



# **SEMP Root Cause Analysis Results:**

**Tasks 1-1.7, Percent Bare Ground**

**Task 1-2.3, Watershed Management Plan  
Development and Annual Review**

**Task 1-2.7, Change in Bare or Sparsely  
Vegetated Areas**

Presented to Oversight Committee

23 April 2015



# Status of Recommended Root Cause Analyses for FY14 Annual Monitoring Results



Task #	Metrics with “Red” Results	RCA Recommended?		Completion Date
		Staff	Cmte.	
1-1.7	Percent bare ground in forested maneuver areas and “sandboxes” (no data)	Yes	Yes	9 April 15
1-2.3	Update of watershed management plans	Yes	Yes	9 April 15
1-2.7	Multi-year change in total acres of bare or sparsely vegetated areas.	Yes	Yes	9 April 15



# SEMP Objective 1-2, Task 1-2.3 - Watershed Mgmt. Plan Development and Annual Review



- **Objective 1-2:** Sustain training land conditions and long-term soil productivity. This is accomplished by implementing land rehabilitation and maintenance practices designed to minimize soil erosion and compaction, limit soil loss, restore or maintain vegetative cover, and restore disturbed or degraded areas to natural conditions. Develop and update watershed management plans for Fort Polk and Kisatchie National Forest training lands and prioritize land rehabilitation and maintenance activities within and across watersheds based on watershed conditions and training area carrying capacity.
- **Implementation Monitoring Question:** Are watershed management plans completed or in development for all training lands where ground disturbing activities are permitted? Are plans reviewed annually to evaluate the need for updates?
- **Metric:** Percent of sub-watersheds for which current watershed management plans are in place. The term “current” denotes that an annual review has been conducted and the management plan has been updated or carried forward as appropriate.
- **Targets:**

<b>Green</b> Current management plans are in place for $\geq 90\%$ of sub-watersheds.	<b>Amber</b> Current management plans are in place for $< 90\%$ and $\geq 70\%$ of sub-watersheds.	<b>Red</b> Current management plans are in place for $< 70\%$ of sub-watersheds.
--	---	---



# Task 1-2.3 RCA Results – FY14 Watershed Mgmt. Plan Development and Annual Review



- Background: Monitoring Task 1-2.3 was adopted in April 2007 in direct response to the second element of SEMP Objective 1-2 and the associated implementation monitoring questions, which require that watershed management plans (WMPs) be developed, annually reviewed, and updated as needed. A total of 24 WMPs are required (excluding new training lands).

Per protocol established under Objective 1-2, the WMPs should 1) identify and document erosion problem areas within each watershed, based on satellite image analyses of soil loss and cover change and other information; 2) program and prioritize LRAM projects within and across watersheds to correct problem areas, based on training and environmental considerations and overall watershed erosion rates; and 3) document completed corrective actions.

Because of its responsibilities for implementing the RTLA program (assessment of training land conditions) and the LRAM program (land rehabilitation), the responsibility for preparation, annual review, and update of WMPs was assigned to the ITAM program.



# Task 1-2.3 RCA Results – FY14 Watershed Mgmt. Plan Development and Annual Review



- Background, continued: The percent of WMPs completed and reviewed annually was reported for 6 years (FY08 – FY13) and the result was “Red” for FY08, FY09 and FY10; “Amber” for FY12; and “Green” for FY11 and FY13.  

Root cause analyses (RCAs) were completed for this monitoring task in FY09 (first year that RCA procedures were adopted) and in FY10.
- IP03: Review process to update existing plans, procedures, or systems is not established or is inadequate.
  - Problem: The ITAM program opted to discontinue review and updates to the WMPs in FY14. In that same year, an informal agreement was reached between the ITAM Coordinator and former Installation Ecologist, wherein DPW-ENRMD-CB would prepare and update the WMPs as part of the erosion control component of the Installation’s Integrated Natural Resource Management Plan (INRMP). However, the details of that agreement were undefined, and the Installation Ecologist accepted a different position in FY14. As a result, no action was taken on the WMPs in FY14.



