UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JAN 19 2001

OFFICE OF
WATER

Honorable Joseph W. Westphal
Assistant Secretary of the Army (Civil Works)
Department of the Army
108 Pentagon
Washington, DC 20310-0130

Dear Dr. Westphal:

In accordance with the provisions of the 1992 Memorandum of Agreement (MOA) between the U.S. Environmental Protection Agency (EPA) and the Department of Army (Army) under Section 404(q) of the Clean Water Act (CWA), I am requesting your review of a decision by Colonel Michael J. Walsh, U.S. Army Corps of Engineers (Corps), Sacramento District, to issue a permit for a proposed commercial/residential/recreational development (Breckenridge Ski Area) in the Cucumber Gulch watershed located in Summit County, Colorado, pending the outcome of discussions with the applicants that would resolve our concerns. Our primary concerns with the draft permit include: 1) the significance of risk to critical wetland resources in the Cucumber Gulch watershed, 2) the lack of appropriate modeling data which is necessary for the Section 404(b)(1) Guidelines' compliance determination, and 3) the failure to public notice the latest development plans identified in the draft permit. The Corps' proposal to issue a permit now is even more questionable given that the applicant has committed to provide the appropriate modeling data for impact analysis. As a result, EPA believes that this permit should not be issued, unless these concerns can be resolved.

The wetlands and other waters of the United States to be impacted by the proposed project are not only special aquatic sites constituting an Aquatic Resource of National Importance (ARNI), but also are described in the Sacramento District's Decision Document as some "of the higher quality wetlands in the State of Colorado." The direct and indirect impacts associated with this proposed discharge of fill material would result in substantial and unacceptable impacts to this ARNI. The Cucumber Gulch watershed is one of the Blue River tributaries least affected by mining, development, and other impacts. Wetlands within the basin represent a rare and excellent example of high quality habitat in the subalpine environment. One unique aspect of this 77-acre wetland complex is the presence of fens. Fens are a type of peatland that are generally uncommon in the Northern Rocky Mountains, are becoming even rarer in the Southern Rockies, and have been identified by the U.S. Fish and Wildlife Service as a resource requiring special protection due to the unique processes in their development which make them irreplaceable. While we appreciate the resource protection efforts that the Sacramento District has helped to establish for the Cucumber Gulch wetlands complex, these efforts may be defeated by the proposed permit.

The primary cause of my concerns about significant indirect and cumulative impacts resulting from this proposed ski area base development is the potential loss of the water sustaining the wetlands. The construction of substantial below-grade building foundations and the installation of accompanying drains is likely to intercept the water flow supporting the rare slope/fen wetlands in Cucumber Gulch, which are immediately down-slope of the project. Existing studies and modeling to evaluate this concern are insufficient to rule out these significant hydrologic impacts. The attached discussion details our concerns with these impacts.

EPA is also fundamentally concerned with the Corps' intent to issue a permit before impacts to waters of the U.S. are fully evaluated. This action would unnecessarily endanger the viability of the wetlands in Cucumber Gulch and is inconsistent with the Section 404(b)(1) Guidelines and the National Environmental Policy Act (NEPA). Timing of the proposed authorization of this project is particularly troublesome because detailed information on impacts to wetlands from interception of water flow is currently being evaluated, with our technical review, by the applicant's consultants. Rather than wait for the study results, the Corps has chosen to proceed with authorization now and use permit conditions to require future evaluation of impacts and mitigation prior to construction. This effectively removes EPA's and the public's opportunity to comment on the study results, less damaging alternatives, or the feasibility of proposed mitigation. Moreover, evaluating potentially significant impacts and the feasibility of mitigating unavoidable impacts to an ARNI *after* a Finding of No Significant Impact would be inconsistent with NEPA regulations.

The authorization of this particular permit may also conflict with local efforts to increase protection for this highly valued wetland ecosystem. Recognizing that the Cucumber Gulch area is an important and unique area deserving special protection, the Town of Breckenridge established an ordinance on December 14, 1999, to "prohibit activities that could have a major or irreversible impact within the Preventive Management Area (PMA)." One of the specific prohibitions of the ordinance was directed at detrimental actions to the resources within the PMA as a result of the modification of hydrology. Although the proposed project is sited outside the PMA, we are concerned that its effect of intercepting the water source could have significant effects on the hydrology that supports the valuable Cucumber Gulch wetland resources in the PMA. If the proposed project results in impacts to hydrology, this project would be inconsistent with the ordinance of protecting the unique wetland resources of the Cucumber Gulch drainage area.

