Explanatory Statement
In Support of the Offer of Settlement,
Southern California Edison Company,
Lundy Hydroelectric Project (FERC No. 1390)
January 2005

INTRODUCTION

Pursuant to 18 CFR §385.602, this document explains the rationale for the January, 2005 Settlement Agreement (Agreement) between the Southern California Edison Company (SCE), the United States Department of Agriculture, Forest Service (Forest Service), United States Department of the Interior, Bureau of Land Management (BLM), the California Department of Fish and Game (DFG), California Trout (CT), Mono Lake Committee (MLC), and American Rivers (AR) regarding SCE's Lundy Hydroelectric Project (Project). In summary, the Agreement settles Federal Energy Regulatory Commission (FERC or Commission) jurisdictional issues related to minimum flow requirements in Mill Creek below the Project dam, operation and maintenance of a return water conveyance facility, stream gaging requirements, and annual water management planning. The Agreement represents the result of several years of analysis and discussions among the Parties, and others. The Agreement signatories have filed an Offer of Settlement with the Commission.

BACKGROUND

The Project dam is located on Mill Creek, and the Project powerhouse is located on Wilson Creek, tributaries to Mono Lake, in Mono County, California. The Project transports water from the Project reservoir across a moraine to the Project powerhouse. Discharge from the powerhouse may be either returned to Mill Creek via the "return ditch" or directed into Wilson Creek. Portions of the Project are located within the Inyo National Forest, on public lands managed by the Bureau of Land Management, and on private lands owned by SCE. The Commission issued a New License on March 3, 1999 that, in relevant part, required a 4 cubic foot per second (cfs) minimum flow below Lundy Dam (Article 404), and reserved authority to require SCE to release tailrace flows back into Mill Creek via the "return ditch" (Article 411). The Commission also rejected all or part of three Forest Service conditions as not qualifying under Section 4(e) of the Federal Power Act (4(e) Conditions). Forest Service Condition 1 required SCE to obtain a Special Use Permit, Condition 5 required a minimum flow of 7 cfs below Lundy Dam, and Condition 6 required certain monitoring activities.

The Forest Service filed for late intervention and rehearing of the Commission's decision to reject the three 4(e) Conditions. MLC filed for late intervention and was granted party status. AR, CT, and the MLC filed for rehearing concerning the 4(e) Condition issue and the operation and maintenance of the return ditch, and AR and CT filed for late intervention incident to rehearing. People for the Mono Basin Preservation, Mono County Board of Supervisors, and The Trust for Public Lands all filed letters asserting that the 4 cfs minimum flow requirement interfered with adjudicated water rights associated with Conway Ranch located on Wilson Creek. Final action is pending on all requests. The Agreement resolves these issues to the mutual satisfaction of the signatory Parties.

The Agreement's resolved Commission jurisdictional issues are contained in Appendix A in the form of revised License articles. The Parties request that the Commission resolve the requests for rehearing and letters of protest by amending the License to incorporate those articles in place of the existing license articles of the same number. The Parties agree to withdraw their respective requests for rehearing if the Commission adopts the Agreement without material amendment.

PURPOSE

The Agreement is based on the objectives of preventing infringement on non-Project water rights, providing adequate minimum flows in upper Mill Creek to protect and maintain aquatic resources, and enhancing flow below the return ditch to increase water flows in Lower Mill Creek to improve aquatic and riparian conditions. These objectives are consistent with the management direction in the Mono Basin National Forest Scenic Area Management Plan and the interests of the signatory Parties.

SUPPORTING ANALYSIS

The rationale relies in part on the Environmental Assessment (EA) issued in 1992 for the Lundy Project (FERC, 1992a), and the EA issued for the Paoha Project (FERC No. 3259), also issued in 1992 (FERC, 1992b). The Parties also rely on additional information and analysis developed since the EA and License Order were issued. The key items are summarized in the following paragraphs and will be referenced throughout the Explanatory Statement. The new information and analysis are being filed with the Commission as a part of the Offer of Settlement.

New Analysis

The Forest Service, in cooperation with the Parties, completed the North Mono Basin Watershed/Landscape Analysis (North Mono Basin Analysis) in 2001 (USFS, 2001). This analysis documented management objectives, watershed characteristics, current conditions, and recommendations for the Mill and Wilson Creek watersheds. Due to its volume, the North Mono Basin Analysis and supporting documentation is being filed with the Commission on a compact disc accompanying this Explanatory Statement.

The California Department of Fish and Game developed a model to forecast Mill Creek accretion flows and associated fish habitat at various minimum flow and irrigation diversion levels (DFG, 2003). The model is based on data in the FERC record as well as additional data collected by the Forest Service. The model is being filed with the Commission on a compact disc accompanying this Explanatory Statement.

The Forest Service developed an Operational Model for the Lundy Project (USFS, 2004a). This model uses the actual daily flow records for the Project from water years 1989 to 2002, and estimates the resulting powerhouse flows and streamflow in Mill and Wilson Creeks based upon the conditions in the New License and the proposed Agreement. The model utilizes the results of the DFG model to account for accretion flows along Mill Creek. The Forest Service model and supporting documentation is being filed with the Commission on a compact disc accompanying this Explanatory Statement.

New Information

The Forest Service collected additional streamflow data along Mill and Wilson Creeks on a monthly basis from 1999 to the present (USFS, 2004b). This new information has provided additional insight as to the fate of flows released at the Lundy dam and powerhouse. The data is being filed with the Commission on a compact disc accompanying this Explanatory Statement.

There have been changes in management of the water resources of both Mill and Wilson Creeks since the FERC Project EA, and those changes have a direct bearing on the issues associated with the Agreement. Since the FERC EA was issued in 1992, diversion of water from Mill Creek through Upper Thompson ditch has stopped, diversions from the bypass reach of Mill Creek into Thompson Main ditch have been reduced in volume and duration (USFS, 2003), and some powerhouse flows have been returned to Mill Creek when Thompson Main ditch is being used (SCE, 2004). This net reduction in diversions for non-project uses has resulted in re-watering the lower reaches of Mill Creek below the return ditch. The Los Angeles Department of Water and Power (LADWP) is the primary water right holder on Mill Creek. The Parties believe that these revised diversion operations by other water users on Mill Creek will continue for the term of the Project license.

Uses on Conway Ranch (Mono County) include fish rearing, which occurred in 1992 but was not considered in the Project EA, as well as irrigation. The fish rearing operation requires a constant non-consumptive flow of water through the facility before the water returns to Wilson Creek. Water use on DeChambeau Ranch (Forest Service) now includes waterfowl habitat in ponds as well as irrigation. Both the Forest Service and Mono County have undertaken measures to improve water use efficiency. Both the BLM and Forest Service are able to beneficially use the non-consumptive water that passes through the Conway Ranch fish rearing facilities to meet their water needs.

These uses on Mill and Wilson Creek lands occur under non-Project water rights established in a California Superior Court Decree issued in 1914 (filed previously in this proceeding) that determined the water rights for predecessors of the current water rights holders, including SCE. Persons other than SCE, the Licensee, undertake such irrigation, fish rearing, and waterfowl habitat uses. This Explanatory Statement describes these non-Project uses to allow the Commission to address the possible indirect or cumulative impacts of the proposed license amendments. The Agreement does not purport to modify those non-Project uses, and specifically does not modify the rights to or uses of powerhouse flows diverted from the tailrace to Mill or Wilson Creek.

ALTERNATIVES CONSIDERED

The Parties considered many alternatives while developing the Agreement. The Proposed Action is for the Commission to approve the license articles in Agreement Appendix A. Specifically, the license articles would require SCE to (i) establish a minimum flow of 1 cfs below Lundy Dam, (ii) develop an annual water management plan in consultation with the Water Rights Holders[1], and (iii)

[1] The Wilson Creek Water Rights Holders are considered to be the Forest Service, the Bureau of Land Management, and the County of Mono. If other water rights holders on Wilson Creek exist, they have not identified themselves as interested in participating in the settlement discussions. The Los Angeles Department of Water and Power (LADWP) is

redesign and re-engineer the return ditch to be a conveyance system with a safe carrying capacity of not less than 40 cfs. These articles may result in changes in the current flow volumes to Wilson and Mill Creeks.

For the purpose of analysis, this Explanatory Statement describes the No Action alternative and the Proposed Action alternative. The Proposed Action alternative is presented by way of two scenarios that are examples of the fate of flows leaving the Project powerhouse. Other alternatives and scenarios are possible. However, Commission approval of the Agreement will not require or result in any specific scenario. Instead, the allocation of powerhouse flows for non-Project uses in and along Mill and Wilson Creeks will be directed by the annual water management plan prepared according to proposed license article number 417, in a manner consistent with state water rights law. The two scenarios identified for analysis reasonably illustrate possible outcomes. Additional analysis will be provided for alternate scenarios if requested by Commission staff.

No Action - The **No Action Alternative** represents operation under the New License, with a 4 cfs minimum flow below Lundy dam and a return ditch with about a 12 cfs capacity. The majority of powerhouse flows are released into Wilson Creek. SCE would develop an annual water management plan, but would not monitor tailrace flow returns to Mill Creek.

Proposed Action – Under the Agreement, SCE would release a minimum of 1 cfs (or the natural flow of Mill Creek, whichever is less) below Lundy Dam. When stream flows below the dam are above 3.0 cfs, the minimum requirement is not always a constant amount and instead is calculated as described in this paragraph. The minimum requirement is based on an average monthly flow of 1 cfs, which will not fall below 0.75 cfs as measured on an average daily basis. Flows would be released into Mill Creek between the dam and the gaging station, at a release point to be determined in the Article 403 plan, and compliance would be based on flows measured at the existing gaging station or as otherwise set out in the Article 403 plan. SCE would not be required to release water if accretion and dam leakage measured at the gage equaled 4 cfs. If leakage and accretion is less than 3 cfs, SCE would release a maximum of 1 cfs. If leakage and accretion is between 3 and 4 cfs, SCE would release enough water so that flows at the gage equal at least 4 cfs (Table 1).

Table 1. Calculating Minimum Flow based on accretion and leakage.

Accretion and Leakage Flow	SCE Minimum Release	Total Flow at Gage
0 cfs	1 cfs	1 cfs
1 cfs	1 cfs	2 cfs
2 cfs	1 cfs	3 cfs
3 cfs	1 cfs	4 cfs
3.5 cfs	0.5 cfs	4 cfs
4 cfs	0 cfs	4 cfs

Figure 1 displays the locations of the flow line, Mill Creek, Deer Creek, and the gaging station relative to Lundy Dam.

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the most significant, in terms of volume, Mill Creek Water Right Holder. Jan Simis is another such right holder. Collectively, they are known as the "Water Right Holders" for the purpose of this Explanatory Statement.

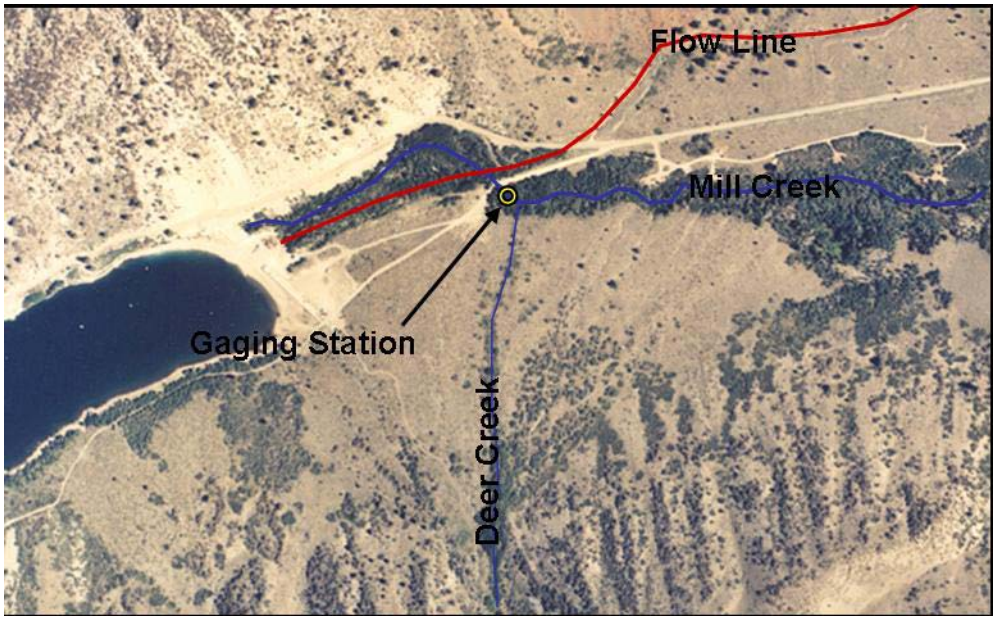


Figure 1. Upper Mill Creek.

SCE will also monitor flows and accretion in Mill Creek above the return ditch to determine if the combination of minimum flows and accretion provide an expected flow of 7 cfs in Mill Creek. SCE would also develop an upgraded Return Conveyance Facility (either a rebuilt channel or a pipeline) below the Lundy Powerhouse that would allow controllable distribution of water between Wilson and Mill Creeks. This conveyance will be designed and engineered to have a safe carrying capacity of at least 40 cfs for distributing water to Mill Creek. A conveyance with a capacity that exceeds 40 cfs would be built pursuant to a design approved by the Commission if the Parties, other than the Licensee, assure funding for the additional cost, as specified in the Agreement section 3.6. The provision to secure such funding for a larger facility is not a Commission jurisdictional article included in Appendix A to the Settlement. SCE would work cooperatively with the Water Rights Holders to manage the distribution of water, and would continue to operate the powerhouse consistent with water rights. SCE would add a stream gage, maintain a reservoir storage gage, and add one additional monitoring station to track water management.

Scenarios under the Proposed Action

For analysis purposes, we evaluate the impacts of the Proposed Action on Mill Creek and Wilson Creek, under two possible scenarios for distribution of powerhouse flows. Although other scenarios are possible, these two scenarios reasonably illustrate water distribution options under existing conditions.

Scenario 1 (S-1) represents Project operation assuming that: SCE would provide a 1 cfs minimum release at Lundy Dam; Wilson Creek Water Rights holders would call for a diversion of up to 18 cfs of powerhouse flows, subject to availability, through the annual water management plan; and the balance of powerhouse flows would be returned to Mill Creek. After the allocation of 18 cfs to Wilson Creek from the powerhouse capacity, the balance of the powerhouse flows would be returned to Mill Creek. A 52 cfs water return conveyance facility funded by the Licensee and other Parties would be needed to implement this scenario.

