



ICAO

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North American, Central American and Caribbean Office

WORKING PAPER

E/CAR/DCA/26 — WP/21
02/11/15

**Twenty-sixth Directors of Civil Aviation of the Eastern Caribbean Meeting (E/CAR/DCA/26)
New Orleans, United States, 1 - 3 December 2015**

- Agenda Item 6: Air Navigation Matters**
6.1 GREPECAS Update
6.1.2 Review of GREPECAS Air Navigation Deficiencies Database (GANDD)

USAGE AND SAFETY BENEFITS GAINED BY THE GREPECAS AIR NAVIGATION DEFICIENCIES DATABASE GANDD

(Presented by United States)

EXECUTIVE SUMMARY

This working paper (WP) illustrates how implementation of a GANDD methodology rectified reported AGA deficiencies for Runway End Safety Areas and Runway Strips standards and recommended practices prescribed by Annex 14, Volume I.

In general, strategic application as to the *reasons for a deficiency* can yield safety gains in the CAR/SAM Regions as verified by the **Appendix** to this WP.

Because of the safety gains offered by the GANDD, this WP requests that continued emphasis be placed on the type of data reported for the GANDD and that ICAO Regional offices continue site evaluations of international aerodromes. Furthermore, it emphasizes that member States and users of international aerodromes continue their reporting of deficiencies, with member States including action plans to rectify a deficiency.

Action:	See suggested actions in Paragraph 3.
<i>Strategic Objectives:</i>	<ul style="list-style-type: none">• Safety
<i>References:</i>	<ul style="list-style-type: none">• Annex 14, Volume I, Aerodrome Design and Operations

1. Introduction

1.1 Regional air navigation deficiencies are reported by States and Industry in the GREPECAS Air Navigation Deficiencies Database (GANDD). In order to most effectively use the information provided in the GANDD to rectify aerodrome deficiencies, GREPECAS has tasked the AGA/AOP/Study Group with membership from the CAR and SAM Regions. To address this tasking, the AGA/AOP/SG created special task groups that focused on a particular deficiency.

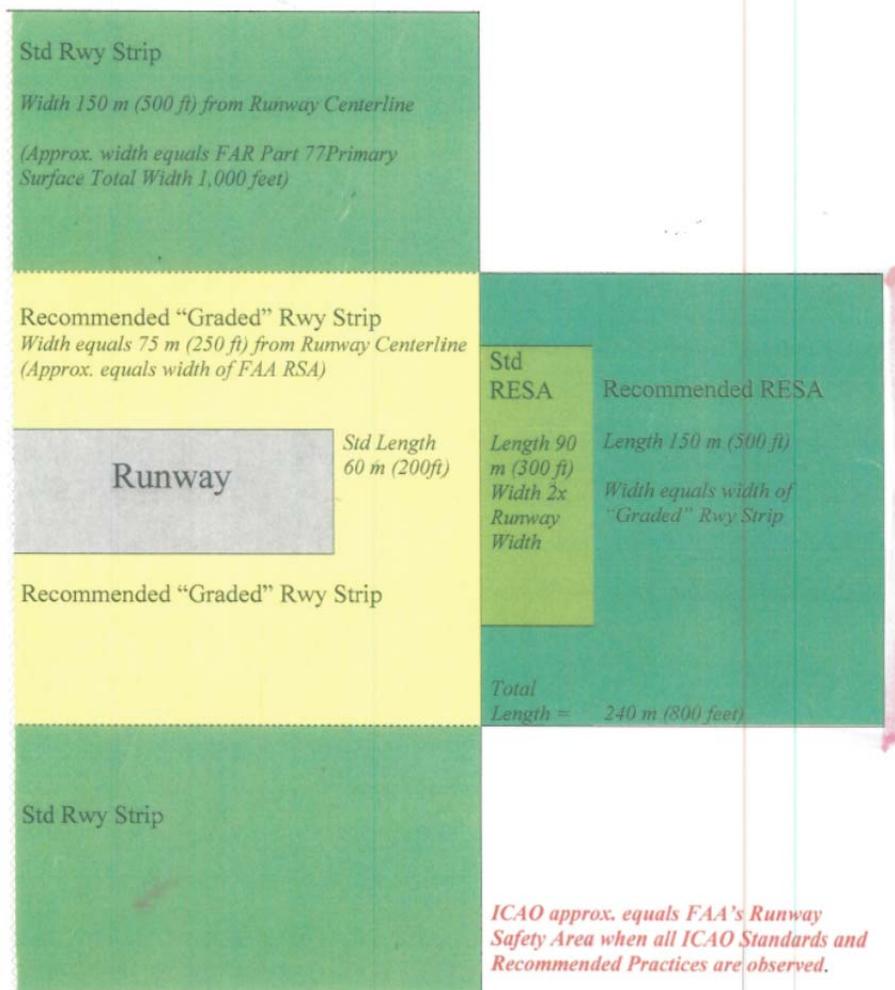
1.2 In particular, one task group focused on how to assist the CAR/SAM Regions to eliminate non-standard Runway End Safety Areas and non-standard Runway Strips as prescribed by Annex 14, Volume I (see figure below). The GANND provided the principal data and tools that led to the desired safety gains. The principal tools were:

- (1) Reporting the specific paragraph under Annex 14, Volume I that was not achieved,
- (2) Identifying the specific parameter(s) that were not achieved, and
- (3) Stating the specific reason(s) that caused the non-compliance

Dimensional Standards and Recommendations for ICAO Runway Strip and Runway End Safety Area (RESA).

Reference: ICAO ANNEX 14, Volume I, for Approach Categories 3 and 4 airplanes (FAA approach categories C & D).

NOT TO SCALE



1.3 Attachment A graphically illustrates how this AGA/AOP/SG task force successfully applied a GANDD methodology to analyse and determine mitigation efforts to resolve deficiencies. Of importance, the attachment shows how two particularly difficult deficiencies by categorizing the various root causes for non-compliance lead to manageable solutions.

2. **Conclusion**

2.1 The GANDD is an exceptional tool that is underutilized. By following the prescribed methodology, the tool becomes relevant and can assist States in decreasing deficiencies and potentially increasing their effective implementation (EI) scores for the ICAO Universal Safety Oversight Audit Program (USOAP). While other regions have similar deficiency databases, the GANDD is the most mature.

2.2 Given the success and further potential of the GANDD and similar databases, the United States intends to seek support for a global version regional deficiency databases that will help all regions to conduct further analysis and mitigate deficiencies. Using high level USOAP data along with a deficiency database, ICAO, States and Industry can better assist in increasing safety and effective implementation of ICAO standards.

3. **Actions by the group**

3.1 The Meeting is invited to:

- a) Note of the contents of this working paper;
 - b) Place greater emphasis on reporting more prescriptive information as mentioned in paragraph 1.2;
 - c) Encourage ICAO Regional Offices to continue to work closely with interested parties to conduct more site evaluations of international aerodromes;
 - d) Urge member States to continue to report deficiencies per paragraph 1.2 and include action plans to rectify the deficiency; and,
 - e) Support the United States' objective to seek support for a global version of regional deficiency databases.
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APPENDIX

GANDD Methodology to Simplify AGA Deficiencies into Workable Solutions

1. The following graphs cover two AGA airfield deficiencies, namely the Runway End Safety Area (figures 1-4) and the Runway Strips (figures 5-8), that lack sufficient width or/and length as prescribed by Annex 14, Volume I.

2. The structure of the graphs is a categorization of the various root causes as reported in the GANDD. This application is a proven methodology to simplify AGA deficiencies into more manageable problems that yield workable solutions. Comparison graphs (figures 9 and 10) are used to develop regional strategies for the CAR Region and the SAM Region.

