



WESTERN RESOURCE
ADVOCATES

July 27, 2009

Ms. Rena Brand, Project Manager
Corps Denver Regulatory Office
9307 S. Wadsworth Blvd.
Littleton, CO 80128-6901

via email: MCRG.EIS@usace.army.mil

Re: Scoping Comments on Regional Watershed Supply Project Draft EIS

Dear Ms. Brand:

Western Resource Advocates (WRA) appreciates the opportunity to submit these scoping comments on the Million Conservation Resource Group's (Million) proposed Regional Watershed Supply Project (RWSP). Western Resource Advocates is a nonprofit conservation organization dedicated to protecting the Interior West's land, air, and water. We promote river restoration and water conservation, advocate for a clean and sustainable energy future, and protect public lands for future generations. We meet our goals in collaboration with other environmental and community groups, and by developing solutions appropriate to the environmental, economic and cultural framework of the southwestern United States.

Our scoping comments on the RWSP are organized as follows:

- I. Preparation of an EIS is Premature.
- II. Introduction & Legal Framework.
- III. The Statement of Purpose and Need Should Not Preclude Consideration of Conservation Alternatives.
- IV. The Alternatives Presented During Scoping Are Virtually Indistinguishable and Fail to Include All Reasonable Alternatives.
- V. A Conservation Alternative Is a Practicable Alternative.
- VI. The Corps Must Take a Hard Look at Water Rights and Availability.
- VII. The Corps Must Take a Hard Look at Energy Use and Greenhouse Gas Emissions, Including Lost Hydropower.
- VIII. The Corps Must Take a Hard Look at the Operational Costs and the Total Project Cost of All Alternatives, Including Conservation Alternatives.
- IX. The Corps Must Take a Hard Look at the Impact of the Alternatives to Coldwater Fisheries and the Upper Colorado River Endangered Fish Recovery Program.
- X. The Corps Must Take a Hard Look at Growth Inducing Impacts.
- XI. The Corps Must Take a Hard Look at Cumulative Impacts.
- XII. Concluding Comments.

COLORADO • 2260 Baseline Road, Suite 200 • Boulder, CO 80302 • 303.444.1188 • Fax: 303.786.8054 • Email: info@westernresources.org
NEVADA • 204 N. Minnesota Street, Suite A • Carson City, NV 89703 • 775.841.2400 • Fax: 866.223.8365 • Email: info@westernresources.org
NEW MEXICO • 227 E. Palace Avenue, Suite M • Santa Fe, NM 87501 • 505.820.1590 • Fax: 505.820.1589 • Email: info@westernresources.org
UTAH • 150 South 600 East, Suite 2AB • Salt Lake City, UT 84102 • 801.487.9911 • Email: utah@westernresources.org

I. Preparation of an EIS is Premature.

A. Million Cannot Establish Purpose and Need without Identifying Specific End-Users.

The Corps should not consider incomplete applications – like Million’s – that fail to sufficiently establish a purpose and need. Under Corps regulations, an application for a permit to discharge dredged or fill material under Section 404 of the Clean Water Act “must include a *complete description* of the proposed activity including . . . [the] *purpose and need* for the proposed activity.” 33 C.F.R. § 325.1(d)(1) (emphasis added). If the description of purpose and need is incomplete, the Corps should not issue a public notice. The Corps’ review concludes with a notice to the applicant that additional information is necessary for a complete application. *See id.* at §§ 325.1(d)(10), 325.2(a)(2).

The Corps improperly issued a public notice for the proposed RWSP because the “need” for the proposed project does not exist. No water users have been identified for the RWSP. No evidence of any letter of intent was provided during scoping and many recent news articles indicate that water providers along the Front Range are not at all interested in participating in the currently proposed RWSP; and may even be pursuing a similar project on their own. With no letters of intent, there are no users, and no need.

Million’s inability to demonstrate need for water for is amply illustrated by Colorado’s anti-speculation doctrine in water law. It is well-established that where a private entity seeks a water right that is not for its own use, the applicant needs firm contractual commitments or an agency relationship with end-users. *Colorado River Water Conservation Dist. v. Vidler Tunnel Water Co.*, 594 P.2d 566, 568 (Colo. 1979); *see also* C.R.S. § 37-92-103(3)(a). The Colorado Supreme Court has consistently upheld water court decisions rejecting applications, like Million’s, that violate this basic requirement. In *High Plains A&M v. Southeastern Colorado Water Conservancy District*, 120 P.3d 710, 721 (Colo. 2005), the court affirmed that a private applicant’s proposed transbasin diversion of water for “use in any number of Front Range locations for any number of purposes” was speculative. There, as here, the applicant failed to specifically identify any particular end-user or parcels of private land to be served by the project. *Id.* In all controlling respects, the facts of *High Plains* are identical to the RWSP. Quite simply, Million’s speculative application would not pass the “straight-face test” in Colorado water court.

Similarly, Wyoming law disfavors water exports that are not in the public interest. WYO. CONST. art VIII, § 3; WYO. STAT. § 41-4-503. Applications to export water out of Wyoming must be approved by the Wyoming Legislature. WYO. STAT. § 41-3-115. Given the substantial public opposition to the RWSP expressed at the scoping meetings, Million faces significant legal and political obstacles to obtaining a water right in Wyoming.¹

Eventually, Million will need water right decrees in Colorado and Wyoming. We believe it is inappropriate to move forward with crafting a DEIS until specific water users have been

¹ Indeed, on July 21, 2009, in Laramie, Wyoming – a community that would purportedly benefit from the proposed pipeline – the City Council approved a resolution opposing the RWSP. City of Laramie Resolution No. 2009-66, available at: <http://www.ci.laramie.wy.us/>.

identified, consistent with the requirements of Colorado’s anti-speculation doctrine and Wyoming’s public interest requirement.

