

**ADDENDUM 2**  
**TO THE BIOLOGICAL ASSESSMENT FOR PROPOSED**  
**MANEUVER CENTER OF EXCELLENCE ACTIONS**  
**AT**  
**FORT BENNING, GEORGIA**

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# **1. UPDATES TO PROTECTED SPECIES INFORMATION PRESENTED IN THE MARCH 2009 ADDENDUM**

## **1.1. CLARIFICATION OF INDIRECT HARASSMENT IMPACTS**

In the Final Addendum to the Final Biological Assessment for Proposed Maneuver Center of Excellence Actions at Fort Benning, Georgia (MCOE Addendum 1) (USACE 2009), it is stated that 55 active clusters will be within 200 feet (ft.) of increased heavy maneuver training associated with the Maneuver Center of Excellence (MCOE). These effects were analyzed by Hayden and Melton (2009) in a series of model runs discussed in Section 4.2.1.6 of the MCOE Addendum 1 (USACE 2009). However, of these 55 clusters, 2 were captured (habitat was repartitioned to the adjacent cluster) and 29 were also directly “taken” by the proposed MCOE actions (Table 1-1). Therefore, as a result of MCOE actions, only 24 clusters were within 200 ft. of maneuver impacts and were not already directly “taken” due to MCOE actions. The U.S. Fish and Wildlife Service (USFWS) has since indicated that these impacts, referred to as “indirect harassment impacts” in this document, will require Incidental Take.

## **1.2. STORM DAMAGE - ADJUSTMENT OF RCW BASELINE**

On 10 April 2009, severe storms and a tornado damaged approximately 1,842 acres on Fort Benning, with varying degrees of severity. A total of 27 clusters experienced some level of storm damage: 24 active and 3 inactive. Fort Benning Conservation Branch (CB) staff were able to provide all impacted clusters with 4 suitable cavities each. A summary of cluster damage and cavity provisioning efforts has been provided to the US Fish and Wildlife Service (USFWS) (Barron 2009). The majority of the damage occurred along Hwy 27-280 in the Harmony Church cantonment area and C, R, S, BB and EE Training Compartments. A smaller area was also affected in Compartments J1, J2 and J3 (Figure 1-1). The extent of damage was highly variable, ranging from 1 fallen tree/acre to 100% loss of mature pines.

Due to the already constricted timeline of the Biological Assessment, USFWS Biological Opinion (BO) and EIS being prepared for the proposed MCOE action, there was not sufficient time to thoroughly update the forest inventory data for all clusters impacted by both the proposed action and the storms. In order to prioritize efforts, biologists from CB and the USACE

contractor, Dr. J.H. Carter III and Associates, Inc. (JCA) determined that there were 6 active clusters that lost foraging substrate in the storms, were impacted by proposed MCOE actions and would have otherwise had sufficient foraging habitat by the revised Standard for Managed Stability (SMS) post-MCOE (C01-03, C01-06, HCC-08R, HCC-10R, S01-01 and S02-01R).

According to habitat analyses by Fort Benning Land Management Branch (LMB), even if all storm-damaged areas were 100% devoid of pines, Cluster S02-01R would still have sufficient habitat (defined here as 75 acres of pine-dominated stands  $\geq 30$  years old, averaging  $\geq 30$  ft<sup>2</sup>/ acre BA in pines  $\geq 10$  in. dbh) post-MCOE. Clusters HCC-08R and C01-06 would have 53 and 59 acres, respectively, if 100% of the 10 inch dbh pines were lost in damaged areas. In lieu of collecting complete inventory data, a LMB forester walked every damaged stand within these 2 questionable partitions and subtracted any acreage that did not have a BA of  $\geq 30$  ft<sup>2</sup>/ acre in pines  $\geq 10$  in. dbh. Cluster C01-06 will have approximately 94 acres of potentially suitable or suitable habitat (as defined above) remaining post-MCOE and is therefore not expected to be "taken." Cluster HCC-08R will have approximately 81 acres of habitat remaining post-MCOE, however, since the majority of the remaining stands have between 30 and 40 ft<sup>2</sup>/ acre BA in pines  $\geq 10$  in. dbh, this cluster is not expected to meet the SMS minimum total BA of 3,000 ft<sup>2</sup> (J. Parker, Fort Benning, pers. comm.). Cluster HCC-08 is therefore expected to be "taken" as a result of foraging habitat loss (Table 1-2). Clusters C01-03, HCC-10 and S01-01 had extensive damage and are expected to be deficient post-MCOE, without requiring further analysis. Cluster S01-01 was previously considered to be an indirect harassment "take" but with the storm damage is now a foraging habitat "take" (Tables 1-1 and 1-2).

### **1.3. OVERFLIGHT OF K15 DUDDER IMPACT AREA**

Since the submittal of the MCOE Biological Assessment to the USFWS (USACE 2008), supplemental information has been obtained regarding the presence of a RCW dispersal habitat corridor linking 16 clusters and approximately 3,900 acres of pine habitat in the northeastern corner of the Installation to RCW clusters located south of the K15 Impact Area.

### **1.3.1. 2009 K15 DUDDERED IMPACT AREA RCW SURVEY**

Biologists from JCA together with CB personnel conducted an aerial survey of portions of the K15 Impact Area on 22 and 23 April 2009 using a Blackhawk military helicopter. Each helicopter contained a 4 man flight crew, 2 JCA biologists and 2 CB biologists. The objective of the survey was to determine if sufficient dispersal corridors exist in the K15 Impact Area to link 16 RCW clusters located in the northeast portion of the Installation to active RCW clusters located west and south of the K15 Impact Area. A secondary objective was to survey for unknown RCW cavity trees.

On 22 April, biologists flew over the K15 Impact Area for approximately 20 minutes. During that time, north-south transects were flown over the north-central (from Buzancy Trail north to the edge of the K15) (Figure 1-2) and southeastern portions (north of Shamanski Road and west of Shiloh and Panther Trails) of the K15 Impact area (Figure 1-2). On 23 April, biologists flew over the western portion of the K15 Impact Area for approximately 2 hours. The spacing of north-south transects varied between 150 - 900 yards apart. Coordinates of RCW cavity trees located during the aerial survey were collected with a Trimble Geo XT global positioning system (GPS) unit. Biologists used binoculars to determine the activity status of cavity trees found. GPS coordinates for cavity trees were downloaded, converted into ESRI shapefiles and overlaid onto a map of known RCW cavity trees/ clusters.

During the aerial survey, biologists determined that a sufficient dispersal corridor remains on the west side of the K15 Impact Area [Concord Trail to the western edge of the K15 Impact Area (Rinehart Road)] to link the northeastern RCW clusters to the nearest active clusters located south of the K15 (Figure 1-3). The majority of area on the western side was forested with longleaf and loblolly pine that varied in pine age (25-100+ years old) and density (sparse to dense). The pine habitat was contiguous with the exception of small hardwood-forested drainages. Munitions fired from the newly constructed DMPC into K15 could impact habitat on the southern side of the impact area in the future, however, at a minimum, a sufficient corridor should remain between the northern boundary of K15 through to Compartment K1. Fort Benning is planning more flights to survey and assess habitat in the remainder of K15.

The aerial surveys confirmed that the previously known RCW cluster in the K15 Impact Area (K15-01) is an active cluster. Cavity trees associated with 3 other active clusters were also found. In total, 5 active, 2 inactive and 2 relic cavity trees were found (Figure 1-2).

Given the limited flight time, the survey was conducted quickly to maximize coverage. Approximately 1/3 of the K15 Impact Area was surveyed and CB plans to complete aerial surveys in the near future.

The aerial survey of portions of the K15 Impact Area confirmed that 16 RCW clusters and approximately 3,900 acres of RCW habitat located in the northeastern portion of Fort Benning are not permanently isolated, as was a concern in the MCOE Addendum 1, and should be counted toward post-MCOE totals (see Section 3 below).

## **2. ANALYSIS OF THE ARMY'S DRAFT REASONABLE AND PRUDENT ALTERNATIVE (RPA)**

The following information is being provided to support the Army's Draft RPA (Attachment A).

### **2.1. CANCELLATION OF THE MULTI-PURPOSE MACHINE GUN RANGE (MPMG) (PN 65070)**

Cancellation of the MPMG will eliminate the need for Incidental Take for 4 clusters (A17-01, -02, -06 and -08) outside of the A20 Dudded Impact Area and adverse impacts to 8 clusters (A20-19, -20, -21, -43, -45, -46 and -70) within A20 that were included in a prior Incidental Take Statement (see Addendum 1 (USACE 2009)). Additionally, 3 of the 8 clusters within A20 can now be accessed for management in 2009 and 2 additional clusters can potentially be accessed for management in 2010 (USACE 2009). Cancellation of this range also strengthens the habitat corridors between clusters west and east of the A20 Dudded Impact Area, thus these groups are no longer considered to be vulnerable as described in the MCOE Biological Assessment (USACE 2008) and Addendum 1 (USACE 2009). Cancellation of the MPMG also strengthens the future link to potential RCW habitat across the Chattahoochee River.

## **2.2. MONITORING OF ADDITIONAL RCW CLUSTERS IN THE A20 DUDDDED IMPACT AREA**

As stated in Addendum 1 (USACE 2009), approximately 71 RCW clusters (65 active, 6 inactive) have been recorded in the Installation's A20 Duddded Impact Area. Fourteen of these clusters already are managed as part of the Installation's RCW population goal. Fort Benning will monitor and/or manage 36 additional active clusters in the A20 to offset direct adverse impacts to 36 active clusters from the MCOE action. Eleven of these clusters will be ground-accessed during the 2009 breeding season and up to 11 more are planned for ground access in 2010 pending concurrence by EOD and Range Division. (Note: designation of currently unmanaged clusters in the A20 is based solely on an aerial survey conducted in February 2009; the true number of clusters will be verified by the proposed monitoring). Once safe ground access is established for A20 clusters, these clusters will be monitored for the presence of potential breeding groups (PBGs) of RCWs (when possible), midstory control will be implemented as needed and artificial cavities will be provisioned in order to maintain at least 4 suitable cavities per cluster. Two A20 clusters (A20-02 and A20-47) are known to be subject to ordnance impacts, cannot be safely accessed on the ground and will need to stay under the Incidental Take Statement in the ESMP BO (USFWS 2002).

A20 Impact Area clusters **not** being ground accessed will be aerially surveyed each spring (late-March - April) in order to map the location of active cavities and to determine management needs. The number of potentially suitable cavities will also be determined, to the extent possible, for the clusters **not** being accessed on the ground. Aerially monitored active A20 clusters will be counted to offset direct MCOE "takes" that meet one of the following criteria: 1) at least 4 active cavities, 2) 3 active cavities and at least 2 potentially suitable inactive cavities or 3) 2 active cavities and at least 4 potentially suitable inactive cavities (subject to 11% reduction; see below). Furthermore, the aerially monitored active A20 clusters will be counted toward Fort Benning's population goal if they meet one of the criteria listed immediately above. In order to be considered potentially suitable in this context, an inactive cavity must have a normally shaped entrance and appear suitable in all other aspects visible from the air. Relic cavities, starts (even if advanced) and cavities in dead cavity trees (even if active) will not be considered "suitable." Data from Fort Benning's extensive RCW database show that active,

managed Fort Benning clusters average 3.75 active cavities (natural and provisioned) and approximately 97% of all active cavities are suitable by standard criteria (as described in USFWS 2003a). Installation-wide, 98% of clusters with 4 active cavities support PBGs, 96% of those with 3 active cavities support PBGs and 89% of those with 2 active cavities support PBGs. Because of the lower average percentage of clusters with 2 active cavities and PBGs, only 89% of the A20 clusters that meet Criteria #3 listed above during the aerial surveys will be assumed to be inhabited by a PBG. For all active, managed Training Compartment A clusters, 95.4% contain PBGs (94.5% Installation-wide) (M. Barron, Fort Benning, pers. comm.). Where necessary, midstory management in clusters only monitored from the air may be via aerial application of herbicides or prescribed fire.

JCA employees have been conducting aerial surveys for RCW cavity trees and clusters for the last 14 years using rotary aircraft ranging in size from a Robinson R22 to, most recently, a military Blackhawk. Aerial surveys have been conducted when ground surveys were not feasible, such as military installation impact areas, densely vegetated pocosins and large tracts of land with limited ground access (USFWS 2003, Carter and Brust 2004). After clusters are located from the air, more intensive ground surveys of specific areas are conducted on foot. Well over 215,000 acres have been surveyed by JCA for a variety of clients, including small private landowners, the USFWS, and DoD agencies (Carter and Brust 2004, JCA 1998, JCA 2007).

Experience has shown that aerial surveys do not always locate all the RCW cavity trees within a given area. Aerial surveys do permit RCW biologists to locate most clusters and a varying percentage of cavity trees within a cluster. Survey conditions such as wind, time of day, forest canopy density, flight altitude, velocity, observer and pilot experience can affect aerial survey accuracy. Depending on cavity height, experienced biologists with a clear field of view should be able to assess cavity activity as well from the air as on the ground.