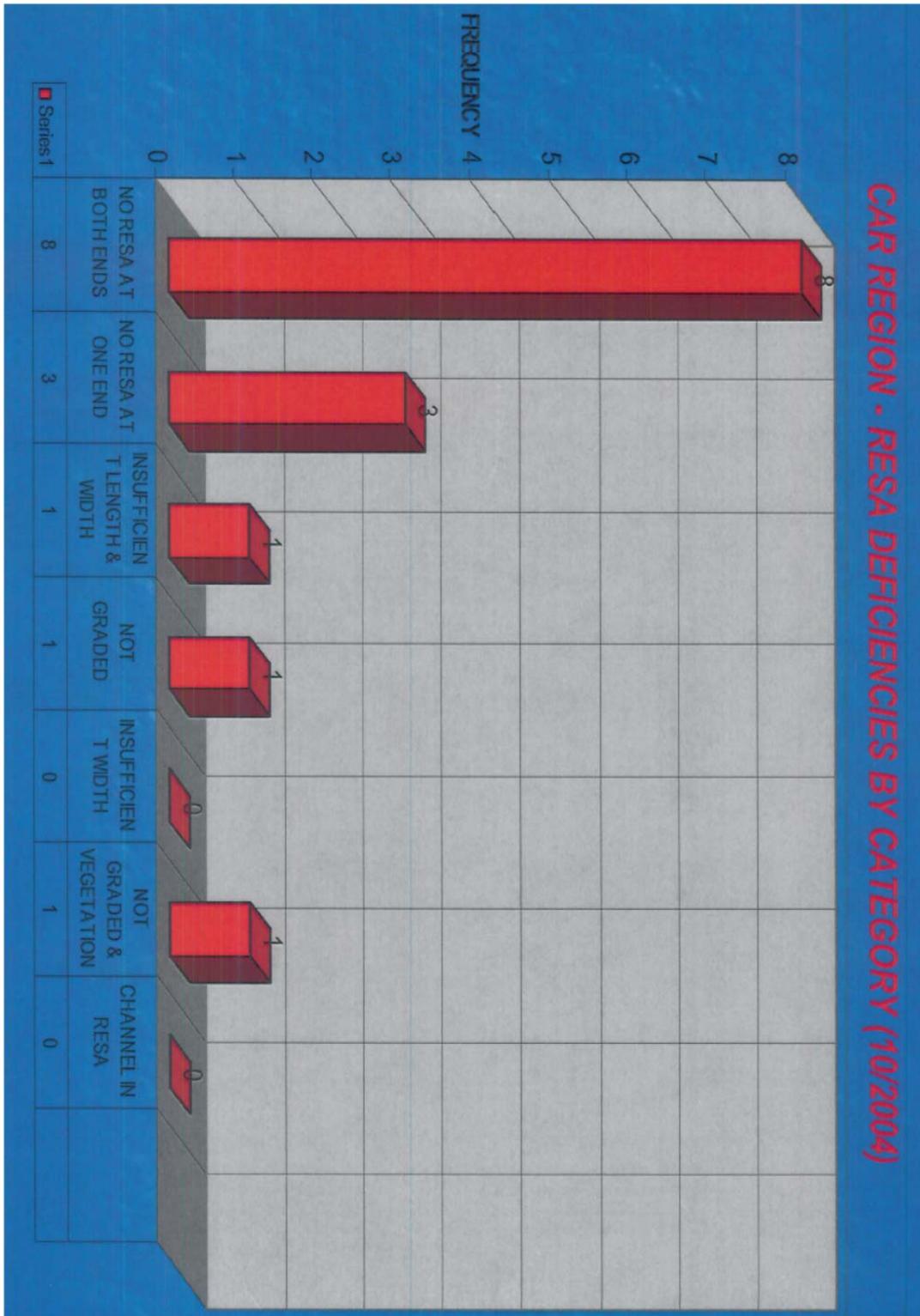


Figure 1 – CAR Region – RESA deficiencies by root causes (bar graph)