The RWSP proposes to meet “projected shortages in water supplies”, but no evidence or documentation of the projected shortage is provided. If these “projected shortages” are in reference to the “gap” identified by the Colorado Water Conservation Board’s (CWCB) Statewide Water Supply Initiative (SWSI) Phase I report, we note the SWSI Phase I report significantly overestimated future water demands in Colorado by not incorporating active conservation practices into the analysis. CWCB later convened a conservation and efficiency technical roundtable as part of SWSI Phase II (which identified over 450,000 AF of potential water conservation savings state-wide (the vast majority in Front Range cities) and now is currently reanalyzing Colorado’s future water needs by including demand reductions of 20%, 30%, and 40% achieved through conservation. Active conservation programs currently in place along the Front Range will significantly reduce future water demands and may negate the need for additional water supplies, including the RWSP.

Preparation of an EIS for a project without any identified end-users would waste Corps resources and taxpayer dollars. The Corps should defer any further action on Million’s incomplete application until Million – at minimum – produces letters of intent with specific water users for the entire 250,000 acre foot project, demonstrates cost-competitiveness with water conservation alternatives and evidence that it will qualify for a water right in Colorado and Wyoming.

B. There is Insufficient Information to Prepare an EIS.

Based on the extremely limited amount of material presented by the Corps and Million at the scoping meetings, we feel preparing a DEIS is premature. Several issues will require substantial analysis prior to expending time and money to compose a DEIS for the proposed RWSP.

Relatedly, a significant lack of information regarding all aspects of the proposed RWSP precludes our ability to sufficiently comment on the project proposal. After more detailed information is provided by the Corps or Million, we recommend the Corps host another round of scoping and commenting before the DEIS is prepared. In sum, the time is not ripe to develop a DEIS.

II. Introduction & Legal Framework

Based on our review of the materials presented at scoping, the analysis and alternatives presented thus far do not satisfy the requirements of National Environmental Policy Act or the Clean Water Act. In particular, the Corps failed to adequately evaluate the proposed project’s purpose and need, and failed to consider reasonable alternatives including water conservation and efficiency. In our opinion, a full examination of *all* reasonable alternatives would show that the RWSP is not the least environmentally damaging practicable alternative.

A. National Environmental Policy Act

The National Environmental Policy Act² (NEPA) requires federal agencies to prepare a detailed statement on the environmental impacts of a proposed “major federal action” and all of the reasonable alternatives thereto before authorizing any such action.³ An agency proposal for major federal action exists for NEPA purposes “at that the stage...when an agency subject to [NEPA] has a goal and is actively preparing to make a decision on one or more alternative means of accomplishing that goal and the effects can be meaningfully evaluated.”⁴ NEPA’s purpose is to promote efforts “which will prevent or eliminate damage to the environment”,⁵ to inform the public of environmental consequences,⁶ and to “help public officials...take actions that protect, restore, and enhance the environment.”⁷

Under NEPA, the RWSP DEIS must analyze “connected”, “cumulative”, and “similar” actions and three types of impacts.⁸ Connected actions are those which are “closely related,” including those that “[c]annot or will not proceed unless other actions are taken”, or those that “[a]re interdependent parts of a larger action and depend on the larger action for their justification.”⁹ Cumulative actions are those that “have cumulatively significant impacts and should therefore be discussed in the same impact statement.”¹⁰ Similar actions include those that have “common timing or geography.”¹¹ To assess “significance” NEPA requires consideration of “[w]hether the action is related to other actions with individually insignificant but cumulatively significant impacts.”¹²

The three types of impacts to be studied in an EIS are those that are “direct,” “indirect,” and “cumulative.”¹³ Direct effects are those that “are caused by the action and occur at the same time and place.”¹⁴ Indirect effects are those “which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.”¹⁵ A project’s “cumulative impact,” is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions...cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.¹⁶

² 42 U.S.C. §§ 4321-4370f.

³ *Id.* at § 4332(2)(C).

⁴ 40 C.F.R. § 1508.23.

⁵ 42 U.S.C. § 4321.

⁶ 40 C.F.R. § 1500.1(b).

⁷ *Id.* at § 1500.1(c).

⁸ *Id.* at §§ 1508.25, 1508.7, 1508.8.

⁹ *Id.* at § 1508.25(a)(1).

¹⁰ *Id.* at § 1508.25(a)(2).

¹¹ *Id.* at § 1508.25(a)(3).

¹² *Id.* at § 1508.27(b)(7).

¹³ *Id.* at 1508.25(c); *see also id.* at §§ 1508.7, 1508.8.

¹⁴ *Id.* at § 1508.8(a).

¹⁵ *Id.* at § 1508.8(b).

¹⁶ *Id.* at § 1508.7. *See also Neighbors of Cuddy Mountain v. U.S. Forest Serv.*, 137 F.3d 1372, 1379 (9th Cir. 1998) (with respect to a cumulative impacts analysis, an agency must provide “some quantified or detailed information” because “[w]ithout such information, neither courts nor the public . . . can be assured that the [agency] provided the hard look that it is required to provide.”).

