

Animas River Alert and Notification Plan

A Communication, Notification and Information Sharing Plan

April 2016

Developed in Coordination with:

San Juan Basin Health (SJBH), La Plata County (LPC), San Juan County (SJC), San Juan County Public Health (SJCPH) Southern Ute Indian Tribe (SUIT), Colorado Department of Public Health and Environment (CDPHE), Colorado Division of Homeland Security& Emergency Management (DHSEM), Ute Mountain Ute Tribe (UMUT), City of Durango (COD).

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Introduction

This local early warning and notification plan prioritizes and focuses on information sharing between emergency preparedness and response personnel within the Animas River Watershed including San Juan County Colorado, La Plata County, Southern Ute Indian Tribe, and Ute Mountain Ute Tribe officials. Additionally this planning and response document will be a reference resource for the States of Colorado, New Mexico, and Utah, along with the Navajo Nation, and Environmental Protection Agency, for advanced warning and evacuation purposes. This plan contains guidance for sharing information as situations develop on the Animas River Watershed as a result of the Gold King Mine and other incidents including but not limited to annual spring run-off/high water, mud, land and rock-slides, flash flooding and other manmade or naturally occurring events.

This plan will provide information on the steps to take when emergencies arise. This document will also describe how best to coordinate, communicate and share information with local emergency managers and responding agencies.

No two incidents are identical. This plan and provided guidance will not encompass every possible scenario, however, it is meant to serve as the basis for effective response to any hazard that threatens the Animas River and the jurisdictions it serves. General information and instructions will be included in this plan as they relate to information collection and sharing, communication, notification, evacuation and shelter in place.

References and Authorities

This plan is designed to provide guidelines and information sharing standards for emergency response personnel and participating volunteers in key locations on the Upper Rio Grande River Watershed. This plan utilizes information provided by following agencies;

- La Plata County Sheriff's Office
- San Juan County Sheriff's Office
- National Weather Service
- United States Geologic Survey
- La Plata County Emergency Management
- San Juan County Emergency Management
- Southern Ute Indian Tribe
- City of Durango
- Ute Mountain Ute Tribe
- San Juan Basin Health
- San Juan County Public Health
- Colorado Department of Public Health and Environment
- Colorado Division of Homeland Security & Emergency Management

This plan has been approved by all participating agencies with signatures adopting this document on the signature pages. All participating agencies are encouraged to include this plan as an annex to their agency emergency operations plan (EOP).

Signatures

The Participants below agree to the procedures contained in this Animas River Alert and Notification Plan.

Agency

Signature

Date

Printed Name

Title

Mission and Purpose

The purpose of this plan is to identify and validate events impacting the Animas Watershed with the intent of early warning and notification to the public as well as other river stakeholders that would need to take immediate action to save lives, and protect property and the environment. In addition, this plan commits to providing notification to neighboring states, Tribes, and other State and Federal partners in order to provide those agencies with timely information to make informed decisions regarding action items within their respective jurisdictions.

This plan provides a decision support system to Emergency Managers and Public Health Authorities in San Juan, and La Plata Counties, and the Southern Ute Indian Tribe in Colorado for a consistent and coordinated response to Animas River Conditions. The plan will assist decision makers during critical incidents so proper direction may be provided.

Assumptions

- The plan is not intended to conflict with any statute, resolution or any agreement currently in place, and;
- This plan is intended to supplement not conflict with any current County Emergency Operation Plans currently in place, including alert, notification and warning, and;
- All decisions regarding evacuations will be approved through the Sheriff of each affected county, and;
- Emergency response will be managed by the agency maintaining jurisdiction and statutory authority unless delegated.
- La Plata County and City of Durango utilize CodeRed for general and emergency notifications for all of La Plata County including the Southern Ute Indian Tribe.
- San Juan County utilizes Nixle for general and emergency notifications and will relay any CodeRed messaging through this system.
- Any Colorado State or local jurisdictional agency can activate this plan up to a One Yellow condition for incidents of public health, safety and environmental concern.

Planning and Scope

The Animas River Alert and Notification Plan provides information sharing guidance and response actions to be used within areas of San Juan, and La Plata Counties in Colorado. The following Homeland Security Core Capabilities have been identified as priority planning elements for this plan:

- Operational Communications: Ensure the capacity for timely communications in support of security, situational awareness and operations by any and all means available among and between the affected communities in the impact area and all response areas.
- Operational Coordination: Establish and maintain a unified and coordinated operational structure and process that appropriately integrates all critical stakeholders and supports the execution of core capabilities
- Public Information and Warning: Deliver coordinated prompt, reliable and actionable information to the Whole Community through the use of clear, consistent, accessible and culturally and linguistically appropriate methods to effectively relay information regarding any threat or hazard, current response actions taking place and where evacuees may seek assistance.

- **Situational Assessment:** Provide all decision makers with relevant information regarding the nature and extent of the hazard, any cascading effects, and the status of the response.

Threats and Hazards

- The Animas River Watershed area has a host of threats and/or hazards that may develop quickly with little warning. Contaminated water releases and runoff, flash flooding, mud, rock and landslides, wildland fire, and other weather and hazmat related issues are threats in the Animas River Watershed area. This early warning and notification plan may be beneficial for a host of responses, but prioritizes river contamination. It should be noted the Animas River and some of its tributaries are experiencing a long term contamination of heavy metals due to natural geology and human effects.

Preparedness

Local government, First Responders and identified River Spotters should be prepared to respond to any incident on the Animas River. All planning and response partners are strongly encouraged to maintain a 72 hour emergency kit and other essentials so they may assist during incident activations.

After the Gold King Mine Incident it has been identified that the best radio channel for incident communication for River Spotters and First Responders is Mutual Aid Channel (MAC) 14, for situational awareness, notification and communication purposes. It has been identified there is no cell phone, or DTR coverage in the Cement Creek drainage.

The National Weather Service has identified the Animas River Watershed as a priority forecast zone and will coordinate with local emergency management to notify local responders of potential and active weather impacts.