# Task 1-2.3 RCA Results – FY14 Cont., Watershed Mgmt. Plan Development and Annual Review



- Solutions:

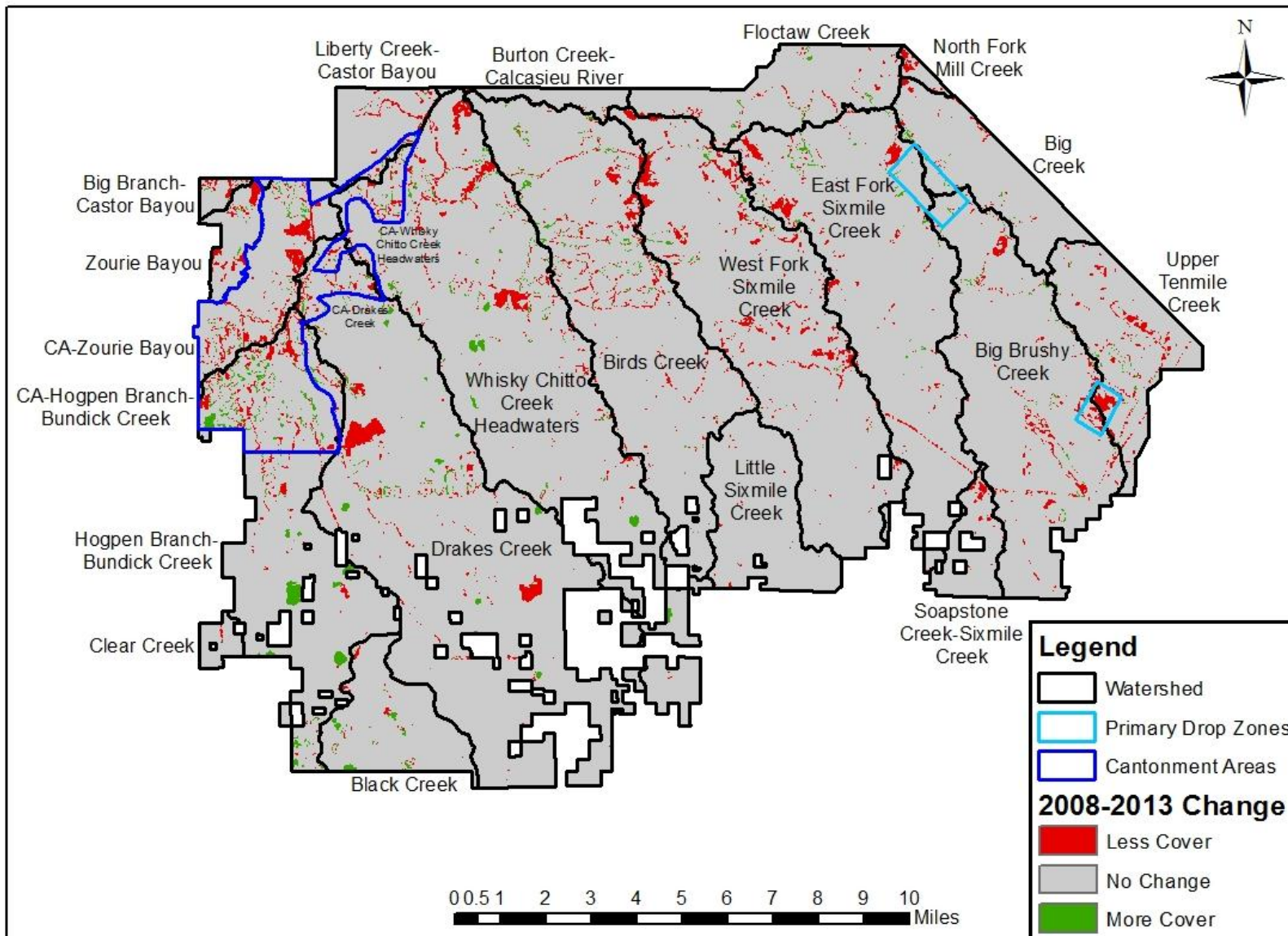
- A working group comprised of representatives from DPTMS and DPW-ENRMD-CB reviewed the existing monitoring question, monitoring task and desired ITAM program direction as expressed by the program Coordinator.
- The working group recommended that duties for preparation, review and update of the WMPs be assigned, as follows:

### Conservation Branch Responsibilities:

- Completion of ground-truthing/field inspections of areas showing a loss of vegetative cover relative to 2008 (i.e., red areas on the maps of changes in acres of bare/sparsely vegetated area completed in Jan 2015) to determine whether or not correction actions are needed at each location;
- Under the Installation INRMP, preparation of watershed condition components of each WMP, to include 1) overview of current watershed conditions and land uses; and 2) mapping and description of watershed erosion problem areas.
- Recommendation of corrective actions for problem areas and coordination with ITAM and within DPW;
- Tracking completion of corrective actions by DPW (to be performed by DPW-ENRMD-CB Down Range Infrastructure Technician); and
- Update of INRMP/WMP components to reflect completion of corrective actions.

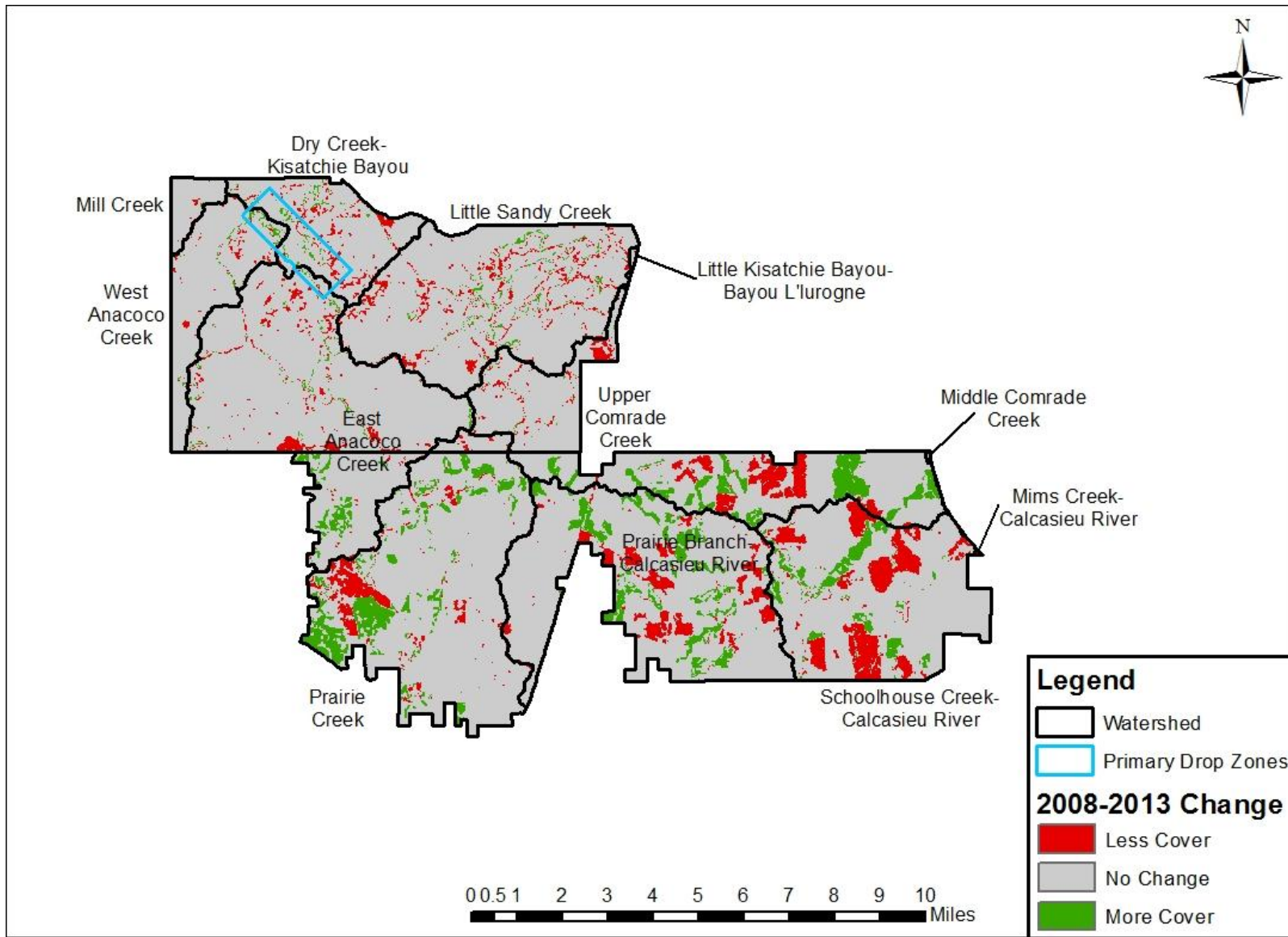


# Change in Total Acres of Bare or Sparsely Vegetated Areas – Fort Polk and Vernon Unit





# Change in Total Acres of Bare or Sparsely Vegetated Areas – Peason Ridge and New/Future Training Land







# Task 1-2.3 RCA Results – FY14 Cont., Watershed Mgmt. Plan Development and Annual Review



- Solutions, continued:

## ITAM Program Responsibilities:

- Review of recommended corrective actions identified for each WMP, and coordination with Conservation Branch as needed to reach consensus on corrective actions needed for erosion problems attributed to maneuver damage;
- Preparation of corrective action requirements assigned to ITAM within each WMP, to include proposed methods, costs and timelines for repairs at each site requiring action;
- Programming of funding and work plans for assigned corrective actions;
- Implementation of corrective actions; and
- Submittal of a notice/documentation to Conservation Branch when each corrective action is complete.

## DPW-Engineering Division (DPW-ENG) Responsibilities:

- Review of recommended corrective actions identified for each WMP, and coordination with Conservation Branch regarding corrective actions needed for erosion problems not attributed to maneuver damage;



