

July 10, 2021

Forest Supervisor Lesley Yen
Inyo National Forest
351 Pacu Lane, Suite 200
Bishop, CA 93514

Re: Comments on the Owens River Headwaters and Cottonwood Creek Draft Comprehensive River Management Plans (CRMPs)

Dear Supervisor Yen:

Thank you for soliciting public comments in response to the draft CRMPs for the Owens River Headwaters and Cottonwood Creek Wild and Scenic Rivers (WSRs).

The development and implementation of a CRMP for National Wild and Scenic Rivers is an important protective provision of the National Wild and Scenic Rivers Act (NWSRA). To be completed within three years of designation, the CRMP shall provide for the protection of river values and address resource protection, development of lands and facilities, user capacities, and other management necessary or desirable to achieve of the purposes of the Act. The plan shall be prepared in consultation with state and local governments and the interested public.¹

For the CRMP to fulfill its protective purpose, it is essential that the plan go beyond a simple recitation of resources and issues and focus on current and future actions that could harm the free-flowing condition, outstandingly remarkable (OR) values, segment classification, and water quality of the protected river.

Unfortunately, the draft CRMP for the Owens River Headwaters WSR fails this test. In particular, the CRMP and accompanying Resource Assessment fails to provide crucial information about groundwater extraction from aquifers that contribute to the flow of the Owens River Headwaters WSR.

¹ 16 USC Chapter 28, Sec. 1274(d).

Groundwater Extraction Impacts on Owens River Headwaters WSR Flows

The draft CRMP states that both Deadman and Glass Creeks are fed by numerous springs issuing from the east side of the Deadman Ridge, likely fed primarily by snowmelt, and that Big Springs, an important hydrologic feature of the Owens River Headwaters WSR, is recharged by runoff from Deadman Ridge that infiltrates into permeable pumice deposits. The document further states that Big Springs discharge is relatively constant from year to year, indicating that the aquifer feeding Big Springs is large enough that discharge is little affected by interannual variations in precipitation.²

Noting that Big Springs is a hydrologic feature unique in the Eastern Sierra, the draft document states that “Recharge for this groundwater system evidently occurs to the west and southwest in the watersheds of Deadman, Glass, and Dry Creeks.”³ But the document fails to mention that groundwater is extracted from the Dry Creek aquifer by the Mammoth Mountain Ski Area (MMSA) for snow-making purposes and in 1994, the Forest Service produced an Environmental Assessment (EA) for a proposal from the Mammoth Community Water District (MCWD) to drill four water supply wells in the Dry Creek watershed to annually extract up to 2,000 acre feet of groundwater.

This 1994 EA is listed in the references but there is no mention of how much groundwater is currently being extracted by the MMSA or whether the MCWD project was ever implemented. The document completely fails to address how the existing and proposed groundwater extraction may impact flows in Big Springs, which is a key protected feature of the Owens River Headwaters WSR. The failure to address this issue violates the absolute mandate of the NWSRA to protect and enhance the free-flowing condition of protected rivers. The NWSRA states:

Each component of the national wild and scenic rivers system shall be administered in such manner as to protect and enhance the values which caused it to be included in said system without, insofar as is consistent therewith, limiting other uses that do not substantially interfere with public use and enjoyment of these values. In such administration primary emphasis shall be given to protecting its esthetic, scenic, historic, archaeological, and scientific features. Management plans for any such component may establish varying degrees of intensity for its protection and development, based on the special attributes of the area.⁴

A Mammoth Basin Groundwater Management Plan from 2005 indicate that Dry Creek groundwater extraction “is a low priority that would be explored after the possibility of new production wells in the Mammoth Basin is analyzed.”⁵ The plan also notes that “As existing

² CRMP pg. 8.

³ CRMP pgs. 17, B-20.

⁴ 16 USC Chapter 28, Sec. 1281(a).