Identified River Spotters will alert local jurisdictional agencies of potential and ongoing river conditions that meet pre-identified thresholds.

Remote monitored river sensors/sondes have been strategically placed in areas on the Animas River for effective early warning of any negative impacts to the waterway or a change in its chemical makeup. These sensors provide valuable instant notifications through email when conditions change rapidly and/or meet established parameters and thresholds (**See Appendix G**). Please use the following link for up to the minute sensor readings: <http://waterdata.usgs.gov/co/nwis/rt>

Operations

Alert Groups

Agency responders and administrators, along with the public will be notified of changing conditions according to geographic location and agency role. Each group in succession broadens the scope of notification and includes the previous groups (**See Appendix C**). The agencies and contacts have been split into the following groups:

- **Group One**
Local Emergency Management and Public Health officials, including County, State, and Tribal entities. Group one will coordinate situational awareness and initial verification and/or response.
- **Group Two**
Local first responders and additional agency representatives. Groups two will be alerted once thresholds have been reached where a potential hazard and/or impact is identified and/or verified.
- **Group Three**
Federal and downstream neighboring county, State, and Tribal representatives. Group three will be alerted once thresholds have been reached where a potential hazard and/or impact is verified.
- **Group Four**
All agency administrators, and river users. Group four will be alerted if there is an imminent threat to life safety or if there are identified actions items for the public to take.

Messaging may be indicated if individual agencies see a need to notify the public of observed change in the Animas River. This would be for situational awareness to the public, no identified risk to health needs to be present.

Procedures

The procedures below are designed to show a progression of complexity, and may be initiated at any level (**See Appendix A**). All events that are monitored at any level of the plan will be tracked by the jurisdictional agency in order to provide end of year outside reporting. All thresholds are outlined in the River Spotter Checklist. Thresholds are divided into three categories dependent on severity (**See Appendix B**).

Once initial messaging is sent out, operational communications will occur on 800 MHz MAC 14. If a dispatch center needs to be reached during these operations, channel MAC 13 will be utilized. Message launch procedures are outline in **Appendix E**.

It is understood that time is a critical element of response during these operations. It is estimated that from time of first received notification to first message deployment is 15 minutes. Verification of a Yellow condition is expected to occur in 45 minutes.

Green

Green thresholds have been identified as those incidents that do not require any action or response, but may lead to future consequences. These include but are not limited to events such as recent storms, increase in temperature, or identified events such as mud or landslide. These may or may not trigger a yellow threshold. This is at the discretion of local Office of Emergency Management (OEM) and Public Health.

- Emergency Management or Public Health identifies or is made aware of conditions that may warrant monitoring.
- Activation of a Message 0 (**See Appendix D**) will be launched to Group One through CodeRed general messaging, and follows the message launch process (**See Appendix E**).

- Local Emergency Management and/or Public Health will monitor these incidents to determine if further action is needed.
- If no action is needed, it is indicated in Message 0 that no further information will be shared.

Yellow

Yellow thresholds have been identified as those incidents that do not pose an imminent threat to public safety, but do require verification and may result in additional action items.

One Yellow

- Emergency Management or Public Health identifies or is made aware of One Yellow condition that may warrant monitoring.
- Message 1.X (**See Appendix D**), which indicates the type of threshold and that verification is in progress, will be sent to Group One (**See Appendix C**) through CodeRed as a general message and follows the message launch process (**See Appendix E**). These threshold types include; weather event, identified event, or sensor alarm.
- Jurisdiction is established and lead agency take responsibility for verification
- Verification in the field or by remote technology is done.
- If the identified threshold does not have any actionable items or in unsubstantiated an email report is sent to CDPHE and Group Two by jurisdictional agency. CDPHE will forward to additional stakeholders as they see fit.
- If verified move to Two Yellows

Two Yellows

- Emergency Management or Public Health identifies or is made aware of Two Yellow conditions that may warrant monitoring.
- If not already initiated, Message 1.X (**See Appendix D**) which indicates type of threshold and that verification is in progress will be sent to Group One (**See Appendix C**) through CodeRed as a general message, and follows the message launch process (**See Appendix E**). These threshold types include; weather event, identified event, or sensor alarm.
- If not already complete, jurisdiction is established and lead agency take responsibility for verification
- Verification in the field or by remote technology is done. A subject matter expert (SME) may be consulted at this time.
- Group Two notification is initiated with Message 2A (**See Appendix D**).
- If the identified threshold does not have any actionable items or in unsubstantiated message 2B (**See Appendix D**) will be issued.
- An email report is sent to CDPHE and Group Two by jurisdictional agency. CDPHE will forward to additional stakeholders as they see fit.
- If verified move to Three Yellows.

Three or More Yellows

- Emergency Management or Public Health identifies or is made aware of Three Yellow conditions that may warrant monitoring.
- If not already initiated, Message 1.X (**See Appendix D**) which indicates type of threshold and that verification is in progress will be sent to Group One (**See Appendix C**) through CodeRed as a general message, and follows the message launch process (**See Appendix E**). These threshold types include; weather event, identified event, or sensor alarm.

- If not already complete, jurisdiction is established and the lead agency take responsibility for verification
- Verification in the field or by remote technology is done. A subject matter expert (SME) may be consulted at this time.
- Group Three notification is initiated with Message 2A (**See Appendix D**) through CodeRed as a general message.
- If not already contacted a SME will be consulted for actionable items
- If no actionable items are identified the event will continue to be monitored and/or investigated. The jurisdictional agency will update Group Three within one hour, additional update intervals and time frames will depend on event.
- If there is no change in status, event will be canceled with a Message 2B (**See Appendix D**) through CodeRed as a general message, to Group Three.
- An email report is sent to CDPHE by jurisdictional agency. CDPHE will forward to additional stakeholders as they see fit.
- If actionable items are identified based on consultation with SME a conference call with Group Two agencies, will be scheduled in order to coordinate public messaging and actionable items.
- Public notification, Message 2C, (**See Appendix D**) to Group Four will be released. Emergency Management must determine level of notification for CodeRed general or emergency messaging and if additional notification methods are required.
- Any further protective measures or response actions needed will occur through the activation of local response plans.
- A detailed report of the conference call and additional coordination with Group Three will be conducted by CDPHE.

