

December 16, 2002

S.E. "Lou" Woltering
Forest Supervisor
Six Rivers National Forest,
1330 Bayshore Way, Eureka, CA
ATT: Ruben Escatell, EIS Team Leader



Re: Scoping comments for Grazing Allotments EIS in North Fork Eel River Watershed

Dear Lou,

The Environmental Protection Information Center (EPIC) has reviewed the November 18, 2002 scoping document announcing the preparation of an Environmental Impact Statement (EIS) that would update Allotment Management Plans (AMP's) for five cattle allotments on Six Rivers National Forest lands within the North Fork Eel River watershed.

According to the scoping document, the Six Rivers National Forest is proposing to authorize grazing of up to 396 Animal Units (AU) on five allotments encompassing approximately 81,572 acres, of which 9,014 are in private ownership and 72,558 acres are in public ownership (Six Rivers National Forest). The five allotments within the analysis area include the Hoaglin, Soldier Creek, Zenia, Long Ridge, and Van Horn allotments. Parts of the latter four allotments extend into adjacent watersheds. EPIC offers the following comments for your consideration as you prepare a Draft EIS for the AMP's.

General Issues and Concerns

The Forest Service illegally lacks a comprehensive management plan for the North Fork Eel Wild and Scenic River that would give it essential standards for activities on lands that include, border upon, or are adjacent to the river. The EIS should evaluate as a proposed action the preparation of such a plan.

The scoping document states that only those parts of the allotments within the North Fork Eel River watershed will be covered under the proposed analysis. However, grazing on parts of these allotments also effects the Middle Main Eel River Watershed, the Mad River Watershed, and the Van Duzen River Watershed. An EIS must thoroughly analyze and disclose all of these effects, including historical, current, anticipated future, and cumulative effects on the watersheds encompassed within the five grazing allotments under consideration.

We expect that the EIS will fully comply with all applicable laws and regulations, including the Northwest Forest Plan, Six Rivers Land and Resource Management Plan, Multiple-Use Sustained Yield Act (1960), the Wilderness Act (1964), the California State Wilderness Act (1984), the Forest and Rangeland Renewable Resources Planning Act (1974), the Federal Land Policy and Management Act (1976), National Forest Management Act, Endangered Species Act, Clean Water Act, North Coast and Sacramento Basin Water Quality Control Plans, Forest Service Manual, and Forest Service Handbook.

We are concerned that the Forest Service is proposing to increase grazing in the North Fork Eel watershed, rather than reducing it, by opening up two allotments (South Zenia and Soldier Creek) that are currently vacant. We believe that the Forest Service should close the South Zenia allotment due to the conflicts associated with private property and private property rights, as well the Soldier Creek Allotment, due to conflicts with the Research Natural Area.

In its evaluation of impacts, the EIS must address the ecological impacts that result from livestock grazing that have been well documented in the scientific and agency literature. One scientific review provides the following summary of some ecological impacts from grazing:

“Grazing results in the removal of natural vegetation, the alteration of plant-community composition, and the modification of soil characteristics, which in turn affect hydrologic and erosional processes. Effects are particularly acute in the riparian zone, where livestock tend to congregate, attracted by water, shade, cooler temperatures, and an abundance of high quality forage. In general, grazed lands have less vegetation and litter cover than ungrazed lands, and in many areas of the West, perennial grasses have been replaced by non-native annual grasses and weedy species. Greater exposure of soils leads to splash erosion, which decreases soil permeability and results in more rapid runoff of precipitation to the stream channel. As a consequence, peak flows may be higher and summer base flows lower in watersheds that are intensively grazed. Livestock also affect vegetation and soils through trampling. Trampling soils in arid and semi-arid lands may break up the fragile cryptogamic crust (comprised of symbiotic mosses, algae, and lichens) causing reduced infiltration, increased runoff, and reduced availability of nitrogen for plant growth. In addition, trampling detaches soil particles, accelerating surface erosion in upland areas, and may promote mass wasting along streambanks. Mass wasting also occurs where grazing has eliminated riparian vegetation and hence the root matrix that helps bind soil together. All of these processes result in increased sediment transport to streams. Animals also redistribute seeds and nutrients across the landscape, especially to riparian zones or other attractors, such as seeps or salt blocks. Devegetated riparian zones reduces shading and increases summer stream temperatures-often in streams that are where temperatures are near the upper limit of the tolerable range for salmonids- and may also increase the formation of anchor ice in the winter. Grazing also results in changes in channel morphology through changes in hydrology, sedimentation, and loss of bank stability. Streams in grazed areas tend to be wider and shallower, and consequently warmer in summer, than in ungrazed reaches. In some instances, streams in grazed areas incise in response to increased peak flows, effectively disconnecting the stream channel from the floodplain. Incision further alters the hydrology of the stream by lowering the water table and, consequently, the plant community occupying the riparian zone may shift from hydric (wetland) to xeric vegetation. Grazing in the riparian zone can reduce recruitment of large woody debris, especially because re-establishment of riparian shrubs and trees rarely occurs if grazing pressure is not reduced. Loss of woody debris reduced retention of gravels, creation and maintenance of pool habitats, and instream cover. General effects of grazing on salmonids include reduced reproductive success because of sedimentation of spawning gravels, alteration of food supplies through changes in primary and secondary production, reduced fish densities, and shifts in the composition of fish, invertebrate, and algal communities.” (Spence et al. 1996).