Given the importance of the Cucumber Gulch wetland complex and the regional and local biodiversity supported by this habitat, EPA urges Army to reconsider the proposed permit decision. In particular, there should be a scientifically valid water flow study and mitigation plan completed prior to permit review. EPA commits to accept the results of such an evaluation and the predicted effects of the proposed project, provided that an appropriate model is used with valid assumptions. Once sufficient information is obtained, a new public notice should be issued providing an opportunity to EPA and the public to comment on the study results, and any resulting implications on less damaging practicable alternatives that meet the basic project purpose and avoid impacts to wetlands down-gradient of the project. EPA commits to work with

the Corps and the applicant by providing technical expertise on the groundwater study to quickly and accurately assess potential wetland impacts. EPA also commits to continue to work with the Corps to identify acceptable alternatives to the proposed project, as necessary. If resolution of our concerns can be satisfactorily achieved with the applicant, and any resulting agreed upon conditions incorporated into the permit by the District, EPA would withdraw its request for your review.

Thank you for your consideration of this important matter. Should you have any concerns or questions or wish to discuss this project further, please call me or have your staff contact Clay Miller of the Wetlands Division at (202) 260-6464.

Sincerely,

J. Charles Fox
Assistant Administrator

Attachment

cc: Bill Yellowtail, Regional Administrator, Region VIII

Enclosure 1

Detailed Comments on Proposed
Breckenridge Ski Resort Expansion
Section 404 Permit

I INTRODUCTION

This referral meets the criteria in Part IV of the 1992 EPA/Army Section 404(q) Memorandum of Agreement. EPA finds that the proposed discharge would result in substantial and unacceptable impacts to waters of the United States, including wetlands, of the Cucumber Gulch watershed, aquatic resources of national importance (ARNI). On December 18, 2000, the District Engineer for the U.S. Army Corps of Engineers, Sacramento (District) issued a Notice of Intent to issue a Clean Water Act (CWA) Section 404 permit to Vail Associates (VA) for ski expansion and base area development. Pursuant to the U.S. Army Corps of Engineers' (Corps) authority under CWA Section 404, this permit would authorize the applicant to discharge dredged and fill material to waters of the United States for the development of new ski terrain and lifts on Peak 7, and for the development and redevelopment of the base village facilities at Peak 7 and Peak 8 near Breckenridge, Summit County, Colorado.

EPA's request is based primarily on concerns with the direct, indirect, and cumulative impacts associated with the proposed project to wetlands in the Cucumber Gulch wetland complex located adjacent to the Breckenridge Ski Resort's base area. EPA's concerns are heightened by the fact that most and perhaps all recent ski area expansion include significant real estate base area development. Base area development projects tend to be located in or near valley bottoms in Colorado where ecologically sensitive wetlands are impacted at an accelerated rate by increased development pressure. When the recreational benefits from ski area expansions and the benefits associated real estate development are weighed against potential serious impacts to critical aquatic resources, it is our opinion that the proposed project will not be in the public's interest.

EPA's primary concern with the proposed project is that the construction of large building foundations and installation of extensive drains will likely intercept groundwater flow supporting rare slope/fen wetland complexes down-gradient of the project. These wetlands are widely recognized as critical and ecologically sensitive habitats that clearly meets the criteria for ARNI as set forth in the MOA. Unfortunately, the Corps' permit decision for this project is partly based on groundwater studies that are not sufficient to rule out significant impacts to the down-slope waters of the United States. We believe that scientifically valid groundwater studies using appropriate assumptions need to be completed prior to issuance of a permit, so that less damaging practicable alternatives and appropriate mitigation can be evaluated as required for a compliance determination under the Section 404(b)(1) Guidelines.

EPA believes this permit should be denied on the basis that there does not exist sufficient information to make a reasonable judgement as to whether the proposed discharge will comply

with the Section 404(b)(1) Guidelines (Guidelines)(40 CFR 230.12(3)(iv)). EPA is particularly concerned as to how the Corps could demonstrate compliance with the Guidelines without the necessary information (i.e., results of a scientifically valid groundwater study) to: 1) select the alternative that is the least environmentally damaging [40 CFR 230.10(a)] and 2) minimize potential adverse impacts of the discharge on the aquatic ecosystem [40 CFR 230.10(d)] when all the impacts of the proposed project are not known.

II PROJECT DESCRIPTION

The proposed project includes development of a new base area at Peak 7 and redevelopment of the adjacent, existing base area at Peak 8. The base of Peak 8 is already partially developed as parking and ski area support facilities. The proposed ski area expansion at Peak 7 will add one new lift with associated ski runs in what is now a largely undeveloped area consisting of a mosaic of forest and wetlands. A proposed gondola would bring skiers from the Town of Breckenridge (Town) into the Peak 8-Peak 7 base area.

The proposed project would result in the direct impact of 0.91 acres of jurisdictional wetlands. Jurisdictional impacts from the Peak 7 ski area development are approximately 0.07 acres for an access road required to construct a lift terminus and a restaurant. The development of 165 acres of new ski trails on Peak 7 cross over 6.37 acres of wetlands. Of this total, partial tree and shrub removal will occur on 1.27 acres of wetlands. At Peak 8 base area redevelopment approximately 0.85 acres of wetlands will be permanently impacted. Approximately 0.24 acres of temporary impacts will occur with the installation of snowmaking lines, utility lines, and activities associated with the construction of bridge abutments.

