Appendix D – Big Mesa MDWCA Source Water Protection Plan

Implementing Big Mesa MDWCA's Source Water Protection Plan
Assessing Risk and Establishing Priorities

Many of the PSOCs identified in Tables 2 and 3 of the Big Mesa MDWCA SWP Plan occur throughout the SWP Area. To effectively implement the Big Mesa MDWCA's SWP Plan, it may be useful to develop a strategy that prioritizes which PSOCs to address first. Developing these priorities will help determine where the Big Mesa SWP Team, the community, and others such as the US Army Corps of Engineers and Conchas Lake State Park, could put their efforts in managing the SWP Area. This Appendix outlines how to establish these priorities. Completing the information in this Appendix may require additional input from the Big Mesa MDWCA's Board and membership. The SWP Team recommends discussing next steps with the Board before it completes this assessment.

NMRWA has adopted an approach that the Colorado Rural Water Association developed to prioritize each potential contaminant source or other issue of concern. The approach uses the following criteria: the level of risk, the water system's control, and the best management practices associated with each item.

1.1 Risk

The level of risk for each contaminant source is a measure of the water source's potential exposure to contamination. When prioritizing, a water system may assign a higher priority ranking to a potential contaminant source that has a higher risk level than one of lower risk level shown in the Risk Assessment Matrix (Figure 10).

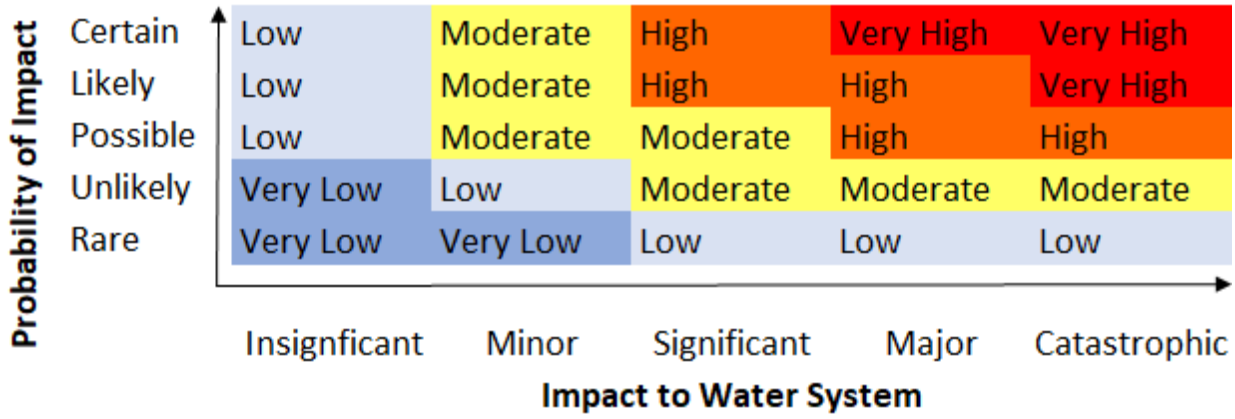

Figure 1. Risk Assessment Matrix (after the CRWA Source Water Assessment and Protection Program).

This matrix calculates the level of risk by estimating the following:

- Impact to the Public Water System – Risk to the source waters increases as the impact to the water system increases. The impact is determined by evaluating the human health concerns and potential volume of the contaminant source. The following descriptions provide a framework to estimate the impact to the public water system.
    - Catastrophic - irreversible damage to the water source(s). This could include the need for new treatment technologies and/or the replacement of existing water source(s).
    - Major - substantial damage to the water source(s). This could include a loss of use for an extended period and/or the need for new treatment technologies.
    - Significant - moderate damage to the water source(s). This could include a loss of use for an extended period and/or the need for increased monitoring and/or maintenance activities.
    - Minor - minor damage resulting in minimal, recoverable, or localized efforts. This could include temporarily shutting off an intake or well and/or the issuance of a boil order.
    - Insignificant - damage that may be too small or unimportant to be worth consideration but may need to be observed for worsening conditions. For example, the development of administrative procedures to maintain awareness of changing conditions.
- Probability of Impact – The risk to the source waters increases as the relative probability of damage or loss increases. The probability of impact is determined by evaluating the number of contaminant sources, the migration potential or proximity to the water source, and the historical data. The following descriptions provide a framework to estimate the relative probability that damage or loss would occur within one to ten years.
    - Certain: >95% probability of impact
    - Likely: >70% to <95% probability of impact
    - Possible: >30% to <70% probability of impact
    - Unlikely: >5% to <30% probability of impact
    - Rare: <5% probability of impact

1.2 Control

The level of water system *control* describes the ability of the water system to take measures to prevent contamination or minimize impact. A potential contaminant source that falls within a water system's jurisdiction (i.e. direct control) may be of higher priority since it can take direct measures to prevent contamination or minimize the impact. In some cases, however, it can be important to address those PSOCs where the water system has little or no control because this identifies the need for other actions.

- Direct Control – The water system can take direct measures to prevent contamination or minimize impact.
- Indirect Control – The water system cannot directly control the issue, but can work with another entity, agency, or person to take measures to prevent.
- No Control – The potential contaminant or issue of concern is outside the control of the public water system and other entities.

Table D-1 is blank currently. During the spring of 2021 the SWP Team will complete the table and amend it to the Big Mesa MDWCA SWP Plan.

Table D-1. Priority Ranking of PSOCs Based on Risk and Control Factors.

PSOC	SWP Zone	Impact	Probability of Impact	Risk	Control	Priority Ranking
Abandoned structures	A					
	B					
	C					
	D					
Airport/Airstrip	A					
	B					
	C					
	D					
Agricultural/farming practices	A					
	B					
	C					
	D					
Animal corrals /pens	A					
	B					
	C					
	D					
Campgrounds (sewered)	A					
	B					
	C					
	D					
Campgrounds (unsewered)	A					
	B					
	C					
	D					
Cemeteries	A					
	B					
	C					
	D					
Community Collection Station	A					
	B					
	C					
	D					
Drainages (acequias/canals/ rivers/streams)	A					
	B					
	C					
	D					
Forestlands/open rangeland	A					
	B					
	C					
	D					
Golf course	A					
	B					
	C					
	D					

PSOC	SWP Zone	Impact	Probability of Impact	Risk	Control	Priority Ranking
Hazardous household waste	A					
	B					
	C					
	D					
Illegal dumping (especially in/near drainages)	A					
	B					
	C					
	D					
Major Transportation /Utility Corridor	A					
	B					
	C					
	D					
Outdoor recreation – Land based	A					
	B					
	C					
	D					
Outdoor recreation – Water based	A					
	B					
	C					
	D					
Petroleum Storage Tanks (active)	A					
	B					
	C					
	D					
Petroleum Storage Tanks (inactive)	A					
	B					
	C					
	D					
Ranching and farming	A					
	B					
	C					
	D					
Roads (paved/ unpaved/ parking lots)	A					
	B					
	C					
	D					
Salvage areas	A					
	B					
	C					
	D					
Septic and other wastewater systems	A					
	B					
	C					
	D					

PSOC	SWP Zone	Impact	Probability of Impact	Risk	Control	Priority Ranking
Stock tank/Water impoundment	A					
	B					
	C					
	D					
Storage areas	A					
	B					
	C					
	D					
Water intake	A					
	B					
	C					
	D					
Water supply wells	A					
	B					
	C					
	D					
Water treatment plant	A					
	B					
	C					
	D					
Wildland fire and postfire debris flow	A					
	B					
	C					
	D					