Data Submitted (UTC 11): 4/26/2020 7:00:00 AM First name: Fred W Last name: Rabe Organization: Title: Comments: See attachment for additional materials included in mail. Scanner made pictures too dark. Original on file.

Dear Sirs:

Enclosed are my comments as to recommending wilderness for all 1.5 million acres of roadless areas in the Clearwater and Nez Perce National Forests.

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I included a number of pictures, captions and stories to better describe how valuable this ecosystem is to the public.

ATTACHMENT BELOW

Forest Plan Revision903 3rd StreetKamiah, Idaho 83536March 10, 2020Dear Sirs:Enclosed are my comments as to recommending wilderness for all 1.5 million acres of roadless areas in the Clearwater and Nez Perce National Forests. I emphasized Weitas Creek as the most crucial site to be protected and that water quality, wildlife and fish habitat be quantitative, enforceable and non[shy] discretionary without loopholes. Otherwise there is little science to justify much of the New Draft Plan.Habitat for the grizzlies should be protected.I included a number of pictures, captions and stories to better describe how valuable this ecosystem is to the public.(d wl1ekFred W. Rabe1715 Appaloosa RoadMoscow, ID 83843Commentary on Clearwater National Forest Draft Plan RevisionFred W. Rabel am a resident of Moscow, Idaho and retired from the University of Idaho where I taught and did research in the Biological Sciences De[shy]partment. Over ten years I volunteered to study roadless areas and Research Natural Areas for Friends of the Clearwater. In so doing, I wrote six booklets and gave talks describing the natural history of the Lochsa and North Fork Clearwater River roadless areas. Unfortunately the Forest Service combined draft plans of the Nez Perce Forest with the Clearwater Forest which did a disservice to the public. My purpose in doing this project was one part adventure, one part gathering facts and one part enjoyment knowing my pictures and stories would generate further interest in roadless areas. The plan was to travel to unspoiled locales, places that "keep the soul alive." There I photographed what is still pristine and wild, places we must hold and protect. Stories from FOG. members of their hikes into roadless country were included here. The booklets are on the visual side. They say, let's leave town and hike to Steep Lake, fish for cutthroats in Kelly Creek, photograph the rugged Williams Range. Once this happens, you'll be more passionate enjoying and defending the wild since you'll see it first hand. People and myself included know this. I describe highlights of some of the roadless areas and why they are such important ecosystems. In addition, terms and subjects that relate to my comments are brought into play. These include logging riparian zones, definition of old growth, shrubs and invertebrates, im[shy]portance of first and second order streams, motorized trails spells less wildlife, Outstanding fishing and trail system describes Kelly Creek, Cayuse Creek has excellent riparian system, Bighom-Weitas Roadless Area is Number 1 selection, refuge sites and measurable enforce[shy]ment and standards, BWRA and solitude, bull trout - indicators of sensitivity, fragmentation, contiguity, visual variety, aquatic moss and in[shy]vertebrates, stringer meadow, dead and dying trees in

