set by the Idaho Department of Environmental Quality and established under Idaho Code IDAPA §58.01.02. The Clean Water Act requires the state to develop a pollutant management plan, called a Total Maximum Daily Load (TMDL), for waters that do not meet standards. TMDLs have been adopted for the mainstem Boise River and are proposed for a number of tributaries. In general, water quality conditions in the Boise River diminish in a downstream direction, with standards being exceeded most frequently between Middleton and Parma during the irrigation season.



Pollutant Load Contribution Diagrams: Scaled pollutant load contributions (a factor of flow and concentration) in the Boise River and tributaries as a percent of loads at Parma during the irrigation season. Temperature loads have not been established; therefore the line indicates listing only. The *E. coli* diagram (upper left) represents concentrations only. (Data from IDEQ and USGS)



Return flow to the Boise River at the Mason Creek confluence: Several tributaries and drains return irrigation water to the Boise River.

Primary Water Quality Issues in the Boise River

LOW DISSOLVED OXYGEN



Importance: Adequate levels of dissolved oxygen (DO) are vital to fish and other aquatic life. Recent monitoring shows DO levels fell below criteria in the Boise River near Parma for short periods in June, July and August 2014.

Sources: Low dissolved oxygen levels can be a result of elevated temperatures and/or excessive algae growth caused by phosphorus.

BACTERIA (*E. coli*)



Importance: The presence of *Escherichia coli* (*E. coli*) bacteria in water can indicate the presence of pathogenic microorganisms that can be harmful to human health.

Sources: Potential sources of *E. coli* include leaky sewage lines and septic systems; runoff from manure application to croplands; livestock grazing of riparian pastures; and stormwater runoff.

PHOSPHORUS



Importance: Increased phosphorus levels can result in elevated algae growth that negatively impacts DO levels, pH, macroinvertebrate and fish abundances and community composition, and recreational conditions.

Sources: Discharge from municipal and private wastewater treatment facilities; over application of fertilizer and agricultural runoff; animal manure; and natural decay of vegetation.

SEDIMENT



Importance: Excess sediment erodes gills and impairs fish feeding; reduces light penetration and plant growth; binds with other pollutants and affects temperatures; and covers spawning areas.

Sources: Excess erosion from land disturbing activities, such as agriculture and development; flood irrigation practices; urban stormwater runoff; removal of streamside vegetation; and runoff after wildfires.

TEMPERATURE



Importance: Cold water fish and aquatic organisms are adapted to specific temperature ranges; exceedances can lead to stress, decreased spawning success and even mortality. Cold water holds more DO and slows the growth of bacteria/algae.

Sources: Removal of trees and vegetation that provide shade; stormwater runoff from warm surfaces; water retention and distribution; channelization and flow alteration; and excess sediment.

WATER QUALITY ENHANCEMENT OPPORTUNITIES

Enhancement solutions aim to prevent pollution on-site as well as intercept pollution before it enters the River.

- 1 On-site Stormwater Management Practices**

Manage stormwater on-site through natural landscape features and green stormwater infrastructure such as permeable pavers, tree trenches and silva cells, bio-swales and bio-retention areas. These actions reduce runoff and eliminate standing water.
- 2 Agricultural Best Management Practices**

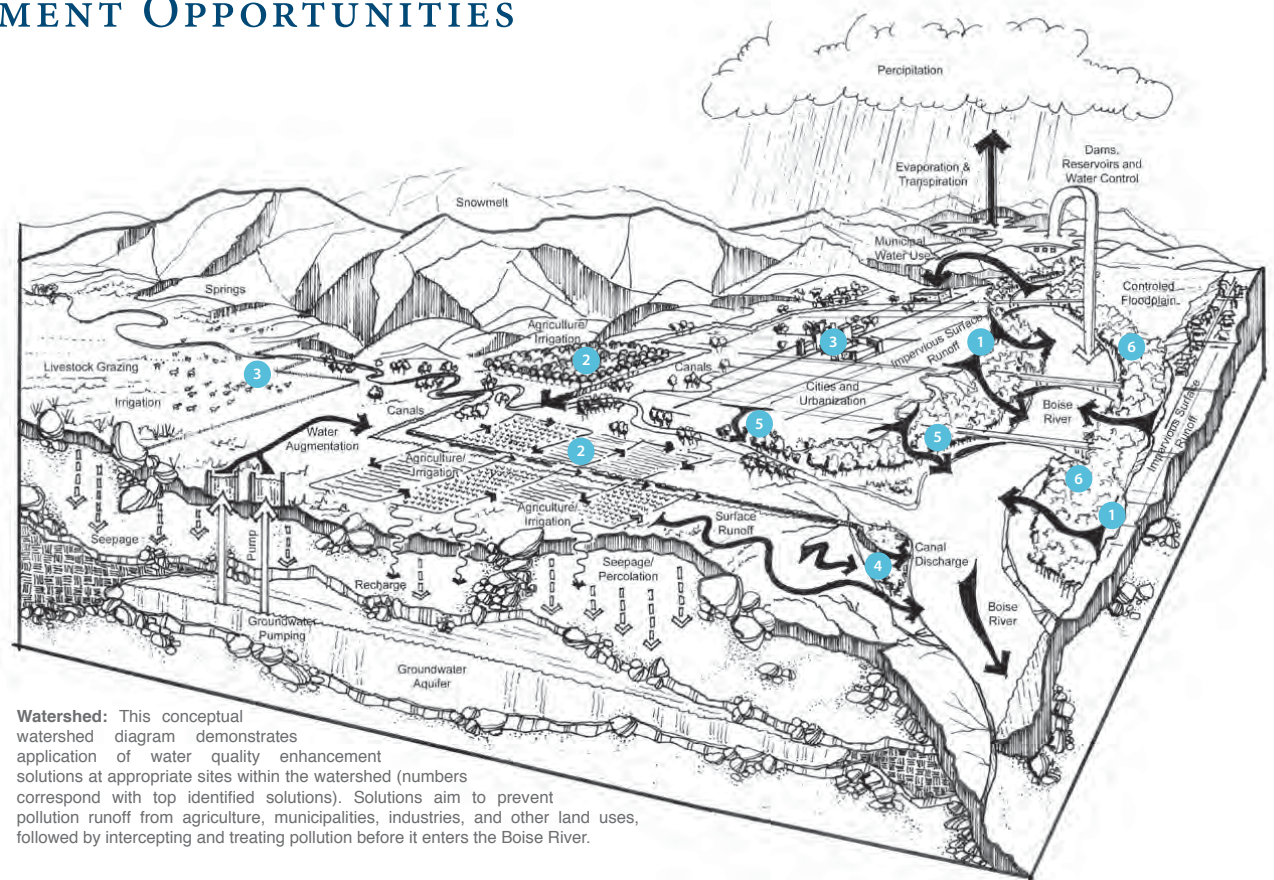
Irrigation systems for some crops can be converted to sprinklers or drip, reducing runoff and conserving topsoil. Conservation tillage, cover crops and proper pesticide application also reduce pollution.
- 3 Improved Waste Management**

Actions to reduce nutrients and bacteria from urban sources include upgrading sewage lines/septic systems and reducing stormwater runoff. For agricultural sources, actions include prescribed grazing, waste containment systems and precise application of manure on croplands.
- 4 Re-use of Irrigation Drain Water**

Capture and reuse of irrigation water can reduce pollutants such as sediment, phosphorus and pesticides from entering tributaries and the River.
- 5 Sediment Basins and Constructed Wetlands**

Sediment basins and wetlands are effective at removing nutrients, sediment and other pollutants from both agricultural and urban runoff via naturally occurring biological, chemical and physical processes.
- 6 Riparian Buffer Enhancement**

Enhancement or planting of streamside vegetation, where applicable, will help buffer water from sediment and nutrient runoff and provide shading, which reduces thermal loading.



Watershed: This conceptual watershed diagram demonstrates application of water quality enhancement solutions at appropriate sites within the watershed (numbers correspond with top identified solutions). Solutions aim to prevent pollution runoff from agriculture, municipalities, industries, and other land uses, followed by intercepting and treating pollution before it enters the Boise River.

Recent Enhancement Examples



(Photo: ACHD)

Green Stormwater Infrastructure, permeable pavers, Boise. Installed in 2015 by the Ada County Highway District (ACHD), the pavers help eliminate standing water through infiltration and clean rain and snow melt; they are both cost-effective and aesthetically pleasing.



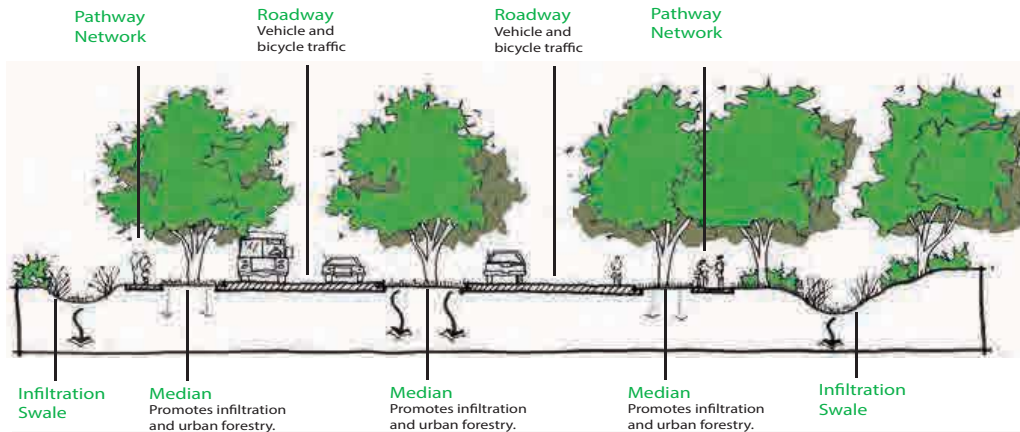
(Photo: Tamsen Briggall/GREN)

No-till farming, Somerville Farm, Canyon County. The Canyon Soil Conservation District supports numerous water quality projects through financial and technical support and by providing rental equipment for strip-till and no-till farming. This method of farming helps conserve soil leading to less runoff, fertilizer use and pesticide use.



(Photo: Rob Teedemann)

North Alkali Drain Water Quality Improvement Pilot Project, Parma. Implemented in 2014 by Integrated Watershed Solutions, this project tests whether a sedimentation basin in combination with constructed wetlands can remove significant quantities of sediment and phosphorus from irrigation return waters. Initial results show effective removal of both pollutants.



Green boulevards to manage stormwater. Green boulevards contain trenches and swales that promote infiltration of most urban runoff and moderate storm events. Larger storm events are moved along the swale to areas of wetlands and ponds for treatment.

“On-Site” Enhancement Solutions. Managing pollution on-site is the best way to improve water quality and many on-site techniques have been utilized for decades. The goal is to reduce or eliminate polluted runoff. This can be accomplished through the use of the natural landscape and/or infrastructure that infiltrates and treats polluted water, or through practices that reduce pollution sources, such as conversion to sprinkler or drip irrigation (less water = less runoff); precise application of manure, fertilizer and pesticides; and upgrading leaky sewage lines and septic systems. On-site enhancement requires support from local landowners and not all techniques are appropriate for all areas. For example, sprinkler or drip irrigation is not appropriate for some crops and it can have a localized impact on groundwater.

“End-of-Pipe” Enhancement Solutions. While these techniques can be implemented on-site to prevent pollution, they can also be utilized further downstream to intercept pollution before it enters a water body. Sediment basins and constructed wetlands, such as the North Alkali Drain Project and the CB River Spring Ranch wetland, can remove large amounts of sediments and nutrients from polluted water. However, they require ongoing maintenance, such as dredging and harvesting of wetland plants to continue to remove pollutants. Re-use of irrigation return water is another way to intercept pollution and is already occurring to a limited extent in the watershed; irrigation districts have the right to reclaim water generated by their systems and some water rights are established off of drains. Irrigation water re-use combined with sediment basins and constructed wetlands could address water quality concerns for downstream users. Effects on water rights and groundwater interaction must be considered when implementing these techniques.



(Photo: Liz Paul/BREN Network)

Outfall from CB River Spring Ranch wetland complex near Parma. Wetland systems can be used to clean water. The wetland complex at CB Spring Ranch receives irrigation drain water from over 1,200 acres of upstream farmland.



Riparian Buffers that are broad and diverse provide maximum benefits compared to narrow buffers.



Riparian Buffer concept for Indian Creek.

Riparian Buffers intercept surface run-off and are effective at removing nutrients and sediment. The width, height and species composition all influence the functionality and value of riparian buffers. Riparian buffers also provide bank stabilization, benefit channel morphology, enhance food webs and provide critical wildlife habitat.



(Photo: Liz Paul/BREN Network)

Agricultural field using flood irrigation, Ada County. Conversion to sprinkler irrigation can reduce runoff and erosion. This type of project could be used as part of a water quality trading program.

Water Quality Trading has emerged as an innovative approach to achieve water quality goals. Cities and industries are regulated under the Clean Water Act as “point-source” dischargers and their facilities face increasingly stringent pollutant limits. Trading allows facilities to purchase environmentally equivalent (or superior) pollution reductions generated by “non-point sources” through watershed enhancement, such as streambank revegetation, agricultural best management practices, sediment basins or constructed wetlands. Trading requires long-term maintenance and monitoring to ensure compliance and these techniques often result in the same water quality improvement and provide watershed-wide benefits at a lower cost than traditional engineered solutions. New TMDLs for temperature and phosphorus are being developed for the River; water quality trading may be a tool to meet current and future limits driven by these TMDLs.



PART 3

REALIZING THE VISION

BOISE RIVER

Meaningful Enhancement Through Collaborative Efforts

The Boise River conservation community has the capacity and expertise to substantially improve the River ecosystem. However, in the absence of a collaborative approach and a coordinated plan, enhancement projects have often occurred where opportunities or funding is available, rather than in areas of greatest ecologic priority. Further, river enhancement can be complex and, at times, contentious. Collaboration brings people together, builds



(Photo: Trout Unlimited)

The Ted Trueblood Chapter of Trout Unlimited has implemented several projects along the Boise River and its tributaries (including the above photo from Heron Creek) to improve habitat for trout, such as gravel augmentation for spawning, riparian planting, and bank stabilization projects.

good working relationships and allows many groups to work together on high priority projects that one or few entities couldn't undertake on their own.

Many of the enhancement solutions identified in this plan are not easily accomplished. Small projects are worthwhile as they can be achieved in a short time frame, illustrate concepts, involve citizens and agencies in river enhancement, and require less funding. Larger enhancement efforts intended to influence ecosystem processes require significant effort and expense but can have wide and long-lasting benefits. They often require involvement of multiple agencies and stakeholders, extensive political and public outreach, collaboration and compromise between numerous entities, and

a programmatic approach over several years. Because of the level of investment required to achieve large-scale ecosystem enhancement, it's essential to undertake projects that provide multiple benefits. This can be achieved when the focus is on ecosystem process and function.

Part 3 identifies projects that provide multiple benefits and identifies organizations that have completed enhancement projects and where the projects are. Data gaps and important next steps are identified. Case studies from cooperative large-scale enhancement work in other watersheds are presented. Finally, the role the Boise River Enhancement Network will play in fostering enhancement through a collaborative approach is described.

“Collaboration is the key if we are going to meet the many water challenges we face across the West.”

-Commissioner Michael L. Connor, BoR WaterSMART Program



Multiple Benefits

BOISE RIVER ENHANCEMENT PLAN

The literature review, public input and expert review panel identified the key issues and most appropriate and effective enhancement solutions for each essential feature of the river ecosystem. Although each issue and site needs to be carefully analyzed on a case by case basis, including the political, economic and ecologic setting, actions that result in multiple benefits will provide the greatest enhancement of the river ecosystem. The river provides a diverse array of services to many user groups. Focusing on projects with multiple ecosystem benefits while providing for existing and future uses are most likely to be identified as “win-win” and successfully implemented.

Several issues are common across the ecological subject areas: channel modification; confinement and simplification; floodplain development and lack of connection to current hydrology; and poor water quality, among others. Ecosystem components are linked through physical and biological processes. By protecting and enhancing ecosystem function, all of the river components benefit.

