

MSO Leadership Forum Workgroup June 17 & 26, 2020 Workshop Notes

Workshop

- Part 1 – Albuquerque & Zoom, June 17, 2020
- Part 2 – Flagstaff & Zoom, June 26, 2020

Participants

- USFS - Don Vandendriesche, Karl Malcolm, Ronnie Maes, Ian Fox, Dick Fleishman
- USFWS - Shaula Hedwall
- CBD - Robin Silver
- NMSF - Laura McCarthy
- NMDGF - Stewart Liley
- DFFM - Aaron Green
- AGFD - Jim Devos
- NM Forest Industry Association - Kim Kostelnik
- Eastern AZ Counties – Pascal Berlioux

Workgroup Lead & Notetakers

- Workgroup lead: Pascal Berlioux, Don Vandendriesche, Aaron Green
- Notetakers: Pascal Berlioux, Ian Fox, Dick Fleishman, Shaula Hedwall, Robin Silver, Aaron Green, Jim Devos, Laura McCarthy, Don Vandendriesche

Report to MSO Leadership Forum

Zoom, June 30, 2020

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Executive Summary

- I. Concerns identified in the April 2, 2020 NOI based on the analysis of NEPA documents were thoroughly examined by the Workgroup and have been validated as justified concerns.
- II. Concerns identified in the April 2, 2020 NOI based on the analysis of NEPA documents are mostly addressed in:
 - i. data presented at the project scale during the Workshop but not easily available to the public (e.g. BA, BO, Modified BO);
 - ii. post NEPA and consultation interagency change documentation; and
 - iii. USFS implementation (actual treatments and planned monitoring frequently differ from those identified at broad scale in the NEPA and original BO documents).
- III. If the enclosed projects resolutions are implemented for projects identified in the April 2, 2020 NOI, proposed actions can move forward because actual treatments and planned monitoring comply with the Recovery Plan requirements although actual treatments and planned monitoring are not specifically identified in NEPA and original BO documents. The one exception is the Hassayampa Restoration Project on the Prescott National Forest.
- IV. The Workshop established that the Hassayampa project has unclear/insufficient NEPA, and implementation activities should not move forward at this time. The Workgroup agreed to organize a fieldtrip to resolve the issues while the project is inactive.
- V. The “**Projects Resolution**” section documents how:
 - i. actual treatments and planned monitoring comply with the Recovery Plan requirements although actual treatments and planned monitoring are not specifically identified in the broad scale NEPA and original BO documents; and
 - ii. implementation of the projects is consistent with the Recovery Plan.
- VI. The “**Systemic Issues**” section identifies issues to be addressed to prevent future projects from being challenged. Critical among others:
 1. There is a disconnect between the broader scope public documents readily available for review and what actually happens on the ground during implementation.
 2. Site specific MSO field data necessary to select Recovery Plan recommended treatments is generally not available prior to NEPA analyses. This is likely due to cost constraints, workforce limitations and slow pace of technology deployment (e.g. LiDAR) at a time of accelerated landscape scale restoration.
 3. Consistent/standardized templates across projects are not used for data analysis and presentation.
 4. Data requirement interpretation varies across project (e.g. post treatment data inclusive or not of post treatment fire).

5. Generally, the NEPA process does not analyze actual stand treatments for the MSO projects but broad ranges of allowable treatments. Actual treatments are decided during field trips prior to project implementation. NEPA analyzes actions at a broad scale and in some cases (e.g. Hassayampa) appears insufficient.
6. Project level documents such as BA, BO, stand inventories, etc. are difficult for the public to access; and data that should be readily available such as project shapefiles are near impossible to obtain. Further, interagency documentations of changes are generally not accessible to the public. Such documents are, with very few exceptions, public documents that must be made available to the public. There is no 'one-stop-shop' location for documentation of specific projects.
7. Documents tiering across agencies (from USFS to USFWS) and processes (from NEPA to consultation to implementation), combined with difficult documents access complicates public understanding of treatments and monitoring that are implemented. For example, one project referring to another project's monitoring plan is confusing to those not familiar with the other project.
8. Monitoring as a reasonable and prudent measure often lacks clarity and specificity at the NEPA stage and the final plan is not always appended to the BO.
9. There is no clear tool or method in place to account for the cumulative effect across various projects' actual treatments, and to reconcile the distribution of treatments along the spectrum of intensities (including no treatment) within the landscape, as recommended in the Recovery Plan, to establish an environmental baseline among neighboring projects.
10. The current management practice of relying on post NEPA field trips by a few select individuals to decide upon actual treatments is not scalable to landscape scale restoration.
11. Current MSO management appears to be a precursor of the proposed general "Condition Based Management" (CBM) in the on-going NEPA Revision. Lessons learned in the MSO Workshop are likely applicable to CBM at-large, as relates to communicating to the public the treatments and monitoring that are actually implemented.
12. The lack of succession plans and depth of bench for critical resource personnel with unique projects knowledge, compromises the robustness of the USFS and USFWS processes.
13. A workshop or series of workshops is needed to address the systemic issues.
14. A Recovery Plan clarification is needed, including:
 - I. Clarification of canopy recommendations within PACs, nest cores and recovery nest/roost habitat, in Pine Oak and Mixed Conifers, including stands data required to evaluate whether adequate canopy cover is provided after treatment, and after fire.

- II. Clarification that minimum requirements are not targets, and that the intent of the Recovery Plan is not to have every project acre at minimum levels, and that in the areas where the number of large trees per acres exceeds the recommended minimum, large tree should not be removed just to meet the recommended minimum.

15. A Recovery Plan implementation guidance document is needed to help NEPA practitioners, including:

- I. Distribution of the intensity of various treatments, from no treatment to higher intensity treatments, across projects, to meet the Recovery Plan intent.
- II. Habitat and forest restoration focus, including biological concerns and beneficial cool surface fire reintroduction concern, rather than silviculture focus.
- III. Use of public-friendly metrics (e.g. BA, TPA, etc.) rather than complex forestry metrics (e.g. SDI, QMD, etc.).
- IV. Data interpretation and presentation standardization.
- V. Easier access to data and documents to the public.

16. Systemic issues need to be resolved before additional major projects are awarded, including 4FRI Rim Country, South Sacramento Restoration, Black River Landscape Restoration, Santa Fe Mountains Resiliency.

17. Science is emerging in recent literature regarding the effectiveness, or lack thereof, of mechanical treatments in MSO habitat. A Workshop is needed to review this science and its applicability to projects in the Region.

18. Etc.

See “**Systemic Issues**” section for comprehensive list.

VII. The “**Recommendations**” section of this document identifies proposed next steps. Critical among others:

- 1. Proceed with the individual projects as outlined in the “**Projects Resolution**” section of this document.
- 2. Memorialize in appropriate USFS and USFWS document appendices, the components of the resolved projects.
- 3. Systematically include the effects of prescribed fire when projecting the final outcome of the treatments.
- 4. Conduct a crosswalk between the Strategy document and these Notes to identify potential gaps.
- 5. Organize promptly the workshop(s) required to resolve the issues identified in the “**Systemic Issues**” section. The first workshop will be focused on consolidating and prioritizing the issues, and organizing a workplan for the Leaders’ consideration to resolve the issues.

6. Develop a standardized template for project development that includes making readily available to the public:
 - a. Current forest data (e.g., current stand exams, LiDAR or other remote sensing tools);
 - b. Modeling tables of pre and post treatment forest structure (e.g., trees >17.9 in DBH, snags), and treatments effects including prescribed fire effects;
 - c. Use of easy to understand metrics such as TPA, % large tree per acre, % of BA, canopy cover, etc.;
 - d. Specific treatments analyzed in the NEPA;
 - e. Biological Assessment (BA);
 - f. Biological Opinion (BO) or Concurrence Letter;
 - g. Shapefiles;
 - h. Pre and post Monitoring Plan appended to BOs;
 - i. Inter-agency documentation of changes within the projects;
 - j. Etc.
7. Test the products from the systemic issues resolution workshop(s) on projects in the planning stage, including 4FRI Rim Country, South Sacramento Restoration, Black River Landscape Restoration, Santa Fe Mountains Resiliency.
8. Develop collaboratively a process to account for cumulative jeopardy analysis across all projects, ownerships and administrative boundaries as applicable.
9. Finalize and implement the NFS Region 3-wide Habitat Model and associated monitoring.
10. Address the possibility that the current Region-wide population monitoring plan may have inadequacies in view of the declining population to date. Additional analyses are needed to sort and understand the underlying causes of the trends observed.
11. Review the emerging science in recent literature regarding the effectiveness, or lack thereof, of mechanical treatments in MSO habitat, and its applicability to projects in the Region.
12. Review the functionality/efficiency of the current Ecological Management Unit (EMU) Working Teams (WTs).

