No one should take my comments as a criticism of Kim Reid. I have the greatest respect for Kim. She is the source of much of my understanding of the Pryors. Kim is constrained by the many rules and regulations and by inadequate funding for the programs for which she cares.

Where criticism is implied, it is directed to the Forest Service as the federal agency responsible for 77,943 acres of the Pryors. I am not criticizing any Forest Service staff. The employees, by and large, are doing the best they can with what they are given.

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This is a harsh statement. The assessment of weed conditions and the description of the what the weed program is doing is an idealization – not the description of the conditions and any corrective actions having been taken in the Pryors through 2016.

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I would like to focus your attention upon a few items.

Establish a protocol for disturbed sites to be inspected three times a year for five years and any undesired plant immediately eradicated.

Accept that some meadows in the Pryors are dominated by timothy. The grazing of those meadows can be changed for better utilization of the grass by the cattle.

Cheatgrass infestations in the Pryors are still relatively small and should be treated now before the infestations spread out of control.

The season for operating the weed program needs to be expanded.

In the Pryors several weed infestations are near or lap over the boundaries with BLM. Both federal agencies should be working to eradicate those infestations.

The data about the weed patches in the Pryors I have been treating needs to be entered into the Custer Gallatin Invasive Species Database.

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My following comments are keyed to statements in documents presented for public comment. That was not easy to do; but, I have cited enough of the document so that you can understand how my comments relate to the documents.

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The Custer Gallatin Invasive Plant database and spatial layer used in this analysis is the best available information at this time because it is collected locally. Even though the data may be incomplete, it is the most extensive inventory available for the local condition. Data is updated when new infestations are discovered. The population size, shape and density likely changes annually but this is not necessarily reflected in the inventory.

The weed patches I am treating in the Pryors have not been assigned a polygon. I conclude the data I have been submitting has not been entered in the Custer Gallatin Invasive Species Database. That is loss of valuable information.

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Knowing where vulnerable areas are located (see Appendix A) can help determine the best mitigation measure and most appropriate level of control.

“the best mitigation measure …” “Mitigation” is an overused term in the Forest Service jargon. How does the Forest Service mitigate a mountain meadow that is a monoculture of timothy?

“… and most appropriate level of control”. This is accepted by the weed team for the Pryors as, “We do not eradicate weeds, we control weeds.” That is a terrible attitude for the weed team to assume.

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Most of these plants grow in sunlight, however, orange hawkweed is a notable exception and will grow in partial shade – up to 60 percent canopy cover (Hoffman 2016).

The more common hound's tongue also grows in partial shade. Cattle seek partial shade where the hound's tongue is apt to grow. The cows transfer the seeds to other partially shaded places. Let’s keep the cattle but get rid of the hound's tongue.

A similar phenomenon. Bears spread hound's tongue seed from one clump of choke cherry to another.

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Most weeds grow at elevations less than 9,000 feet. Based on the Custer Gallatin Invasive database, only 99 of the 57,612 infested acres grow above this elevation (0.2 percent).

All Pryors is less than 9,000 ft. Leafy spurge was found at 8,475 feet elevation on East Pryor. hound's tongue is at 7,400 feet on the shoulder of Red Pryor.

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Spatial and Temporal Scale of Assessment

Although invasive plants can be spread across boundaries, most of the impacts from forest plan management of invasive plants are within the national forest boundary.

This is not true for the Pryors!

At several locations weeds are located on the boundary or cross over the boundary with BLM. In Bear Canyon, multiple weedy species cross the boundary. On 2091 off Red Pryor spotted knapweed is at or crosses the boundary. Cheatgrass definitely crosses that boundary on the shoulder of Red Pryor. On Burnt Timber spotted knapweed and Canada thistle are at or cross the boundary. I suspect that the Russian thistle on the lower 4.8 miles of the Forest Service’s Crooked Creek Road were picked up on vehicles passing through the extensive infestation in the Gyp Spring Basin. The vehicles hit the graveled Forest Service road and at a higher speed the seeds jarred loose.

It is imperative, in the Pryors, that the Forest Service and the BLM work together to eradicate weeds.