The 18 cfs is based on two factors. The first factor is that 18 cfs is the total amount of water rights held by Mono County and the BLM, although the Agreement and this Explanatory Statement alike do not effect or imply any joint interpretation of how much powerhouse flow is divertible at any specific time under these rights. Neither of these Wilson Creek Water Right Holders has stated in the course of this proceeding that they would divert less than 18 cfs, when available.

The second factor is based on actual use and conditions. Much of the water diverted to Wilson Creek is not used consumptively by Mono County or the BLM. The Forest Service claims an entitlement to 12 cfs in Wilson Creek, which may be met by flows remaining in the creek after the non-consumptive uses of Mono City and the BLM are met. The Forest Service has found that when powerhouse flows to Wilson Creek equal 18 cfs, enough water usually reaches the diversion point for DeChambeau Ranch to meet the Forest Service water needs. This could change over time if either upstream water user were to increase consumptive use.

Scenario 2 (S-2) represents Project operation assuming that: SCE would provide a 1 cfs minimum release at Lundy Dam; Wilson Creek Water Rights holders would call for a diversion of up to 30.6 cfs of powerhouse flows, subject to availability, through the annual water management plan; and the balance of powerhouse flows would be returned to Mill Creek. The return conveyance facility under this scenario would not need to exceed 40 cfs. The 30.6 cfs is based on the total of all water rights held for the benefit of Wilson Creek, although the Agreement and this Explanatory Statement alike do not effect or imply any joint interpretation of how much powerhouse flow is divertible at any specific time under these rights. Even if the Commission may have the authority to direct SCE to discharge powerhouse flows in excess of water rights to a specific location for the benefit of the public interest, the Original and New License alike did not do so, this Agreement does not include such a requirement, and the Parties agree that the water rights holders cannot demand that SCE distribute more water into Wilson Creek or Mill Creek than the water rights holders are allocated by the 1914 water rights decree. The Project has a hydraulic capacity of no more than 70.6 cfs.

As noted above, the actual uses of the water by the Wilson Creek Water Right Holders, like the uses of water on Mill Creek by LADWP, may vary depending upon the beneficial use of water, time of year, and other changeable circumstances. While the scenarios used here assume that Wilson Creek has first priority on powerhouse flows (exclusive of the 1 cfs minimum flow release below Lundy Dam), the Agreement and Explanatory Statement do not effect or imply any joint interpretation of the relative seniority of these several water rights. The Parties consider the above two scenarios to reasonably illustrate the range of uses of potential powerhouse flows under existing circumstances.

EFFECTS ANALYSIS

Effects on Wilson Creek Water Rights

The effects of the No Action and Proposed Action Alternatives on the amount of water in Wilson Creek can be illustrated by referring to the output hydrograph for the Wilson Creek diversion from the Operational Model for three representative water years (Figure 2a-c).

No Action Alternative. Under the No Action Alternative, releasing a 4 cfs minimum flow reduces powerhouse flows, and subsequent water diversions to Wilson Creek. This is especially important during the fall and winter of all water year types. The Wilson Creek Water Rights Holders have stated that there is not enough water available to Wilson Creek in those circumstances to support

current uses. Currently, SCE attempts to operate the Project such that fall and winter diversions to the powerhouse allow for Project generation at a minimum level and meet the Wilson Creek Water Rights Holders needs. In late spring or early summer, a 4 cfs minimum flow below Lundy Dam would have a negligible effect on Wilson Creek flows when the natural flow on Mill Creek peaks, except in dry years like WY 1990. For dry years, the 4 cfs minimum flow would reduce powerhouse flows, reducing the amount of water available to Wilson Creek under the No Action Alternative. In dry summers, the reduced amount is generally enough to meet water needs on Wilson Creek. During most other summers, powerhouse flows, and the diversions to Wilson Creek, exceed 30.6 cfs. SCE's right to store water, up to 2,895 acre-feet in Lundy Reservoir, is affected by the minimum flow release. This reduction in storage could reduce reservoir surface elevations.

Proposed Action. Under the Proposed Action, with a minimum flow release of 1 cfs, diversions of powerhouse flows to Wilson Creek would be greater in winter months than those winter flows under the No Action alternative. Under the Proposed Action, the limiting factor for winter flows is SCE operation of the powerhouse constrained by low reservoir inflows. The Parties conclude that a 1 cfs release does not affect Wilson Creek Water Rights, which are exercised via diversion of powerhouse flows. LADWP holds a senior right to the first cfs of inflow to Lundy Reservoir, and no claim has been made in this proceeding disputing the validity of that 1 cfs release. SCE's right to store water, up to 724 acre-feet in Lundy Reservoir, is affected to a limited extent by the 1 cfs release. The reduction in storage could result in slight reductions in reservoir surface elevations. SCE agrees that the release is a reasonable mitigation measure. Thus, the minimum flow release schedule in the Proposed Action, which is subject to the Commission's approval, is consistent with existing water rights.

The Return Conveyance Facility, as proposed, would have the capacity to distribute different amounts to Wilson and Mill Creeks, depending on the Water Management Plan. The Proposed Action includes SCE's duty to develop the Water Management Plan in consultation with specified Parties. As stated above, the Parties do not ask that the Commission approve any distribution of powerhouse flows in the Proposed Action or accept any interpretation of water rights associated with such distribution. The Return Conveyance Facility would have the capacity to distribute powerhouse flows consistent with the respective water rights on Wilson and Mill Creeks. Under the S-1 Scenario (52 cfs pipeline), the Mono County and BLM water rights, totaling 18 cfs, are met, assuming a full flow of about 70 cfs through the powerhouse, before the remaining 52 cfs water would be returned to Mill Creek. Under the S-2 Scenario (40 cfs channel), about 30 cfs would be released into Wilson Creek, assuming full powerhouse flows.

Figure 2a. Wilson Creek Diversions WY 1990 Dry

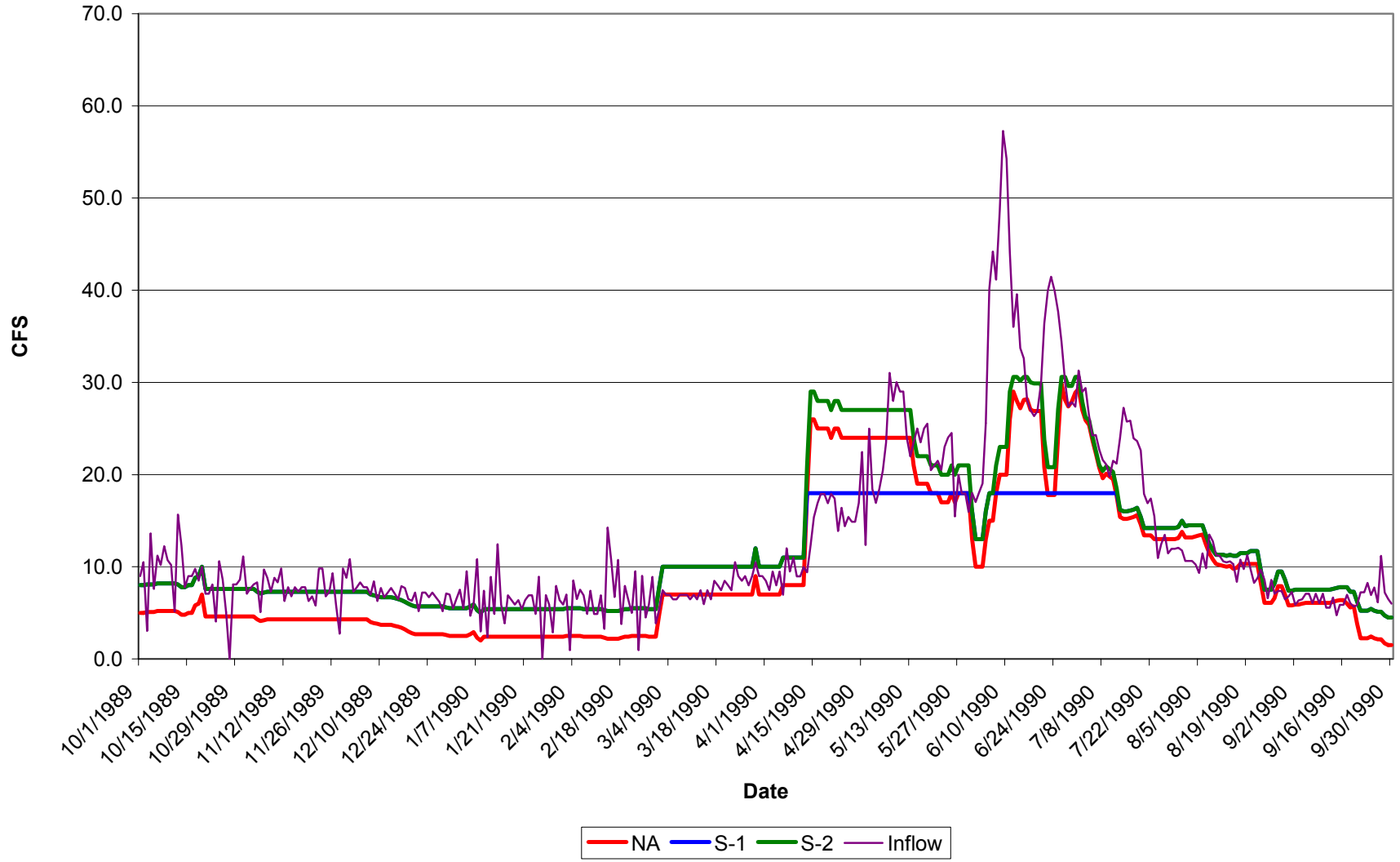


Figure 2b. Wilson Creek Diversions WY 2000 Normal

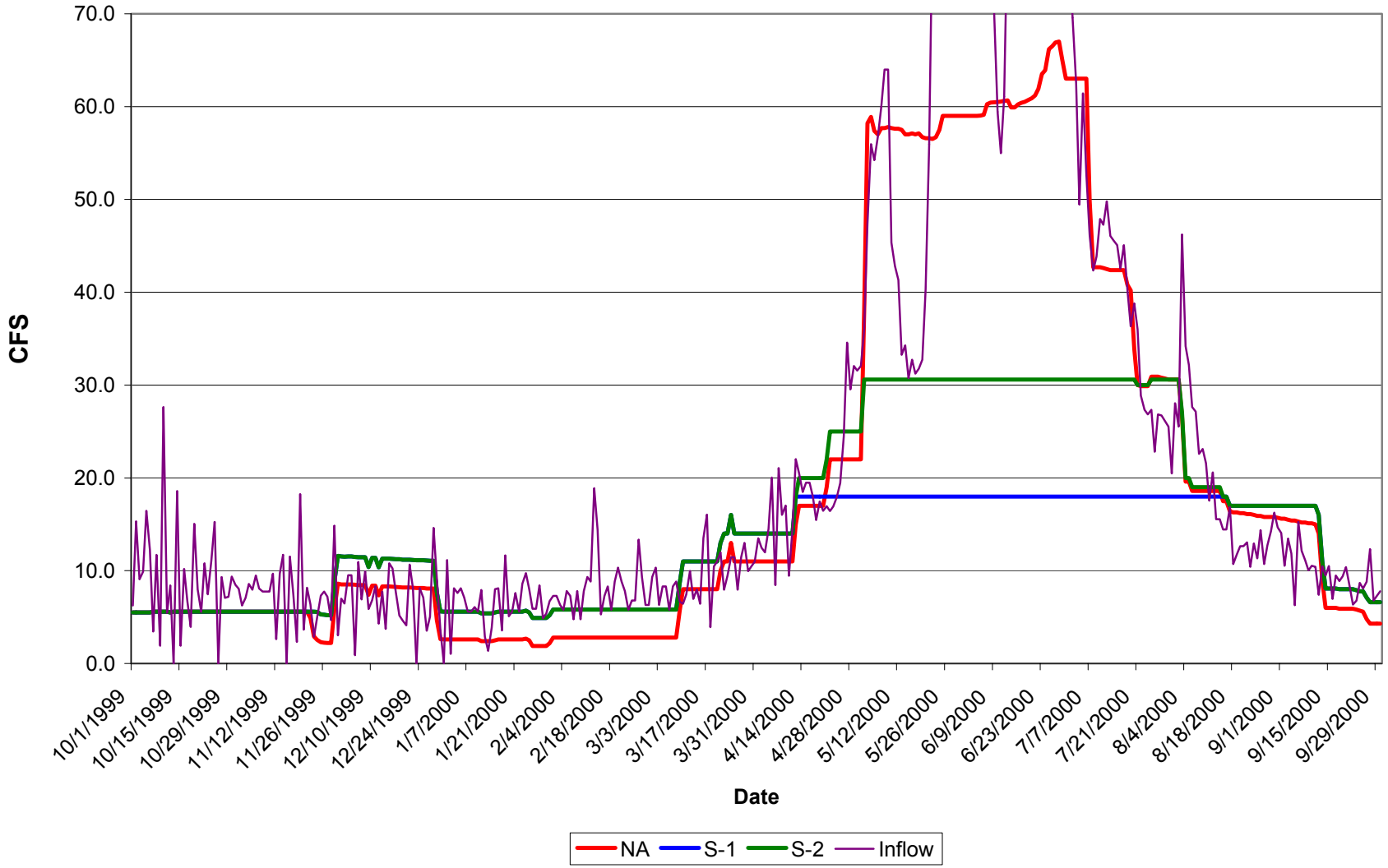
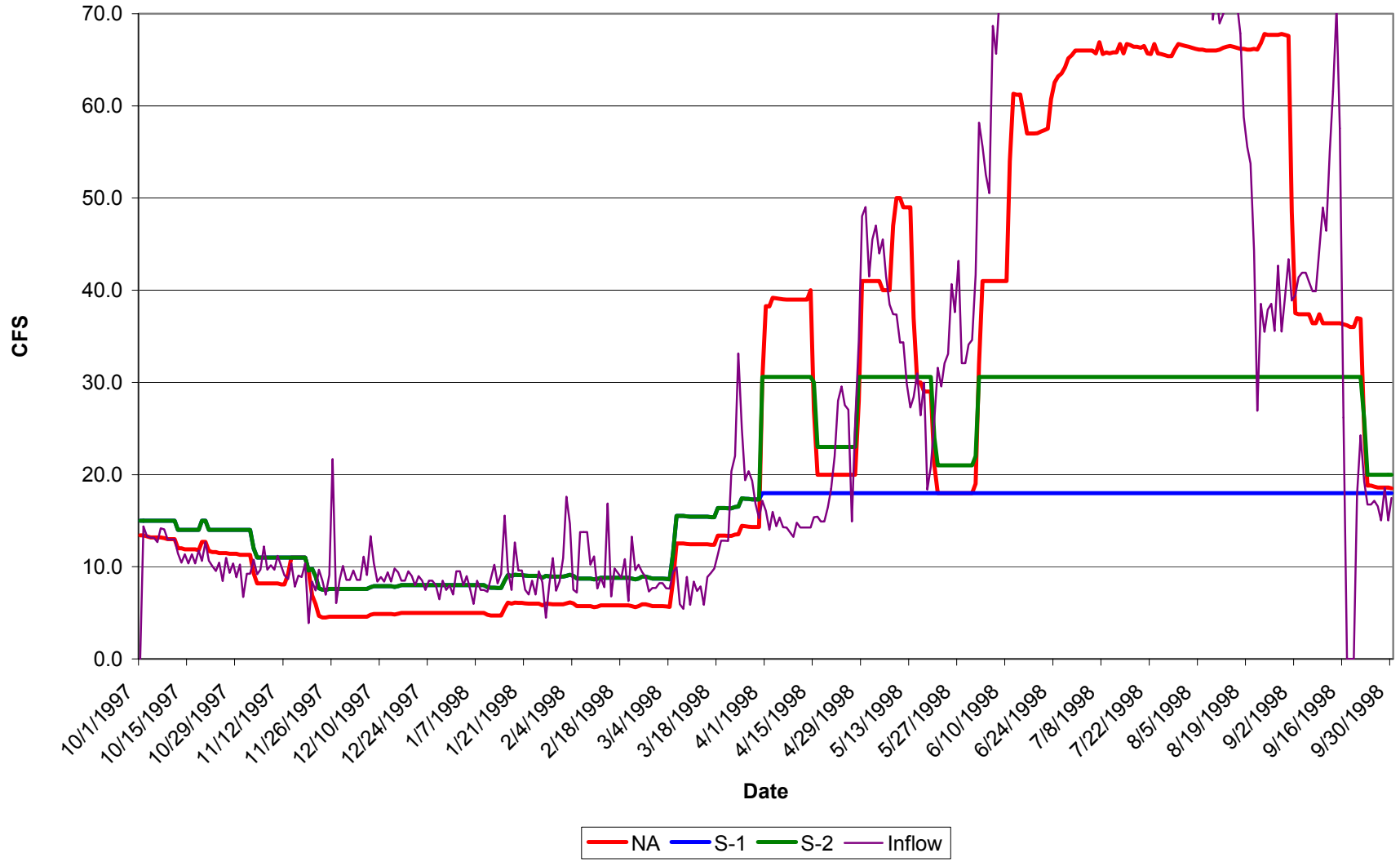