# Task 1-2.3 RCA Results – FY14 Cont., Watershed Mgmt. Plan Development and Annual Review



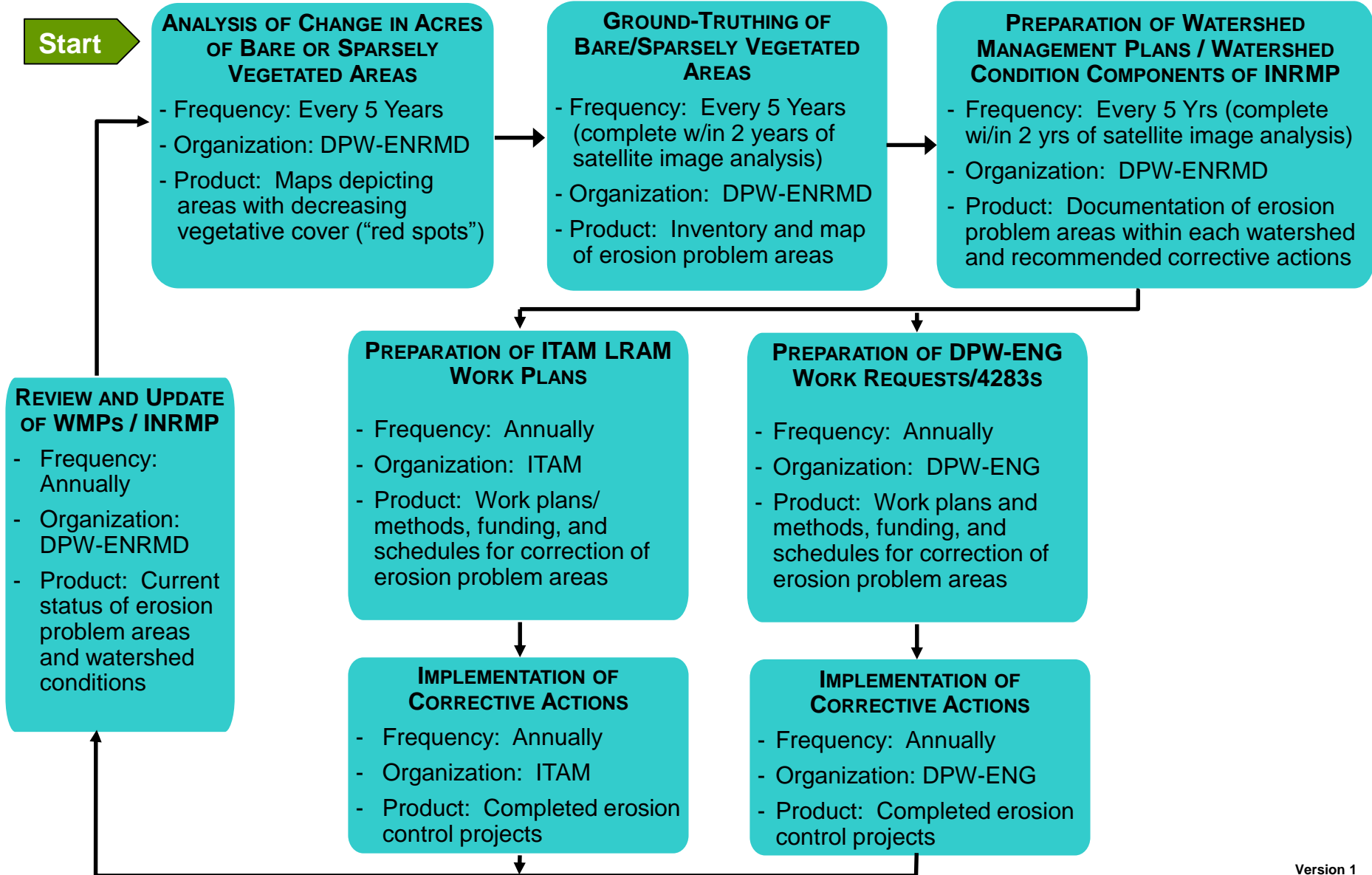
- Solutions, continued:

- DPW-ENG Responsibilities cont.:

- Preparation of corrective action requirements assigned to DPW-ENG within each WMP, to include preparation of Work Requests/4283s, or other scopes of work as needed for necessary repairs;
    - Programming of funding and work plans for assigned corrective actions;
    - Implementation of corrective actions; and
    - Submittal of a notice/documentation to Conservation Branch when each corrective action is complete.
  - Conservation Branch will initiate the required field work and documentation for the WMPs during FY15 and will complete the field work and WMP documentation by end of FY16. ITAM and/or DPW-ENG will complete the required corrective actions prior to FY20. A future round of WMP revisions will occur beginning in FY20.