We request that the EIS address all the issues raised in this quotation. Many of the impacts described above presently occur on the five grazing allotments and within the affected watersheds. For example, the 1996 North Fork Eel River Watershed Analysis (WA) and other documents in the possession of the Six Rivers National Forest indicate that grazing has degraded and will continue to degrade, or will prevent recovery of, native plant species, wild salmon, healthy soils, and water quality, and that grazing will detract from recreational values. As described in the WA, “Livestock impacts on riparian vegetation decreased streambank shading and may have impeded regrowth after storm events removed vegetation, therefore opening the channel to more solar radiation and increasing water temperature. Stream bank trampling increased sedimentation and decreased bank stability. Large amounts of animal waste caused an increase in nutrients to the stream system, which along with warm water temperatures increased algal growth and subsequent oxygen depletion.” (WA, p. 103).

As demonstrated above, grazing has numerous significant ecological impacts, which we request be thoroughly addressed in the EIS. The federal grazing program also has significant economic costs and impacts, including monitoring and enforcement of grazing permits and administration of the grazing program. The EIS should

describe and analyze the financial costs and benefits of the grazing program on the Six Rivers National Forest in general, and the North Fork Eel River watershed in particular. For example, how much does it cost to implement the grazing program, and how much money is received by the permittees to cover the costs of their grazing on public lands? What are the costs to private landowners within the grazing allotment areas who do not own cattle, and do not want cattle on their property, yet are unable to prevent livestock from trespassing on their land? Also, how much money do permittees get in return when they sell the beef/cattle, etc.? We request that the EIS thoroughly analyze this significant issue.

Wild and Scenic Rivers Act

On January 19, 1981, the Secretary of the Interior approved the Governor of California's application to designate a segment of the North Fork Eel as a wild and scenic river under the federal Wild and Scenic Rivers Act (WSRA). 16 U.S.C. §§ 1274, et seq. The North Fork Eel WSR is 15 miles long. The designated segment of the river runs from the Old Gilman Ranch downstream to the confluence with the mainstem Eel River near Ramsey. The boundaries of the North Fork Eel WSR establish a river area comprised of roughly 1,558 acres. The upstream segment of the North Fork Eel WSR is administered by the Six Rivers National Forest. Downstream segments of the North Fork Eel WSR flow through lands administered by the Bureau of Land Management or owned by the Round Valley Indian Nation.