Figure 2c. Wilson Creek Diversions WY 1998 Wet



All Wilson Creek and Mill Creek water rights can be met under either scenario. The main distinction is that, under the S-1 scenario, more water may potentially be diverted to Mill Creek under full powerhouse flows, assuming that the Forest Service is able to receive its full water rights from the water not consumed by the BLM and Mono County. The Parties are only proposing that SCE be required in the license article to construct a 40 cfs return conveyance facility for a number of reasons. First, assuming that 18 cfs is diverted to Wilson Creek at all times water is available, the diversion of at least 40 cfs to Mill Creek will only occur an average of 7 weeks a year. Second, the Mill Creek resources should be significantly enhanced by the additional capacity afforded by a 40 cfs return conveyance facility. Third, SCE believes that the cost to construct a facility with a larger capacity than 40 cfs is not justified given the economics of the hydroelectric project and the incremental benefits to Mill Creek. However, should the Parties to the settlement agreement obtain sufficient funds to cover the incremental costs to build a 52 cfs pipeline, then the larger facility will provide greater water management flexibility during times when powerhouse flows are above 58 cfs.

Conclusions. Several Parties (Mono County, Trust for Public Lands, People for Mono Basin Preservation) have made filings with the Commission that claim that a 4 cfs minimum flow release from Lundy dam would impact powerhouse flows and subsequent water allocations to Wilson Creek during the fall and winter months. Without necessarily agreeing on that legal interpretation of the Wilson Creek Water Rights, the Parties conclude, on the basis of the results of the Operational Model, that a 4 cfs release would reduce the availability of powerhouse flow claimed by the Wilson Creek Water Rights Holders. Reducing the minimum flow requirement below Lundy Dam from 4 cfs to 1 cfs resolves the claim of infringement on Wilson Creek water rights. A 1 cfs minimum flow release is consistent with the water rights established by the 1914 Court Decree, and would not impair water delivery to Wilson Creek in the fall and winter. The effect on SCE's water storage is much less under the Proposed Action than under No Action.

The Lundy Project EA stated, "We looked at the water rights system for Mill Creek and believe that none of the following recommendations would adversely affect any existing water right. Since most of the original ditches are still in place, any increased instream flows to Mill Creek could be diverted to users in the same way they were before the Lundy Project was installed (FERC, 1992)." While using the old ditch system of various water users is possible, the ditches, having not been used consistently since 1914, are in poor shape, are inefficient transporters of water, and are of unknown or questionable ownership status (USFS, 2001). Reliance on the old ditch system in its existing condition could impair the delivery of water as established by the 1914 Decree and would mean less water for power generation. The Water Rights Holders have adjusted to using the Project powerhouse to distribute water to Wilson Creek and the Mill Creek return ditch over the past 90 years, although this Agreement and Explanatory Statement do not effect or imply any joint interpretation of any requirements of the 1914 Decree that may bear on the point of diversion.

Effects on Wilson Creek Fish Habitat

Most hydroelectric project proceedings use the Instream Flow Incremental Methodology (IFIM) to assess the effect of various streamflows on fish habitat. Since this information is lacking for Wilson Creek, the Commission relied on the "Tennant Method" (Tennant, 1975) for determining the effect

of the proposed Paoha Project on Wilson Creek (FERC, 1992b)[2]. The Tennant Method recommends base flows for two seasons based on a percentage of average annual flow. Use of the Tennant method would more likely provide a more conservative flow than use of the IFIM (FERC, 1992b). Current Wilson Creek flows are almost entirely dependant on powerhouse flows. Base flows for Wilson Creek using the average annual flow of 25 cfs (Paoha EA, FERC, 1992b) are shown in Table 2.

Table 2. Flow-Habitat Relationships for Wilson Creek based on Tennant, 1975.

Narrative Description of flows and resulting habitat	Oct. – Mar. Base Flows		Apr. - Sept. Base Flows	
	% of Av.	cfs	% of Av.	cfs
Optimum	60	15	60	15
Outstanding	40	10	50	12.5
Excellent	30	7.5	40	10
Good	20	5	30	7.5
Fair or Degrading	10	2.5	10	2.5

No Action. Comparing the Wilson Creek hydrographs (Figure 2a-2c) to the values in Table 2, under the No Action Alternative, diversions to Wilson Creek result in flows in the Fair to Good range in the winter, and the Optimum range in the summer, for habitat based on the Tennant method (Tennant, 1975).

Proposed Action. Comparing the Wilson Creek hydrographs (Figure 2a-2c) to the values in Table 2, under the Proposed Action (for either the S-1 or S-2 Scenario), diversions to Wilson Creek result in flows in the Excellent to Outstanding range in the winter, and the Optimum range in the summer, subject to availability of powerhouse flows, for habitat based on the Tennant method (Tennant, 1975).

Conclusions. The flows provided under the Proposed Action, in either scenario, should provide adequate protection to fish habitat on Wilson Creek, and will provide more habitat in the winter than the No Action Alternative.

Effects on Flows in Upper Mill Creek

The effects of the alternatives on Upper Mill Creek, defined as Mill Creek between Lundy Dam and the return ditch, are illustrated by referring to the output hydrograph for Mill Creek above the return ditch from the Operational Model for three representative water years (Figure 3a-c). Of course, actual hydrologic conditions vary by year.

No Action. The No Action Alternative provides a uniform minimum flow of 4 cfs, in addition to the accretion that occurs in the Upper Mill Creek bypass reach above the return ditch. There are no active diversions in the Upper Mill Creek bypass reach. During wet years (Figure 3c), the Project normally spills, providing a short duration peak flow in Mill Creek.

[2] The Paoha Project (FERC No. 3259) was licensed as a run of the river project located on about 1500 feet of Wilson Creek below the Lundy powerhouse.