Red

Red thresholds have been identified as those incidents that do pose an imminent threat to public safety, and requires immediate response and action by emergency management and public health. The public will be notified immediately once the initial information is deemed credible.

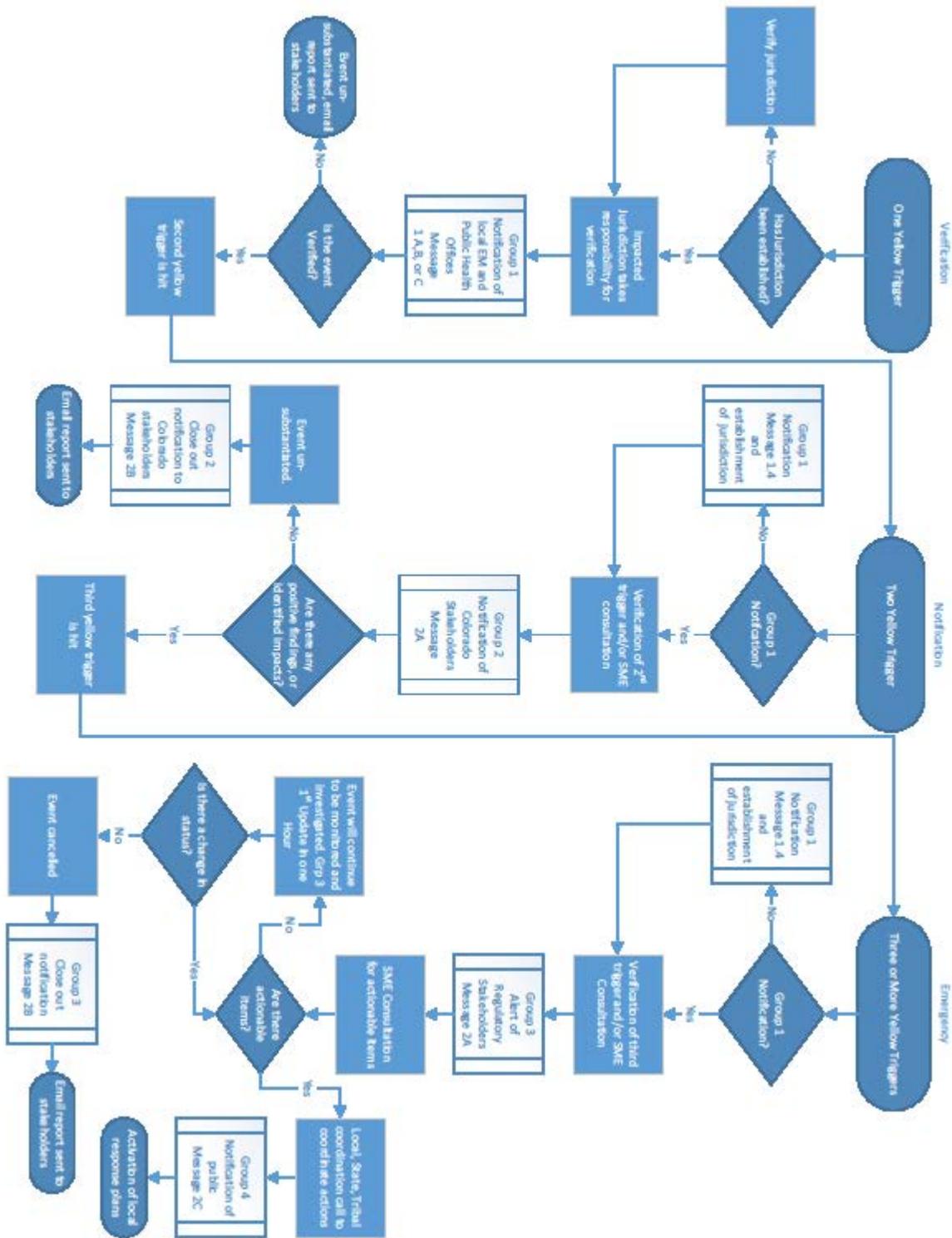
- Emergency Management or Public Health identifies or is made aware of a Red condition.
- Jurisdiction will be established
- Jurisdictional agency launches Message 0 (**See Appendix D**) and follows the message launch process (**See Appendix E**)
- Jurisdictional agency, Emergency Management and/or Public Health will determine if the threat is credible.
- If threat is deemed not credible, go to appropriate color threshold (Green or Yellow)
- Message 2C (**see Appendix D**) or incident specific messaging will be edited according to the threat and sent out to the public
- Local response plans will be activated and further alert and notification to the public and all agency administrators will occur through the Emergency Operation Center (EOC)