Because of the factors involved, aerial surveys should generally be used in conjunction with ground surveys, though in some situations such as military lands where it is not safe to enter on the ground, aerial surveys may be the only feasible approach. Highest accuracy can probably be attained by double coverage of the area using perpendicular transects (Jackson 1985).

## **2.3. RESCOPING PROJECTS TO AVOID RCW IMPACTS**

### **2.3.1. METHODOLOGY**

Based on guidance from Armor and Infantry Center commanders and in anticipation of a worst case scenario involving a Jeopardy Biological Opinion (JBO), an action team assembled on 23 February 2009 to closely examine RCW clusters affected by MCOE projects in order to provide prioritization of reducing project scopes and limit impacts to clusters.

The team consisted of Armor and Infantry School training experts, biologists from CB, and engineers from USACE - Savannah District, the USACE Area Office and Fort Benning Department of Public Works.

The team first assembled a list of all RCW clusters being affected by MCOE projects. Examining each of these clusters separately, the biologists on the team assigned each cluster a relative value based on quality of habit, RCW group size and status, and the cluster's relationship to other existing clusters. Each cluster was assigned a value of High (1), Moderate (3) or Minor (5). Once this was completed, the team determined the activity of the MCOE projects that caused the cluster to be "taken." In most cases, cavity tree loss and habitat loss due to the project footprints were the activities causing cluster "takes."

Again working cluster by individual cluster, the engineering and training members of the team then analyzed the impact of not performing that MCOE activity on training and operations. This impact was assigned a value of Little/No Impact (1), Minor Impact (2), Severe Impact – Major Course Changes or Significant Cost Increase or (3), Unacceptable Impact – Training Degradation (4), or Unacceptable Impact – Training Elimination (5). These values were used to rank order the entire list of affected RCW clusters based on lowest impact to training of removing the action (reducing the scope of the project) and highest relative value for each cluster.

The final, sorted list included clusters already avoided by concurrent reduction measures such as relocation of Hastings Range and re-routing the Hastings Range access road. These clusters were maintained at the top of the list, separate from the de-scoping activities approved by the Armor and Infantry Center commanders.

The approved measures identified 10 possible clusters where direct “take” could potentially be avoided by reducing the scope of projects without incurring unacceptable impact to training (A. Koloski, USAARMC/S, pers. comm.).

### **2.3.2. DESIGN AND POI REFINEMENTS**

The Armor School Programs of Instruction (POIs) have continued to be developed and improved since submittal of the MCOE Biological Assessment and Addendum 1. See Attachment B for updated descriptions of the Army Reconnaissance Course (ARC) and BNCOC (now Senior Leader’s Course) and the use of the Southern Maneuver Area. This should update the text in Section 4.7 of the November 2008 Biological Assessment (USACE 2008) and Section 3 of MCOE Addendum 1(USACE 2009).

RCW foraging habitat analysis (FHA) tables can be found in Appendix A to this document.

#### **2.3.2.1. Southern Maneuver Area (PN 69743)**

Development of the POI’s for the ARC and 19D BNCOC training courses that were to be conducted in the Southern Maneuver Area have been revised, resulting in a reduction of RCW impacts. The 19D and 19 K BNCOC POIs have changed and no longer have a field component (see Attachment A). The Southern Maneuver Area was an alternate location for the 19K BNCOC, which would have required more spacing between trees for the use of tanks. Since tanks will no longer be used for the above-listed MCOE courses in the Southern Maneuver Area, the timber thinning on 404 acres proposed in the Biological Assessment in Compartments D6 and F1 (Figure 2-1) will no longer be conducted (A. Koloski, USAARMS, pers. comm.).

Training: The Southern Maneuver Area will be used by the USAARMS as the primary location for the ARC. Previously, this area was also going to be used for the NCOA’s 19D BNCOC and an alternate location for the 19K BNCOC (USACE 2008), however these courses no longer contain a field component (A. Koloski, USAARMS, pers. comm.).

West of Hourglass Rd., projected training has not changed from the MCOE Biological Assessment, and no impacts to foraging habitat are projected.

East of Hourglass Rd., projected training impacts have decreased from approximately 5,995 to 5,702 acres. Of this, 2,936 acres will be used for off-road heavy maneuver training

(decreased from 4,535 acres), 90 acres for wheeled traffic only (no change) and 2,677 acres for dismounted training (increased from 1,370 acres). Based on preliminary ARC training plans, this area will be used for 1 day of the STX (20 days/year) for operation orders and FTX planning and 7 days of the FTX (140 days/year) by the Infantry, Heavy and Stryker BCTs for a variety of mounted and dismounted training exercises.

Maneuver heavy use areas comprised 1,736 acres in the MCOE Biological Assessment, however, as the overall off-road heavy maneuver areas have been reduced, these areas have also decreased and are now 1,259 acres.

Roads: The total limits of disturbance for road construction has decreased from 502 acres (USACE 2008) to 228 acres.

Support Areas: The ARC support area in Compartments G3 and F1 (approximately 74 acres) has been reduced to approximately 5 acres in Compartment G3, and the 7-acre urban area in Compartments D10, D16 and D17 has been moved to a 7-acre site in D16 (Figure 2-2).

Pine Habitat Loss: Construction projects and off-road heavy maneuver in the Southern Maneuver Area could result in the loss of up to 1,871 acres of pine habitat over time, which has been reduced from 3,036 acres (Table 2-1).

RCW impacts: With the refined training information, 3 clusters in the western part of the Southern Maneuver Area which were previously assumed to be “taken” by indirect harassment (D12-01, T04-01 and T05-02) will no longer be impacted. In addition, 2 clusters on the eastern edge of the Installation (K14-01R and K18-01) have been removed from the indirect harassment list because Fort Benning has determined that there will be no heavy maneuvering on or along this tank trail (Table 1-1).

Refinements of the ARC, ANCOC and BNCOC POI’s and road limits of disturbance reduced the number of direct “takes” from 13 clusters to 7 clusters. Indirectly “taken” clusters within and around the Southern Maneuver Area have been reduced from 9 to 6 (Figures 2-2 and 2-3).

The total Southern Maneuver Area has been reduced from 6,675 acres to 6,556 acres. An additional 614 acres between Underwood and Red Arrow Rds. will be used for dismounted training (Table 2-1, Figure 2-2).

### **2.3.2.2. 19 D/K OSUT Maneuver Area (PN 69741)**

Road limits of disturbance were reduced for the PN 69741 roads and several road segments were deleted in Compartments O12 and O13 (Figure 2-4).

Roads: As described in Addendum 1, the roads in the southern portion of the Northern Maneuver Area (Compartments O14 and O15) previously assigned to PN 69741 will now be funded by the Northern Maneuver Area Infrastructure project, PN 69742. The roads remaining under PN 69741 have been reduced from 476 acres to 229 acres (Table 2-1).

Support Areas: Tactical Training Bases have not changed and will be constructed in O12 ( $\leq 10$  acres) and O13 ( $\leq 33$  acres).

Pine Habitat Loss: Construction projects and off-road heavy maneuver (adjacent to roads) in the 19D/K OSUT Maneuver Area could result in the loss of up to 180 acres of pine habitat, compared to 329 acres in Addendum 1 (USACE 2009) (Table 2-1).

RCW impacts: The reductions described above led to the loss of one direct harassment “take”, Cluster O13-02, and reduced impacts to pine habitat from 328.68 acres to 180.44 acres (Tables 1-2 and 2-1, Figure 2-5).

### **2.3.2.3. Northern Maneuver Area (PN 69742) (FY 2009)**

Under the proposed MCOE action, 4,677 acres in Compartments O1, O3, O11, O14 and O15 will be used by the USAARMS and 3rd Bde. for off-road heavy maneuver training. Off-road heavy maneuver training will only occur within 25 ft. of roads and trails or will otherwise require approval through the Fort Benning NEPA process (Figure 2-4).

Roads: Further refining of roads and vehicle pull-offs in this area since Addendum 1 has slightly increased predicted impacts of PN 69742 from 256 acres to 260 acres (Table 2-1).

Support Areas: The approximately 3.7-acre support area planned for Compartment O3 has been moved to a 5.2 acre site along Midwest Rd. (Figure 2-4).

Pine Habitat Loss: Construction projects and off-road heavy maneuver (adjacent to roads) in the Northern Maneuver Area could result in the loss of up to 195 acres (reduced slightly from 198 acres in Addendum 1) of pine habitat over time (Table 2-1).

RCW impacts: No RCW “takes” were avoided by the refinements to the Northern Maneuver Area infrastructure.

#### **2.3.2.4. Repair Existing Training Area Roads (PN 65557)**

Reductions in the limits of disturbance for PN 65557 resulted in Cluster M01-01 no longer being impacted or “taken” by MCOE actions (Table 1-2, Figures 2-4 and 2-5).

#### **2.3.2.5. Rifle/ Machine Gun Zero (Z) Range 2 (Z2) (PN 65036) and Modified Record Fire (MRF) Range 7 (MRF 7) (PN 65049)**

Reduction of the limits of construction of both of these ranges, as well as inclusion of a full berm at Z2 and a partial berm at MRF7, reduced the impacts of Z2 from 28 acres to 3 acres of pine habitat, and MRF7 impacts from 80 acres to 30 acres of pine habitat (Table 2-1). These design changes caused Cluster O05-02 to go from being a direct foraging habitat “take” (USACE 2009) to an indirect harassment “take” (Tables 1-1 and 1-2).

### **2.4. MIGRATION OF THE ARMY RECONNAISSANCE COURSE (ARC) FROM THE SOUTHERN MANEUVER AREA**

In response to the Reasonable and Prudent Alternative (RPA) described in the draft USFWS Jeopardy Biological Opinion, the Army is proposing to relocate the ARC off the Installation within 5 years of the initiation of training (see Enclosure 1). USAARMS training impacts in the Southern Maneuver Area will initially expose up to 7 clusters to indirect harassment that would not otherwise be “taken” by MCOE actions (Table 1-1, Figure 2-1). As described in the MCOE Biological Assessment, conducting the ARC in the Southern Maneuver Area will also displace the current training conducted by 3rd Bde of the 3rd Infantry Division (3rd Bde), which will be concentrated in the northern portion of the Northern Maneuver Area (Figure 2-4) (USACE 2008). This displaced training will cause up to 6 additional clusters to be exposed to “take” by indirect harassment. With the movement of the ARC off-Post, 3rd Bde training will again be concentrated in the Southern Maneuver Area, although the Northern Maneuver Area will still be used to a lesser extent. Training levels in both the Southern and the Northern Maneuver Areas would return to current (baseline) levels (R. Clapp, Fort Benning, pers. comm.).

As the ARC is migrated off-Post and the 3rd Bde is able to move back into the Southern Maneuver Area, the 13 clusters being affected by indirect harassment in the Northern and

Southern Maneuver Areas, as well as one cluster being impacted by increased traffic between Harmony Church and the Southern Maneuver Area, will no longer require Incidental Take.

The 3rd Bde will then move some of their exercises from the northern section of the Northern Maneuver Area to the Southern Maneuver Area. Maneuver space restrictions created to minimize Armor School training impacts in the Southern Maneuver Area will remain in place for similar training activities. Under these terms, 7 clusters in the Southern Maneuver Area and 6 clusters in the northern area of the Northern Maneuver Area will no longer be indirectly “taken” (Table 1-1) due to decreased maneuver training in these areas.

Proposed infrastructure construction and upgrades will still be necessary even if the ARC is only conducted for 5 years as suggested in the proposed RPA, therefore “takes” resulting from this construction would not be avoided. Likewise, the Army will still use the areas delineated for off-road heavy maneuver for the first 5 years. While habitat destruction in the off-road heavy maneuver areas will ultimately be less severe than if the training continued indefinitely, initial degradation of habitat would still require Incidental Take; therefore these “takes” will not be eliminated by training migration.

### **3. SUMMARY OF RCW IMPACTS**

With the impact reductions described above, the amount of Incidental Take expected to be necessary for direct impacts of the proposed MCOE action, both before and after training migration, are as follows (previous totals as of Addendum 1 are in parentheses): 34 foraging habitat and/or cavity tree impacts (decreased from 42 and including 4 new “takes” from storm damage), 7 foraging habitat impacts combined with pine decline (decreased from 8), 1 direct harassment (decreased from 3), 10 group density (increased from 7, a result of tornado damage to adjacent clusters) and 5 neighborhood (decreased from 6) (Table 1-2). This totals 57 direct “takes,” as compared to 66 direct “takes” in the MCOE Addendum 1. Fifty four of the 57 direct “takes” were inhabited by PBGs in 2008. Indirect harassment will likely require Incidental Take at 24 clusters upon implementation of the RPA (prior to the migration of the ARC off-Post), which will be reduced to 7 clusters after training migration. Note: indirect impacts were eliminated for 3 clusters, however, 3 different clusters were added that had previously been directly “taken” in Addendum 1.

According to MCOE Addendum 1, there would be approximately 75,798 acres of contiguous pine habitat remaining post-MCOE, of which 3,903 acres in the northeastern corner could be vulnerable to isolation (USACE 2009). Aerial surveys of the K15 Dudded Impact Area have since documented that this area is connected to the remainder of the population via a forested corridor, therefore clusters and habitat in this area should contribute toward recovery of the Fort Benning RCW population. Reductions of project scopes and the cancellation of the MPMG have reduced impacts to pine habitat from 8,306 acres to 6,137 acres, increasing the amount of contiguous, manageable pine habitat remaining post-MCOE from 75,798 acres to 77,979 acres.

