Annual Interdisciplinary Team Treatment Review
Cathedral Salvage Sale
July 7, 2021

Adaptive Management Group (AMG) Review
July 17, 2021

Introduction

In accordance with the Record of Decision for the Spruce Beetle Epidemic and Aspen Decline Management Response (SBEADMR) Final Environmental Impact Statement (FEIS), a treatment review was completed on the Cathedral salvage sale on the Gunnison Ranger District. Appendix D of the FEIS was used to guide the process which consists of a review by a Forest Service Review Team followed by a second trip with members of the SBEADMR Adaptive Management Group (AMG). The goal of these reviews is to improve desired outcomes of the project through an adaptive management process (Appendix E of the FEIS).

Review Team:

Art Haines	Gunnison TMA and Silviculturist
Matthew Vasquez	GMUG Wildlife Program Manager
Ashley Hom	Gunnison RD Hydrologist
Carlyn Perovich	GMUG Ecologist
Nicole Hutt	GMUG Timber Program Manager
Sean Ferrell	GMUG Renewable Resources Staff Officer
Gina Rone	GMUG Soil & Hydro Specialist
David Carr	Gunnison Fuels Specialist
Pat Medina	Gunnison Fire Management Officer
Pam King	Gunnison RD NEPA Planner

Rating Scale:

- *3- Full Evidence*
- *2- Partial Evidence*
- *1- Insufficient evidence*

Step 1 – Was the Treatment Checklist Completed with all appropriate signatures?

Evidence

The Checklist was completed and signed by all specialists having a resource that could be affected by the Cathedral Treatment. The District Ranger reviewed the Checklist and concurred with its contents. The Timber Contracting Officer also reviewed the Checklist and ensured all requirements were tied to appropriate contract provisions.

Rating: 3 – Full Evidence. Checklist was completed by all applicable resource specialists, Line Officer and Timber CO.

AMG Comments: Concur with finding

Was the Treatment designed to meet the Purpose and Need as stated in the SBEADMR EIS?

Evidence:

Treatment was designed to remove hazard trees along road and salvage dead and dying material to reduce fuel loading and provide economic benefits to local communities through sale of merchantable material. The treatment met the purpose and need of SBEADMR, specifically:

- Improvement of public safety through removal of roadside hazard trees.
- Recovery to provide commercial products to local dependent industries at levels commensurate with Forest Plan direction.
- Design features were applied where needed to minimize environmental impacts and/or to achieve desired outcomes.

Rating: 3 – Full evidence

AMG Comments: Concur with finding

Step 2 – Treatment level Review of Design Features

Were Design Features applicable to the treatment identified on the Checklist and incorporated into mechanisms (contract clauses) to ensure they are followed during treatment Implementation?

Rating: *3- Full Evidence.* The Checklist was completed by all applicable staff on the District or Supervisors Office. Each specialist identified what specific design features (DF) should be applied. The Timber Contracting Officer reviewed the checklist for consistency with SBEADMR environmental documents and ensured all DF were linked appropriately to timber sale contract clauses. Any discrepancies were returned to the District for correction before the final contract package was advertised for sale.

Is there evidence that design features were implemented as specified in the contract or other authorizing document?

The following design features were selected for review by the ID Team. These design features were selected from those reviewed in 2018 that were noted as needing additional follow up to determine their effectiveness.

Design Feature: WQSP-2A. Wetlands: No harvest or mechanical travel within 50 ft from edge of wetland.
Resource Affected: Watershed

Evidence of implementation (2018)	Evidence of Effectiveness (2018)	Evidence of Effectiveness Followup (2021)
Describe design feature, including year implemented. Maintain a 50 foot buffer from the edge of riparian/wetland free of heavy equipment. **Evidence:** An administrative use only road was used to access the unit as suggested by the SBEADMR EIS. The riparian area in question is below the road so the decision was made to allow harvest and creation of a landing above the road. From the up-slope side of the road, the landing and associate slash pile is 15-50 feet from the edge of riparian vegetation. David Philips who is the FSR on the project indicated that the location for the landing was logical since the road was already in place and the only other landing location was several hundred feet upslope requiring construction of additional temporary road. The Team agreed, that while the location of the landing and where equipment was allowed to harvest was within 50 ft, the use of the admin road was logical and resulting in less environmental damage. **Recommendations:**	**If Implemented, was the design feature-in a readily observable way, effective?** **Evidence:** There was no evidence of sheet or rill erosion into riparian vegetation. Beyond the existing Administrative Road, no additional riparian vegetation was disturbed by Cathedral treatment actions. **Rating:** 2- Partial Evidence. While mechanized equipment was allowed within 50 feet of riparian vegetation, it was appropriate due to the presence of an exist road. The Team recommends follow-up after a normal snowpack year. **AMG Comments:** Concurred with ID Team findings.	**If Implemented, was the design feature-in a readily observable way, effective?** **Evidence:** There was still no evidence of sheet or rill erosion into riparian vegetation. While the administrative road was improved for the timber, it was ultimately not used for operations. The road is now closed. The road was closed by ripping the compacted road surface and the placement of abundant slash to prevent erosion and promote regrowth of vegetation. The obliterated route is recovering well with vegetation and no evidence of erosion. **Rating 2-** Partial Evidence as design feature was not 100% followed due to the presence of the existing road that was potentially needed for operations.