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Current Forest Plan Direction

The Custer and Gallatin forest plans are similar with respect to invasive plants and noxious weeds.

The Custer forest plan prioritizes control based on size of infestation; focused on eliminating new starts and small infestations. For bigger patches, containment or reduction in size is specified

The Gallatin forest plan standard states that funding for weed control on disturbed sites will be provided by the resource that causes the disturbance

Which Forest Plan, at the present, governs weed control efforts in the Pryors?

Assuming the Custer plan still governs the weed policy in the Pryors: I am not aware that the weed program staff are willing and able to focus on new starts and small infestations in the Pryors.

How do you define “small” infestations? Most of the weed patches I am treating could be “small”. Will the Forest Service give those sites priority when I am no longer able to treat those sites?

Nor am I aware of any effort to contain or reduce the size of large infestations. There is no plan, about which I have ever heard, to draw on Sage Creek a perimeter and take action to prevent spread of and immediately eradicate Dalmatian toadflax beyond that line.

If the Gallatin plan were to be in place, what resource would be providing treatment for the cheatgrass that has spread from the resurfacing of the Crooked Creek Road? Or what resource would pay for the control of Canada thistle, hound's tongue and spotted knapweed at the Gravel Quarry on Pryor Mountain Road? Would the archeologist be responsible for treatment of the cheatgrass around the Sage Creek Patrol Cabin?

It would be a disaster if those grazing cattle were to be responsible for treating weeds spread by the cattle.

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A species is considered invasive if: it is nonnative to the ecosystem under consideration, and its introduction causes, or is likely to cause, economic or environmental harm, or harm to human health Invasive plants include noxious weeds and other weeds of concern identified by the Custer Gallatin National Forest.

Knowing which invasive plants the Beartooth District is willing to treat has been one of the more frustrating aspect I have dealt with over the past five years. The invasive plants that the Beartooth District is willing to exert any effort to control varies with the willingness of the Forest Service official. Whatever list is pulled out does not have upon it the invasive plant about which I am expressing concerns.

“Oh, Russian thistle is not on our list so we can not treat it.” As in “we are not allowed to treat it”. If you do not believe Russian thistle should be eradicated before it spills into the Crooked Creek Canyon, then walk across the Gyp Spring Basin in late August.

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Weed Management Program

The goal of invasive species management is to prevent new infestations and manage (contain, reduce, and eradicate) infestations currently established on the national forest through control measures.

The word “eradicate” appears. In the Beartooth District, “We do not eradicate, we manage weeds.”

It is a mistake to call the weed program, “The Weed Management Program”. That title reinforces the attitude that the Forest Service does not attempt to eradicate weeds. The Forest Service can not even control weeds. The very best the Forest Service can do is to manage the weeds. “Weed management” sets a defeatist attitude.

How about, “The Beartooth District’s Invasive Plant Control and Eradication Program.”

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Another key strategy for preventing further spread or introduction of invasive plants into weed-free areas is the use of an early detection and rapid response tactic.

This tactic focuses on the discovery and early treatment of small isolated infestations. This results in greater control when the infestations are small, and makes true eradication more feasible.

If you are serious about early detection and rapid response, require this protocol be followed. Identify high risk sites. Start with those sites where the Forest Service has disturbed the soil. Inspect those sites three times a year and immediately eradicate any undesired plant as they emerge. Continue to inspect the disturbed sites for at least five years.

This protocol is simple and very inexpensive. It does not require a PhD in plant sciences. The couple who drive up to Big Ice Cave to change the toilet paper can do the inspections and all but the occasional time consuming eradication tasks. Rarely would herbicide application be required.

The manager of the weed program keeps the records. She can extend the monitoring to six or seven years, but five years is the minimum. Perhaps inspections twice a year would suffice in the higher elevations.

I have advocated this protocol several times. Why does the Forest Service not embrace this simple, inexpensive protocol?

I would like to discuss.

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The Custer Gallatin National Forest implements an integrated invasive species management process for all approved management actions.

If this means what I think it means, the statement is not true. We begged and pleaded for a weed prevention and eradication component to be included in the plans to reconstruct the Powerline Road. It was difficult to connect with the right person. Then we were met with silence.