As compensation for project impacts, the Corps is proposing, as a permit condition, that a mitigation plan be submitted by September 15, 2001, prior to construction of the base village area. EPA is unaware of any specific mitigation designs or locations to compensate for impacts to waters of the United States. The Corps is seeking, through a permit condition, a conservation easement of the avoided development areas (including wetlands and uplands) in the VA property within the Cucumber Gulch watershed. Unfortunately, the terms of these easements have not been agreed upon. The following permit language is used: "Prior to finalizing such easements or dedications for protection in perpetuity of these areas, copies of documents to accomplish such protection and preservation and a map depicting the areas to be protected and preserved shall be submitted for review to our Northwestern Colorado Regulatory Office." The Corps cannot demonstrate compliance with the mitigation requirements of the Guidelines (230.10(d)) when there is an inadequate understanding of the potential impacts that the mitigation is supposed to offset.

III HISTORY OF EPA'S REVIEW OF THE PROJECT

EPA has participated in the review of this project with the Corps since the beginning of the U.S. Forest Service's (USFS) planning and scoping (1997) for the Breckenridge Ski Area expansion.

EPA raised concerns about ski area and base area development, including mitigation, throughout the USFS NEPA process. In a November 25, 1997, letter to the USFS, EPA expressed concerns about the reasonably foreseeable base area development and the potential for unacceptable cumulative impacts to aquatic resources of national importance. EPA letters sent on both the draft Environmental Assessment (EA) dated May 11, 1998, and the EA/FONSI dated October 8, 1998, expressed similar concerns. Additionally, in response to a Section 404 Public Notice for the proposed project, EPA raised concerns about the project in letters to the Corps dated August 10, 1998, September 25, 1998, August 31, 1998, July 2, 1998, and October 3, 2000.

Throughout EPA's involvement with the proposed project, EPA has: 1) consistently raised concerns with the potential adverse impacts to the aquatic ecosystem of the Cucumber Gulch wetland complex, 2) requested more site-specific information on development plans for an alternatives analysis, 3) expressed concern about mitigation difficulties with the types of wetlands being proposed for impacts (high elevation slope/fens type-wetlands, etc.), and 4) expressed concern about the lack of a mitigation plan to compensate for unavoidable impacts.

Additionally, EPA has been involved in the development of the Corps' Summit County Special Area Management Plan (SAMP) and substantial EPA grant monies and staff hours have been spent to assist the Corps' effort in expediting a SAMP to address escalating development pressures on aquatic resources in the county. Furthermore, because of EPA's concerns with the proposed project and the need to gather additional information on its potential impacts, EPA recently funded the Town to further study Cucumber Gulch and the potential groundwater issues. The results of this study documented the importance of the local wetland complexes. The Town recently adopted an ordinance establishing a Primary Management Area (PMA) to further protect wetlands in Cucumber Gulch from the effects of development.

Based on these concerns and on the Corps' inability to appropriately and adequately address these concerns, it was concluded that higher level review of the permit decision by the Department of the Army was necessary.

IV AQUATIC RESOURCES OF NATIONAL IMPORTANCE

Cucumber Gulch contains approximately 77 acres of wetlands in a subalpine environment supporting a diverse mosaic of plant communities and wildlife habitat. Wetlands the within Cucumber Gulch watershed are relatively intact and still retain their rare and unique physical and biological characteristics despite some minimal development in upland areas near the southern portion of the wetland complex and some limited recreational pressure. This wetland complex supports a wide range of functions and values, including wildlife habitat for the state endangered river otter (*Lutra canadensis*) and federal candidate species, the Boreal Toad (*Bufo boreas boreas*).

Two wetland types dominate the complex, including a well-developed riverine floodplain wetland along the valley bottom. This wetland is dominated by a montane willow carr (*Salix*

plantifolia/Carex aquatilus) and an alpine willow scrub (*Salix brachycarpa*-mesic forb) with bog birch (*Betula glanulosa*). Beaver ponds are abundant within this complex and provide open water habitat for waterfowl and mudflat habitat for boreal toads. In addition, the upper-forested wetlands are on slopes (groundwater discharge areas commonly called seeps) and also contain fen-type wetlands on the northwest sideslope of the Gulch. Fens are also present within the valley bottom of Cucumber Gulch. (Although fens are present on the VA property, the exact locations of these fens have not been identified or mapped.)