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Table 1-1. Red-cockaded woodpecker (RCW) groups within 200 feet of military training activity and "taken" due to indirect harassment in the MCOE Addendum 1 (USACE 2009) and RPA Analyses, Fort Benning, Georgia.

Cluster within 200 feet of military training	Takes under MCOE Addendum 1	Takes under the RPA- <u>before</u> training migration	Takes under the RPA- <u>after</u> training migration
A09-03R	Indirect Harassment	Indirect Harassment	Indirect Harassment
D05-02R	Indirect Harassment	Indirect Harassment	Indirect Harassment
D11-01	Forage	Indirect Harassment	<b>Not impacted *</b>
D11-02	Forage	Indirect Harassment	<b>Not impacted</b>
D12-01	Indirect Harassment	<b>Not impacted</b>	<b>Not impacted</b>
D16-02	Forage	Forage	Forage
D17-01	Forage	Forage	Group
D17-02	Captured	Captured	Captured
D17-04R	Forage	Forage	Forage
E04-01	Forage	Indirect Harassment	<b>Not impacted</b>
F02-01R	Forage	Forage	Forage
HCC-10R	Harassment	Harassment	Forage
J02-02R	Forage	Forage	Forage
J03-01	Indirect Harassment	Indirect Harassment	<b>Not impacted</b>
J04-01	Indirect Harassment	Indirect Harassment	<b>Not impacted</b>
J05-01	Indirect Harassment	Indirect Harassment	<b>Not impacted</b>
K08-03	Indirect Harassment	Indirect Harassment	Indirect Harassment
K11-02	<b>Not impacted</b>	<b>Not impacted</b>	<b>Not impacted</b>
K14-01R	Indirect Harassment	Indirect Harassment	<b>Not impacted</b>
K18-01	Indirect Harassment	Indirect Harassment	<b>Not impacted</b>
KPR-01	Indirect Harassment	Indirect Harassment	<b>Not impacted</b>
L02-02R	Group	Group	Group
L03-01	Forage	Forage	Forage
O01-01	Indirect Harassment	Indirect Harassment	Indirect Harassment
O01-02	Forage	Forage	Forage
O01-03	Indirect Harassment	Indirect Harassment	<b>Not impacted</b>
O01-04R	Indirect Harassment	Indirect Harassment	<b>Not impacted</b>
O03-01	Forage	Forage	Forage
O03-02	Indirect Harassment	Indirect Harassment	<b>Not impacted</b>
O03-03	Forage	Forage	Forage
O03-04	Forage	Forage	Forage
O03-05	Indirect Harassment	Indirect Harassment	<b>Not impacted</b>
O03-06R	Forage - Decline	Forage - Decline	Forage - Decline
O03-07	Indirect Harassment	Indirect Harassment	<b>Not impacted</b>
O05-02	Forage	Indirect Harassment	Indirect Harassment
O08-02	Forage	Forage	Forage
O09-03R	Captured	Captured	Captured
O11-01	Forage - Decline	Forage - Decline	Forage - Decline
O11-02R	Forage	Forage	Forage
O12-02	Forage	Forage	Forage
O13-01	Forage	Forage	Forage
O13-02	Direct Harassment	<b>Not impacted</b>	<b>Not impacted</b>

Table 1-1 (cont.). Red-cockaded woodpecker (RCW) groups within 200 feet of military training activity and "taken" due to indirect harassment in the MCOE Addendum 1 (USACE 2009) and RPA Analyses, Fort Benning, Georgia.

Cluster within 200 feet of military training	Takes under MCOE Addendum 1	Takes under the RPA- <u>before</u> training migration	Takes under the RPA- <u>after</u> training migration
O13-06R O14-01 O14-02 O14-03R O15-01 O15-02 O15-03 O15-04 S01-01 T03-02 T03-04R T04-01 T05-02	Forage Indirect Harassment Forage Indirect Harassment Forage Forage Forage Indirect Harassment Indirect Harassment Indirect Harassment Indirect Harassment Indirect Harassment Indirect Harassment	Forage Indirect Harassment Forage Indirect Harassment Forage Forage Forage Indirect Harassment Forage Indirect Harassment Indirect Harassment <b>Not impacted</b> <b>Not impacted</b>	Forage Indirect Harassment Forage Indirect Harassment Forage Forage Forage <b>Not impacted</b> Forage <b>Not impacted</b> <b>Not impacted</b> <b>Not impacted</b> <b>Not impacted</b>
<b>55</b>  <b>Total Clusters within 200 feet of military training activity</b>	<b>24</b>  <b>Total Clusters taken by Indirect Harassment: MCOE Addendum 1</b>	<b>24</b>  <b>Total Clusters taken by Indirect Harassment: RPA, before training migration</b>	<b>7</b>  <b>Total Clusters taken by Indirect Harassment: RPA, after training migration</b>

\* Red text denotes that a cluster is no longer impacted.

Table 1-2. Red-cockaded woodpecker (RCW) groups impacted directly or indirectly using the Standard for Managed Stability (USFWS 2003a) by MCOE projects, RPA Analysis, Fort Benning, Georgia.

Impacted Cluster	Habitat Deficient	Acreage Removed by Project (Suitable/Potentially Suitable)		Take by Cavity Tree Loss		Take by Habitat / Forage Loss		Take by Direct Harassment		Group Level Take <sup>1</sup>		Neighborhood Level Take <sup>1,2</sup>		Take by Indirect Harassment	
	Pre-Project	Addm 1	Addm 2	Addm 1	Addm 2	Addm 1	Addm 2	Addm 1	Addm 2	Addm 1	Addm 2	Addm 1	Addm 2	Addm 1	Addm 2
A08-01	N	4.42	4.42	N	N	N	N	N	N	N	N	N	N	N	N
A08-02a	N	3.09	3.07	N	N	Y <sup>D</sup>	Y <sup>D</sup>	N	N	N	N	N	N	N	N
A08-03	N	0.00	0.00	N	N	N	N	N	N	N	N	N	N	N	N
A08-04	N	0.00	0.00	N	N	N	N	N	N	N	N	N	N	N	N
A09-03R	N	5.09	5.09	N	N	N	N	N	N	N	N	N	N	Y	Y
A09-04R <sup>3</sup>	Y	0.00	0.00	N	N	N	N	N	N	N	N	N	N	N	N
A09-05	N	3.98	3.98	N	N	N	N	N	N	N	N	N	N	N	N
A17-01	N	60.72	Not impacted	Y	Not impacted	Y	Not impacted	-	Not impacted	-	Not impacted	-	Not impacted	N	Not impacted
A17-02	Y	59.38	Not impacted	Y	Not impacted	Y	Not impacted	-	Not impacted	-	Not impacted	-	Not impacted	N	Not impacted
A17-03	N	22.97	Not impacted	N	Not impacted	N	Not impacted	N	Not impacted	N	Not impacted	N	Not impacted	N	Not impacted
A17-06	N	57.89	Not impacted	Y	Not impacted	Y	Not impacted	-	Not impacted	-	Not impacted	-	Not impacted	N	Not impacted
A17-08	N	111.84	Not impacted	Y	Not impacted	Y	Not impacted	-	Not impacted	-	Not impacted	-	Not impacted	N	Not impacted
A17-11R	N	40.42	Not impacted	N	Not impacted	N	Not impacted	N	Not impacted	N	Not impacted	N	Not impacted	N	Not impacted
A17-12R <sup>3</sup>	Y	0.00	Not impacted	N	Not impacted	N	Not impacted	N	Not impacted	N	Not impacted	N	Not impacted	N	Not impacted
A17-13	N	20.49	Not impacted	N	Not impacted	N	Not impacted	N	Not impacted	N	Not impacted	N	Not impacted	N	Not impacted
C01-03	Y	3.02	3.02	N	N	N	Y	N	-	N	-	N	-	N	N
C01-06	N	3.53	3.53	N	N	N	N	N	N	N	N	N	N	N	N
D05-02R	N	34.50	34.50	N	N	N	N	N	N	N	N	N	N	Y	Y
D05-04R	N	116.81	116.80	N	N	N	N	N	N	N	N	N	N	N	N
D06-01R	Y	0.03	0.03	N	N	Y	Y	-	-	-	-	-	-	-	-
D08-01R	N	46.40	46.40	N	N	Y	Y	-	-	-	-	-	-	-	-
D10-01	Y	2.50	2.89	N	N	Y	Y	-	-	-	-	-	-	-	-
D11-01	N	49.86	2.26	N	N	Y	N	-	N	-	N	-	N	-	Y <sup>M</sup>
D11-02	N	88.91	2.96	Y	N	Y	N	-	N	-	N	-	N	-	Y <sup>M</sup>
D12-01	N	13.87	Not impacted	N	Not impacted	N	Not impacted	N	Not impacted	N	Not impacted	N	Not impacted	Y	Not impacted
D16-01 <sup>3</sup>	Y	18.50	0.00	N	N	Y	N	-	N	-	N	-	N	-	N
D16-02	Y	16.55	1.81	N	N	Y	Y	-	-	-	-	-	-	-	-
D17-01	N	59.73	8.68	N	N	Y	N	-	N	-	Y	-	-	-	N
D17-03	N	62.30	2.50	N	N	Y	N	-	N	-	N	-	N	-	N

Table 1-2 (cont.). Red-cockaded woodpecker (RCW) groups impacted directly or indirectly using the Standard for Managed Stability (USFWS 2003a) by MCOE projects, RPA Analysis, Fort Benning, Georgia.

Impacted Cluster	Habitat Deficient	Acreage Removed by Project (Suitable/Potentially Suitable)		Take by Cavity Tree Loss		Take by Habitat / Forage Loss		Take by Direct Harassment		Group Level Take <sup>1</sup>		Neighborhood Level Take <sup>1,2</sup>		Take by Indirect Harassment	
	Pre-Project	Addm 1	Addm 2	Addm 1	Addm 2	Addm 1	Addm 2	Addm 1	Addm 2	Addm 1	Addm 2	Addm 1	Addm 2	Addm 1	Addm 2
D17-04R	N	43.23	42.76	N	N	Y	Y	-	-	-	-	-	-	-	-
E04-01	N	49.27	0.33	N	N	Y	N	-	N	-	N	-	N	N	Y <sup>M</sup>
F02-01R	Y	35.30	36.10	N	N	Y	Y	-	-	-	-	-	-	-	-
HCC-08R	Y <sup>4</sup>	0.61	0.61	N	N	Y <sup>D</sup>	Y	-	-	-	-	-	-	-	-
HCC-10R	Y	17.15	17.15	N	N	N	Y	Y	N	-	-	-	-	-	-
J01-02R	Y	1.12	1.12	N	N	Y	Y	-	-	-	-	-	-	-	-
J02-02R	Y	2.41	2.41	N	N	Y	Y	-	-	-	-	-	-	-	-
J03-01	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y <sup>M</sup>
J04-01	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y <sup>M</sup>
J05-01	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y <sup>M</sup>
J06-03	N	36.99	Not impacted	N	Not impacted	N	Not impacted	N	Not impacted	N	Not impacted	N	Not impacted	N	Not impacted
K02-01	Y	0.39	0.39	Y	Y	Y	Y	-	-	-	-	-	-	-	-
K08-03	N	12.22	12.22	N	N	N	N	N	N	N	N	N	N	Y	Y
K08-04	N	13.66	13.66	N	N	N	N	N	N	N	N	N	N	N	N
K09-01	Y <sup>4</sup>	1.53	1.53	N	N	Y <sup>D</sup>	Y <sup>D</sup>	N	N	N	N	N	N	N	N
K09-03R	N	8.50	8.50	N	N	N	N	N	N	N	N	N	N	N	N
K14-01R	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y <sup>M</sup>
K18-01	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y <sup>M</sup>
KPR-01	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y <sup>M</sup>
K21-02R	N	32.19	32.19	N	N	N	N	N	N	N	N	N	N	N	N
K21-05R	N	68.51	68.51	N	N	N	N	N	N	N	N	N	N	N	N
L02-02R	N	30.27	22.87	N	N	N	N	N	N	Y	Y	-	-	N	N
L03-01	Y	9.06	6.54	N	N	Y	Y	-	-	-	-	-	-	-	-
M01-01	Y	3.67	Not impacted	N	Not impacted	Y	Not impacted	-	Not impacted	-	Not impacted	-	Not impacted	N	Not impacted
M08-02a	N	5.73	5.73	N	N	N	N	N	N	N	N	N	N	N	N
M08-02b	N	2.79	2.79	N	N	N	N	Y	Y	-	-	-	-	N	N
M08-04R	N	3.72	3.72	N	N	Y <sup>D</sup>	Y <sup>D</sup>	N	N	N	N	N	N	N	N
M08-05R	N	1.34	1.34	N	N	N	N	N	N	N	N	N	N	N	N
O01-01	N	5.48	5.90	N	N	N	N	N	N	N	N	N	N	Y	Y
O01-02	Y	3.85	4.30	N	N	Y	Y	-	-	-	-	-	-	-	-
O01-03	N	5.13	5.53	N	N	N	N	N	N	N	N	N	N	Y	Y <sup>5</sup>



Table 1-2 (cont.). Red-cockaded woodpecker (RCW) groups impacted directly or indirectly using the Standard for Managed Stability (USFWS 2003a) by MCOE projects, RPA Analysis, Fort Benning, Georgia.