Projects Resolution

Awarded Active

Pinaleño Ecological Restoration Project, Coronado NF, Basin & Range West EMU

- FWS new BO is on FWS website. The BA is not on the Coronado NF website
- **Monitoring in PACs post treatment needs to be clearly stated as five years post treatment.**
- **The workshop outcome is that the project is clear to proceed.**

Bill Williams Mountain Project, Kaibab NF, Upper Gila Mountains EMU

- Record of Decision was signed in December 2015. Alternative 2 is the selected Alternative.
- Decision adheres to 2012 Recovery Plan and revised Kaibab Land Management Plan direction.
- BO signed May 5, 2015 and updated in September 20, 2019. The revised BO is because a new PAC was found during monitoring. This split the original Bill Williams Pac into Bixler and Cataract PACs and redistributed treatment types (increased helicopter acres and decreased steep slope mechanical acres).
- Upper Gila Mountains EMU has mixed conifer and pine oak as recovery habitat.
- ROD does approve 903 acres of PAC treatments, 1,721 acres of mixed conifer nest roost treatments and 549 of pine oak nest roost treatments. There are no thinning treatments in either PAC core areas approved (BO page 21).
- No trees over 18" dbh removed in PAC thinning or nest roost habitat.
- To date one project has been initiated-helicopter logging on 271 acres in PAC habitat and 172 acres in MSO Recovery nest/roost habitat.
- MSO habitat data shows variability across all habitat types (Table 3-50 and 3-51 in FEIS) pre and post treatment. Modeled data does not represent the patchy nature of the treatments, as well as the location of more intense treatments on southwest and ridge slopes. All trees > 18" retaining to Protect and nest/roost habitat, not thinning in PAC cores.
- CBD notes that because are not removing large trees > 18" dbh and trying to retain them where they are, this project is dropped from the NOI as far as treatments.
- CBD still has concern over monitoring related to this project—this needs further resolution.
- **The workshop outcome is that the project is clear to proceed.**

Monitoring: USFWS signed the initial Biological Opinion (BiOp) for this project on May 5, 2015. They since reinitiated consultation on this project due to confirmation of two pairs of owls, versus one, and a change to the proposed action, and amended the BiOp to include information in the September 20, 2019, BiOp. This project does not have a management experiment associated with it because only two PACs (owl sites) occur on Bill Williams Mountain (originally there was only one owl site on the mountain). However, monitoring of the owls within these PACs is occurring. The FWS worked with the Forest Service to change the Bill Williams Mexican spotted owl PAC boundary into two PACs based on on-going survey data that indicated two pairs are using Bill Williams Mountain (owls in the Bixler and Cataract PACs). Monitoring of the owls will continue through the life of the project (occupancy and reproduction status) and monitoring of owl occupancy of the Cataract PAC is a requirement of the Elk Ridge Ski Area BiOp (March 24, 2020). However, due to the small sample size and uniqueness of the area, this project is not one

USFWS felt would be good for a management experiment (sample size of 1 to 2 sites with no reference is difficult to design a management experiment around). However, the Forest Service is monitoring owls as part of this project and it will include more than five years of monitoring post-treatment due the timing between mechanical thinning and prescribed burning and due to the activities at the ski area.

Reasonable and Prudent Measures (RPMs) in May 5, 2015, BiOp (page 36) are:

1. Minimize adverse effects to Mexican spotted owls affected by the Bill Williams Mountain Restoration Project.
2. Minimize adverse effects to Mexican spotted owl habitat affected by the Bill Williams Mountain Restoration Project.
3. Monitor the impacts of mechanical thinning, prescribed burning, and associated actions to the Mexican spotted owl affected by the Bill Williams Mountain Restoration Project.

The implementing Terms and Conditions for these RPMs are on pages 36-37 of the BiOp.

- **Monitoring in PACs post treatment needs to be clearly stated as five years post treatment.**

Four Forest Restoration Initiative (4FRI) 1st EIS, Coconino and Kaibab NF's, Upper Gila Mountain EMU

- ROD signed on April 17, 2015. Decision is a blend of Alternative C and Alternative E. MSO habitat is managed the same under Alternatives C and E.
- Decision adheres to 2012 Recovery Plan and Revised Kaibab Land Management Plan direction and required a project specific Forest Plan amendment to tier to the 2012 Recovery Plan for the Coconino National Forest.
- BO signed October 20, 2014.
- Upper Gila Mountain EMU defines mixed conifer and pine-oak as recovery habitat.
- The decision authorizes total mechanical thin acres in 430,291 (page 13 ROD), of which 10,284 acres of proposed mechanical in PACs and 35 acres of grassland mechanical in PACs--total 10,319 acres in PACs (ROD page15). In addition, the Decision authorizes 6,495 acres of mechanical thinning in target and 1,892 acres of mechanical thinning in threshold habitat for a total 8,387 of mechanical thinning in target/threshold acres (page 15 ROD).
- The 10,319 acres of mechanical thinning in PAC's is within 18 PAC's. No harvest of nest cores are to occur. Stand specific upper diameter limits for mechanical thinning in PAC's are displayed in Attachment 2 of Appendix D of the FEIS. Upper diameter limits for stands in PAC's vary from 8.9" to 17.9". No trees > 18" are to be removed from any PAC mechanical thinning treatments.
- Monitoring of MSO PAC's is outlined in Appendix E of the FEIS.
- As part of the objection resolution process with Wild Earth Guardians, the Forest Supervisors agree to make the following changes to the MSO Monitoring Plan (FEIS, Appendix E):
 - Four PACs will initially be selected from the pool of 18 for combined treatment, and at least 4 reference PACs will be selected for comparison.
 - Treatment of the remaining 14 PACs will be contingent upon the results of monitoring during this initial phase of PAC treatments.
 - Of the 18 candidate PACs, those dominated by stands proposed for 9 inch dbh. cutting limits will be prioritized for treatment and monitoring, provided that they are currently occupied.
 - In the event that any of the 18 aforementioned PACs are surveyed for MSO occupancy for 3 consecutive seasons and no MSO are detected, treatment within those PACs may

commence to retain and improve MSO habitat components (in addition to the 4 PACs discussed above). Monitoring within these PACs will remain consistent with occupied PACs. (Note: these are not all of the changes related to MSO PAC management and monitoring from the objection resolution process. The entire resolution can be found in the ROD at pages 59-61).

- No trees are to be removed > 18" DBH in target or threshold habitat in the project. Stands at threshold criteria will not be dropped below minimums by treatment activities.
- To date, 26,025 total acres are currently awarded under contracts (task order and timber/multiproduct sales) or agreement (Spa's): Johnneys SPA, Junction SPA, Moonset SPA, Parks West SPA, Mineral Springs Task Order, Zorro Task Order, Pinegrove Task Order, Newman Park Task Order, A-1 South Multiproduct Sale, and Horse Park Timber Sale. No acres are currently awarded or harvesting in MSO habitat.
- The Forest Service has attempted to harvest the 4 MSO PAC's in the study twice. A contract was awarded to do the work, but defaulted one month after award. A second contract was offered with no bids. The Forest Service is currently finalizing a Stewardship Agreement with the National Forest Foundation to fund and complete the work.
- The analysis was started under the 1995 MSO Recovery Plan, as such, it does not display the attributes for nest/roost habitat pertaining to BA% in 12-17.9" and >18" dbh trees as outline in Table 3.C of the 2012 Recovery Plan, instead, the data displays % SDI for these size classes. It does display the TPA > 18" and total BA for MSO habitats—Protected, threshold (areas currently meeting the threshold conditions in Table III.C from the 1995 Recovery Plan), and target (areas not meeting conditions in Table III.C of the 1995 Recovery Plan, but to be managed to attain those conditions). Data for these conditions are displayed in the Table 62 of the silviculture specialist report.
- CBD notes that because USFS are not removing large trees and trying to retain them where they are, this project is dropped from the NOI as far as treatments are concerned.
- **The workshop outcome is that the project is clear to proceed.**

Monitoring: USFWS signed the BiOp for this project on October 20, 2014. The Reasonable and Prudent Measures (page 36 of BiOp) for this project are:

1. Minimize adverse effects to Mexican spotted owls affected by the 4FRI Project.
2. Minimize adverse effects to Mexican spotted owl habitat affected by the 4FRI Project.
3. Monitor the impacts of mechanical thinning, prescribed burning, and associated actions to the Mexican spotted owl affected by the 4FRI Project.