Fens are a type of peatland considered rare in the Southern Rockies. Fens are wetlands that have primarily organic soil material (i.e., peats or muck) and are created over long time periods in groundwater driven, saturated conditions. Because the rate of plant growth exceeds that of decomposition, organic soils form very slowly by accumulation of plant debris. Fens in the Rocky Mountains are believed to develop or accumulate at rates ranging from 4 to 16 inches per thousand years. Fen-type wetlands are recognized by EPA as ecologically critical in that they provide local and regional biodiversity and have been designated by the U.S. Fish and Wildlife Service (USFWS) as Resource Category 1 with respect to the USFWS Peatland Mitigation Policy[1]. The mitigation goal of Resource Category 1 is ***no loss of existing habitat value*** and places the protection of fens as a priority during Section 404 permit reviews. Further underlining the uniqueness and importance of fens in Colorado, the Corps of Engineers revoked the use of Nationwide Permit #26 in fens to better protect this unique wetland type.

EPA believes these wetland ecosystems are, for all practical purposes, non-renewable and irreplaceable, making mitigation for these wetlands types highly problematic. Therefore, in accordance with the goal of no overall net loss of the nation's remaining wetlands base for the Section 404 regulatory program, we believe these unique aquatic resources are of critical ecological importance and should receive the highest regulatory and public scrutiny during permit review, especially in terms of impact avoidance.

Several deepwater springs are also present within the Cucumber Gulch area and are aquatic areas EPA considers to be especially valuable and unique, deserving additional protection as special aquatic habitats. These distinct groundwater discharge areas provide minerals and nutrients dissolved from the local geological formation that often support plant and animal communities restricted entirely to the spring habitat. In some cases, the unique combination of geologic features and past glacial events have resulted in restricting unique aquatic communities to a single spring (e.g., High Creek fen in South Park, Colorado). The recently published Colorado Rare Plant Field Guide[2] includes 38 wetland plant species, of which 15 are likely to be found in headwater springs and streams. Other scientific research has demonstrated the biological

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[1] Peatland Mitigation Policy Considerations, U.S. Fish and Wildlife Service, Region 6, December, 1997

[2] Spackman, S., B. Jennings, J. Coles. C. Dawson, M. Minton, A. Kratz, and C. Spurrier. 1997. Colorado Rare Plant Guide. Prepared for the Bureau of Land Management, U.S. Forest Service and the U.S. Fish and Wildlife Service by the Colorado Natural Heritage Program.

importance of springs in the arid west. The springs on the VA property may support such rare plant and animal communities, but unfortunately the area has not been adequately surveyed. Conditions at the site warrant a comprehensive biological survey before adverse impacts to these areas are authorized.

Functional assessments of the wetland resources in Cucumber Gulch have been completed by both the Colorado Natural Heritage Program (CNHP) and the contractor for the Town, Science Applications International Corporation (SAIC). Summaries of their findings are attached (Attachments 1 and 2). SAIC found that with the exception of endangered species habitat (medium rating), both riverine and slope wetlands rated high for all functions (dynamic water storage, flood flow attenuation, wildlife habitat, rare species habitat, production export/foodchain support, nutrient and pollutant removal/sediment retention, and shoreline stabilization/sediment control) assessed (Attachment 1). The well-developed floodplain wetlands (riverine) contained the highest plant species richness (66 species), and the slope wetlands contained the highest number of plant communities (16 communities) of any wetlands assessed in Summit County. Defined drainage patterns, dense vegetation, high microtopography and inundation were characteristics found in both wetland types that provided high functional values. Structural diversity (i.e., number of levels of vertical strata or habitat) and the number of plant communities found in both aquatic ecosystems were high and provide excellent habitat for waterfowl and song birds.

The CNHP ranking system (employed in Cucumber Gulch) ranks species according to their rarity or degree of imperilment and is used to address species biodiversity loss around the world. A Biodiversity Rank of B2 (Very High Significance) was given at Cucumber Gulch since the site supports a breeding population of globally imperiled southern Rocky Mountain boreal toads. Further, the report included a protection urgency ranking emphasizing the short time frame in which conservation protection must occur. The CNHP reported that the highest level of concern exists for protection and management at this site (Protection Urgency Rank: P1 and Management Urgency Rank: M1) due to immediate threats from recreation, residential, and commercial development. A summary on wetland function assessments for the low willow/wet meadow mapping unit in Cucumber Gulch was completed by CNHP and is attached (Attachment 2).

State endangered species at the site are of significant concern to EPA, the Colorado Division of Wildlife (CDOW), and the U.S. Fish and Wildlife Service (USFWS). Recent field surveys by the CDOW discovered signs of the state endangered river otter (*Lutra canadensis*). USFWS and CDOW are also concerned with the protection and long-term survival of the resident boreal toad (Federal listing candidate) population in Cucumber Gulch, which is one of only four breeding sites in Summit County (of a total of twelve in the state). The USFWS comments (letter dated April 28, 1998 from R. Krueger to T. O'Rourke) on the Forest Service Draft Environmental Assessment for the Breckenridge Ski area summarizes wildlife concerns for the area:

> *"A boreal toad breeding site is known to occur in Cucumber Gulch, immediately downhill of the Peak 7 expansion area. Upland and wetland habitat use is likely*

to occur within the ski area boundary and within the proposed housing development area between the ski area boundary and Cucumber Gulch. Wetland and riparian sites have been established in the Draft Boreal Toad Conservation Strategy for protection of breeding areas."