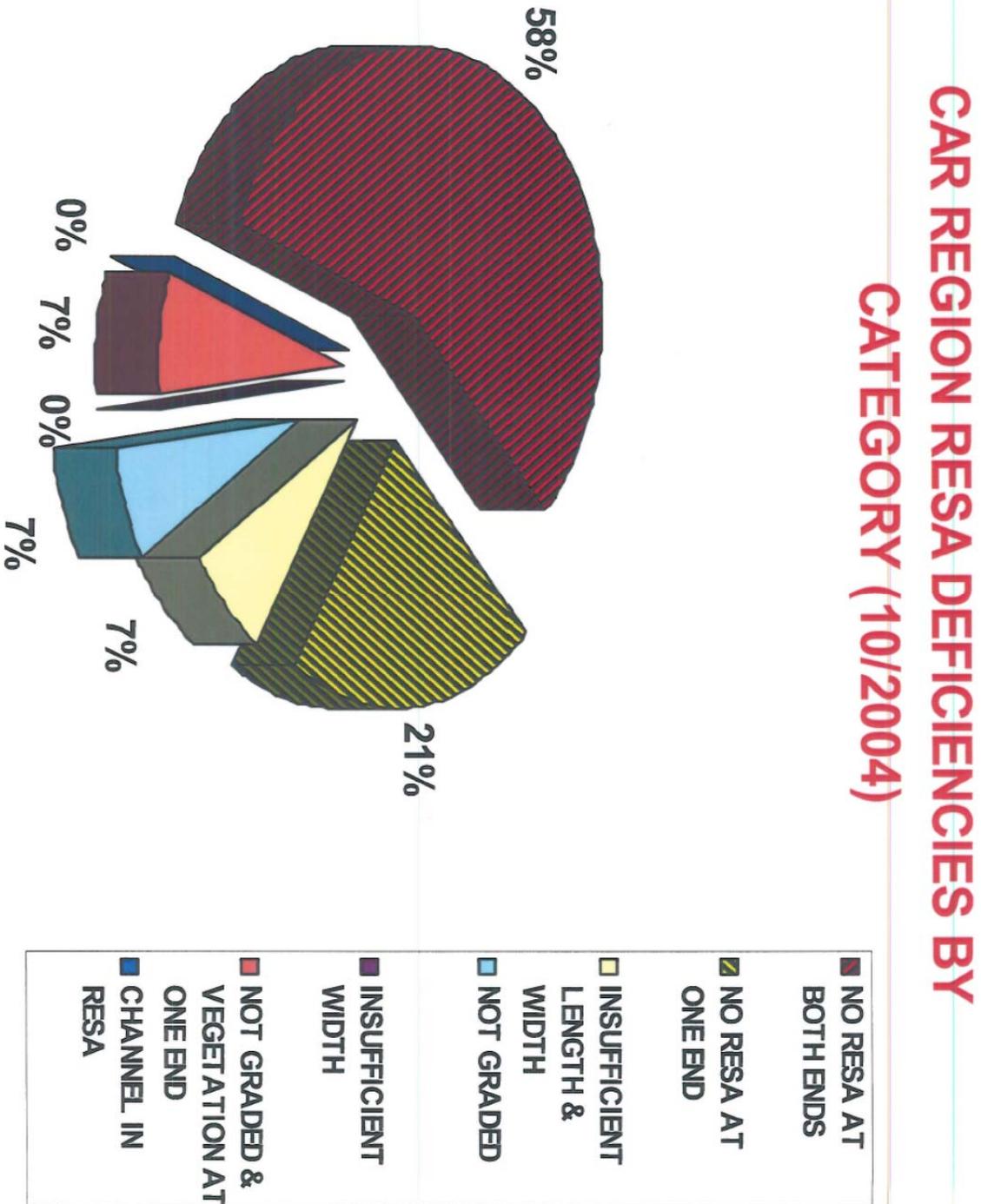


Figure 2 – CAR Region – RESA deficiencies by root causes (pie chart)

