

## **PEER REVIEW OF BIOLOGICAL BASELINE CONDITIONS REPORTS FOR THE ROYAL GORGE STUDY AREA**

This report presents a peer review of two documents describing biological baseline conditions for the approximately 2,896-acre Royal Gorge study area:

- Biological Resources Assessment for the ±2,896-acre Royal Gorge Study Area, Nevada and Placer Counties prepared by North Fork Associates, September 12, 2006.
- Wetland Delineation for the ±2,896-acre Royal Gorge Study Area, Nevada and Placer Counties prepared by North Fork Associates, September 25, 2006.

The peer review was prepared by Michael White, Ph.D. of the Conservation Biology Institute for the Sierra Business Council (contact Mr. Steve Frisch). The peer review also presents and briefly addresses questions raised by several participants in the Memorandum of Understanding (MOU) process organized by the Sierra Business Council.

### **BIOLOGICAL RESOURCES ASSESSMENT**

In general, the assessment provides a good initial summary of biological resources present or potentially occurring onsite, but more detail and specificity is required for purposes of project planning and environmental impact analyses and permitting. The report acknowledges up-front that it is a *preliminary* analysis of the conditions of the study area, and as such may have never intended to address many of the issues raised below. The assessment focuses on biological resources conditions only, and does not provide a discussion of the federal, state, and local policies and regulations that address natural resources protection and that must be considered during project planning.

#### *Literature Review and Special Status Species Report*

Information reviewed for the assessment did not include the Placer County Natural Resources Report, technical reports from the Sierra Nevada Ecosystem Project (SNEP), U.S. Forest Service (USFS) documents (e.g., Sierra Nevada forest plan amendment) or resource data available from the USFS and their research staff (e.g., Bill Zielinski and colleagues). The assessment used species lists from the Sagehen Creek Field Station but did not include information from the adjacent Onion Creek Experimental Forest. Information from these sources (e.g., nesting locations of California spotted owls, forest structure information) would complement and fill gaps in the information sources presented in the assessment. However, Appendices A and B appear to provide a good list of species of concern that may potentially occur onsite; although there are a couple of errors/omissions in Table 2 which summarizes these appendices in the report (e.g., bald eagles are also federally listed threatened).

### *Field Surveys*

The report acknowledges that field surveys have been conducted at a *reconnaissance level*, and that they provide a *broad overview within limited site specific data* and did not intend to make a *determination of presence or absence of any particular rare plant species over the entire site*. Botanical surveys were conducted in the later part of the blooming season in two consecutive years. Future biologic surveys should be conducted with sufficient effort to verify the presence/absence and relative abundance of all special status species potentially occurring onsite, as well as the distribution and condition of all other biological resources of concern (e.g., unique vegetation associations, late seral forest stands, wetlands and special aquatic sites). Because of the uncertainty associated with actually detecting many mobile species that may be periodically using the site, an assessment of the availability of suitable habitat onsite for species of concern should also be conducted.

### *Findings – Hydrology*

The description of hydrology in the assessment is very general. There is currently no way to assess the potential direct and indirect impacts of future projects on the water resources of the site or areas hydrologically connected to the site. Additional information on the characteristics of stream hydrology (i.e., perennial or intermittent flow) for the site should be provided and offsite hydrological connections better described (although drainages were categorized by flow regime in the Wetlands Delineation Report). For example, the assessment generally describes the relationship of the site to the surface water drainage network, but there is no information that would allow the relative contribution of the site to drainage in parts of the network (for example, what proportion of the contributory area for the upper South Yuba River lies within the study area?). Information on the locations of surface water contributory areas for the meadow systems and the role of groundwater in maintaining these systems should also be provided. Information and maps describing the boundaries between the American River and Yuba River watersheds and their subbasins and proportion of the site in each would be helpful for project planning purposes and impact analyses.

### *Findings – Biological Communities*

The description of the biological communities present onsite is very general. As a result, there is no way to plan projects to minimize adverse effects to rare or sensitive resources on the site, or to adequately quantify potential project impacts for California Environmental Quality Act (CEQA) purposes. Biological communities, particularly the montane forest community, should be described at a finer level of detail. Descriptions of biological communities should identify small patch communities or species associations (e.g., riparian habitat, aspen stands) that may have local, regional, or statewide significance (e.g., a juniper grove on west slope of the Sierra). An assessment of forest structure on the property should also be conducted, as the status of late seral forest resources and potential impacts to these forests is a relevant issue for the area. For example, the study area lies within an USFS designated Area of Late Successional Emphasis (ALSE), one of the areas rated by the Sierra Nevada Ecosystem Project (SNEP) and the USFS as having the highest late successional/old growth (LSOG) forest structural characteristics in the

region. Condition of the habitats onsite should be characterized (e.g., levels of fragmentation, exotic species abundance, etc.) and placed into the context of regional habitat condition.