The USFWS letter also states that "Cucumber Gulch toads have already been subjected to development pressure by construction of homes and buildings near their breeding area, so additional development pressure could likely cause extirpation at the site."

Latest research on toad habitat requirements and mobility recorded adults moving two miles from breeding sites and at the Henderson Mine in Colorado, boreal toad post-breeding habitat includes subsurface habitat on steep, dry upland sites. Hibernation occurs in hibernacula, chambers, rodent burrows, or other subsurface habitat deep enough to prevent freezing and with sufficient soil moisture to prevent desiccation (Goettl, J.P.[ed] and the Boreal Toad Recovery Team, 1997)[3]. Site visits on the VA property discovered significant numbers of potential hibernacula in the wetlands, as well as in adjacent upland. Although habitat loss may not be the only limiting factor causing declines in toad populations, the Biological Assessment/Evaluation prepared for the Forest Service indicated that:

"(r)egardless, as one of a declining number of extant populations, this population and this wetland complex are significant to the survival of the species in this portion of the toad's range (Southern Rocky Mountain Population). Indeed, even if no toads were present, knowing the toads were recently present at this site indicates intact habitat that would be considered as a reintroduction/augmentation/ translocation site, if and when that phase of the Recovery Plan (Goettl and Recovery Plan) is implemented."
Thompson, R.W. 1998.[4]

The Cucumber Gulch wetlands may serve other important functions, such as those documented for similar montane wetland ecosystems in Colorado. EPA contracted with the U.S. Geological Survey (USGS) to determine potential water quality functions of the wetlands in adsorbing heavy metals found in supporting ground water hydrology in East Brush Creek, near Eagle, Colorado. Results of the USGS study (Geochemical Reconnaissance Study of Vassar Meadows - Adams Rib - Wetlands and Vicinity, Eagle County Colorado, USGS Circular 1122) indicated several wetland areas where significant chromium and uranium concentrations were found in the humic wetland soil profiles. This analysis documented the presence of heavy metals in wetlands and the importance of maintaining hydrology to these areas. Liberation of heavy metals under oxidizing conditions could cause problems for compliance with water quality standards in receiving waters,

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[3] Goettl, J.P.[ed] and the Toad Recovery Team. 1997. Boreal Toad Recovery Plan. Colorado Division of Wildlife, Denver.

[4] Tompson, R.W. 1998. Draft Biological Assessment/Biological Evaluation For Peak 7 Upgrading and Assorted Improvements on Breckenridge Ski Area, Summit County, Colorado. Prepared for the White River National Forest.

as well as potential impacts to human health. This analysis also documented the important water quality function provided by the wetlands and the need to maintain and preserve the natural filtration system that protects water quality.[5] EPA believes that the wetlands in Cucumber Gulch are functioning in a similar capacity and are thereby providing critically important water quality maintenance for municipal water supplies in Lake Dillon. These water quality functions highlight the importance of maintaining existing wetland hydrology to prevent the release of heavy metals to Cucumber Creek and the Blue River.

Based on all of the functions and values attributed to the aquatic resources of Cucumber Gulch and the uniqueness and irreplaceability of many of these systems. We have determined that the aquatic resources of the Cucumber Gulch watershed constitute an aquatic resource of national importance. Furthermore, the Corps' decision document (Corps' Decision Document, page 22) supports the designation of the Cucumber Gulch wetland complex as an aquatic resource of national importance "as the wetlands present are some of the higher quality wetlands in the State of Colorado."

V SUBSTANTIAL AND UNACCEPTABLE IMPACTS --- DIRECT, SECONDARY/INDIRECT, AND CUMULATIVE IMPACTS

EPA is concerned that the proposed project will result in significant direct, secondary/indirect, and cumulative impacts to wetlands in the Cucumber Gulch watershed. Unfortunately, the Corps' evaluation for the permit decision focuses on the 0.91 acre direct wetland impacts for both ski area expansion and base area development and places little emphasis (or discounts) that the proposed project will result in significant larger indirect and cumulative off-site impacts.

Base Area Development Impacts

The proposed Breckenridge base area construction would include direct impacts to 0.84 acres from real estate development at Peak 8 and from road crossings and road realignments intended to facilitate still further additional real estate development proposed in uplands owned by VA at Peak 7. Installation of utility lines would cause additional "temporary" direct impacts.

EPA also has concerns about significant indirect and cumulative impacts to wetlands within the Cucumber Gulch wetland complex, despite the Corps' proposed permit condition to address these impacts in the future. For past development projects in or near slope wetlands in montane environments in Colorado the Sacramento Corps has acknowledge the potential adverse effects to groundwater hydrology from subsurface structures and drains (i.e., geotechnical studies performed for the Adam's Rib project, near Eagle, Colorado - *Review of Technical Engineering Documents* -- Memorandum by Thomas W. Fea and Darrell J. Anderson, U.S. Army Corps of

[5] This research was conducted by Douglass Owen at the USGS and is consistent with the findings of other research he has conducted on numerous wetlands in the Rocky Mountains. This research report has been extensively peer reviewed and represents a scientific assessment of critically important wetland functions.