⁵ Groundwater Management Plan for the Mammoth Basin Watershed, July 2005, Mammoth Community Water District, pg. 13.

supplies are allocated, the District will be looking for future groundwater sources at Dry Creek and within the Mammoth Basin itself.”⁶

The groundwater management plan also states that “Future annual extractions from the Dry Creek Basin are projected to be approximately 350 acre-feet during dry water years.”⁷ It is unclear whether this statement references MMSA extractions for snow making or some other activity.

The CRMP must address potential impacts of groundwater extraction on flows in the Owens River Headwaters WSR, including Big Springs. If data is available, the assessment should compare flows prior to groundwater extraction from the Dry Creek watershed, flows under the current extraction program, and flows if groundwater extraction were expanded from the watershed to meet future community needs as proposed by the groundwater management plan. The assessment should also include the realistic impacts of climate change and chronic drought in identifying potential flow impacts on the WSR. It should also identify other points of potential groundwater extraction, including the Glass Creek recreational residence tract, campground water systems, and whatever water supply source that supplies the CalTrans maintenance yard at Crestview.

Water Quality Impacts in the Owens River Headwaters WSR

The intent of Congress in establishing the National Wild and Scenic Rivers System was to preserve the free-flowing condition and outstandingly remarkable scenic, recreation, geology, fish, wildlife, historic, cultural and other similar values of selected rivers and their immediate environments for the benefit and enjoyment of present and future generations. The established national policy of dam construction on appropriate river sections is complemented by a policy that preserves selected river sections in their free-flowing condition and to *protect water quality* and fulfill other vital national conservation purposes.⁸

Management of protected river segments by Wild, Scenic, and Recreational classification and the mandate to establish and implement standards and guidelines to specifically protect a river’s outstandingly remarkable values helps achieve the water quality protection goal. But the NWSRA also has specifically requires agencies managing WSRs to cooperate with the Environmental Protection Agency and with the appropriate State water pollution control agencies for the purpose of eliminating or diminishing the pollution of waters of the river.⁹

A technical paper published by the Interagency Wild and Scenic Rivers Coordinating Council (the federal agencies that manage WSRs), found that “Although one purpose of WSR designation is to protect water quality, many WSRs are not meeting their assigned water quality

⁶ Ibid, pg. 42

⁷ Ibid, pg. 39.

⁸ 16 USC Chapter 28, Sec. 1271.

⁹ 16 USC Chapter 28, Sec. 1283(c).

standards under the Clean Water Act. In some instances, water quality impairments diminish all three river values that the WSR Act aims to protect and enhance: a river's free-flowing condition, water quality, and ORVs." The Council's report demonstrates that "impaired water quality is a widespread concern throughout the National WSR System, and more work is needed to develop viable strategies to address this problem."¹⁰

The draft CRMP states that bacterial contamination has been noted downstream of the campground on Glass Creek in late summer and autumn. According to the CRMP, pathogenic bacteria, such as E. coli, may enter surface water from leakage and failure of septic and sewage systems, pet waste, livestock waste, human waste from recreationists, and indiscriminate flushing of recreation vehicle (RV) waste tanks.¹¹

The five potential water pollution sources identified in the draft CRMP may be associated with the campground, general recreation use, and the recreational residence tract. Leaking septic/sewage systems is a chronic problem with many older recreational residence tracts.¹² Of course, pollution from improperly disposed-of human and pet waste may also be a contributing factor, as well as illegal RV waste tank dumping. The heavy use of the campground by RVs and the fact that the campground has no RV dump may be important contributing factors. It's also possible that a poorly functioning septic/sewage disposal system for the CalTrans Crestview Maintenance Yard may also contribute to the problem.

In addition, the draft CRMP states that there may be accelerated erosion and sediment transport into Glass Creek from off-highway vehicle (OHV) use in and adjacent to the channel. Sedimentation of portions of Deadman Creek has been attributed to the road crossings of the creek and OHV use within and adjacent to the channel. Runoff from storms and consequent surface erosion has been observed to increase. This situation too requires proposed action in the CRMP. Reducing or eliminating motorized crossings would help address this issue, but once again, the CRMP fails to propose any action at all to resolve this problem.