The following approaches provide multiple benefits:

1. Protect well-functioning areas and former floodplains that could be reconnected to the river. The literature and experts agree: protection of functional areas is preferable to creation, restoration and enhancement of impaired landscapes. A secondary priority for protection is areas where the floodplain has been disconnected from the river, but reconnection is feasible. Setbacks, conservation easements, land acquisitions, special zoning or protective designations, land owner education and public land management are ways to protect these areas.

2. Improve channel form and complexity with in-channel actions. A complex stream channel with appropriate width-to-depth ratio and a diverse assemblage of habitat elements will benefit geomorphic function, fisheries, aquatic habitat and water quality. Actions include: upgrading instream structures to improve water delivery and reduce maintenance costs while benefiting sediment transport, fish passage (and reducing entrainment), habitat complexity and recreation opportunities; reducing the amount of wood removed from the river; and the placement of boulders, log jams or other instream structure elements.

3. Improve riparian habitat and floodplain function by performing projects on existing floodplains and terraces. Projects on floodplains and terraces can be implemented to reconnect the floodplain to the river’s current hydrology. Flood risk can be reduced and riparian habitat increased in area and function. Excavation of floodplain surfaces, lowering or setting back existing levees and berms, and removing barriers to stranded side channels are effective strategies. Performing riparian and wetland enhancement projects like planting of natives and removal of invasive and non-natives will further enhance riparian habitat.

4. Improve water quality by reducing pollution at the source. Improved water quality benefits fisheries and aquatic life, geomorphic processes, and creates a safer environment for citizens to enjoy the river. On-site actions include proper maintenance and timely retirement of septic systems and sewage lines; the use of green stormwater infrastructure or other stormwater pollution reduction techniques; and agricultural best management practices such as prescribed grazing, irrigation improvement, conservation tillage and precise application of manure, fertilizer and pesticides.

5. Improve water quality by utilizing “end of the pipe” techniques. Re-use of irrigation drain water and construction of settling ponds, wetlands and treatment facilities that intercept, filter and/or treat polluted water will improve water quality in the Boise River. These kinds of projects are attractive for off-site mitigation or pollution credit trading. Enhancement or planting of streamside vegetation, where possible, will also help buffer the river from sediment and nutrient runoff and provide shading.



Photo: The Land Group

Riparian buffer enhancement at Brighton Park Place includes a wide and diverse buffer that extends along both sides of pathway and allows for periodic inundation of water. This is a cooperative project by the City of Boise, The Land Group and The Wetland Group.



Photo: Derek Pissao

Channel confined by levee and rip-rap. Along much of the Boise River the channel is confined and simplified. Levees and rip-rap are designed to prevent channel migration and confine water to the main channel. The former floodplain is then disconnected from the river. Moving these types of structures back from the main channel and allowing the river to access the existing ground brings multiple benefits, including wetland and riparian development, increased habitat for fish and wildlife, and flood conveyance.



Photo: Derek Pissao

Connected floodplain. This channel along the Boise River shown at low flow conditions is active at higher flows on a seasonal basis. Wetland and riparian vegetation is abundant along its edges, filtering pollution, creating habitat for wildlife, increasing flood conveyance and providing refuge for fish from high velocity flows.



Photos: Liz Paul / BREN

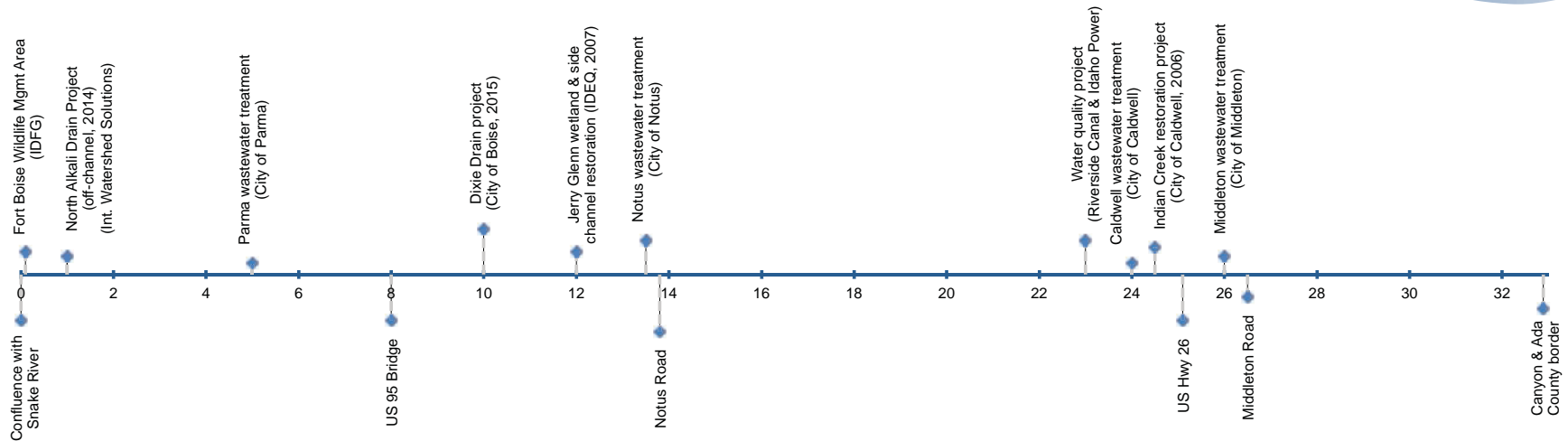
Example of a cooperative green stormwater infrastructure project in downtown Boise. The Treasure Valley’s tree canopy mitigates 125 million gallons of stormwater annually, saving \$1.1 million in infrastructure costs. Green stormwater infrastructure projects, such as tree systems (under construction and completed shown above), permeable pavers, bio-swales and bio-retention areas intercept and treat stormwater before it enters the Boise River.

Enhancement Projects

WHO IS DOING WHAT AND WHERE



Canyon County



Enhancement Projects by river mile for Canyon County and Ada County with associated location markers, primary project partners and date of implementation.



(Photo: Gary O. Gamm)

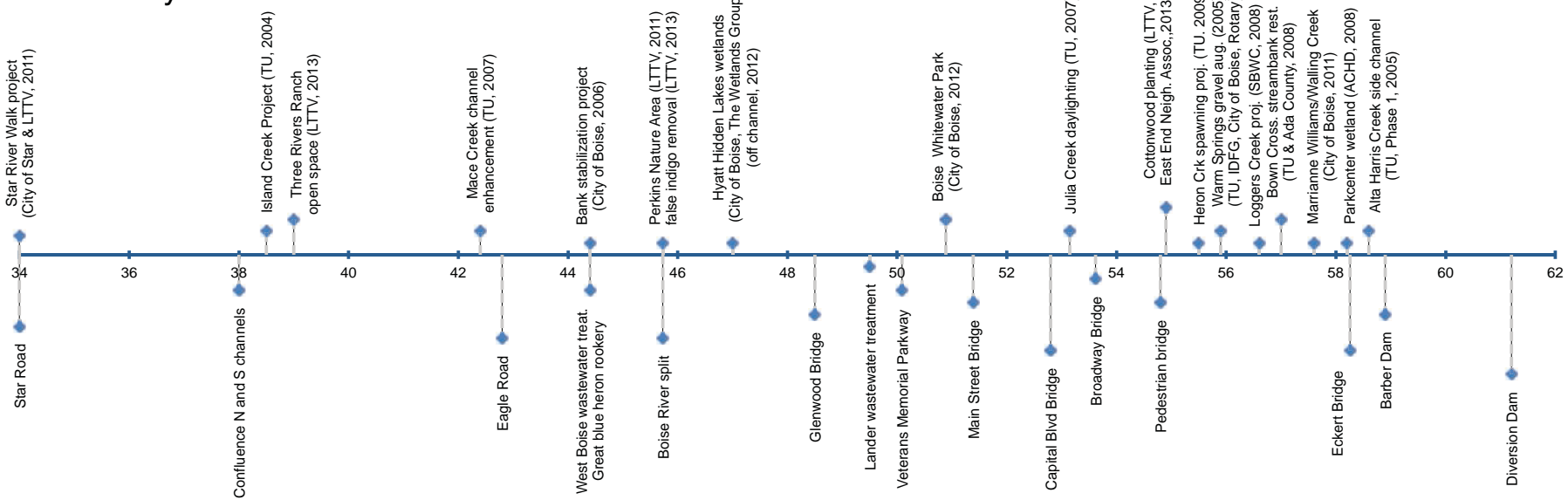
Meaningful enhancement will require coordinated efforts by multiple entities. This comprehensive plan will help focus enhancement on areas of greatest ecological priority.

The Boise River flows through two counties and eight cities. Three more cities are located on tributaries. As a result, the Boise River is shaped by the actions of multiple agencies and stakeholders. Over the past 30 years, numerous enhancement projects have been implemented to improve fisheries, water quality, and wetland and riparian habitat. Public and private interest in enhancement is increasing.

The public and private entities each play vital roles including:

- Identifying enhancement opportunities
- Planning, designing and implementing enhancement projects
- Contributing funding, expertise, volunteers and in-kind services (that can be leveraged for funding)
- Reviewing and issuing permits for projects
- Advocacy and education
- Monitoring the condition of the river
- Adopting policies (plans, laws and ordinances) that may aid enhancement projects

Ada County



Data Gaps

There have been many investigations into the health and function of the River system. However, most have been narrowly focused, site specific and are now dated.

Enhancement actions can only be well designed and implemented when river processes and components are well understood. Throughout the planning process current data gaps were identified. Many are specific to the subject areas addressed in this Plan. Factors outside of the ecological systems influence river function and quality and need to be understood for effective long-term planning, including:

- Value of ecosystem services of the Boise River
- Recreation study including access, impact on resources, economic and health benefits
- Climate change preparedness and drought planning

Geomorphology

- Current channel geometry in relation to hydrology
- Site specific geomorphic analyses that identifies enhancement opportunities
- Accurate flow and inundation modeling below Glenwood Bridge
- System-wide substrate study, including sediment sources

Fisheries and Aquatic Habitat

- Assessment of fish populations, health, growth and mortality
- Aquatic habitat study, including survey of fish rearing and spawning areas
- Comprehensive assessment of benthic and macroinvertebrate species
- Monitoring and periodic peer review of fishery and associated habitat data
- Entrainment and fish passage study and prioritization of existing infrastructure for upgrade

Wetland and Riparian Habitat

- Comprehensive wetland and riparian survey
- Comprehensive wildlife use and habitat survey
- Invasive and non-native species survey
- Cottonwood/riparian analysis of current limiting factors and future conditions

Water Quality

- Comprehensive map of surface hydrology
- Expanded water quality monitoring (especially temperature and dissolved oxygen) over multiple season/years throughout watershed
- Analysis of water quality in relation to discharge
- Expanded water quality analysis of point and non-point sources
- Monitoring of water quality trends in relation to BMP implementation
- Groundwater analysis, including extent, surface water and groundwater interaction, seasonal variation in groundwater movement, and septic system evaluation



Next Steps in Enhancement Planning

Information Sharing, Education and Outreach

- Create an action plan for volunteers, including a checklist of actions and citizen science projects
 - Engage citizens through educational programs, gatherings and lesson plans
 - Document and recognize actions relative to River enhancement, such as land-use plan approvals, county ordinances, and implementation of enhancement work
 - Identify governmental and non-governmental entities and their roles
 - Create an online map depicting jurisdictional, ownership, and/or regulatory boundaries
 - Identify gaps in management and what is or is not being done
 - Better understand who is doing what where
 - Better understand who needs to be contacted for projects to be implemented
- Identify funding sources
 - Ensure the right people/agencies are working together
 - Facilitate coordination and collaboration
 - Provide data, information and the BREN database via an interactive website
 - Create a digital Enhancement Plan that includes hyperlinks to references
 - Facilitate the sharing of project documents (budgets, work plans, reports, etc.)

Enhancement Project Identification and Prioritization

- Perform a reach-by-reach ecologic analysis and prioritization, including identification of agencies and organizations involved with that part of the river
- Establish a process to identify where projects can best be implemented and a post-project evaluation system
- Expand planning area to include river tributaries

Secure Funding to Plan and Implement Projects

- Explore cooperative funding opportunities
- Seek broad sources for funding and partnerships to include industries and businesses
- Design a programmatic enhancement plan that can be funded and implemented over a long time frame (20 years)



(Photo: iDAK/Shutterstock)

Successful Collaborative Watershed Enhancement

The following case studies highlight successful enhancement through collaborative efforts. All of these programs involve partnerships with landowners and funding through multiple sources; most include state and federal funding mechanisms that are not available within the Lower Boise Watershed. Therefore, creative collaboration among stakeholders is critical to fund and implement enhancement projects within the Lower Boise.

Case Study 1: Long Tom Watershed, Oregon

The Long Tom Watershed is located in western Oregon and drains the eastern side of the Coast Range. In 1998, the Long Tom Watershed Council was formed as a collaborative effort between a



Ferguson Creek, a tributary to the Long Tom River.

diverse group of stakeholders including farmers, foresters, anglers, businesses, scientists and conservationists. The Council primarily implements habitat restoration projects, such as fish passage, plantings for shade and habitat, and restoration of prairies, wetlands and oak savannas. In 2015, the Long Tom Watershed Council partnered

with 10 private and non-profit entities, 10 public agencies, 64 private landowners and over 200 volunteers to implement enhancement projects, including replacement of 2 fish migration barriers; enhancement of 460 acres of rare oak, prairie and wetland habitat; and planting of over 40,000 native trees and shrubs within the watershed. The Long Tom Watershed Council also has an extensive survey and monitoring program to better understand the state of the watershed and to track program outcomes; this has helped leverage funds. The Council receives a significant amount of funding from the Oregon Watershed Enhancement Board (OWEB), a state agency that provides enhancement grants.

Case Study 2: Henry's Fork Watershed, Idaho

The Henry's Fork watershed in eastern Idaho and western Wyoming encompasses 1.7 million acres and over 3,000 miles of rivers, streams and canals. Wild trout and aquatic habitat in Henry's Fork,



Henry's Fork of the Snake River, Idaho.

a tributary to the Snake River, has been of critical importance to the Henry's Fork Foundation (HFF) since its founding in 1984. HFF works collaboratively with landowners, state and federal agencies, irrigators, hydroelectric companies, conservation groups and other partners to preserve river access, maintain flow for wild trout while meeting water rights allocations and implementing enhancement projects. To facilitate cooperation and promote respect among diverse stakeholders, HFF and the Fremont-Madison Irrigation District created the Henry's Fork Watershed Council in 1994 to help resolve conflicts and to develop watershed-wide coordination and planning for research and enhancement. Funding for Watershed Council projects and administration was initially provided through the Henry's Fork Watershed Fund, established by the State of Idaho. In recent years, funding for Council activities has been obtained from grants, state and federal agency contributions, and private donations.

Case Study 3: Sandy River Basin, Oregon

The Sandy River Basin is located adjacent to the Cascade mountain range in northwestern Oregon. The Basin has nearly 25 river miles designated as a National Wild and Scenic River and 12 miles designated as an Oregon Scenic Waterway. To restore salmon and steelhead habitat, The Freshwater Trust, a non-



(Photo: the Freshwater Trust)

Creation of log jam in Still Creek, Oregon.

profit river restoration group, partnered with the Sandy River Basin Partners, a coalition of agencies, private interests and non-profit groups. Historic land use in the basin left Salmon River and Still Creek (ecologically significant tributaries of the Sandy River) straightened, disconnected from the floodplain, and without woody material instream – resulting in diminished habitat diversity and complexity. Through strong partnerships and a coordinated restoration plan, the partners are actively working to restore habitat at the basin-scale to contribute to the recovery of salmon and steelhead. Funding for this work has been provided by a diverse group of public and private entities.