The North Fork Eel WSR is classified as "wild" under the WSRA. The WSRA provides that the Forest Service shall administer the North Fork Eel WSR primarily to protect and enhance its "outstandingly remarkable values" (ORVs). 16 U.S.C. § 1281(a). ORV's in the North Fork Eel River ESR include anadromous fish, scenery, water quality, recreation, and botanical resources. Available evidence indicates that the Six Rivers National Forest has violated this duty by allowing livestock grazing that among other things degrades water quality, impacts native plants, harms wild salmonids, degrades scenic quality, and adversely affects recreational opportunities. For example, along the North Fork Eel WSR, current grazing impacts are concentrated in riparian areas. Fifteen-to-twenty percent of the riparian reaches sampled in the North Fork Eel River watershed in 1995 showed some visible effects of livestock grazing, but no details of the effects of grazing were collected. Natural sedimentation rates are high in the North Fork Eel because of high uplift and stream incision rates into relatively weak bedrock units, which in combination has produced a fairly high incidence of debris slides adjacent to stream channels. Livestock grazing increases and exacerbates sedimentation from riparian zones entering the North Fork Eel WSR. Grazing practices along the North Fork Eel WSR have also caused adverse nutrient loading of stream waters. High nutrient loading causes algal blooms. An overabundance of these algal blooms alters habitat to a condition that is less favorable for salmonids. Nutrient loading also increases water temperatures, adversely affecting salmonids. Livestock grazing along the North Fork Eel WSR has also degraded native plant species and helped introduce or spread exotic plant species. Currently, plant communities include a dominance of annual grasses (such as *Bromus tectorum* and *Cynosorus echinatus*), some noxious forbs (such as *Hemizonia* and *Madia*), and clover (*Trifolium* sp.) as well as starthistle and medusahead in grasslands of the watershed that were once dominated by perennial grass species and native herbs.

The WSRA also provides that the Forest Service must cooperate with the U.S. Environmental Protection Agency and state water pollution control agencies in order to eliminate or diminish pollution in the North Fork Eel WSR. 16 U.S.C. § 1283(c). In addition, the WSRA provides that the Forest Service must administer the North Fork Eel WSR as a free-flowing river. 16 U.S.C. §§ 1271(b), 1273(b), 1287(b). Available evidence indicates that the Six Rivers National Forest has violated this duty by allowing livestock grazing and associated activities that compact soils, denude riparian vegetation, and result in other impacts that cause or contribute to violation of water quality standards for the parameters of temperature, sediment, and other water quality standards and causes other damage that depletes or diminishes the quantity of water in the river.

The Six Rivers National Forest Land and Resource Management Plan (LRMP) provides that the Forest Service shall complete a management plan for the North Fork Eel WSR. In response to comments on the Forest Plan, the

Forest Service stated that it would complete such a plan by 1997. The Forest Service has not completed a management plan for the North Fork Eel WSR. In the absence of a comprehensive management plan for the North Fork Eel WSR, the Forest Service has not adequately protected or enhanced the river's ORVs. In the absence of a comprehensive management plan, the Forest Service cannot make informed and legal decisions about proposed activities that affect the river, including livestock grazing. Therefore, we request that the Forest prepare a management plan. Failure to do so would compromise the ability of the Six Rivers National Forest to adequately protect and enhance the ORV's present in the North Fork Eel River WSR.

We are concerned that grazing has and will continue to adversely impact the outstandingly remarkable values present in the North Fork Eel WSR. Any EIS should demonstrate that the proposed grazing is consistent with all required management objectives set forth for the protection and enhancement of the North Fork Eel River.

Plants and Vegetation

We are concerned about the adverse effects of grazing on plants and vegetation, including rare, sensitive, threatened, and Survey and Manage plant species. The North Fork Eel River supports the sensitive plant species, Tracy's sanicle (*Sanicula tracyi*), pale yellow stonecrop (*Sedum laxum ssp. Flavidum*), fascicled lady's slipper, and mountain lady's slipper. Where are each of these populations and how will they be protected from livestock impacts? There are also at least eight other rare plant species. What are the historic plant and vegetation communities in the project area that are affected, what are the impacts from historical and on-going grazing, and what are the anticipated cumulative impacts from the proposed allotments on plants and vegetation? How have plant communities been altered, particularly in riparian, meadow, and other wet areas? How have vernal pools been altered?

The Six Rivers Land and Resource Management Plan (LRMP) requires that the Forest develop species/habitat management guides for sensitive species, and develop a monitoring plan that is implementable and trackable (LRMP, pp. IV-83). The Six Rivers Land and Resource Management Plan (LRMP) requires that the Forest protect sites with survey and manage species from grazing, "Known and newly discovered sites of these species will be protected from grazing by all practicable steps to ensure that the local populations of these species will not be impacted. Species to be protected through this standard and guideline are the vascular plant *Pedicularis howellii* (LRMP p IV-85), as well as many other species. What surveys and monitoring has been done to determine the effects of grazing on sensitive and endemic plants, and what analyses has been done to determine effects to species viability? What actions have been taken to comply with this management direction?

The EIS must also demonstrate compliance with the following LRMP direction:

"Conduct rangeland project decisions (RPD) on all allotments during the planning period." (LRMP, p. IV-120).