These are precisely the kinds of problem the CRMP is supposed to identify and address. The CRMP raises the water quality issues, but proposes no actions to identify the source of the bacteria pollution in Glass Creek or mitigate or eliminate either pollution problem. Even if the EPA and Lahontan Regional Water Quality Control Board may not yet be involved with these issues, the Forest Service has a proactive responsibility under the NWSRA to protect and enhance the water quality of the Owens River Headwaters WSR. A revised draft CRMP should provide more information on potential water pollution sources and propose actions to resolve the water quality problem.

¹⁰ Evaluation of State Water Quality Assessments and the National Wild and Scenic Rivers System, Interagency Wild and Scenic Rivers Coordinating Council, Oct. 2018.

¹¹ CRMP pgs. 9-10.

¹² The Lassen Forest identified leaking residence tract septic systems and campground vault leakage as potential sources of water pollution. Lassen National Forest Land and Resource Management Plan FEIS, 1992, pg. 3-84 to 85.

More Expansive Outstandingly Remarkable Values Should Be Identified

The draft CRMP's description of outstandingly remarkable values of the Owens River Headwaters WSR is unnecessarily limited. To be identified as outstandingly remarkable, a river-related value must be unique, rare, or exemplary feature that is significant when compared with similar values from other rivers at a regional or national scale.¹³ There is a tendency to focus on the "exemplary" criteria. But "exemplary" can mean serving as a desirable model or representing the best of its kind. Not all scenic values can be considered the best of their kind, but they can be unique or rare.

This "there can only be one" tendency to define outstanding values as only those values that are exemplary (best of their kind) ignores how a combination of diverse values over the length of the river can add up to a one outstanding value. In fact, federal guidelines encourage the Forest Service to consider the river's contribution to the river system or basin integrity.¹⁴ The benefits of this "systems" approach is far superior to balkanizing the WSR into separate little segments in an attempt to determine which values are exemplary and which are not.

For example, the draft CRMP appears to limit the river's identified outstandingly remarkable scenery value to Glass Creek. This finding ignores the overall diverse scenic values of the Owens River Headwaters. In addition, it ignores general direction in the Forest Service Manual that defines scenic visual features that are "notable or exemplary." "Notable" means worthy of attention, remarkable. "Exemplary" means serving as a desirable model, representing the best of its kind. The outstanding scenic values of Glass Creek are certainly notable and exemplary in terms of being worthy of attention and serving as a desirable model. But the scenic values of upper Glass Creek are not "the best of its kind" in that other segments of the river also offer quite different but just as notable scenic values.

Upper Glass Creek in Glass Creek Meadows is quite different than lower Glass Creek, which cascades down over lava rock waterfalls and flows around the base of two obsidian formations, before entering a Jeffrey pine forest upstream of the Deadman Creek confluence. Meandering through forests of red fir and Jeffrey pine, upper Deadman Creek is different than its lower segments, which flows through a ribbon of green in a relatively barren landscape of pumice. The river changes again at Big Springs, where increased flows contribute to the river's highly diverse scenery. This rich diversity of scenery is outstandingly remarkable.

Outstandingly Remarkable Values of the Owens River Headwaters WSR

Scenery – The CRMP's description of the outstandingly remarkable scenery values of Glass Creek is correct. However, the outstanding scenery value should be expanded to include all of the Owens River Headwaters WSR (including Deadman Creek, Big Springs, and the Owens River) due to its highly scenic diversity. The entire WSR boasts "Very High" and "High" scenic integrity

¹³ FSH 1909.2_80 2015, sec. 82.73.

¹⁴ FSH 1909.12_83.21(12).

objectives. White Wing Mountain is visible from both Glass and Deadman Creeks and should be considered an outstanding scenic attribute for both streams.

Wildlife – We appreciate and agree with the outstanding wildlife finding, particularly the importance of Deadman Creek as a trans-Sierra migration corridor for furbearers, supporting a diverse community of bird species, providing foraging habitat for California spotted owl (quite rare east of the Sierra crest), Glass Creek Meadow’s high diversity of butterfly species, and possible rare aquatic spring snails.

