Ministry of Forests, Lands and Natural Resource Operations

Using RESULTS Data as a MSYT Input

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February 21, 2017

Background

- Commitment Made at NSC Winter Workshop 2016

- To expand and more directly utilize RESULTS data in TSR.

- Collaborative effort between FAIB and RPB

- By March 31, 2017

The Project Team

▶ Forest Analysis and Inventory Branch:

- Hubert Burger – Senior Analyst (TSAs)

- Dave Waddell – Modeling Forester
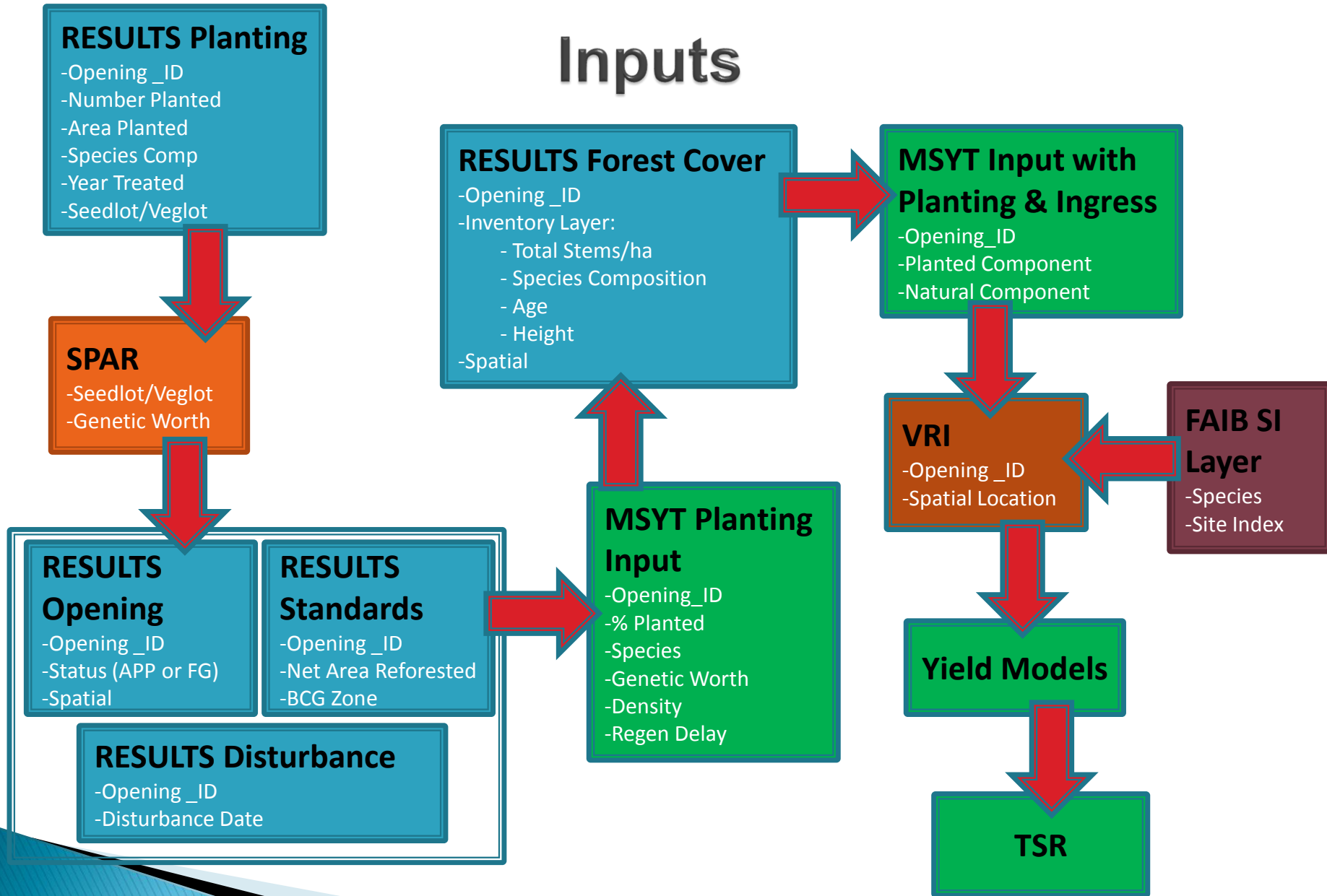
▶ Resource Practices Branch:

- Dan Turner – Forest Management Analyst

- Greg Jorgenson (the new Weaver) – Silviculture Performance Assmt. Specialist

Example

- TFL 47
- Logged 2005
- Planted 2006
- FG Survey 2015

Species	Density (Stems/ha)			
	Planting	Inventory	Ingress	Silviculture (FG)
Cw	214	235	21	73
Fdc	834	942	108	703
Hw		1,177	1,177	32
Total	1,048	2,354	1,306	808

Inputs

RESULTS Planting
-Opening _ID
-Number Planted
-Area Planted
-Species Comp
-Year Treated
-Seedlot/Veglot

SPAR
-Seedlot/Veglot
-Genetic Worth

RESULTS Opening
-Opening _ID
-Status (APP or FG)
-Spatial

RESULTS Standards
-Opening _ID
-Net Area Reforested
-BCG Zone

RESULTS Disturbance
-Opening _ID
-Disturbance Date

RESULTS Forest Cover
-Opening _ID
-Inventory Layer:
    - Total Stems/ha
    - Species Composition
    - Age
    - Height
-Spatial

MSYT Planting Input
-Opening_ID
-% Planted
-Species
-Genetic Worth
-Density
-Regen Delay

MSYT Input with Planting & Ingress
-Opening_ID
-Planted Component
-Natural Component

VRI
-Opening _ID
-Spatial Location

FAIB SI Layer
-Species
-Site Index

Yield Models

TSR

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Sample Population

Regenerated Stands– Current Practice

Approaches:

1. Old harvested stands
   - Natural regime, no GW, usually aggregated
2. Newly harvested stands
   - Planted regime, GW, usually aggregated
3. Future managed stands
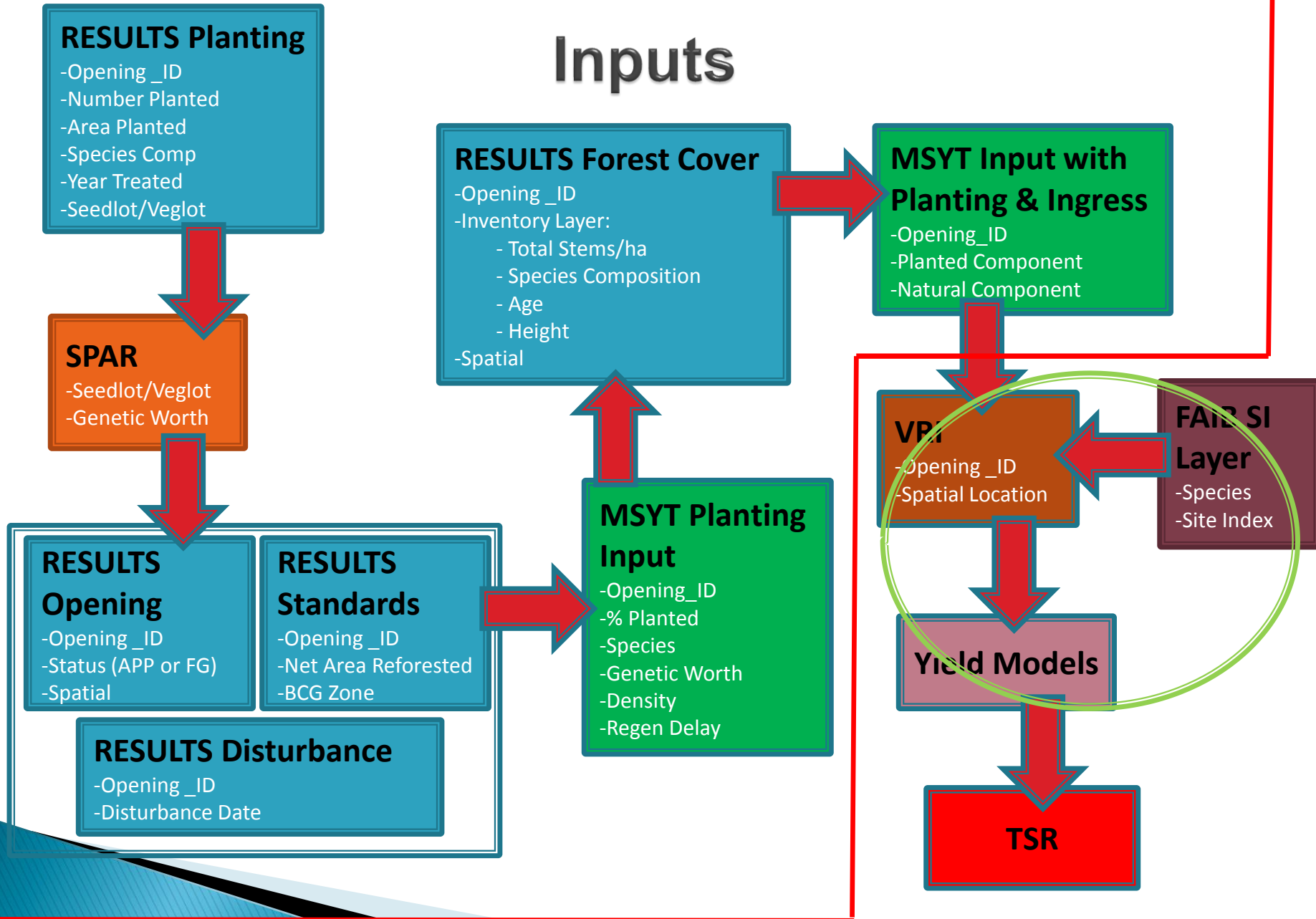   - Planted, GW, based on previous species (aggregated)