The wetland was not identified on the Sale Area Map. The Team determined that additional field time and/or GIS work (use of FWS wetland maps) is needed. All wetlands should be ID on sale area maps. In addition, a more detailed logging plan will be developed for each sale. Improved training for field crews to ID wetland/riparian areas. No changes to DF at this time. **Rating**: 2- Partial Evidence. While mechanized equipment was allowed within 50 feet of riparian vegetation, it was appropriate due to the presence of an existing road. **AMG Comments**: Concurred that the decision to utilize the existing road was the least environmental impactful alternative to access the unit.		**AMG Comments:** Still in concurrence in 2021 with IDT findings but AMG recommends a 3 as the FS did a full closure of this already existing road; AMG agreed this was strategic to re-use the existing footprint and also agrees with district specialists intent to further close-out the road and pull the remaining culvert in order to fully restore the area and deter attempts of illegal OHV use in the area.

Design Feature: WFRP-2: At a minimum, in spruce-fir forest types maintain 90 to 225 snags per 100 acres, 10 inches in diameter at breast height (dbh) or greater (where biologically feasible). In aspen forest types, maintain 120 – 180 snags per 100 acres, 8 inches dbh or greater (where biologically feasible).

Resource Affected: Wildlife

Evidence of implementation (2018)	Evidence of Effectiveness (2018)	Evidence of Effectiveness Followup (2021)
Describe design feature, including year implemented. Maintain 90-225 snags per 100 acres. DF was implemented in winter 2018. **Evidence:** While single trees greater than the required minimum DBH were lacking in many cutting units, groups of snags in areas with good advanced regeneration were retained. The "patches" provide for improved use by wildlife and increases wind firmness. As a result, there was little evidence of recent blow down. **Recommendations:** Maintain DF as written. Encourage grouping of snags in at least .25 acres groups. **Rating:** 3- Full Evidence. DF was implemented as designed.	**If Implemented, was the design feature-in a readily observable way, effective?** **Evidence**: While little blow down was observed in the leave groups, only one season has lapsed since implementation. Spot checking of these groups by Sale Administrators (SA) next summer after a second season is recommended to determine their effectiveness. **Recommendations:** None **Rating:** *3- Full Evidence.* **AMG Comments:** Concurred with ID Team findings.	**If Implemented, was the design feature-in a readily observable way, effective?** **Evidence:** Remaining snags are sufficient or exceed the minimums necessary in this DF; Blow down of remaining snags is still minimal as of 2021' **Rating** 3- Full Evidence **AMG Comments:** The AMG concurred with IDT findings that snags are sufficient or exceed the minimum necessary in the DF;

AMG Comments: Concurred with Forest Service rating.		

Design Feature: SP-4: While recognizing the high variability of treatment unit conditions and prescriptions, slash piling should be limited as follows to minimize impacts to soils: slash piles at landings should generally be limited to 1500 square feet or less. After landing piles are burned, rehabilitate burned area by scarification. Interior piles should generally be limited to 400 square feet or less. Minimize the placement of green material exceeding 8'' in diameter in piles.
Gunnison Modification from 2017 Management Review:
Slash piles at landings will be generally limited to 3000 sq ft or less and interior piles will be limited to 600 sq ft.
Additional update 07/2020: Added distinction of pile size restrictions based on scale of treatment operations and expanded to include distance requirements from residual stands for placement of slash piles. DF was previously updated in 2018 to add clarity of pile size and shape. Additionally, SP-7 was removed. SP-4's updated description of distance requirements from residual stands provides more clear direction than SP-7. Updating SP-7 would have resulted in redundancy and was therefore simply removed

Rationale - these pile sizes are what have been used in sale units under the La Garita EA. They have been more successful at burning and easier to administer. Rehabilitation: Burn scars will be rehabilitated by ripping and reseeding to a level commensurate to the original piles rehab expectations. Rehabbed burn scars from the La Garita EA sales have been successful.