Case Study 4: Jordan River Watershed, Utah

The Jordan River is located in northern Utah, flowing from Utah Lake through 15 cities and 3 counties into the Great Salt Lake wetlands. In 2010, the Jordan River Commission was formed to facilitate the implementation of Blueprint Jordan River, a comprehensive effort and vision to transform a neglected river corridor into a

defining regional amenity. The visioning process involved over 3,000 residents from multiple stakeholder groups, technical experts, planners, state legislators, county commissioners, and leaders from private, non-profit and governmental organizations. The purpose of the Commission is to help various local governments and state agencies implement the projects identified in the Blueprint, raise public awareness, and help promote coordination and communication among stakeholders. The Commission is a governmental entity but all projects and efforts undertaken are funded by either grants or private donations. To date, the Jordan River Commission has leveraged over \$13 million dollars to implement projects, including the support of a 45-mile trail along the Jordan River corridor. The inclusive stakeholder process has resulted in a widely embraced plan throughout the affected communities and state-wide.



(Photo: Neil Fennell)

Jordan River, Utah

BREN's

Collaborative Approach

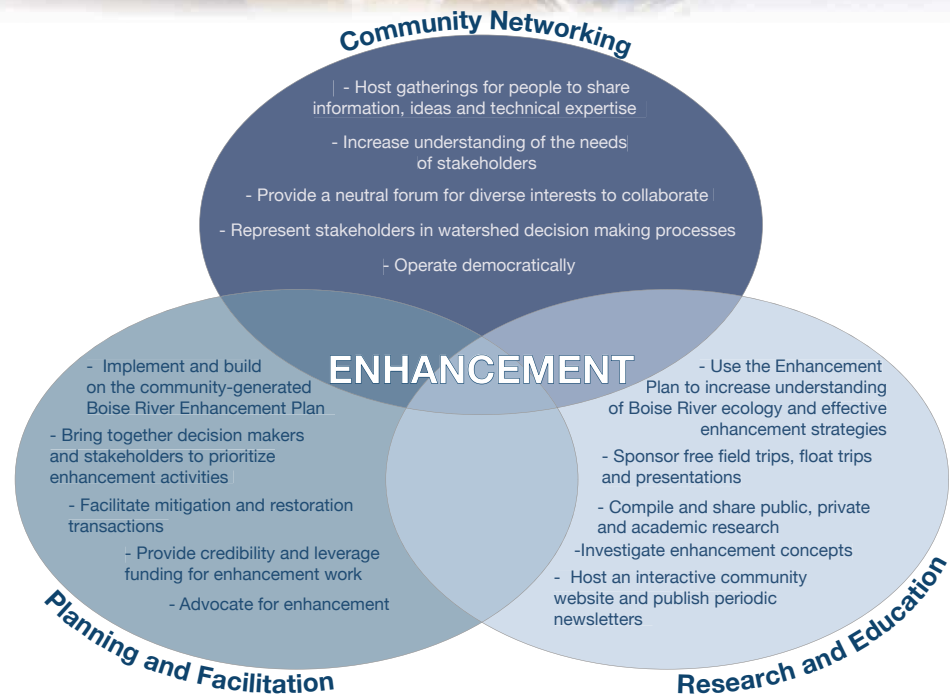


The Boise River Enhancement Network (BREN) provides a forum for stakeholders to share information, ideas and technical expertise regarding the health of the Boise River. The Coordinating Team, elected by BREN members, represents a diverse group of stakeholders including agriculture, development, irrigation, recreation, advocacy and environmental consulting, among others. Stakeholder participation and support is vital to the creation and implementation of this Enhancement Plan and the sustainability of the Network. Through the use of this Plan, BREN will work to leverage funds and bring together decision makers and stakeholders to implement enhancement activities. An aggregator such as BREN can leverage partnerships created during the development of this Plan to continue the momentum towards a highly functioning Boise River.



BREN hosts float trips and field trips along all reaches of the Boise River that serve to increase our understanding of the River's ecology and constraints to the system.

(Photos: Liz Paul / BREN)



Acknowledgments

Bureau of Reclamation WaterSMART Grant Team

Land Trust of the Treasure Valley

Role: Fiscal Agent, Outreach/Stakeholder Involvement

The LTTV is a 501(c)(3) non-profit organization that works to conserve natural, scenic, recreational and farm lands of the lower Boise River watershed. The LTTV owns land and easements along the Boise River and has conducted community based conservation planning for communities in the lower Boise Watershed.

Idaho Rivers United

Role: Structure, Internal Process, Sustainability, Outreach/ Stakeholder Involvement

IRU is a 501(c)(3) non-profit organization located in Boise, Idaho whose members' use and enjoyment of the Boise River is significantly impacted by water quality and quantity. IRU is capable of promoting sustainable use of water resources through their established education, outreach and citizen advocacy programs.

The South Boise Water Company

Role: Outreach/ Stakeholder Involvement

The SBWC is an irrigation ditch company with water delivery authority incorporated in the state of Idaho in 1917 that diverts water from the lower Boise River for multiple uses. Company shareholders affect, and are affected by, the quality and quantity of the Boise River, and the Company promotes the sustainable use of water resources.

The Ted Trueblood Chapter of Trout Unlimited, Inc.

Role: Data acquisition, Enhancement Concept Identification

The Ted Trueblood Chapter of Trout Unlimited, Inc. is a subsidiary of TU, a national conservation organization, a recognized 501(c)(3) non-profit organization. The 800 members of this Chapter conserve, protect and restore trout and salmon fisheries and their watersheds through habitat restoration projects and education programs in southwest Idaho.

Ecosystem Sciences Foundation

Role: Data acquisition, Enhancement Concept Identification, Literature Review, Enhancement Plan Development, Design, Layout, Graphics and Production.

ESF is a 501(c)(3) international environmental science and design organization dedicated to bridging the gap between scientific disciplines and resource management strategies. The Foundation advocates the wise application of science and design to protect the environment and uses a collaborative and multi-disciplinary approach to solving watershed management challenges.

Contractor

Mountain Visions

Role: Development of BREN website and newsletter

Mountain Visions specializes in creating immersive, interactive, 360 degree photographic and multi-media "virtual explorations" of outdoor landscapes for collaborative partnership groups.

Partner

Idaho Water Resources Research Institute

Role: Outreach/ Stakeholder Involvement

IWRRI was established in 1963 by the University of Idaho Board of Regents. They support and direct water research for the State of Idaho and the region.

Expert Reviewers

Thank you to all of the expert reviewers who gave of their time and insight for each of the following sections:

Geomorphology

Fisheries and Aquatic Habitat

Wetlands and Riparian Habitat

Water Quality

Coordinating Team

Chair: Tamsen Binggeli, Ecologist,
Ecosystem Sciences Foundation

Vice-chair: Doug Fowler, Project Manager, Harris Ranch

Secretary/Treasurer: Tim Breuer, Executive Director,
Land Trust of the Treasure Valley

Members:

Alan Winkle, Board member, Boise City Canal Company

Alex Johnson, Senior Freshwater Solutions Director,
The Freshwater Trust

Derek Risso, Watershed Ecologist,
Ecosystem Sciences Foundation

Gary Grimm, Multimedia communication and
environmental networking, Mountain Visions

Julie Scanlin, Education and Outreach,
Idaho Water Resources Research Institute

LeeAnn Garton, Board member,
South Boise Water Company

Liz Paul, Campaign Coordinator, Idaho Rivers United

Michael McConnell, Environmental Scientist,
Idaho Habitat Works

Mike Somerville, Farm owner, Canyon County

Tom "Chel" Chelstrom, Boise River recreation

Special Thanks to:

Rob Richardson and Jimmy Guilinger for their efforts on the Geomorphic Assessment, feedback and expert input throughout the process.

Boise River Enhancement Plan

Boise River Enhancement Network

2017 Ada County Multi-Hazard Mitigation Plan: Volume 1—Countywide Elements

Appendix E. Ada County Firefighting Resources and Capabilities

Boise Fire Department

Personnel

Administration		
Title	Name	Identifier
Fire Chief	Dennis Doan	101
Deputy Chief of Operations	Perry Oldenburg	102
Deputy Chief Fire Marshall	Romeo Gervais	103
Division Chief of Training	Bob Kielty	104
Division Chief of Special Ops	Paul Roberts	105
Division Chief of EMS	Randy Howell	106
Division Chief Operations	Brad Bolen	107
Division Chief Logistics	Lance Carbone	108
Division Chief Asst. Fire Marshall	Ron Johnson	109
Operations		
Title	Name	Identifier
Battalion Chief BC1/A	Dave Cooper	135
Battalion Chief BC2/A	Greg Ramey	136
Battalion Chief BC3/A	John Peugh	138
Battalion Chief BC1/B	Steve Rasulo	134
Battalion Chief BC2/B	Aaron Hummel	131
Battalion Chief BC3/B	Don Gifford	139
Battalion Chief BC1/C	Tom Pawek	137
Battalion Chief BC2/C	Jim Gross	133
Battalion Chief BC3/C	Tom Lovell	132
Logistics		
Title	Name	Identifier
Captain Logistics	Randy Stevens	121
Captain Logistics	Thayne Olaso	122
Captain Logistics	Brian Skinner	123
Captain Logistics	Glen Smith	124
Training		
Title	Name	Identifier
Captain Training	Jeremy Kircher	151
Captain Training	Rich Kuehn	152
Captain Training	Marcus Rainey	153
Captain Training	Kurt Freeman	154
Captain Training	Mike Walker	155
Prevention		
Title	Name	Identifier
Captain Inspector	Jim Poe	141
Captain Inspector/ Investigator	Vacant	142
Captain Inspector/Investigator	Jerry McAdams	143
Captain Inspector	Roy Boehm	144
Captain Inspector/Investigator	Tom Gainor	145
Prevention cont'd		

Title	Name	Identifier
Captain Inspector/Investigator	DeWaine Kuehl	146
Captain Inspector	Forrest France	147
Captain Inspector	Ray Criner	148

Apparatus

Category	#	Type	Availability	Staffing	Designator
Structural Engine	16	II	In-Service	3 Personnel	E1,E2,E3,E4,E5,E6,E7,E8,E9,E10,E11,E12,E14,E15,E16,E17
Structural Engine	5	II	Reserve	Not Staffed	R2, R5,R7, R12
Structural Engine	1	II	Training	Not Staffed	
Aerial Platform	2	I	In-Service	4 Personnel	T6,T7
Aerial Ladder	1	I	In-Service	4 Personnel	T5 (Tiller)
Aerial Ladder	1	I	Reserve	Not Staffed	RT6 (Aerialscope Platform)
Heavy Rescue	1	II	In-Service	Per Incident	RSQ7- ITR2
Command	3		In-Service	1 Person	BC1, BC2, BC3
Wildland Engine	2	IV	In-Service	Per Incident	BR14,BR15
Wildland Engine	4	V	In-Service	Per Incident	BR02,BR09,BROS,BR16
Wildland Engine	2	VII	In-Service	Per Incident	BR01,BR12
Water Tender	1	I	In-Service	1 Person	WT14 (3000 gal)
Water Tender	1	I	In-Service	Not Staffed	WT16 (3000 gal)
HazMat	1	I	In-Service	Per Incident	HazMat 17 (Hackney)- RRT4
HazCom	1		In-Service	Per Incident	HazCom 17 (30' Command)- RRT4
Decon	1		In-Service	Per Incident	Decon 17- RRT4
Rescue Squad	1		In-Service	Per Incident	RSQ Squad 7
Rescue Trailer	1		In-Service	Per Incident	
Dive Van/Boat	1	III	In-Service	Per Incident	Dive 1
Dive Van/Jet Ski	2		In-Service	Per Incident	Jet Ski 1, Jet Ski 2
ARFF Command	1		In- Service	1 Person	Smokey 7
ARFF	1		In- Service	2 Personnel	Smokey 9 (1500 gal)
ARFF	1		In- Service	2 Personnel	Smokey 10 (3000 gal)
ARFF	1		Reserve	Not Staffed	
Foam Engine	1		In-Service	Per Incident	Foam 7 (1160 gal)
Air Trailer	1		In-Service	Per Incident	Air (SCBA)
Rehab	1		In-Service	Per Incident	Rehab
AHIMT3	1		In-Service	Per Incident	Boise City AHIMT3

Eagle Fire District

Administration and Personnel

Title	Name	Identifier
Fire Chief	Mike Winkle	401
Deputy Chief – Fire Marshal	Kurt McClenny	402
Deputy Chief	Jamie Vincent	403
Deputy Fire Marshal	Scott Buck	404
Division Chief		405
Division Chief	Bill Stone	407
Division Chief	Tyler Lewis	406
40 Career Firefighters		
30 Volunteer Firefighters		

Apparatus

Station: #1 – 966 E. Iron Eagle Dr. Eagle, Idaho

Category	Type	Staffing	Identifiers	Availability
Structural Engine	1	3-4 Personnel	E44	Reserve
Quint	1	3-4 Personnel	T41	In Service
Heavy Rescue		3-4 Personnel	R41	In Service
Water Tender	1	1-2 Personnel	WT41	In Service
Brush Engine	6	3-4 Personnel	B41	In Service
Brush Engine	6	3-4 Personnel	B45	Reserve
Command – Battalion 41			467	In Service
Command – Fire Chief			468	In Service
Command- Response Chief			462	In Service
Command – Investigation			461	In Service
Command – Safety			464	In Service
Command – Investigation			465	In Service
Command – Response Chief			466	In Service
Rehab Trailer		Per Incident	Rehab	In Service
Incident Communications Trailer		Per Incident	ICT	In Service

Station #2 – 3180 E. Floating Feather Rd. Eagle, Idaho

Structural Engine	1	3-4 Personnel	E42	In Service
Brush Engine	6	3-4 Personnel	B42	In Service
ATV / Tactical Rescue Vehicle		3-4 Personnel	TRV42	In Service

Station #3 – 825 N. Cactus Creek Ave. Eagle, Idaho

Structural Engine	1	3-4 Personnel	E43	In Service
Brush Engine	6	3-4 Personnel	B43	In Service
Rescue – Swift Water Rescue		2-3 Personnel	R43	In Service

Kuna Rural Fire District

Personnel

Title	Name	Identifier
Fire Chief	Jon Tillman	601
Assistant Fire Chief	Terry Gammel	602
Battalion Chief	Doyle McPherson	603
Captain	TJ Lawrence	6842
Captain	Joe Link	6830
Captain	John Charlton	6847

Apparatus

Category	Identifier
Structure Engine	E-61
Structure Engine	E-62
Structure Engine	E-63
Ladder Truck	T-61
Water Tender	WT-61
Brush Squad	BR-61 (Type 6)
Brush Squad	BR-62 (Type 6)
Brush Truck	BR-65 (Type 4)
Ambulance	KM-61
Ambulance	KM-63
Ambulance	KM-64
Rescue/Support	R-61

Meridian Fire Department

Personnel

Title	Name	Identifier
Chief	Mark Niemeyer	301
Deputy Chief Administration / Planning	Chris Amenn	302
Deputy Chief Operations	David Jones	303
Deputy Chief Prevention	Perry Palmer	304
Division Chief of Training	Kevin Fedrizzi	305

Battalion Chief A Shift	Rod Shaul	331
Battalion Chief B Shift	Blake Campbell	332
Battalion Chief C Shift	Ken Welborn	333

Apparatus

Category	#	Type	Availability	Staffing	Identifier
Structural Engine	5	II	In-service	3 Personnel	E31, E32, E33, E34, E35
Structural Engine	2	II	Reserve	Not staffed	E38, E39
Aerial Platform	1	II	In-service	4 Personnel	T31 - Cross Staffed with E31
Command	2		In-service	1 Person	BC31, BC32
Wildland Engine	2	VI	In-service	3 Personnel	BR34, BR35 - Cross Staffed with E34, E35
Water Tender	1	II	In-service	2 Personnel	WT32 Cross Staffed with E32 - 3000 Gallons
Air Support Unit (SCBA)	1		In-service	Per incident	AR-31
Command Trailer	1		In-service	Per incident	COMM Trailer

Star Fire Protection District

Station #51

Personnel

Title	Name	Identifier
Fire Chief	Greg Timinsky	501
12 Career Firefighters		

Apparatus

Category	Identifier	Staffing / Availability
Structural Engine	E-51	Staffed with min of 3 per shift
Structural Engine	E-52	Reserve Engine
Tender	WT-51	Available Per Incident
Brush Engine Type 5	B-51	Available per Incident
Air Trailer	A-51	Available Per Incident
Command Vehicle	551	Staffed or available per incident

Idaho Department of Lands

Casper Urbanek Fire Warden
Rick Finis Assistant Fire Warden
Tyke Lofing Assistant Fire Warden
Bob Pietras Area Manager

Aircraft: Available statewide from mid-June through October

Helicopters – Type 2 helicopter with seven (7) person helitack staffed in Coeur d’Alene

Type 2 helicopter with nine (9) person helitack staffed at Grangeville.