"RPDs developed in accordance with NEPA, will coordinate livestock use with other resource and activities. RPDs will be compatible with management area direction." (LRMP, p. IV-121).

We are also concerned about *Bensoniella (Bensoniella oregona)*. There are only four known occurrences of this species in CA, and one of the populations is on Six Rivers NF. The Dept. of Fish and Game cites cattle grazing as being the biggest threat to the species. The EIS should address whether this species occurs within or near any of the allotment areas, and how it will be protected, as well as what survey will be done to ensure that it does or does not exist within the project area.

We are also concerned that livestock cause weed invasions by grazing and trampling native plants; clearing vegetation, destroying the soil crust and preparing weed seedbeds through hoof action; and transporting and dispersing seeds on their coats and through their digestive tracks. For example, Belsky and Gelbard (2000)

reviewed the contributions of livestock grazing to weed invasion:

1. transporting weed seeds into uninfested sites on their coats and feet and in their guts,
2. preferentially grazing native plant species over weed species,
3. creating patches of bare, disturbed soils that act as weed seedbeds,
4. destroying microbiotic crusts that stabilize soils and inhibit weed seed germination,
5. creating patches of nitrogen-rich soils, which favor nitrogen-loving weed species,
6. reducing concentrations of soil mycorrhizae required by most western native species, and
7. accelerating soil erosion that buries weed seeds and facilitates their germination.

The EIS should address the significant issue of invasive and exotic weeds, how grazing influences the establishment and spread of these alien species, and how these impacts will be avoided. The EIS should address the significant issue that noxious weeds increase the likelihood of neighboring landowners and the County using toxic pesticides in the watershed. Good integrated pest management practices begin with sound land management practices, and every effort should be made to ensure that noxious weeds are not introduced and conditions are not conducive for their establishment (i.e., habitat conditions maintained).

Many of the allotments have populations of the star thistle and other noxious weeds. Noxious weeds are an indicator of poor rangeland condition. We believe that the presence of these species indicates that these rangelands are in unsatisfactory condition, and therefore the level of utilization should be adjusted accordingly. We are concerned about the potential impacts of goats, and the nonselective nature of their grazing. While we support the use of goats in noxious weed management, we request that the EIS consider the impacts of goats on desirable native plants and on the watershed as a whole.

Foraging is proposed to take place within all habitat types. Much of the foraging is also proposed to take place within the North Fork Wilderness Area, Roadless Areas, and the North Fork Eel Wild and Scenic River Corridor, and riparian reserves. We request an analysis of the impacts of grazing on each habitat type and land allocation, and the estimated amount of herbaceous material and biodiversity lost. We request an analysis of the impacts on private lands in the vicinity, a description of how each livestock in each allotment will be distributed, and a thorough analysis of how trespass will be prevented into other units, allotments, or private lands. The EIS must also address the cumulative effects of grazing on all lands within the affected watersheds, both private and public.

Assuming 396 animal units, approximately 10,296 lbs. of forage will be consumed on National Forest lands primarily within the North Fork Eel River watershed each day (Six Rivers LRMP pp. IV-121). BLM lands support 732 AUMs within the North Fork Eel River watershed as well (N.Fork Eel WA, 1996), which amounts to 19,032 lbs of forage a day, based on a typical 1,000 lb. AUM, consuming 26 lbs. of forage for each cow (Six Rivers LRMP pp. IV-121), for a combined total of 29, 328 lbs. of forage per a day in the North Fork Eel River watershed. We are concerned that depending upon the particular habitat, the minimum residual dry matter for different percent slopes and pounds per acre may not be sufficiently met (LRMP IV-120). While the grazing allotments have specific seasons of use, the type of grazing system was not specified. We request that the time frame for each grazing allotment be provided, along with the grazing system so that the impacts of foraging can be adequately addressed.

What are annual rangelands? Why are only annual rangelands monitored for residual dry matter (RDM)? Why do lower flat slopes have a lower pounds per acre than average gentle slopes and upper steep slopes? Please explain the logic used to derive these numbers. Upper steep slopes would be more susceptible to erosion, so why do they have greater pounds (1,250 pounds/acre) per an acre than lower flat slopes? What are the RDMs for white oak woodlands and other habitat types located within the allotments? While livestock may utilize these habitats less than grasslands, we have often seen cattle in forested areas. Because these habitats have less herbaceous material, cattle may cause more impacts in these areas, both through introduction of noxious weeds, trampling, and direction removal of herbaceous material by the ripping, shredding, action of cattle.