NEPA's many policies and goals include:

- Encouraging a “productive and enjoyable harmony between man and his environment”;¹⁷
- Promoting “efforts which will prevent or eliminate damage to the environment and biosphere”;¹⁸
- Using “all practicable means and measures . . .to create and maintain conditions under which man and nature can exist in productive harmony”;¹⁹
- Fulfilling “the responsibilities of each generation as trustee of the environment for succeeding generations”;²⁰
- Assuring “all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings”;²¹
- Allowing beneficial use of the environment “without degradation . . . or other undesirable and unintended consequences”;²²
- Preserving “important historic, cultural, and natural aspects of our national heritage”;²³
- Achieving a “balance between population and resource use”;²⁴ and
- Enhancing “the quality of renewable resources” and maximizing recycling of depletable resources.²⁵

At the most fundamental level, NEPA is intended to help public officials make decisions that are based on an understanding of environmental consequences, and to take actions that protect, restore, and enhance the environment.²⁶ Federal agencies are required, to the fullest extent possible, to use all practicable means consistent with the requirements of NEPA to “restore and enhance the quality of the human environment and avoid or minimize any possible adverse effects of their actions upon the quality of the human environment.”²⁷ Federal Council on Environmental Quality (CEQ) regulations further define mitigation as:

- Avoiding the impact altogether by not taking a certain action or parts of an action;
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;

¹⁷ 42 U.S.C. § 4321.

¹⁸ *Id.*

¹⁹ *Id.*

²⁰ *Id.* at § 4331(b)(1).

²¹ *Id.* at § 4331(b)(2).

²² *Id.* at § 4331(b)(3).

²³ *Id.* at § 4331(b)(4).

²⁴ *Id.* at § 4331(b)(5).

²⁵ *Id.* at § 4331(b)(6).

²⁶ *See* 40 CFR § 1500.1(b).

²⁷ *Id.* at 1500.2(f).

- Compensating for the impact by replacing or providing substitute resources or environments.²⁸

Effective mitigation starts at the beginning of the NEPA process, not at the end, and must be included as part of the alternatives development and analysis process.

B. Clean Water Act

The Clean Water Act (CWA) also applies to the RWSP, including section 404(b)(1) guidelines. The guidelines provide that “no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.” 40 C.F.R. § 230.10(a). The Corps compares alternatives by considering both direct and indirect impacts to aquatic ecosystems, including fluctuating water levels in reservoirs and impacts to downstream flows. *Id.* at § 230.11(h).

III. The Statement of Purpose and Need Should Not Preclude Consideration of Conservation Alternatives.

The statement of purpose and need required by NEPA, 40 C.F.R. § 1502.13, should not preclude the consideration of a conservation alternative. An agency cannot define objectives so narrowly as to preclude a reasonable consideration of alternatives. *Davis v. Mineta*, 302 F.3d 1104, 1119 (10th Cir. 2002) (citing *Colo. Env'tl. Coal. v. Dombeck*, 185 F.3d 1162, 1174-75 (10th Cir. 1999)). Any DEIS must contain adequate water conservation information to determine whether there is a need for this project over a reasonable planning horizon.

IV. The Alternatives Presented During Scoping Are Virtually Indistinguishable and Fail to Include All Reasonable Alternatives.

To the extent any DEIS is developed, under NEPA, the Corps must study alternatives to the proposed actions that also achieve the project’s purpose. “The existence of a viable but unexamined alternative renders an environmental impact statement inadequate. An agency must look at every reasonable alternative, with the range dictated by the nature and scope of the proposed action, and sufficient to permit a reasoned choice.” *Friends of Yosemite Valley v. Kempthorne*, 520 F.3d 1024, 1038 (9th Cir. 2008) (quoting *Alaska Wilderness Recreation & Tourism Assn. v. Morrison*, 67 F.3d 723, 729 (9th Cir. 1995)). Under the “rule of reason”, alternatives are reasonable if they (1) fall within an agency’s statutory mandate, and (2) are reasonable in light of the agency’s objectives for the project. *New Mexico ex rel. Richardson v. Bureau of Land Mgmt.*, 565 F.3d 683, 709 (10th Cir. 2009).

²⁸ 40 C.F.R. § 1508.20. *See also* MEMORANDUM OF AGREEMENT BETWEEN The Department of the Army AND The Environmental Protection Agency CONCERNING THE DETERMINATION OF MITIGATION UNDER THE CLEAN WATER ACT SECTION 404(b)(1) GUIDELINES, February 6, 1990.

The current proposed project alternatives do not meet the requirement of the National Environmental Policy Act (NEPA) to “rigorously explore and objectively evaluate all reasonable alternatives,” 40 C.F.R. § 1502.14(a). Each action alternative proposes a diversion rate of 250,000 acre-feet per year (AFY), varied only by location of the diversion point(s). *Cf. Friends of Yosemite Valley*, 520 F.3d at 1038 (EIS violated NEPA where there were viable but unexamined alternatives and the action alternatives were “virtually indistinguishable” from each other). The DEIS must also evaluate demand-side and supply-side efficiency alternatives.

Demand-side efficiency

Demand-side efficiency (conservation) can yield significant water savings and minimize, delay, or obviate the need for infrastructure alternatives like the ones presented for the RWSP. It is unreasonable to assume that rates of per capita water consumption (in the residential, commercial, industrial, and other water use sectors) will continue “as is” into the future. Several water providers, including Denver Water and the Southern Nevada Water Authority, are planning to reduce demand by approximately 1% per year over the next fifteen to twenty years. In addition, recent urban and suburban development is using less water, on a per capita basis, than older developments. This trend must be factored into any water demand projections.