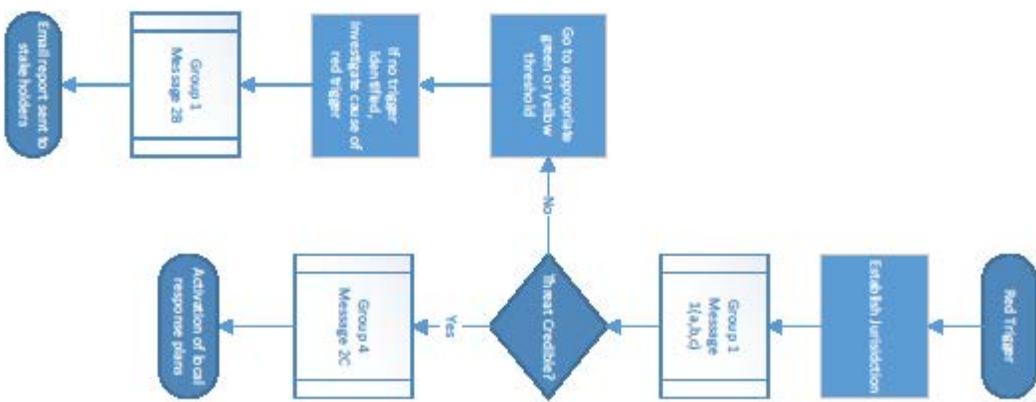
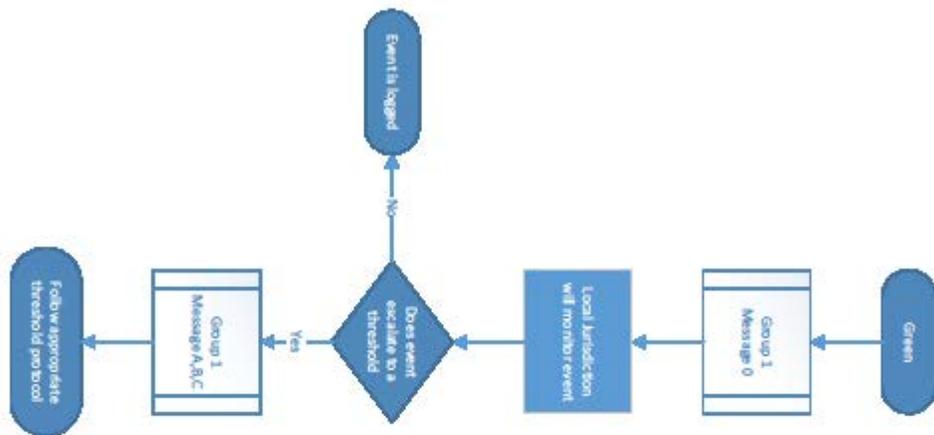
Exercise and Plan Update

At a minimum this plan will be exercised once a year. Key components of the plan will be exercised to include updated procedures and notification lists. The functional training events will identify successes and areas of improvement within the plan. All participating agencies and personnel will be invited to participate. An after

action report will be generated after every exercise or real time event which will include an improvement plan. The plan will be updated and modified as training and exercise occurs in order to incorporate lessons learned. These updates will be completed and released by March 1st for Agency adoption. Updates to Appendices may occur at any time based on procedural needs agreed to by Group 1.

Appendix A: Animas River Alert and Notification Flow Charts





Appendix B: River Spotter Checklist

River Spotter Checklist

River SPOTTER Location _____	
River Spotter Name: _____	
River Spotter call back number: _____	
Weather INFORMATION	
G	<input type="checkbox"/> Recent Storm (less than 24hrs) describe drainage, elevation, duration, precipitation type _____
G	<input type="checkbox"/> Sudden increase in average day or night temperatures (circle one) _____
G	<input type="checkbox"/> Identified event impacting Animas River watershed _____
G	<input type="checkbox"/> National Weather Service Alert for Upper Animas River watershed
G	<input type="checkbox"/> USGS high water level gauge in 75% above normal
Y	<input type="checkbox"/> Reported rain on snow or heavy rain in the Upper Animas River watershed
Y	<input type="checkbox"/> Unexpected sudden change in water clarity (unnatural) and/or debris _____
Y	<input type="checkbox"/> Sensor alarm _____
Y	<input type="checkbox"/> Second sensor in sequence _____
Y	<input type="checkbox"/> Minor reported release of contaminated water _____
Y	<input type="checkbox"/> Verified field reading _____
Y	<input type="checkbox"/> Hazmat spill into the Animas River _____
R	<input type="checkbox"/> National Weather Service Flashflood warning for Upper Animas River watershed _____
R	<input type="checkbox"/> Large scale reported release of contaminated water _____
R	<input type="checkbox"/> Identified Public Health Emergency _____
KEY	
Please report any conditions to San Juan Basin Health at (970) 247-5702	
GREENS =	Notification of Local OEM and Public Health
One YELLOW =	Verification and Sampling
Two YELLOWS =	Notification of Colorado Regulatory Administrators
Three YELLOWS =	Alert of Regulatory Administrators
One or more REDS =	Alert of ALL River Stakeholders and users