We are concerned about the effects of grazing on fuels and fire behavior in Wilderness Areas and all other land allocations, and request that the EIS consider the impacts of grazing on vegetation composition and structure, fuel loading, and fire behavior.

Soils

Grazing compacts soils, breaks up soil structure, reduces infiltration, reduces soil organic matter, and increases soil erosion (Spence et al. 1996). We are concerned about impacts to ecosystem functioning, including nutrient and hydrologic cycling. We are concerned about impacts to soils and long-term productivity. We are concerned about wet meadows and riparian areas that are easily compacted. Livestock tend to preferentially use these areas during the summer because they have cooler temperatures, better forage, and water readily available. We are concerned about the proposed seasons, which start as early as March in some allotments. These soils will still be saturated from winter snow melt, and will be extremely vulnerable to compaction and disturbance. We believe that none of the allotments should be opened prior to June 1st to allow for adequate RDM, and to minimize soil disturbance. We are concerned about these numerous adverse impacts, and request that the EIS thoroughly address this significant issue, and the following standards and guidelines:

“Soil displacement (mechanical movement of soil) as a result of livestock will not exceed 10 percent of the area affected in coarse soils; in medium and fine soils, disturbance will not exceed 20 percent “(LRMP p. IV-121).

“Soil compaction is a problem on heavy soils, especially if they are wet. Soil compaction will be judged as none, light, moderate, or heavy. Proper use should not exceed moderate compaction “(IV-121).

How will the Forest Service ensure that these standards and guidelines are adequately met?

Watershed Condition

We are very concerned about the adverse effects of grazing on watershed conditions, including altered hydrology, water quality (including sediment, temperature, and nutrients), riparian conditions, channel structure, streambank conditions, and stream biota. The North Fork Eel River is a tier 1 key watershed, and therefore extra care should be taken to protect aquatic resource values from the impacts of livestock grazing. For example, Belsky et al. (1999) reviewed grazing impacts on water quality and quantity:

- ?? Water quality: livestock deposit pathogenic bacteria into streams and increase nutrient content, water turbidity, and water temperatures, all of which harm cold water fish and other species.
- ?? Stream channel morphology: grazing results in streambank downcutting that shrinks the channel, and reduces streambank stability and the number and quality of deep pools and stream meanders.
- ?? Hydrology (stream flow patterns): grazing causes increased runoff, flood water velocity, number of flood events, and peak flow, while reducing (or stopping) summer flow and lowering the water table.
- ?? Riparian soils: grazing exposes bare ground, compacts soil and causes erosion, while reducing water infiltration and soil fertility.
- ?? Streambank vegetation: grazing reduces the cover, biomass, and productivity of herbaceous and woody vegetation, and impedes plant succession.
- ?? Instream vegetation: grazing increases algal populations while causing declines in other, beneficial water plants.
- ?? Aquatic and riparian wildlife: grazing reduces the diversity, abundance, and productivity of cold water fish, amphibians, reptiles and invertebrates and alters the composition and diversity of birds and mammals.

We are especially concerned about impacts from grazing on riparian reserves, including stream channels, wet meadows, seeps, springs, vernal pools, and unstable areas, which in turn affect watershed condition. We are concerned about wet meadows and riparian areas that are easily compacted. Livestock tend to preferentially use these areas during the summer because they have cooler temperatures, better forage, and water readily available, and therefore the impacts are greatest in these areas. We are concerned about the spread of pathogens such as *Phytophthora ramorum* from grazing, and the increased use of OHVs to herd cattle. We are concerned about water withdrawals for livestock use, and their impacts on aquatic ecosystems. The EIS must thoroughly analyze and disclose all past, present, and future impacts from grazing on riparian reserves, and demonstrate how the proposed actions will comply with ACS direction for these areas. If the current distribution of conditions is not within the acceptable range of variability for the watershed, subwatershed, and larger basin scales, then the grazing allotments are not in compliance with the ACS. For example, the EIS must demonstrate compliance with the following LRMP direction for RR's:

Water temperature, sediment loads, and nutrient cycling will be at levels that provide for productive riparian and aquatic ecosystems.” (LRMP p. IV-45).