Single Engine Air Tankers (SEAT’s) - McCall (1), Grangeville (2), Coeur d’Alene (2, includes Scooper).

Equipment:	<u>Call #</u>	<u>Resource</u>	<u>Location</u>
	E-06*	Engine Type 5	Boise
	E-12	Engine Type 5	High Valley
	E-17	Engine Type 6	Boise Basin
	E-25	Engine Type 5	Boise Basin

Crews:	<u>Call #</u>	<u>Resource</u>	<u>Location</u>
	Crew 6*	Hand Crew (6 person)	Boise
	Crew 38	10 - 20 person inmate Camp Crew, Boise	Boise /
	Crew 39	Type 2 /20 person inmate IA Crew	Idaho City or Boise

*E-06 is operated by Crew 6.

Additional Type 2/20 person inmate crews are available from Orofino and St. Anthony, ID

Other staff includes:

Fire Information, Investigation, Prevention, and Mitigation programs are administered by district fire staff.

The Bureau of Fire Management staff in Coeur d’Alene provides state wide support in fire business, resource and incident management, and interagency fire cache operations.

BOISE DISTRICT BLM RESOURCES

Last Update: December 16, 2015

OVERHEAD

POSITION	NAME	IDENTIFIER	PHONE
FIRE MANAGEMENT OFFICER	ANDY DELMAS	CHIEF 1-1	208.384.3401
ASST FIRE MANAGEMENT OFFICER	VACANT	CHIEF 1-2	208.384.3472
FUELS PROGRAM MANAGER	LANCE OKESON	CHIEF 1-3	208.384.3486
FIRE PLANNER	JUSTIN BOECK		208.384.3461
FIRE PREVENTION & MITIGATION (ACTING)	JOSH RENZ	CHIEF 1-4	208.384.3409
FIRE OPERATIONS SUPERVISOR - SOUTHERN AREA	TODD FLOYD	BAT 30	208.384.3453
FIRE OPERATIONS SUPERVISOR - BOISE AREA	CODY KIDD	BAT 20	208.384.3283
FIRE OPERATIONS SUPERVISOR - NORTHERN AREA	LINDSEY NEIWERT	BAT 10	28.384.3284
FIRE OPERATIONS SUPERVISOR -	DENNIS KONRAD	BAT 21	208.384.3264
FIRE OPERATIONS SUPERVISOR - AVIATION	JOE ROGAN	BAT 40	208.334.1028
FIRE OPERATIONS SUPERVISOR - FUELS	BEN SITZ	BAT 50	208.384.3481
FIRE INVESTIGATOR	BOISE	INV 1	208.384.3409
FIRE INVESTIGATOR	BOISE	INV 2	208.384.3408
SUPERINTENDENT	WILD WEST	SUPT 11	208.384.3281
SUPERINTENDENT	UNIT A BOISE	SUPT 20	208.384.3285
SUPERINTENDENT	UNIT B BOISE	SUPT 21	208.384.3471
SUPERINTENDENT	UNIT C BOISE	SUPT 22	208.384.3283
SUPERINTENDENT	HAMMETT	SUPT 31	208.366.7722
SUPERINTENDENT	BRUNEAU	SUPT 32	208.845.2011
PREVENTION / INFORMATION	VACANT	FIRE INFO	208.384-3221
FUELS SUPERVISOR	CHRIS CROMWELL	FUELS 51	208.384.3469

ENGINES

RESOURCE	LOCATION	IDENTIFIER	TYPE
ENGINE	STAR	E1411	TYPE 4
ENGINE	STAR	E1412	TYPE 4
ENGINE	STAR	E1301	TYPE 3
ENGINE	SPARE - BOISE	E1415	TYPE 4
ENGINE	SPARE - BOISE	E1416	TYPE 4
ENGINE	UNIT A - BOISE	E1421	TYPE 4
ENGINE	UNIT A - BOISE	E1422	TYPE 4
ENGINE	UNIT B - BOISE	E1424	TYPE 4
ENGINE	UNIT B - BOISE	E1425	TYPE 4
ENGINE	UNIT C - BOISE	E1427	TYPE 4
ENGINE	UNIT C - BOISE	E1428	TYPE 4
ENGINE	HAMMETT	E1431	TYPE 4
ENGINE	HAMMETT	E1432	TYPE 4
ENGINE	HAMMETT	E1302	TYPE 3
ENGINE	HAMMETT	E1433	TYPE 4
ENGINE	BRUNEAU	E1435	TYPE 4
ENGINE	BRUNEAU	E1436	TYPE 4

HEAVY EQUIPMENT

RESOURCE	LOCATION	IDENTIFIER	TYPE
DOZER	BOISE	DZ1280	TYPE 2
DOZER	BRUNEAU	DZ1281	TYPE 2
DOZER	BOISE	DZ1182	TYPE 1

AVIATION

RESOURCE	LOCATION	IDENTIFIER	TYPE
AIR ATTACK	BOISE	AA5DT	FW
HELICOPTER	BOISE	TBD	TYPE 3

US Forest Service, Boise National Forest

Boise National Forest

Designators have been established for key positions within Fire Management on the Boise National Forest consistent with the Intermountain Region's policy for designators and fire emergency vehicle marking standards. The intent of the designator and emergency vehicle standard is to enhance emergency and daily operations through standard nomenclature, represent the Boise NF as a cohesive professional federal fire organization while retaining unit identity, and avoid miss-communications that can be associated with using a person's last name.

The use of designators is primarily for radio communication and emergency vehicle striping, and is intended to clearly identify a person's working title within the Boise National Forest organization, associated NWCG qualification standards or Line Officer status.

Supervisors Office

Position	Designator	Name	Location
Forest Supervisor	Supervisor 1	Cecilia Seesholtz	Supervisors Office
Deputy Forest Supervisor	Supervisor 2	Sheri Schwenke	Supervisors Office
Forest Fire Staff Officer	Chief 1	Bob Shindelar	Supervisors Office
Forest AFMO	Chief 2	Vacant	Supervisors Office
Fire Planner	Chief 3	Tony DeMasters	Supervisors Office
Fire Prevention Officer	2003	Vacant	Supervisors Office
Forest Fuels Planner	2004	Dusty Pence	Supervisors Office
Interagency Aviation Officer	2005	Doug Marolf	Supervisors Office
Forest Fire Training Officer	2006	Julia Figgins	Supervisors Office
Fire Ecologist	2008	Kathleen Geier-Hayes	Supervisors Office
Centennial Job Corp			
AFMO- JC	Battalion Chief 8	Mike Towers	Supervisors Office
Centennial Job Corp T2-IA Crew	Crew 8		Nampa
Crew 8 Supervisor	Captain 8	Tim Garity	Nampa
Crew 8 Asst. Supervisor	8 Alpha	Preston Glaiser	Nampa

D-1 Mountain Home Ranger District

Position	Designator	Name	Location
District Ranger	Ranger 1	Stephaney Church	Mtn. Home Office
FMO	Division Chief 1	Mike Brady	Mtn. Home Office
AFMO-Suppression	Battalion Chief 1	Matt Ziegler	Mtn. Home Office
AFMO-Fuels	Battalion Chief 14	Robert Burnside	Mtn. Home Office
Lester Creek Engine	Engine 411		Lester Creek Station
Lester Creek Engine	Captain 411	Joel Welch	Lester Creek Station

SFEO			
Lester Creek Engine	Engineer 411	Mike Elles	Lester Creek Station
Lucky Peak Engine	Engine 421		Lucky Peak Station
Lucky Peak Engine	Captain 421	Rob Smolczynski	
Lucky Peak Engine	Engineer 421	Ryan Erne	Lucky Peak Station
Prevention	Prevention 11	Terry Carrico	Lester Creek Station
Prevention	Patrol 12	Chad Cline	Lester Creek Station
Prevention	Patrol 21	Vacant	Lucky Peak Station
Prevention	Patrol 22	Will Hunt	Lucky Peak Station
Boise Helitack	Boise Helitack	Jeremy Schwandt	Lucky Peak Station
Boise Helitack Vehicle	Helitender 421		Lucky Peak Station
Boise Fuel Truck	Boise Fuel Truck		Lucky Peak Station

D-3 Idaho City Ranger District

District Ranger	Ranger 3	Brant Petersen	Idaho City Office
FMO	Division Chief 3	Rich Zimmerlee	Idaho City Office
AFMO-Suppression	Battalion Chief 3	Quincy Chung	Idaho City Office
AFMO-Fuels	Battalion Chief 34	Alan Spanfellner	Idaho City Office
Fuels Tech	Fuels 41	Ann Brown	Idaho City Office
Idaho City Engine	Engine 431		Idaho City Station
Idaho City Engine SFEO	Captain 431	Jarod Peak	Idaho City Station
Idaho City Engine	Engineer 431	Ryan Green	Idaho City Station
Idaho City Type 2 IA Crew	Crew 3		Idaho City Station
Crew 3 Supervisor	Captain 3	Vacant	Idaho City Station
Crew 3 Asst. Supervisor	3 Alpha	Ed Hunt	Idaho City Station
Prevention	Patrol 31	Joe Schindel	Idaho City Station
Prevention	Patrol 32	Vacant	Idaho City Station
Idaho City Hotshots	Crew 2		Idaho City Station
Hotshot Superintendent	Superintendent 2	Brian Cardoza	Idaho City Station
ICIHC Captain	Captain 2A	Randy Lamb	Idaho City Station
ICIHC Captain	Captain 2B	TJ Gholson	Idaho City Station
ICIHC Module A	Crew 2C	Vacant	Idaho City Station
ICIHC Module B	Crew 2D	Grif Cochran	Idaho City Station

D-4 Cascade Ranger District

District Ranger	Ranger 4	Vacant	Cascade Office
FMO	Division Chief 4	Vacant	Cascade Office
AFMO-Suppression	Battalion Chief 4	Patrick Morgan	Cascade Office
AFMO-Fuels	Battalion Chief 44	Jim Bishop	Cascade Office
Fuels Tech	Fuels 41	Tim Dulhanty	Cascade Office
Landmark Hand Crew	Crew 41		Landmark Station
Crew 41 Supervisor	Captain 41	Rory Anderton	Landmark Station
C-41 Assistant Supervisor	4 Alpha	David Nelson	Landmark Station
Cascade Engine	E 641		Cascade

Cascade Engine SFEO	Captain 641	James Brown	Cascade
Cascade Engine	Engineer 641	Jeremiah Deleon-Guerrero	Cascade
Prevention	Patrol 41	Kim Drake	Cascade
Prevention	Prevention 42	Matt Parrish	Cascade

D-5 Lowman Ranger District

District Ranger	Ranger 5	John Kidd	Lowman Office
FMO	Division Chief 5	Jason Butler	Lowman Office
AFMO –Suppression	Battalion Chief 5	Colin Good	Lowman Office
AFMO-Fuels	Fuels 54	Vacant	Lowman Office
Fuels Tech	Fuels 451	Guy Blom	Lowman Office
Lowman Engine	E 451		Lowman Station
Lowman Engine SFEO	Captain 451	Colter Stewart	Lowman Station
Lowman Engine	Engineer 451	Sam Duffurena	Lowman Station
Elk Creek Type 2 IA Crew	Crew 5		Elk Creek Station
Crew 5 Supervisor	Captain 5	Aaron Bell	Elk Creek Station
C-5 Assistant Supervisor	5 Alpha	Nick Terrell	Elk Creek Station
Prevention	Patrol 51	Penny Myers	Lowman Station
Prevention	Prevention 52	Chris Knight	Lowman Station

D-6 Emmett Ranger District

District Ranger	Ranger 6	Richard Newton	Emmett Office
FMO	Division Chief 6	Josh Erickson	Emmett Office
AFMO-Suppression	Battalion Chief 6	Jason Sandusky	Garden Valley Office
AFMO-Fuels	Battalion 64	Justin Yankey	Emmett Office
Fuels Tech	Fuels 641	Bob Dobbs	Emmett Office
Garden Valley Engine	Engine 461		Garden Valley Station
Garden Valley Engine SFEO	Captain 461	Brian Harrison	Garden Valley Station
Garden Valley Engine	Engineer 461	Beau Burley	Garden Valley Station
Prevention	Patrol 61	Vacant	Garden Valley Station
Prevention	Prevention 62	Francis White	Silver Creek G.S.
Garden Valley Helitack	Garden Valley Helitack	Tom Moxham	Garden Valley Station
GV Helitack Vehicle	Helitender 422		Garden Valley Station
GV Fuel Truck	GV Fuel Truck		Garden Valley Station
Boise Hotshots	Crew 7		Garden Valley Station
Hotshot Superintendent	Superintendent 7	Deon Berner	Garden Valley Station
BIHC Captain	Captain 7A	Dave Rogan	Garden Valley Station
BIHC Captain	Captain 7B		Garden Valley Station
BIHC Module 71	Squad 71	Alan Raining Bird	Garden Valley Station
BIHC Module 72	Squad 72	Jared Bybee	Garden Valley Station

Chief – Equivalent to Fire Staff Officer, Forest FMO or Forest AFMO.

Division Chief – Equivalent to FMO. The designator will be used to identify the FMO or, provided that the incumbent meets the minimum DIVS and ICT3 qualification. Currency is required (see PMS 310-1 pg 11 definition of ‘currency’). In the event that the incumbent does not meet the qualification criteria or loses currency, they will revert to a designator that recognizes their GS-11 status, but will not be designated as a Division Chief.

Battalion Chief – Equivalent to district AFMO, fire or fuels. The incumbent must meet the minimum DIVS and/or ICT3 qualification. Currency is required (see PMS 310-1 pg 11 definition of ‘currency’). In the event that the incumbent does not meet these criteria, or loses currency, they will revert to a designator that recognizes their AFMO status, but will not be designated as a Battalion Chief. For example: Fuels-X4 (X signifying the District number).

Engines – All Boise NF engines will follow Intermountain Region Fire Emergency Vehicle Markings standards. Example: ID-BOF-ENG-431, where ‘4’ designates the type, where ‘3’ designates Idaho City RD, and ‘1’ indicates the primary engine for that district.

Captain – Is a designator for Module Leaders, such as Engine Captain, Type 2 I.A. Crew Captain, or Hotshot Captain. Captains will only use their designator when they are away from their assigned module. At all other times they will use their module designator.

Example: Captain-431 would use this designator when he is on the hill and is requesting something from Engine-431; or Captain-431 remained in station while Engine-431 is out doing project work... i.e. “Engine-431”, this is “Captain-431”.

Engineer – Is the R-4 Engine Committee standard designator for the Assistant Captain on a wildland fire engine, i.e. Engineer-431.

Prevention - A prevention unit consists of one Prevention Officer without pumping capability.

Patrol - A patrol unit consists of a Type 6 or 7 engine with one firefighter. The minimum qualification for a Patrol Officer is FFT2. Note: To be utilized as a Type 6 or 7 engine on a wildfire, the staffing level must meet Redbook standards for personnel and qualification, and Fireline Handbook standards for equipment.

Type 2 I.A. Crews - When on-forest, the Type 2 I.A. Crews will use their Crew-3 or Crew-5 designators. When off-forest on assignment, the Type 2 I.A. Crews will go by Boise NF Crew-3 or 5.