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The common weed management approach given in these documents can be summarized by the following four key elements: prevention, detection, control and management, and restoration and rehabilitation.

Stress “early detection and immediate eradication”. There is no protocol for early detection and immediate eradication that has been implemented in the Pryors.

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Control and containment of invasive plant species is another tactic used to minimize the spread of weeds.

Show me the protocol for containment of Dalmatian toadflax in the Sage Creek watershed.

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The main control emphasis in the weed management program is herbicide treatment of existing weeds. The Custer Gallatin treats approximately 3,000 to 4,000 acres of weeds with herbicide per year.

I feel uneasy about the emphasis on spraying with herbicides. The number of acres sprayed with herbicide per year should not be the measure of a successful weed program. If the Forest Service were to truly focus upon new starts and small infestations the number of acres sprayed would be reduced – assuming the work force remains the same. If the work force remains the same, treating new starts and small infestations will decrease the time spent spraying large infestations. The number of acres sprayed per year, your measurement of a successful weed program, will show a decline.

My uneasiness increases when the herbicide picrolam (Tordon) is invariably included in the mix. I can show you locations (as of 2016) where perhaps seven years ago picrolam was sprayed in ten feet circles and the grasses within those circles are still compromised in their growth.

Picrolam is a good herbicide if appropriately used and it is relatively inexpensive. However, there are now newer herbicides that are effective and do less long term damage to the surrounding grasses.

Peripheral damage can be further reduced by tight spot spraying of the targeted plant, rather than broadcasting the herbicide.

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Another area of emphasis is weed prevention. Associated activities include washing and inspecting off- road heavy equipment, design activities to avoid disturbing exiting weed infestations, use of weed-free seed and gravel sources, and conduct of follow up weed treatments and surveys after site disturbances. These are common mitigation measures for projects that involve soil disturbances.

The Forest Service specifies weed free seed mixes and weed free gravel, and should continue to stress that weed free seed mixes and weed free gravel must be purchased. The Forest Service should act as though there are no seed mixes and no gravel free of weed seeds. Any site that has been seeded or gravel applied should be monitored three times a year for five years and any undesirable plant immediately eradicated.

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This is as good a place as any to talk about the Gravel Quarry on Pryor Mountain Road. The quarry was closed, contoured and hydromulched in 2011. To the northwest of the quarry, the trailers hauling the equipment were parked. If the equipment was washed clean of adhering weed seeds before brought to the Pryors, the trailers were not. Underneath the trailers a solid growth of spotted knapweed appeared. So dense I could say the plants were stem to stem. It so happened that Jane Taylor and I went to that site the same day at the same time. She was out of herbicide, so I treated the spotted knapweed and have been treating the newly emerging spotted knapweed whenever I pass by. Now understanding the need to inspect the high risk sites, I or the Forest Service could have begun inspecting that location as a high risk site in 2012 and have gotten to the spotted knapweed before seeds set.

In the quarry, all hydromulched with an excellent choice of grasses and forbs, both Canada thistle and hound's tongue appeared. Due to the fertilizer in the hydomulch the Canada thistle was growing so vigorously I thought it was a new subspecies. The nearest Canada thistle to the Quarry is over two miles away and in a different watershed. The road equipment that had been used on the Canada thistle infested Crooked Creek Road, was brought over to close the quarry. The rhizomes or seeds of Canada thistle picked up on the equipment were never washed off. The contaminated equipment transplanted the Canada thistle to the quarry. Had the equipment been washed off, had I or the Forest Service started monitoring the quarry in 2012 I would not be climbing over rocks in the quarry to treat a continuing infestation of Canada thistle and hound's tongue. For the Quarry Site, I have been the sole person treating those infestations.

It is positive that the Forest Service is now talking about monitoring, now talking about early detection (and immediate eradication?); but I do not see those principles put into action. At least not in the Pryors.

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The Pryor Mountains includes 77,943 acres, and 76 percent is vulnerable habitat with 3 percent being infested. Most common weed species include spotted knapweed, Canada thistle, hounds-tongue, leafy spurge, field bindweed and Dalmatian toadflax. New invader species include meadow hawkweed and oxeye daisy.