Impacted Cluster	Habitat Deficient	Acreage Removed by Project (Suitable/Potentially Suitable)		Take by Cavity Tree Loss		Take by Habitat / Forage Loss		Take by Direct Harassment		Group Level Take <sup>1</sup>		Neighborhood Level Take <sup>1,2</sup>		Take by Indirect Harassment	
	Pre-Project	Addm 1	Addm 2	Addm 1	Addm 2	Addm 1	Addm 2	Addm 1	Addm 2	Addm 1	Addm 2	Addm 1	Addm 2	Addm 1	Addm 2
O14-02	Y	8.36	6.33	N	N	Y	Y	-	-	-	-	-	-	-	-
O14-03R	N	30.72	26.69	N	N	N	N	N	N	N	N	N	N	Y	Y
O15-01	Y	3.29	3.00	N	N	Y	Y	-	-	-	-	-	-	-	-
O15-02	Y	2.62	2.69	N	N	Y	Y	-	-	-	-	-	-	-	-
O15-03	Y	3.74	3.68	N	N	Y	Y	-	-	-	-	-	-	-	-
O15-04	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y <sup>M</sup>
Q02-02	N	3.66	3.66	N	N	N	N	N	N	N	N	N	N	N	N
Q02-04R	N	11.32	11.32	N	N	N	N	N	N	N	N	N	N	N	N
R01-01	N	22.31	22.31	N	N	N	N	N	N	Y	Y	-	-	N	N
R02-01R	N	13.21	13.21	N	N	N	N	N	N	N	Y	N	-	N	N
S01-01	Y	0.80	0.80	N	N	N	Y	N	-	N	-	N	-	Y	N
S02-01R	N	6.80	6.80	N	N	N	N	N	N	N	N	N	N	N	N
S03-01R	Y	1.20	1.20	N	N	Y	Y	-	-	-	-	-	-	-	-
SHC-02	N	0.52	0.52	N	N	N	N	N	N	Y	Y	-	-	N	N
T02-01	Y	1.77	1.77	N	N	Y	Y	-	-	-	-	-	-	-	-
T02-02R	Y	7.61	7.61	N	N	Y	Y	-	-	-	-	-	-	-	-
T03-02	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y <sup>M</sup>
T03-04R	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	Y <sup>M</sup>
T04-01	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	N
T05-02	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	N
<b>CLUSTERS NOT DIRECTLY IMPACTED BY MCOE PROJECTS</b>															
D11-03R	-	-	-	-	-	-	-	-	-	-	-	Y	N	-	-
J01-01	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-	-
J01-03R	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-	-
O04-02	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-	-
O06-03R	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-	-
O06-04R	-	-	-	-	-	-	-	-	-	-	-	Y	Y	-	-
<b>TOTAL</b>		<b>1,676.15</b>	<b>859.57</b>	<b>6</b>	<b>1<sup>5</sup></b>	<b>50</b>	<b>41</b>	<b>3</b>	<b>1</b>	<b>7</b>	<b>10</b>	<b>6</b>	<b>5</b>	<b>24</b>	<b>17<sup>M, 7</sup></b>

Partition is no longer "taken".  
Cluster was previously not **directly** "taken".  
As a result of tornado damage on 4-10-09,  
these clusters will now be deficient post-  
MCOE.  
Cluster was previously not "taken".

$Y^D$  = These clusters are direct forage  
"takes" as a result of pine decline.

$Y^M$  = These clusters will no longer be "taken" when the  
ARC is migrated off-Post.

- <sup>1</sup> If RCW cluster is "taken" by habitat loss or cavity tree loss, it was not considered at the group or neighborhood level.
- <sup>2</sup> Additional takes due to Neighborhood impacts are conceivable due to habitat fragmentation, reduction of productivity and dispersal impairment.
- <sup>3</sup> This group was not considered a "take" because minimization efforts were made and no suitable or potentially suitable habitat was impacted.
- <sup>4</sup> This cluster is deficient pre-project when pine decline is considered.
- <sup>5</sup> This number represents a partition that was "taken" both by cavity tree and habitat loss. There were no clusters that were "taken" only by cavity tree loss.

Table 2-1. All projects included in the proposed Maneuver Center of Excellence actions at Fort Benning, including reanalyzed Transformation projects.

Project Driver	Project Number	Project Title	Analyzed for Transformation (Y/N)	Fiscal Year- (Start Date)	Fiscal Year- (Date Operational)	Area- Footprint, (Acres)		Area- Limits of Construction (includes range access roads) (Acres)		Area- Ordnance or Maneuver-Impacted Areas (Acres)		Maximum Acres of Pine Impacted		Location
						Addendum 1	Addendum 2	Addendum 1	Addendum 2	Addendum 1	Addendum 2	Addendum 1	Addendum 2	
AP3	62953	Rail Loading Facility Expansion	Y	12	----	----	----	133.71	133.71	----	----	28.05	28.05	Harmony Church
BRAC	64460	DS/GS General Maintenance Facility	Y	09	09	----	----	36.39	36.39	----	----	0.00	0.00	Harmony Church
BRAC	65322	Shop 1 Maintenance Facility	Y	09	09	----	----	10.37	10.37	----	----	0.00	0.00	Harmony Church
BRAC	64797	Tracked Vehicle Drivers Course Access Road	Y	09	10	----	----	18.15	18.15	----	----	9.43	9.43	Harmony Church
BRAC	65034	Fire and Movement Range 3 (FM3)	Y	10	11	10.34	10.34	43.87	43.87	35.86	35.86	50.47	50.47	Oscar Small Arms
BRAC	65035	Basic 10M-25M Firing Range 1 (Z1)	Y	09	11	0.79	0.79	23.01	23.01	3.40	3.40	23.32	23.32	Oscar Small Arms
BRAC	65036	Basic 10M-25M Firing Range 2 (Z2)	Y	09	11	0.79	0.00	20.90	8.58	27.74	0.00	28.30	3.18	Oscar Small Arms
BRAC	65039	Basic 10M-25M Firing Range 5 (Z5)	Y	09	11	0.79	0.79	22.02	22.02	0.20	0.20	19.12	19.12	Oscar Small Arms
BRAC	65070	Multipurpose Machine Gun Range 2 (MPMG2)	Y	11	12	0.00	0.00	379.80	379.80	719.44	719.44	787.62	787.62	Southern ranges
BRAC	65246	Recreation Centers	Y	12	----	----	----	28.28	28.28	----	----	3.01	3.01	Harmony Church, Sand Hill
BRAC	65248	Physical Fitness Center, Harmony Church	Y	12	----	----	----	38.81	38.81	----	----	0.76	0.76	Harmony Church
BRAC	65383	Stationary Tank Range (ST2)	Y	09	11	0.00	0.00	279.74	279.74	1,352.26	1,352.26	527.27	527.27	Northern ranges
BRAC	65554	Construct Training Area Roads Paved	Y	09	11	----	----	715.00	715.00	----	----	457.96	457.96	Throughout
BRAC	65557	Repair Existing Training Area Roads, Phase 1	Y	10	----	----	----	361.69	352.44	----	----	209.42	193.67	Throughout
BRAC	69358	Range Access Road - Good Hope Maneuver Training Area	(Y)	09	11	----	----	162.01	162.01	----	----	99.50	99.50	Good Hope
BRAC	69668	Good Hope Training Area Infrastructure	*Y	09	11	----	----	1,523.13	1,523.13	2,589.85	2,589.85	2,092.93	2,092.93	Good Hope
BRAC	69741	19D/K OSUT Training Area Infrastructure	(Y)	09	11	----	----	475.94	270.69	----	----	328.68	180.44	Northern ranges
BRAC	69743	Southern Training Area Infrastructure	*Y	09	11	----	----	577.22	228.33	4,031.08	2,935.64	3,035.86	1,870.93	Northern ranges
BRAC	70235/ 65081/ 67461	Hospital Replacement	*Y	**08	----	----	----	137.36	137.36	----	----	2.75	2.75	Main Post
BRAC	72017	Vehicle Recovery Course (Ground Mobility Division)	*Y	09	11	----	----	191.71	191.71	----	----	105.25	105.25	Harmony Church
BRAC	64481	Blood Donor Clinic	N	10	10	----	----	11.60	11.60	----	----	4.87	4.87	Sand Hill
BRAC	64551	Multipurpose Training Range (MPTR)	N	09	----	0.00	0.00	1,685.94	1,685.94	0.00	0.00	0.00	0.00	Northern ranges
BRAC	65033	Fire and Movement Range (FM2)	N	09	11	10.34	10.34	71.43	71.43	32.51	32.51	89.07	89.07	Oscar Small Arms Complex
BRAC	65043	Modified Record Fire Range (MRF 1)	N	09	11	23.72	23.72	46.76	46.76	32.73	32.73	58.88	58.88	Oscar Small Arms
BRAC	65049	Modified Record Fire Range (MRF 7)	N	09	11	23.72	0.00	48.68	38.08	37.53	2.40	79.53	30.25	Oscar Small Arms
BRAC	65078	Anti-Armor Tracking & Live Fire Complex (LA-AR1)	N	09	----	22.52	22.52	57.31	57.31	6.66	6.66	42.95	42.95	Southern ranges
BRAC	65250	Maneuver Battle Lab	N	10	----	----	----	26.90	26.90	----	----	0.00	0.00	Main Post
BRAC	67457	Infrastructure Support, Incr 2. Includes security fence, direct buried cable and road improvement	N	09	----	----	----	246.24	246.24	----	----	54.46	54.46	Northern ranges and Harmony Church

BRAC Base Realignment and Closure \*Y Project analyzed under a different PN or no PN in Transformation Biological Assessment  
 GWOT Global War on Terror (Y) Project combined with other PNs in Transformation Biological Assessment  
 GTA Grow the Army \*\* Project funded in FY08, however, construction will be ≥ FY 09  
 GDPR Global Defense Posture Realignment   Project or value has changed since MCOE Addendum 1  
 AP3 Army Power Projection Platform PN-65070 Project cancelled for RPA  
 \*\*\* Note: overlap between PN's was included in totals to represent the maximum acreage disturbed by each project. Overlap between components of one PN (e.g., overlap between road limits of construction and maneuver space) was eliminated.



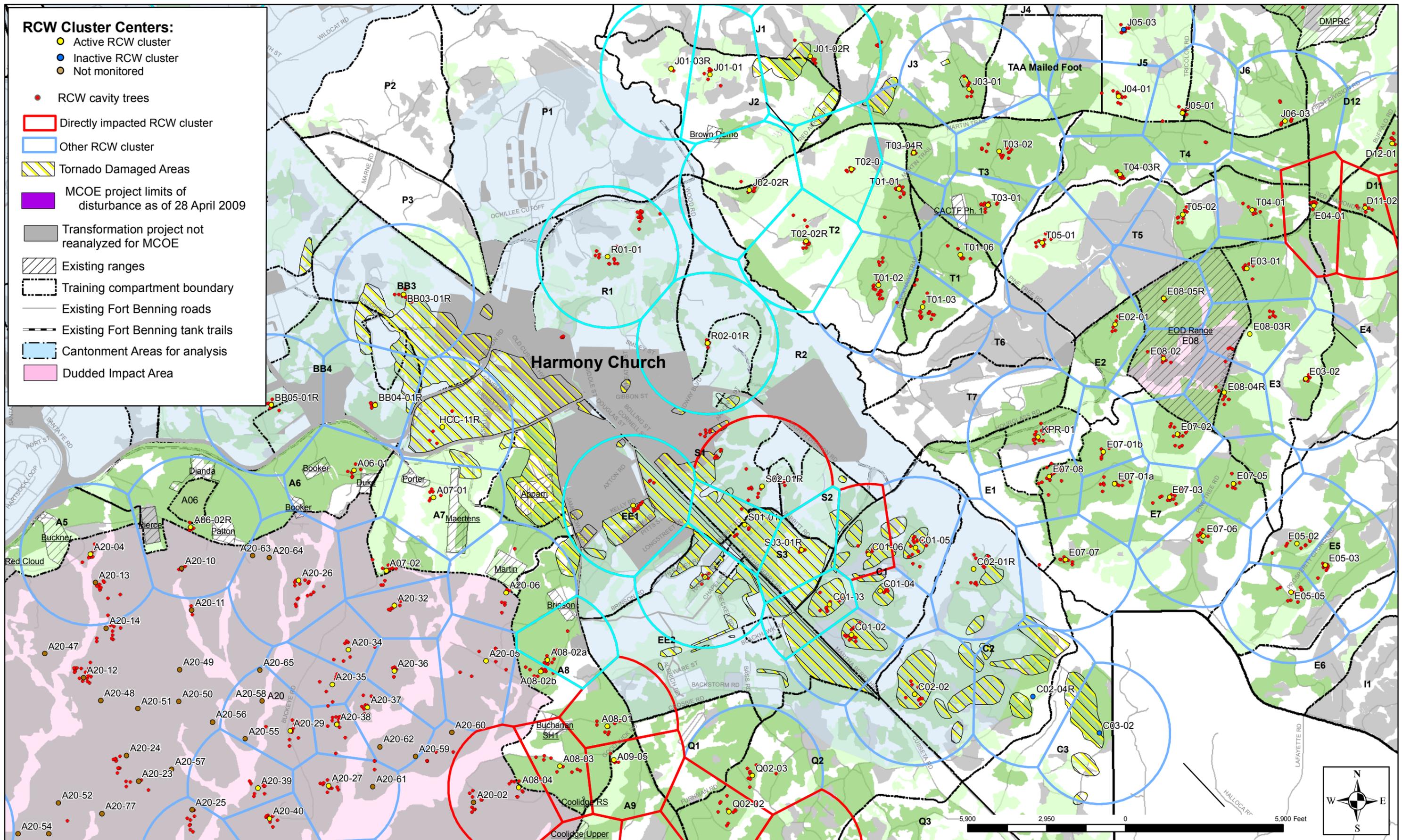


Figure 1-1. Areas damaged by severe weather 10 April 2009 and the current limits of disturbance for proposed Maneuver Center of Excellence projects located in the Harmony Church area of Fort Benning, Georgia.