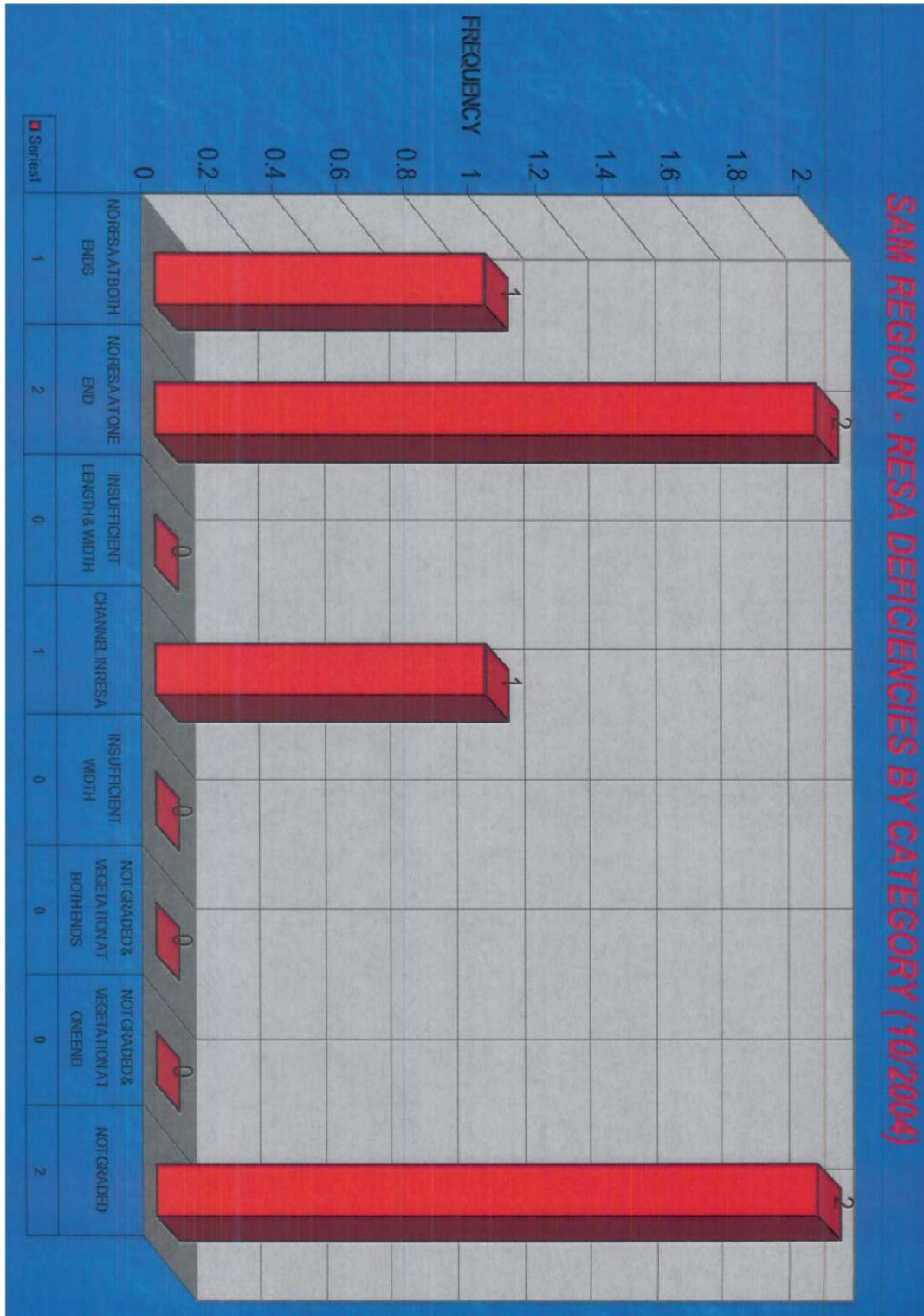


Figure 3 – SAM Region – RESA deficiencies by root causes (bar graph)