Please, add cheatgrass. Cheatgrass can no longer be ignored.

In the documents for public comment, there are three different numbers used for the current number of acres infested by weeds within the Forest Service’s Pryors Unit. Numbers given are: 2025, 2338 and 3046. A range of 1,021 acres difference in a relatively small area. Not to be picky, but has an inventory been done?

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Given the limited funding levels, the Custer Gallatin has developed a management strategy that gives priority to new invaders, and secondary priority to treatment of areas impacted by construction and vegetation projects, roadsides, recreation sites, and areas with specific funds designated for treatments.

In the four summers, I have been treating weeds in the Pryors, I have not seen any evidence that this management strategy has been implemented. Maybe elsewhere but not in the Pryors.

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Role of Disturbance and Invasive Plant Species

Disturbance is widely recognized as a primary influence on plant community composition and is frequently implicated in the spread of invasive exotic plants.

This is true. Then why does the Forest Service not monitor disturbed sites three times a year for five years?

I am taking care of at least five sites in the Pryors where the Forest Service created a disturbance, walked away from the site and made no effort to monitor the site in order to immediately eradicate emerging weeds. Sites are Gravel Quarry on Pryor Mountain Road with Canada thistle in the revegetated quarry and spotted knapweed where equipment trailers were parked; the Sage Creek Ranger Station where gravel was brought in to make the cabin handicap accessible, but the gravel was contaminated with cheatgrass; the Crooked Creek Road where the contoured roadsides in 2011 were hydromulced with seed contaminated with cheatgrass. Gooseberry Hollow water tank was rebuilt following the Red Waffle Fire with a variety of weeds introduced and never treated by the Forest Service.

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Most of the mapped weeds on the Custer Gallatin National Forest are located within 2,000 feet of the road.

In the Pryors, the Forest Service has not looked beyond 2,000 feet of any road. Canada thistle and hound's tongue have spread up to the limestone palisades in the Gooseberry and Bridge Hollows. There are other hollows in the Crooked Creek Corridor where I have not climbed to their highest reaches. In Bridge and Gooseberry Hollows the higher reaches were not forested, so the spread of weeds can not be attributed to the removal of the forest canopy. (Then how are you defining roads?)

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In relation to climate warming.

The warm season during which weeds may grow has lengthened. The Forest Service is starting its weed program too late in the summer (not early enough) and closing the program too early in the fall. Ten years ago, there was a twenty-foot deep snowdrift blocking the Pryor Mountain Road until May 25; that snowdrift was not present on May 27 in 2016. The season for treating weeds needs to start by mid-May. That is the best time to treat emerging hound's tongue. The Milestone/Cimarron mix effectively kills emerging hound's tongue with a 5 ml application. Once the hound's tongue bolts, application of any herbicide may not be effective. It is then best to cut and bag the stem then cut below the root crown to grub out the root. Yes, hound's tongue can put out a new stem if the root crown is not dug out. It is doubtful that waiting until the first of July to treat roadside hound's tongue is effective. Also, one can start treating Canada thistle sprouts late in May. Cheatgrass should be treated by mid-May, perhaps earlier. Going into the fall, Russian thistle can not be treated until mid-August. Canada thistle can be treated on through September as long as part of the plant is green.

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Information Needs: Forest Plan Information Needs: None identified.

None?

The data base for the weed patches in the Pryors should be updated now. It is not too late to add the missing data in the Assessment or Forest Service Plan.

The cheatgrass infestations in the Pryors need to be inventoried by the first of May 2017 so that treatment of selected patches could be completed by mid-May 2017. An inventory of the cheatgrass infestations in the Pryors is not a Long-term Information Need. That inventory needs to be done now, so that a treatment plan can be drawn up and started no later than 15 May 2017. It can be done, just do it.

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An updated inventory would allow for management practices that focus on early detection and treatment of small infestations.

How would updating the inventory focus on early detection? Are disturbed sites entered in the Database? Or does the Database have only inventoried sites were weeds are known to be growing?

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# Eradication can be done if you would stop saying “We can’t.”

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