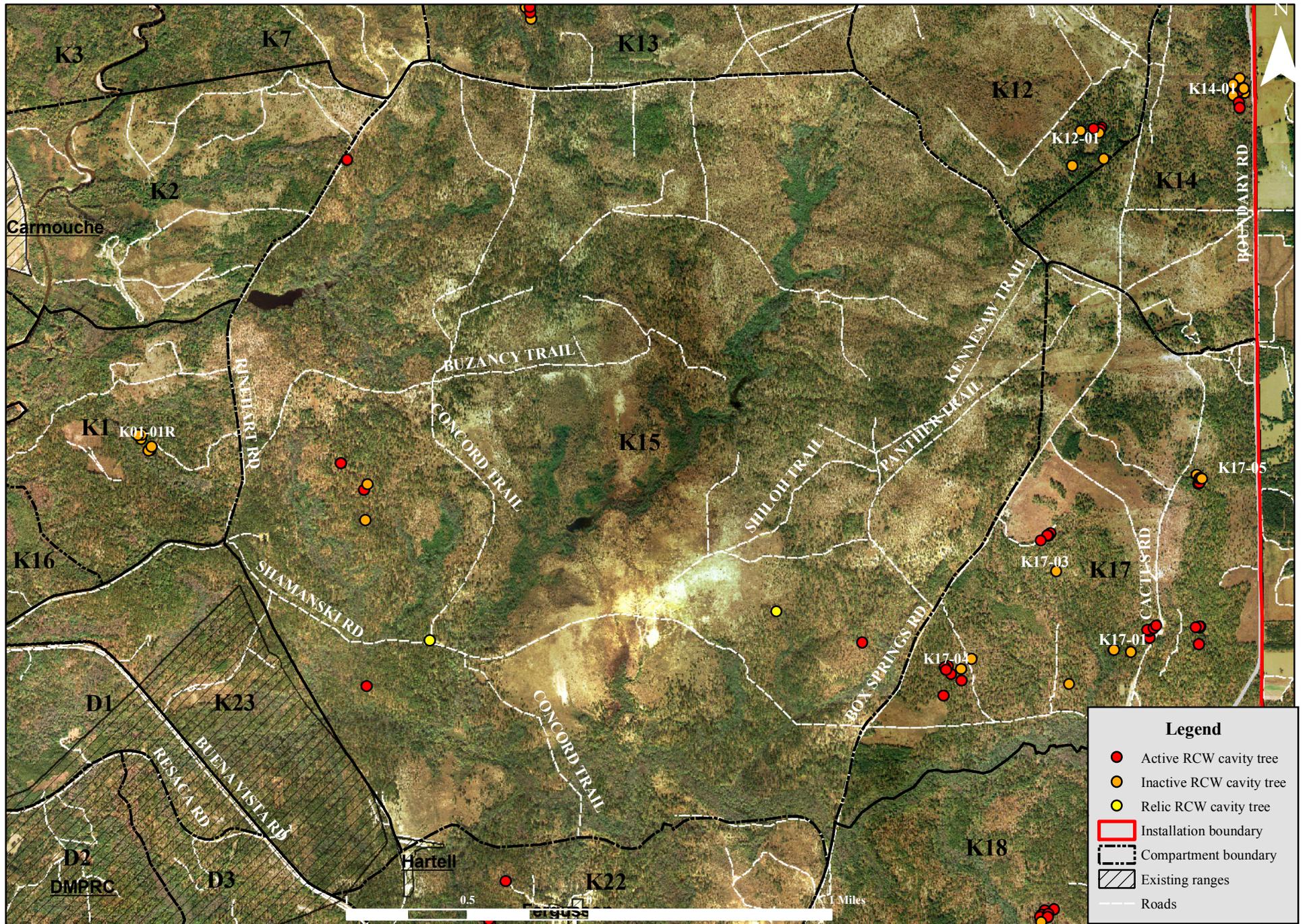


Figure 1-2. Location of red-cockaded woodpecker (*Picoides borealis*) (RCW) cavity trees within the K15 Dudded Impact Area, Fort Benning Military Installation, Georgia.

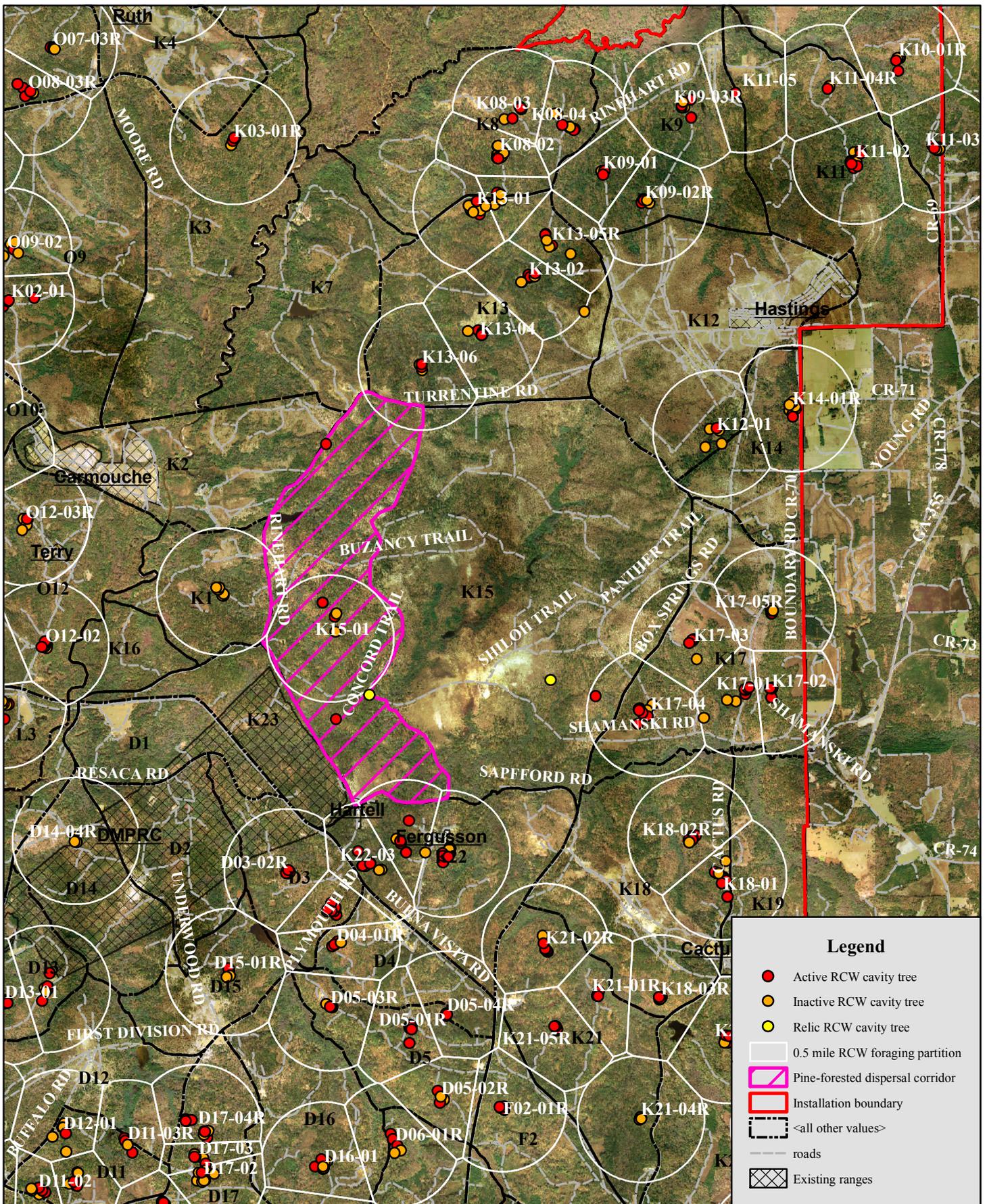


Figure 1-3. Pine-forested dispersal corridor within the K15 Impact Area connecting 16 active red-cockaded woodpecker (RCW) clusters located in the northeastern portion of Fort Benning Military Installation, Georgia to the nearest active clusters located south of the K15 Impact Area.