When Crew-3 breaks down into their 6 person squads for Initial Attack, they will use their designators indicating Crew and Squad number as follows:

Designator	Squad
Crew – 31	Squad 1
Crew – 32	Squad 2
Crew – 33	Squad 3

2017 Ada County Multi-Hazard Mitigation Plan: Volume 1—Countywide Elements

Appendix F. Plan Adoption Resolutions from Planning Partners



FEMA

August 16, 2017

Mr. David Case
Chairman, Ada County Commissioners
200 W Front Street
Boise, Idaho 83702

Dear Chairman Case:

On May 3, 2017, the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA), Region 10, approved the *Ada County Multi-Hazard Mitigation Plan* as a multi-jurisdictional local plan as outlined in Code of Federal Regulations Title 44 Part 201. This approval provides the below jurisdictions eligibility to apply for the Robert T. Stafford Disaster Relief and Emergency Assistance Act's, Hazard Mitigation Assistance grants through May 2, 2022, through your state.

Ada County	City of Boise	City of Eagle
Garden City	City of Kuna	City of Meridian
City of Star	Ada County Highway District	Drainage District #4
Boise River Flood Control District	Boise School District	North Ada County Fire and Rescue District
Eagle Sewer District	Eagle Fire Protection District	Greater Boise Auditorium District
Kuna Rural Fire District	Star Sewer and Water District	Star Fire District
West Ada School District	Whitney Fire Protection District	

The updated list of approved jurisdictions includes the Greater Boise Auditorium District and the West Ada School District that recently adopted the Ada County All Hazard Mitigation Plan. To continue eligibility, jurisdictions must review, revise as appropriate, and resubmit the plan within five years of the original approval date.

If you have questions regarding your plan's approval or FEMA's mitigation grant programs, please contact Lorrie Pahl, Senior Mitigation Planner with Idaho Office of Emergency Management, at (208) 258-6508, who coordinates and administers these efforts for local entities.

Sincerely,

Mark Carey, Director
Mitigation Division

cc: Susan Cleverley, Idaho Office of Emergency Management

Enclosure

AS:vl

**RESOLUTION ADOPTING THE 2016 UPDATE OF THE
ADA COUNTY MULTI-HAZARD MITIGATION PLAN**

WHEREAS, all of Ada County has exposure to natural hazards that increase the risk to life, property, environment and the County's economy; and

WHEREAS; pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and

WHEREAS, The Disaster Mitigation Act of 2000 (Public Law 106-390) established new requirements for pre and post disaster hazard mitigation programs; and

WHEREAS; a coalition of Ada County stakeholders with like planning objectives has been formed to pool resources and create consistent mitigation strategies to be implemented within each partners' identified capabilities, within the Ada County Planning Area; and

WHEREAS, the coalition has completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of natural hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy;

WHEREAS, a review and update of local mitigation plans is required every five years, in accordance with 44 CFR 201.3(d)(2).

BE IT THEREFORE RESOLVED, the Board of Ada County Commissioners does hereby support and adopt in its entirety, Volume I, the Ada County Annex of Volume II, and the appendices of Volume II of the Ada County Multi-Hazard Mitigation Plan (ACMHMP).

BE IT FURTHER RESOLVED, the Board of Ada County Commissioners:

1. Will use the adopted and approved portions of the ACMHMP to guide pre- and post-disaster mitigation of the hazards identified.
2. Will coordinate the strategies identified in the ACMHMP with other planning programs and mechanisms under its jurisdictional authority.

3. Will continue its support of the Steering Committee and continue to participate in the Planning Partnership as described by the ACMHMP.

APPROVED AND ADOPTED this 13th day of December, 2016


Board of Ada County Commissioners

By: 
Jim Tibbs, Commissioner

By: 
Rick Yzaguirre, Commissioner

By: 
David L. Case, Commissioner

ATTEST:



Christopher D. Rich, Ada County Clerk
by Phil McGrane, Chief Deputy

CITY OF BOISE

Resolution NO. RES-29-17

BY THE COUNCIL

CLEGG , JORDAN, LUDWIG, MCLEAN,
QUINTANA, AND THOMSON**A RESOLUTION ADOPTING ALL OF VOLUME 1 AND THE CITY'S PORTION OF THE VOLUME 2, INCLUDING APPENDICES, WITHIN THE 2016 ADA COUNTY MULTI-HAZARD MITIGATION PLAN; AND PROVIDING AN EFFECTIVE DATE.**

WHEREAS, the City of Boise and all of Ada County faces exposure to natural hazards that increase risk to life, property and the local economy; and

WHEREAS, proactive mitigation of known hazards prior to disaster or other catastrophic event can reduce or eliminate long-term risk to life and property; and

WHEREAS, the City of Boise previously adopted the 2011 Ada County All Hazard Mitigation Plan; and

WHEREAS, the Disaster Mitigation Act of 2000 (Public Law 106-390) sets forth basic requirements for pre and post hazard mitigation programs and requires that participants evaluate and update local all hazard mitigation plans every five years; and

WHEREAS, the City of Boise participated with Ada County and other stakeholders with common planning objectives in a planning process along with public outreach to create consistent hazard mitigation strategies collectively entitled the 2016 Ada County All Hazard Mitigation Plan; and

WHEREAS, a copy of the adopted portions of the 2016 Ada County All Hazards Mitigation Plan will be kept on file with the City of Boise Planning and Development Services and be made available for public inspection.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND COUNCIL OF THE CITY OF BOISE CITY, IDAHO:

Section 1. That City of Boise hereby adopts Volume 1, and the City's portion of Volume 2, including appendices, of the 2016 Ada County All Hazards Mitigation Plan, which is incorporated herein by reference.

Section 2. That this Resolution shall be in full force and effect immediately upon its adoption and approval.

CITY OF BOISE

ADOPTED by the Council of Boise City, Idaho, on January 10, 2017.

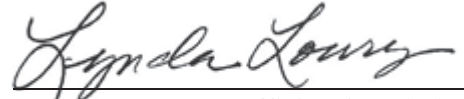
APPROVED by the Mayor of the Boise City, Idaho, on January 10, 2017.

APPROVED:

ATTEST:



David H. Bieter, Mayor



Lynda Lowry, Ex-Officio City Clerk

RESOLUTION NO. 16-38

A RESOLUTION OF THE EAGLE CITY COUNCIL, EAGLE, ADA COUNTY, IDAHO PROVIDING FOR THE ADOPTION OF THE ADA COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, all of Ada County has exposure to natural hazards that increase the risk to life, property, environment and the County's economy; and

WHEREAS; pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and

WHEREAS, The Disaster Mitigation Act of 2000 (Public Law 106-390) established new requirements for pre and post disaster hazard mitigation programs; and

WHEREAS; a coalition of Ada County stakeholders with like planning objectives has been formed to pool resources and create consistent mitigation strategies to be implemented within each partners identified capabilities, within the Ada County Planning Area; and

WHEREAS, the coalition has completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of natural hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy;

NOW, THEREFORE, BE IT RESOLVED THAT THE CITY COUNCIL OF THE CITY OF EAGLE, IDAHO:

- 1.) Adopts in its entirety, Volume I and part 1, the City of Eagle jurisdictional annex of part 2, part 3 and the appendices of Volume II of the Ada County Multi-Hazard Mitigation Plan (ACMHMP).
- 2.) Will use the adopted and approved portions of the ACMHMP to guide pre and post disaster mitigation of the hazards identified.
- 3.) Will coordinate the strategies identified in the ACMHMP with other planning programs and mechanisms under its jurisdictional authority.
- 4.) Will continue its support of the Steering Committee and continue to participate in the Planning Partnership as described by the ACMHMP.
- 5.) Will help to promote and support the mitigation successes of all ACMHMP Planning Partners.


This Resolution shall be in full force and effect immediately upon its adoption and approval.

ADOPTED by the Council of the City of Eagle, Idaho, this the 13th day of December, 2016.

CITY OF EAGLE
Ada County, Idaho


Stan Ridgeway, Mayor

ATTEST:


Sharon K. Bergmann, City Clerk



Resolution 1027-17

BY THE COUNCIL: BEAUMONT, HIGGINS, MITCHELL AND SOUZA

FOR THE PURPOSE OF ADOPTING THE 2016 UPDATE OF THE ADA COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, all of Ada County has exposure to natural hazards that increase the risk to life, property, environment and the County's economy; and

WHEREAS; pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and

WHEREAS, The Disaster Mitigation Act of 2000 (Public Law 106-390) established new requirements for pre and post disaster hazard mitigation programs; and

WHEREAS; a coalition of Ada County stakeholders with like planning objectives has been formed to pool resources and create consistent mitigation strategies to be implemented within each partners identified capabilities, within the Ada County Planning Area; and

WHEREAS, the coalition has completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of natural hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy;

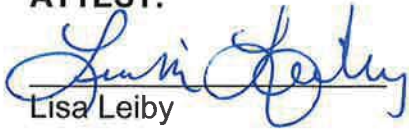
BE IT THEREFORE RESOLVED, the City of Garden City does hereby support and

- 1.) Adopt in its entirety, Volume I, the Garden City annex of Volume II and the appendices of Volume II of the Ada County Multi- Hazard Mitigation Plan (ACMHMP).
- 2.) Will use the adopted and approved portions of the ACMHMP to guide pre and post disaster mitigation of the hazards identified.
- 3.) Will coordinate the strategies identified in the ACMHMP with other planning programs and mechanisms under its jurisdictional authority.
- 4.) Will continue its support of the Steering Committee and continue to participate in the Planning Partnership as described by the ACMHMP.

EFFECTIVE DATE. This resolution shall be in full force and effect from and after passage, approval, and publication.

ADOPTED by the City Council and **APPROVED** by the Mayor of the City of Garden City, Idaho, this 13th day of **February**, 2017.

ATTEST:



Lisa Leiby
CITY TREASURER/ CLERK

APPROVED:



John G. Evans
MAYOR



**RESOLUTION NO. R05-2017
KUNA, IDAHO**

A RESOLUTION OF THE CITY COUNCIL FOR KUNA, IDAHO AUTHORIZING THE ADOPTION OF THE ADA COUNTY MULTI-HAZARD MITIGATION PLAN; AND REPEALING KUNA CITY RESOLUTION NO. R54-2011.

WHEREAS, all of Ada County has exposure to natural hazards that increase the risk to life, property, environment and the County's economy; and

WHEREAS; pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and

WHEREAS, The Disaster Mitigation Act of 2000 (Public Law 106-390) established new requirements for pre and post disaster hazard mitigation programs; and

WHEREAS; a coalition of Ada County stakeholders with like planning objectives has been formed to pool resources and create consistent mitigation strategies to be implemented within each partner's identified capabilities, within the Ada County Planning Area; and

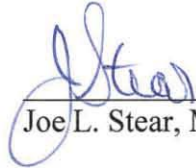
WHEREAS, the coalition has completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of natural hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy;

NOW, THEREFORE, BE IT RESOLVED that the City Council for the city of Kuna, Idaho:

- 1.) Adopts in its entirety, Volume I, part 5- the City of Kuna, Idaho- Planning Partners Annexes, and the appendices of Volume II of the Ada County Multi-Hazard Hazard Mitigation Plan (ACMHMP).
- 2.) Will use the adopted and approved portions of the ACMHMP to guide pre and post disaster mitigation of the hazards identified.
- 3.) Will coordinate the strategies identified in the ACMHMP with other planning programs and mechanisms under its jurisdictional authority.
- 4.) Will continue its support of the Steering Committee and continue to participate in the Planning Partnership as described by the ACMHMP.
- 5.) Will help to promote and support the mitigation successes of all ACMHMP Planning Partners.

PASSED and ADOPTED this 17th day of January 2017.

CITY OF KUNA
Ada County, Idaho



Joe L. Stear, Mayor

ATTEST:


Chris Engels, City Clerk



STAFF REPORT
City Council Consent Agenda Item

DATE: January 17, 2017

TO: City Council

FROM: Richard T. Roats

SUBJECT: Adopt Resolution R05-2017 - accepting all of Volume 1 and the City's/Districts portion of the Volume 2 within the Ada County Multi-Hazard Mitigation PlanIOEM.

STAFF RECOMMENDATION:

Adopt Resolution R05-2017 - accepting the City's/District's section of the Ada County Multi-Hazard Mitigation PlanIOEM

BACKGROUND

Hazard Mitigation Planning for the Ada County Planning Area:

In August of 2015, a coalition of Ada County planning partners embarked on a planning process to prepare for and lessen the impacts of specified natural hazards. Responding to federal mandates in the Disaster Mitigation Act of 2000 (Public Law 106-390), the partnership was formed to pool resources and create a uniform hazard mitigation strategy that can be consistently applied to the defined planning area and used to ensure eligibility for specified grant funding sources.

The 20 member planning partnership involved in this program includes Ada County, 6 Cities, and 13 special services districts. The planning area for the hazard mitigation plan encompasses all of Ada County and the portion of Canyon County where Flood Control District #10 has jurisdictional authority. The result of the organizational efforts has been to produce a Federal Emergency Management Agency (FEMA) and the Idaho Office of Emergency Management (IOEM)-approved multi-agency multi-hazard mitigation plan.

Mitigation is defined in this context as any sustained action taken to reduce or eliminate long-term risk to life and property from a hazard event. Mitigation planning is the systematic process of learning about the hazards that can affect the community, setting clear goals, identifying appropriate actions and following through with an effective mitigation strategy. Mitigation encourages long-term reduction of hazard vulnerability and can reduce the enormous cost of disasters to property owners and all levels of government. Mitigation can also protect critical community facilities, reduce exposure to liability, and minimize post-disaster community disruption.

The hazard identification and profiling in the hazard mitigation plan addresses the following hazards considered to be of paramount importance within the Ada County planning area:

1. Dam Failure
2. Drought
3. Earthquake
4. Flood
5. Landslide and Other Mass Movements
6. Severe Weather
7. Volcano (Ash Fall)
8. Wildfire

Ada County Emergency Management (ACEM) secured funding for developing the hazard mitigation plan and was the lead coordinating agency for this multi-jurisdictional effort. All participating local jurisdictions have been responsible for assisting in the development of the hazard and vulnerability assessments and the mitigation action strategies for their respective jurisdictions and organizations. The plan presents the accumulated information in a unified framework to ensure a comprehensive and coordinated plan covering all planning partners within the Ada County Planning Area. Each jurisdiction has been responsible for the review and approval of their individual sections of the plan.

The plan was prepared in accordance with the Idaho Office of Emergency Management Local Hazard Mitigation Plan and Flood Mitigation Plan preparation guidelines. Additionally, the plan has been aligned with the goals, objectives and priorities of the State's multi-hazard mitigation plan and flood mitigation plan.

A 17 member Hazard Mitigation Steering Committee (HMSC) composed of representative stakeholders was formed early in the planning process to guide the development of the Plan. In addition, citizens were asked to contribute by sharing local knowledge of their individual area's vulnerability to natural hazards based on past occurrences. Public involvement has been solicited via a multi-media campaign that included public meetings, web-based information, questionnaires and progress updates via the news media.

Why adopt this Plan?

Once the hazard mitigation plan is adopted by all of the jurisdictional partners and approved by FEMA, the partnership will collectively and individually become eligible to apply for hazard mitigation project funding from both the Pre-Disaster Mitigation Grant Program (PDM) and the Hazard Mitigation Grant Program (HMGP).

What is the Pre-Disaster Mitigation competitive grant program?

The PDM competitive grant program provides funds to State, Tribal, and local governments for pre-disaster mitigation planning and projects primarily addressing natural hazards. Cost-Effective pre-disaster mitigation activities reduce risk to life and property from natural hazard events before a natural disaster strikes, thus reducing overall risks to the population and structures,

while also reducing reliance on funding from actual disaster declarations. Funds will be awarded on a competitive basis for mitigation planning and project applications intended to make local governments more resistant to the impacts of future natural disasters (*For more details on this program see Attachment 1*).

What is the Hazard Mitigation Grant Program?

Authorized under Section 404 of the Stafford Act, the HMGP administered by FEMA provides grants to States and local governments to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the program is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster (*For more details on this program see Attachment 1*).

Where do we go from here?