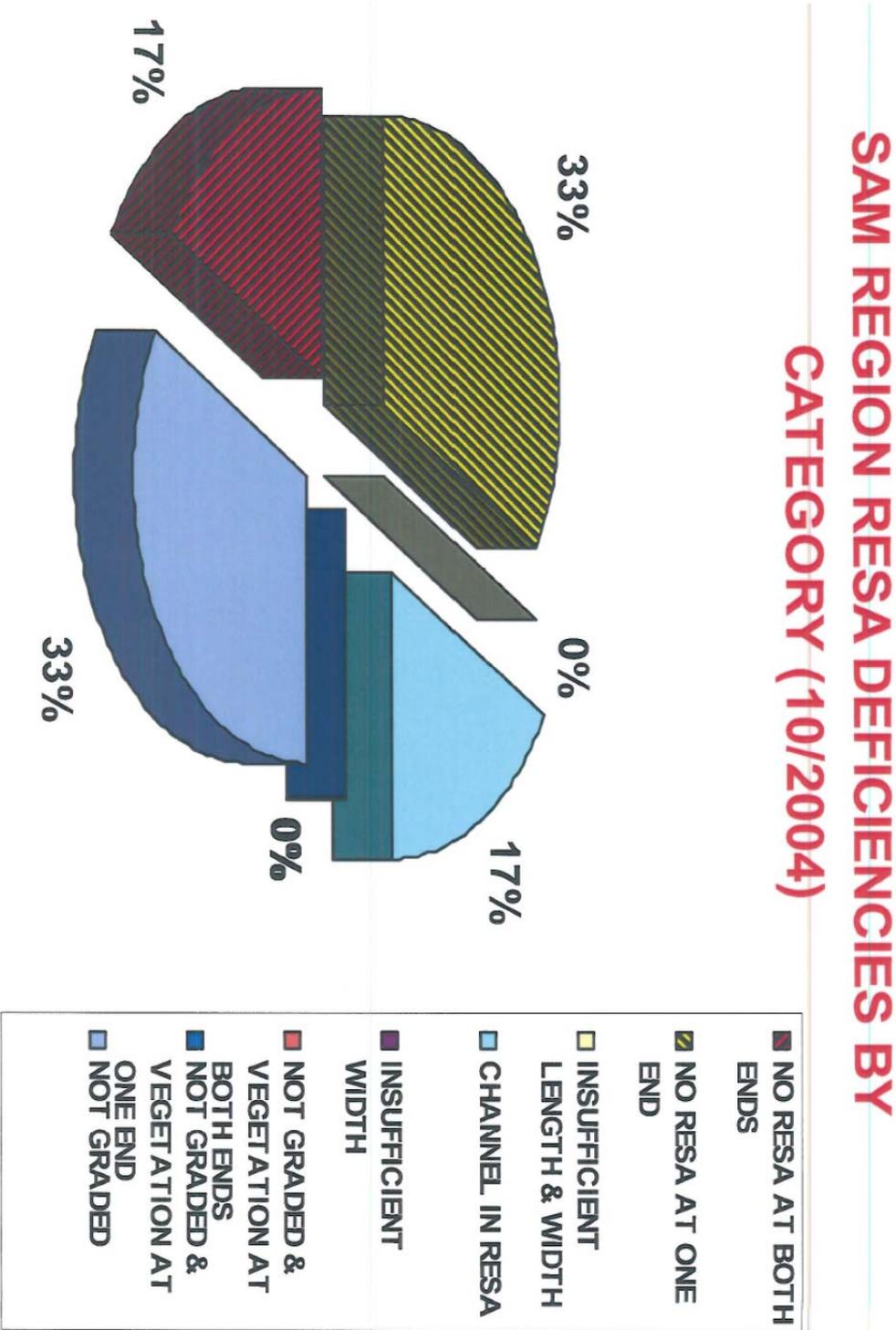


Figure 4 – SAM Region – RESA deficiencies by root causes (pie chart)

