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Comments: Thank you for the opportunity to review and provide comments on the 4FRI Rim Country Project Draft Environmental Impact Statement. The Arizona Department of Environmental Quality's (ADEQ) Water Quality Division supports projects aimed at improving watershed conditions that protect and enhance public health and the environment. The scale of the Rim Country Project proposes ponderosa pine ecosystem restoration activities across a vast landscape encompassing more than 950,000 acres of the Apache-Sitgreaves, Coconino, and Tonto National Forests over a period of 20 years. Project actions that aim to increase forest resilience and sustainability; reduce undesirable fire effects; improve terrestrial and aquatic species habitat; improve the condition and function of streams, springs, and other aquatic and hydrological resources; and, restore riparian vegetation effectively improve watershed condition and resilience. The scale and speed with which the entire suite of proposed restoration actions will be undertaken will likely improve the water quality of the streams and lakes within the project area by reducing pollutants discharged to these surface waters over the long-term.
Alternative 2, Modified Proposed Action (and the preferred alternative), stands to produce the greatest benefits to watershed function and associated improvements to water quality. This alternative proposes around 889,000 of mechanical and 953,000 acres of prescribed fire treatments. In addition to ponderosa pine restoration, these mechanical and fire treatments include grassland, wet meadow, and riparian restoration. These treatments will result in the following benefits:
* Restoration of approximately 184 springs
* Restored function and habitat in up to 777 miles of streams
* Decommission up to 490 miles of existing system roads
* Decommission up to 800 miles of unauthorized roads
* Construct or improve about 330 miles of temporary roads to facilitate mechanical treatments; decommission all temporary roads when restoration treatments are completed
* Relocate and reconstruct existing open roads adversely affecting water quality and natural resources
* Construct up to 200 miles of protective barriers around springs, aspen, native willows, and big-tooth maples, as needed for restoration

Two watersheds proposed for restoration of particular concern to the ADEQ straddle or fall completely within the Project boundary: Fossil Creek and Christopher Creek. Fossil Creek is an Outstanding Arizona Water (OAW) as defined under Arizona Administrative Code R18-11-112. Degradation of an OAW is prohibited under the Antidegration Rule R18-11-107(D). The vegetation and prescribed fire treatments proposed across 48% of the Upper Fossil Creek subwatershed (150602030305) may affect existing water quality; however, if proposed Guidelines and Standards designed to prevent water quality concerns are followed, then impacts should be non-existent or short-lived.

The Christopher Creek watershed, known by ADEQ as the Christopher Creek Targeted Watershed, includes the following subwatersheds: Christopher Creek (150601050203), Horton Creek-Tonto Creek (150601050204), Bull Tank Canyon-Tonto Creek (150601050206). ADEQ has funded projects to address non-point source pollution in this watershed. Per ADEQ's 2018 statewide water quality assessment, Christopher Creek is Not Attaining for E. coli and Impaired for Dissolved Oxygen, Horton Creek-Tonto Creek is Not Attaining for E. coli, and Bull Canyon-Tonto Creek is Not Attaining for E. coli and Impaired for Mercury in Fish Tissue. These designations are consistent with ADEQ's 2016 assessment results that are reported in the DEIS. The DEIS notes that Christopher Creek has Impaired Function while Horton Creek-Tonto Creek and Bull Tank Canyon-Tonto Creek subwatersheds are Functioning at Risk. Restoration activities are slated for 100%, 100%, and 55% of these subwatersheds, respectively. The scale and scope of the restoration activities proposed in the DEIS have the potential to improve water quality along all stream reaches within these three subwatersheds.

The status of three lakes has changed since the Water and Riparian Resources Report was drafted or their status was incorrectly conveyed. As of the 2018 assessment, the status of Stoneman Lake remains unchanged. It is Not Attaining for pH; however, it is also Not Attaining for Dissolved Oxygen, which is an omission in the report. Black Canyon Lake was Impaired for Ammonia in 2016 as reported. In 2018, Mercury in Fish Tissue was added as Impaired while Ammonia remains unchanged. Bear Canyon Lake is incorrectly identified as Impaired in the text; its status remains Inconclusive as of the 2018 assessment. Watershed conditions surrounding these lakes are Functioning at Risk. Substantial upland vegetation treatments coupled with stream restoration efforts planned for tributaries may affect water quality in the short-term; however, the long-term benefits of these actions will likely outweigh any short-term impacts on these water bodies.

According to the various Specialist Reports and the Adaptive Management and Monitoring Plan, no physical stream measurements will be taken to determine the impacts of management actions or the effectiveness of these restoration activities on water quality. Only narrative descriptions will be made to infer treatment effects on water quality. ADEQ understands the challenges associated with monitoring water quality posed by the scale and diversity of the proposed treatments and environmental conditions; however, we encourage the 4FRI Collaborative Stakeholder Group and its Multi-party Monitoring Board to continue seeking out collaborations with non-member stakeholders to gather quantitative water quality data to document treatment effectiveness and inform adaptive management.