Water conservation efforts also have proven to be very cost-effective relative to large new infrastructure projects. For example, the Conservation Appendix to the Denver Water Integrated Resources Plan (IRP) 2002 Update estimates Denver Water’s recommended (“Best Bet”) conservation program option will cost \$3,600/AF. This “Best Bet” option package includes: an irrigation rebate program, landscape regulation modifications, an industrial, commercial, and institutional efficiency incentive program, and an industrial water use audit program. The SWSI Phase II conservation technical roundtable also identified many conservation approaches that cost substantially less than \$10,000/AF. The cost per acre-foot of conservation is substantially lower than initial RWSP estimates of \$24,000/AF.

Supply-side efficiency

Supply-side efficiency (e.g., reuse, aquifer storage, interruptible supply, and coordination with other providers) must also be considered in the DEIS. As with conservation measures, alternative supply measures often can be much more cost-effective than traditional infrastructure projects. Denver Water's 1997 IRP includes cost per acre-foot estimates for alternative supply measures that are notably lower than preliminary cost estimates for the RWSP. For example, estimated cost/AF for conjunctive use and non-potable reuse (industrial and irrigation) is \$5,400/AF and \$4,900/AF, respectively (see IRP, Table V-5); and these prices are based on technology that is now more than a decade old. Clearly, supply-side potentials need to be actively assessed in a DEIS, as they may alter or obviate the need for large new infrastructure alternatives.

V. A Conservation Alternative Is a Practicable Alternative.

An alternative that utilizes demand-side and supply-side efficiency strategies is practicable and would likely have fewer adverse impacts to the environment than the RWSP. Under the CWA section 404(b)(1) guidelines, “[a]n alternative is practicable if it is available and capable of being done, after taking into consideration cost, existing technology, and logistics in light of overall

project purposes.” 40 C.F.R. § 230.10(a)(2). As stated in Part IV, *supra*, the estimated cost per acre-foot of water gained through efficiency strategies is far less than the estimated cost of the RWSP. Given the RWSP’s potential to impact the Colorado River’s endangered fish species, *see* Part IX *infra*, it is reasonable to expect that some combination of efficiency strategies could be devised that would have a less adverse impact to aquatic ecosystems.

VI. The Corps Must Take a Hard Look at Water Rights and Availability.

A. State Administration of Water Rights

Million has yet to attain a water right with the State of Wyoming or the State of Colorado for the diversion of Green River water and has not entered into a contract with the Bureau of Reclamation for water from the Flaming Gorge Reservoir. The DEIS should not move forward until all Wyoming, Colorado, and interstate water rights issues have been sufficiently addressed.

The Wyoming Constitution states that -- “the water of all natural streams, springs, lakes or other collections of still water, within the boundaries of the state, are hereby declared to be the property of the state.” WYO. CONST. art. VIII, § 1. Importantly, Wyoming statute states that any proposal to move water for use outside the state of Wyoming requires legislative approval:

- (a) all water being the property of the state and part of the natural resources of the state, it shall be controlled and managed by the state for the purposes of protecting, conserving and preserving to the state the maximum permanent beneficial use of the state's waters; and,*
- (b) None of the water of the state either surface or underground may be appropriated, stored or diverted for use outside of the state or for use as a medium of transportation of mineral, chemical or other products to another state without the specific prior approval of the legislature.*

WYO. STAT. § 43-3-115.

In addition, officials from the State of Colorado are concerned about difficulties of administering a water right from Wyoming for use in Colorado. The Colorado Department of Natural Resources (DNR) and the State Engineers Office have been working with their counterparts in Wyoming to create a MOU that would cover, conceptually, a project like the RWSP, but to our knowledge, no formal agreement has been reached.

Colorado’s DNR also prepared an extensive list of questions regarding the RWSP in January, 2008, that seeks, among other things, further information regarding the proposed project’s Colorado water right approach.²⁹ The director of CO DNR wrote to the Bureau as late as last December acknowledging that most of the questions and concerns remain unanswered.³⁰

²⁹ Sherman, H. 2008. Re: Regional Water Supply Project (RWSP). Letter to Aaron P. Million, Million Conservation Resource Group. January 15.

³⁰ Sherman, H. 2008. Re: Flaming Gorge Reservoir, Million Resource Conservation Inc. Letter to Larry Walkovlak, Regional Director, Upper Colorado Regional Office, US Bureau of Reclamation. December 22.

B. Flaming Gorge Reservoir

Million does not have a contract with the Bureau of Reclamation to divert water from the Flaming Gorge Reservoir. In a March 30, 2007 memo from Reclamation to the Upper Colorado River Compact Commission, the Bureau of Reclamation's modeling effort indicated that 165,000 AFY *might* be available for diversion from Flaming Gorge Reservoir.³¹ This Reclamation modeling used historic flow in the Green River from 1922 – 2005, generally agreed to be one of the wettest periods in the Colorado Basin. It provided, at best, a very cursory look at the potential impacts to endangered fish and the power pool in Flaming Gorge. The DEIS must do a much more comprehensive analysis of what (or whether any) volume of water might potentially be available from the yield of Flaming Gorge, without impacting existing uses of water from this Colorado River Storage Project Act facility.

In addition to a full re-evaluation noted above, there must be a clear and comprehensive explanation of how the proposed RWSP can divert 85,000 AFY more than what the Bureau of Reclamation's cursory analysis determined might be available.