Figure 3a. Mill Creek above the Return Ditch WY 1990 Dry

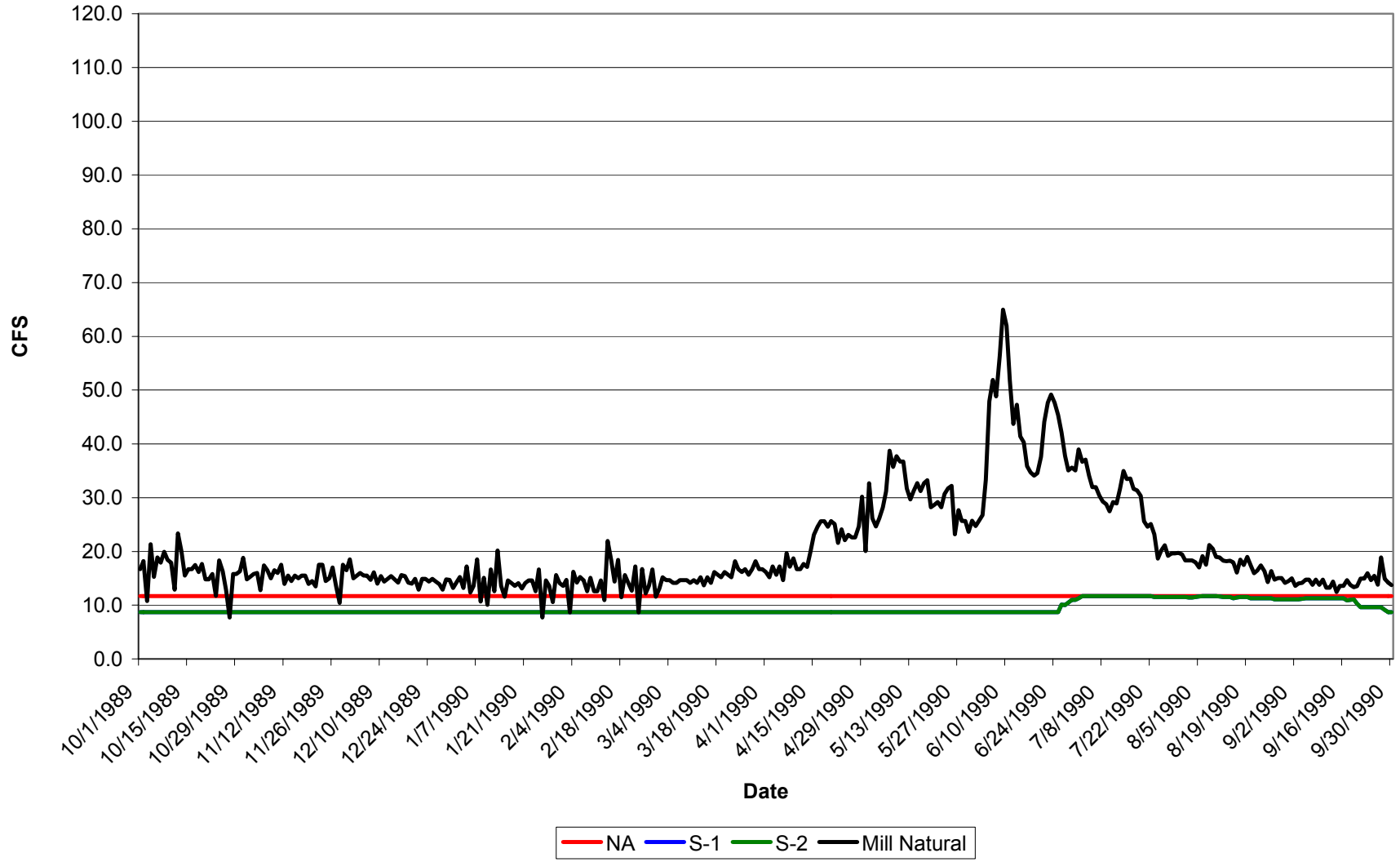


Figure 3b. Mill Creek above the Return Ditch WY 2000 Normal

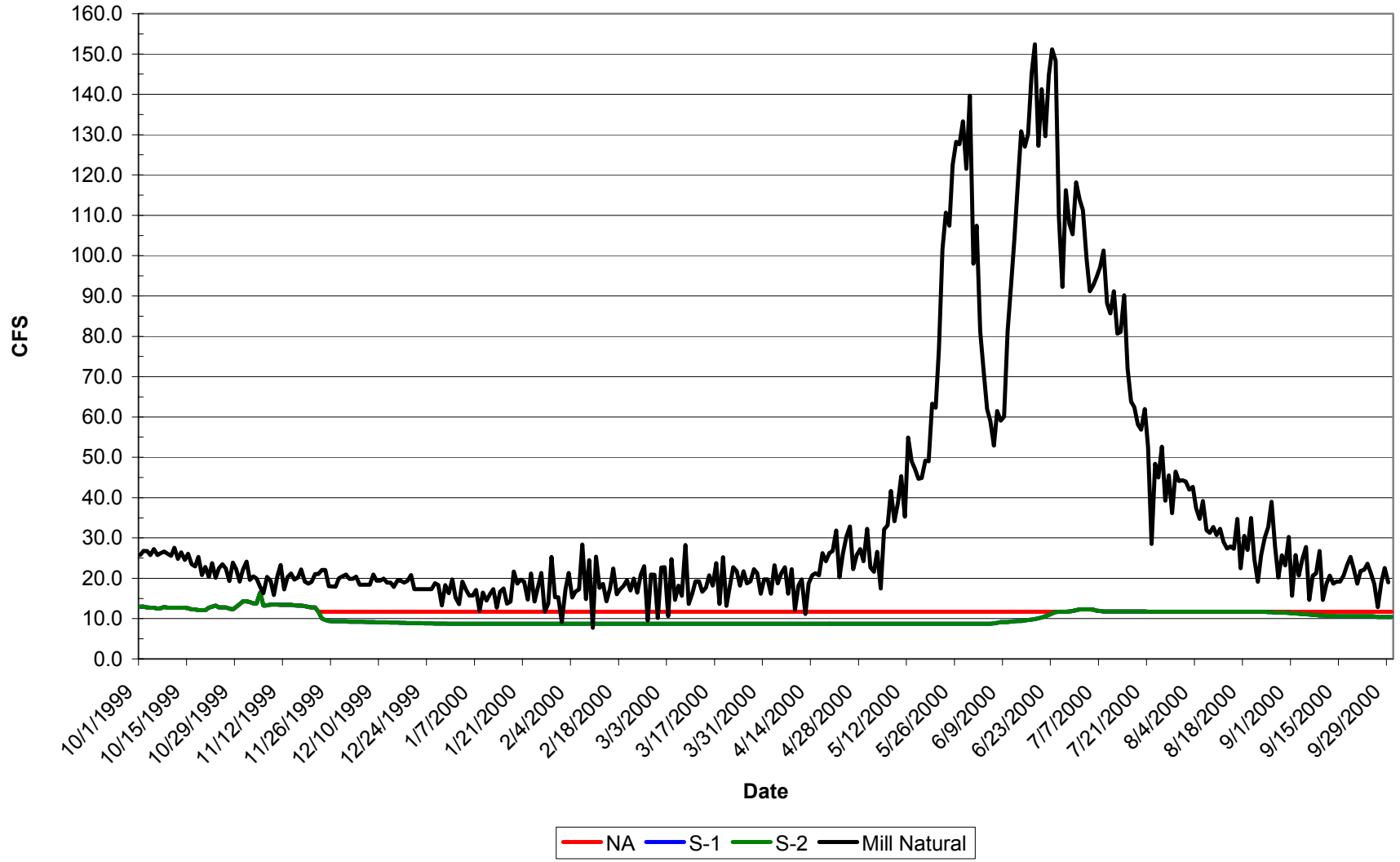
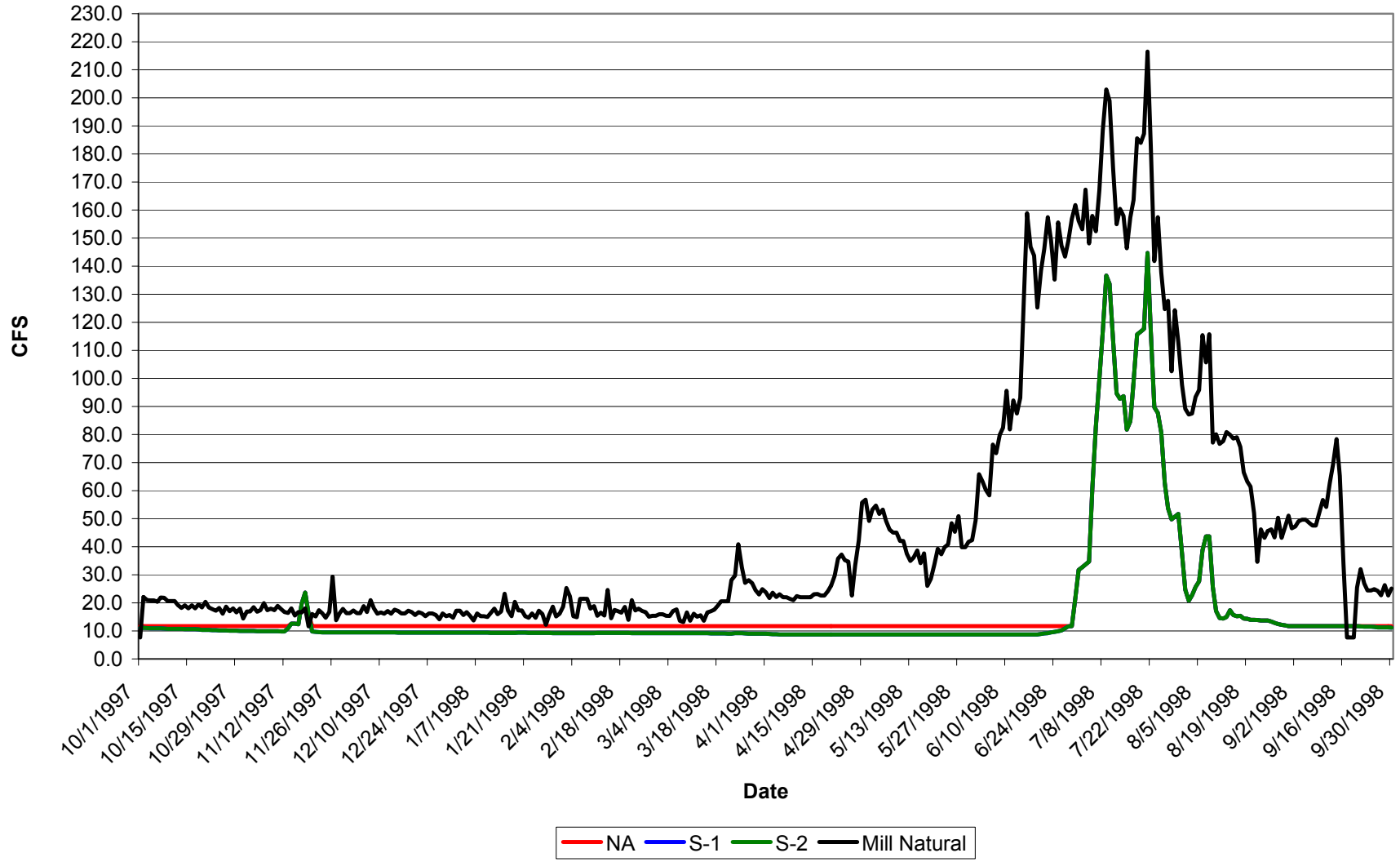


Figure 3c. Mill Creek above the Return Ditch WY 98 Wet



Proposed Action. Under the Proposed Action, the minimum flow of 1 cfs supplements accretion and leakage during July and August of all years, resulting in Upper Mill Creek flows starting at approximately 4 cfs and growing to 11.7 cfs above the return ditch. During all other months, Upper Mill Creek flows would start at 1 cfs and grow to 8.7 cfs above the return ditch. During wet years (Figure 3c), the Project normally spills, providing a short duration peak flow in Mill Creek.

Conclusions. Because the Proposed Action minimum flow is structured to supplement accretion and leakage, flows provided by the Proposed Action and No Action are essentially the same for the summer months of July and August. During the rest of the year, flows in Upper Mill Creek are generally 3 cfs less than in the No Action Alternative.

Effects on Upper Mill Creek Fish Habitat

Table 3 summarizes the expected flows and associated habitat for Upper Mill Creek developed using the Mill Creek accretion model (DFG, 2003) for typical conditions for the late fall, winter, and early spring. Here, and in subsequent tables, we use Weighted Usable Area (WUA) to predict habitat availability.

Table 3. Summary of Upper Mill Creek flows and Habitat for three levels of minimum flow during late fall, winter, and early spring.

	Old License	No Action	Proposed Action
Minimum Flow at gage	0	4	1
Deer Creek inflow	.5	.5	.5
Upper Thompson Diversion	0	0	0
Mill Above Return Ditch	7.6	11.6	8.6
Weighted Average WUA Habitat (SqFt)	3122	4821	3650
% of NA Alternative	65	100	76

Flows in July and August are generally greater than other parts of the year due to increased accretion and leakage. The Proposed Action minimum flow release is structured to take advantage of, and where necessary supplement, those increased flows. Table 4 summarizes conditions based on flows for dry and normal water years. "Accretion" means dam leakage as well as accretion from surface groundwater. In wet years, the Project spills during the early summer.

Table 4. Summary of Upper Mill Creek Summer Flows and Habitat.

	Old License	No Action	Proposed Action
Minimum Flow	0	4	1+accretion*
Deer Creek inflow	1.5	1.5	1.5
Upper Thompson Diversion	0	0	0
Mill Above Return Ditch	8.6	12.6	12.6
Weighted Average WUA Habitat (SqFt)	3611	5076	5076
% of NA Alternative	71	100	100

* Estimated to total 4 cfs for this illustration, but in drier years the total may be less.

No Action. Under the No Action Alternative, the constant minimum flow of 4 cfs provides consistent year-round habitat in upper Mill Creek with a weighted average ranging from 4821 to 5076 square feet/mile of Weighted Usable Area, based typical streamflow conditions and the IFIM study.

Proposed Action. Under this alternative, the constant minimum flow of 1 cfs, supplemented in the summer with accretion, leakage, and return system flows, provides a weighted average of habitat ranging from 3650 to 5076 square feet/mile of Weighted Usable Area, based on the IFIM study. Reducing the required minimum flow will provide less streamflow and fish habitat in the fall, winter, and spring on upper Mill Creek than a 4 cfs year-round minimum flow. However, given the existing fishery in Upper Mill Creek, which has been sustained by accretion without any minimum flow releases, the Proposed Action will still increase the amount of available habitat.

Conclusions. The Proposed Action, when compared to the No Action Alternative, would reduce habitat along Mill Creek by 24% during the fall, winter, and spring. There would be no predicted change in habitat in July and August. The Proposed Action improves habitat over the original License requirements of no minimum flow in all seasons. The Proposed Action offers adequate habitat protection during fall, winter, and spring, and equal habitat in the more critical summer months.

Effects on Flows in Lower Mill Creek

The effects of the alternatives on Lower Mill Creek, defined as Mill Creek below the return ditch can be illustrated by referring to the output hydrograph for Mill Creek at Cemetery Road from the Operational Model for three representative water years (Figure 4a-c). Flows at Cemetery Road are used to show the potential increases in Lower Mill Creek streamflow below the return system, along the reach that is located within the Mono Basin National Forest Scenic Area.