streams.I am joining together with Friends of the Clearwater in ad[shy]vocating for full protection of all 1.5 million acres in the form o1 recommended wilderness, and/or as non-motorized, non mechanized backcountry areas. No road building, logging, or development should occur in the roadless base. A two zone riparian management system is inap[shy]propriate since it would allow more trees to be cu in the outer zone. Not only would this destroy the edge effect of such streams as Cayuse Creek seen here but it would create a cos[shy]metic nightmare. In addition streams like Upper Hemlock Cree (below) would be partially[shy] deprived of a microbial ood source derived from warmer water temperatures caused by less shading would make it difficult or more sensitive fish like bull trout to exist there. There is no way you can convert a forest like Aquarius to some other type forest. It has adapted to its environment and reached an old growth condition. A two riparian zone management system in order to log more timber would disrupt vegetation in the aquatic zone together with shrub cover important as shade and de[shy] tritus that serves as an energy source for macroinvertebrates. In addition removal of riparian growth would erode soil and impact bank stability. See attachment for pictureChateau Falls RNA consists of four spectacular waterfalls with lesser falls and cascades on Chateau Creek.Pot Mountain Roadless Area is almost round-shaped, lying like a huge inverted bowl on the landscape with the North Fork on the bot[shy]tom edge of the bowl. Most of the 50 separate drainages that enter the North Fork exceed 10 percent in gradient. In addition to nutrients, these first to second order sites provide insect drift for fish and addi[shy]tional water to the river. The Forest Service studied 21 streams here and found embeddedness in excess of 25-50 percent in most drainages. Such extreme conditions could worsen if these fragile en[shy]vironments are roaded, further lowering productivity of the tributaries thus impacting the North Fork.Right: Sediment eroding from hillside along North Fork Clearwater River. Landforms here are underlain by granitic batholith material. Note concrete barrier to prevent encroachment of fines onto the roadSee attachment for figuresPot Mountain is one of the most important core areas. It contains interesting landscape forms and diverse aquatic resources: wa[shy]terfalls, four high lakes, wet[shv] lands and about 50 tributary streams which flow into the North Fork. The river, mile after mile. charges the air with fragrance and energy telling your nose, ears and skin a thousand stories about the myriad places and be[shy]ings these waters have touched.Looking north at Pot Mountain Roadless Area. This roadless area is an important link in the chain of forested habitats that stretch from the Yellowstone to the Yukon, anchored by the northern spine of the Rocky Mountains and connecting central Idaho's outstanding wilderness complex with many wildlands in MontanaSee attachment for imageMoose Mountain Roadless Area to the right is sandwiched between Kelly Creek, to the left and North Fork Clearwater RiverNorth Fork Clearwater River bordered by north-northeas1 side of Moose Mountain Roadless Area. This rugged country, far from the grow[shy] ing din of ATVs, is sought after by elk hunters and the stretch of river corridor is highly prized by fishermen.Most of the barren area of Moose Mountain is sheared with metamorphosed rocks susceptible to weathering. Some rocks are very sparsely covered with shrubs and perennials present especially on the south facing slope, A diversity of trees, dominated by lodgepole pine, are more common on the northeast and north side of Black Canyon along the North Fork of the Clearwater River. The latest maps and travel guides show no motorized trails in the area. The higher meadow complexes between Moose Mountain and Moose Buttes are favorite sites for people to visit. Hunters have said that hearing a number of wolves howling in extremely close proximity made their trip special even though they failed to obtain meat for the freezer. These same people had spent whole seasons in the Frank Church Wilderness without experiencing anything beyond seeing wolf scat and tracks. Then, during their first visit to Moose Mountain, wolves had paid them an incredible visit.Kelly reek within the Hoodoo or Great Burn Roadless Area is known for its Blue Rib bon trout fishery and fantastic trail system hat extends to the Biterroot Mountains. Westslope cuttthrope range from 12 to 16 inches with some reaching 20 inches and more and they're usu[shy]ally not fussy over you selection of flies. Mountain whitefish, rainbows, bull trout and spawning kokanee also occur here to[shy]gether with otters play[shy]ing tag in deep pools. No planters in this river. Catch and release reg[shy]ulations insure a con[shy]tinual supply of big fish but also help maintain nature's balance.Colbert Cushing, an avid fisher and colleague spent 18 years infatuated with Kelly Creek. His book, Kelly Creek Chronicles, describes the stream's ecology and good fishing times. He shared these experiences over the years in 12 different anglers some of who accompanied him to Kell Creek every year beginning in 1981. Let's not spoil it for future generations. Several miles down trail, the river flattens out and a beautiful herbaceous site appears, Hansen Meadows. Let's not fragment it with snowmobile and off-road vehicle trailsWestslope cutthroat is dominant trout in Kelly Creek.Lost Lakes are set in an extensive meadow. The lakes