Upon adoption of Volume I and our jurisdictional Annex of Volume II of the Ada County Multi-Hazard Mitigation Plan IOEM (ACMHMP) and subsequent approval of said plan by IOEM and FEMA, the city will be eligible to apply for specified grants. The grant funds are made available to states and local governments and can be used to implement the long-term hazard mitigation measures specified within the city annex of the ACMHMP before and after a major disaster declaration. The ACMHMP is considered a living document such that, as awareness of additional hazards develops and new strategies and projects are conceived to offset or prevent losses due to natural disasters, the ACMHMP will be evaluated and revised on a continual 5 year time frame.

RECOMMENDED COUNCIL ACTION:

Motion to adopt Resolution No. R05-2017 and to read it by title only. Consent Calendar voice vote.

ATTACHMENTS:

1. Hazard Mitigation Grant Program (HMGP) and Pre-Disaster Mitigation Grant Program (PDM) Fact Sheet
2. City of Kuna Annex of the Ada County Multi-Hazard Mitigation Plan IOEM

Attachment 1
Hazard Mitigation Grant Program (HMGP)
Pre-Disaster Mitigation Grant Program (PDM)
FACT SHEET

I. HAZARD MITIGATION GRANT PROGRAM (HMGP)

What is the Hazard Mitigation Grant Program?

Authorized under Section 404 of the Stafford Act, the Hazard Mitigation Grant Program (HMGP) administered by the Federal Emergency Management Agency (FEMA) provides grants to States and local governments to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the program is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster.

Who is eligible to apply?

Hazard Mitigation Grant Program funding is only available to applicants that reside within a Presidentially declared disaster area. Eligible applicants are

- State and local governments
- Indian tribes or other tribal organizations
- Certain non-profit organizations

What types of projects can be funded by the HMGP?

HMGP funds may be used to fund projects that will reduce or eliminate the losses from future disasters. Projects must provide a long-term solution to a problem, for example, elevation of a home to reduce the risk of flood damages as opposed to buying sandbags and pumps to fight the flood. In addition, a project's potential savings must be more than the cost of implementing the project. Funds may be used to protect either public or private property or to purchase property that has been subjected to, or is in danger of, repetitive damage. Examples of projects include, but are not limited to:

- Acquisition of real property for willing sellers and demolition or relocation of buildings to convert the property to open space use
- Retrofitting structures and facilities to minimize damages from high winds, earthquake, flood, wildfire, or other natural hazards
- Elevation of flood prone structures
- Development and initial implementation of vegetative management programs
- Minor flood control projects that do not duplicate the flood prevention activities of other Federal agencies
- Localized flood control projects, such as certain ring levees and floodwall systems, that are designed specifically to protect critical facilities
- Post-disaster building code related activities that support building code officials during the reconstruction process

What are the minimum project criteria?

There are five issues you must consider when determining the eligibility of a proposed project.

- Does your project conform to your State's Hazard Mitigation Plan?
- Does your project provide a beneficial impact on the disaster area i.e. the State?
- Does your application meet the environmental requirements?
- Does your project solve a problem independently?
- Is your project cost-effective?

II. **PRE-DISASTER MITIGATION GRANT PROGRAM (PDM)**

What is the Pre-Disaster Mitigation competitive grant program?

The Pre-Disaster Mitigation (PDM) competitive grant program provides funds to State, Tribal, and local governments for pre-disaster mitigation planning and projects primarily addressing natural hazards. Cost-Effective pre-disaster mitigation activities reduce risk to life and property from natural hazard events before a natural disaster strikes, thus reducing overall risks to the population and structures, while also reducing reliance on funding from actual disaster declarations. Funds will be awarded on a competitive basis to successful Applicants for mitigation planning and project applications intended to make local governments more resistant to the pacts of future natural disasters.

Who can apply for a PDM competitive grant?

Eligible PDM competitive grant Applicants include State and Territorial emergency management agencies, or a similar office of the State, District of Columbia, U.S. Virgin Islands, Commonwealth of Puerto Rico, Guam, American Samoa, Commonwealth of the Northern Mariana Islands, and Federally-recognized Indian Tribal governments.

- ✓ Eligible Sub-applicants include State agencies; Federally-recognized Indian Tribal governments; and local governments (including State recognized Indian Tribal governments and Alaska native villages).
- ✓ Applicants can apply for PDM competitive grant funds directly to FEMA, while Sub-applicants must apply for funds through an eligible Applicant.
- ✓ Private non-profit organizations are not eligible to apply for PDM but may ask the appropriate local government to submit an application for the proposed activity on their behalf.

What are eligible PDM projects?

Multi-hazard mitigation projects must primarily focus on natural hazards but also may address hazards caused by non-natural forces. **Funding is restricted to a maximum of \$3M Federal share per project.** The following are eligible mitigation projects:

- ✓ Acquisition or relocation of hazard-prone property for conversion to open space in perpetuity;
- ✓ Structural and non-structural retrofitting of existing buildings and facilities (including designs and feasibility studies when included as part of the construction project) for wildfire, seismic, wind or flood hazards (e.g., elevation, flood proofing, storm shutters, hurricane clips);
- ✓ Minor structural hazard control or protection projects that may include vegetation management, Stormwater management (e.g., culverts, floodgates, retention basins), or shoreline/landslide stabilization; and,
- ✓ Localized flood control projects, such as certain ring levees and floodwall systems, that are designed specifically to protect critical facilities and that do not constitute a section of a larger flood control system.

Mitigation Project Requirements

Projects should be technically feasible (see Section XII. Engineering Feasibility) and ready to implement. Engineering designs for projects must be included in the application to allow FEMA to assess the effectiveness and feasibility of the proposed project. The project cost estimate should complement the engineering design, including all anticipated costs. FEMA has several formats that it uses in cost estimating for projects. Additionally, other Federal agencies' approaches to project cost estimating can be used as long as the method provides for a complete and accurate estimate. FEMA can provide technical assistance on engineering documentation and cost estimation (see Section XIII.D. Engineering Feasibility).

Mitigation projects also must meet the following criteria:

1. Be cost-effective and substantially reduce the risk of future damage, hardship, loss, or suffering resulting from a major disaster, consistent with 44 CFR 206.434(c)(5) and related guidance, and have a Benefit-Cost Analysis that results in a benefit-cost ratio of 1.0 or greater (see Section X. Benefit-Cost Analysis). **Mitigation projects with a benefit-cost ratio less than 1.0 will not be considered for the PDM competitive grant program;**
2. Be in conformance with the current FEMA-approved State hazard mitigation plan;
3. Solve a problem independently or constitute a functional portion of a solution where there is assurance that the project as a whole will be completed, consistent with 44 CFR 206.434(b)(4);
4. Be in conformance with 44 CFR Part 9, Floodplain Management and Protection of Wetlands, and 44 CFR Part 10, consistent with 44 CFR 206.434(c)(3);
5. Not duplicate benefits available from another source for the same purpose, including assistance that another Federal agency or program has the primary authority to provide (see Section VII.C. Duplication of Benefits and Programs);
6. Be located in a community that is participating in the NFIP if they have been identified through the NFIP as having a Special Flood Hazard Area (a FHBM or FIRM has been issued). In addition, the community must not be on probation, suspended or withdrawn from the NFIP; and,
7. Meet the requirements of Federal, State, and local laws.

What are examples of Ineligible PDM Projects?

The following mitigation projects are not eligible for the PDM program:

- ✓ Major flood control projects such as dikes, levees, floodwalls, seawalls, groins, jetties, dams, waterway channelization, beach nourishment or re-nourishment;
- ✓ Warning systems;
- ✓ Engineering designs that are not integral to a proposed project;
- ✓ Feasibility studies that are not integral to a proposed project;
- ✓ Drainage studies that are not integral to a proposed project;
- ✓ Generators that are not integral to a proposed project;
- ✓ Phased or partial projects;
- ✓ Flood studies or flood mapping; and,
- ✓ Response and communication equipment.

CITY OF MERIDIAN

RESOLUTION NO. 17-1195

BY THE CITY COUNCIL:

BIRD, BORTON, CAVENER,
MILAM, PALMER, LITTLE ROBERTS

A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF MERIDIAN ADOPTING APPLICABLE PROVISIONS OF THE 2016 UPDATE OF THE ADA COUNTY MULTI-HAZARD MITIGATION PLAN; DIRECTING THE PUBLIC WORKS DEPARTMENT STAFF TO IMPLEMENT THE STRATEGIES THEREIN AND TO CONTINUE REPRESENTING THE CITY OF MERIDIAN IN MATTERS RELATED TO THE PLAN, AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, natural hazards that increase the risk to life, property, environment and the economy exist within the City of Meridian, as they do throughout Ada County; and

WHEREAS; pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life, property, environment and the economy; and

WHEREAS, The federal Disaster Mitigation Act of 2000 (Public Law 106-390) provides the legal basis for FEMA mitigation planning for state and local governments as a condition of mitigation grant assistance, and established requirements for pre and post disaster hazard mitigation programs; and

WHEREAS; a coalition of Ada County stakeholders with common planning objectives, including a representative from the City of Meridian, has been formed to pool resources and create consistent mitigation strategies to be implemented within each partners identified capabilities, within the Ada County Planning Area; and

WHEREAS, the coalition has completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of natural hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy; and

WHEREAS, the Mayor and City Council find that it is in the best interest of the people of Meridian to adopt and implement the 2016 updates to the applicable portions of the Ada County Multi-Hazard Mitigation Plan.

NOW THEREFORE, BE IT RESOLVED BY THE MAYOR AND COUNCIL OF THE CITY OF MERIDIAN, IDAHO:

Section 1. That the following portions of the Ada County Multi-Hazard Mitigation Plan (“Plan”) are hereby adopted within the City of Meridian:

- A. Volume I, the Executive Summary of which is attached hereto as Exhibit A.
- B. The Meridian annex of Volume II, attached hereto as Exhibit B.
- C. Selected Countywide Mitigation actions, attached hereto as Exhibit C.
- D. Appendices of Volume II: <https://adacounty.id.gov/accem/Mitigation>

RESOLUTION ADOPTING APPLICABLE PROVISIONS OF THE 2016 UPDATE OF THE ADA COUNTY MULTI-HAZARD MITIGATION PLAN

Section 2. That City staff will use the adopted and approved portions of the Plan to guide pre and post disaster mitigation of the hazards identified.

Section 3. That City staff will coordinate the strategies identified in the Plan with other planning programs and mechanisms under its jurisdictional authority.

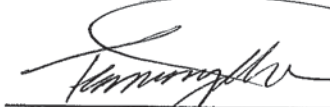
Section 4. That City staff will continue to support the Hazard Mitigation Steering Committee and continue to participate in the Planning Partnership as described in the Plan.

Section 5. That this Resolution shall be in full force and effect immediately upon its adoption and approval.

ADOPTED by the City Council of the City of Meridian, Idaho this 21st day of February, 2017.

APPROVED by the Mayor of the City of Meridian, Idaho, this 21st day of February, 2017.

APPROVED:



Tammy de Weerd, Mayor



ATTEST:



C. Jay Coles, City Clerk

RESOLUTION NO. 2016-09
A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF STAR
AUTHORIZING THE ADOPTION OF THE
ADA COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, all of Ada County has exposure to natural hazards that increase the risk to life, property, environment and the County's economy; and

WHEREAS, pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and

WHEREAS, The Disaster Mitigation Act of 2000 (Public Law 106-390) established new requirements for pre and post disaster hazard mitigation programs; and

WHEREAS, a coalition of Ada County stakeholders with like planning objectives has been formed to pool resources and create consistent mitigation strategies to be implemented within each partners identified capabilities, within the Ada County Planning Area; and

WHEREAS, the coalition has completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of natural hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy;

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND CITY COUNCIL OF STAR, IDAHO, as follows:

- 1.) Adopts in its entirety, Volume I and parts 1, the City of Star, Idaho jurisdictional annex of part 2, part 3 and the appendices of Volume II of the Ada County Multi-Hazard Mitigation Plan (ACMHMP).
- 2.) Will use the adopted and approved portions of the ACMHMP to guide pre and post disaster mitigation of the hazards identified.
- 3.) Will coordinate the strategies identified in the ACMHMP with other planning programs and mechanisms under its jurisdictional authority.
- 4.) Will continue its support of the Steering Committee and continue to participate in the Planning Partnership as described by the ACMHMP.
- 5.) Will help to promote and support the mitigation successes of all ACMHMP Planning Partners.

PASSED AND ADOPTED on this 6th day of December, 2016.

CITY OF STAR, IDAHO

By: 
Chariten Bell, Mayor

ATTEST:


Cathy Ward, City Clerk





Paul Woods, President
Rebecca W. Arnold, Vice President
Sara M. Baker, Commissioner
Jim D. Hansen, Commissioner
Kent Goldthorpe, Commissioner

January 20, 2016

To: ACHD Commission
Bruce Wong, Director

From: Tim Nicholson
Maintenance Manager

Subject: **Adoption of Resolution 2167 for the Adoption and Implementation of the Ada County All Hazards Mitigation Plan**

Agenda Date: February 1, 2017

Executive Summary:

Hazard Mitigation Planning for the Ada County Planning Area:

In August of 2015, a coalition of Ada County planning partners embarked on a planning process to prepare for and lessen the impacts of specified natural hazards. Responding to federal mandates in the Disaster Mitigation Act of 2000 (Public Law 106-390), the partnership was formed to pool resources and create a uniform hazard mitigation strategy that can be consistently applied to the defined planning area and used to ensure eligibility for specified grant funding sources.

The twenty (20) member planning partnership involved in this program includes Ada County, six (6) Cities, and thirteen (13) special services districts. The planning area for the hazard mitigation plan encompasses all of Ada County and the portion of Canyon County where Flood Control District #10 has jurisdictional authority. The result of the organizational efforts has been to produce a Federal Emergency Management Agency (FEMA) and the Idaho Office of Emergency Management (IOEM)-approved multi-agency multi-hazard mitigation plan.

Mitigation is defined in this context as any sustained action taken to reduce or eliminate long-term risk to life and property from a hazard event. Mitigation planning is the systematic process of learning about the hazards that can affect the community, setting clear goals, identifying appropriate actions and following through with an effective mitigation strategy. Mitigation encourages long-term reduction of hazard vulnerability and can reduce the enormous cost of disasters to property owners and all levels of government. Mitigation can also protect critical community facilities, reduce exposure to liability, and minimize post-disaster community disruption.

The hazard identification and profiling in the hazard mitigation plan addresses the following hazards considered to be of paramount importance within the Ada County planning area:

1. Dam Failure
2. Drought
3. Earthquake
4. Flood
5. Landslide and Other Mass Movements
6. Severe Weather
7. Volcano (Ash Fall)
8. Wildfire

RESOLUTION NO. 2167

BY THE ADA COUNTY HIGHWAY DISTRICT BOARD OF COMMISSIONERS:
PAUL WOODS, REBECCA W. ARNOLD, SARA M. BAKER, JIM D. HANSEN,
AND KENT GOLDTHORPE.

A RESOLUTION PROVIDING FOR THE ADOPTION AND IMPLEMENTATION
OF THE 2016 ADA COUNTY MULTI-HAZARD MITIGATION PLAN/OEM

WHEREAS, Ada County Highway District (ACHD) is a single county-wide highway district organized and existing under the laws of the State of Idaho with jurisdiction and authority over all highways in Ada County, except State highways and freeways; and

WHEREAS, all of Ada County has exposure to natural hazards that increase the risk to life, property, environment and the County's economy; and pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and

WHEREAS, The Disaster Mitigation Act of 2000 (Public Law 106-390) established new requirements for pre and post disaster hazard mitigation programs; and

WHEREAS, a coalition of Ada County stakeholders with common planning objectives has been formed to pool resources and create consistent mitigation strategies to be implemented within each partner's identified capabilities, within the Ada County Planning Area; and

WHEREAS, the coalition has completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of natural hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy; and

WHEREAS, adoption and implementation of 2016 Ada County Multi-Hazard Mitigation Plan/OEM will ensure the Ada County Highway District's participation in, and management of, the implementation of the plans and it will also ensure that the Ada County Highway District is eligible for pre and post disaster funding under federal regulations set forth in 44 CFR § 201; and

WHEREAS, the Ada County Highway District is a "special purpose" district with its statutory duties and responsibilities set forth in Idaho Code §§ 40-1412, 40-1415, 40-1416 and 40-801 and in those instances where the Ada County Highway District is named as a "Planning Partner" in the 2016 Ada County Multi-Hazard Mitigation Plan/OEM, the proposed actions and activities appear to be

consistent and in accordance with ACHD's statutory authority as a "special purpose" district as well as its statutory duties and responsibilities; and

WHEREAS, it is in the best interest of the citizens of Ada County, Idaho, for the Ada County Highway District Board of Commissioners to adopt and implement the 2016 Ada County Multi-Hazard Mitigation Plan/OEM.