Regenerated Stands– Future Practice

▸ Data (periodically) extracted from RESULTS

▸ The output is yield curve inputs for all managed even-aged stands

◦ Components – planted species, natural species (ingress), genetic worth, planted density, natural density, regen delay, % planted

Challenges

- Data from multiple sources and eras

- Summary of opening level trends (not SU/Stratum level)

  - Σ(opening treatment amount) ~= NAR

- Fill plants and replants -> over planting

- Residual overstory

- Spatial distribution of planted and natural stems

- Linkage to the VRI (timing of updates)

Inputs

RESULTS Planting
- Opening _ID
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- Species Comp
- Year Treated
- Seedlot/Veglot

SPAR
- Seedlot/Veglot
- Genetic Worth

RESULTS Opening
- Opening _ID
- Status (APP or FG)
- Spatial

RESULTS Standards
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- Disturbance Date

RESULTS Forest Cover
- Opening _ID
- Inventory Layer:
  - Total Stems/ha
  - Species Composition
  - Age
  - Height
- Spatial

MSYT Planting Input
- Opening_ID
- % Planted
- Species
- Genetic Worth
- Density
- Regen Delay

MSYT Input with Planting & Ingress
- Opening_ID
- Planted Component
- Natural Component

VRI
- Opening _ID
- Spatial Location

FAIB SI Layer
- Species
- Site Index

Yield Models

TSR

# Next Steps

- Review and testing of the proposed MSYT inputs:
    - Implications to TASS
    - Integration with VRI
    - Integration into TSR data review process
        - Application of local knowledge
        - RESULTS updates / corrections
- Supporting Initiatives:
    - Monitoring (YSM, CMI, SDM)
    - TASS III
    - Improving the RESULTS – VRI linkage (the Opening_ID)
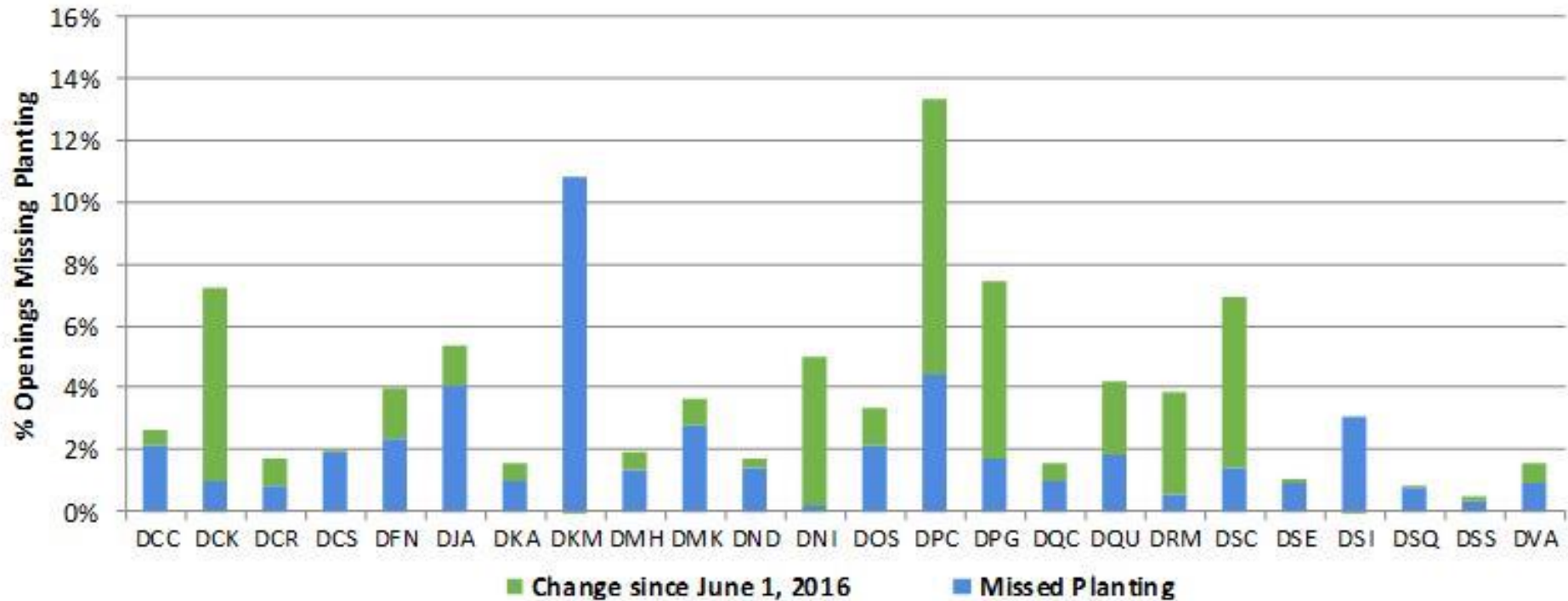   - RESULTS Monitoring and QA – improving reporting