have an extremely meadow. The lakes have an extremely low acidity and conductivity enabling a number of species of moss to sprawl on the lake bottom. The moss appear to to be a substitute for for aquatic plants as a source of photosynthesis. Macroinvertbrates are few in number. The water flow through the lakes and surrounding meadows coalesces to form the upper reach of Cayuse Creek that eventually merges with Kelly Creek miles downstream.Protect this site.Upper Cayuse CreekRiffle/cobble substrateDense canopy coverMinimum surface finesNo channel alterationBank covered by vegetationNo evidence of erosionWide riparian growthUpper Cayuse Creek near trail 249. The small waterbody is bordered by western hemlock and subalpine fir crowding the stream bank to provide shady conditions and cool water temperatures, the sort of habitat is excellent for bull trout frequenting the stream's reaches. In 1984, 51,000 acres encompassing most of Cayuse Creek and Tobaggon Creek were proposed as wilderness and both sites were unanimously selected forpermanent wildland protection by citizen participation. So far, it hasn't happened. Weitas Creek, largest tributary to the North Fork Clearwater River, is a low elevation broad river valley. Places like this are very rare to find in such a pristine condition. Weitas is located in the Bighorn Weitas Roadless Area (BWRA) in the middle of the Clearwa[shy]ter National Forest. It is the largest roadless area in the forest (260,000 acres). MAKE IT WILDERNESS.Weitas River to the left is a B-3 stream type having predominantly cobble size rocks, together with boul[shy]ders, gravel and sand. The ratio of the river's width to depth here is > 12 and the habitat mostly riffles and pools. Dominant stream cover is shrubs.See attachment for pictureBWRA is composed of two large drainages, Cayuse Creek and Weitas Creek. The elevation at the mouth of Weitas Creek is 2,400 feet with most streams in the drainage being higher. The Lolo Motorway bounds Weitas on the south. It was built in 1933 and in places is steep and requires attentive driving.Lands within a mile of the road contain the historic Nez Perce Trail. The North Fork Clearwater River is north of divide and Lochsa River occurs to the southSee attachment for picturePackbridge over confluence of Sand Creek and Upper Weitas Creek about 12 miles upstream from trailheadDownstream of confluence with Windy Creek and Weitas Creek approximately 20 miles from trailhead. Note low elevation habitat of meandering stream, ex[shy]tensive wetland, and riparian dominated by shrubs and grassy hillside. Moose in picture. See attachment for imageHemlock Creek is a major tributary to Weitas Creek from the west. The upper reaches were proposed as an RNA since the site was utilized as a reference or control to streams in the Clearwater drainage where extensive landslides oc[shy] cured in 1995. It was found that macroinvertebrate communities from Upper Hemlock Creek waters had a high biointegrity as to number of species and sen[shy]sitive forms compared to stream invertebrates impacted by the landslides. The site should continue to serve as a reference site for the forest. See attachment for imageLeft: Hem[shy] lock Creek - Third order stream with open canopy boulder-rub[shy]ble substrate and shrub ri[shy]parian. Right: First order stream with closed canopySee attachment for imagesThe size and rectangular shape of BWRA tend to promote solitude. Two major drainages and six tributary systems together with wide and rounded ridges (see above) isolate people effectively. Numerous primitive trails in creek bottoms also disperse visitors.No lakes of any size or other such attractions tend to concentrate people in the Weitas. Once immersed in dense vegetation and top[shy]ographical diversity, one feels isolated from civilization. Visual dis[shy]turbances of outside activities are minimized due to moderate elevations compared to higher sites. Unique scenic values together with hundreds of miles of low standard trails, help supply a sense of remoteness and solitude to the hiker. Developing BWRA would destroy the wholeness and character of the largest roadless area in the Clearwater National Forest. No more would its wilderness features blend with the wild lands to the north and south.Riffle and glide habitats of Weitas Creek. Crystal clear water, open and closed canopies and well developed riparian shore characterize these stream reaches.see attachment for imageThe state of Idaho as Special Resource Water. This designation recognizes the NFCR as having at least is of outstanding high quality exceeding cold water biota standards 2) the water is of the unique ecological significance 3) the water posses outstanding recreational or aesthetic gualities and 4) intensive protection of the guality of the water is in the paramount interest of the people of Idaho. Meadow Creek, major tributary to the North Fork, is the most important spawning site for bull trout in Idaho. Consequently, it and adjoin[shy]ing streams have been studied for several years by the Idaho Fish & amp; Game Department. Focal sites and high quality habitat sites for bull trout exist in Meadow Creek, Vanderbuilt Creek, and Long Creek drainages. The bull trout (Salvelinus confluentus) was listed as an endangered species under the Endangered Species Act in 1998. The listing documentary and recovery plan mentioned three significant (actors to be addressed) 1) fragmentation and local isolation of populations 2) degradation of spawning and rearing habits and