NOW, THEREFORE, BE IT RESOLVED, that the Ada County Highway District Board of Commissioners does hereby adopt in its entirety Volume I, the Ada County Highway District annex of Volume II and the appendices of Volume II of the 2016 Ada County Multi-Hazard Mitigation Plan/OEM (ACMHMP).

BE IT FURTHER RESOLVED, that the Ada County Highway District will use the adopted and approved portions of the ACMHMP to guide pre and post disaster mitigation of the hazards identified as well as coordinate the strategies identified in the ACMHMP with other planning programs and mechanisms under its jurisdictional authority.

BE IT FURTHER RESOLVED, that the Ada County Highway District will continue its support of the Steering Committee and continue to participate in the Planning Partnership as described by the ACMHMP and help to promote and support the mitigation successes of all ACMHMP Planning Partners.

BE IT FURTHER RESOLVED, that this resolution shall be in full force and effect immediately upon its adoption and approval.

Adopted and approved by the Board of Commissioners of the Ada County Highway District on the 1ST day of February, 2017.

BOARD OF COMMISSIONERS

By: Paul P. Woods
Paul Woods, President

By: Rebecca W. Arnold
Rebecca W. Arnold, Vice President

By: Sara M. Baker
Sara M. Baker, Commissioner

By: Jim D. Hansen
Jim D. Hansen, Commissioner

By: Kent Goldthorpe
Kent Goldthorpe, Commissioner

ATTEST:

Bruce S. Wong
Bruce S. Wong, Director



The Independent School District of Boise City

8169 W. Victory Road
Boise, Idaho 83709

(208) 854-4000
Fax (208) 854-4008

RESOLUTION

A RESOLUTION PROVIDING FOR THE ADOPTING OF THE ADA COUNTY MULTI - HAZARD MITIGATION PLAN

WHEREAS, all of Ada County has exposure to natural hazards that increase the risk to life, property, environment and the County's economy; and

WHEREAS, pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and

WHEREAS, The Disaster Mitigation Act of 2000 (Public Law 106-390) established new requirements for pre and post disaster hazard mitigation programs; and

WHEREAS; a coalition of Ada County stakeholders with common planning objectives has been formed to pool resources and create consistent mitigation strategies to be implemented within each partner's identified capabilities, within the Ada County Planning Area; and

WHEREAS, the coalition has completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of natural hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy; and

NOW, THEREFORE, BE IT RESOLVED THE BOARD OF TRUSTEES

- 1) Adopts in its entirety, Volume I, the Boise School District annex of Volume II and the appendices of Volume II of the Ada County All Hazard Mitigation Plan (ACAHMP).
- 2) Will use the adopted and approved portions of the ACAHMP to guide pre and post disaster mitigation of the hazards identified.
- 3) Will coordinate the strategies identified in the ACAHMP with other planning programs and mechanisms under its jurisdictional authority.
- 4) Will continue its support of the Steering Committee and continue to participate in the Planning Partnership as described by the ACAHMP.

Dated this 28th day of April 2017 by the **Boise School District**

APPROVED:

By: _____

Nancy Gregory
Nancy Gregory, President Board of Trustees

ATTEST:

By: _____

Jennette L Clark
Jennette Clark, Clerk of the Board

"Educating Today For a Better Tomorrow"

An Equal Opportunity Employer-Educator

RESOLUTION NO. 2017-01

BY THE BOARD OF DRAINAGE COMMISSIONERS OF DRAINAGE DISTRICT NO 4
OF THE COUNTY OF ADA, STATE OF IDAHO: DIMMICK, HARPHAM, DALRYMPLE.

A RESOLUTION OF THE BOARD OF COMMISSIONERS
OF DRAINAGE DISTRICT NO. 4, FOR THE PURPOSE OF
ADOPTING THE ADA COUNTY ALL HAZARDS
MITIGATION PLAN 2016 UPDATE

WHEREAS, by order of the Director of the Idaho Department of Water Resources (formerly Idaho Department of Water Administration) Drainage District No. 4 was formed, as a duly organized, created and functioning drainage district for the purpose enunciated in Chapter 29, Title 42, Idaho Code; and,

WHEREAS; pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and,

WHEREAS, The Disaster Mitigation Act of 2000 (Public Law 106-390) established new requirements for pre and post disaster hazard mitigation programs; and,

WHEREAS; a coalition of Ada County stakeholders, including Drainage District No. 4, with common planning objectives has been formed to pool resources and create consistent mitigation strategies to be implemented within each partner's identified capabilities, within the Ada County Planning Area and which is within the ordered boundaries of Drainage District No. 4; and,

WHEREAS, the coalition has completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of natural hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy; and,

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DRAINAGE COMMISSIONERS OF DRAINAGE DISTRICT NO. 4 OF THE COUNTY OF ADA, STATE OF IDAHO, THAT DRAINAGE DISTRICT NO. 4:

- 1.) Adopts in the entirety, Volume I, the Drainage District No. 4 annex of Volume II and the appendices of Volume II of the Ada County All Hazard Mitigation Plan (ACAHMP);

- 2.) Will use the adopted and approved portions of the ACAHMP to guide pre and post disaster mitigation of the hazards identified;
- 3.) Will coordinate the strategies identified in the ACAHMP with other planning programs and mechanisms under Drainage District No. 4 jurisdictional authority; and
- 4.) Will continue supporting the Steering Committee and continue to participate in the Planning Partnership, as described by the ACAHMP.

ADOPTED by the Commissioners of Drainage District No. 4 of the County of Ada in the State of Idaho, this 4th day of April 2017, and executed by the Chairman of the Board and attested by the Secretary under the Seal of the said District as directed by the board of Commissioners pursuant to the motion duly made, seconded and carries at a regular meeting held on the 4th day of April 2017.

APPROVED:

Board Chair



ATTEST:

By

Lois B. Harpham
Board Secretary

RESOLUTION #01-2017

A RESOLUTION PROVIDING FOR THE ADOPTING OF THE ADA COUNTY MULTI-HAZARDS MITIGATION PLAN

WHEREAS, all of Ada County has exposure to natural hazards that increase the risk to life, property, environment and the County's economy; and

WHEREAS; pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and

WHEREAS, The Disaster Mitigation Act of 2000 (Public Law 106-390) established new requirements for pre and post disaster hazard mitigation programs; and

WHEREAS; a coalition of Ada County stakeholders with common planning objectives has been formed to pool resources and create consistent mitigation strategies to be implemented within each partner's identified capabilities, within the Ada County Planning Area; and

WHEREAS, the coalition has completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of natural hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy; and

NOW, THEREFORE, BE IT RESOLVED the **EAGLE FIRE PROTECTION DISTRICT BOARD OF COMMISSIONERS**:

- 1.) Adopts in its entirety, Volume I, the EAGLE FIRE PROTECTION DISTRICT annex of Volume II and the appendices of Volume II of the Ada County Multi-Hazard Mitigation Plan (ACMHMP).
- 2.) Will use the adopted and approved portions of the ACMHMP to guide pre and post disaster mitigation of the hazards identified.
- 3.) Will coordinate the strategies identified in the ACMHMP with other planning programs and mechanisms under its jurisdictional authority.
- 4.) Will continue its support of the Steering Committee and continue to participate in the Planning Partnership as described by the ACAHMP.

ADOPTED this 10th day of January 2017

EAGLE FIRE PROTECTION DISTRICT:

BY: 
Gary Stillwell

BY: 
Kevan Kjar

BY: 
Dan Friend

RESOLUTION NO. 16-14
A RESOLUTION OF THE EAGLE SEWER DISTRICT
AUTHORIZING THE ADOPTION OF THE
ADA COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, all of Ada County has exposure to natural hazards that increase the risk to life, property, environment and the County's economy; and

WHEREAS; pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and

WHEREAS, The Disaster Mitigation Act of 2000 (Public Law 106-390) established new requirements for pre and post disaster hazard mitigation programs; and

WHEREAS; a coalition of Ada County stakeholders with like planning objectives has been formed to pool resources and create consistent mitigation strategies to be implemented within each partners identified capabilities, within the Ada County Planning Area; and

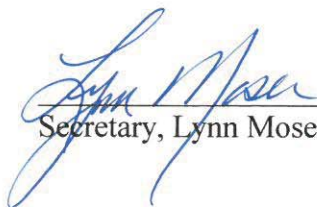
WHEREAS, the coalition has completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of natural hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy;


NOW, THEREFORE, BE IT RESOLVED THAT THE EAGLE SEWER DISTRICT:

- 1.) Adopts in its entirety, Volume I and parts 1, the Eagle Sewer District jurisdictional annex of part 2, part 3 and the appendices of Volume II of the Ada County Multi-Hazard Hazard Mitigation Plan (ACMHMP).
- 2.) Will use the adopted and approved portions of the ACMHMP to guide pre and post disaster mitigation of the hazards identified.
- 3.) Will coordinate the strategies identified in the ACMHMP with other planning programs and mechanisms under its jurisdictional authority.
- 4.) Will continue its support of the Steering Committee and continue to participate in the Planning Partnership as described by the ACMHMP.
- 5.) Will help to promote and support the mitigation successes of all ACMHMP Planning Partners.

ADOPTED by the Eagle Sewer District Board of Directors on this 12th day of December, 2016

ATTEST:


Secretary, Lynn Moser


Chairman, Ervin Ballou

RESOLUTION BOISE RIVER FLOOD CONTROL DISTRICT NO. 10

RESOLUTION NO. 01-2017

BY THE BOARD OF COMMISSIONERS OF THE BOISE RIVER FLOOD CONTROL DISTRICT NO. 10:

A RESOLUTION OF THE BOARD OF COMMISSIONERS OF THE BOISE RIVER FLOOD CONTROL DISTRICT NO. 10, FOR THE PURPOSE OF ADOPTING THE ADA COUNTY ALL HAZARDS MITIGATION PLAN 2016 UPDATE

WHEREAS, by order of the Director of the Idaho Department of Water Resources (formerly Idaho Department of Water Administration), Boise River Flood Control District No. 10 (FCD #10) was formed on October 13, 1970, as an entity comprised of approximately 25,000 acres of land located in Ada and Canyon Counties, Idaho; and,

WHEREAS, all of Ada and Canyon Counties have exposure to natural hazards that increase the risk to life, property, environment and the Counties' economy; and,

WHEREAS; pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and,

WHEREAS, The Disaster Mitigation Act of 2000 (Public Law 106-390) established new requirements for pre- and post-disaster hazard mitigation programs; and,

WHEREAS; a coalition of Ada County stakeholders, including FCD #10, with common planning objectives, has been formed to pool resources and create consistent mitigation strategies to be implemented within each partner's identified capabilities, within the Ada County Planning Area and that portion of Canyon County within the ordered boundaries of FCD #10; and,

WHEREAS, the coalition has completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of natural hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy; and,

NOW, THEREFORE, BE IT RESOLVED the Board of Directors of Boise River Flood Control District No. 10:

- 1.) Adopts in the entirety, Volume I, the Flood Control District #10 annex of Volume II and the appendices of Volume II of the Ada County All Hazard Mitigation Plan (ACAHMP);

- 2.) Will use the adopted and approved portions of the ACAHMP to guide pre- and post-disaster mitigation of the hazards identified;
- 3.) Will coordinate the strategies identified in the ACAHMP with other planning programs and mechanisms under FCD #10 jurisdictional authority; and
- 4.) Will continue supporting the Steering Committee and continue to participate in the Planning Partnership, as described by the ACAHMP.

PASSED by the Boise River Flood Control District No. 10, on March 17, 2017.
Signed by the Chairman of the Board of Commissioners and attested by the Flood District Manager on March 17, 2017.

APPROVED:

Board Chair W Clayton
WILLIAM CLAYTON

ATTEST:

By Michael Dimmick
District Manager
MICHAEL DIMMICK

**RESOLUTION ADOPTING THE 2016 UPDATE OF THE
ADA COUNTY MULTI-HAZARD MITIGATION PLAN**

WHEREAS, all of Ada County has exposure to natural hazards that increase the risk to life, property, environment and the County's economy; and

WHEREAS; pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and

WHEREAS, The Disaster Mitigation Act of 2000 (Public Law 106-390) established new requirements for pre and post disaster hazard mitigation programs; and

WHEREAS; a coalition of Ada County stakeholders with like planning objectives has been formed to pool resources and create consistent mitigation strategies to be implemented within each partners identified capabilities, within the Ada County Planning Area; and

WHEREAS, the coalition has completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of natural hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy;

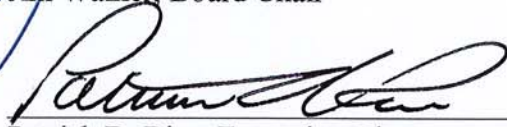
BE IT THEREFORE RESOLVED, the Board of the Greater Boise Auditorium District does hereby support and

- 1.) Adopt in its entirety, Volume I, the Auditorium District annex of Volume II and the appendices of Volume II of the Ada County Multi- Hazard Mitigation Plan (ACMHMP).
- 2.) Will use the adopted and approved portions of the ACMHMP to guide pre and post disaster mitigation of the hazards identified.
- 3.) Will coordinate the strategies identified in the ACMHMP with other planning programs and mechanisms under its jurisdictional authority.
- 4.) Will continue its support of the Steering Committee and continue to participate in the Planning Partnership as described by the ACMHMP.

APPROVED AND ADOPTED this 26th day of July 2017

**BOARD OF THE GREATER BOISE AUDITORIUM
DISTRICT**

By: 
Jim Walker, Board Chair

By: 
Patrick D. Rice, Executive Director

ATTEST:


Pam Carpenter: Boise Centre Administrative Assistant

**KUNA RURAL FIRE DISTRICT
RESOLUTION NO. 2017-1**

**A RESOLUTION OF THE KUNA RURAL FIRE DISTRICT PROVIDING FOR THE
ADOPTING OF THE 2016 UPDATES TO THE ADA COUNTY MULTI-HAZARD
MITIGATION PLAN**

WHEREAS, all of Ada County has exposure to natural hazards that increase the risk to life, property, environment and the County's economy; and

WHEREAS; pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and

WHEREAS, The Disaster Mitigation Act of 2000 (Public Law 106-390) established new requirements for pre and post disaster hazard mitigation programs; and

WHEREAS; a coalition of Ada County stakeholders with common planning objectives has been formed to pool resources and create consistent mitigation strategies to be implemented within each partner's identified capabilities, within the Ada County Planning Area; and

WHEREAS, the coalition has completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of natural hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy; and

BE IT THEREFORE RESOLVED, the Board of Commissioners of the Kuna Rural Fire District does hereby support and

- 1.) Adopt in its entirety, Volume I, the Kuna Rural Fire District annex of Volume II and the appendices of Volume II of the Ada County Multi- Hazard Mitigation Plan (ACMHMP).
- 2.) Will use the adopted and approved portions of the ACMHMP to guide pre and post disaster mitigation of the hazards identified.
- 3.) Will coordinate the strategies identified in the ACMHMP with other planning programs and mechanisms under its jurisdictional authority.
- 4.) Will continue its support of the Steering Committee and continue to participate in the Planning Partnership as described by the ACMHMP.


PASSED BY THE BOARD OF COMMISSIONERS of the Kuna Rural Fire District, Ada and Canyon Counties, state of Idaho, this 8th day of March, 2017.