Appendix C: Animas River Emergency Call Down

Environmental releases to the Animas River that have the potential to threaten public water system intakes, alluvial wells, aquatic life, recreational uses and the environment must be reported immediately to the CDPHE Spill Hotline and main contacts for the local OEM offices to activate the call down list immediately following notification of the local OEM offices.											
Last Update	3/3/2016	The most critical notifications to make immediately when the Animas River appears to be turning yellow, red or orange:								Due:	3/10/2016
State	Type	Agency	FirstName	LastName	Title	ALERT GROUP-	Email	Call Down Phone Number	Outside Launch Authorization	CDPHE FSS To CALL IF A SPILL IS CALLED IN?	
COLORADO	Local	City of Durango OEM	Terry	Hoecker	City of Durango OEM	1			Yes		
COLORADO	Local	City of Durango Water	Steve	Salka	City of Durango Water	1				YES	
COLORADO	Local	Durango-La Plata County Dispatch	La Plata 911	Center	Sheriff, Police, PW, Fire, OEM	1			Phil or Susanne		
COLORADO	Local	La Plata County OEM	Butch	Knowlton	La Plata County OEM	1			Yes	YES	
COLORADO	Local	La Plata County OEM	Tom	McNamara	La Plata County OEM	1			Yes	YES	
COLORADO	Local	San Juan Basin Health Department	Brian	Devine	SJBHD Environmental	1			Yes		
COLORADO	Local	San Juan Basin Health Department	Claire	Macpherson	SJBHD EPR	1			Yes		
COLORADO	Local	San Juan Basin Health Department	Liane	Jollon	Director SJBHD	1			Yes	YES	
COLORADO	Local	San Juan County OEM Colorado	Jim	Donovan	San Juan County OEM	1				YES	
COLORADO	Local	San Juan County Public Health	Becky	Joyce	Public Health Director SJC	1				YES	
COLORADO	Local	San Juan County Public Health	Laila	Bryant	Public Health Emergency Prepar	1					
COLORADO	Local	San Juan County Sherrif Office	Bruce	Conrad	Sheriff	1					
COLORADO	Tribal	Southern Ute Indian Tribe	Curtis	Hartenstine	Environmental	1				YES	
COLORADO	Tribal	Southern Ute Indian Tribe	Kathi	Gurule	OEM Manager	1			Yes	YES	
COLORADO	Tribal	Southern Ute Indian Tribe	SUIT Dispatch	Center	Dispatch	1					
COLORADO	Tribal	Southern Ute Indian Tribe	Tom	Johnson	Environmental	1				YES	
COLORADO	State	State of Colorado - CDPHE	Duty	Phone	Duty Phone	1					
COLORADO	State	State of Colorado - CDPHE	Greg	Stasinos	CDPHE OEPR	1			Yes		
COLORADO	State	State of Colorado - CDPHE	Incident	Hotline	Spill/Reporting Hotline 24 Hours	1					
COLORADO	State	State of Colorado - DHSOEM	Trevor	Denney	COEM	1			Yes		
COLORADO	State	State of Colorado - DHSOEM Duty Phone	Duty	Phone	Duty Phone	1					
COLORADO	Local	City of Durango	Matt	Holden	City of Durango	2					
COLORADO	Local	City of Durango	Sherri	Dugdale	City of Durango	2					
COLORADO	Local	City of Durango	Wayne	Walsh	City of Durango	2					
COLORADO	Local	City of Durango Water	Dave	Ferguson	City of Durango Water ORC	2				YES	
COLORADO	State	Colorado Department of Natural Resources Mine Safe	Mine	Safety	Main Office	2					
COLORADO	State	Colorado Parks and Wildlife	Joe	Lewendowski	Colorado Parks and Wildlife	2					
COLORADO	State	Colorado Parks and Wildlife	John	Alves	Colorado Parks and Wildlife	2					
COLORADO	State	Colorado Parks and Wildlife	Patt	Dorsey	Colorado Parks and Wildlife	2				YES	
COLORADO	Local	Durango Fire	Karola	Hanks	Durango Fire	2					
COLORADO	Local	Durango Fire	Hal	Doughty	Durango Fire	2					
COLORADO	Local	Durango Fire	Scot	Davis	Durango Fire	2					
COLORADO	Local	Durango Fire Hazmat	Shane	Baird	Durango Fire Hazmat	2					
COLORADO	Local	La Plata County Sheriff's Office	Dan	Bender	La Plata County Sheriff's Office	2					
COLORADO	Local	La Plata County Sheriff's Office	Frank	Sandoval	La Plata County Sheriff's Office	2					
COLORADO	Local	San Juan Basin Health Department	Chad	Englehart	SJBHD Environmental	2					
COLORADO	Local	Silverton, Town of Public Works	John	Sites	Silverton Administrative Contact	2				YES	
COLORADO	State	State of Colorado - CDPHE	Casey	Kay	CDPHE WQCD	2					
COLORADO	State	State of Colorado - CDPHE	David	Kurz	CDPHE WQCD	2					
COLORADO	State	State of Colorado - CDPHE	Heather	Drissel	CDPHE WQCD	2					
COLORADO	State	State of Colorado - CPW	Matt	Thorpe	Area Wildlife Manager	2					
COLORADO	State	State of Colorado - Water Resources	Robert	Genualdi	Division Engineer	2					
COLORADO	State	State of Colorado - Water Resources	John	Simpson	Asst. Division Engineer	2					
COLORADO	State	State of Colorado - Water Resources	Jeff	Titus	Water/Well Commissioner	2				YES	
COLORADO	Tribal	Bureau of Indian Affairs	Waylon	Denny	Regional Division Chief	3					
NEW MEXICO	Federal	EPA Region 6	Duty	Officer	Duty Officer	3					
NEW MEXICO	Federal	EPA Region 6	Ron	Curry	Regional Administrator	3					