3) the introduction and spread of non-native species particularly brook trout (Salvenlinus fontinalus) which compete and hybridize with bull trout. Bull Trout have more specific habitat requirements and can be quite sensitive to human disturbances. They are bottom oriented and are less abundant where stream bed sediments are high. Bull trout chose complex habitats that provide abundant hiding cover and avoid temperatures exceeding 15 degrees C. Optimum rearing temperature is 7-8 degrees C which may explain why spawning areas often in the coldest streams. Harvest of bull trout by anglers have been illegal since 1995. Note the photo of bull trout to the right.Bull trout. It is imperative the Forest Service Plan includes measurable and enforceable standards. Otherwise, the service discounts science to evalu[shy]ate environmental quality as it relates to habitat, water and biologySee attachment for images on this pageThe North Foflk Clearwater River flows roughly through the center of Meadow Creek Upper North Fork Raoadlesss Area almost continually in view from Trail 373. Meadow Creek empties into the North Fork about 4 miles northwest of the Cedars Campground near where Long Creek and Lake Creek flow into the North Fork(See map on previous page). A high degree of visual variety exists here rapids, pools, run and cascades. In addition extensive meadows exist adjacent to the river providing habitat to many specieis of mammals and birds. The stream bottom landscape association (LTA) is a high, quality habit. The majority of breaklands or sleep-sloped landforms create a distinctive frame to the river. Fish spawning and remaining in the corridor is enhanced by pool spring water originating from adjoining meadows. Cedar, hemlock and pine forests are common in the lower elevations of the North Fork. Chamberlain Creek and Maadow Creek. Eighty-five of fish in Meadow Creak are westslope cutthroat, the largest reaching about 16 inches. Rainbow, bull trout, mountain whitefish and brook trout are also present in these drainages. The road density is very low and the watershed generally in excellent condition influenced mainly by natural processes. In the last 50 years, about 84 percent of the Upper North Fork drainage burned and tree has = been minimal.Lochsa River drainage with six roadless areas emptying into river. Three large roadless areas, in gray, flow into the North_ Fork Clearwater River to the north. This huge chunk of land should not be fragmented since it provides ecological linkages and bridges allowing animals and plants to migrate across elevations and latitudes uninhibitedSEE ATTACHMENT for imageFish Creek is proposed as a wilderness area. The photo of Upper Fish Creek shows a meanderingglide stream habitat surrounded by a stringer meadow with a random distribution of subalpine fir and Englemann spruce.Collecting macroinvertebrates in Fish Creek. Where the channel is partially covered with aquatic moss, as seen here, more insects are present in the moss than in the adjoining sand substrate. As the moss be[shv] comes senescent and decomposes, it releases nu[shy]trients in the water thus increasing productivity of the stream.Note false hellebore amongst the stringer meadow.Glide - stream has a slow flow with a sand/gravel, moss substrateUpper Fish Creek is a second to third order stream with a very low gradient at an elevation of about 1219 m (4000 ft). It occupies a gen[shy]erally wide valley bottom dominated by an extensive graminoid meadow surrounded by a forested terrain of mostly Englemann spruce and sub[shy] alpine fir. The underlying rock is Idaho Batholith granitics and the water has a low alkalinity and conductivity readings. The channel in places has large moss concentrations which enhance the bioin[shy]tegrity of the stream. Moss samples often contain species of aquatic insects absent in the sand samples. As many as 42 macro in[shy] vertebrate species were observed there. In 1806, the Lewis and Clark expedition recognized Fish Creek Meadows as the last good grazing place before continuing east.As you proceed east and then north along the river you'll come to the confluence of the Middle Fork. You follow it until reaching Kidd Lake and then Cedar Log Lake on the Stateline Trail in Montana. It would be criminal to open this entire trail system to industrialized tourism. Instead, let's make this lush river valley and forested slopes beyond part of our wilderness system. Kidd Lake on bottom left. Hungery Creek together with Fish Creek should be combined as a wilderness area. Hungery Creek is a third order stream having a riffle /run habitat upstream and a glide/pool habitat downstream with a sizeable meadow occurring on one side of the channel. These contrasting sites provide an excellent educational op[shy]portunity to compare plant and macroinvertebrate communities there. Along the steep bank upstream, the stream adjoins a bot[shy]tom land forest community of conifers and shrubs. On the oppo[shy]site bank are seasonally inundated wetland communities. Downstream the tall meadow community bordering the stream is somewhat separated from the remainder of meadow by a nar[shy]row finger of Englemann spruce. The meadow on the other side of the stream is drier and colonized by conifers.Cayuse Creek enters Kelly Creek on the right. Great camping site.Fish Creek/Hungery Creek Region - North Lochsa Roadless Areas.Hungery Creek together with Fish Creek should be combined as a wilderness area. Hungery Creek is a third order stream having a riffle/run habitat