C. Colorado River Compact

The DEIS must recognize that the total amount of remaining water available to Colorado under the Colorado River Compact is unknown. Colorado is currently pursuing a study to determine this amount and expects to have a final report in 2010. The DEIS should be delayed until a quantification of the water available under Colorado's remaining allocation can be determined, especially in light of the magnitude of senior conditional water rights in the Colorado Basin (including, for example, water rights held by oil shale or energy companies).

The DEIS should include a thorough assessment of the impacts of the proposed RWSP on *existing water use* throughout the Colorado River Basin. The recent history of drought in the Colorado River basin underscores the significant impacts that even modest reductions in inflows can have on system storage. With the adoption of coordinated reservoir management and shortage management guidelines, system storage decreases are certain to have water supply impacts on major urban areas throughout the Southwestern United States, including the metropolitan areas of Las Vegas, Phoenix and Tucson. Moreover, increased diversions, climate change, and increased development in the Upper Basin will likely lead to reduced inflows into Lake Powell. This further increases the likelihood of a Compact call on the Colorado River. The impact of a Compact call on water supply reliability should be thoroughly analyzed by the DEIS.

Relatedly, in addition to a basin-wide assessment of shortage impacts, the DEIS should assess the impact of additional and currently planned Colorado River development in Colorado. As noted above, in the event of long-term reduced system storage, Upper Basin water users may be called upon to curtail water use in satisfaction of the Compact. Colorado does not yet have formal operating procedures to implement curtailment in the event of a Compact call, but nevertheless the DEIS should develop a series of likely scenarios of curtailment requirements in Colorado. In addition, the DEIS should further assess the impacts of the proposed project and

³¹ Gold, R. 2007. Subject: Water Marketing From Flaming Gorge Reservoir. Letter to Don Ostler, Executive Director, Upper Colorado River Commission. March 30.

curtailment requirements on other in-state Colorado River water users. Because the proposed project is expected to supply municipal and industrial water uses, the DEIS must not only consider the probability of shortages to the pipeline's water users, but secondary impacts, such as how water supply agencies would replace the pipeline supplies in the event of a shortage. Precedent for this approach is found in Reclamation's *Final EIS for Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead*, available at <http://www.usbr.gov/lc/region/programs/strategies/FEIS/index.html> (*Colorado Basin Shortage EIS*). See *id.*, §§ 4.14.2 and 4.14.3.1.

Finally, the DEIS should analyze the impact of the proposed project on river flows throughout the Colorado River, particularly in those reaches vulnerable to days of "zero flow" and those reaches for which environmental flows have been studied. The DEIS should assess the impact of the proposed project on instream flows (including mean flows) in the Upper Basin where such flows have been legally established for the protection of natural and recreational resources (see section on Colorado River Endangered Fish Species and the Recovery Programs).

D. Climate Change Impacts on River Flow

The Corps must examine the impact of climate change on the Green River basin and on flows in the Colorado River in the context of the proposed project. One of the most profound impacts of climate change in the Western U.S. will likely be on water resources, including impacts on the timing and annual amount of precipitation as well as related impacts on river flows and reservoir storage levels. Recent EIS analyses published by federal agencies have not adequately incorporated the potential impacts of climate change, in part because agencies have claimed the impacts are not well known in the Upper Colorado River basin.³² On the contrary, the Upper Colorado River basin (which includes the Green River) is one of the most intensely studied basins; in a 2007 report on hydrologic variability in the Colorado River Basin, the National Research Council concluded that:

*"Based on analysis of many recent climate model simulations, the preponderance of scientific evidence suggests that warmer future temperatures will reduce future Colorado River streamflow and water supplies. Reduced streamflow would also contribute to increasing severity, frequency, and duration of future droughts."*³³

As a result, any DEIS for the RWSP must address, at a minimum, the following impacts of climate change on the proposed pipeline and water supplies:

1. The reliability of water supplies, given projected climate change scenarios. This reliability analysis should consider hydrologic changes resulting from climate change, Flaming Gorge Dam operations, and the interaction with minimum fish flows outlined under the Biological Opinion.
2. The cumulative impacts of the proposed project's withdrawals and climate change – including both higher air temperatures and reduced runoff – on aquatic life in the Green

³² See, for example, EPA's comments on the Windy Gap Firming Project EIS. December 19, 2008.

³³ National Research Council, 2007. Colorado River Basin Water Management: Evaluating and Adjusting to Hydroclimatic Variability, p. 16.

River. This analysis must assess the impacts on coldwater fisheries below Flaming Gorge Dam. In addition, the EIS must assess the likelihood of threshold (non-linear) responses within the Green River.

3. The impact of increasing levels of salinity (resulting from decreased runoff in the Green River basin) on additional energy used, cost incurred, and greenhouse gases emitted for water treatment.

Analysis of the reliability of supplies should examine both the availability of water to supply the proposed RWSP as well as the impact of the proposed project on the reliability of water supplies throughout the Colorado River basin, including Mexico. The Bureau of Reclamation leads federal efforts to manage the Colorado River and has developed decision support tools to assess the impacts of projects and policies throughout the Basin. Reclamation has made recent efforts to improve these tools based on newly available information including both climate change projections and paleoclimate history. We recommend the Corps incorporate climate change into its impact assessment and reliability analyses in several ways:

1. The Corps should use Reclamation's Riverware model to assess the impacts of the proposed project on streamflow and water supply throughout the basin.
2. Modeling of system impacts should incorporate analyses based on the paleoecological record of streamflow, as was prepared for Reclamation's recent NEPA analysis for Colorado River Interim Management Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead (Shortage EIS).
3. The analysis should reflect Reclamation's latest efforts to improve its capacity to model the impact of climate change in the Colorado River Basin. Reclamation's climate technical work group for the Colorado River published a preliminary set of recommendations in the Shortage EIS.
4. If available, the analysis should incorporate recommendations of the climate technical work group, including those that post-date the Shortage EIS.