There are implementing Terms and Conditions for all of the RPMs above, below is the T&C specific to the Management Experiment:

Implementing Term and Condition 3.1 states:

3.1 The Forest Service shall monitor the effects of mechanical thinning and prescribed burning on owl occupancy and reproduction, and key habitat components (as defined in the Revised Mexican spotted owl Recovery Plan, table C.2) in three treatment and three reference PACs. The Forest Service shall also monitor the effects of prescribed fire only treatments on owl occupancy and reproduction, and key habitat components in six treatment and six reference PACs. Owl occupancy and reproductive data shall be collected for at least two years prior to treatment and two years post-treatment. Vegetation data should be collected pre-treatment and at defined intervals post-treatment. The specific plan

development, selection of PACs, and monitoring framework shall be developed in coordination with the FWS and Forest Service District Staff to ensure coordination with other projects and monitoring efforts. This monitoring plan shall be designed and implemented to evaluate the effects of thinning and prescribed fire on owl occupancy and reproduction, and retention of or movement toward desired habitat conditions within PACs, as defined in the Recovery Plan (USFWS 2012).

There are two components to the 4FRI management experiment. USFWS describe the two components below as well as a summary of monitoring status.

1. Monitoring short-term effects of prescribed burn only treatments on owls and their habitat within identified treatment and reference PACs. USFWS will conduct pre- and post-vegetation monitoring and are currently completing the third consecutive year of post-treatment owl monitoring (USFS burned all treatment PACs in fall of 2017). USFWS will prepare a report (possible publication) of this information in Winter 2020/21. USFWS intend to conduct additional monitoring of treatment PACs in out years (non-consecutive years; will monitor 5th and 7th year post-burn treatment as well).
2. Monitoring short-term effects of thinning and prescribed burning on owls and their habitat within identified treatment and reference PACs. USFWS have three comparable treatment and reference PACs (total of 6) and one treatment/reference PAC that were added to the monitoring as part of the Objection Process (however, both of these PACs burned at moderate and high intensity in a fire in 2007 (Birdie Fire) and are not comparable to the other identified treatment and reference PACs. However, USFWS are monitoring these two PACs as well and have collected pre- and post-mechanical thinning vegetation data. Three of the treatment PACs have received some hand thinning, but none of the mechanical thinning has occurred in any of the four treatment PACs (may start in 2021?). USFWS will monitor PACs two years post-mechanical thinning (or until they are then burned, which will be at least two years post mechanical thinning) and then conduct two to three years of monitoring post-prescribed burn treatment. This will result more than five years monitoring after the first treatment.

In the 4FRI Phase 1 proposed action, the Forest Service proposed to thin mechanically 18 PACs. However, none of the PACs outside of the management experiment may be mechanically treated until either a) the management experiment is complete or b) there are three years of consecutive protocol survey that infer absence within a PAC (per the objection resolution).

- **Monitoring in PACs post treatment needs to be clearly stated as five years post treatment or rationale for less than five years post treatment monitoring needs to be clearly stated**

Flagstaff Watershed Protection Project, Coconino NF, Upper Gila Mountains EMU

- Record of Decision was signed in October 28, 2015. The decision is a blend of Alternatives 2,3, and 4. This blending is based on the concept of using traditional ground-based equipment wherever possible, helicopter logging in the areas of greater visual and wildlife concern, and cable logging where visual impacts, effects on the Mexican spotted owl, and large tree retention issues are less significant. Concepts from Alternative 4 (minimal treatment) were incorporated where possible, but this is predominantly a blend between Alternatives 2 and 3 in order to treat the most acres and affect the most change in the potential for severe wildfire effects. The Mormon Mountain portion of this decision is the Alternative 3 version, which includes 2,320

acres of traditional ground based equipment, 73 acres of steep slope equipment harvesting, 180 acres of hand thinning, and 402 acres of burn only (ROD page 5).

- Decision adheres to 2012 Recovery Plan and revised Coconino Land Management Plan direction
- BO signed June 5, 2015 and updated in December 20, 2018. The revised BO is because a new PAC was found during monitoring. The new Oldham PAC will have 28 acres of mechanical thinning of small diameter trees in 28 acres of nest core—this has been completed.
- Upper Gila Mountains EMU has mixed conifer and pine oak as recovery habitat.
- The Decision (ROD Table 4 and 5 p 17 and 18) approved-1,195 PAC treats: ground based (793), helicopter (267), steep slope (135) and 202 acres hand thin in Dry Lake Hills Area (total 1,397 acres); PAC treats: 1,519 ground base and 73 steep slope and 180 acres hand cut in Mormon Mountain portion (total 1,772 acres). Total 3,069 acres. Acres of trees less than 5" dbh hand thinning in Schultz core were only approve core treatments in Decision. Revised BO notes that 28 acres of core helicopter logging was approved.
- Museum Fire burn in July of 2019 through treated stands that changed the NEPA decision acres needed for treatments in the Dry Lake Hills. No new treatments are proposed in PAC's in DLH portion of the analysis post Museum Fire. Additional updates to the BO are in process because of the Museum Fire.
- No trees over 18" dbh removed in PAC's and nest roost habitat in either DLH or Mormon Mountain portions of the analysis (table 11 of FIES displays diameter limits for all treatments). FEIS notes that trees over 18" would need to be removed in cable corridors. There are no cable corridors so no trees over 18" removed.
- To date the following projects have been awarded or planned:
 - Elden Base (no PAC habitat)
 - FWPP Steep Slope 257 acres of PAC harvested (from GIS exercise and FACTS Activity database record)
 - FWPP helicopter 213 acres harvested in PAC's (541 total acres) (from GIS exercise and FACTS Activity database record)
 - FWPP Schultz Tank-awarded
 - FWPP Mormon Mountain—no bid 6/16/2020
 - FWPP Dry Lake Hills IRSC—in solicitation currently, closes July 24th
- MSO habitat data modelling is displayed in the FEIS in Tables 68-72 for Dry Lakes Hills and Tables 70-73 for Mormon Mountain. FVS modeling is showing decreases in BA's post treatment. This is deceptive and provides a basis for confusion. Treatments are targeting the 10-16" diameter class and are not removing trees over 18".
- CBD notes that because are not removing large trees and trying to retain them where they are, this project is dropped from the NOI as far as treatments.
- **The workshop outcome is that the project is clear to proceed.**

C.C. Cragin Watershed Protection Project, Coconino NF, Upper Gila Mountains EMU

- Concerns about the project not addressing immediate catastrophic fire prevention needs.
- **The workshop outcome is that the project is clear to proceed.**

West Escudilla Restoration Project, Apache-Sitgreaves NF, Upper Gila Mountains EMU

- Decision Notice and FONSI were signed on August 2, 2017. Alternative 2 is the selected alternative.