COLORADO	Federal	EPA Region 8	Region		8	OSC Duty Officer	3				
COLORADO	Federal	EPA Region 8	Region		8		3				
COLORADO	Federal	EPA Region 8	Region		8	EOC	3				
COLORADO	Federal	EPA Region 8	Steven	Way		EPA On Site Coordinator	3				YES
UTAH	Federal	EPA Region 9	Duty			Officer	3				
UTAH	Federal	EPA Region 9	Jared	Blumenfeld		Regional Administrator	3				
NEW MEXICO	Tribal	Navajo Nation Government	Harlan	Cleveland			3				
NEW MEXICO	Tribal	Navajo Nation Government	OEM			24hr line	3				
NEW MEXICO	Tribal	Navajo Nation Government	Russell	Begaye			3				
NEW MEXICO	Tribal	Navajo Nation Government	Shiprock	Police		Shiprock Police & Fire Dept.	3				
NEW MEXICO	Tribal	Navajo Nation Government	Steve	Austin		Navajo Nation EPA	3				
NEW MEXICO	Tribal	Navajo Nation Government	Tribal	Office			3				
NEW MEXICO	State	New Mexico Environmental Department	Butch	Tongate		Deputy Secretary	3				
NEW MEXICO	State	New Mexico Environmental Department	Ryan	Flynn		Secretary	3				
NEW MEXICO	State	New Mexico Environmental Department	Spill	Report		24hr line	3				YES
NEW MEXICO	State	New Mexico Environmental Department	Trais	Kliphuis		Water Protection Div. Dir.	3				
NEW MEXICO	Local	New Mexico San Juan County Emergency Management	Don	Cooper		San Juan County OEM	3				
NEW MEXICO	Local	New Mexico San Juan County Emergency Management	San Juan	NMDispatch		Center	3				
NEW MEXICO	State	New Mexico State Emergency Management	Karen	Takai		PIO	3				
UTAH	State	Utah State Department Environmental Quality	Spill	Report		24hr line	3				
COLORADO	Tribal	Ute Mountain Ute Tribe	John	Trocheck		EM	3				
COLORADO	Tribal	Ute Mountain Ute Tribe	Scott	Clow		Envir.Programs Director	3				YES
COLORADO	Tribal	Ute Mountain Ute Tribe	UMU Dispatch	Center		24hr line	3				
COLORADO	Private	Ambold Ditch	Ron	Pettigrew		Ditch Rider/President	4				
COLORADO	Private	Animas Consolidated Ditch	Dan	James		Ditch Rider/President	4				
COLORADO	Private	ANIMAS Water Company	John	Ott		Public Water System	4				YES
COLORADO	Private	BAR D CHUCKWAGON	Cy	Scarborough		Public Water System	4				YES
COLORADO	Private	BAR D CHUCKWAGON	Fred	Stephenson		Public Water System	4				YES
COLORADO	Private	BLUE SKY RANCH INC A. OF OWNERS	Robert	Johnston		Public Water System	4				YES
COLORADO	Private	Canon #2 Ditch	Kroulik			Ditch Rider/President	4				
COLORADO	Private	Duranglers				Recreational Exposure (Upper/L	4				
COLORADO	Local	DURANGO 9R SUNNYSIDE ELEMENTARY	BRETA	HOTTER		Public Water System	4				YES
COLORADO	Local	DURANGO 9R SUNNYSIDE ELEMENTARY	DEB	HALL		Public Water System	4				YES
COLORADO	Private	DURANGO REGENCY	Peter	Bakos		Public Water System	4				YES
COLORADO	Private	East Mesa Ditch	Kevin	Mccullough		Ditch Rider/President	4				
COLORADO	Private	Elbert Ditch	Mel	Goodman		Ditch Rider/President	4				
COLORADO	Private	Embling Meyer Ditch				Ditch Rider/President	4				
COLORADO	Private	Glacier Club	Bill	Kroeker		Public Water System	4				YES
COLORADO	Private	Glacier Club	Bill	Kroeker		Public Water System	4				YES
COLORADO	Private	GOODMAN POA	Chris	Meyer		Public Water System	4				YES
COLORADO	Private	Kroulik Ditch (on Kroulik's Property)	Kroulik			Ditch Rider/President	4				
COLORADO	Private	LILLY BELLE	John	Randolph		Public Water System	4				YES
COLORADO	Private	LILLY BELLE	Stanley	Neil		Public Water System	4				YES
COLORADO	Private	Local Aquatic Biologist	Jim	White		Local Aquatic Biologist	4				
COLORADO	Local	Montezuma County	Paul	Hollar		OEM Manager	4				YES
COLORADO	Local	Montezuma County PHD	Karen	Dickson		Regional PH EPR	4				YES
COLORADO	Private	Mountain Studies Institute	Marcie	Bidwell		Mountain Studies Institute	4				
COLORADO	Private	OLD HOMESTEAD MHP	MARK	SHORT		Public Water System	4				YES
COLORADO	Private	Ralston Ditch	Linn	Blancett		Ditch Rider/President	4				
COLORADO	Private	Reid Ditch (East Animas)	Tony	Ganzerla		Ditch Rider/President	4				
COLORADO	Private	San Juan Citizens Alliance	Dan	Olson		Local group	4				
COLORADO	Private	SCENIC SQUARE SUBD	NESTOR	LUJAN		Public Water System	4				YES
COLORADO	Private	Sullivan Wallace Ditch	Tom	Talley		Ditch Rider/President	4				
COLORADO	Private	SUNDOWN ACRES RV PARK	DAWN	READ		Public Water System	4				YES
COLORADO	Private	Walter Ditch (on Kroulik's property)	Jack	Shoemaker		Ditch Rider/President	4				

Appendix D: CodeRed Messages

- Message Types
 - 1 Sensor Alarm
 - 2 Identified Event
 - 3 Weather Event
- Message 0 – Notification of “GREEN” Condition
 - This is an alert message from the Animas River Incident Alert Group please stay on the line. An event affecting the Animas River Watershed has been identified. Emergency Management is aware and is monitoring this event. Further information will be provided only if the situation changes and further actions are needed.
 - SUBJ: ANIMAS RIVER ALERT
 - MSG: GREEN CONDITION – Do Not Respond - Monitor Only
- Message 1 – Notification to GROUP 1 for a “YELLOW” Condition
 - Message 1.1 – This is an alert message from the Animas River Incident Alert Group **for a SENSOR ALARM on the Animas River Watershed**, please stay on the line. A local Agency or Observer has activated the Animas River Alert Plan. At this time the jurisdiction responsible is in the process of verifying the reported condition. Please begin monitoring LPC MAC on Colorado’s 800 radio system.
 - SUBJ: ANIMAS RIVER ALERT - Message from Animas River Alert Group
 - MSG: YELLOW SENSOR CONDITION - Monitor MAC 14
 - Message 1.2 – This is an alert message from the Animas River Incident Alert Group **for an IDENTIFIED EVENT that may impact the Animas River Watershed**, please stay on the line. A local Agency or Observer has activated the Animas River Alert Plan. At this time the jurisdiction responsible is in the process of verifying the reported condition. Please begin monitoring LPC MAC on Colorado’s 800 radio system.
 - SUBJ: ANIMAS RIVER ALERT
 - MSG: YELLOW IDENTIFIED EVENT - Monitor MAC 14
 - Message 1.3 – This is an alert message from the Animas River Incident Alert Group **for a WEATHER EVENT that may impact the Animas River Watershed**, please stay on the line. A local Agency or Observer has activated the Animas River Alert Plan. At this time the jurisdiction responsible is in the process of verifying the reported condition. Please begin monitoring LPC MAC on Colorado’s 800 radio system.
 - SUBJ: ANIMAS RIVER ALERT
 - MSG: YELLOW WEATHER CONDITION - Monitor MAC 14
- Message 2A – Notification to Agency and Regulatory pre/post-verification – **ACTION TAKEN**
 - **This is an alert message sent by the La Plata County 911 Dispatch Center on behalf of La Plata and San Juan County Emergency Management, Local and Colorado Public Health Departments and the Southern Ute Tribe. Please listen to the following information.** This message is regarding an event which has either been verified or meets specific pre-determined thresholds that may impact the Animas River Watershed. Verification and or monitoring is in progress. Additional information will be released as conditions are verified or change.