Engineers, Sacramento District, October 1, 1992) and evaluated less environmentally damaging alternatives prior to a permit decision. Although the current project has been modified in an effort to reduce direct impacts, significant indirect and cumulative impacts will still result from the construction of substantial below grade building foundations and installation of accompanying drains that will likely intercept groundwater flow supporting the adjacent down-gradient wetlands in Cucumber Gulch. Groundwater studies and modeling initiated to address this concern have been scientifically insufficient to rule out significant adverse hydrologic impacts.

Groundwater reports were provided by the consultants for VA (Secor International Inc.) for use by the Corps in evaluating impacts to groundwater hydrology and assessing potential down-gradient indirect wetland impacts. Staff hydrogeologists for EPA have reviewed these groundwater reports and identified significant concerns about the assumptions and methodology used in the reports[6]. These concerns were made known to the Corps in two separate meetings. EPA believes the results and conclusions in the latest consultant's report (November 16, 2000) are fundamentally flawed. The assumptions for recharge and aquifer thickness which were applied in the report model are incorrect and result in a flawed understanding of the wetland hydrology and makes the results of the model unusable.

The Secor groundwater model assumes that the Cucumber Gulch wetlands are a groundwater recharge area, which is inaccurate, since these wetlands are clearly in an area of groundwater discharge. Secor apparently modeled these wetlands as a recharge area to achieve model calibration (matching the data set), which resulted in inaccurate model runs. This limits the utility of the model to evaluate both impacts and mitigation feasibility. The model must be recalibrated, taking into consideration the wetland discharge area, and then rerun to evaluate the impacts to wetland hydrology that may result from construction of base facilities and associated de-watering.

In addition, EPA questions the ability to establish adequate mitigation, due to a very low permeability of glacial till that underlies the wetlands. The proposed mitigation to address impacts to groundwater hydrology from the proposed development is to re-route water around foundations and inject water into permeable trenches constructed below the proposed base facilities back into the subsurface till. Due to very low permeabilities within the till, it will be difficult to recharge groundwater to the till via injection. EPA believes that the evaluation of the proposed mitigation is incomplete because it does not include an analysis of other methods to restore (or maintain) the hydrology and to redeliver water to the wetlands below the constructed base facilities.

Without a complete understanding of the groundwater hydrology supporting these ecologically sensitive wetland resources, it will be difficult to tell whether mitigation is even geotechnically feasible. Therefore, substantial and unacceptable adverse effects as a result of significant indirect

[6] A hydrogeologist, Dr. Kenneth Kolm, Associate Professor at the Colorado School of Mines has also reviewed the groundwater model and expressed similar concerns on the model's inaccuracies. (Personal communication with Regional hydrogeologist, January 12, 2001)

and cumulative impacts of the proposed project will occur to aquatic resources of national importance.

Ski Area Expansion Impacts

According to the public notice, regulated activities associated with the ski area development will directly impact 0.07 acres of montane slope wetlands for construction of an access road to the Peak 7 lift terminus and restaurant. In addition, the development of 165 acres of ski trails on Peak 7 cross over 6.37 acres of wetlands. Included in this total is partial tree and shrub removal on 1.27 acres of wetlands. Installation of snowmaking lines is asserted to cause temporary direct impacts to an additional 0.07 acre of wetlands. However, field reviews of ski areas this year have shown significant permanent impacts to wetlands from utility line installations that were also supposed to be "temporary" (i.e., Copper Mountain Ski Area and Willow Creek Highlands Subdivision in Summit County, Colorado). Such violations of permit conditions have already resulted in unmitigated losses of montane wetlands. The proposed temporary impacts to wetlands may be short lived in that the construction of these features, as currently proposed, may not be realistic in maintaining the wetland functions.

Wetland creation and functional replacement are proposed to compensate for the direct impacts to 0.07 acres of alpine wetlands resulting from the road access within the ski area boundary, but successful restoration will likely be significantly delayed due to short growing seasons at altitude.

Additional, undisclosed indirect impacts are also likely from proposed terrain modifications up slope of existing wetlands within the Peak 7 area, including those to the kettle pond below trail #6. To our knowledge, no baseline hydrologic information has been collected to evaluate potential wetland losses from this activity or to mitigate for the lost functions and values, should a permit be issued. We expressed this concern to the USFS and the Corps, and asked for baseline and follow-up monitoring to evaluate the extent of any such adverse impacts and appropriate mitigation. We believe that these impacts should be considered in a NEPA and Section 404 permit context. However, to date, we are unaware of any effort by the USFS or the Corps to require the applicant to evaluate or mitigate these types of potential impacts.