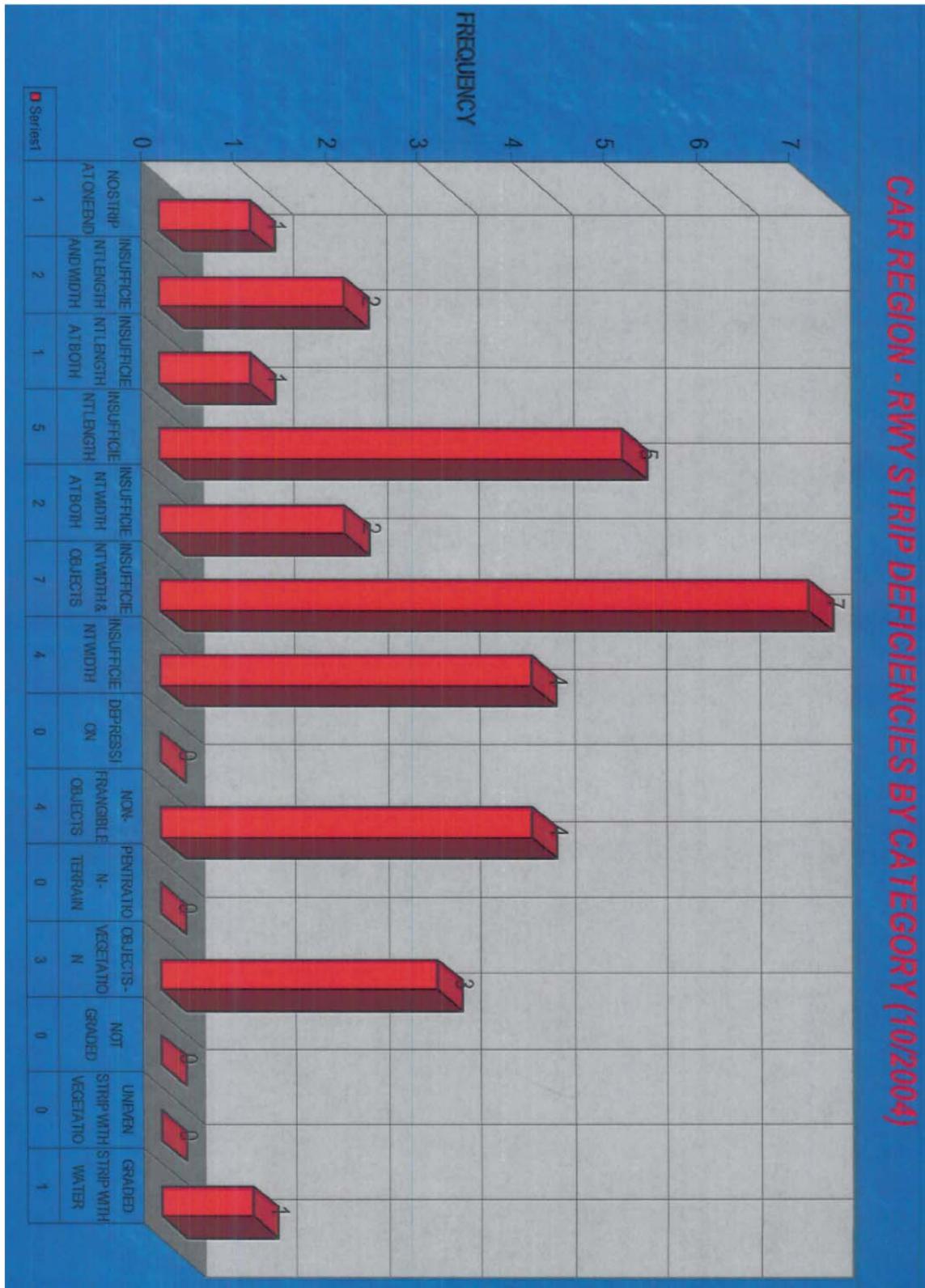


Figure 5 – CAR Region – Runway strip deficiencies by root causes (bar graph)