Resource Affected: Fuels

Evidence of implementation (2018)	**Evidence of Effectiveness (2018)**	**Evidence of Effectiveness Followup (2021)**
Describe design feature, including year implemented. Slash piles are limited to 3,000 sq. feet and cannot be taller than 6 feet high. The DF was implemented in 2018. **Evidence:** Sale Administrators (SA) are having difficulty implementing this DF because it varies from what has been historically used on timber sales. As a result operators create shorter (height) and longer piles which are actually increasing the amount of soil exposed to impact during burning. **Recommendation**: Re-write DF to allow SA more flexibility to create piles with a smaller footprint but increased height to accommodate the volume of slash. Large diameter material would still be cut up into smaller lengths to reduce their impact to soils during burning. Use dimensions (50' x 50') instead of sq ft and increase height.	**If Implemented, was the design feature-in a readily observable way, effective?** **Evidence:** No, due to confusion with purchasers, we are actually impacting more soil resource than what has occurred historically. The Team recommended changing the DF to read as follows: *"To facilitate complete burning, piles shall be compact in size and shape, and free of soil. Piles will not be less than 12 (twelve) feet in height. Piles shall not be constructed as windrows, rather the size of each pile's footprint shall be minimized. The size of each pile's footprint shall not exceed 50 feet in any dimension. Flexibility will be afforded to the Forest Service to vary pile size with the goal of reducing environmental impacts. Piles shall be of a size and location which will not impair road use or result in damage to residual timber. Piles shall be located at least 50 feet from residual timber."*	**If Implemented, was the design feature-in a readily observable way, effective?** *(re: burn scar rehab)* **Evidence:** • **Burn Scar Rehab:** With funds collected from the timber receipts FS fire personnel were able to burn the piles in fall and winter months followed by a contract to prepare the sites by scarifying the soil and seeding with native grasses in 2020; In summer 2021 burn pile revegetation appear sufficient; • **Pile Shape and size:** • In summer of 2021 there was no sign of soil erosion or

Rating: 3- Full Evidence. DF was implemented as designed but we are not achieving the desired outcome (see evidence of effectiveness). **AMG Comments:** Concurred with ID Team findings.	These changes will afford greater flexibility to SA to break piles up into reasonably sized piles that are taller and therefore less overall surface acre of soil resources affected. Once reviewed by the Forest Leadership Team the revised standard will be used on all future timber sales. **Rating:** *2- Partial Evidence.* DF was implemented as designed but we are not achieving the desired outcome (see evidence of effectiveness). The updated DF will be re-evaluated on future sales to ensure desired outcomes are achieved. **AMG Comments:** Concurred with ID Team findings including recommended wording changes to SP-4.	compacted soils from the landing site. **Rating** 3- Full evidence DF implemented and achieving desired outcomes. **AMG Comments:** The AMG agreed these pile scars were in good shape and that the seeding from 2020 was filling in well.

Design Feature: Road Decommissioning

WQSP-8A:

A -- Site-prepare, drain, de-compact soils, revegetate, and close landings, main skid trails, and temporary and intermittent use roads and other disturbed sites within 5 years of the end of sale closure. Provide stable drainage that disperses runoff into filter strips and maintains stable fills. Do this work concurrently. Stockpile topsoil where practicable to be used in site restoration. Revegetate using certified local native plants as practicable; avoid persistent or invasive exotic plants.

B -- Remove all temporary stream crossings (including all fill material in the active channel), restore the channel geometry, and revegetate the channel banks using certified local native plants as practicable.

C -- Restore cuts and fills to the original slope contours where practicable and as opportunities arise to reestablish subsurface pathways. Use certified local native plants as practicable; avoid persistent or invasive weeds. Obtain storm water (402) discharge permits as required

WQSP-8B:

In decommissioning roads,

A -- Implement suitable measures to close and physically block the road entrance so that unauthorized motorized vehicles cannot access the road.

B -- Establish effective ground cover (i.e. erosion control measures and revegetation) on disturbed sites to avoid or minimize accelerated erosion and soil loss.