For consistency, the Biological Resources Assessment should also use the same community designations as the Wetland Delineation. Thus, descriptions of montane wetland scrub, seasonal marsh, etc. should be provided. While I agree that a detailed delineation of the various meadow communities would be relatively unproductive, additional information should be provided describing the locations of the various types of meadow systems around the site when known. This information should be carried over from the Wetland Delineation where applicable.

The Whitney 1979 citation is not provided in the References and Other Sources section.

#### *Findings – Wildlife*

The assessment does a good job of describing the general quality of the site to wildlife species. However, it is implied that the abundance of wildlife onsite may be low in relation to *lower elevations* in the Sierra. A more appropriate comparison would be to other high elevation areas in the vicinity of the project.

#### *Special Status Species*

As discussed previously, field survey effort was not adequate to determine the distribution and abundance of the species considered to have a potential to occur onsite. This severely limits the usefulness of the assessment for purposes of project planning and CEQA impact analysis. The assessment indicates that California spotted owls are not known from the region but USFS data show that there is a nest location and associated Protected Activity Center (PAC) and Home Range Core Area (HRCA) on public land immediately adjacent to the study area. The assessment should also discuss the Tahoe National Forest's forest carnivore network (i.e., lands considered by the USFS to be important for management of forest carnivores) on public land adjacent to the study area. Additional field work should be conducted to assess the potential for special status species to occur on site and the local and regional significance of populations that do occur. This should be done using both species-level surveys and habitat assessments.

#### *Deer Migration Corridors*

The assessment restricts its discussion of wildlife corridors to mule deer, and focuses discussion on east-west movements of deer. The assessment does not discuss the potential for exchange of individuals between the adjacent herd to the north, on the other side of Interstate 80.

Movement corridors and habitat connectivity in general are also important to a wide variety of species besides deer, particularly in light of changing climates and land uses in surrounding areas. Adverse effects to habitat connectivity, particularly for mature forest associated species, is considered by many public agencies and nongovernmental organizations to be a major concern in the region and adequate information should be

developed to address this issue during project planning and CEQA impact analyses. Barriers to movement for species using the site, if present, should be identified (e.g., roads, steep slopes, etc.).

### **WETLAND DELINEATION**

The results of the wetland delineation appear to be technically sound, although portions of the delineation are still subject to verification from the U.S. Army Corps of Engineers. The delineation should also identify any “special aquatic sites” present onsite (e.g., wetlands, vegetated shallows, riffle/pool complexes), which receive special attention under the U.S. Environmental Protection Agency’s section 404(b)(1) guidelines. The delineation only discusses wetlands and other waters onsite that are under federal jurisdiction. The State of California also regulates certain activities under the California Fish and Game Code. In some instances, areas under federal and state jurisdiction will differ. Areas under state jurisdiction should be identified.

### **ISSUES RAISED BY MOU PARTICIPANTS**

Issues raised the three MOU participants are listed below. I have tried to group and organize the issues, but the questions are provided as submitted. My responses/comments are provided in bold following each issue.

#### *North Fork American River Alliance (NFARA)*

- This seems to be a very preliminary assessment with only a minimum of actual fieldwork included. **I agree that the assessment is preliminary in nature with the exception of the relatively detailed federal jurisdictional delineation.**
- It was noticed that the Placer County Natural Resources Report was not listed as a reference. **Agreed**
- The list of species within 5 miles of project is incomplete; only about half the known animal species in the area are listed. What criteria was used to determine which species to list? **Note that only special status species, as defined in the assessment, occurring within specific USGS quadrangles covering the site and surrounding areas are listed.**
- Will additional field surveys be conducted? If so, will these surveys be conducted at routine intervals starting in early Spring? Will all possible species eventually be listed? Or will a more detailed analysis be conducted once a specific plan is developed? **This is not addressed in the assessment. It is recommended that a variety of additional field surveys be conducted for the study area to better document natural resources in and around the study area.**
- Both the South Yuba River and Serena Creek are classified as intermittent in the Assessment. Also no riparian habitat was identified. Placer County classifies both streams as perennial on their maps. California Division of Forestry has both streams listed as Class 1, the maximum protection; both of these watercourses support populations of fish including trout. What criteria was used in the Assessment? Why the difference in classification? Were CDF and Placer County

maps reviewed? Shouldn't stream classifications be consistent across the board? How does the county and CDF classify those streams identified as ephemeral in the Assessment? **Comments noted but to clarify, the Biological Resources Assessment appears to be silent on the hydrology of the streams in the study area, whereas the map provided in the Wetland Delineation show the South Yuba River and Serena Creek as intermittent.**