# Watershed Management Planning Process





# SEMP Objective 1-2, Task 1-2.7 - Multi-year Change in Total Acres of Bare or Sparsely Vegetated Areas



- **Objective 1-2:** Sustain training land conditions and long-term soil productivity. This is accomplished by implementing land rehabilitation and maintenance practices designed to minimize soil erosion and compaction, limit soil loss, restore or maintain vegetative cover, and restore disturbed or degraded areas to natural conditions. Develop and update watershed management plans for Fort Polk and Kisatchie National Forest training lands and prioritize land rehabilitation and maintenance activities within and across watersheds based on watershed conditions and training area carrying capacity.
- **Effectiveness Monitoring Question:** Are bare or sparsely vegetated areas increasing in some or all training areas?
- **Metric:** Multi-year change in total acres of bare or sparsely vegetated areas. (Bare or sparsely vegetated areas will be determined through processing of satellite imagery to classify land use/land cover classes across training lands.)
- **Targets:**

<b>Green</b> The net acreage of bare or sparsely vegetated areas is stable or decreasing in $\geq 90\%$ of sub-watersheds.	<b>Amber</b> The net acreage of bare or sparsely vegetated areas is stable or decreasing in $< 90\%$ of sub-watersheds and $\geq 80\%$ of sub-watersheds.	<b>Red</b> The net acreage of bare or sparsely vegetated areas is stable or decreasing in $< 80\%$ of sub-watersheds.
---	--	--



# Task 1-2.7 RCA Results – FY14 Multi-year Change in Total Acres of Bare or Sparsely Vegetated Areas



- Background: Monitoring Task 1-2.7 was adopted in June 2007 to measure the effectiveness of training land management programs, in particular that of erosion control. The task identifies areas where loss of ground cover has occurred within a 5-year interval and at a measurable scale across the landscape. The results are determined based on processing of satellite imagery and field measurements to verify land cover types.

Results for Task 1-2.7 were first reported in FY08 and were repeated in FY14. The results were “Red” for both years, indicating that the area of bare or sparsely vegetated land increased within a majority of watersheds.

- OO04: To Be Determined by Quality Assurance Team (DPW-ENRMD-CB in cooperation with DPTMS/ITAM and DPW-ENG).
  - Problem: In FY14, only 6 of 34 (18%) watersheds were shown to have stable or decreasing amounts of bare/sparsely vegetated land. (See maps depicting the change in total acres of bare or sparsely vegetated areas from 2008-2014, reported 29 Jan 15).



# Task 1-2.7 RCA Results – FY14 Cont., Multi-year Change in Total Acres of Bare or Sparsely Vegetated Areas



- Solutions: A working group comprised of representatives from DPTMS and DPW-ENRMD-CB reviewed SEMP monitoring Tasks 1-1.2, 1-1.7, 1-2.3 and 1-2.7, with key discussion points regarding the last three tasks presented above.

In connection with preparation of watershed management plans (WMPs), in FY15-16 Conservation Branch will conduct field inspections of areas depicted in red in the maps of bare/sparsely vegetated areas to evaluate the reason(s) for a reduction in vegetative cover and to determine whether or not corrective actions are needed at each location. Where necessary, DPTMS will be consulted to determine the reason(s) for the underlying problem and the need for action.

The results of those evaluations will be documented in the watershed condition components of the WMPs. Recommended corrective actions will be presented to ITAM and/or DPW-ENG for concurrence/non-concurrence. ITAM and/or DPW-ENG will then program and implement the agreed upon action items during FY15-FY20.

The landscape analysis of change in the total acres of bare or sparsely vegetated areas will be repeated in FY19-20, with FY14 results used as a baseline of comparison.



# SEMP Objective 1-1, Task 1-1.7

## Percent Bare Ground



- **Objective 1-1:** Minimize or avoid degradation of training lands and long-term damage to soils, vegetation, streams and wetlands, and sensitive environmental resources through identification and correction of maneuver damages and soldier Sustainable Range Awareness education.
- **Validation Monitoring Question:** Is the maneuver damage inspection and repair program adequately identifying and repairing damages that need corrective action? Are maneuver damage inspection and repair procedures adequate?
- **Metric:** Percent bare ground for “sandbox” (SB) areas and forest maneuver (FM) areas
- **Targets:**