In the USFS EA, the assessed direct historic wetland losses and cumulative impacts from the ski area development alone were calculated to be a minimum of 11 acres, with additional, un-calculated losses of forested wetland complexes, including associated beaver pond complexes.

VI COMPLIANCE WITH THE SECTION 404(b)(1) GUIDELINES

EPA believes that the application of the Section 404(b)(1) Guidelines (Guidelines) by the Sacramento District is inconsistent with Section 404 program policies and goals concerning the analysis of alternatives, significant degradation of waters of the U.S., and mitigation. The Decision Document provides no information on alternatives for remaining discharges that would directly or indirectly cause significant impacts to aquatic resources nor does it show that the

District considered factual information specific to the project in evaluation of practicable alternatives (i.e., project/base area design, wetland impacts). We do not concur with the Corps' findings on page 3 of the Decision Document that "the private lands development alternative is the least damaging practicable alternative which still allows development."

EPA believes that impacts to waters of the United States must be fully evaluated (with scientific validity) prior to issuance of a permit. The permit application does not include sufficient information for the Corps make a determination of compliance with 40 CFR 230.12(a)(3) and, more importantly, to let the Corps determine whether the proposed discharge may cause or contribute to significant degradation under 230.10(c), after considering the factual determinations of secondary/indirect and cumulative impacts. Any evaluation of less damaging practicable alternatives required under 230.10(a) is based on the premise that the impacts are fully understood before alternatives are sought that may cause less damage to the aquatic environment. Permitting the project before impacts are evaluated prevents EPA, the resource agencies, and the public from evaluating and understanding less damaging practicable alternatives and appropriate mitigation for unavoidable impacts.

The Corps is proposing to issue a permit because they believe the details required for an assessment of impacts of building foundations and the exact mitigation measures cannot be developed until the details of the building foundations have been developed. This cannot be accomplished, in their view, until the Town approves a final development plan and only then can the necessary engineering plans be developed. We have a different understanding. We have had an agreement with VA and its consultants to complete an improved impact simulation prior to final design and the Town's approval. We were told this information was forthcoming at a September 22, 2000, meeting and your staff was informed of this effort during permit condition discussions. To forego reasonable efforts to evaluate and analyze potentially significant impacts to waters of the United States, and potential mitigation of these impacts, in order to speed up the project schedule is inconsistent with the Guidelines. Furthermore, EPA does not concur with the assertion on page 21 of the Decision Document that "the EPA's concerns with the impacts to hydrology from building construction have been addressed by the groundwater study conducted by Secor, International." The written record from EPA on this project soundly rejects this assertion. Finally, the Corps decision on this project appears to be inconsistent with recent Sacramento District decisions for similar projects with similar concerns regarding groundwater hydrology and the effects of proposed construction features that may effect such water flows. In the Sacramento Corps' February 22, 1993, Statement of Findings (page 18) for the Adam's Rib Recreation Area, the Corps required the elimination of underground parking with subsurface drains to avoid impacting adjacent wetlands because the existing information available on less damaging alternatives (i.e., construction techniques and building practices implemented at other resorts) clearly demonstrated that these alternatives were available to the applicant and were less environmentally damaging.

Despite a lack of information in the public notice regarding all impacts resulting from the entire project as currently proposed, EPA continues to believe the project will cause or contribute to

significant degradation of waters of the United States, including wetlands [40 CFR 230.10(c)]. Furthermore, appropriate and practicable steps to minimize potential adverse impacts and avoid adverse impacts to wetlands have not been identified by the applicant [40 CFR 230.10(d)]. If impacts are determined to be unavoidable by the Corps after an appropriate alternatives analysis, mitigation for impacts to slope wetlands is not readily achievable.

VII NEPA COMPLIANCE

The Council on Environmental Quality (CEQ) defines an Environmental Assessment as a document that: 1) provides sufficient analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact and 2) includes a "brief discussion of the need for the proposal, of alternatives as required by section 102(2)(E), of the environmental impacts of the proposed action and alternatives, and a listing of agencies and persons consulted." 40 CFR 1508.9(a-b). Impacts are defined in the regulations to include ecological effects whether direct, indirect, or cumulative. 40 CFR 1508.8(a-b). The Corps' Decision Document (EA) clearly does not address the environmental impacts of the proposed action.

In regard to compliance with the NEPA, we believe that the scope of the direct, indirect, and cumulative impacts of the proposed activities is significant. The direct, indirect and cumulative impacts to waters of the Unites States (e.g., impacts under the control and responsibility of the Corps) in this project include impacts to aquatic resources of national importance in Cucumber Gulch. The appropriate scope of analysis in this case includes all the aquatic resource impacts under federal control and responsibility, which we believe are significant in this case when viewed comprehensively.