upstream and a glide/pool habitat downstream with a sizeable meadow occuring on one side of the channel. These constrasting sites provide an excellent educational opportunity to compare plant and macroinvertebrate communities there. Along the steep bank upstream, the stream adjoins a bottomland forest community of conifers and shrubs. On the opposite bank are seasonally inundared wetland communities. Downstream the tall meadow community bordering the stream is somewhat separated from the remainder of meadow by a narrow finger of Englemann spruce. The meadow on the other side of the stream is drier and colonized by conifers.Some 40 species of macroinvertebrates were collected in the moss/mineral samples, a high biotic diversity. The primitive path paralleling some of the stream is the Lewis & amp; Clark Historical Trail. Productive stretch of Hungery Creek for macroinvertebrates as to its shrub riparian vegetation and boulder, rubble, gravel substrate.Debris dam on Hungery Creek slows water, accumulates fine detritus for inverte[shy] brates and provides a habitat for them. The Forest Plan calls for harvesting dead and dying trees which in time would lessen richness of a stream ecosystemIf the new Forest Service plan occurs, rare fish species such as steelhead, salmon and bull trout would be affeted by reduction in the size of riparian areas and an increase in stream sediment from more logging allowed in the plan. Macroinvertebrates that serve as fish food would also occur in lesser amounts since their habitat would be disturbed. This is especially true of mayflies, stoneflies and caddisflies which are most sensitive to disturbanceMayflies, caddisflies and stoneflies are the most sensitive stream insects as to environmental impact. These organisms are dominant in, roadless area streams, yet another reason to protect such sites from logging. Fish habitat[middot] along with water quality and wildlife habitat should be quantitative, enforceable and non-discretionary. Otherwise science is disregarded and the New Draft Plan loses its credibilityThe Clearwater and Nez Perce National Forests, northern half of the Big Wild, comprise about 4 million acres - largest intact ecosystem in the continental United States! What is so amazing is that this re[shy]gion contains some of the least developed and ecologically diverse landscapes in the lower 48 states. However, fish species (bull trout, Chinook salmon westslope cuthroat) together with lynx and grizzly bear are threatened and endangered with little attention being paid to this fact in the new planThe Forest Service by merging both forests results in them combin[shy]ing two plans into one. At the present both forests have their own plans which is much better to protect water quality and fish and wildlife habitat. Also, Research Natural Areas might obtain a better chance of being establishedPLEASE NOTE: the file has over two dozen figures included in the letter. Please look at the attachment for further detail.