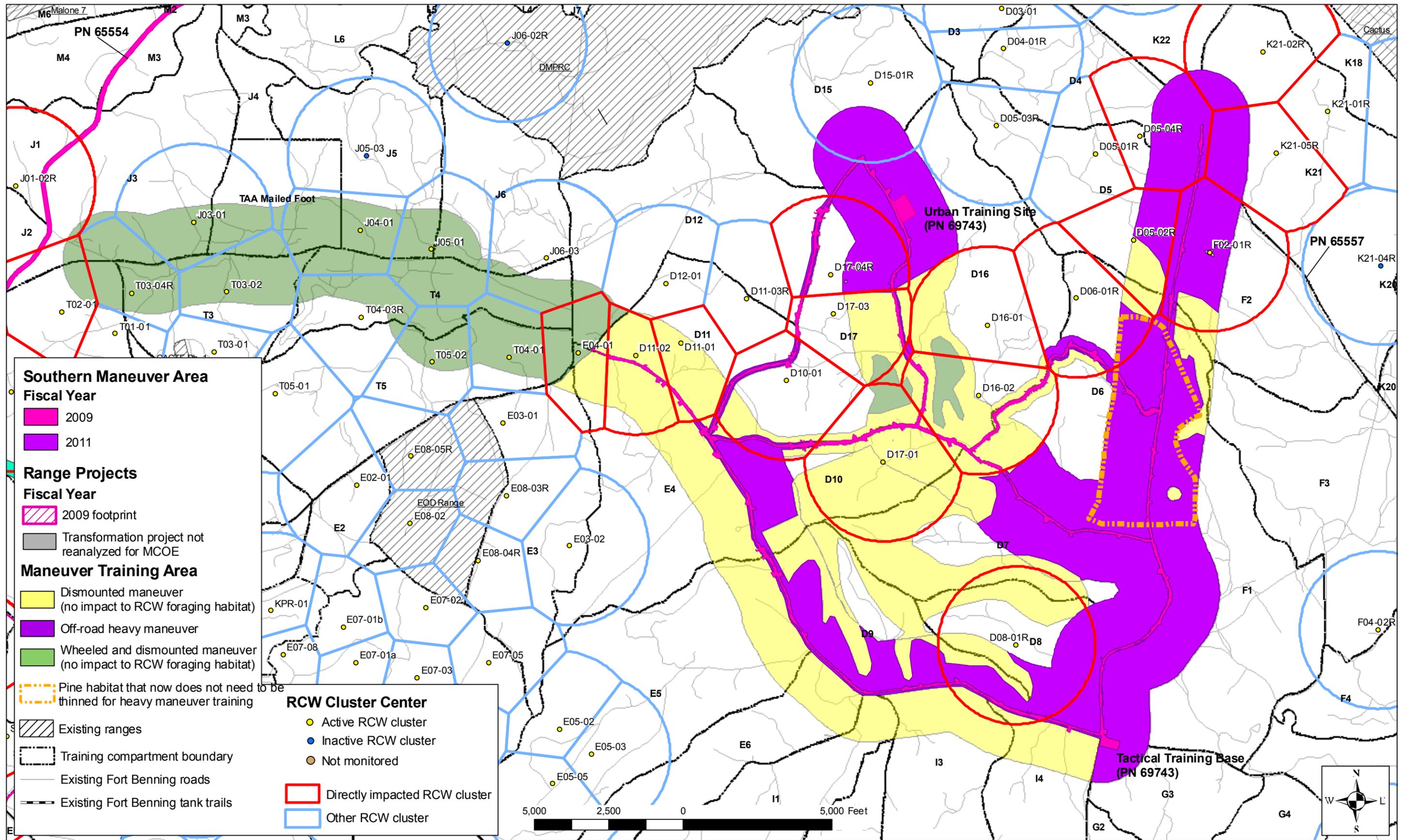
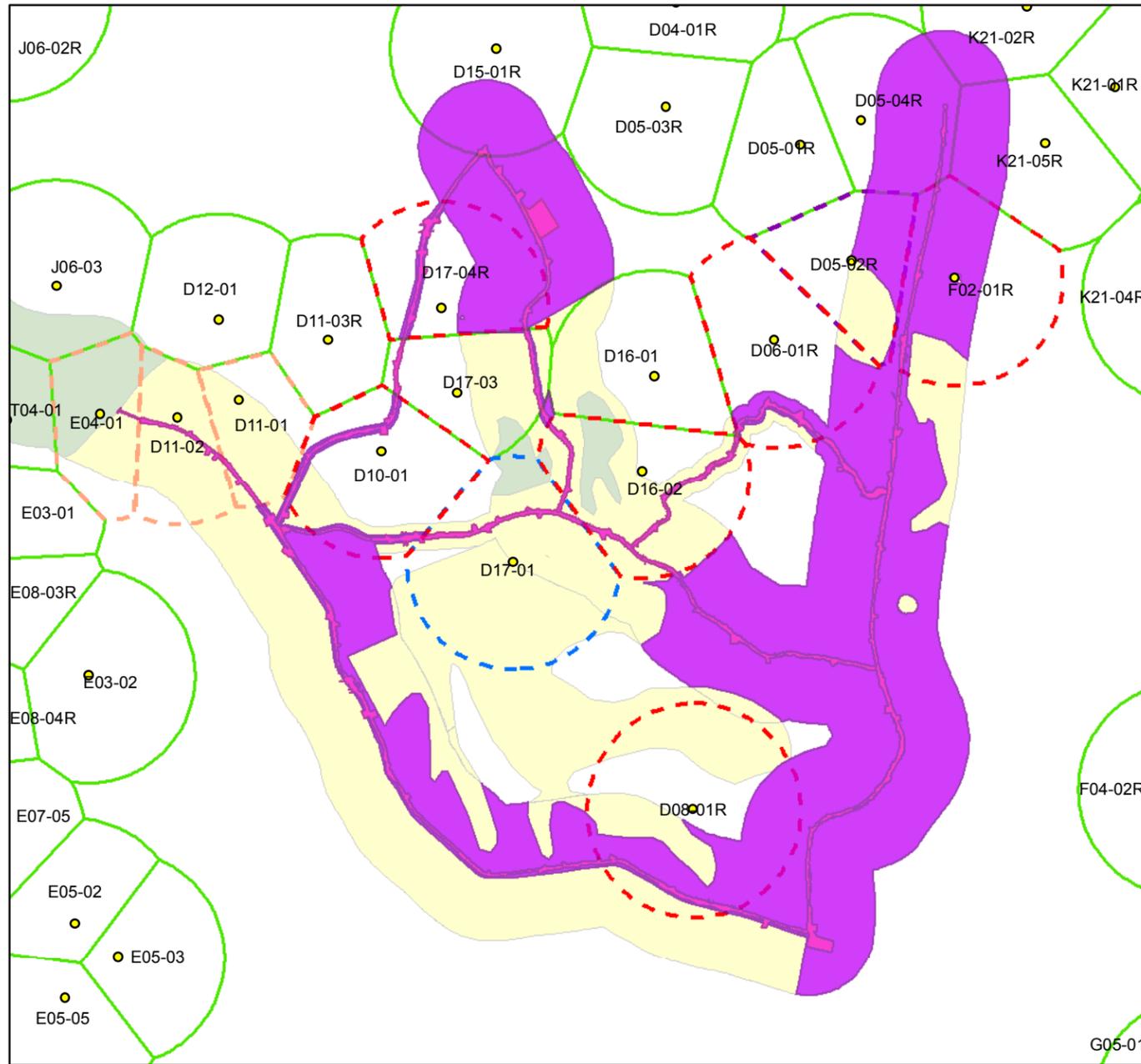


Figure 2-1. Fiscal years 2009-2010 construction activities and operational impacts for proposed projects located in the Southern Maneuver Area for the Maneuver Center of Excellence, RPA Analysis, Fort Benning, Georgia.

PRE-PROJECT



POST-PROJECT

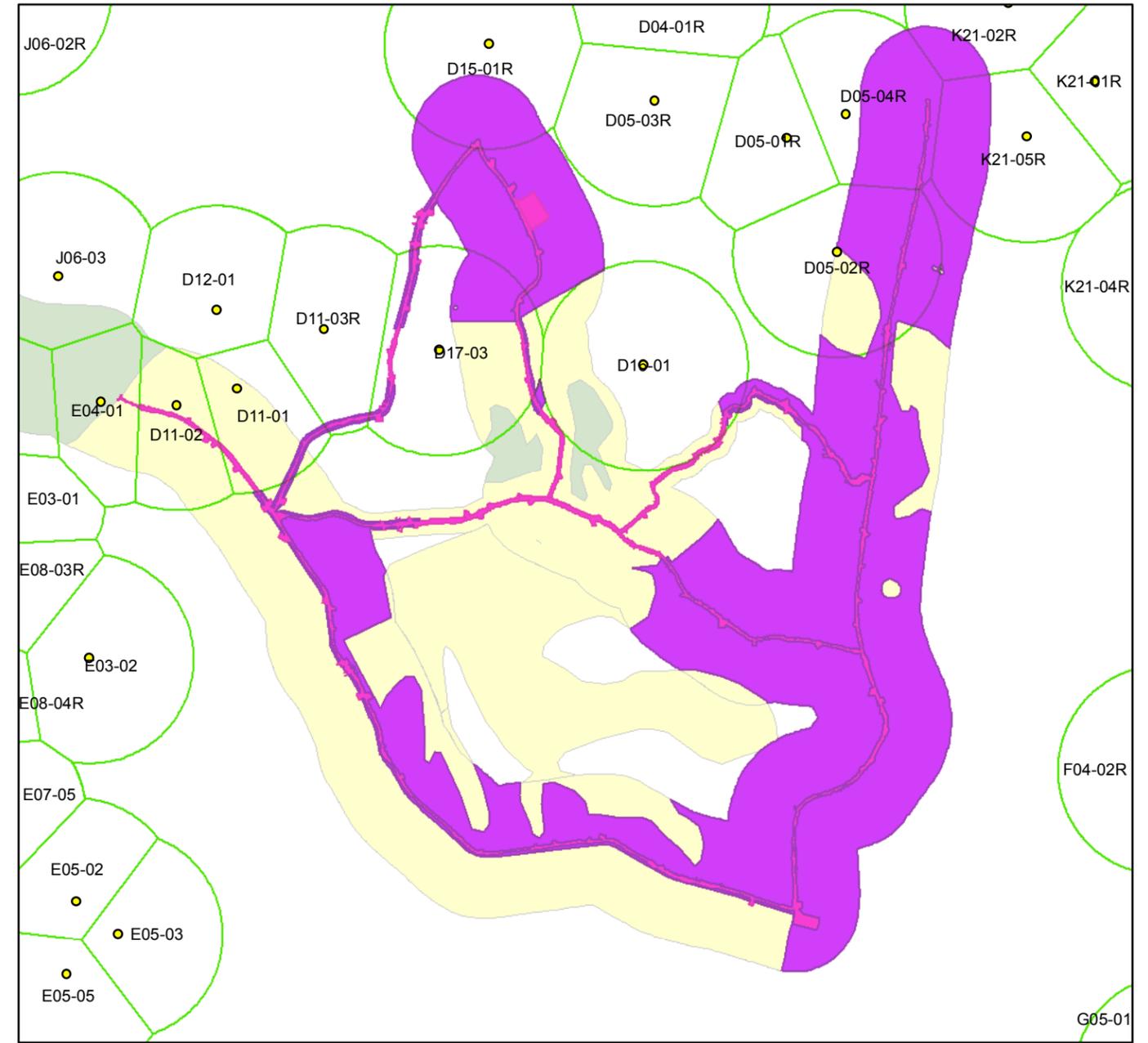
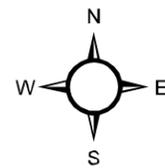
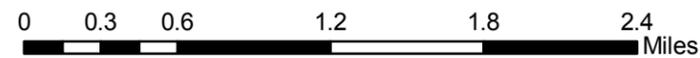


Figure 2-2. Pre- and post- project density of red-cockaded woodpecker (RCW) clusters as a result of Installation Training Area Roads and Southern Maneuver Area Training Impacts, RPA Analysis, Fort Benning, Georgia. Includes clusters "taken" due to combined effects of MCOE and pine decline.



Legend

RCW Cluster

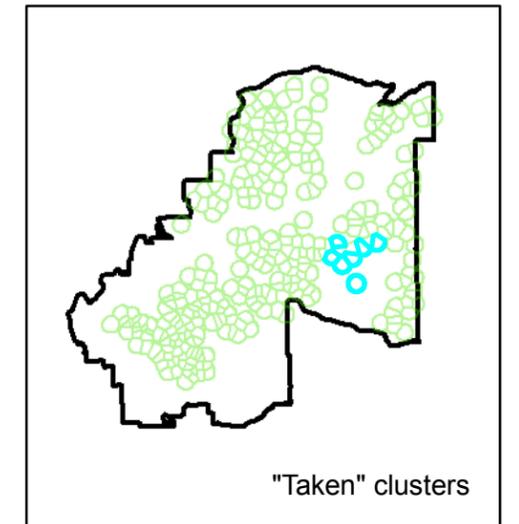
- Active
- Inactive
- Not monitored

Fiscal Year

- 2009
- 2011

RCW Foraging Partitions

- RCW partition boundary
- - - Partitions "taken" by project
- - - Partitions "taken" by group impact
- - - Partitions with indirect harassment impacts
- - - Partitions with indirect harassment impacts until training migration



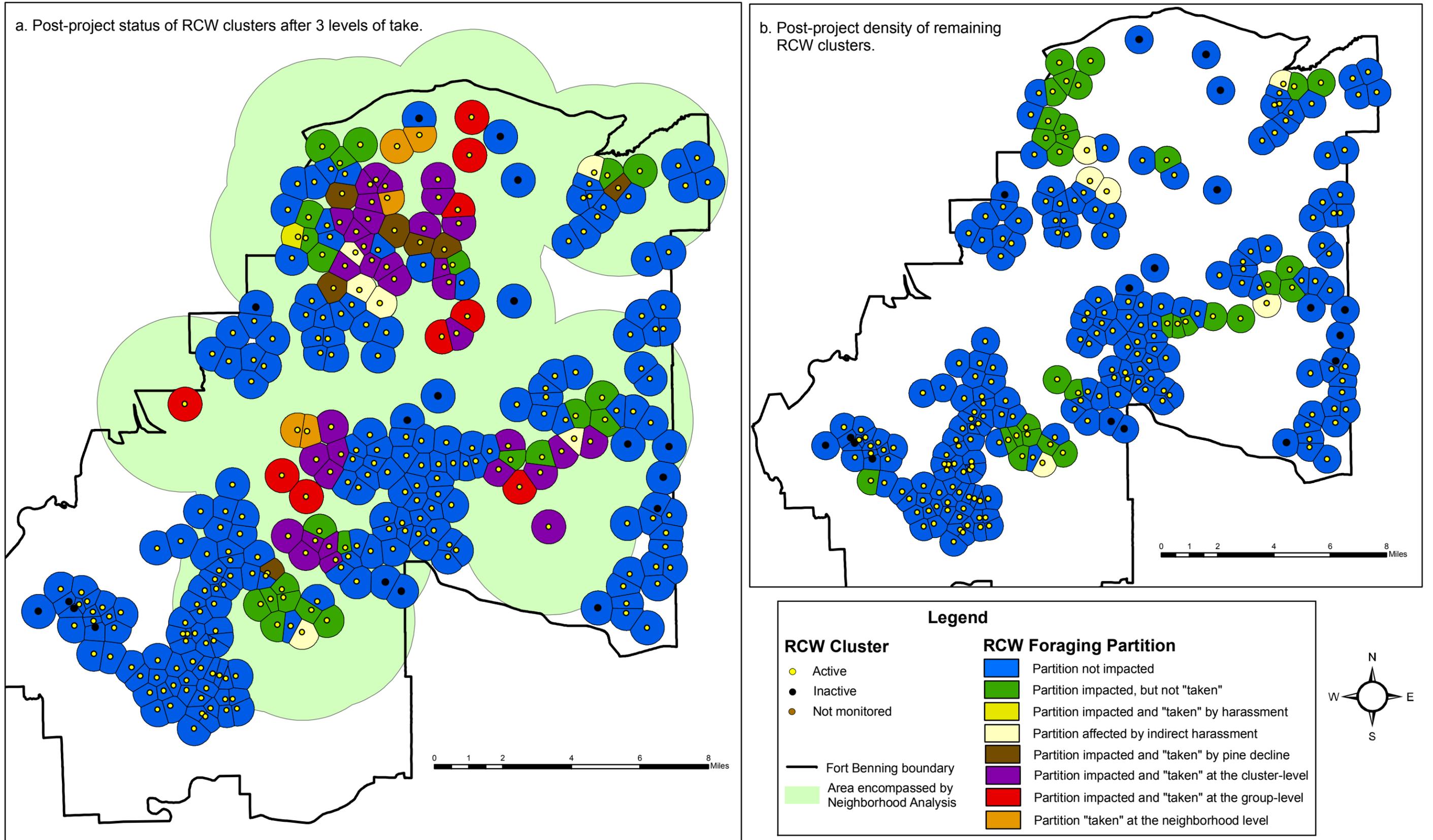


Figure 2-3. (a.) Post-project status of red-cockaded woodpecker (RCW) clusters after cluster, group (1.25 mile radius) and neighborhood (2.57 radius) analyses and (b.) post-project density of RCW clusters, RPA Analysis, Fort Benning, Georgia.