The CEQ has further stated that the "scope of analysis issue addresses the extent to which the proposed action is identified as a federal action for purposes of compliance with NEPA" and "*does not affect the requirement to evaluate impacts.*" *In addition, CEQ goes on to clarify that* "once the scope of analysis is determined, the agency must then assess the direct, indirect, and cumulative effects of the proposed federal action." 52 FR 22523; June 12, 1987 or see 33 CFR 325 Appendix B - NEPA Implementation Procedures of the Regulatory Program, part b: Scope of Analysis. The regulations require that an analysis of the full range of impacts associated with the project should be conducted, including review of potential indirect and cumulative impacts to wetlands in Cucumber Gulch. Inclusion of the critical groundwater studies detailing wetlands impacts from base area development prior to an EA/ FONSI would provide full impact disclosure, would allow for appropriate alternatives analysis and appropriate mitigation, with the input from federal and state resource agencies, the public, and decision makers.

VIII CONCLUSIONS AND RECOMMENDATIONS

In summary, EPA believes that the approval of this project will result in significant and unacceptable impacts to the aquatic resources of the Cucumber Gulch watershed, particularly the

slope and fen wetland resources. Given the current information that the Corps used to evaluate the proposed project and its adverse impacts, EPA recommends the following:

- complete accurate and relevant groundwater studies and modeling to address impacts to groundwater hydrology from the proposed project; the Corps should require the applicants to conduct a thorough scientific evaluation of impacts to aquatic resources by:
  - re-examining the assumptions (i.e., for recharge and aquifer thickness)
  - recalibrate the model, taking into consideration the wetland discharge area (and not a wetland recharge area as was done in the Secor model)
  - rerun the model to evaluate the impacts to wetland hydrology that may result from construction of base facilities and associated de-watering.
- present findings of the groundwater studies and models in a new public notice. A new notice would allow EPA, the resource agencies, and the public the opportunity to evaluate and understand less damaging practicable alternatives and appropriate mitigation for unavoidable impacts identified in the model simulation.
- suspend action on current project proposal until thorough evaluation has been completed to support identification of a permittable project.

Attachment 1

Science Applications International Corporation (SAIC)
Functional Assessment of Wetlands Found In Cucumber Gulch, Breckenridge, Colorado.

		Functional Assessment Rating[1]							
Wetland Name	HGM Classification	DWS	FFA	PE/ AFCS	NPR/ SR	SS/SC	WH	RSH	ESH
Cucumber Gulch	1f – well developed floodplain	H	H	H	H	H	H	H	M
Cucumber Gulch Sideslope	2d – mid-gradient slope	H	N/A	H	H	N/A	H	H	M

[1] Functions described in Summit Wetland Assessment Method (1999). H=High, M=Moderate, L=Low, N/A=Not Applicable.

Wetland function acronyms:

Dynamic water storage (DWS)
Flood flow attenuation (FFA)
Production export/aquatic foodchain support (PE/AFCS)
Nutrient and pollutant removal/sediment retention (NPR/SR)
Shoreline stabilization/sediment control (SS/SC)
Wildlife habitat (WH)
Rare species habitat (RSH)
Endangered species habitat (ESH) were then evaluated based on the ratings of associated functional indicators.

Flood-flow attenuation (FFA) and shoreline stabilization/sediment control (SS/SC) functions are not applicable to slope wetlands.

Attachment 2

Colorado Natural Heritage Program
Wetland Functional Evaluation for the Cucumber Gulch site:
Proposed HGM wetland class: Riverine and slope wetland with permanent to seasonal saturation and continuous inundation.

Wetland functional evaluation for the Cucumber Gulch site (low willow/wet meadow mapping unit).

Function	Ratings	Confidence in Rating	*Comments*
Hydrological Functions			
Groundwater Recharge	medium	high	soils are not porous, but there are constrictions within the wetland, densely vegetated and located high in basin.
Groundwater Discharge	high	high	wetland is located at base of Tenmile Range, no obvious source of water except from spring discharge
Floodflow Alteration	low	high	dense vegetation, clayey soils, no debris or high water marks, wetland has been filled on north and south ends.
Sediment Stabilization	very high	high	high vegetation density of willows, located at edge of ponds with sedge understory
Biogeochemical Functions			
Sediment/Toxicant Retention	very high	medium	constricted outlets, low gradient, organic matter deposits, construction and road improvements surround wetland
Nutrient Removal/ Transformation	high	medium	flooded permanently, nearby anthropogenic activities, organic matter accumulation
Biological Functions			
Production Export	high	medium	no severe scouring, clayey soils, vegetation overhanging water
Habitat	very high	medium	boreal toad, beaver, elk, likely fish
Aquatic Diversity/ Abundance	medium	high	ponds with open water, well-mixed, no barriers
Recreation	medium	high	ski trail in winter, mountain bike in summer
Uniqueness/ Heritage Value	high	high	breeding population of boreal toad

General Soil Description

Texture	clayey with little sand
Color	dark with sulfur smell, some redox along wetland edge, 2.5Y 4/4 in lower area and 10YR 3/1 in upper area
Cobble Size	small
Percent Mottling	none