“The RPD will include a strategy for the management of riparian areas to benefit all pertinent resources uses. The RPD will identify vegetative needs for the riparian area and include management actions required to attain riparian objectives.” (LRMP pp. IV.120)

“Maintain and restore the physical integrity of the aquatic system, including shorelines, banks, and bottom configurations (LRMP, p. IV-108).

“Maintain and restore the sediment regime under which aquatic ecosystems evolved. Elements of the sediment regime include the timing, volume, rate, and character of sediment input, storage, and transport.” (LRMP IV-108).

“Maintain and restore the species composition and structural diversity of plant communities in riparian areas and wetlands to provide adequate summer and winter thermal regulation, nutrient filtering, appropriate rates of surface erosion, bank erosion, and channel migration and to supply amounts and distributions of coarse woody debris sufficient to sustain physical complexity and stability.” (LRMP IV-108).

“Maintain and restore habitat to support well distributed populations of native plant, invertebrate, and vertebrate riparian dependent species.” (LRMP IV-108).

The EIS must analyze and disclose historical and current impacts to the riparian and aquatic systems in the affected area, and demonstrate compliance with the Aquatic Conservation Strategy, Clean Water Act, and North Coast Basin Water Quality Control Plan. The EIS must address the past cumulative watershed effects, and the need for considering the importance of protecting riparian areas:

“The loss of riparian cover was due to high sediment and debris laden flows, increased sedimentation of habitat from land sliding, during major flood events in the last 50 years, and increased surface erosion from roaded, harvested, and grazed areas. Since riparian communities are already very limited in extent in the watershed, loss of riparian cover is especially detrimental.” (N.Fork Eel WA, 1996).

We believe that the ACS requires the Six Rivers National Forest to restore currently degraded areas, and maintain currently healthy areas. The following quote addresses this issue:

"The decision maker will use the results of watershed analysis to make the finding...that a project or management action "meets" or "does not prevent attainment" of the Aquatic Conservation strategy objectives.

to determine compatibility with the objectives, the analysis must include a description of the existing condition, a description of the range of natural variability of the important physical and biological components of a given watershed, and how the proposed project or management action maintains the existing condition or moves it within the range of natural variability. Management actions that do not maintain the existing condition or lead to improved conditions in the long term would not "meet" the intent of the Aquatic Conservation Strategy and should not be implemented. A hypothetical example regarding applying the Aquatic Conservation Strategy would help illustrate the intent of the strategy. Ski areas frequently have clearings that cross intermittent and ephemeral streams. These exposed areas could be sources of sediment to the intermittent and ephemeral streams as well as potential fish-bearing streams downstream. The frequent clearings in the upper watersheds would also affect the hydrology of the watershed where the ski area occurs. These conditions are generally not typical of upper watershed ephemeral and intermittent streams and would most likely be out of the typical range of natural variability for hydrology, riparian vegetation, water quality and sediment regime. The persistence of these conditions results from the long-term maintenance of the openings and leads to chronic negative effects to the watershed. Thus, the long-term maintenance of the existing condition would not meet the intent of the Aquatic Conservation strategy." (FSEIS, Appendix B, pp. B-83, B-84).

This example can readily be applied to the North Fork Eel River watershed and the impacts of grazing. For example, the wet meadow on the Crabtree Place has exceeded LRMP standards for wet meadows, yet livestock use will still not be excluded from this meadow, it will only be minimized. Minimizing livestock grazing in a heavily degraded area is not sufficient to meet ACS objectives. We believe livestock use in this area should cease immediately due to the adverse cumulative effects that are occurring to the overall species composition of both flora and fauna, the level of soil compaction, and the adverse impacts on water quality, and the area should be restored to the maximum extent possible.

Fisheries

We are concerned about impacts to resident and anadromous fisheries, particularly threatened and management indicator fish species present in the North Fork Eel River watershed, including but not limited to both summer and winter run steelhead, Chinook salmon, rainbow trout, and Pacific lamprey. The EIS must analyze and disclose all impacts to these fish species. Under the National Forest Management Act (NFMA, 16 U.S.C. §§ 1600 et seq.), the Forest Service is required to manage fish and wildlife habitat to maintain viable populations of vertebrate species such as salmon and steelhead. In 1994, the Secretary of Agriculture and the Secretary of the Interior adopted an Aquatic Conservation Strategy to protect salmon and steelhead. The strategy has four components. One component is the designation of "Tier 1 Key Watersheds." The North Fork Eel WSR is a Tier I Key Watershed. As such, the river is expected to help anchor the recovery of anadromous fish. Approximately 46.2 miles of anadromous fish habitat exists in the North Fork Eel River and its tributaries. Forest Service lands within the North Fork Eel watershed contain much of the best remaining habitat for salmonids in the basin.