Botany – We agree with the findings, but the OR botany value should be expanded to incorporate the unique role this drainage plays the migration of westside floristic species east of the Sierra Nevada crest. We also believe that there should be an expanded OR botany value identified for the Owens River Headwaters WSR. Upper Deadman Creek flows through the Forest Service-identified “world’s largest Jeffrey pine forest.”¹⁵ It also supports rare eastside stands of old growth red fir. The area also maintains a highly diverse and rich understory of plant species representing seven floristic zones. The relatively low elevation of the Sierra crest at Deadman Pass (a.k.a. the Mammoth Gap) is an effective migration corridor for the post-volcanic disturbance colonization of flora from west to east.¹⁶

Recreation – We agree with the findings in the draft CRMP. However, it should be noted that the presence of RV and OHV friendly campgrounds, however unique and outstanding, does not relieve the Forest Service of the responsibility under the NWSRA to modify these recreational activities to reduce impacts to other outstanding values and to protect water quality.

Geology/Hydrology – We agree with the findings in the draft CRMP. However, Big Springs – a large spring unique to the Eastern Sierra¹⁷ – should be explicitly added to the outstanding hydrology value.

Ecology – The CRMP has no finding for an outstandingly remarkable ecology value. However, the CRMP’s desired conditions section notes that “The designated river has excellent water quality that supports diverse ecological communities.”¹⁸ We believe that this fact, coupled with the outstanding wildlife and botany values associated with species migration, constitutes an outstandingly remarkable ecology value.

Visitor Use Management and Capacity

Although the process used to determine visitor use management and capacity appears viable, we are concerned that the time period when current visitor use data was collected was

¹⁵ https://www.fs.usda.gov/detail/inyo/home/?cid=fsbdev3_003745

¹⁶ Millar, C. I. 1996. The Mammoth-June ecosystem management project, Inyo National Forest. Sierra Nevada Ecosystem Project Report, Volume II, Chapter 50, University of California, Davis.

¹⁷ CRMP pg. 17.

¹⁸CRMP pg. 27.

sporadic due to a fire closure. Campground occupancy data was not collected for Upper/Lower Deadman Creek campgrounds due to the:

closure. The Deadman Creek group campground was closed due to COVID 19 restrictions. The pandemic also resulted in unusual changes in public lands recreation use. This and the other factors noted in the CRMP bring into question whether the 2020 user data provides an adequate assessment of recreation capacity. We recommend that finalization of the CRMP be delayed to gather current visitor use data less impacted by COVID.

Standards

Add these standards:

1. Reduce the size or relocate the Glass Creek Campground if it continues to be a source of riparian vegetation impacts and water pollution. See previous comments about water quality.
2. Prohibit OHV crossings of any designated river segment regardless of classification to reduce erosion, sedimentation, and vegetation impacts. See previously comments about water quality.

Management Actions & Potential Future Management Actions

Add these management actions:

1. Investigate all potential sources of bacteria and sediment pollution, including the existing campgrounds, recreational residence tract, CalTrans Crestview Maintenance Yard, and visitor uses.
2. Consider establishing a RV dump for the Glass Creek Campground to reduce illegal dumping of waste that may contribute to bacteria pollution in Glass Creek.
3. Close OHV crossings that contribute to erosion, sedimentation, and loss of riparian vegetation.
4. Establish a system of camping permits for all campgrounds (even those that are free) to better collect user data.
5. Conduct a hydrology study to determine the potential impacts of Dry Creek groundwater extraction on flows in the WSR (including Big Springs).
6. Altering the culvert or relocating camp sites in the Upper Deadman Creek campground should be a definitive management action and not a potential management action.