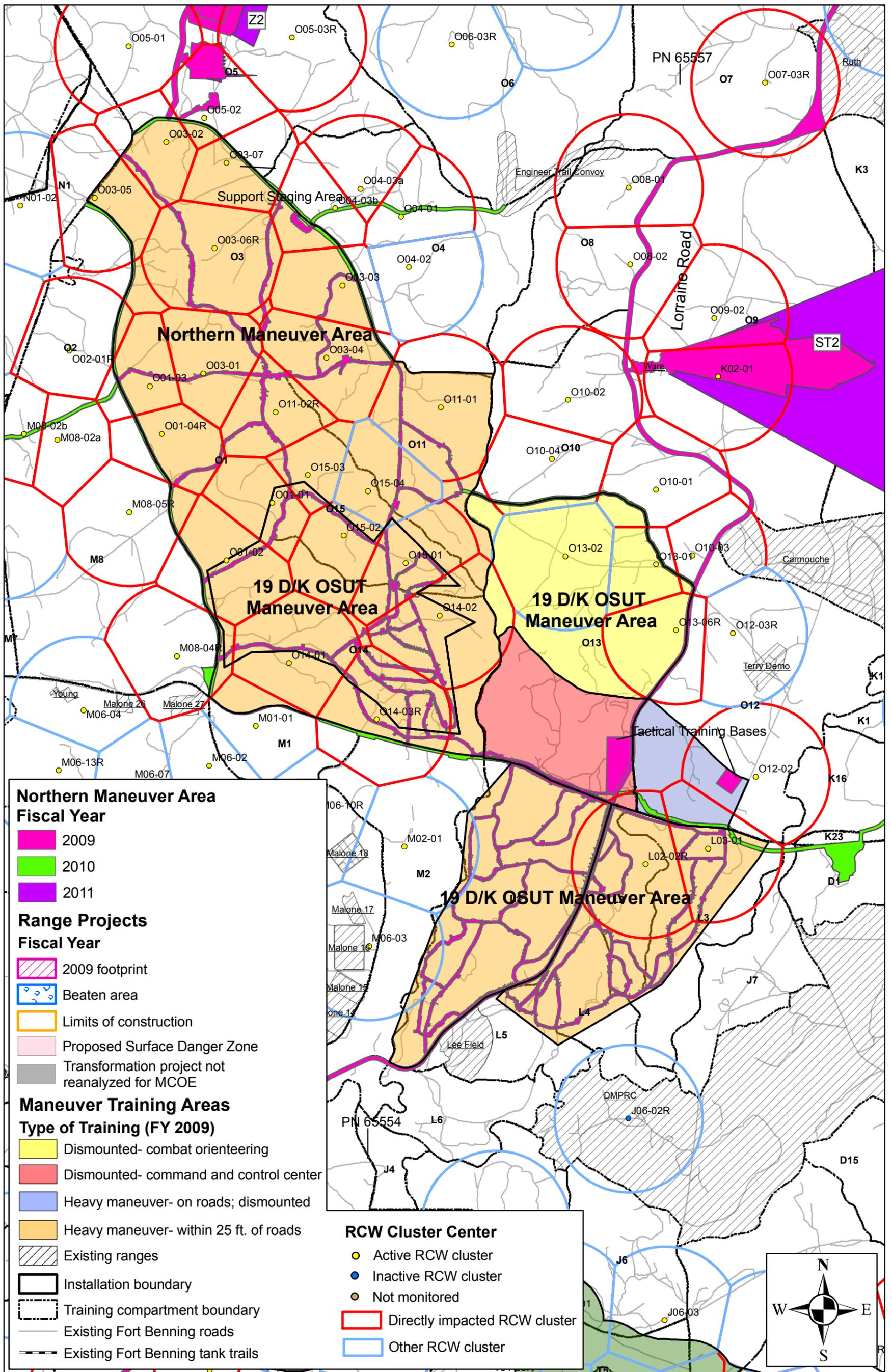
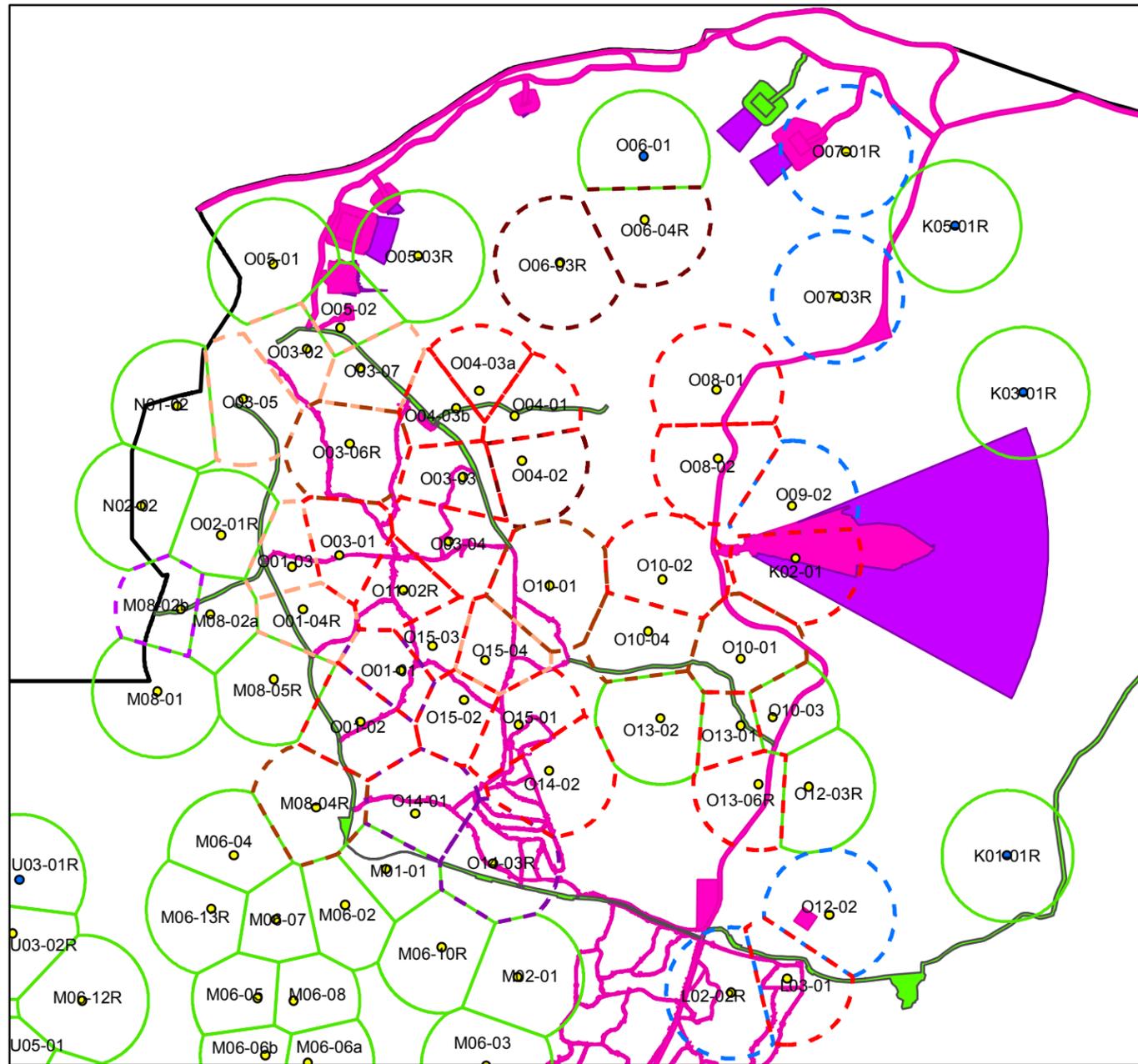


Figure 2-4. Fiscal years 2009-2010 construction activities and operational impacts for proposed projects located in the Northern Ranges for the Maneuver Center of Excellence, RPA Analysis, Fort Benning, Georgia.

PRE-PROJECT



POST-PROJECT

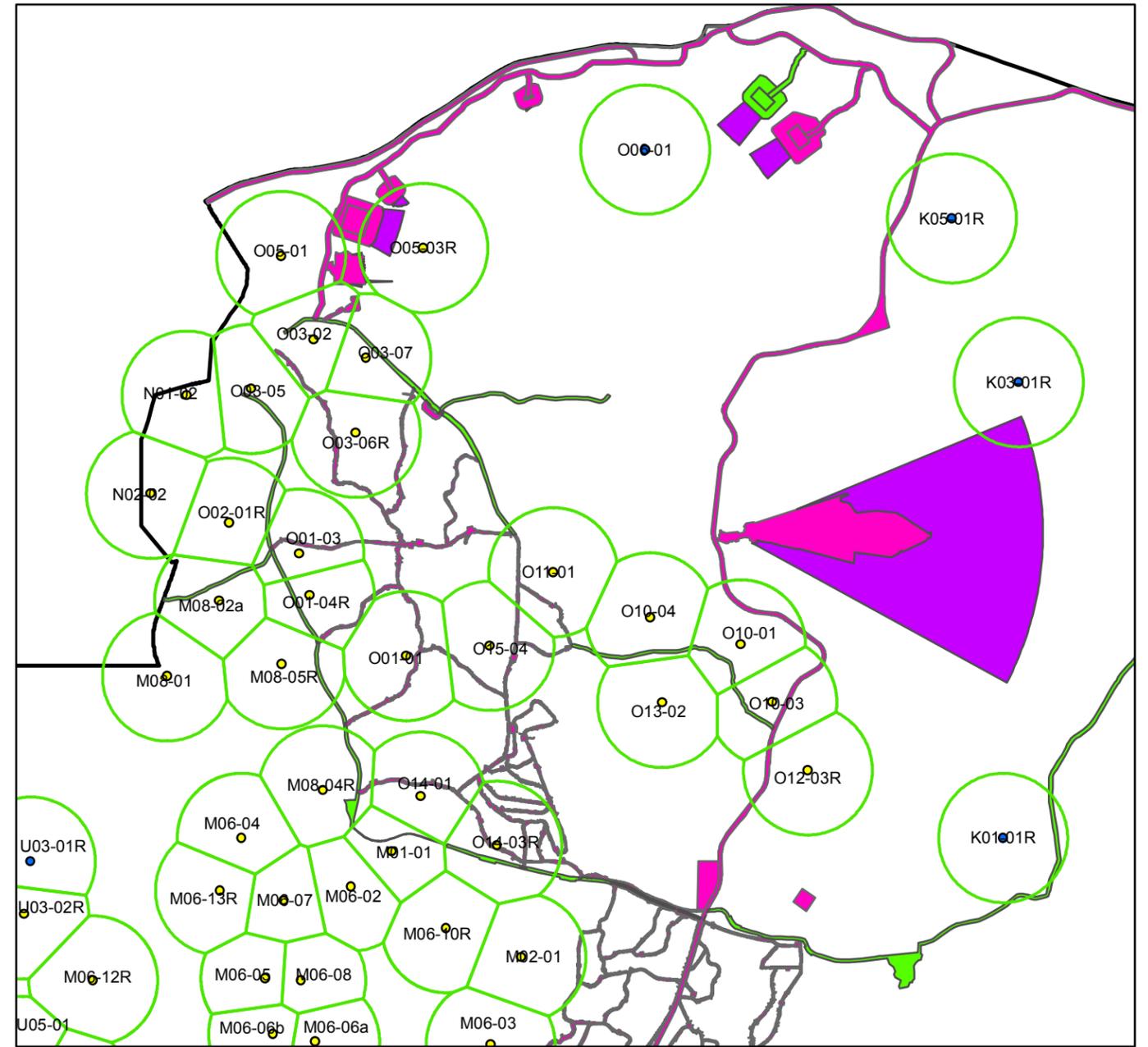
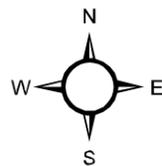


Figure 2-5. Pre- and post- project density of red-cockaded woodpecker (RCW) clusters as a result of Installation Training Area Roads and Northern Ranges, RPA Analysis, Fort Benning, Georgia. Includes clusters "taken" due to combined effects of MCOE and pine decline.