- Message 2B – Notification to Agency and Regulatory post-verification – **NO ACTION NEEDED**
 - **This is an alert message sent by the La Plata County 911 Dispatch Center on behalf of La Plata and San Juan County Emergency Management, Local and Colorado Public Health Departments and the Southern Ute Tribe. Please listen to the following information.** It has been determined that no further action is needed at this time. After further investigation, local officials were unable to verify a hazard or actionable event. A follow-up report will be created per Animas Watershed Alert Plan.
- Message 2C – Notification to Public post-verification **PERSONAL ACTION ANTICIPATED**
 - Public Messaging - Specific to condition - Trigger, location, timeframe(?), suggested action, more info –go to website
 - **This is an alert message sent by the La Plata County 911 Dispatch Center on behalf of La Plata and San Juan County Emergency Management, Local and Colorado Public Health Departments and the Southern Ute Tribe. Please listen to the following information.** Local authorities verified [initiating event], at [Time], at [location] affecting areas along the [Animas] river. Local Authorities suggest the following actions by the public to ensure your health and safety. Suggested actions are [exposure, use, preparedness, precautions]. Additional information on this event will be made available through local government and public health agencies and their associated websites.
 - **Update or repeat/expand**
 - Message 3 – Closure
 - Message 3A – Situation handed to Response Agency
 - Through further investigation and verification of the [condition] event, local authorities have determined the need to open [an IC or the EOC] to manage ongoing impacts to the health and safety of the community. Further updates will be issued through [specific]. [A community hotline has been established][EOC opened]. [For immediate life safety issues dial 911]
 - Message 3B – Event Closed
 - Through further investigation and verification of the [condition] event, local authorities have determined that any impacts are below pre-determined thresholds for action. Monitoring of this event is complete.

Appendix E Message Launch Procedure

Message 1 or 0 Launch Process

- Get alert condition from gauge sensor, CDPHE, EPA, Self/Group 1 Member or observer
 - **Group 1** includes specific members of OEM, Public Health and Dispatch Centers for Colorado State, San Juan County Colorado, La Plata County, City of Durango and the Southern Ute Indian Tribe
- Call LPC Dispatch
 - Group 1 member can request launch of
 - Message 0 – Green Event, Self-Monitor only
 - Message 1.1 – Sensor Alarm
 - Message 1.2 – Identified Event
 - Message 1.3 – Weather Event
 - Use 970-385-2900 or Colorado DTRS 800 Talkgroup “MAC 13” to contact La Plata County Dispatch
 - Give basic info of:
 - Your Name
 - Your Organization
 - “I would like to request an activation of the river alert system through CodeRED”
 - Confirm you are a member of Group 1 (Dispatch should confirm)
 - Basic reason for the request (i.e. a gauge trigger point has been met, major downpour in Cement Creek, etc.)
 - Call back number and secondary contact
 - Inform that you are going to monitor MAC 14
 - Any expectation of return calls to dispatch
 - If you will do verification yourself, inform where you are going and ETA for next contact for others in Group 1
 - Request message 0 or message 1.x
 - Group 1 can only launch pre-set messages to Group 1 without additional authorization
 - Must use “Non-Emergency General Message” only
 - Messaging will launch only to pre-established list of Group 1 phone, email, and text only (do not launch app)
 - Caller and others should receive messaging within 15 minutes of request to dispatch
 - If this is a Message 1.x due to yellow condition
 - All in Group 1 should call out on Colorado DTRS 800 Talkgroup “MAC 14” and begin monitoring
 - Originator should call out that they are in process of or in need of verification.
 - If no other contact is made with others in Group 1, begin phone call down. No members should go into field for verification without assigning accountability to another.

Group 2 and 3 Messaging

- Group 2 expands on local and Colorado State Agency Contacts and Group 3 adds Federal and Adjacent State Contacts
 - Only Members of Group 1 can launch to Groups 2 and 3
 - If members of Group 2 or 3 need to activate a launch, they may only launch to Group 1 with Messages 0 or 1.x AND they must request this launch through an individual Agency Representative of Group 1 identified on contact list under “Outside Agency Authorization”.
- Agency Update messages
 - Message 2.A and Message 2.B – Give details to Agency Contact Groups of incident status;
 - **Messages 3.A and 3.B – Give next steps to Agency Contact Groups**
 - These messages may go to Group 1, 2 or 3
 - Can ONLY be launched by Members of Group 1
 - Message 2.A and 2.B should be released by La Plata County OEM
 - Only if a member of La Plata County OEM cannot be reached, may other Group 1 members identified in the “Outside Agency Authorization” column, request permission to launch a Message 2.A or 2.B, or Message 3.A or 3.B
 - Authorized Member will request contact with La Plata County Sheriff Shift Supervisor for permission to launch through La Plata County Dispatch
 - This request must be in person and cannot be relayed through other dispatch centers
 - Shift Supervisor may approve direct with dispatch or contact requesting member for details
 - Once Shift Supervisor approves launch, La Plata County Dispatch to launch messaging

Group 4 Messaging

- Message 2.C – Public Alert Message
 - Only if a member of La Plata County OEM cannot be reached, may other Group 1 members identified in the “Outside Agency Authorization” column, request permission to launch a Message 2.C
 - Member will request contact with La Plata County Sheriff Shift Supervisor for permission to launch through La Plata County Dispatch
 - This request must be in person and cannot be relayed through other dispatch centers
 - Once permission is granted, Member will re-contact La Plata County Dispatch to create messaging campaign
 - Member is to follow instruction sheet for campaign creation
 - Dispatch will confirm information and messaging with LPC SO Shift Supervisor prior to launch if necessary.