Figure 4a. Mill Creek at Cemetary Road WY 1990 Dry

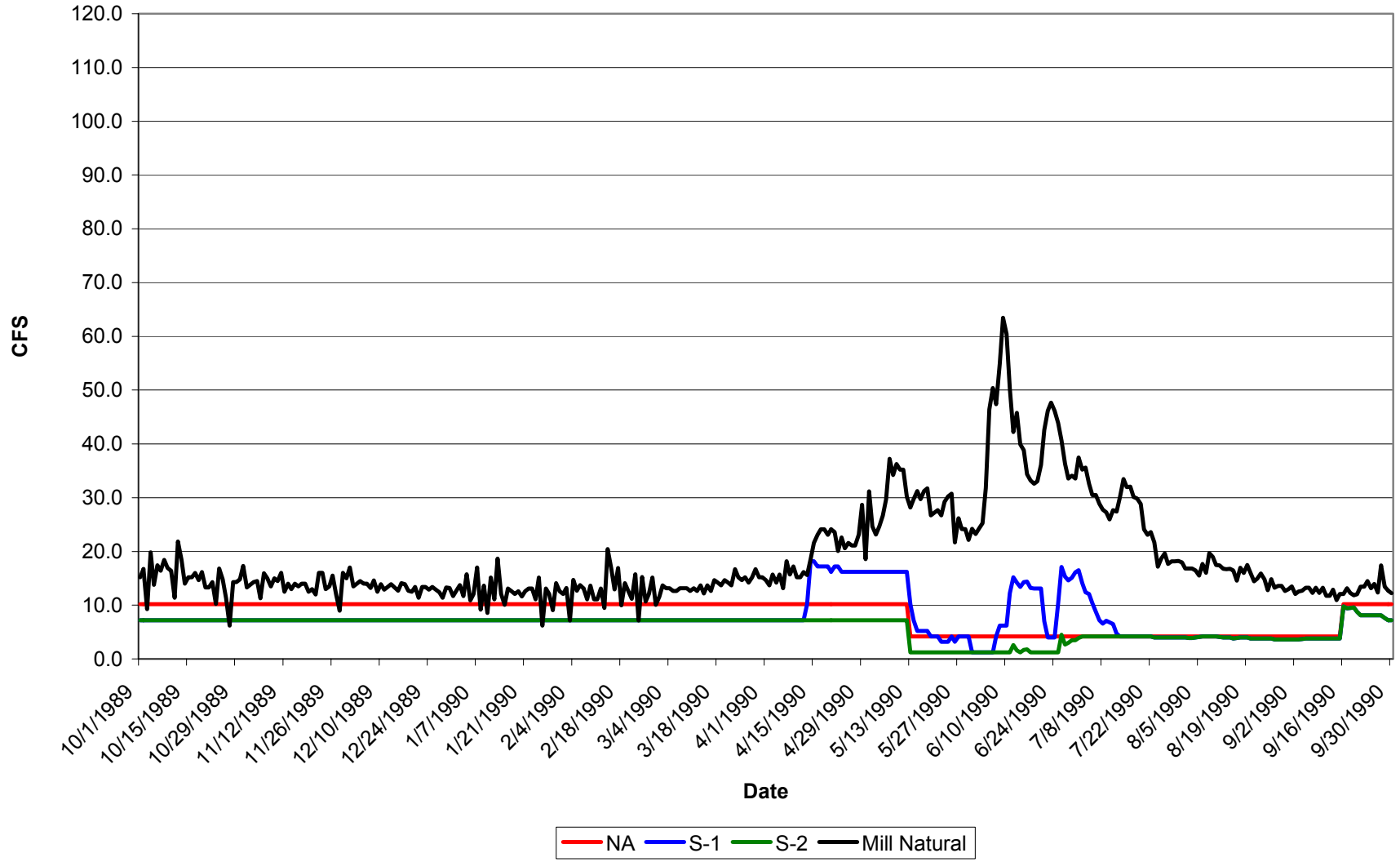


Figure 4b. Mill Creek at Cemetary Road WY 2000 Normal

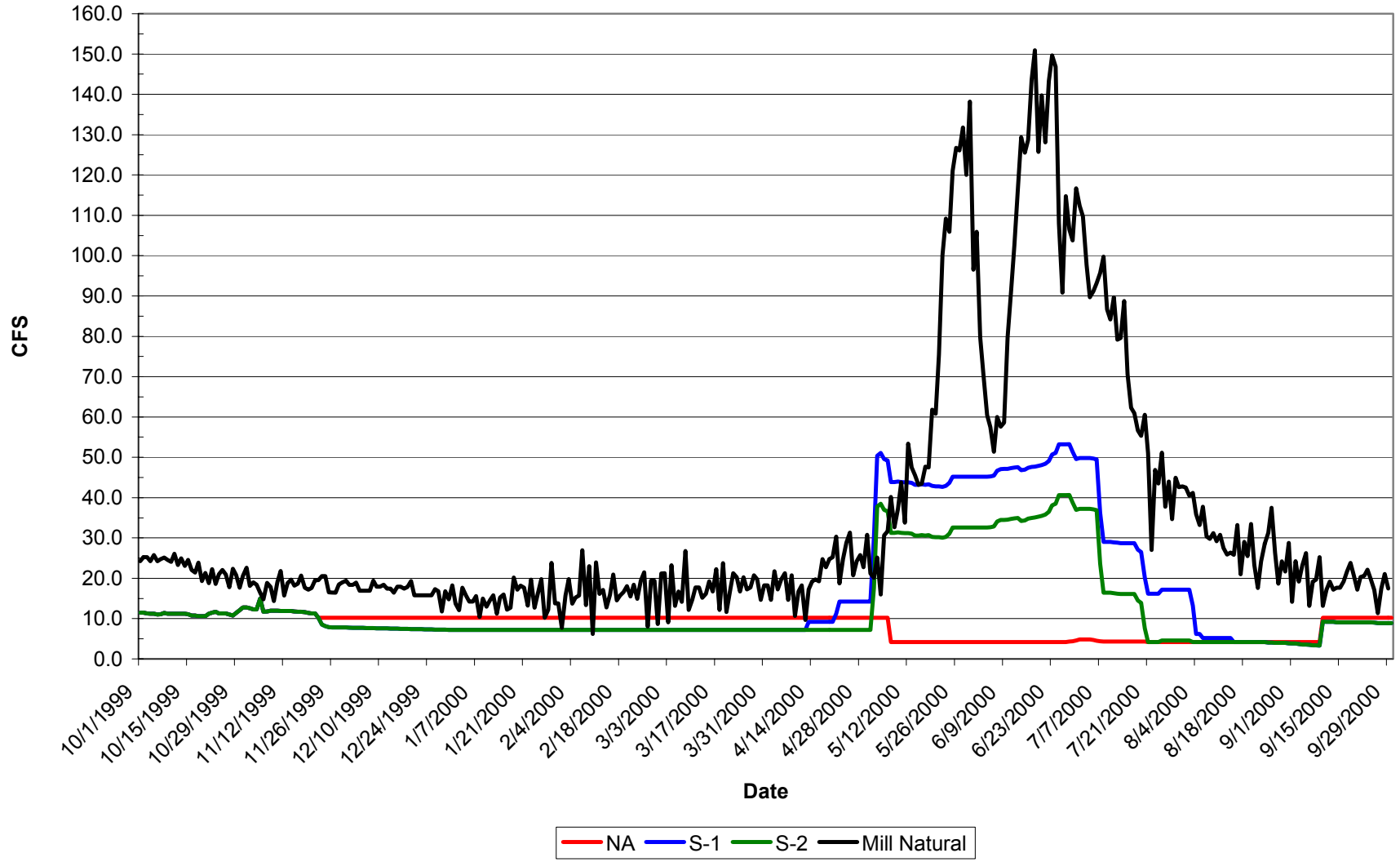
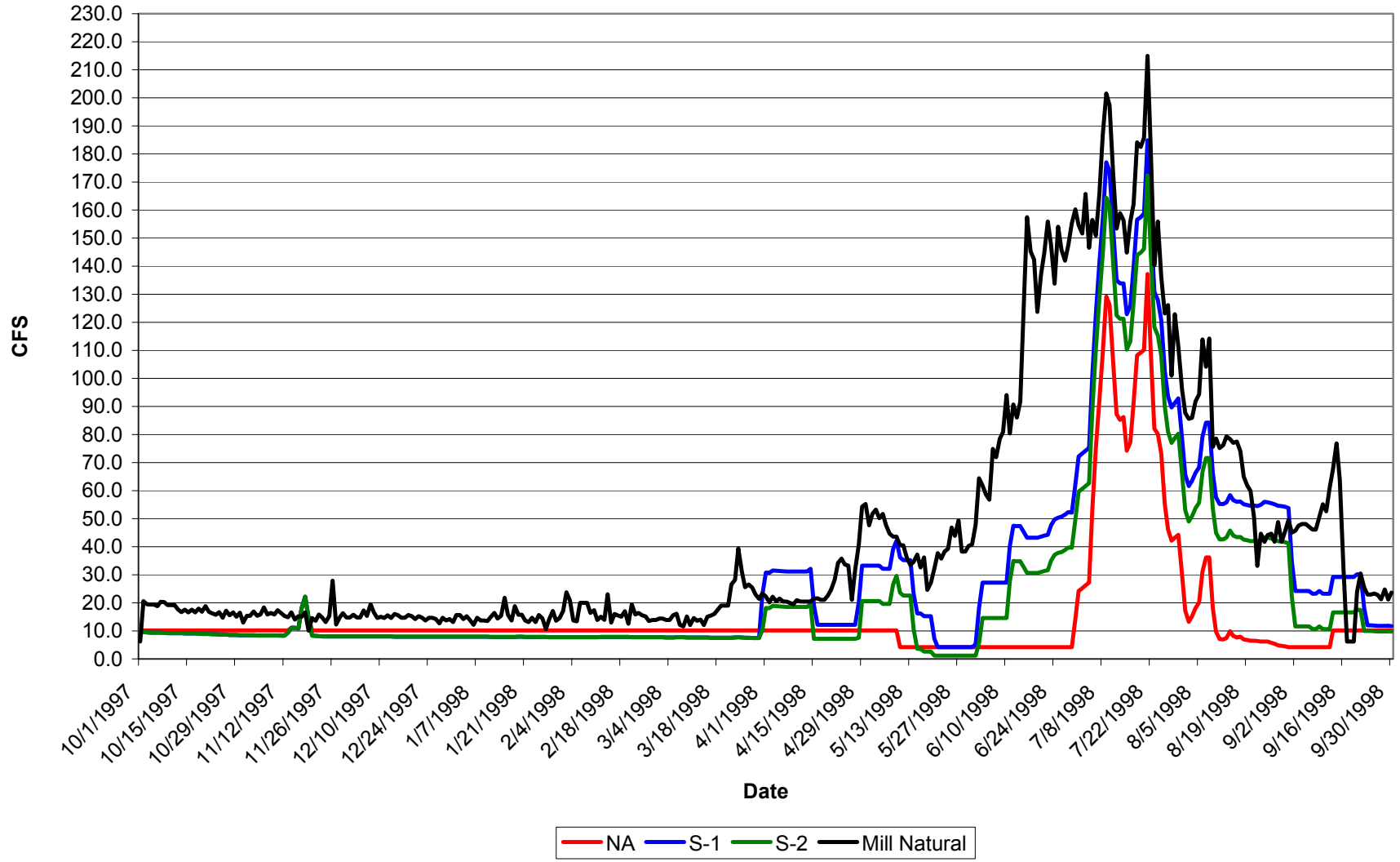


Figure 4c. Mill Creek at Cemetary Road WY 98 Wet



No Action. The No Action Alternative provides a uniform minimum flow of 4 cfs, in addition to the accretion that occurs in the bypass reach. In dry and normal years (Figure 4a and 4b), this minimum flow may be partially reduced below the return ditch by Non-Project irrigation diversions, although return ditch operation offsets such diversions (SCE, 2004). Under the No Action Alternative, the lack of a License requirement for the Licensee to operate the existing return ditch essentially leaves the amount of water returned to Mill Creek dependent upon a request from the Mill Creek water rights holders for the delivery of water, if the flow in Mill Creek is insufficient to meet their needs. Further, the existing return ditch has roughly 12 cfs of capacity and is often inoperable in the winter, when powerhouse flows range from 5 to 10 cfs and are distributed to the Wilson Creek Water Rights Holders. During wet years (Figure 4c), the Project normally spills, providing a short duration peak flow in Mill Creek.

Proposed Action. Under the Proposed Action, the lower minimum flow of 1 cfs is supplemented by accretion and by return system flows to a limited degree in dry years and a greater degree in normal years. In wet years, the return system flows would expand the duration of peak flows. The Operational Model outputs do not predict the effect of changes in operation that could result from the annual Water Management Plan. However, the signatories expect that the Water Management Plan will help increase awareness of likely flow distributions from the powerhouse and enhance the ability of SCE to distribute flows to Mill Creek at certain times. For example, it may be possible to manage power generation in dry years to provide a more uniform distribution of the limited water available to improve flows in Mill Creek, particularly in years like WY 1990 (Figure 4a).

A primary design consideration for the water release facility will be the dependability of the facility to operate on a year-round basis, if such a design is feasible and practicable given the location of the water release device. The Proposed Action does not insure that flow will in fact be released on a year-round basis. Instead, it creates a design criterion that has a realistic chance for success in operating on a year-round basis, recognizing that this may not always occur due to circumstances beyond the control of the Licensee.

Conclusions. The Return Conveyance Facility flows provided by the Proposed Action will enhance flows along lower Mill Creek, reducing the “bypass” effect of the Project. Operation under the No Action Alternative would provide a uniform but reduced flow along the entire length of Mill Creek for dry and normal years.

Effects on Lower Mill Creek Fish Habitat

Table 5 summarizes expected flows and associated habitat for Mill Creek developed using the Mill Creek accretion model (DFG, 2003) for typical conditions for the late fall, winter, and early spring. During this period, there are normally no irrigation diversions from Mill Creek and no return ditch flow, under the No Action Alternative or the Proposed Action scenarios used here.

Table 5. Summary of Mill Creek flows and Habitat for three levels of minimum flow during late fall, winter, and early spring.

	Old License	No Action	Proposed Action
Minimum Flow	0	4	1
Deer Creek inflow	.5	.5	.5
Upper Thompson Diversion	0	0	0
Mill Above return Ditch	7.6	11.6	8.6
Return Ditch Inflow	0	0	0
Lower Thompson Diversion	0	0	0
Mill @ Cemetery Road	4.4	8.4	5.4
Mill @ Mono Lake	3.5	7.5	4.5
Total Lower Mill Weighted Average WUA Habitat(SqFt)	7589	9417	8228
% of No Action Alternative	81	100	87

Summer habitat conditions are more difficult to assess because the return ditch flows generally provide water volumes that exceed the IFIM model limits. Since dry year flows fall within the modeling range, habitat can be evaluated for those years. Table 6 summarizes conditions based on dry year minimums and return ditch flows. For simplicity, Table 6 assumes 6 cfs as the irrigation diversion in Lower Thompson Ditch, although actual diversion in dry years is sometimes less.

Table 6. Summary of Mill Creek Peak Summer Flows and Habitat for a Sample Dry Year (based on WY 1990).

	Old License	No Action	Proposed Action
Minimum Flow	0	4	1+accretion*
Deer Creek inflow	1.5	1.5	1.5
Upper Thompson Diversion	0	0	0
Mill Above return Ditch	8.6	12.6	12.6
Return Ditch Inflow	6	6	6
Lower Thompson Diversion	-6	-6	-6
Mill @ Cemetery Road	5.4	9.4	9.4
Mill @ Mono Lake	4.5	8.5	8.5
Lower Mill Weighted Average WUA Habitat (SqFt)	8246	9676	9676
% of No Action Alternative	85	100	100

***** Estimated to total 4 cfs for this illustration, but in drier years the total may be less.

No Action. Under the No Action Alternative, the constant minimum flow of 4 cfs provides year-round weighted average of habitat ranging from 9417 to 9676 square feet/mile of Weighted Usable Area in lower Mill Creek, based on the IFIM study and typical streamflow conditions. Summer habitat reductions due to non-project irrigation diversion on Mill Creek are less prevalent than in the past (see the New Information section of this document).

Proposed Action. The constant minimum flow of 1 cfs, supplemented in the summer with accretion, leakage, and return system flows, provides habitat ranging from 8228 to 9676 square feet/mile of Weighted Usable Area in lower Mill Creek in a typical dry year, based on the IFIM study. Reducing the required minimum flow will provide less streamflow and fish habitat on lower Mill Creek than a 4 cfs minimum flow in the fall, winter, and spring, but will generally provide more habitat in the summer due to the higher return conveyance facility flows. Substantial improvements in lower Mill Creek habitat related to return conveyance flows would occur in normal and wet years.

Conclusions. The Proposed Action, when compared to the No Action Alternative, would reduce habitat along lower Mill Creek by 13% during the fall, winter, and spring, be the same in dry year summer months, and increase habitat by an undetermined amount in normal and wet years (the IFIM extrapolation is exceeded when more that 11.4 cfs is added through the return ditch, a flow at which the WUA for lower Mill reaches 11,783 f^2/mi, or 122% of the no action alternative). Under other scenarios involving the potential for greater return flow to Mill Creek, the Proposed Action increases habitat more consistently in comparison to the No Action Alternative. On balance, the Proposed Action offers adequate habitat protection during fall, winter, and spring, and more habitat in the more critical summer months than the No Action Alternative.

Effects on Upper Mill Creek Riparian Habitat

The condition of the riparian vegetation between Lundy Dam and the return ditch as described in the Lundy Project EA (FERC, 1992) is still accurate. The Proposed Action, which provides slightly more flow than provided under the Old License, would provide sufficient flows to maintain the existing riparian vegetation along Mill Creek between Lundy Dam and the return ditch, so that reach will not be considered in detail.

Effects on Lower Mill Creek Riparian Habitat

No Action Alternative. The combination of Project and non-project irrigation diversions to Wilson Creek and irrigation diversions on Mill Creek have eliminated the once-extensive riparian woodland along lower Mill Creek (Forest Service, 2001). Much of this impact has been on National Forest System lands and private lands located within the Mono Basin National Forest Scenic Area. Under the No Action Alternative, flows in Mill Creek below the return ditch continue at minimal levels during the growing season in dry and normal years. Although the reduced diversion at the Thompson Main ditch is providing more water for Lower Mill Creek, riparian vegetation remains below the Forest Service desired condition (Forest Service, 2001).

Proposed Action. Based on Figures 4a-c, the Proposed Action will provide greater flow to Mill Creek below the return ditch in dry and normal years, helping to establish and maintain additional riparian vegetation by providing increased flows during the critical growing season. Increased flows during this period will also sustain new riparian vegetation recruitment that typically occurs after high spill flows in wet years. Consulting on the Water Management Plan on an annual basis should allow the Parties to make adjustments to flows to further improve riparian conditions with the water available during that year.

Conclusions. The Proposed Action will provide more water to lower Mill Creek during the critical growing season, improving riparian condition.