C -- Evaluate risks to soil, water quality, and riparian resources and use the most practicable, cost-effective treatment to achieve long-term desired conditions and water quality management goals and objectives.

D -- Use applicable practices of BMP Fac-2 (Facility Construction and Storm Water Control) for storm water management and erosion control when obliterating designed roads.

E -- Implement suitable measures to re-establish stable slope contours and surface and subsurface hydrologic pathways where necessary to the extent practicable to avoid or minimize adverse effects to soil, water quality, and riparian resources.

F -- Remove drainage structures.

G -- Re-contour and stabilize cut slopes and fill material when needed.

H -- Reshape the channel and streambanks at crossing sites to pass expected flows without scouring or ponding, minimize potential for undercutting or slumping of streambanks, and maintain continuation of channel dimensions and longitudinal profile through the crossing site.

I -- Restore or replace streambed materials to a particle size distribution suitable for the site.

J -- Restore floodplain function if impaired by treatment operations.

K -- Implement suitable measures to promote infiltration of runoff and intercepted flow and desired vegetation growth on the road prism and other compacted areas.
L -- Use suitable measures in compliance with local direction to prevent and control invasive weeds (also see IW-1 to IW-6)

Resource Affected: Watershed and Wildlife

Evidence of implementation (2021)	**Evidence of Effectiveness (2021)**
Describe design feature, including year implemented. Over the past three years as the timber sale was completed temporary roads were ripped, seeded and slashed with coarse wood and barriers in sections. Roads necessary for reforestation efforts remain to administrative uses and will be obliterated after successful reforestation is certified. **Evidence:** Roads that were obliterated were beginning to revegetate with abundant native grasses and forbs growing adjacent to roads and we suspect native revegetation to continue. **Recommendations:** Monitor obliterated roads for successful revegetation; As reforestation efforts are completed continue to obliterate temporary roads. Illegal OHV use is known to occur in this area and to ensure the success of closure efforts in the future further barricading may be necessary. **Rating:** 2-Partial Evidence- As reforestation efforts are completed the FS should complete road closures and ensure their effectiveness. **AMG Comments:** AMG agrees with this rating and is pleased with closures thus far but wants to see continued monitoring for effectiveness.	**If Implemented, was the design feature-in a readily observable way, effective?** Temporary roads that were decommissioned were observed to have been ripped, seeded and filled with coarse wood or slash to make impassable and promote revegetation and inhibit erosion. Currently these design features appear to be effective**.** **Evidence:** In roads that have been obliterated, seeded and slashed there is evidence of revegetation with native grasses and forbs. **Recommendations**: In order to ensure effectiveness of inhibiting illegal OHV use continue to implement road closures with signage, gates where necessary and road blocks into the future. **Rating:** 2- partial evidence because there are still some closures of administrative roadsto be implemented after reforestation and range improvements are made. There is still some concern of illegal OHV use in the area and intent to continue to inhibit illegal OHV use in the future. **AMG Comments:** AMG recommends a rating of 3 because the FS is doing what they said they would do and will continue attempts to deter illegal route users as well as close any routes used for planting or range improvements.

Step 3 – Monitoring Score card

Was identified treatment level monitoring completed?

Pages 64-66 of the treatment design checklist identifies seven monitoring items to be completed over the life of the project (one for cultural resources, two for fuels, one for invasive plants, one for road decommissioning and two for silviculture.

FIRE AND FUELS

Monitor a sample of pile burn scars for bare soil and, on scars located on slopes and in swales, for the presence of rills, gullying, or soil movement. **If** >100 sq. ft. of burn scar consists of bare soil; minor rilling or gullying present within or adjacent to burn scar; minor deposition of soil downslope of scar, **then** treat bare soil and erosion according to District protocols, which may include one or two of the following: addition of mulching, scarification, inoculation with adjacent soils, seeding, etc. **If** monitoring reveals >200 sq. ft. of burn scar consisting of bare soil, multiple rills or gullying, gullying 2-3" deep within burnscar, or significant deposition of soil downslope of scar, **then** elevate treatment application.

Finding: District practices automatically followed burning of piles with scarification and seeding protocols with funds procured from the timber sales. These treatments appear effective and rehabilitation of the sites is ongoing and successful so far.

AMG Comments:

RANGE AND WEEDS

Post-treatment invasive plant species:
Inspect and document all limited term ground-disturbing operations in infested areas for at least three (3) growing seasons following completion of the treatment.