7. Consider relocating out of the riparian zone and extending the informal trail that heads upstream from Glass Creek Campground to connect with the existing Glass Creek Meadow Trail.¹⁹

Monitoring Plan

Add these monitoring plan actions:

1. Annually conduct water quality monitoring for bacteria pollution and sediment.
2. Annually monitor riparian vegetation to determine impacts of recreational use.
3. Annually monitor the Yosemite toad population in Glass Creek Meadows and where found in Deadman Creek to determine impacts of recreational use.
4. Annually monitor the western singlespike sedge population on Deadman Creek and conduct surveys for other potential Species of Conservation Concern (SCC) plants.
5. Annually monitor riparian vegetation and the bird species it supports.
6. Conduct a survey for aquatic spring snails, including Wong's and Owens Valley spring snails.
7. Annually assess campground use to better quantify potential visitor impacts on the WSR.
8. Establish permanent flow monitors to annually assess potential flow impacts from climate variability and from upstream groundwater extraction.

River Corridor

A standard 320 acre/mile (1/4 mile on each side of the river) was established by the Forest Service for the Owens River Headwaters WSR. The CRMP should consider a variable width corridor that encompasses the 58 spring/seep systems in the Deadman Creek headwaters, of which 95 percent appear perennial. This spring/seep systems undoubtedly contribute to the flows of the WSR and they should be protected.

¹⁹ The 1979 Inyo National Forest Recreation Map shows this trail, as does the 2016 Mammoth-Mono Region Recreation Topo Map & Guide published by Sierra Maps. I've hiked this trail for about a mile upstream of the Glass Creek Campground.

Cottonwood Creek WSR Outstandingly Remarkable Values

We support the outstandingly remarkable values as described in the draft CRMP. However, we recommend consideration of these additional outstandingly remarkable values:

Recreation – The draft CRMP does not identify an outstandingly remarkable Recreation value for the Wild (National Forest) segment of Cottonwood Creek. The draft CRMP describes the Recreation Use Setting as remote with difficult road access, resulting in little overall use. Nevertheless, the document notes that visitors do enjoy hiking, primitive camping, fishing, and upland game bird and mule deer hunting. Given that the White Mountains are located within a 4-hour drive of nearly half of the 37 million people who live in California and more than two million people visit the Inyo Forest annually, it's virtually certain that that the comparatively few visitors who enjoy recreating along Cottonwood Creek come from beyond the eastern/southern Sierra Nevada and Great Basin region.

The Resource Assessment notes that the area through which the creek flows provides a high-quality experience for those people seeking a remote and beautiful area in which to hunt, fish, hike, or camp, and the river itself is remote and difficult to access. Hunting is popular due to the remote and open terrain through which Cottonwood Creek flows. The WSR flows through a trophy hunt zone, which tends to attract paying tourists interested in hunting game with “exceptional” physical traits. Many of the trophy hunters likely camp along Cottonwood Creek, which provides year-round access to drinking water.²⁰

Whether Cottonwood creek attracts or has the potential to attract visitors from throughout or beyond the region of comparison is not specifically addressed in either the draft CRMP or Resource Assessment. Given its remote nature, any visitor will likely be from beyond the region. In addition, the generally arid nature of the White Mountains ensures that most recreational activities likely interact with the creek, which is one of the few water sources in the area. The creek's unique OR scenery definitely enhances the recreation experience.

In addition, Cottonwood Creek's recreation value is also quite different from the outstanding recreation values associated with the Owens River Headwaters WSR, the upper South Fork Kern WSR, or the several eligible streams identified in the revised WSR inventory for the Inyo Forest.²¹ Most outstanding recreation values identified for the Owens River Headwaters WSR and the many eligible WSRs on the Forest are associated with popular trails, campgrounds, and other recreation facilities. As documented in the Resource Assessment, the one system trail along Cottonwood Creek is “faint” and rarely maintained.²² Nevertheless, Cottonwood Creek likely attracts visitors from throughout and beyond the region who desire a real primitive

²⁰ CRMP Resource Assessment pg. B-13.

²¹ Forest Service, FEIS for Revision of the Inyo National Forest Land Management Plan, Vol. 2 Appendices, Sep. 2019.