- Decision adheres to 2012 Recovery Plan and Revised Apache-Sitgreaves Land Management Plan direction.
- BO letter of concurrence signed May 2, 2017.
- Upper Gila Mountain EMU defines mixed conifer and pine-oak as recovery habitat.
- The Decision approved 265 acres of MSO nest/roost habitat mechanical treatments and 523 acres of MSO PAC outside of core mechanical treatments. Hand thinning and burning occur within and additional 1,581 acres of PACs in MSO PAC core areas (Table 1 BO).
- Although there are eight PACs in the proposed action area (1,695 noncore acres and 275 core acres), three of the PACs (Butler, Turner Peak, and Jackson Springs) are not identified for any treatment. A fourth PAC, the Bob Thomas Creek PAC, will have hand thinning of trees up to 5 inches dbh prior to conducting prescribed fire. The Decision approves to thin portions of the remaining four PACs with mechanical thinning and prescribed fire. The acres the Forest Service planned to thin in the four remaining PACs are 314 acres (Flat PAC), 14 acres (Jackson Springs PAC), 15 acres (Little Creek PAC), and 180 acres (Lily Creek PAC).
- Treatment design has no trees thinned over 16" in PAC Protected Habitat and no trees over 18" will be removed in nest roost recovery habitat (page 53 EA).
- To date, 7,862 total acres under contract from the West Escudilla NEPA decision: ELC, Little (completed), Luna Tank, Pace Creek and Tenny Pond Timber Sales. The ELC timber sale has 120 acres under contract for harvest in the Flat PAC. This has not been cut to date.
- **The workshop outcome is that the project is clear to proceed.**

Monitoring: This project does not have a management experiment associated with it. The FWS determined the project would result in insignificant and discountable effects to the Mexican spotted owl (therefore, USFWS issued a concurrence letter on May 2, 2017, not a BiOp). Although there are eight PACs in the proposed action area (1,695 noncore acres and 275 core acres), three of the PACs (Butler, Turner Peak, and Jackson Springs) are not identified for any treatment. A fourth PAC, the Bob Thomas Creek PAC, the Forest Service will have hand thinning of trees up to 5 inches dbh prior to the Forest Service conducting prescribed fire. The Forest Service proposed to thin portions of the remaining four PACs with mechanical thinning and prescribed fire. The acres the Forest Service planned to thin in the four remaining PACs are 314 acres (Flat PAC), 14 acres (Jackson Springs PAC), 15 acres (Little Creek PAC), and 180 acres (Lily Creek PAC).

Mexican spotted owl monitoring for this project includes surveying to protocol all PACs within 0.5 mile of project activities prior to implementation to determine current occupancy of Mexican spotted owls and to identify current nesting or roosting locations. USFWS clarified with the Forest Service (District and Forest Biologist) in emails that post-survey monitoring would occur. The Forest Service is conducting post-treatment monitoring now and they will continue to monitor 3 (for Jackson Springs and Little Creek PAC where a total of 29 PAC acres are proposed for mechanical thinning) to 5 years post-treatment (for the Flat and Lily Creek PACs due to the increased acreage being treated). Post-treatment monitoring is occurring in the Little Creek PAC (treated 2018), and Flat and Turner Peak PACs (treatment occurring now). Three years is likely more than appropriate for some of the smaller mechanical treatment areas (e.g., 14 acres).

- **Monitoring in PACs post treatment needs to be clearly stated as five years post treatment or rationale for less than five years post treatment monitoring needs to be clearly stated. All needs to be publicly available.**

Awarded Enjoined Non-Active

Luna Restoration Project, Gila NF, Upper Gila Mountains EMU

- Record of Decision was signed in Nov. 2019, to date no projects have been initiated on this project due to ongoing injunction.
- Decision adheres to 1995 Recovery Plan and Gila Land Management Plan direction.
- Upper Gila Mountains EMU has mixed conifer and pine oak as restricted habitat.
- ROD does approve hand thinning and slash treatments within PACS up to 1,319 acres to a 9" DBH diameter limit and 1,235 acres within designated threshold nest/roost habitat.
- At this time there are no immediate planned mechanical treatments within PACs or threshold areas.
- The Silviculturist has determined if hand thinning occurs within the 1,235 acres of threshold, she would implement a 9" DBH diameter limit to prevent the basal area from dipping below threshold.
- However, the stand data shows that the majority of stand within PACs and designated nest roost are on average below minimums Therefore, it is unlikely that any thinning would occur within the areas and RX fire would be the only treatment. This could change with additional field inspections of these areas but is unlikely to change.
- The Silviculturist also noted that thinning treatments in PACs and designated nest roost are typically the last areas within a project to be considered for treatment due to this consideration; areas not meeting minimum threshold conditions, or the areas are difficult to treat and/or treatments can be very expensive. Therefore, they rather focus thinning treatments outside of these areas. Therefore, there NO immediately planned thinning projects within PACs or Nest/Roost.
- **The workshop outcome is that the project is clear to proceed with noted concerns that prescribed fire will to be need reduced to low severity surface fire as opposed to moderate severity.**

Monitoring: This project includes a potential management experiment as part of the project. It is required per Reasonable and Prudent Measure 3, Term and Condition 3.1. Therefore, as stated above, this RPM and implementing T&C are non-discretionary.

3. The Forest will monitor the impacts of mechanical thinning, prescribed burning, and associated actions to the Mexican spotted owl affected by the Luna Restoration Project.

3.1. The Forest Service shall monitor the effects of mechanical thinning and prescribed burning on owl occupancy and reproduction, and key habitat components (as defined in the Revised Mexican spotted owl Recovery Plan, table C.2) within an appropriate number of treatment and reference PACs, as determined in coordination with the Service. The Forest Service shall also monitor the effects of prescribed fire only treatments on owl occupancy and reproduction, and key habitat components within an appropriate number of treatment and reference PACs, as determined in

coordination with the Service. Owl occupancy and reproductive data shall be collected for at least two years prior to treatment and two years post-treatment. Vegetation data should be collected pre-treatment and at defined intervals post-treatment. The specific plan development, selection of PACs, and monitoring framework shall be developed in coordination with the Service and Forest Service District Staff to ensure coordination with other projects and monitoring efforts. The monitoring plan shall be designed and implemented to evaluate the effects of thinning and prescribed fire on owl occupancy and reproduction, and retention of or movement toward desired habitat conditions within PACs, as defined in the 2012 MSO Recovery Plan (Service 2012a).

USFWS are currently developing a management experiment with the Forest Service for this project (it is stated in the Reasonable and Prudent Measures and Terms and Conditions for the BiOp that USFWS will develop the monitoring plan 90 days after BiOp finalized (date of final BiOp is May 2, 2019). This plan is to be modeled upon the one USFWS designed for Flagstaff Watershed Protection Project (except the focus of the monitoring will be the mixed-severity fire as the only thinning in PACs is for trees less than 9 inches dbh). The number of years post-treatment monitoring is not yet determined, but as stated in the BiOp, USFWS will collect owl occupancy and reproductive data for at least two years prior to treatment and two years post-treatment (at least means that is a starting point for development of the management experiment).

- **Monitoring in PACs post treatment needs to be clearly stated as five years post treatment or rationale for less than five years post treatment monitoring needs to be clearly stated. All needs to be publicly available.**

Southwest Jemez Mountains Restoration Project, Santa Fe NF, Southern Rocky Mountain EMU

- Record of Decision was signed in December 2015.
- Site specific project Santa Fe NF Land Management Plan amendment was completed for project to adhere to 2012 Recovery Plan.
- Southern Rocky Mountain EMU has mixed conifer as recovery habitat.
- Decision approved thinning with 410 acres of PACs and 1,680 acres of Nest Roost.
- The minimum mixed conifer acres to be designated as nest roost is 1,677 acres However, the Santa Fe designated 3,733 acres of mixed conifer as nest roost.
- Within the 3,733 acres of nest roost there are currently 43 acres awarded to SW Jemez IRSC. 16 of the 43 acres has been treated and 27 acres are uncut. In addition to those 43 acres, the Santa Fe would like to treat 73 acres of nest roost adjacent to the Valles Caldera preserve to complete cross jurisdictional treatment as requested by the Caldera.
- **From above bullet the Santa Fe is seeking approval to complete the uncut awarded 27 acres and treat the 73 acres adjacent to the Caldera.** They do not have any mechanical thinning planned within the remaining 3,733 acres of nest roost. However, prescribed burning could occur.
- Within the 410 acres of PACs proposed for thinning the Santa Fe has 46 acres uncut but awarded in a mastication contract that is thinning understory ponderosa pine. These 46 acres are on the edge of the PAC that is designated predominantly in a canyon with a small area that comes onto the top of the mesa. The mastication goes to the mesa edge Therefore, the 46

acres overlap and the prescription in that 46 acres adheres to PACs treatment guidance per the recovery plan. **The Santa Fe would like to complete this project.**