Effects on Wilson Creek Riparian Habitat

Wilson Creek supports a diverse and substantial riparian corridor on Mono County and Public lands above State Highway 167. Streambank vegetation is structurally and compositionally varied, providing diverse wildlife habitat along with ecologically important reference sites. Average canopy cover is 34% (BLM, 2004). Below State Highway 167 to Cemetery Road, Wilson Creek supports a narrow riparian corridor, composed mainly of willow shrubs or low trees. Below Cemetery Road, riparian vegetation is sparse, until it disappears almost entirely in the vicinity of the Lower Wilson Creek Arroyo (Forest Service, 2001). Wilson Creek between the tailrace and State Highway 167 flows through lands owned by the City of Los Angeles, Mono County, and BLM. Wilson Creek below State Highway 167 flows through National Forest System lands and City of Los Angeles lands within the Mono Basin National Forest Scenic Area.

Figures 5a-c are the output hydrographs for Wilson Creek above Cemetery Road (at the Forest Service diversion) from the Operational Model for three water year types.

No Action Alternative. Under the No Action Alternative, Wilson Creek may go dry in the winter prior to reaching Cemetery Road in dry and normal years. Although water is less critical in the winter for riparian vegetation, hydrologic continuity does maintain a wetted stream perimeter that supports early season riparian growth. Summer flows under the No Action alternative are very similar to the existing condition, so few changes in vegetation are expected. When tailrace flows exceed 55 cfs (less than 10% of the time), over 70% of the water passes through the system at Cemetery Road, and is not used by the Water Rights Holders. This water is lost to groundwater seepage or flows into Mono Lake.

Figure 5a. Wilson Creek @ Cemetary Road WY 1990 Dry

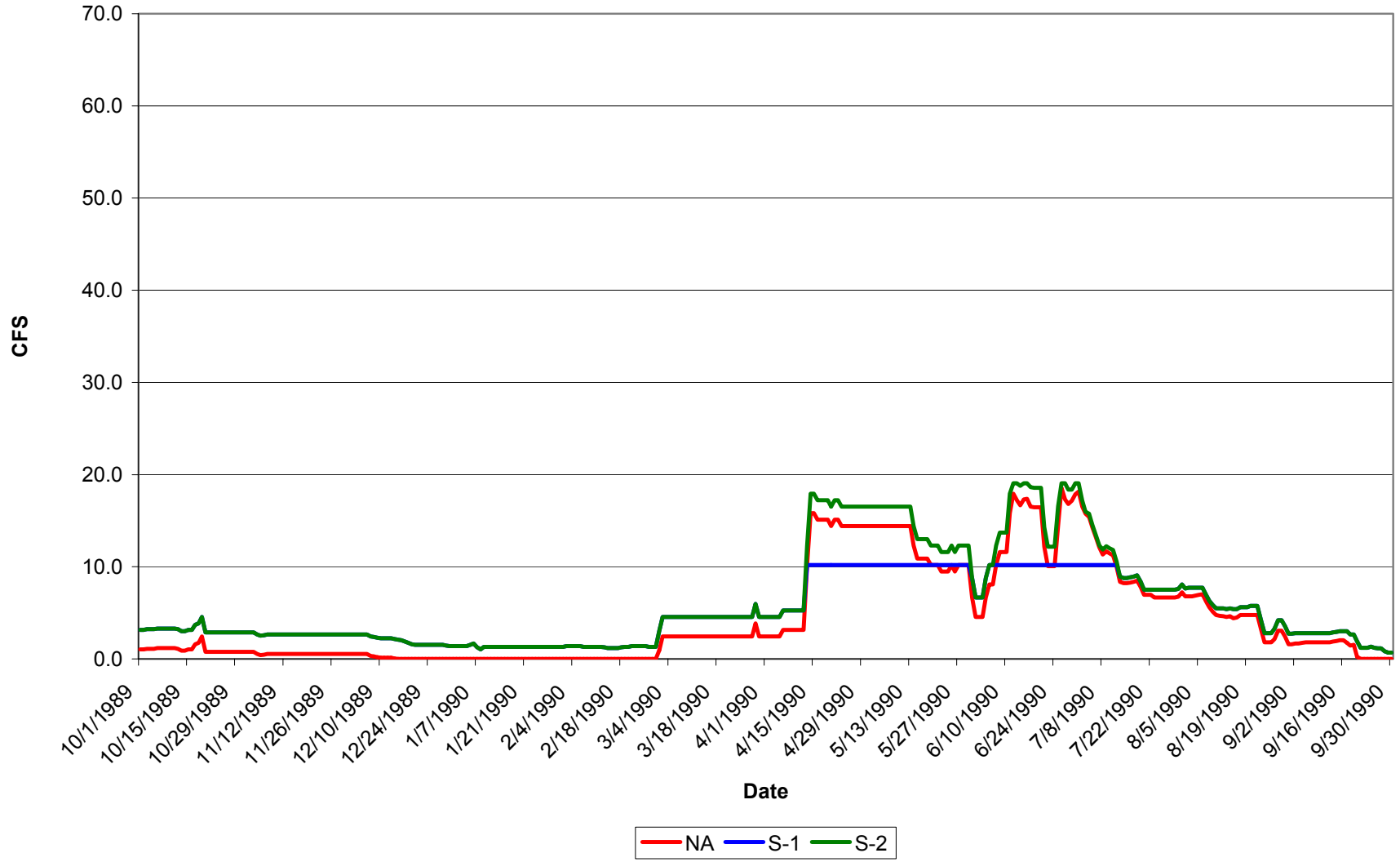


Figure 5b. Wilson Creek @ Cemetary Road WY 2000 Normal

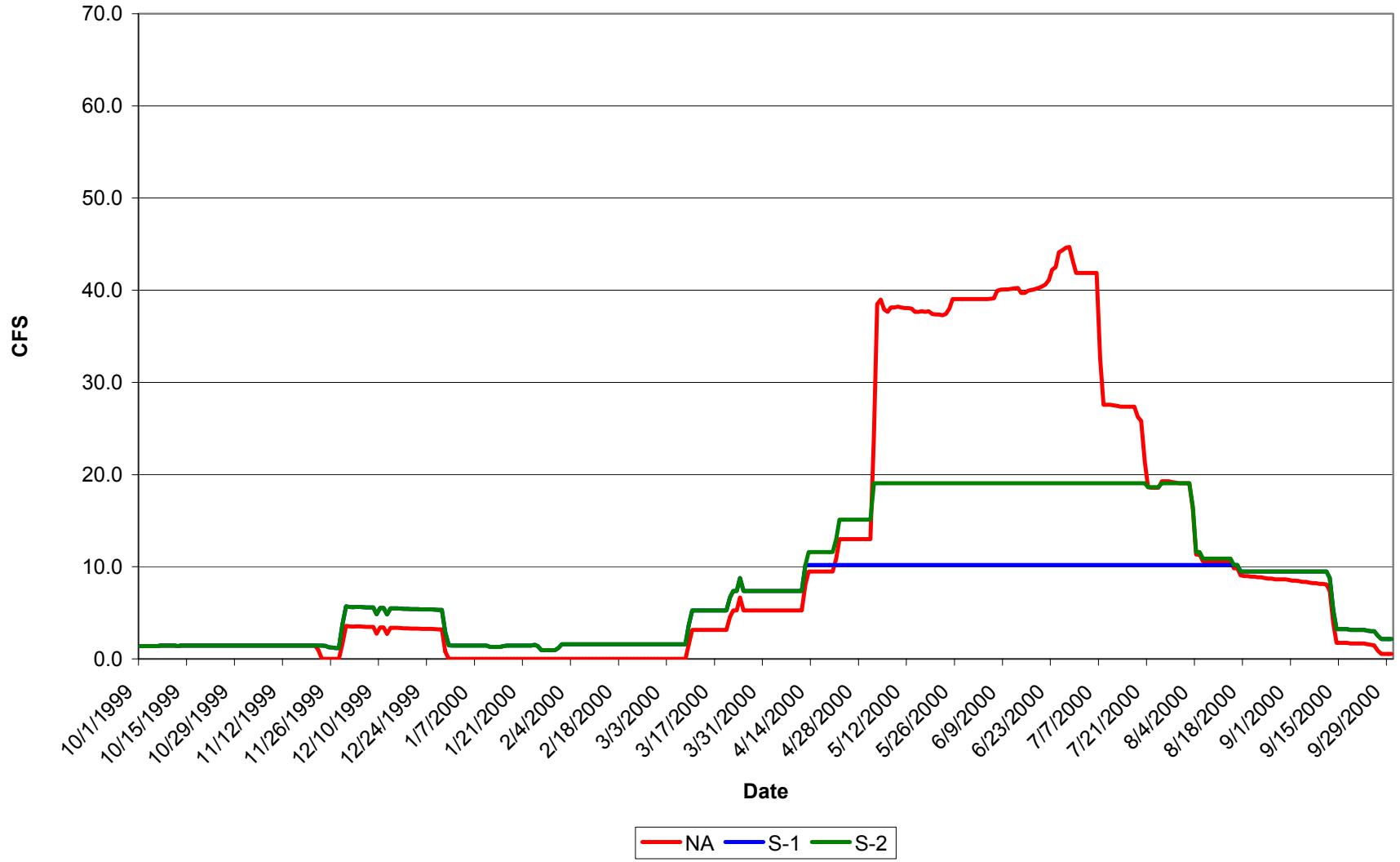
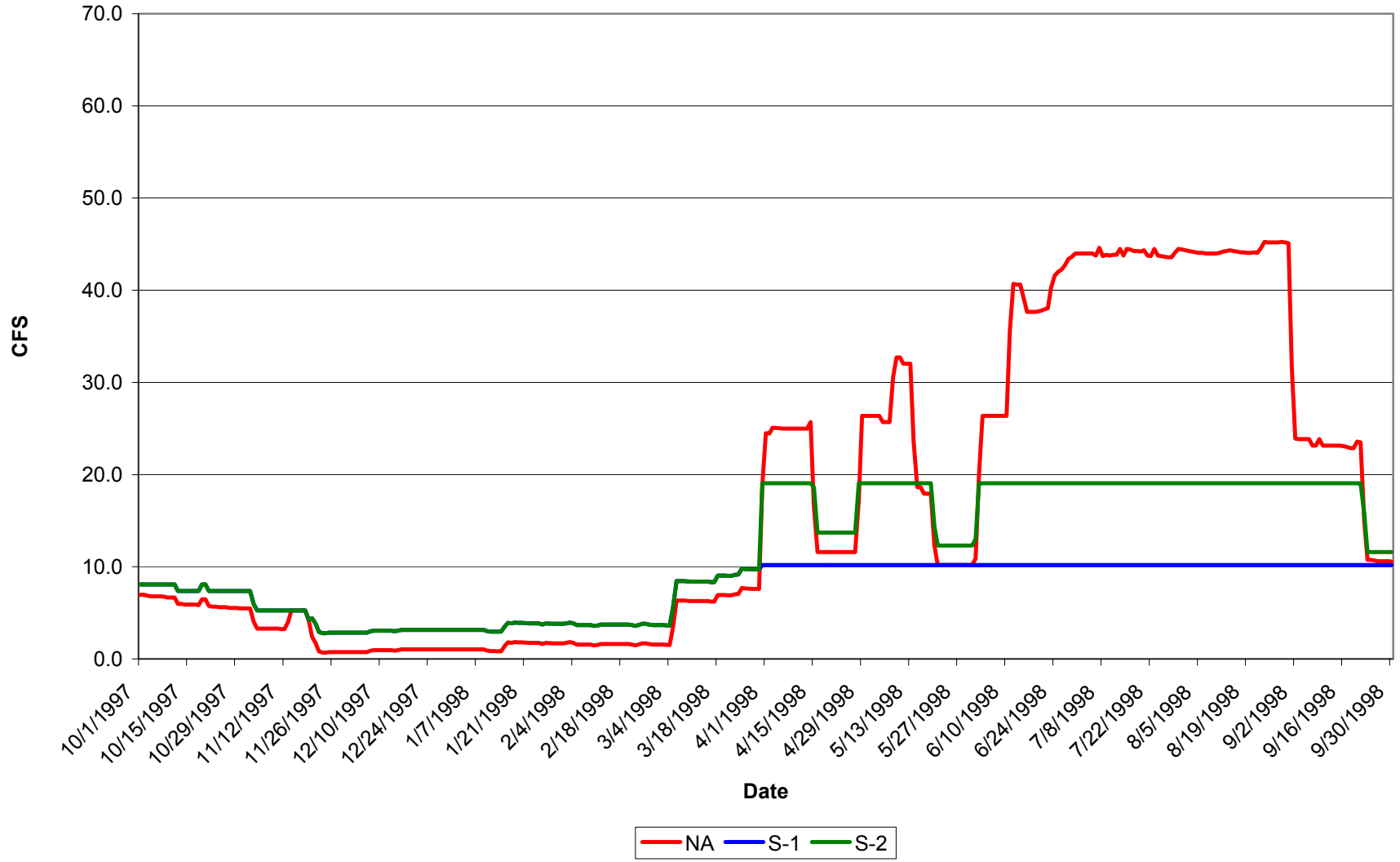


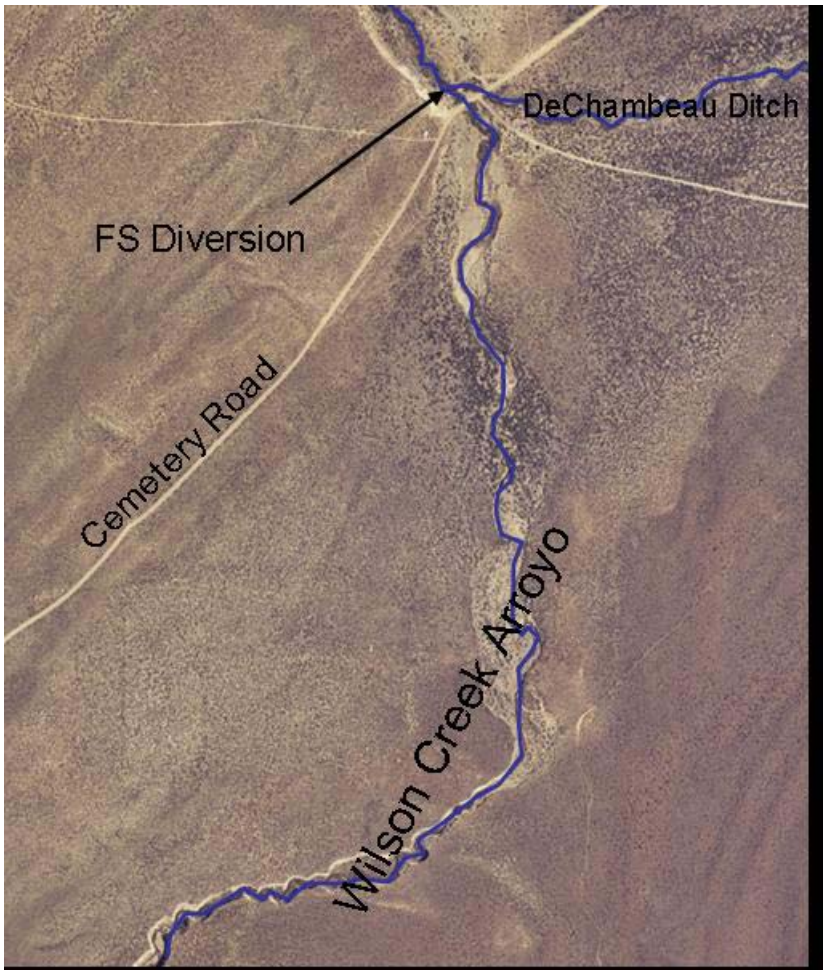
Figure 5c. Wilson Creek @ Cemetary Road WY 1998 Wet



Proposed Action. In all three water year types, sufficient water would reach Cemetery Road to maintain hydrologic continuity along Wilson Creek during all seasons. Summer flows would be reduced but are generally more stable. Since the Proposed Action will provide flows in Wilson Creek (10 to 19 cfs at Cemetery Road) that fall within the current range of late summer flows, it is expected that the flows will be sufficient to maintain the existing riparian vegetation above Cemetery Road.