²² CRMP Resource Assessment pg. B-13.

recreation experience, without the crowds and permit quotas that are required for wilderness destinations in the nearby Sierra Nevada.

We believe that the Wild segment of Cottonwood Creek possess an outstandingly remarkable Recreation value. The little used and remote wilderness setting of the Wild segment of Cottonwood Creek constitutes an outstandingly remarkable primitive recreation value quite different from the crowded and heavily managed wilderness recreation use found in the Sierra Nevada and these primitive recreation and hunting opportunities most certainly attract visitors from beyond the region.

Geology – The draft CRMP and Resource Assessment does not identify an outstanding geology value for the Cottonwood Creek WSR. The geology description in the Resource Assessment makes the surrounding geology seem mundane. But other information sources document unique geology values. Although much of Cottonwood Creek flows through the Cottonwood Pluton (a subset of the ubiquitous granite found all over the Sierra Nevada), the headwaters of the creek are underlain by the Lower Cambrian Waucoban Series, which is regarded as the North American-type succession for rocks of this age. It contains the oldest trilobite faunas in the Americas, abundant archeocyathans (primitive reef-forming animals), numerous criss-crossing tracks and trails of primitive molluscs and arthropods, and molluscan body fossils (Wayattia and others), now regarded as marking the beginning of the Paleozoic Era.

The Central White-Inyo Range, which includes the headwaters of Cottonwood Creek, exposes the best stratigraphic sections of the uppermost Precambrian to middle Paleozoic strata in the range. The open country of the upper Cottonwood Creek basin, which contributes significantly to the outstanding scenery and attracts trophy-seeking hunters is due to volcanic rock that extends in table-like flows from the Cottonwood basin. The central White-Inyo Range lacks a record of the early to middle Cenozoic due to broad regional uplift and resulting denudation. The character of the erosional surface is well illustrated in the area of the Cottonwood Basin.²³

The presence of Lower Cambrian Trilobites in this area has been the subject of research based out of the White Mountain Research Station (WMRS). This should be considered a combined outstandingly remarkable geology/scientific value. Another potential outstanding geology value is the presence of dolomite barrens. These barren white moonscapes (when viewed from a distance) not only contribute to the distinctive scenery, they support a unique plant assemblage consisting of *Phlox condensata*, *Ivesia shockleyi*, and 24 other species.²⁴ This should be considered a combined outstanding geology/botany value. The upper source of Cottonwood Creek flows from and adjacent to a dolomite barren. The contact between the Reed dolomite

²³ Hall, Clarence A., Jr., editor *Natural History of the White-Inyo Range, Eastern California*. Berkeley: University of California Press, c1991 1991. <http://ark.cdlib.org/ark:/13030/ft3t1nb2pn/>

²⁴ Cheng, Sheauch, tech. ed. 2004. Forest Service Research Natural Areas in California Gen. Tech. Rep. PSW-GTR 188. Albany, CA: USDA Forest Service, Pacific Southwest Research Station; 338 p.

and the Cottonwood Pluton is the source of much of springs and seeps that feeds the flow of the WSR.²⁵

We believe the unique geology of the upper Cottonwood Creek Basin in particular constitutes an outstandingly remarkable value.

Ecology – In addition to already identified botany ORV, the White Mountains through which Cottonwood Creek flows, is one of the highest desert mountain ranges in North America and includes the largest expanse of rare Alpine Steppe or Tundra in the far western United States. Over 1,000 native species and varieties of plants have been recognized in the White Mountains.²⁶ Although its flora has close affinities to that of the Great Basin region, it was apparently enriched during the Pleistocene ice age with many boreal taxa from the Sierra Nevada.

We believe this constitutes an outstandingly remarkable ecological value, although it also makes sense to include it in the WSR's outstanding botanical value.

Science – Given the presence of the WMRS and the wide range of scientific research it facilitates, we recommend that science be considered an ORV for Cottonwood Creek. Scientific research conducted from the Station touches on virtually every identified and potential outstandingly remarkable value for Cottonwood Creek, including prehistory, botany, geology, and ecology. There are few if any designated or eligible WSRs in either the Great Basin or Sierra Nevada region that possess an identified science value.