- In addition to the awarded 46 acres within PACs the Santa Fe has Cebollita Task Order prepared and would like to offer it after the injunction is lifted. The current layout has the treatment unit with 68 acres within a PAC. This is due to the overlap with the PAC boundary coming out of a canyon and onto the edge of the mesa. The treatment unit goes to the edge of the mesa, hence the overlap. **The Santa Fe would like to continue with this project as the 68 acres adheres to treatment guidance per the 2012 recovery plan.**
- The Santa Fe has no additional thinning project planned in PACs and the rest of the PACs areas would be prescribe burned only.
- **The workshop outcome is that the project is clear to proceed with noted concerns.**

Monitoring: USFWS signed the BiOp for this project on July 13, 2015. There are six PACs within the project (four PACs occur entirely within the project area and two PACs are only partially within the project area). Specifically, the Forest Service proposed 47.6 acres in the Hummingbird PAC, 40.6 acres in the Lake Fork PAC, less than 1 acre in the Paliza PAC, 81.7 acres in the San Juan PAC, 154.5 acres in the Virgin PAC, and 89.5 acres in the West Mesa PAC. Within these PACs, thinning will occur on slopes less than 40 percent and on 414 acres, the Forest Service will not cut trees ≥ 18 inches dbh, and nest areas will not receive mechanical treatments. The Forest Service, as part of the proposed action, will monitor all PACs within the project area for occupancy and reproduction and conduct post-treatment surveys.

This project does not include a management experiment because the Forest Service proposed to mechanically thin only 414 acres in six PACs as part of this project, and the acre amounts range from a low of less than 1 acre to a high of 154.5 acres. These sites are not comparable to one another (effect of one acre to 40 to 155), and it is unlikely that USFWS would measure an effect from the thinning on owl occupancy and reproduction. The need for monitoring in this project is to ensure that USFWS know where the owls are nesting/roosting so USFWS can avoid disturbance from the project activities and avoid unintended effects to nest/roost habitat; USFWS were not going to learn much about the effects of mechanical thinning from this project that would result in improved recommendations to managers.

- **Monitoring in PACs post treatment needs to be clearly stated as five years post treatment or rationale for less than five years post treatment monitoring needs to be clearly stated especially where there will be significant PAC and Recovery Nest/Roost treatments and Basal Areas will be significantly lowered. All needs to be publicly available.**

Puerco Landscape Restoration Project, Cibola NF, Colorado Plateau EMU

- Decision Notice and FONSI were signed on April 6, 2020
- Site specific project Cibola NF Land Management Plan amendment was completed for project to adhere to 2012 Recovery Plan
- Colorado Plateau EMU defines mixed conifer and pine-oak as recovery habitat
- The Decision approved thinning within PACs for 2,841 acres and 1,853 acres of nest roost
- The project has 7 PACs and the average stand characteristics are below the minimum thresholds Therefore, the Cibola does not have any planned thinning treatments within PACs.

- The stand data for the PACs was imputed from the Nearest Neighbor modeling software. The Cibola has entered into an agreement with the Forest Stewards Guild to install permanent stand exam plots within the PACs this summer. The Cibola will determine how to treat PACs once the site specific stand data has been collected and analyzed. The results of this data would lead to site specific treatment decisions such no treatment, prescribe burn only or thin from below and prescribed burn.
- At this time the Cibola has 124 acres out of the 1,853 total nest roost habitat awarded for thinning under the National Wild Turkey Federation stewardship agreement. The 124 acres are part of a larger treatment area of a total 4,076 acres. The nest roost acres will be treated with a separate prescription to the other acres, to maintain nest roost characteristics. **The Cibola would like to treat these acres.**
- For the remaining nest roost acres data analysis identified recovery nest-roost habitat are above the minimum targets identified in the recovery plan. Each area of nest roost habitat will be evaluated ahead any treatments occurring to determine existing conditions, and a prescription will be developed on a case by case basis with some areas treated above minimum and other areas untreated or burn only.
- **Forest Service needs to clearly display to the Public that there will not be trees > 18 DBH removed from PACs and Recovery Nest/Roost Habitat.**
- **The workshop outcome is that the project is clear to proceed with noted concerns.**

Monitoring: This project includes a potential management experiment as part of the project. It is required per Reasonable and Prudent Measure 3, Term and Condition 3.1. Therefore, as stated above, this RPM and implementing T&C are non-discretionary.

3. The Forest Service will monitor the impacts of mechanical thinning, prescribed burning, and associated actions to the Mexican spotted owl affected by the Puerco Restoration Project.

3.1. The Forest Service shall monitor the effects of mechanical thinning and prescribed burning on owl occupancy and reproduction, and key habitat components (as defined in the Revised Mexican spotted owl Recovery Plan, table C.2) within an appropriate number of treatment and reference PACs, as determined in coordination with the New Mexico ESFO. Owl occupancy and reproductive data shall be collected for at least two years prior to treatment and two years post-treatment. Vegetation data should be collected pretreatment and at defined intervals post-treatment. The specific plan development, selection of PACs, and monitoring framework shall be developed in coordination with the New Mexico ESFO and Forest Service District Staff to ensure coordination with other projects and monitoring efforts within 90 days of the publishing of this biological opinion. The monitoring plan shall be designed and implemented to evaluate the effects of thinning and prescribed fire on owl occupancy and reproduction, and retention of or movement toward desired habitat conditions within PACs, as defined in the 2012 MSO Recovery Plan (Service 2012).

USFWS are currently developing the monitoring plan with the Forest Service (it is stated in the Reasonable and Prudent Measures and Terms and Conditions for the BiOp that USFWS will develop the monitoring plan 90 days after BiOp finalized (date of final BiOp is December 16, 2019). USFWS will model this management experiment upon the one USFWS designed for

Flagstaff Watershed Protection Project. The number of years post-treatment monitoring is not yet determined, but as stated in the BiOp, USFWS will collect owl occupancy and reproductive data for at least two years prior to treatment and two years post-treatment (at least means that is a starting point for development of the management experiment).

- **Monitoring in PACs post treatment needs to be clearly stated as five years post treatment or rationale for less than five years post treatment monitoring needs to be clearly stated especially where there will be significant PAC and Recovery Nest/Roost treatments and Basal Areas will be significantly lowered. All needs to be publicly available.**

Rio Tuzas Lower San Antonio Restoration Project, Carson NF, Southern Rocky Mountain EMU

- Decision Notice and FONSI were approved on October 20, 2017
- Site specific project Carson NF Land Management Plan amendment was completed for project to adhere to 2012 Recovery Plan
- Southern Rocky Mountain EMU defines mixed conifer as recovery habitat
- There are no PACs within or adjacent to the project
- The Analysis project area is 160,000 acres with 37,870 acres of mixed conifer (i.e. Recovery Habitat)
- Within the 37,870 acres of mixed conifer 21,947 acres have been approved to be treated with thinning and prescribed fire. Out of the 21,947 acres 20% or 4,390 acres have been identified to be managed as old growth and contribute to nest roost. In addition to that there is 15,932 acres of mixed conifer that has been designated as nest roost and NO treatment will occur in these areas. Therefore, there are NO approved treatments with designated nest roost.
- **The workshop outcome is that the project is clear to proceed.**

Burro Analysis for Restoration of Forest Health, Gila NF, Upper Gila Mountains EMU

- Decision Notice and FONSI were signed on March 11, 2015
- Upper Gila Mountains EMU has mixed conifer and pine oak as restricted habitat
- Adheres to 1995 Recovery Plan
- Project has a total of 795 acres of mixed conifer and 5,641 acres of pine-oak for a total of 6,436 acres of restricted habitat
- From those totals the Threshold nest roost designated areas for mixed conifer are 236 acres and pine-oak 564 acres
- The Decision approves thinning with 3,169 acres of PACs and 800 acres of nest roost
- Thinning in PACs would consist of hand thinning up to 9" DBH. However, there are NO thinning treatments currently proposed within the PACs. However, the stand data shows that the majority of stands within PACs are below minimums Therefore, it is unlikely that any thinning would occur within the PACs and RX fire would be the only treatment. This could change with additional field inspections but is highly unlikely to change.
- Timber Sale Turkey Park - 76 acres in the NEPA analysis were designated to be managed toward threshold conditions (55 ac mixed conifer BA 170 and 21 ac mixed conifer 150). Upon field review of the Burro Area, these 76 acres was determined to be not as suited for management to threshold conditions as more appropriate acres were available (approximately 465 acres). Therefore, the total number of Threshold Nest/Roost acres went from 800 acres to 1,189 acres.