Appendix F: Resources

Resources regarding the Animas River and Gold King Mine Incident can be found at the websites listed below

Environmental Protection Agency:

<https://www.epa.gov/goldkingmine>

Colorado Department of Public Health and Environment:

<https://www.colorado.gov/pacific/cdphe/animas-river-spill>

Southern Ute Indian Tribe:

<https://www.southernute-nsn.gov/2016/04/animassan-juan-spring-runoff-preparedness-plan/>

San Juan County Colorado:

<http://sanjuancountycolorado.us/oem.html>

La Plata County:

http://www.co.laplata.co.us/i_want_to/gold_king_mine_information

San Juan Basin Health:

<http://sjbhd.org/public-health-news/animas-river-health-updates/>

Animas River Sensor webpage:

<http://waterdata.usgs.gov/co/nwis/rt>

Appendix G: Sensor Thresholds

USGS will be measuring five water quality **parameters** at multiple locations. These parameters do not directly measure the amount of contaminants (like metals, nutrients and bacteria) that are present in the river. Taken together, however, they represent a proxy for overall water quality that can inform decisions like closing agricultural diversions or city water intakes. Anyone can find these measurements in real time on the web at <http://waterdata.usgs.gov/nwis/uv?09358550> (Cement Creek), <http://waterdata.usgs.gov/usa/nwis/uv?09359020> (Animas River below Silverton) and <http://waterdata.usgs.gov/nwis/uv?09361500> (Animas River at Durango).

The five parameters are:

- 1. Streamflow** (measured in cubic feet per second, **cfs**): Streamflow, or discharge, measures the volume of water that moves downstream in a specified unit of time. This is measured in cfs- the number of cubic feet (1 foot x 1 foot x 1 foot) of water that moves past the measurement tool each second. Streamflow on the Animas River varies by season: from 100-200 cfs in winter to more than 5000 cfs in June. When streamflow is higher, concentrations of contaminants in the river are generally lower because there is so much water to dilute the contamination.
- 2. pH** (measured in **pH units**): pH measures how acidic (values from 0 to 7) or basic (values from 7 to 14) the river water is. Acidic water contains more dissolved metals than neutral or slightly basic water; dissolved metals are more concerning from a health standpoint. Drainage from abandoned mines is often very acidic. As the Animas River flows downstream and picks up cleaner water from tributaries, it becomes less acidic and the pH rises. In Cement Creek and the Upper Animas River, typical pH is between 3 and 6. In the Animas River at Durango, typical pH is between 6.5 and 9. pH outside of the range 6.5 to 9 is concerning for aquatic life and recreation.
- 3. Specific conductance (or conductivity)** (measured in microsiemens per centimeter, **µS/cm**) measures how well water can transmit an electrical current. Current is transmitted through water by dissolved ions, including dissolved metals, so conductance is an indirect measurement of dissolved material in the river. The higher the conductance, the more dissolved solids are in the river. Not all dissolved solids are concerning from a health standpoint, but conductance measures them all together. We don't have good historic data on the normal range of conductance in the Animas River but we'll be on the lookout for sudden massive changes.
- 4. Turbidity** (measured in Formazin Nephelometric Units, **FNU**) is a measurement of how murky a water body is because of solids floating (suspended) in the water flow. These solids arrive from a variety of sources: soil erosion and wastewater systems, for example. Turbidity in the Animas also increases as streamflow increases, because the force of water stirs up sediments sitting on the bed and banks of the river. High turbidity in the Animas doesn't necessarily indicate a health concern because of the variety of sources of turbidity. At Durango, turbidity is generally less than 40 FNU in the winter and can be as high as 4000 FNU during spring runoff.
- 5. Temperature** (measured in **degrees Celsius**): Water temperature is very important to the health of aquatic life. Water temperature varies seasonally and is generally higher when stream flow is low, when more of the stream bottom is exposed to sunlight. The Animas River is designated as a cold-water

fishery, and should never have temperatures exceeding 20 degrees Celsius (68 degrees Fahrenheit). Rapid changes in temperature can also be problematic.

Appendix H: Sampling and Field Verification Checklist

The need for field verification has been determined through predetermined thresholds and the appropriate jurisdiction has taken responsibility and sent staff for field verification. The location for taking samples and/or observations will be determined by the nature of the threshold met.

Observable conditions to be considered:

- Water level increase
- Water level decrease
- Color _____
- Opacity
- Debris
- Sonde readings

Once field conditions are observed and verified or determined not valid:

- Field observer will hail emergency management and public (Group 1) on MAC 14 and report findings.
- If findings are done by SO deputy or public works they will hail dispatch on home channel and dispatch will relay the message to Group 1 on MAC 14.

Appendix I River Flow Timeline

		<u>Cement Creek</u>	<u>Animas River</u>				
Cubic Feet per Second (CFS) Flow		<u>Cement Ck</u> USGS Gauging Station	<u>Animas (A72)</u> USGS Gauging Station below Silverton	<u>Tall Timber</u> USGS Gauging Station	<u>Durango N</u> USGS Gauging Station at Durango (walking bridge)	<u>Durango S</u> USGS Gauging Station below Durango pump Station	<u>Cedar Hill</u> Animas River near Cedar Hill, NM
	Gauge ID >	9358550	9358000	9359500	9361500	9362520	9363500
	Distance to next station >	2mi	20mi	24mi	2.5mi	18mi	
20		1:15					
50		1:00	6:00				
100		:45	6:00	20:00	:45	6:30	
250		:30	2:45	18:00	:45	5:30	
500		:20	1:45	16:00	:30	5:00	
1000		:15	1:00	14:00	:30	4;15	
2500			:45	11:00	:30	4:00	
5000			:30	10:00	:15	3:30	
8000				9:00	:15	3:00	
This chart shows estimated time to arrive at next River station or landmark at given flows							
These times are estimated and only to be used for judging amount of time to launch alerting or verify data							
EXAMPLE:							
Based on the above chart, it is estimated that it will take :15 for water flowing at 1000CFS to travel from the Cement creek gauge to the Animas (A72) gauge below Silverton and another 1:00 to reach the Tall Timber Gauge							