<b>Green</b> Upper 95% confidence limit of the median percent bare ground is < 20% SB / 5% FM	<b>Amber</b> Upper 95% confidence limit (CL) of the median percent bare ground is $\geq$ 20% SB / 5% FM, and the median percent bare ground is $\leq$ 20% SB / 5% FM	<b>Red</b> Median percent bare ground is > 20% SB / 5% FM
--	---	--



# Task 1-1.7 RCA Results – FY14

## Percent Bare Ground



### ➤ Background:

The existing monitoring Task 1-1.7 was adopted in June 2006 to track the median percentage of bare ground within “sandbox” and “forested maneuver” areas as a direct indicator of training land condition and indirect indicator of the effectiveness of the maneuver damage identification and repair program.

Field sampling for percent bare ground had been conducted across the installation at designated points by summer crews under the Range and Training Land Assessment (RTLTA) component of the Integrated Training Area Management (ITAM) program.

Percent bare ground was reported in 9 years (FY06 - FY13) and the result was “Green” in 6 and “Amber” in 3 of those years.





# Task 1-1.7 RCA Results – FY14

## Percent Bare Ground



- RR01/RR02: Funds for environmental-related activities are not sufficient; staffing levels for environmental-related activities are not sufficient.
  - Problem: The ITAM program discontinued sampling for percent bare ground as of summer 2012 (the final sampling year) due to changes in program direction. The results for bare ground sampling conducted in Summer 2012 were reported in FY13. Funding for RTLA summer field crews to conduct bare ground and other sampling was not sought under the ITAM program for subsequent program years, and no data are available for this measure for FY14.



# Task 1-1.7 RCA Results – FY14 Cont.

## Percent Bare Ground



- Solutions: A working group comprised of representatives from DPTMS and DPW-ENRMD-CB reviewed the existing monitoring question, monitoring task and desired ITAM program direction as expressed by the program Coordinator.

Options discussed included 1) the addition of funds for limited field vegetation sampling, to include bare ground, in future ITAM funding requests; 2) other potential sources of funding for bare ground sampling, specifically Conservation Branch funding requests; and 3) replacement of the existing metric with a new measure.

The working group recommended that a new metric be proposed to the Oversight Committee for adoption, as follows:

*The number of new LRAM and/or DPW Work Request/4283 erosion control projects identified annually, with 5 or fewer projects representing “Green” performance, 5 to 15 projects representing “Amber,” and greater than 15 projects representing “Red.”*



# Proposed Revision to Task 1-1.7: Percent Bare Ground



- **Current Metric (Approved June 2006)**– Percent bare ground for “sandbox” (SB) areas and forest maneuver (FM) areas
- **Monitoring Level** – Validation
- **Reporting Frequency** – Annual
- **Performance Targets** –
  - **Green**: Upper 95% confidence limit of the median percent bare ground is < 20% SB / 5% FM
  - **Amber**: Upper 95% confidence limit (CL) of the median percent bare ground is  $\geq 20\%$  SB / 5% FM, and the median percent bare ground is  $\leq 20\%$  SB / 5% FM
  - **Red**: Median percent bare ground is  $> 20\%$  SB / 5% FM



# Proposed Revision to Task 1-1.7: Number of LRAM Erosion Control Projects



- **Proposed Replacement Metric** – Number of new Land Rehabilitation and Maintenance (LRAM) and/or DPW Work Request/4283 erosion control projects identified annually
- **Monitoring Level** – Validation
- **Reporting Frequency** – Annual
- **Performance Targets** –
  - **Green:**  $\leq 5$  new LRAM and/or DPW Work Request/4283 erosion control projects identified
  - **Amber:**  $> 5$  and  $\leq 15$  new LRAM and/or DPW Work Request/4283 erosion control projects identified
  - **Red:**  $> 15$  new LRAM and/or DPW Work Request/4283 erosion control projects identified

*Approved by Oversight Committee 23 April 2015.*