- The 465 acres were dropped from being mechanically treated and would be predominantly prescribe burned only with 58 acres being hand thinned up to 9" DBH to 170 basal area and 70 acres being hand thinned up to 9" DBH to 150 basal area. **However, these treatments are not planned for a specific time.**
- At this time no additional nest roost areas are planned for treatment, if field inspections determine additional nest roost areas need thinning, it would be through hand thinning up to 9" DBH.
- In restricted/recovery habitat, attributes that have the potential to provide future nesting habitat would be maintained or encouraged to develop through management where they occur at low levels according to recommendations found in the Gila Forest Plan and 1995 Recovery plan. These include large Gambel oaks, large conifers, large snags, large down logs and a canopy cover that maintains 40 percent or more ground shading. Conservation measures require minimizing effects to large oaks, large snags (all decay stages), and large downed logs using Recovery Plan guidelines. This project protects, where available, and encourages the development of large snags (all decay stages), large downed logs, and growth of grasses, forbs, and shrubs using Recovery Plan guidelines.
- The Gila NF allocated more than the recommended percentage of restricted habitat as target/threshold (nest/roost replacement habitat).
- Within the project area, prescribed fire will occur over multiple years and may affect up to eight (8) PACs or portions of PACs within the project area and additional PACs outside of the project area from smoke (although with burn Rxs the smoke effects should be insignificant).
- The burn prescription only allows for a low intensity burn that would create a mosaic of burned and unburned areas. The prescription would be designed to maintain a ground fire. The project area has a recent history of fire (Table 4, page 20 in BA).
- Letter of Concurrence that the proposed action will have insignificant and discountable effects was issued December 18, 2014.
- No monitoring planned because the project will have insignificant and discountable effects.
- **The workshop outcome is that the project is clear to proceed.**
- **Monitoring in PACs post treatment needs to be clearly stated as five years post treatment or rationale for less than five years post treatment monitoring needs to be clearly stated. All needs to be publicly available.**

Awarded Non-Active

Hassayampa Landscape Restoration Project, Prescott NF, Basin and Range West EMU

- Decision Notice/FONSI signed November 13, 2019. Alternative 2 is the selected alternative.
- Decision adheres to 2012 Recovery Plan and Revised Prescott Land Management Plan direction,
- Biological Opinion signed September 19, 2019. Terms and Conditions are included within the DN/FONSI (pages 6-8).
- Basin Range West EMU defines mixed conifer and pine-oak as recovery habitat.
- The Decision Notice (page 2) authorizes a total of 30,808 acres of mechanical thinning, 4,798 acres of hand thinning and 10,665 acres of fuel break construction for 46,271 acres. There are also 44,590 acres of mastication authorized in the project area (DN page 2). MSO habitat treatments authorized and displayed in Table 1 in the Decision Notice (page 4) include 54 acres of hand thin fuel break, 1,000 acres of mechanical fuel break, 3,150 acres of mechanical thinning and 517 acres of hand thin in PAC's (4,721 acres).

- The EA authorizes treatments in MSO PAC cores as follows: 200 acres (21 percent) hand thinned, 689 acres (72 percent) mechanically thinned, and 952 acres (100 percent) be prescribed burned (EA Table 29, page 56).
- Table 12 of the BA displays many of the PACs are under minimum Tree per Acres (TPA) in trees > 18" dbh.
- No trees would be harvested over 18" in MSO PAC core, PAC or nest/roost recovery habitat.
- Currently, no projects active in the MSO habitat portion of the project. One project being implemented is the Blue Hills mastication project. Shaula Hedwall noted that the Prescott is at least two years away for treatments in MSO habitat.
- It is unclear in the NEPA document how the project conforms to table C.3.—the data is not in the same format as the Recovery Plan. Existing structural habitat required for MSO recovery PAC and nest/roost habitat is below the required minimums, especially in trees > 18" dbh.
- CBD has multiple concerns with this project
 - Not many large trees so taking these away does not help the owl
 - Fuel breaks in cores to protect private land is not the FS job
 - Monitoring requirements
 - Silviculture report not helpful.
- **The workshop outcome is that the project is NOT clear to proceed in MSO PACs and Recovery Nest/Roost Habitat.**
- **Next steps are:**
 - **Project on-hold in regard to work in Mexican spotted owl habitat**
 - **Needs better data in regard to effects in relation to table 3.C of the 2012 Recovery Plan.**
 - **Field trip with CBD/FS/USFWS/DFFM/AGFD/ECO/SRP to get on the ground to resolve current issues and concerns.**

Planned Non-Active

4FRI 2 Rim Country, Apache-Sitgreaves, Coconino, Kaibab & Tonto NF, Basin & Range West; Upper Gila Mountains EMU

- **Underway and unresolved/unfinished.**

It is not clear whether or not this project will be managed with the minimum Recovery Plan recommendations for PACs canopy, and Recovery Nest/Roost habitat % Basal Area by large trees or density of large trees,

It is not clear whether or not the project will provide for five years post treatment monitoring.

- **The workshop outcome is that the project analysis needs to be completed, integrating the outcomes of the workshop.**

Black River, Apache-Sitgreaves NF, Basin & Range West; Upper Gila Mountains EMU

- **Underway and unresolved/unfinished.**

The March 18, 2018, Project Description states: "Within MSO nesting/roosting habitat, the stands would be maintained to meet threshold conditions or move the stands towards target conditions (MSO Recovery Plan, USDI FWS, 2012). Treatments would be designed to maintain at least 110 basal area (pine/oak) or 120 basal area (mixed conifer). The proposed action would meet the minimum requirement of 12 trees per acre greater than 18-inch diameter at breast height (dbh), whenever possible."

In addition, the riparian restoration proposals do not address feral horses throughout the Black River drainage and excessive permitted cattle grazing along Home Creek. The Project description does not address the failure of the Forest Service/Apache-Sitgreaves (1) to maintain the White Mountain Apache Tribe and San Carlos Apache Tribe boundary fences, (2) to remove the feral horses from the entire drainage, and (3) to remove the permitted cattle from Home Creek.

In spite of multiple requests, USFS has not provided the MSO PAC shapefiles for partners to evaluate this project further.

It is expected that the new Preferred Alternative, Alternative 3 to be presented at the July 21, 2020 Natural Resources Working Group (NRWG) will address and resolve a large number of issues identified in scoping comments.

- **The workshop outcome is that the project analysis needs to be completed, integrating the outcomes of the workshop.**

Planned Enjoined Non-Active

Santa Fe Mountains Resiliency Project, Santa Fe NF, Southern Rocky Mountain EMU

- **Underway and unresolved/unfinished.**
- **The workshop outcome is that the project analysis needs to be completed, integrating the outcomes of the workshop.**

South Sacramento Restoration Project, Lincoln NF, Basin & Range East EMU

- **Underway and unresolved/unfinished.**

It is not clear whether or not this project will be managed with the minimum Recovery Plan recommendations for PACs canopy, and Recovery Nest/Roost habitat % Basal Area by large trees or density of large trees,

It is not clear whether or not the project will provide for five years post treatment monitoring.