RCW Cluster

- Active
- Inactive
- Not monitored

RCW Foraging Partition

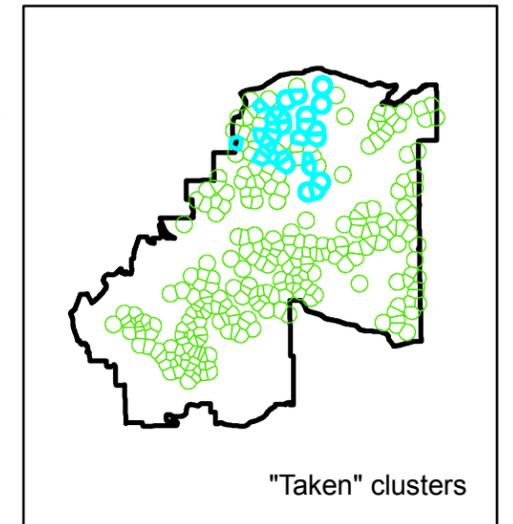
- RCW partition boundary
- - - Partitions "taken" by project
- - - Partitions "taken" by direct harassment
- - - Partitions "taken" by group impact
- - - Partitions "taken" by neighborhood impact
- - - Partitions with indirect harassment impacts
- - - Partitions with indirect harassment impacts until training migration

Legend

Northern Ranges and Installation Training Roads

Fiscal Year

- 2009
- 2010
- 2011
- Construction limits
- Fort Benning boundary



## Attachment A

### Draft RPA

Based upon our review of the Draft JBO and the draft components of the reasonable and prudent alternative (RPA) outlined on pages 92 and 93 of the draft, the Army offers the following recommended changes (supported by analysis in Addendum 2 to the BA found at Enclosure 4), which reflect the continued discussions between USFWS and the Army:

- Remove the machine gun range in the A20 impact area. Elimination of this project component avoids the loss of 4 active clusters and 469 acres of habitat and the expected isolation of two groups of clusters (20 and 11 active clusters, respectively) in that area from the RCW population. The A20 impact area is the stronghold of the RCW population on Ft. Benning because the best RCW habitat (old trees, frequently burned) is in this area.
- Fort Benning will manage 36 additional active clusters in A20 for recovery. All clusters not currently managed (57 in 2009) in the A20 impact area (active and inactive) will be monitored aurally to determine number of active or suitable cavities per cluster. (This does not include the 14 clusters that are currently managed). Any aurally monitored cluster with at least 4 active cavities or a combination of 2 active + 4 inactive cavities or 3 active + 2 inactive cavities can be counted towards the 36 A20 active clusters that are required to satisfy this component of the RPA. For clusters containing less than 4 active or suitable cavities, as defined above, ground access to a sufficient number of these for artificial cavity insertion would be required to reach a minimum number of 36 managed cavities. Conversely, if 36 aurally monitored active clusters contained 4 active cavities as defined above, in a given year, then no on-the-ground access would be required for that year. Due to UXO hazards some of the A20 clusters may never be accessible from the ground. These clusters can only be counted toward the annual target of 36 if they have 4 active cavities or a combination of 2 active + 4 inactive cavities or 3 active + 2 inactive cavities.
- Inclusion of these A20 clusters in RCW monitoring and/or management activities will enable Ft. Benning to count at least 36 clusters as an offset for the direct impacts to 36 of the 57 active clusters that would be incidentally taken by the proposed action. Also Ft. Benning will be able to count toward the Installation's recovery goal the A20 clusters that have PBGs. The obligations that accompany these A20 active clusters include:
  - The ability to conduct A20 annual cluster surveys during the Spring (March 1 to – April 30) to aurally identify active clusters with at least 4 active cavities each, or by ground surveys active clusters each with 4 suitable cavities. Active clusters surveyed on-the-ground during breeding season also will be assessed for the presence of PBGs.
  - During Fall/Winter ground access, install artificial cavities as appropriate to maintain at least 4 suitable cavities in each accessed cluster. On-the-ground cluster and cavity tree status assessments (active and/or suitable) will also be

- conducted at all clusters accessed on-the-ground during these “cavity management” visits.
- Annual examination, via aerial and/or ground surveys, of all clusters and active cavity trees in the A20 monitored clusters to assess nesting habitat conditions (e.g., presence of midstory) and to determine the status (live, dead, damaged) of each cavity tree. Examinations will be conducted during the breeding season.
  - Controlling hardwood midstory, as necessary, via application of appropriate herbicides and/or prescribed fire.
  - Controlling fire fuel loads by prescribed fire, including aerial and/or ground ignition as necessary, to reduce and avoid cavity tree mortality.
  - In coordination with the Service, develop an A20 Cluster Management Plan within six months of the date of adoption of the RPA.
- Migrate the field training aspects of the Scout Leaders Course (Army Reconnaissance Course), a MCOE-related heavy mechanized training course, from the Southern Maneuver Training Area to training areas located off the FY09 Ft. Benning installation boundary within five years from the training start date of the Scout Leaders Course. The long-term effects of intensive training within and near the Southern Maneuver Training Area could eliminate or degrade up to 13 clusters of which 6 are solely due to indirect harassment impacts. In addition, the displacement to the Northern Maneuver Area of training currently being conducted in the Southern Maneuver Area will result in up to 6 clusters with indirect harassment impacts. Moving the field training aspects of the SLC/ARC mechanized activities to training area located off the FY09 Ft. Benning installation boundary where RCWs do not occur will remove these effects. Other training will continue in the Southern Maneuver Area in accordance with the Management Guidelines for the Red-cockaded Woodpecker on Army Installations (1996, 2007) because adverse effects are not likely due to the management measures identified in these guidelines. The Army, in coordination with the Service, will develop a Training Migration Plan within six months of the date of adoption of the RPA. The Training Migration Plan will address performance standards and milestones for progress.
  - Rescope projects to avoid impacts. Rescoping of the following projects as proposed in the BA Addendum 2 avoids the loss of 12 RCW clusters and 1406 acres of potential RCW habitat:
    - a) The Southern Maneuver Area (PN 69743) was assessed to have 22 takes (13 direct, 9 indirect) and affect 3036 acres of potential RCW habitat. Per BA Addendum 2, it now is assessed to have 13 takes (7 direct, 6 indirect) and 1871 acres affected.
    - b) The 19 K/D OSUT Maneuver Area (PN 69741) was assessed to have 6 takes and affect 329 acres of potential RCW habitat. Per BA Addendum 2, it now is assessed to have 5 takes and 180 acres affected.
    - c) The Repair Existing Training Area Roads (PN 65557) was assessed to have 5 takes and affect 209 acres of potential RCW habitat. Per BA Addendum 2, it now is assessed to have 4 takes and 194 acres affected.

- d) Two ranges in the Oscar Complex, Z2 and MRF7, were assessed to have 1 take and affect 108 acres of potential RCW habitat. Per BA Addendum 2, it is now assessed to have 0 take and 33 acres affected.

### **Draft RPM**

Based upon our review of the Draft JBO and the draft components of the reasonable and prudent measures (RPM) and Terms and Conditions outlined on pages 94 and 95 of the draft, the Army offers the following recommended changes to the following RPMs and associated Terms and Conditions, which reflect the continued discussions between USFWS and the Army:

1. Shift cluster activity by provisioning artificial cavities to minimize project-related cavity tree impacts or harassment impacts, primarily related to road construction and use.

Term and Condition 1.

A plan to shift cluster activity will be developed by end of October 2009 to be approved by the Service. This plan will include a protocol for shifting cluster activity and the projected date of completion.

2. In coordination with the Service, develop a monitoring plan by end of October 2009 for RCWs likely to be affected by heavy maneuvers.

Term and Condition 2.

The plan must quantify and compare the response of subjected RCWs to those not subjected to maneuver disturbance. The Service and Army will meet annually during the monitoring study period to review the data and evaluate methods or opportunities to reduce adverse effects.

## **ATTACHMENT B.**

### **Updates to Maneuver Training Information Found in the MCOE Biological Assessment and Addendum 1**

#### **1.4. MANEUVER TRAINING**

The following information is to supplement and update training information presented in Section 4 of the MCOE Biological Assessment (USACE 2008). Only components of the MCOE proposed action that have changed since Addendum 1 are presented here; information about the remainder of the MCOE actions can be found in the MCOE Biological Assessment or Addendum 1.

##### **1.4.1. INCREASED MANEUVER LAND USE**

This information has not changed- please see the MCOE Biological Assessment (USACE 2008).

##### **1.4.2. TRAINING COURSES**

Training units of the USAARMS relocating to Fort Benning include the 194th Armored Bde, the 16th Cavalry Regt and the Army NCOA (Noncommissioned Officer Academy) (Table 2-1). Together, these units are responsible for training every Armor Crewman in the Army and Marines. More than 70 training courses currently conducted at Fort Knox, ranging in length from 1 to 20 weeks, will be shifted to Fort Benning as part of Transformation (USACE 2007b).

Selected training courses anticipated to take place in the Maneuver Areas are discussed below and are listed in Table 4-3.

The 194th Armored Bde's 19D One Station Unit Training (OSUT) Cavalry Scout (19D OSUT) course trains initial entry Cavalry Scouts in small arms; BFV, HMMWV and Stryker mechanics; use of simulators; gunnery; dismounted combat orienteering; mounted and dismounted urban operations; driver training and includes a field training exercise (FTX). Ten days of training will be in the field and the course will be conducted 23 times per year. Cavalry Scouts are trained to operate BFVs, HMMWVs and Strykers at the basic and advanced drivers training courses (described in Section 3.3.2.2) and also conduct live fire training at small arms

and stationary gunnery ranges; the remainder of the FTX will be conducted within the 19D/K OSUT Maneuver Area (See Section 4.7.4). Approximately 40 vehicles, including BFVs, HMMWVs and Strykers, are used during this course, but students rotate between the ranges and driver training course. Up to 14 vehicles are typically present in any given area. Mounted training is conducted primarily on roads, improved tank trails, and range course roads throughout all affected training areas.

The 194th Armored Bde also conducts the 19K OSUT Armor Crewman (19K OSUT) course, which trains Armor Crewmen in the same aspects as above with M1A1 Abrams tanks, HMMWVs and Strykers. This course involves approximately 55 of the above-listed vehicles. The field training for this course lasts 9 days and is conducted 13 times a year. As with the 19D OSUT, the vehicles are dispersed between the ranges and the Driver Training Course and generally stay in single-file lines and/ or small formations. Armor crewmen will be trained to operate M1A1 Abrams, HMMWVs and Strykers at the basic and advanced drivers training courses (described in Section 3.3.2.2) and also conduct live fire training at small arms and stationary gunnery ranges; the remainder of the FTX will be conducted within the 19D/K OSUT Maneuver Area (See Section 4.7.4). Mounted training is conducted primarily on roads, improved tank trails, and range course roads throughout all affected training areas.

The NCOA is responsible for conducting both the 19D Basic Noncommissioned Officer Course (BNCOC) Cavalry Scout (19D BNCOC) and the 19K BNCOC Armor Crewman (19K BNCOC) courses. As of the MCOE Biological Assessment, these would be similar to the 19D and K OSUT courses described above and each would include 3-day FTXs conducted 12 times a year (USACE 2008). In accordance with updated Program of Instruction (POI) that renamed these courses to Advanced Leader's Course (formerly BNCOC) and Senior Leader's Course (formerly ANCO) there is no longer a mounted field training component.

The 16th Cavalry Regt's Scout Leaders Course currently being taught at the USAARMS is being revised to become the Army Reconnaissance Course (ARC). This course is designed to train and educate platoon leaders, platoon sergeants and section sergeants to effectively lead a reconnaissance platoon. The field training portions of this course will total 10-days conducted 11 times a year. It is possible that this course might be conducted with lower student loads (60-80 students) more frequently (up to 20 times a year). Instead of being strictly a USAARMS

course, it will now be available to all students with a reconnaissance mission. This course will initially be taught at Fort Knox, however, the increased student loads assessed in this document will not be funded until 2011, when the USAARMS will be at Fort Benning (C. Stoinoff, USAARMS, pers. comm.). Some of the student load of the Reconnaissance and Surveillance Leaders Course (RSLC), currently taught at Fort Benning by the 4th Ranger Training Bde., may transfer to the ARC, therefore training loads of the RSLC will be reduced.

The ARC will be conducted in the Southern Maneuver Area. This course includes a 3 day situational training exercise (STX) where students will be trained in unmanned aerial vehicle (UAV) operations, land navigation and reconnaissance mission preparation. During a 7-day FTX, 3 teams each comprised of 30 students and 10-18 trainers, will act as an IBCT, Heavy Brigade Combat Team (HBCT) and a Stryker Brigade Combat Team (SBCT). Each iteration of the FTX will evaluate 120-160 students. During the FTXs, there will be approximately 185 personnel (including 120-160 students), 13 tracked vehicles, 8 Strykers and 38 other wheeled vehicles spread throughout the Southern Maneuver Area. As the primary purpose of this course is to learn reconnaissance functions, the nature of the maneuver training will be somewhat unique. Vehicles will not maneuver in large formations but instead proceed in single and pairs of vehicles following natural lines of drift and using existing terrain and vegetation for cover and concealment. Reconnaissance, especially off-road, is normally conducted at a very deliberate pace further distinguishing training conducted by this course from typical off-road maneuver training.

The remaining courses have not changed substantially since the MCOE Biological Assessment (USACE 2008).