- If Serena Creek is a perennial stream, wouldn't that indicate possible riparian habitat? **Riparian habitat can be associated with intermittent stream flow as well, so the distribution of riparian habitat on the site is something that should be addressed in addition to these questions of hydrology.**
- The Willow Flycatcher has been identified along the South Yuba; doesn't this indicate riparian habitat? **Yes – willow flycatchers require riparian habitat, it should be determined if there is suitable riparian habitat available onsite or in offsite areas influenced by the project.**
- The NF American is one of California's most intact watersheds. The river is designated Wild and Scenic from its source to just above the Colfax-Iowa Hill Bridge (except for a couple of miles above and a half mile below the Forest Hill-Soda Springs Rd.); this includes both state and federal designations. In the upper basin the Forest Service, the University of California, the Pacific-Southwest Research Station, and private property owners (North Fork Association/Cedars, Chickering, etc.) have entered into an agreement to create a North Fork American River Special Research and Conservation Area. How do these designations and agreements effect other private properties in the upper NF basin? How do private holdings and potential development adjacent to the research and conservation area effect Forest Service management options such as fuel load reduction and the reintroduction of natural fire? Are there additional standards for the discharge of effluent or sediment into NFAR tributaries like Serena Creek? **These issues are not addressed by the assessment.**

#### *Sierra Club*

- At this elevation in the Sierra how is "old growth" defined? What percentage of the forested areas @ RG can be considered "old growth" and where exactly are they? **The assessment does not provide information on forest structure. There are various definitions of "old growth forest" that have been used but the SNEP assessment considered factors that contribute to LSOG functions, such as tree size, canopy cover and presence of snags and down logs. The study area sits within a SNEP polygon of "high contribution" to LSOG function.**
- What areas of the forest are in a period of late succession but not yet "old growth? And, with aggressive adaptive management, what areas can be turned into old growth with-in 50 years and 100 years? Including the mix of trees, shrubs, and other plants what species mix would be needed for maximization of "old growth" and are most of these species present on the site? **This issue is not address by the assessment.**

- If there were no dam at the west end of Van Norden meadow would there be a flood problem? If we were to control the flow @ the dam could we maximize the size of the wetland? If the wetland were controlled and the fish removed would it be possible to reintroduce the mountain yellow legged frog to this area? What role would adaptive management play if there were a long term funding mechanism in place? **These questions are not addressed by the assessment. Note that it has not yet been demonstrated that mountain yellow-legged frogs do not occur in the meadow complex of Lake Van Norden, so discussion of reintroduction of this species is premature.**
- In this area of the Sierra what have been the landscape wide effects of habitat loss and habitat fragmentation? More specifically, what species could we reasonably expect to see in this area had the effects of habitat loss and fragmentation been minimized in the past? **These questions are not addressed in the assessment.**
- How does the RG cross country trail system, the sugar bowl lifts, other trail systems, and the paved roads affect fragmentation? What effect would minimization of the footprint of trails and development have in this area @ this time? **These issues are not addressed in the assessment.**
- In this area of the Sierra what have been the landscape wide effects of invasive species? What invasive species do we have a chance to control and or eliminate on this site? **The assessment does list a number of nonnative species detected onsite but does not discuss the extent of the distributions of nonnative/invasive species onsite or regionally or the effects of these species.**
- In this area of the Sierra how have generalist species such as the cowbird, the raven, the raccoon, the black bear, and the coyote affected specialist species? What could we do to make this habitat better for specialists such as raptors, the California spotted owl, the Sierra Nevada red fox, the pacific fisher, the mountain lion, and the wolverine? **The assessment does not address these issues.**
- What animals are the best candidates for reintroduction? How about the mountain yellow legged frog in Van Norden meadow and the pacific fisher? **The assessment does not address the issue of species reintroductions.**
- How far away is the Granite Chief Wilderness area? How far away is the experimental forest? What are their sizes and how are they being managed? **The assessment does not describe resources in the area surrounding the study area.**
- If a permanent funding stream were available, what would be the role of adaptive management in this area? Could we possibly use AM and extend its reach to the Granite Chief Wilderness area and the experimental forest? **This issue is not addressed in the assessment.**
- Are there species that could be considered umbrella or indicator species and what is there status on the site and/or in the area? **This question is not addressed in the study area.**

- What have we learned about the mismanagement of the natural resources of the Sierra Nevada? And, how can we use those lessons to start to manage the landscape on an ecosystem level. What are the best strategies, at this time, that will maximize the biodiversity of this area and the Sierra in General? **This issue is not addressed in the assessment.**

*Mountain Area Preservation Foundation*

- Will the development next to and ski runs on Razorback interfere with wildlife migration? The south side of Razorback consists of a very steep slope made of welded tuff and lava cones and very little vegetation. **This issue was not addressed in the assessment and this peer review is not supposed to consider any impacts of a specific project design.**
- Since Razorback is composed of friable volcanic soil, will the ski runs and excavation for the lifts create a lot of erosion? **This issue was not addressed in the assessment and this peer review is not supposed to consider any impacts of a specific project design.**
- Will retaining water in the lake for “Lake Camp” dewater the adjacent wetland? **This issue was not addressed in the assessment and this peer review is not supposed to consider any impacts of a specific project design.**
- One of the residents says that meadow cabins are in a wetland. Are they? **This issue was not addressed in the assessment and this peer review is not supposed to consider any impacts of a specific project design.**
- They are thinking of spreading the treated sewage on the ground rather than releasing it into a stream. Is this a viable option? **This issue was not addressed in the assessment and this peer review is not supposed to consider any impacts of a specific project design.**