RESULTS Monitoring and QA

RESULTS Openings with Identified Data Quality Issues Since Feb 2012
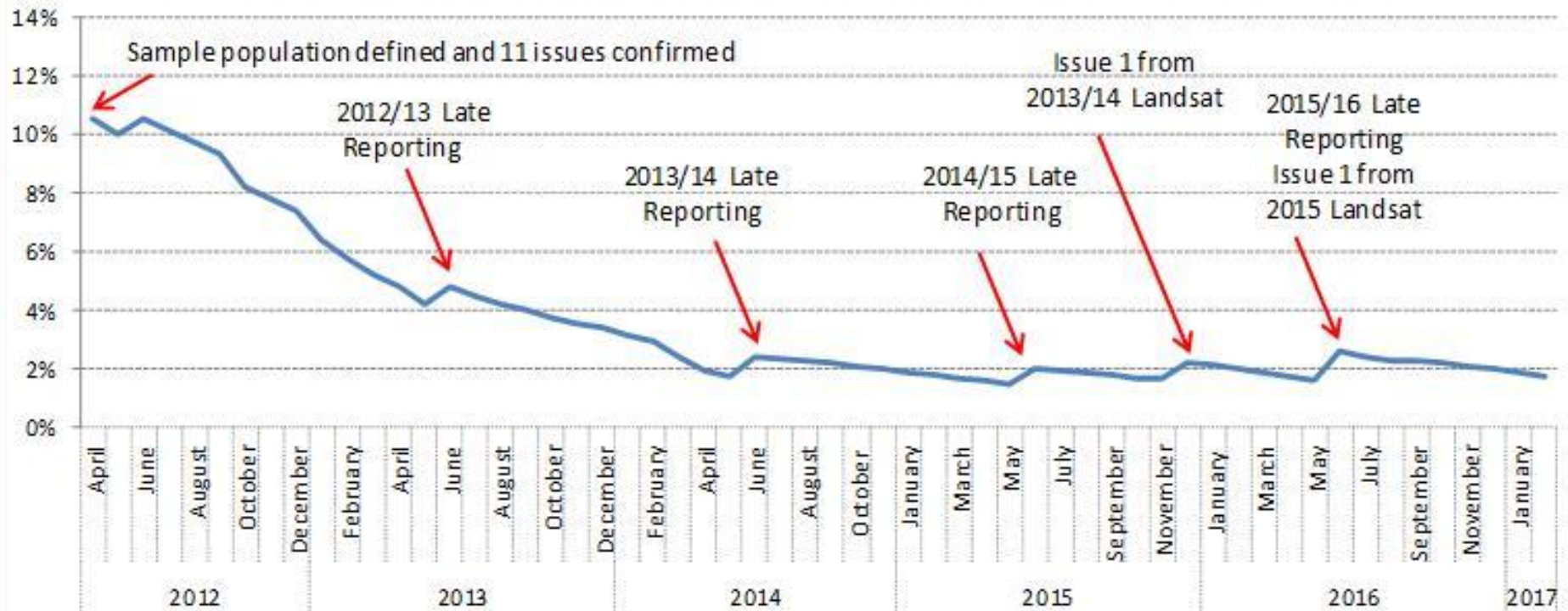
RESULTS Monitoring and QA

Missed Planting Reporting: % of Priority Openings by District

Questions?

RESULTS Data– Where it fits