Stakeholders throughout the Colorado River basin have learned from the historic drought of the last decade that water supply planning cannot simply consider "most probable" projections of future water supply based on a reiteration of the historic record. Given the magnitude of the RWSP (both in terms of water withdrawals and likely fiscal investment), the hydrologic analysis should include at a minimum the "direct paleo" and "nonparametric paleo conditioning" inflow scenarios developed by Reclamation for the Shortage EIS, where dry periods last as long as 21 years. The hydrologic analysis should also include a scenario reflecting the extreme drought single trace analysis based on the dry period from observed in the paleoclimatic record from 1130 to 1154. Under the extreme dry period, the mean flow for the 25-year period is 84 percent of the mean observed inflow from 1906 to 2005. Finally, given the projections in recent publications considering climate change in the basin (See, for example, Milly et al. [2005] which projects that runoff in the Colorado River basin will be reduced by 10 – 30% by the period 2041 to 2060), we recommend that the hydrologic analysis include an additional sensitivity analysis that assesses the reliability of water deliveries if system flows at Lee's Ferry are reduced by 20% for the entire period of analysis.

VII. The Corps Must Take a Hard Look at Energy Use and Greenhouse Gas Emissions, Including Lost Hydropower.

The DEIS should provide a comprehensive analysis of electricity needs, greenhouse gas emissions, and electricity costs over a fifty-year time period. In these analyses, the Corps should provide independent estimates for energy *use* and energy *generation*; the analyses should not just estimate *net* energy demands. Specifically, energy used in the pumping stations should be presented independently from energy that might be generated by any potential in-conduit hydropower facilities.

The Corps should perform these analyses for the proposed action, no action alternative, and other proposed alternatives. In the following sections, we outline important elements for each of these analyses.

A. Energy Use

The DEIS should assess at least five elements of energy use:

1. Total annual electricity or natural gas consumed by the pumping stations;
2. Projected temporal patterns of energy use and generation, including time of day and year;
3. The anticipated source of the power for pumping stations;
4. Changes in hydroelectric power production at Flaming Gorge Reservoir resulting from both the action alternatives and the no action alternative; and
5. Changes in hydroelectric power production at downstream hydroelectric facilities, throughout the Colorado River basin, due to reduced flows.

The DEIS should provide an estimate of annual energy demands throughout the fifty-year period of analysis. The Corps' analysis should estimate when the pipeline will operate at full capacity, and projected water deliveries and power demands in preceding years. If the pumping plants will rely on electricity from the grid, the DEIS should specify what time of day and year the pumping plants will require electricity, for several reasons: the timing of electricity use directly impacts the type of power (and fuel source) demanded by the pipeline, the cost of electricity, and greenhouse gas emissions.

The DEIS should also specify the source of electricity. If electricity will be acquired from electric utilities, the DEIS should note which utilities, and whether those utilities have capacity available on their systems to meet the new load. The DEIS should specify the anticipated fuel source of new power – i.e. coal, gas, solar, or wind power. If the pumping stations will rely on natural gas, the DEIS should identify the likely source(s), how it will be delivered to the pumping stations (i.e. through pipelines or otherwise), and other related impacts associated with relying on natural gas.

It is essential that the DEIS assess indirect impacts of the RWSP, including lost hydropower generation and water supply shortages induced in downstream reaches of the basin. Specifically, the DEIS should assess the impact of the project on lost hydropower generated at Flaming Gorge Reservoir, and all downstream reservoirs (including, but not limited to, Glen Canyon Dam and

Hoover Dam). Furthermore, the DEIS should identify water supply projects that are being developed to mitigate shortages in the Lower Colorado River basin (such as brackish and ocean water desalination plants), that could be accelerated based on additional diversions in the Upper Basin like the RWSP. The Corps should identify electricity demands of these water supply projects, and in particular identify the portion of these projects and their electricity use that will be used to mitigate for shortages induced by the proposed RWSP.

B. Greenhouse Gas Emissions

For each proposed alternative, the DEIS should assess annual and cumulative greenhouse gas emissions. “[T]he fact that climate change is largely a global phenomenon that includes actions that are outside of the agency's control does not release the agency from the duty of assessing the effects of *its* actions on global warming within the context of other actions that also affect global warming.” *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1216 (9th Cir. 2008) (internal quotation omitted) (emphasis original). Furthermore, “[s]everal studies also show that climate change may be non-linear, meaning that there are positive feedback mechanisms that may push global warming past a dangerous threshold (the ‘tipping point’).” *Id.* at 1191.

Greenhouse gas emissions should be calculated based on the source of the electricity or natural gas. For example, if the RWSP in any way contributes to the construction or expansion of a fossil fuel power plant – even if it is constructed by an independent electric utility – the GHG emissions estimate should reflect the emissions associated with that power plant, *not* the average rate of emissions from the electric grid. Additionally, as noted above, the greenhouse gas emissions will depend on daily and seasonal patterns of pumping demands; electricity used at night, for example, is often cheaper than daytime power, but may have a higher carbon intensity, as it is often generated at coal plants. The Corps should use expected patterns of electricity demands to assess the greenhouse gas emissions associated with the project.