Chinook salmon (*O. tshawytscha*) and winter and summer steelhead trout (*O. mykiss*) exist in the North Fork Eel WSR. Chinook salmon are listed as "threatened" under the Endangered Species Act ("ESA"), and occupy habitat from the confluence of the Mainstem and North Fork Eel Rivers upstream and on to Forest Service lands. The quality of habitat for chinook salmon in the North Fork Eel WSR is influenced by the amount and quality of water in the species' habitat. Winter and summer steelhead trout are listed as "threatened" under the ESA, and occupy habitat from the confluence of the Mainstem and North Fork Eel Rivers upstream to and beyond the upstream boundary of the North Fork Eel WSR. The quality of habitat for steelhead in the North Fork Eel WSR is influenced by the amount and quality of water in the species' habitat.

The U.S. Environmental Protection Agency has approved the listing of the North Fork Eel River as "water quality limited" under the Clean Water Act for the parameter of temperature. The upper incipient lethal temperature limit for chinook salmon is 68 degrees fahrenheit. The upper incipient lethal temperature limit for steelhead trout is 71

degrees fahrenheit. Temperatures exceeding 80 degrees fahrenheit have been recorded in the North Fork Eel River. High water temperatures decrease dissolved oxygen, which makes it more difficult for salmonids to breathe. High water temperatures make salmonids lethargic, more vulnerable as prey, and less likely to spawn. The U.S. Environmental Protection Agency has also approved the listing of the North Fork Eel River as “water quality limited” under the Clean Water Act for the parameter of sediment. High sediment levels in the North Fork Eel WSR harm salmonids by reducing spawning and rearing habitat, decreasing aquatic invertebrate production, and increasing water temperatures. The EIS must analyze the significant impacts to water quality and fisheries resulting from grazing, and how management actions will improve these degraded conditions so as to comply with provisions of the Aquatic Conservation Strategy and ensure the protection of beneficial uses.

Wildlife

We are concerned about grazing impacts on wildlife, including reduced forage availability, direct competition for forage, altered habitat and cover and the adverse effects of grazing on wildlife, including rare, sensitive, threatened, Survey and Manage, including but not limited to Northern spotted owl, bald eagle, red tree vole, peregrine falcons, goshawks, willow flycatcher, black bear, Pacific Fisher, American marten, foothill yellow legged frog, red legged frog, western pond turtle, and Klamath shoulderband snail. We are concerned about Management Indicator Species, including pileated woodpecker, screech owl, red breasted sapsucker, winter wren, American dipper, western tanager, black headed grosbeak, flammulated owl, western screech owl, downy woodpecker, hairy woodpecker, brown creeper, western bluebird, blue grouse, acorn woodpecker, scrub jay, lazuli bunting, black tailed deer, Douglas squirrel, western gray squirrel, western fence lizard, rainbow trout, and summer steelhead. The NFMA and the SRLRMP requires that the Forest Service include information on population numbers and trends for each of the MIS species to assess viability. Therefore the EIS should include this information, and how the proposed actions will impact these populations. We are concerned about amphibians, and the impacts of grazing on riparian zones and the wildlife species that utilize them. We are concerned about impacts to neotropical migratory birds through reduced riparian vegetation and cover. The EIS should address issues such as forage allocation and use by various wildlife species, and how the proposed grazing has and will continue to impact wildlife species. We also request the EIS analyze and disclose the impacts to wildlife from predator control efforts aimed at protecting livestock on public lands.

The EIS must demonstrate compliance with the following LRMP grazing direction: “Carrying capacity determinations will take into consideration wildlife habitat objectives.” (LRMP pp. IV-121) Species to be protected through this standard and guideline are the mollusks *Ancotrema voyanum*, *Monadenia fidelis klamathica*, *Monadenia fidelis ochromphalus*, *Fluminicola n. sp.1*, *Fluminicola n. sp. 3*.