- **The workshop outcome is that the project analysis needs to be completed, integrating the outcomes of the workshop.**

Systemic Issues

- 1) Are we using the current data?
For example, C.C. Cragin, Flagstaff Watershed (FWPP), Pinaleño (PERP), Bill Williams field data have changed. The data we have in the tracking spreadsheet does not reflect the current information. The collection of field data post NEPA triggers changes in the NEPA implementation.
- 2) Are we not following a process to refresh data available to the public, or do we not have the right process to share updated data with the public?
There are differences in how data is stored and made available. For example, USFWS BO and revised BO are supposed to be readily available on the project websites. These are generally easily available for AZ projects except for inconsistent posting of BO's and rare posting of Concurrences and Biological Assessments on USFS sites. Posting of NM project BO's are problematic, several Workgroup members could not find them.
- 3) How are changes in the projects captured and documented back to the public?
For example: fire has an effect on projects (e.g. FWPP) and causes projects to change, or treatment alternatives like cable logging were rejected.
- 4) Frequently implementers modify the prescriptions based on field conditions. However, field modifications of the prescriptions are not documented back to the NEPA and publicly available documents.
- 5) Some of the project modifications are shared with the project collaborative groups, but how do we share project modifications with the public at large?
- 6) Inconsistencies in data used in public reports are caused by the use of complex concepts (e.g. QMD or SDI) that make relating a proposed project to the Recovery Plan difficult.
- 7) Inconsistencies of personnel interpretations create a perception that there is no systemic approach at the Regional level. There is a strong need for standardization of processes / data formatting / templates / etc., across the region in NEPA, BA, BO, etc. documents.
- 8) The co-existence of projects analyzed under old and new Recovery Plan, old and new NEPA Planning Rule, original and revised BOs, etc. creates confusion. It is difficult for the public to appreciate the exact compliance context for individual projects.
- 9) There are differences in how BA is calculated. For example, on Bill Williams it did not include oak and other hard wood species. This was only accidentally realized during a post NEPA field trip. The Regional Office needs to provide planning guidelines and templates for future MSO planning that are consistent with the requirements in the Recovery Plan, standardized across forests, and better representative of actual likely implementation prescriptions within PACs and Nest Roost Recovery Habitat.
- 10) In some projects BA is calculated after post-mechanical treatment and post fire. In others it is calculated only post mechanical treatment, excluding fire. In addition, post-treatments fire may actually not be implemented (e.g. Bill Williams). BA calculations need to be standardized. Categories

should be Pre-Treatment, Post Mechanical Treatment, Post Fire only treatment, and Post Mechanical Treatment and Fire Treatment.

- 11) Modeling procedures are not consistent across projects. For example, several projects use the Forest Vegetation Simulator (FVS) for projections but 4FRI Phase 1 uses inference from LandFire. Standardized modeling and projection methods are needed to increase transparency and resiliency of projects. Data needs to be consistently displayed and differences in techniques should be clearly documented.
- 12) There is no tool or method to compile the various projects and manage the distribution of treatments along the spectrum of intensity, from no treatment to high intensity, across the landscape at the NEPA level.
- 13) Even if a tool existed to manage the distribution of treatments along the spectrum of intensity across the landscape at the NEPA level, most projects NEPA documents provide more options than are typically being executed, and implementers generally err on the conservative side. Because there is also no tool to track mechanical thinning treatments actually implemented - and the distribution of these treatments along the spectrum of intensity across the landscape - and because in reality very few mechanical treatments are actually implemented, the NEPA documents offer a generally incorrect and misleading view of actual project impacts.
- 14) How do we communicate what is actually happening on the ground? It could be useful to have qualifying statements in NEPA to clarify that what is being proposed may or may not be implemented. It is extremely confusing right now what is being done or not, within the limits of the NEPA documents.
- 15) The NEPA prescriptions quality control and decision-making takes place at post NEPA field-trip level. This method is likely not scalable across AZ and NM if/when both States ramp up to landscape scale restoration. Shaula will not be able to visit every project in both States, especially when AZ does 50,000 acres/year and NM ramps up.
- 16) There is a process problem when USFWS changes or appends a BO. The change is documented with USFS, but the change does not roll into the public domain. Even if an officially modified BO only happens in only four high level cases, BOs changed by appendices (such as a Monitoring Plan) are frequent. This is a major transparency issue.
- 17) There is an enormous amount of unique knowledge resting in very few key individuals. For example, if Shaula, Karl, Ian and Dick were withdrawn from the process overnight, the management of MSO projects within R3 would be severely crippled, if not coming to a complete stand still. There is a need for critical knowledge to be captured and backed up, and for succession plans. This is an urgent issue as Karl is leaving the region and Dick is retiring.
- 18) There is danger in relying overly on imputed data. A lot of the MSO habitat resides on Northern aspects, which may not reflect data from southern aspects as represented through nearest neighbor imputation processes. Conditions on the ground may be very different from the imputation. Field survey data is required early in the planning process. Can this data collection ultimately be done by LiDAR prior to NEPA analysis with ground truthing plots in MSO habitat?

- 19) NM Forests do not have the resources to run stand exams in all stands. State of NM (ERDC) has acquired wall to wall LiDAR data. Can we use it to collect field data relevant to prescription decisions?
- 20) As landscape scale restoration ramps up, will LiDAR and/or other remote sensing data sources provide enough of a quantum leap over stand exam cruises to allow landscape scale data collection with the available personnel resources?
- 21) There is a strong nexus between the MSO discussion and “Conditions Based Management” (CBM). There is a systemic learning point for the upcoming implementation of CBM: the current MSO challenges likely exemplify issues to come, NEPA-wide, when CBM gets rolled out at full scale.
- 22) It seems that every project ends up being implemented ad-hoc without a consistent, standardized, systematic method in place. A systematic method is needed to avoid repeating the same issues on the next batch of projects. Such method would likely include regular, at least annual coordination project review workshops.
- 23) NEPA seems to not be done thoroughly on some projects (e.g. Hassayampa). It seems to be more a perfunctory analysis than an actual treatments analysis. There is apparently an expectation that treatments will actually be decided during/following on the ground data collection, Therefore, NEPA rigor is not required. USFWS willingness to visit every project to fix it may be acting as an enabler of insufficient NEPA and poor data on stand conditions in MSO PACs and Nest Roost Recovery habitat.
- 24) How do we do the accounting for the environmental baseline so that the public can feel comfortable proceeding with these projects and in general? Each BO is a jeopardy analysis. None of the BO ever gets to jeopardy but the question is whether aggregated BOs get to jeopardy when cumulating all the projects across the Region. There are 54,000 acres of PAC, recovery nest roost habitat scheduled to be treated across R3. There is a need to evaluate and disclose how cumulated projects are not creating jeopardy.
- 25) A Recovery Plan clarification is needed, including:
 - Clarification of canopy requirements within PACs, nest cores and recovery nest/roost habitat, in Pine Oak, Mixed Conifers, including stands data required to evaluate whether adequate canopy cover is provided after treatment.
 - Clarification that minimum requirements are not targets, and that in the areas where the number of large trees per acres exceeds the recommended minimum, they should not be removed to meet the recommended minimum.
- 26) A Recovery Plan implementation guidance is needed to help NEPA practitioners, including:
 - Distribution of various treatments intensity from no treatment to higher intensity treatments across projects to meet the Recovery Plan intent.
 - Habitat and forest restoration focus rather than silviculture focus.
 - Use of public-friendly metrics (e.g. BA, TPA, etc.) rather than complex silviculture metrics (e.g. SDI, QMD, etc.).
 - Data interpretation and presentation standardization.
 - Facilitations of data and documents access to the public.