Because the project may also result in lost hydropower generation at Flaming Gorge Dam and other dams along the Colorado River, the Corps should assess the impact of this lost generation on greenhouse gas emissions. For example, the Corps should identify the likely source of replacement for electricity lost at Flaming Gorge, and calculate the replacement’s greenhouse gas emissions.

VIII. The Corps Must Take a Hard Look at the Operational Costs and the Total Project Cost of All Alternatives, Including Conservation Alternatives.

The annual operations cost estimates provided in the DEIS should specify the cost of electricity or natural gas used for operation. The analysis should distinguish between the cost of power consumed by the pipeline and potential revenues generated from hydropower in the pipeline. It should not be limited to *only* the net electricity costs. The hydroelectric power produced by the pipeline – if any – will not meet the project’s entire pumping needs, and will likely be sold to electric utilities at peak price rates. Both the price of electricity sold and purchased by the RWSP could fluctuate; in order to provide a thorough analysis, data on both price rates should be

provided. The DEIS should also identify a range of projected costs of electricity (in c/kWh) for the analysis. Specifically, in 2006, the industrial price of electricity was 5.88 c/kWh in Colorado and 4.04 c/kWh in Wyoming.³⁴ The *initial* cost of electricity for the project should fall within this range. In addition, as described in detail below, the Corps should estimate future operating costs under several price escalation rates. If the project will rely on natural gas to power its pumping stations, the DEIS should assess annual operating costs based on recent and projected natural gas costs.

Many factors influence the prices of electricity and natural gas; the DEIS also should assess costs using a range of price escalation rates. We recommend performing the analysis using annual escalation rates of 1%, 2%, and 4%.

In addition, the DEIS should include operating costs associated with greenhouse gas regulation. The US House of Representatives recently passed climate legislation; we recommend the Corps use cost estimates associated with proposed legislation. Barring federal legislation, the Corps should use the EPA's estimated cost of carbon based on the Boxer-Warner-Lieberman bill, debated in the Senate in 2007. This bill represents a likely trajectory of climate change regulation. The Corps should incorporate the cost of carbon in its estimates of annual operating costs. This type of analysis is necessary in light of EPA's recent determination that CO₂ and other greenhouse gasses are classified as pollutants under the Clean Air Act.

IX. The Corps Must Take a Hard Look at the Impact of the Alternatives to Coldwater Fisheries and the Upper Colorado River Endangered Fish Recovery Program.

The pipeline project will seriously jeopardize the entire Upper Colorado River Endangered Fish Recovery Implementation Program (RIP). If the project is built, at least two of the four listed fish may never be recovered and the Colorado River Compact entitlements of Colorado, Utah, and Wyoming could be put at risk. The pipeline project is incompatible with the goals of the RIP.

The history of conflict between water interests and those concerned with the protection of the river's endangered fish (Colorado pikeminnow, humpback chub, bonytail, and razorback sucker) is long and acrimonious. But by the mid-1980s, all parties to the conflict -- the responsible federal and state agencies, water developers, and the environmental community -- decided to sit down and see if a cooperative approach could be developed. Subsequent negotiations among the Fish and Wildlife Service, Bureau of Reclamation, Western Area Power Administration, the states of Colorado, Utah, and Wyoming, water users, and environmentalists resulted in the formalization of an inter-agency program for the recovery of the endangered fish designed to accommodate both environmental and water development concerns.³⁵ A central feature of the

³⁴ Energy Information Administration, State Electricity Profiles, Table 8: Retail Sales, Revenue, and Average Retail Price by Sector, 1990 Through 2006.

³⁵ The program contains five major elements:

1. Habitat management: identify and quantify instream flows, including the change in operation of federal reservoirs;
2. Habitat development: research methods for creating, protecting, and improving habitat;
3. Stocking native fish: identify and maintain specific genetic stock of native fish, study survival of hatchery fish stocked in the wild, and evaluate feasibility of constructing a hatchery;

program was the establishment of habitat needs of the fish in an open and scientific forum, based on the working assumption that the listed fish could be restored while, at the same time, the three states could develop their compact entitlements. Underlying this assumption was the concept that the program would operate on the principle of adaptive management, i.e., the hypothesis testing of habitat management actions guided by a formal research and monitoring program.

When the program began in 1988, it was clear that federal reservoirs would play an important role in meeting the habitat needs of the fish and that restoration and protection of the Green-Yampa system would be essential to achieving the program's goals. Twenty years later these initial beliefs have been reinforced. In developing quantitative recovery goals and downlisting and delisting criteria for the fish, FWS has concluded that the Green River is the only river in the basin with the carrying capacity to restore the pikeminnow to self-sustaining population levels (minimum viable populations). When it learns more about the needs of the razorback sucker, it is likely to reach the same conclusion.

Flow control to meet fish habitat needs in the Green depends exclusively on releases from Flaming Gorge Reservoir, now operated under a biological opinion designed to meet flow targets downstream of the Green's confluence with the Yampa. The proposed pipeline project with a capacity of 250,000 acre-feet per year would make this virtually impossible. In a 2007 assessment, Reclamation estimated that if Wyoming developed its compact entitlement an additional 165,000 acre-feet per year could be exported from the Green above the dam while still meeting flow targets, if barely.³⁶ This conclusion must be re-assessed in greater detail, prior to or inside of any DEIS. This analysis has never been subjected to a full outside review by the RIP members or any other group and is not an acceptable baseline figure. Raising the export figure to 225,000 acre-feet per year (plus 25,000 acre-feet per year for Wyoming) would make it impossible to meet the flow targets.