The North Fork Eel WA states the following, “The large feral pig population also contributed to soil disturbance” (N.Fork Eel WA, 1996 pg. 109). Are feral pigs still an issue in the North Fork Eel River watershed? If so, has the disturbance from these exotic beasts been considered in overall impacts to watershed condition? We request that the potential impacts from feral pigs be thoroughly analyzed and addressed, including the likely amount of forage removed by the feral pig population to be considered in the computation of minimum residual matter and carrying capacity for the watershed.

Wilderness Values

The Van Horn Allotment encompasses most of the Yolla Bolly Wilderness and the North Fork Eel Wilderness. The Hoaglin and Long Ridge Allotments also encompass portions of the North Fork Eel Wilderness. The LRMP provides the following direction,

“Permit grazing only within established allotments as long as that use preserves and does not damage other Wilderness values. Adjust grazing management as necessary to protect Wilderness values through Range Project Decisions and Annual Operating Plans.” (LRMP, P. IV-14).

We have often seen the effects of grazing in Wilderness Areas, such as trampled vegetation, manure, flies, etc., which adversely affects our Wilderness experience. The EIS should address conflicts with Wilderness values from grazing, and meet the following standard and guideline:

Late-Successional Reserves

The EIS should demonstrate that the proposed grazing is consistent with LSR management objectives, and demonstrate compliance with the following LRMP direction: “Adjust or eliminate grazing practices that retard or prevent attainment of reserve objectives. Evaluate effects of existing and proposed livestock management and handling facilities in reserves to determine if reserve objectives are met. Where objectives cannot be met, relocate livestock management and/or handling facilities.” (LRMP, p. IV-41). We believe that grazing is not consistent with LSR objectives, because livestock will browse on young trees and retard the recovery of late successional characteristics in younger stands.

Research Natural Area

We are concerned about impacts from livestock to the Soldier Basin Research Natural Area (RNA). We do not believe that the measures outlined are sufficient to prevent livestock impacts within the RNA. We request that the EIS provide a thorough and realistic set of provisions for ensuring that the RNA is adequately protected from livestock.

Monitoring and Enforcement

We request that the EIS describe previous monitoring efforts to determine impacts and demonstrate compliance with LRMP management direction, how this information has been used to alter/adjust grazing practices, and describe actions taken to ensure the protection of resources and compliance with management standards and guidelines. The EIS should describe the results of previous monitoring, and outline what monitoring will be done in the future to ensure attainment of management direction standards and guidelines. Allotments should comply with the following standard and guideline:

Maintenance of range improvements is the permittee’s responsibility. Permittee will provide materials needed for normal repairs. All structural improvements

“Permittees are to keep their cattle distributed through the season and prevent trespass into other units and/or allotments.” (LRMP IV-121).

Cumulative Effects

We are concerned about the cumulative effects of all management activities in the North Fork Eel River watershed on soils, plants, wildlife, fisheries, and overall watershed condition. The EIS must thoroughly analyze all cumulative effects on the ecosystem from grazing in combination with all past, present, and reasonably foreseeable future impacts in the watershed, including but not limited to logging, mining, fires, roads, and off-highway vehicle use.

We are concerned about the cumulative impacts from past grazing practices that have degraded watershed condition to such a degree that the North Fork Eel River watershed has had difficulty recovering.

We are concerned that grazing has had adverse cumulative effects on the overall species composition and species assemblages on the forest due to preferential browsing by livestock, that prefer native tender broadleaf plants and

native grasses, creating conditions more conducive for noxious weeds and hardier plant species. We request that the EIS address this significant issue and provide alternatives to livestock grazing that provide greater protections for native plant species while reducing cumulative effects in the watershed.

Economics

We are concerned about the adverse economic costs from implementation of the grazing program on National Forest lands, and request that the EIS address the costs and benefits from implementation, monitoring, enforcement, and administration of all grazing permits in the North Fork Eel River watershed. Further, the EIS must address the interrelationship between allowing grazing on public lands and sustaining grazing on private lands. Specifically, the EIS must consider and evaluate how the agency's allowance of grazing sustains what may otherwise be unviable commercial livestock operations.

We request that the EIS present a full range of alternatives, including closing all allotments to livestock grazing, closing the vacant allotments, removing cows from the river corridor, and protecting all outstandingly remarkable values and beneficial uses.

Thank you for your consideration.

Sincerely,

/s/Christine Ambrose

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