In dry years (Figure 5a), most of the flow that reaches the Forest Service diversion would be diverted to DeChambeau Ranch, essentially dewatering the Wilson Creek Arroyo below Cemetery Road. Since the section of Wilson Creek Arroyo below Cemetery Road has sparse to no riparian vegetation, there would be little overall loss (Figure 6).

Figure 6, Lower Wilson Creek



The Forest Service uses the historic Wilson Creek channel to bring water to DeChambeau Ranch, and this use supports a narrow riparian corridor. There would be no change in this area under the Proposed Action.

Uses on Conway and DeChambeau Ranches will remain the same, so there will be no changes in wetland habitat associated with those areas caused by the Agreement. Both Mono County and the

Forest Service continue to evaluate more efficient water use practices, and those evaluations will not be changed by this agreement.

Effects on Ground Water and Wells

The geology of the Wilson and Mill Creek watersheds is described in the geologic map of the Bodie Quadrangle (Chesterman and Gray, 1975). Within the Wilson Creek and Mill Creek watersheds, the older granitic and metamorphic rocks are present in the higher elevations of the Sierra Mountains; unconsolidated sediments consisting of clays, sands, and gravels are present at the lower elevations; and minor amounts of volcanic rocks are adjacent to Mono Lake (Figure 7). The unconsolidated sediments in these watersheds include glacial moraines and outwash of sands and gravels, lake bed sediments of clays, silts, and sands from Mono Lake, and volcanic ash deposits.

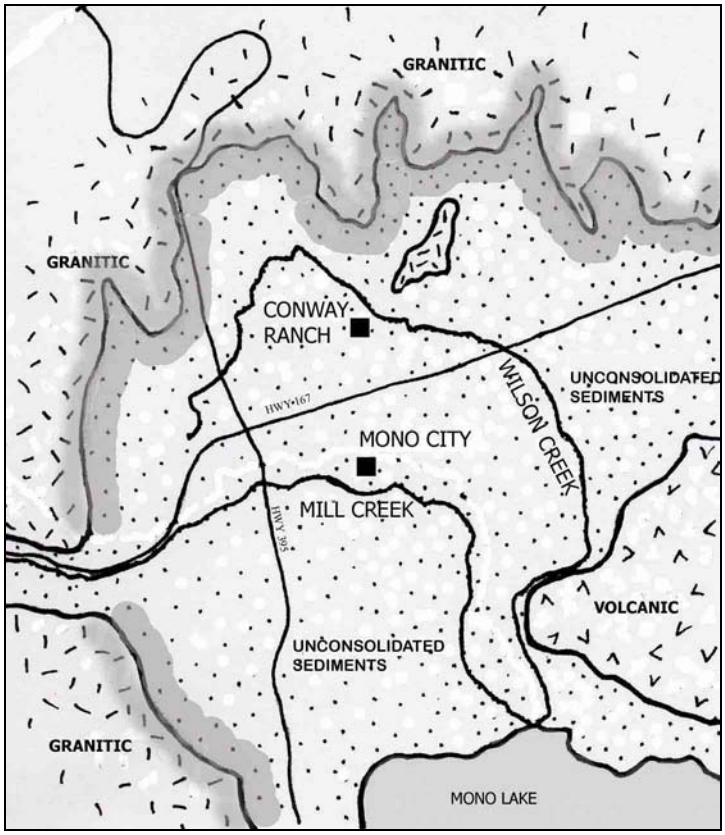


Figure 7. Generalized geologic map of the lower portions of the Wilson and Mill Creek watersheds. Area in gray defines the general location of the groundwater recharge area.

The Background Report on Mono Basin Geology and Hydrology prepared by the Los Angles Department of Water and Power (LADWP, 1984) describes a simplified hydrologic model for the groundwater conditions in the Mono Basin. This report identifies an unconfined shallow water aquifer and a confined deep water aquifer separated by lower permeability lake bed sediments in the sedimentary rocks (Figure 8). Permeability is a measure of the ease with which water flows through the void space among rocks. An unconfined aquifer is typically the "upper most" aquifer, is open to atmospheric pressure, and the water table will rise and fall in response to the infiltration of rainfall and snowmelt. A confined aquifer is overlain by rocks of lower permeability and may contain

water at pressure levels greater than the atmosphere pressure. When a well or fault penetrates a confined aquifer the water level could rise, and if it reaches the surface this is called artesian flow.

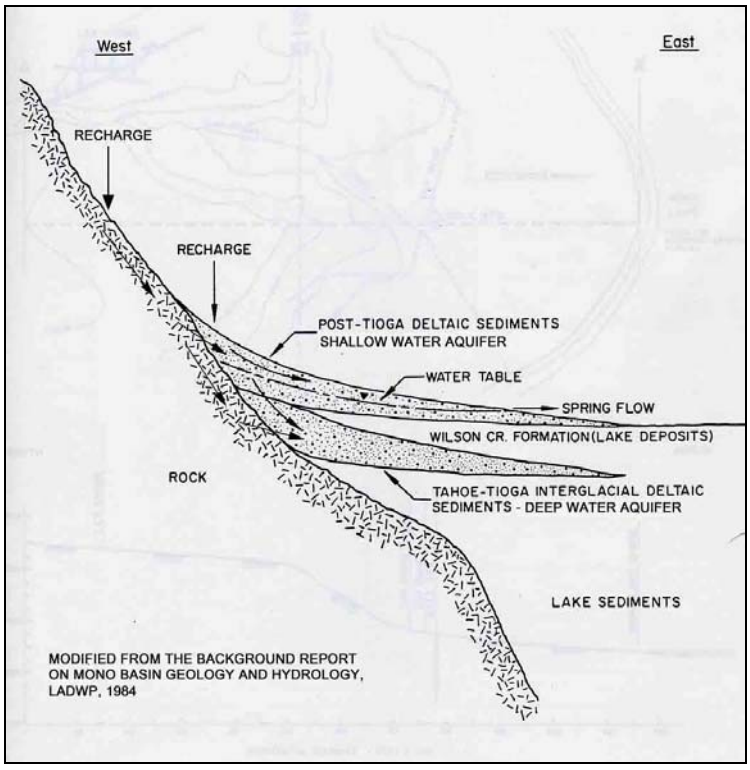


Figure 8. Simplified hydrologic model for the groundwater conditions in the Mono Basin (Modified from LADWP, 1984).

The unconfined shallow water aquifer consists of recent (post-Tioga) sands and gravels formed since the last glaciation. The confined deep water aquifer consists of sands and gravels from the Tioga-Tahoe inter-glacial period. Between the two aquifers are the lower permeability lake bed sediments that impede ground water movement and are collectively identified as the Wilson Creek Formation.

The subsurface geology in the Wilson and Mill Creek watersheds is complex and consists of a series of alternating glacial and lake bed sediments (Gary S. Rasmussen and Associates, 1983; Applied Geotechnology, 1987). Site specific geologic studies indicate that in the Conway Ranch area the subsurface flow of groundwater is generally from northwest to southeast and generally paralleling lower Wilson Creek (Applied Geotechnology, 1987). Ground water flow is typically very slow and is measured in feet per year compared to surface water flow which is measured in feet per second (Moore, Zaporozec, and Mercer, 1995). The amount of time for the ground water to infiltrate at the higher elevations, and travel through the deep water aquifer, is potentially years in length. Subsurface flow may also be further constricted by the presence of faults, granitic rocks, and volcanic rocks acting as groundwater barriers in the aquifer (Gary S. Rasmussen and Associates, 1983; Applied Geotechnology, 1987). There is a presumed bedrock barrier to groundwater flow just south of the Conway Ranch meadows which maintains high groundwater elevations in the Conway Ranch meadows area and separates it from the rest of the groundwater basin (Applied Geotechnology, 1987).

Recharge to the shallow water aquifer is by infiltration from streams, rainfall, snowmelt, and irrigation practices. The precipitation in the surrounding mountains flows into the shallow water aquifer as surface water, infiltrating into bedrock fractures, or infiltrating into the loose weathered soil atop the bedrock (Applied Geotechnology, 1987). Stream runoff from the mountains surrounding Conway Ranch infiltrates rapidly and rarely reaches Wilson Creek. Wilson Creek channel losses occur primarily downstream and to the southeast of the Conway Ranch meadows (USFS 2004b). Any change in Wilson Creek flow due to the proposed action would have a negligible affect on the total recharge to the shallow water aquifer above the wells because a) Wilson Creek flows are one of many sources of recharge, b) only minor recharge occurs from the creek in the Conway Ranch area (Applied Geotechnology, 1987), and c) changes in Wilson Creek flows would have a very small effect on the channel losses since the wetter perimeter does not change significantly with flow because the channel is incised.

Recharge to the confined deep aquifer occurs where the shallow water aquifer lies directly above the deeper aquifer and from subsurface groundwater flows from the surrounding mountains (LADWP, 1984). This recharge zone to the deeper aquifer is at higher elevations within the fractured bedrock and along the margins of the unconsolidated sediments (Shown in Figure 7 as the dark gray band).

The Lundy Mutual Water Company operates a water well that is 500 feet in depth and is reported to produce 150 gallons per minute (Personal Communication, Lundy Mutual Water District, October 24, 2004). That well taps the deep aquifer beneath the confining levels of lake sediments. A domestic well at Conway Ranch is 145 feet in depth and is reported to produce 60 gallons per minute (Personal Communication, John Fredrickson, November 4, 2004). This well is reported to experience seasonal fluctuations in dry years (Personal Communication, John Fredrickson, November 4, 2004).

No Action Alternative. Under the No Action Alternative, there will be less water distributed to the Wilson Creek watershed in the winter months and in all months during dry years. Water uses in the basin on Conway Ranch above the existing wells may change due to the reduced amount of water available during low flow periods. Neither change should affect the total recharge for the confined aquifer. There would also be a negligible affect on the recharge to the unconfined aquifer.

Proposed Action. By comparison to the No Action Alternative, the Proposed Action may result in more water distribution to Wilson Creek during the winter months. Summer distribution of water to the Wilson Creek drainage will depend on water use needs of the various water rights holders and the proposed distribution of water according to the water management plan, although more water will be available when compared to the No Action Alternative. Water uses in the basin on Conway Ranch above the existing wells will not change as a result of the Commission's approval of the Proposed Action, since Appendix A does not change any water rights or interpretations thereof or require any particular allocation of water in the Return Conveyance Facility. None of the changes would affect the recharge to the confined aquifer, because the recharge area is above the Lundy tailrace and does not depend on distribution of Lundy flows. There would also be a negligible affect on the recharge to the unconfined aquifer.

Water Return Conveyance Facility Capacity and Type

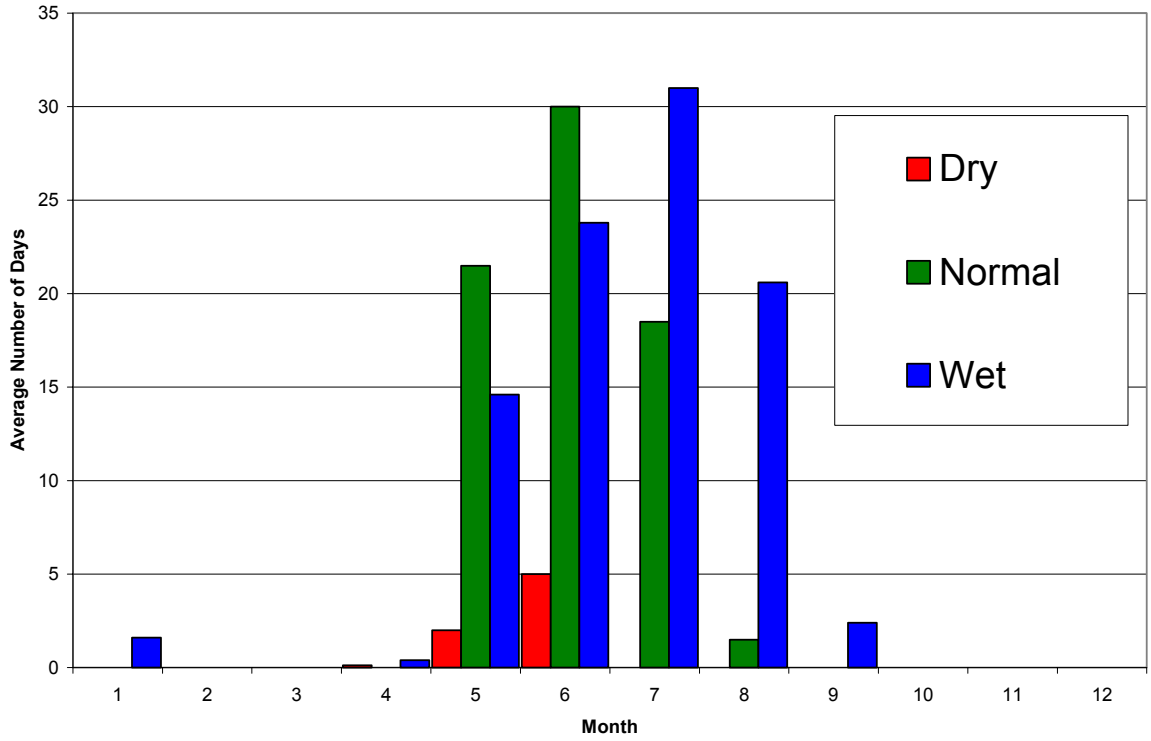
Returning water to Mill Creek after it is used to generate power depends on three factors: the availability of water, the capacity of the return system, and the type of return system. The type of return conveyance facility also influences long term maintenance, water transport efficiency, safety, and water quality. While previous sections have described water availability in great detail, this section will describe how capacity and type of conveyance relate to the No Action alternative and the Proposed Action alternative.