Moreover, if under the concept of adaptive management, the FWS found in the future that the flow targets had to be revised upward (it has already done this once) then more water would be needed and, with the export pipeline in place, it would not be there. If this were to occur and given the unique role of the Green, the program could not restore the pikeminnow and probably not restore the razorback sucker. This failure would mean not only the demise of the fish, but, given the working assumption of the mutuality of recovery and compact development, it would also put in jeopardy the compact entitlements of the states.

In addition to issues related to endangered warm-water fish, any DEIS analysis must evaluate the project's potential impact to the world-class trout fishery below Flaming Gorge Dam. Lower flows in this reach and below could harm trout populations and interfere with the excellent recreational opportunities on the Green River, and the economic benefit that accrues to local businesses.

4. Non-native species and sport-fishing: monitor sizes of native and non-native fish populations, study competition between the two, and limit areas in which non-native fish may be stocked; and

5. Research, monitoring, and data management: study various means of recovering fish, monitor long-term population trends, recommend flows, evaluate genetic differences between populations, recommend "refugia" (facilities to hold and protect rare fish), evaluate differences between hatchery and wild fish, establish brood stock, and develop and manage centralized data base.

³⁶ The dam's power plant operating criteria were a limiting feature on the 165,000 acre-foot constraint.

Also, any DEIS must analyze the impacts to wetlands that would be impacted by project construction and operations, including the long path of the pipeline.

X. The Corps Must Take a Hard Look at Growth Inducing Impacts.

The DEIS must analyze the direct, indirect, cumulative, and connected impacts that would result from new growth (e.g., commercial and urban development) facilitated by RWSP. NEPA regulations, specifically 40 C.F.R. §1508.25, and court decisions make clear that environmental analyses pursuant to NEPA must consider future actions that are “reasonably foreseeable” even if they are not yet proposals and, by themselves, may never trigger NEPA-review requirements.³⁷ This includes activities on both public and private land³⁸ and includes land-use and development decisions to be made by the project participants.

XI. The Corps Must Take a Hard Look at Cumulative Impacts.

The DEIS must analyze and discuss the connection between the RWSP and many other proposed projects that would provide water to satisfy similar Front Range water demands. The RWSP, existing projects, and other proposals for future projects cannot be analyzed in isolation; to do so runs afoul of NEPA’s requirement to analyze “cumulative” and “similar” actions.³⁹ These projects and proposals include, but are not limited to the:

- existing Windy Gap Project,
- proposed Windy Gap Firming Project,
- Colorado-Big Thompson Project,
- proposed Green Mountain pumpback,
- Moffat Tunnel,
- proposed Moffat Tunnel Expansion,
- Roberts Tunnel, and
- Frying Pan/Arkansas Project.

The regional water demands of Front Range communities should be considered in a single NEPA process, rather than segmented into separate NEPA documents on separate project proposals, headed by separate federal agencies. Only when considered together can the applicant and lead federal agency be clear about the need for the currently proposed project, in light of other projects designed to meet similar needs.

The RWSP will cause cumulative impacts on the Green River and greater Colorado River system. This project’s impacts to the Colorado River, coupled with other reasonably foreseeable actions, could be severe and result in irreparable harm done. While the diversions by each project

³⁷ *Fitiofson v. Alexander*, 772 F.2d 1225, 1245 (5th Cir. 1985).

³⁸ *Natural Resources Defense Council v. U.S. Forest Service*, 421 F.3d 797, 815-16 (9th Cir. 2005).

³⁹ 40 C.F.R. §1508.25(a)(2). See *Thomas v. Peterson*, 753 F.2d 754, 759 (9th Cir. 1985).

individually may have only an incremental impact on streamflows, the environment, recreation, wastewater dilution flows, opportunities for municipal growth, and the quality of life for residents and visitors; the cumulative effect, at some times and places along the river, may be non-linear and must comprehensively analyzed.

In addition to the municipal water supply development projects, water rights held by commercial oil shale companies, if applied, could significantly affect flows in the Colorado River and its tributaries. For example, Shell's recent application to develop water from the Yampa River could – in combination with the RWSP – substantially reduce flows in the Yampa and Green (below Split Mountain). The potential cumulative impacts of a commercial oil shale industry must be included in the RWSP EIS.

XII. Concluding Comments

Preparation of an EIS for the RWSP is premature. Million has not adequately demonstrated a purpose and need for the project, infringing on Colorado's anti-speculation doctrine. Furthermore, all alternatives presented during scoping are virtually indistinguishable, and fail to include reasonable alternatives. Demand-side management and supply-side efficiency alternatives are both capable of providing water to the Front Range and can likely do so at less cost and environmental harm than the RWSP.

The potential environmental impacts of a project of this magnitude are extensive. As described throughout our comments, the impacts on hydrology, riparian ecosystems, climate change, downstream users, and the potential to recover endangered species could make this project untenable. To date, Million has provided very little information on project details, including project cost. The limited amount of information precludes developing informed scoping comments.

In sum, we recommend that prior to developing an EIS, the Corps and the MCRG, adequately demonstrate a project purpose and need, obtain a water right, and provide detailed information on the proposed project. An informed and transparent NEPA process demands this. Furthermore, we recommend the Corps hold a second round of scoping after the MCRG provides this information.

Thank you for providing us this opportunity to comment on the RWSP, and please contact us if you have any questions.