- 27) Although the Recovery Plan allows treatments in PACs and nest roost, the Recovery Plan recommends treating outside PAC and nest/roost habitat first to reduce fire risk. Protection can also be accomplished by treatments strategically located around MSO acres.
- 28) Non-experimental treatment monitoring needs to be public facing to help inform adaptive management and to identify patterns (even if it is anecdotally).
- 29) Better quality data is needed earlier in the planning process for stand conditions within PACs and Nest Roost recovery habitat and it should be publicly accessible. This will lead to more transparency and better planning during NEPA process.
- 30) There is a need to bring consistency for the term "Mechanical Treatments." Sometimes it included "hand thinning" and sometimes it did not. Three categories for treatments would add clarity to the public: Mechanical Treatments, Hand Thinning Treatments and Prescribed Fire treatments
- 31) Recovery habitat guidelines may not be at the correct scale (EMU) leaving more isolated populations of MSO at risk. Example: Bradshaw owls and the Hassayampa project.
- 32) Silvicultural prescriptions based on stands that include a portion of PACs may be problematic. The stand data outside of the PACs are not representative of conditions within the PACs and lead the public to perceive that the conditions and proposed treatments within the PACS are not consistent with recommendations within the Recovery Plan.
- 33) What is a "reasonable period" for treatments in Nest Roost Recovery Habitat that dip below the guidelines in the Recovery Plan? What is the "reasonable" recovery time for treatments in Nest Roost Recovery Habitat and is it consistent across the region? (temporal)? Does "reasonable" recovery time have a spatial component?
For example: if all of the treatments in the nest roost recovery habitat in the Bradshaw Mountains have a 20 year "recovery" time to get back to the thresholds, is the owl prevented from dispersing because of a lack of nearby suitable habitat?
What a "reasonable" period of recovery is, might change as more of the landscape is treated and there is less "unmanaged" or less nest roost recovery habitat above the thresholds in the Recovery Plan.
- 34) Science is emerging in recent literature regarding the effectiveness, or lack thereof, of mechanical treatments in MSO habitat. A Workshop is needed to review this science and its applicability to projects in the Region.

Recommendations

Project level

1) Projects specifics recommendations:

Awarded Active

Pinaleño Ecological Restoration Project, Coronado NF, Basin & Range West EMU

- The Workshop outcome is that the project is clear to proceed.
- Monitoring in PACs post treatment needs to be clearly stated as five years post treatment.

Bill Williams Mountain Project, Kaibab NF, Upper Gila Mountains EMU

- The Workshop outcome is that the project is clear to proceed.
- Monitoring in PACs post treatment needs to be clearly stated as five years post treatment.

Four Forest Restoration Initiative (4FRI) 1st EIS, Coconino & Kaibab NF's, Upper Gila Mountain EMU

- The Workshop outcome is that the project is clear to proceed.
- Monitoring in PACs post treatment needs to be clearly stated as five years post treatment.

Flagstaff Watershed Protection Project, Coconino NF, Upper Gila Mountains EMU

- The Workshop outcome is that the project is clear to proceed.

C.C. Cragin Watershed Protection Project, Coconino NF, Upper Gila Mountains EMU

- The Workshop outcome is that the project is clear to proceed.

West Escudilla Restoration Project, Apache-Sitgreaves NF, Upper Gila Mountains EMU

- The Workshop outcome is that the project is clear to proceed.
- Monitoring in PACs post treatment needs to be clearly stated as five years post treatment or rationale for less than five years post treatment monitoring needs to be clearly stated. All needs to be publicly available.

Awarded Enjoined Non-Active

Luna Restoration Project, Gila NF, Upper Gila Mountains EMU

- The Workshop outcome is that the project is clear to proceed with noted concerns that prescribed fire will to be need reduced to low severity surface fire as opposed to moderate severity.
- Monitoring in PACs post treatment needs to be clearly stated as five years post treatment or rationale for less than five years post treatment monitoring needs to be clearly stated. All needs to be publicly available.

Southwest Jemez Mountains Restoration Project, Santa Fe NF, Southern Rocky Mountain EMU

- The Workshop outcome is that the project is clear to proceed with noted concerns
- Monitoring in PACs post treatment needs to be clearly stated as five years post treatment or rationale for less than five years post treatment monitoring needs to be clearly stated especially where there will be significant PAC and Recovery Nest/Roost treatments and Basal Areas will be significantly lowered. All needs to be publicly available.

Puerco Landscape Restoration Project, Cibola NF, Colorado Plateau EMU

- The Workshop outcome is that the project is clear to proceed with noted concerns
- Monitoring in PACs post treatment needs to be clearly stated as five years post treatment or rationale for less than five years post treatment monitoring needs to be clearly stated especially where there will be significant PAC and Recovery Nest/Roost treatments and Basal Areas will be significantly lowered. All needs to be publicly available.

Rio Tusas Lower San Antonio Restoration Project, Carson NF, Southern Rocky Mountain EMU

- The Workshop outcome is that the project is clear to proceed.

Burro Analysis for Restoration of Forest Health, Gila NF, Upper Gila Mountains EMU

- The Workshop outcome is that the project is clear to proceed.
- Monitoring in PACs post treatment needs to be clearly stated as five years post treatment or rationale for less than five years post treatment monitoring needs to be clearly stated. All needs to be publicly available.

Awarded Non-Active

Hassayampa Landscape Restoration Project, Prescott NF, Basin and Range West EMU

- The Workshop outcome is that the project is NOT clear to proceed in MSO PACs and Recovery Nest/Roost Habitat.
- Next steps are:
 - Project on-hold in regard to work in Mexican spotted owl habitat
 - Needs better data in regard to effects in relation to table 3.C of the 2012 Recovery Plan.
 - Field trip with CBD/FS/USFWS/DFFM/AGFD/ECO/SRP to get on the ground to resolve current issues and concerns.

Planned Non-Active

4FRI 2 Rim Country, Apache-Sitgreaves, Coconino, Kaibab & Tonto NF, Basin & Range West; Upper Gila Mountains EMU

- The Workshop outcome is that the project analysis needs to be completed, integrating the outcomes of the Workshop.

Black River Restoration Project, Apache-Sitgreaves NF, Basin & Range West; Upper Gila Mountains EMU

- The Workshop outcome is that the project analysis needs to be completed, integrating the outcomes of the Workshop.

Planned Enjoined Non-Active

Santa Fe Mountains Resiliency Project, Santa Fe NF, Southern Rocky Mountain EMU

- The Workshop outcome is that the project analysis needs to be completed, integrating the outcomes of the Workshop.

South Sacramento Restoration Project, Lincoln NF, Basin & Range East EMU

- The Workshop outcome is that the project analysis needs to be completed, integrating the outcomes of the Workshop.

- 2) Memorialize in appropriate USFS and USFWS document appendices, the components of the resolved projects.
- 3) Systematically include the effects of prescribed fire when projecting the final outcome of the treatments.

Systemic level

- 4) Conduct a crosswalk between the Strategy document and these Notes to identify potential gaps.
- 5) Organize promptly the workshop(s) required to resolve the issues identified in the “**Systemic Issues**” section. The first workshop will be focused on consolidating and prioritizing the issues, and organizing a workplan for the Leaders’ consideration to resolve the issues.
- 6) Develop a standardized template for project development that includes making readily available to the public:
 - a. Current forest data (e.g., current stand exams, LiDAR or other remote sensing tools);
 - b. Modeling tables of pre and post treatment forest structure (e.g., trees >17.9 in DBH, snags), and treatments effects including prescribed fire effects;
 - c. Use of easy to understand metrics such as TPA, % large tree per acre, % of BA, canopy cover, etc.;
 - d. Specific treatments analyzed in the NEPA;
 - e. Biological Assessment (BA);
 - f. Biological Opinion (BO) or Concurrence Letter;
 - g. Shapefiles;
 - h. Pre and post Monitoring Plan appended to BOs;
 - i. Inter-agency documentation of changes within the projects;
 - j. Etc.
- 7) Test the products from the systemic issues resolution workshop(s) on projects in the planning stage, including 4FRI Rim Country, South Sacramento Restoration, Black River Landscape Restoration, Santa Fe Mountains Resiliency.

Recovery level

- 8) Develop collaboratively a process to account for cumulative jeopardy analysis across all projects, ownerships and administrative boundaries as applicable.
- 9) Finalize and implement the NFS Region 3-wide Habitat Model and associated monitoring.
- 10) Address the possibility that the current Region-wide population monitoring plan may have inadequacies in view of the declining population to date. Additional analyses are needed to sort and understand the underlying causes of the trends observed.
- 11) Review the emerging science in recent literature regarding the effectiveness, or lack thereof, of mechanical treatments in MSO habitat, and its applicability to projects in the Region.
- 12) Review the functionality/efficiency of the current Ecological Management Unit (EMU) Working Teams (WTs).