No Action Alternative. The current return conveyance system is an unlined earthen ditch. Significant maintenance was completed in 2003, and a test flow of approximately 30 cfs was conducted. The test flow was quickly discontinued due to extensive leaking in the ditch. SCE believes that the ditch in its current condition will reliably carry about 12 to 16 cfs. Current practice is to operate the ditch when Thompson Main ditch is being used. For comparative purposes, the No Action Alternative assumes that the existing return ditch is not operated.

Proposed Action. The Agreement provides for a cost analysis for several options to upgrade the current ditch, including a lined open canal and a closed pipeline system. Although the Licensee has the discretion to select the preferred return conveyance facility with a minimum 40 cfs capacity based on lowest overall cost, the other Parties may secure the difference in funding of the alternate systems, up to a maximum capacity of 52 cfs. If the funding is secured, the Licensee is obligated under the Agreement to construct and maintain the alternate system.

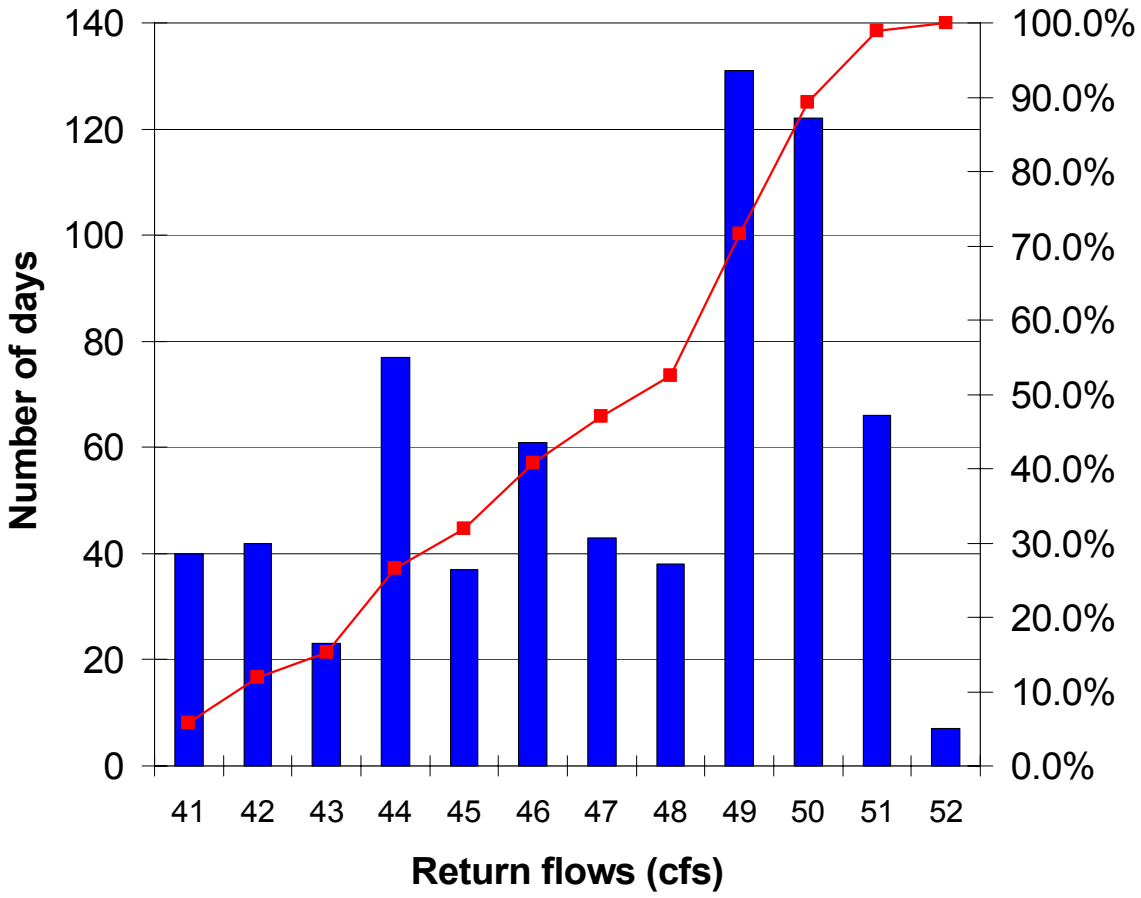
As described in previous sections, water is available for return to Mill Creek when powerhouse flows exceed the water needs on Wilson Creek, or when requested by a water right holder for the rights pursuant to diversions on Mill Creek. While the scenarios used here assume that Wilson Creek has first priority on powerhouse flows (exclusive of the 1 cfs minimum flow release below Lundy Dam), the Agreement and Explanatory Statement do not effect or imply any joint interpretation of the relative seniority of these several water rights. Given that analytical assumption, and based on the Operational Model, water is available for return to Mill Creek an average of 145 days per year under the Proposed Action. When return flows are available, return flows greater than 40 cfs are available less than about 15% of the time. If water were managed under scenario S-1, a 40 cfs capacity return conveyance facility would reduce the amount of water available to Mill Creek, but not the days of water availability, and would increase the amount of water diverted to Wilson Creek, compared to the results if the return conveyance facility had a 52 cfs capacity. Given these several assumptions, Figure 9 shows the average days per month of available water between 40 cfs (S-2) and 52 cfs (S-1) by water year type.

Figure 9. Average number of days by month when return flows are between 40 and 52 cfs, by water year type.



As shown in Figure 9, water in excess of 40 cfs is generally available in normal and wet water years. Available water not returned to Mill Creek because of a return capacity constraint would be diverted to Wilson Creek. The magnitude of flow available above 40 cfs is another consideration when evaluating the capacity of the return system. Figure 10 shows the distribution of flows between 40 and 52 cfs.

Figure 10. The total number of days for the analysis period that potential return flows are between 40 and 52 cfs.



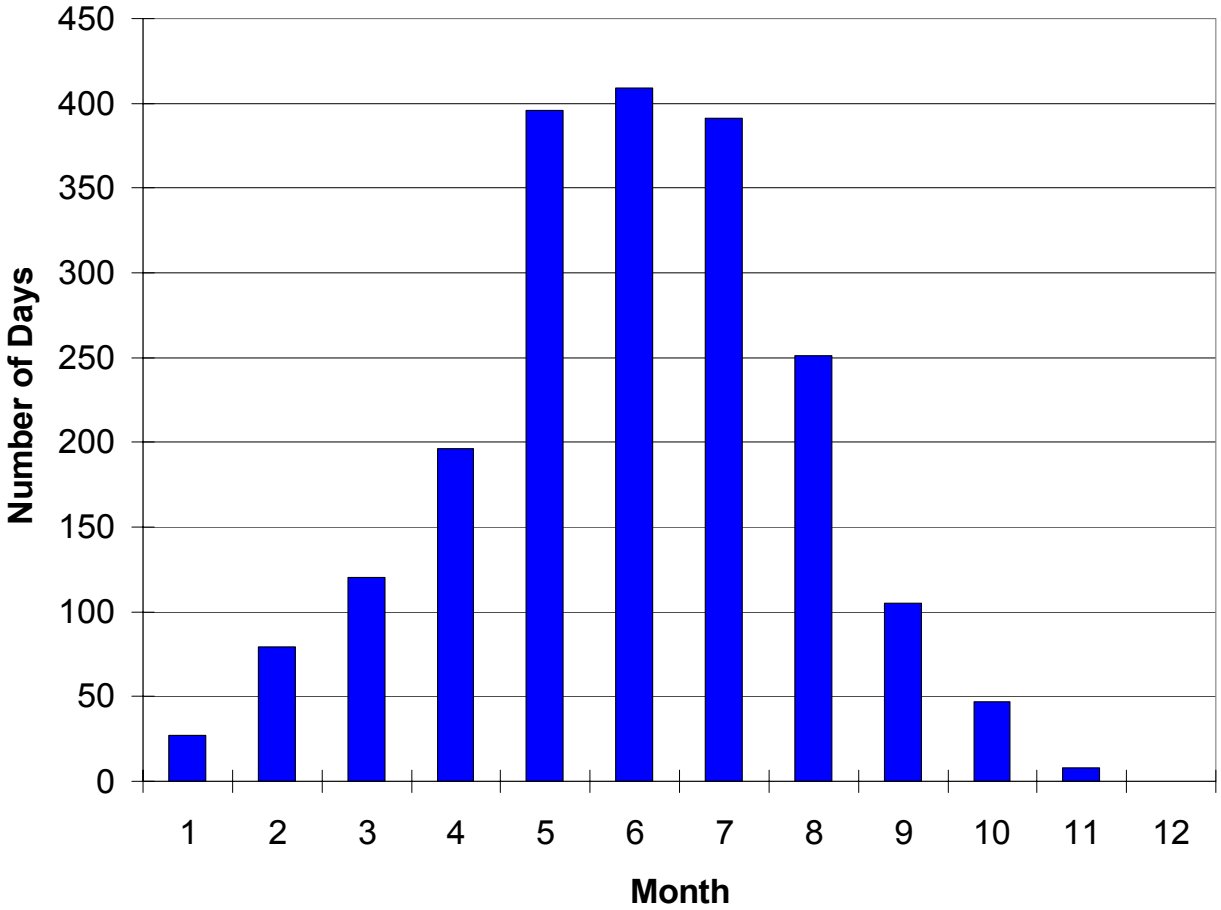
As shown in Figure 10, about half of the water available is between 40 and 48 cfs, and the remainder is between 49 and 52 cfs.

Based on the Operational Model, water is available for return to Mill Creek an average of 145 days per year. Since return flows greater than 40 cfs are not available under S-2, a return conveyance facility capacity of 40 cfs would distribute to Mill Creek 100% of the water at 40 cfs or under, after distribution of between 18 cfs and 30.6 cfs to Wilson Creek Water Rights Holders. In other words, the Parties expect that the Proposed Action will probably result in increased flows in Mill Creek, regardless of the scenario implemented. Under Article 411, SCE is obliged to construct a new return conveyance facility with a capacity of not less than 40 cfs or not more than 52 cfs. The existing return ditch has a capacity in the range of 12 to 16 cfs. Thus, the Proposed Action will increase return capacity from about 12 cfs to not less than 40 cfs. If the Commission approves the Proposed Action, the specific quantity and timing of flows actually delivered into Mill Creek – the actual use of this increased return capacity -- will be largely controlled by the annual water management plan. The differences between S-1 and S-2 illustrate this variability. Whether the return conveyance has 40 or 52 cfs capacity is a secondary factor in determining actual water delivery to Mill Creek. In turn, the development of the annual water management plan will be greatly influenced by the need for SCE to ensure all water rights holders receive their water rights.

For example, S-1 and S-2 assume that the first 18 cfs and 30.6 cfs, respectively, will be delivered to Wilson Creek. Neither of these assumptions may actually occur. In fact, other scenarios assuming that the first block will be 12 cfs or less are also possible. The Parties do not intend for the numbering system for S-1 and S-2, or the omission of other possible scenarios, to state or imply any preference as to the basis for the annual water management plan. Instead, the Parties acknowledge that SCE, in consultation with the other water rights holders, will be responsible for developing and implementing the annual water management plan in a manner consistent with water rights.

Figure 11 shows the total numbers of days return flows greater than 0 cfs are available under the Proposed Action on a monthly basis. As shown in Figure 11, flows are available in all months except December. December through February flows account for 5% of the available flow.

Figure 11. Number of days flow is available under the Proposed Action by Month, based on 14 years of records.



Other factors will also be evaluated when analyzing the return conveyance facility type. Open lined systems generally require greater maintenance over the long term to maintain their integrity, especially seasonally operated systems that are exposed to winter freeze and thaw cycles. Lined canals are also prone to leaks. Lined canals can be a barrier to wildlife passage, and a cause of

wildlife mortality through drowning, although the Parties are unaware of any problems associated with the existing return ditch.

Closed pipelines, especially fused extruded plastic pipes, generally require little maintenance. Closed systems can be buried, eliminating wildlife passage issues and improving wildlife safety.

Although the risk of failure is higher with an open system, the consequences of failure are generally the same. Failure results in discharge of the flow across the landscape, causing erosion and sediment impacts to the aquatic system.

Conclusions. The Proposed Action would provide a significant opportunity to return available water to Mill Creek from March to November. A larger capacity system would provide greater opportunity in normal and wet years, and a closed pipe system would be able to return flows available in January and February of wet years although the specific quantity and timing of flows actually delivered into Mill Creek will be largely controlled by the annual water management plan. A closed system would offer lower overall maintenance.

SUMMARY

The Agreement provides for reduced minimum flows below Lundy Dam, a mechanism to increase return system flows to Mill Creek, additional flow monitoring, and additional water management planning. Implementation of the Agreement will address claims of infringement by the Project on Wilson Creek water rights, improving water delivery to Wilson Creek in the winter over the No Action alternative. Minimum flows in Mill Creek will be sufficient to protect the existing fish habitat and riparian areas below the dam, and increased return system flows will provide additional water below the return ditch, improving fish habitat and riparian areas. Wilson Creek irrigation season water rights are delivered on a priority basis, subject to availability of flows, and will meet the demands of the Water Rights Holders. The distribution of tailrace flows would not affect the recharge to the confined aquifer, because the recharge area is above the Lundy tailrace and does not depend on distribution of Lundy flows. There would also be a negligible affect on the recharge to the unconfined aquifer. Riparian habitat on Wilson Creek will be maintained.

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