Eligible Tributaries

The Forest Service Land Management Planning Handbook advises evaluators to “Consider the entire river system, including the interrelationship between the main stem and its tributaries and their associated ecosystems which may contain outstandingly remarkable values.” But the draft CRMP fails to mention that the 2019 Inyo Forest Plan and FEIS identified 1.7 miles of Cottonwood Creek from the White Mountains Wilderness boundary to the start of the existing designated segment to be eligible due to outstanding fish and prehistory values. In addition, the Plan identified as eligible 3.7 miles of the South Fork Cottonwood Creek from its headwaters to its confluence with Cottonwood Creek and 3.4 miles of Poison Creek from its headwaters to its confluence with the South Fork Cottonwood Creek to be eligible due to OR prehistory values. The eligibility of these tributaries contributes to outstanding values of the overall river system. The eligible segments should be recognized in the PRA.

²⁵ CRMP pg. 9.

²⁶ USFS web site: <https://www.fs.usda.gov/recarea/inyo/recarea/?recid=21883>

Grazing

The draft CRMP notes the Wild River (National Forest) segment flows through part of the Cottonwood grazing allotment, which has been vacant since 2000. The Oasis grazing allotment is located partially within the Recreational River (BLM) corridor.²⁷ The Cottonwood-Crooked watersheds are Conservation Watersheds established in the 2019 Inyo Forest Plan. Conservation Watersheds are managed to provide connectivity and refugia for species of conservation concern and high-quality water for beneficial uses downstream, with a focus on restoration and long-term monitoring.

The draft CRMP also documents outstandingly remarkable values (particularly botany, fisheries, and wildlife) that could be degraded by grazing. For example, Nelson bighorn sheep are cited as part of the WSR's outstanding wildlife value.²⁸ Mountain sheep formerly occupied a wide area of the White Mountains, including the Cottonwood Creek Basin. But the sheep are now found only in the most rugged and inaccessible portion of their original range. Loss of part of this range was probably due to diseases introduced from domestic livestock. This supports the idea of permanently retiring the Cottonwood Creek grazing allotment.

Management Actions

1. Permanently retire the Cottonwood grazing allotment to protect the WSR's outstandingly remarkable values and further the goals and purposes of the Cottonwood-Crooked Conservation Watershed. Remove unnecessary grazing structures.
2. Conduct additional surveys of springs and seeps for springsnails that are Species of Conservation Concern.
3. Improve and maintain a minimal trail system to allow access to the WSR's primitive recreation opportunities. Consider re-establishing a permanent trail stretching from the upper Basin to the end of the WSR.
4. Institute a permit system to monitor recreation use.
5. Establish permanent flow gauges to annually monitor flow.

Monitoring Plan

1. Annually monitor and track recreation use using the new permit system.
2. Survey springs/seeps for sensitive springsnails and periodically monitor inhabited sites to determine if recreation or other activities are causing harm.

²⁷ CRMP pg. 12.

²⁸ CRMP pg. 15.

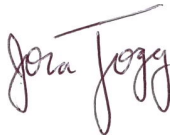
3. Annually monitor gauges to track flow levels.
4. Annually monitor sensitive plan species to determine if recreation or other activities are causing harm.
5. Annually monitor historic and prehistoric sites to determine if recreation or other activities are causing harm.

Thank you again for soliciting public comments in response to the draft CRMPs and Resource Assessment for the Owens River Headwaters and Cottonwood Creek WSRs. Please inform us when a final CRMP and Resource Assessment is signed and made available to the public.

Sincerely,



Steven L. Evans
CalWild Rivers Director
Phone: (916) 708-3155
Email: sevans@calwild.org



Jora Fogg
Friends of the Inyo
Policy Director
Phone: 360-259-4275
Email: jora@friendsoftheinyo.org



Pamela Flick
Defenders of Wildlife
California Program Director
Phone: (916) 442-5746
Email: pflick@defenders.org