Comments: Areas of weed infestation were inventoried and treated prior to logging. Approximately 200 acres were treated in proposed harvest areas. Post logging inventories will be completed to identify and treat new infestation if they occur.

Finding: 1-5 percent infestation of Cirsium arvense has been detected in harvest units. Treatment of CIAR will be conducted in the 2021 growing season. These are relatively small populations of Canada Thistle- populations will continue to be monitored and treated as warranted.

AMG Comments:

TRANSPORTATION

All newly constructed roads in treatment area will be decommissioned within 5-years of sale closure (WQSP-8). Complete monitoring to ensure this has been completed and report in appropriate database of record.

Finding: All temporary roads not needed for reforestation efforts have been closed or obliterated. Administrative roads that existed prior to the sale are under consideration for removal within 5 years of closing the sale and or the post harvest sale activities are complete.

AMG Comments:

The AMG appreciates the FS work to close and obliterate temporary roads not needed for post harvest activities but is glad to hear the FS acknowledge and continue to work towards maintaining the closures as illegal users look to find ways around barriers. Work to continue to maintain closures will be an ongoing effort by the district staff.

SILVICULTURE

Stocking surveys will occur to certify stands are fully stock over the next 5-years (year 1,3 and 5).

Finding:
Initial observations saw natural revegetation throughout many of the cut units; Planting of the sale area has begun in July 2020 and survival surveys to ensure stocking will begin in fall 2020 and continue again at year 3 and 5 post planting.

AMG Comments:

Reforestation efforts and natural regeneration occurrence appear successful in most areas but 5 years post harvest will be when official determination of reforestation can be made.

Adaptive Management Group Review

Date: 7/17/2021

AMG Members attending the review

Member	Organization or Interest Group	Regular member or alternate
Nancy Fishering		
Craig Grother	Back Country Hunters and Anglers	
Enno Huesher	Environmental Chair	
Molly Pitts	CTIA	

General Public Attending (Non-AMG)

Marv Ballentine	

At the conclusion of each treatment review AMG members are asked to evaluate how the Forest Service is doing based upon SBEADMR goal indicators.

SBEADMR Goal Indicator	Number of AMG Responses	Range and Average of all responses	Additional Comments
	4	Circle a ranking that corresponds to your level of agreement: 1 = Strongly disagree, 2 = Disagree, 3 = Neither agree or disagree, 4 = Agree, 5 = Strongly agree, NS = Not sure. Provide	
Did the Forest Service demonstrate evidence that			**Comment:** The FS demonstrated compliance with most actions reviewed. The AMG members attending thought the FS underrated compliance with the wetland site. The ~~decommissioning of temp logging roads was fully compliant. However, the gate~~ closure of the admin. road system is not effective at preventing public use. We were told those roads will be permanently decommissioned after finishing the tree planting – this area has chronic violation of travel management, including ATVs in the wilderness.

actions identified on the Checklist were implemented as designed and in a readily observable way, effective?	4.5		**Forest Service response:** The District appreciates the high rating and feedback and agrees that intent to deter and permanently effectively decommission these roads is necessary to achieve the established goals
Did the Forest Serve demonstrate openness to public comments and a willingness to adjust management actions toward the goal of improved environmental performance?	4.5		**Comment:** Public appreciated opportunity to discuss this topic and was pleased to hear 10% of piles were left for wildlife. **Forest Service response:**
Did the review provide you information that the SBEADMR project is being implemented in accordance with completed NEPA and the Treatment Design Checklist?	4.5		**Comment:** Public commented that ample specialists were present to discuss the checklist and sales **Forest Service response:**
Did the format of the review facilitate your understanding of treatment actions and design features implemented to minimize adverse impacts and/or achieve a desired outcome?	4.5		**Comment:** With ongoing intense salvage that will take a century to replace what will be the future of the GMUG timber program **Forest Service response:** The GMUG expects to decrease it's future timber output from previous years and sees less treatment in spruce salvage as the beetle epidemic begins to slow down.
Do you have other suggestions that would strengthen the review process toward the goal of continual learning and improved environmental outcomes?	NA **Forest Service Response**	NA	**Comment:** The number of AMG members is dwindling and we should provide additional incentives to improve attendance. 1 field trip per year might improve attendance; Ask more open ended questions to get a better response; Give more time for AMG to review checklist before the group field trip; The FS appreciates this feedback and will work to incorporate all suggestions into future meetings and discussions, thank you for your time.