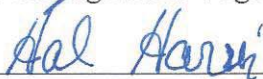
M.G. Bud Beatty, Chairman




Mike Smith, Commissioner



Debi Engelhardt-Vogel Commissioner



Hal Harris, Commissioner



Tim Crawford, Commissioner

RESOLUTION NO. 21

**RESOLUTION ADOPTING THE 2016 UPDATE OF THE
ADA COUNTY MULTI-HAZARD MITIGATION PLAN (ACMHMP)**

WHEREAS, all of Ada County has exposure to natural hazards that increase the risk to life, property, environment and the County's economy; and

WHEREAS; pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and

WHEREAS, The Disaster Mitigation Act of 2000 (Public Law 106-390) established new requirements for pre and post disaster hazard mitigation programs; and

WHEREAS; a coalition of Ada County stakeholders with common planning objectives has been formed to pool resources and create consistent mitigation strategies to be implemented within each partner's identified capabilities, within the Ada County Planning Area; and

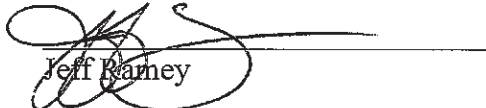
WHEREAS, the coalition has completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of natural hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy; and

NOW, THEREFORE, BE IT RESOLVED the North Ada County Fire & Rescue District:

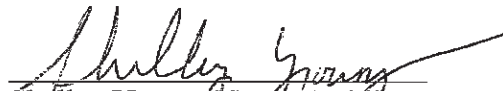
- 1.) Adopts in its entirety, the North Ada County Fire & Rescue District annex and the appendices of the Ada County Multi-Hazard Mitigation Plan (ACMHMP).
- 2.) Will use the adopted and approved portions of the ACMHMP to guide pre and post disaster mitigation of the hazards identified.
- 3.) Will coordinate the strategies identified in the ACMHMP with other planning programs and mechanisms under its jurisdictional authority.
- 4.) Will continue its support of the Steering Committee and continue to participate in the Planning Partnership as described by the ACMHMP.

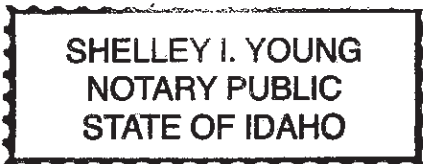
This Resolution shall become effective immediately. DATED this 12th Day of December, 2016.


Margaret Dimmick, Chair


Jeff Barney


Michael G. Ivan


Shelley Young, Notary Public
Commission Expires 4/28/17



RESOLUTION NO. 17-139

**STAR FIRE PROTECTION DISTRICT
RESOLUTION ADOPTING THE 2016 UPDATE OF THE
ADA COUNTY MULTI-HAZARD MITIGATION PLAN**

WHEREAS, all of Ada County has exposure to natural hazards that increase the risk to life, property, environment and the County's economy; and

WHEREAS; pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and

WHEREAS, The Disaster Mitigation Act of 2000 (Public Law 106-390) established new requirements for pre and post disaster hazard mitigation programs; and

WHEREAS; a coalition of Ada County stakeholders with like planning objectives has been formed to pool resources and create consistent mitigation strategies to be implemented within each partners identified capabilities, within the Ada County Planning Area; and

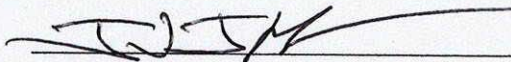
WHEREAS, the coalition has completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of natural hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy;

BE IT THEREFORE RESOLVED, the Board of Star Fire Protection District does hereby support and

- 1.) Adopt in its entirety, Volume I, the Star Fire District annex of Volume II and the appendices of Volume II of the Ada County Multi- Hazard Mitigation Plan (ACMHMP).
- 2.) Will use the adopted and approved portions of the ACMHMP to guide pre and post disaster mitigation of the hazards identified.
- 3.) Will coordinate the strategies identified in the ACMHMP with other planning programs and mechanisms under its jurisdictional authority.
- 4.) Will continue its support of the Steering Committee and continue to participate in the Planning Partnership as described by the ACMHMP.

APPROVED AND ADOPTED this 13th day of April, 2017

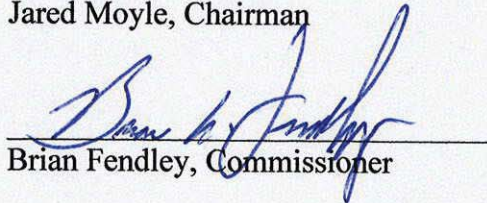
STAR FIRE PROTECTION DISTRICT



Jared Moyle, Chairman

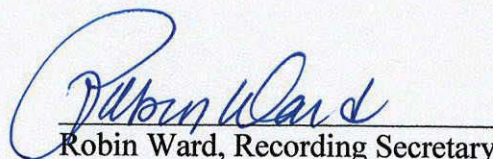
Absent

Steve Martin, Commissioner



Brian Fendley, Commissioner

ATTEST:



Robin Ward, Recording Secretary

RESOLUTION NO. 2016-3
A RESOLUTION OF THE STAR SEWER & WATER DISTRICT
AUTHORIZING THE ADOPTION OF THE
ADA COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, all of Ada County has exposure to natural hazards that increase the risk to life, property, environment and the County's economy; and

WHEREAS; pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and

WHEREAS, The Disaster Mitigation Act of 2000 (Public Law 106-390) established new requirements for pre and post disaster hazard mitigation programs; and

WHEREAS; a coalition of Ada County stakeholders with like planning objectives has been formed to pool resources and create consistent mitigation strategies to be implemented within each partners identified capabilities, within the Ada County Planning Area; and

WHEREAS, the coalition has completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of natural hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy;

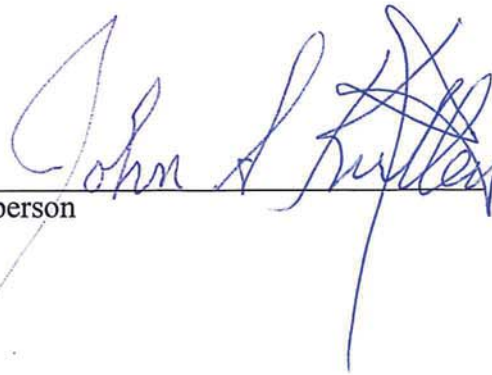
NOW, THEREFORE, BE IT RESOLVED that the Star Sewer & Water District

- 1.) Adopts in its entirety, Volume I and parts 1, the Star Sewer & Water District jurisdictional annex of part 2, part 3 and the appendices of Volume II of the Ada County Multi-Hazard Hazard Mitigation Plan (ACMHMP).
- 2.) Will use the adopted and approved portions of the ACMHMP to guide pre and post disaster mitigation of the hazards identified.
- 3.) Will coordinate the strategies identified in the ACMHMP with other planning programs and mechanisms under its jurisdictional authority.
- 4.) Will continue its support of the Steering Committee and continue to participate in the Planning Partnership as described by the ACMHMP.
- 5.) Will help to promote and support the mitigation successes of all ACMHMP Planning Partners.

PASSED AND ADOPTED on this 18th Day of November, 2016, by the following vote:

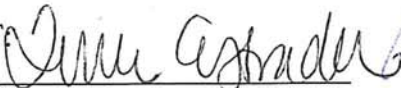
AYES: 5
NOES: 0
ABSENT: 0
ABSTAIN: 0

By _____
Chairperson



ATTEST:

District Secretary



RESOLUTION NO. 2016-2021
A RESOLUTION OF THE WEST ADA SCHOOL DISTRICT
AUTHORIZING THE ADOPTION OF THE
ADA COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, all of Ada County has exposure to natural hazards that increase the risk to life, property, environment and the County's economy; and

WHEREAS; pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and

WHEREAS, The Disaster Mitigation Act of 2000 (Public Law 106-390) established new requirements for pre and post disaster hazard mitigation programs; and

WHEREAS; a coalition of Ada County stakeholders with like planning objectives has been formed to pool resources and create consistent mitigation strategies to be implemented within each partners identified capabilities, within the Ada County Planning Area; and

WHEREAS, the coalition has completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of natural hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy;

NOW, THEREFORE, BE IT RESOLVED that the West Ada School District :


- 1.) Adopts in its entirety, Volume I and parts 1, the West Ada School District jurisdictional annex of part 2, part 3 and the appendices of Volume II of the Ada County Multi-Hazard Hazard Mitigation Plan (ACMHMP).
- 2.) Will use the adopted and approved portions of the ACMHMP to guide pre and post disaster mitigation of the hazards identified.
- 3.) Will coordinate the strategies identified in the ACMHMP with other planning programs and mechanisms under its jurisdictional authority.
- 4.) Will continue its support of the Steering Committee and continue to participate in the Planning Partnership as described by the ACMHMP.
- 5.) Will help to promote and support the mitigation successes of all ACMHMP Planning Partners.

PASSED AND ADOPTED on this 28th day of February, 2017, by the following vote:

AYES: 5
NOES: 0
ABSENT: 0
ABSTAIN: 0

ATTEST:


Clerk of the Board Cheri Newbold


Superintendent Dr. Mary Ann Ranells

RESOLUTION NO. 01-17

RESOLUTION ADOPTING THE 2016 UPDATE OF THE ADA COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, all of Ada County has exposure to natural hazards that increase the risk to life, property, environment and the County's economy; and

WHEREAS; pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and

WHEREAS, The Disaster Mitigation Act of 2000 (Public Law 106-390) established new requirements for pre and post disaster hazard mitigation programs; and

WHEREAS; a coalition of Ada County stakeholders with like planning objectives has been formed to pool resources and create consistent mitigation strategies to be implemented within each partners identified capabilities, within the Ada County Planning Area; and

WHEREAS, the coalition has completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of natural hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy;

BE IT THEREFORE RESOLVED, the Board of Commissioners of the Whitney Fire Protection District does hereby support and

- 1.) Adopt in its entirety, Volume I, the Whitney Fire Protection District annex of Volume II and the appendices of Volume II of the Ada County Multi- Hazard Mitigation Plan (ACMHMP).
- 2.) Will use the adopted and approved portions of the ACMHMP to guide pre and post disaster mitigation of the hazards identified.
- 3.) Will coordinate the strategies identified in the ACMHMP with other planning programs and mechanisms under its jurisdictional authority.
- 4.) Will continue its support of the Steering Committee and continue to participate in the Planning Partnership as described by the ACMHMP.

APPROVED AND ADOPTED this 26th day of January, 2017.

BOARD OF WHITNEY FIRE PROT. DISTRICT

By: Judy M. Simmons
Judy M. Simmons, President

By: John C. Paustian
John C. Paustian, Commissioners

By: James D. Alter
James D. Alter, Commissioner

ATTEST:

Janea Sites
Janea M. Sites, District Secretary

2017 Ada County Multi-Hazard Mitigation Plan: Volume 1—Countywide Elements

Appendix G. Progress Report Template

G. PROGRESS REPORT TEMPLATE

2017 Ada County Multi-Hazard Mitigation Plan Annual Progress Report

Reporting Period: *(Insert reporting period)*

Background: Ada County and participating cities and special purpose districts in the county developed a hazard mitigation plan to reduce risk from all hazards by identifying resources, information, and strategies for risk reduction. The federal Disaster Mitigation Act of 2000 requires state and local governments to develop hazard mitigation plans as a condition for federal disaster grant assistance. To prepare the plan, the participating partners organized resources, assessed risks from natural hazards within the county, developed planning goals and objectives, reviewed mitigation alternatives, and developed an action plan to address probable impacts from natural hazards. By completing this process, these jurisdictions maintained compliance with the Disaster Mitigation Act, achieving eligibility for mitigation grant funding opportunities afforded under the Robert T. Stafford Act. The plan can be viewed on-line at:

<https://adacounty.id.gov/accem>

Summary Overview of the Plan's Progress: The performance period for the 2017 Ada County Multi-Hazard Mitigation Plan became effective in August 2017 with the final approval of the plan by FEMA. The initial performance period for this plan will be 5 years, with an anticipated update to the plan to occur before August 2022. As of this reporting period, the performance period for this plan is considered to be ___% complete. The hazard mitigation plan has targeted ___ hazard mitigation actions to be pursued during the 5-year performance period. As of the reporting period, the following overall progress can be reported:

- ___ out of ___ actions (___%) reported ongoing action toward completion.
- ___ out of ___ actions (___%) were reported as being complete.
- ___ out of ___ actions (___%) reported no action taken.

Purpose: The purpose of this report is to provide an annual update on the implementation of the action plan identified in the 2017 Ada County Multi-Hazard Mitigation Plan. The objective is to ensure that there is a continuing and responsive planning process that will keep the hazard mitigation plan dynamic and responsive to the needs and capabilities of the partner jurisdictions. This report discusses the following:

- Natural hazard events that have occurred within the last year
- Changes in risk exposure within the planning area
- Mitigation success stories
- Review of the action plan
- Changes in capabilities that could impact plan implementation
- Recommendations for changes/enhancement.

The Multi-Hazard Mitigation Plan Steering Committee: The Multi-Hazard Mitigation Plan Steering Committee, made up of planning partners and stakeholders within the planning area, reviewed and approved this progress report at its annual meeting held on _____, 201_{__}. It was determined through the plan’s development process that a steering committee would remain in service to oversee maintenance of the plan. At a minimum, the Steering Committee will provide technical review and oversight on the development of the annual progress report. It is anticipated that there will be turnover in the membership annually, which will be documented in the progress reports. For this reporting period, the Steering Committee membership is as indicated in Table 1.

Table 1. Steering Committee Members		
Name	Title	Jurisdiction/Agency

Natural Hazard Events within the Planning Area: During the reporting period, there were ___ natural hazard events in the planning area that had a measurable impact on people or property. A summary of these events is as follows:

- _____
- _____

Changes in Risk Exposure in the Planning Area: *(Insert brief overview of any natural hazard event in the planning area that changed the probability of occurrence or ranking of risk for the hazards addressed in the hazard mitigation plan)*

Mitigation Success Stories: *(Insert brief overview of mitigation accomplishments during the reporting period)*

Review of the Action Plan: Table 2 reviews the action plan, reporting the status of each action. Reviewers of this report should refer to the hazard mitigation plan for more detailed descriptions of each action and the prioritization process.

Address the following in the “status” column of the following table:

- Was any element of the action carried out during the reporting period?
- If no action was completed, why?
- Is the timeline for implementation for the action still appropriate?
- If the action was completed, does it need to be changed or removed from the action plan?

Table 2. Action Plan Matrix

Action Taken? (Yes or No)	Time Line	Priority	Status	Status (X, O,✓)
Action # __ — _____			[description]	
Action # __ — _____			[description]	
Action # __ — _____			[description]	
Action # __ — _____			[description]	
Action # __ — _____			[description]	
Action # __ — _____			[description]	
Action # __ — _____			[description]	
Action # __ — _____			[description]	
Action # __ — _____			[description]	
Action # __ — _____			[description]	
Action # __ — _____			[description]	
Action # __ — _____			[description]	
Action # __ — _____			[description]	
Action # __ — _____			[description]	
Action # __ — _____			[description]	
Action # __ — _____			[description]	
Action # __ — _____			[description]	

Completion status legend:
✓ = Project Completed
O = Action ongoing toward completion
X = No progress at this time

Changes That May Impact Implementation of the Plan: *(Insert brief overview of any significant changes in the planning area that would have a profound impact on the implementation of the plan. Specify any changes in technical, regulatory and financial capabilities identified during the plan’s development)*

Recommendations for Changes or Enhancements: Based on the review of this report by the Multi-Hazard Mitigation Plan Steering Committee, the following recommendations will be noted for future updates or revisions to the plan:

- _____
- _____
- _____
- _____

Public review notice: *The contents of this report are considered to be public knowledge and have been prepared for total public disclosure. Copies of the report have been provided to the governing boards of all planning partners and to local media outlets and the report is posted on the Ada County Multi-Hazard Mitigation Plan website. Any questions or comments regarding the contents of this report should be directed to:*

Paul “Crash” Marusich, CEM
Emergency Planner
Ada County Emergency Management
7200 Barrister Dr., Boise, ID 83704
(208) 577-4750 office
Email: pmarusich@adaweb.net