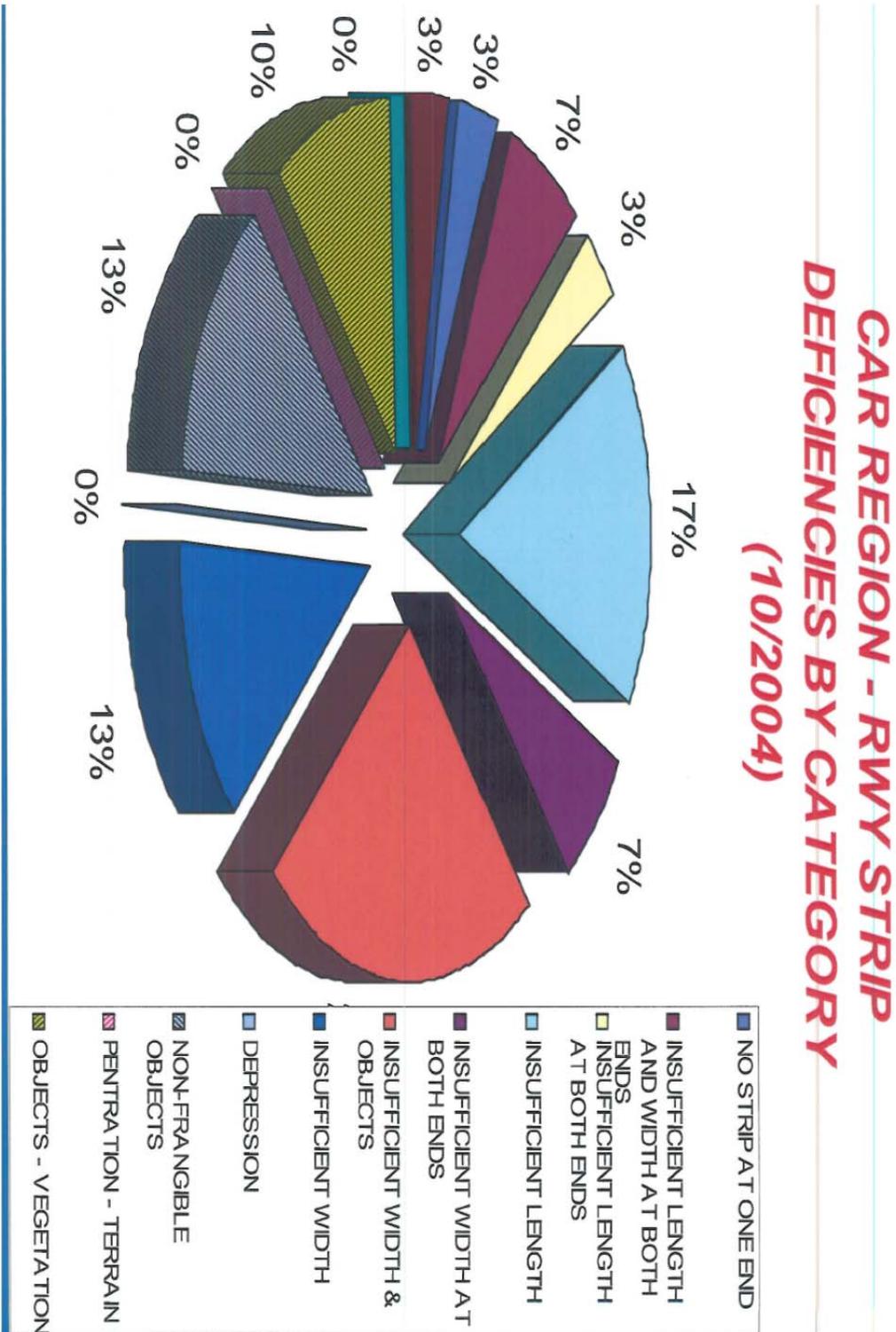


Figure 6 – CAR Region – Runway strip deficiencies by root causes (pie chart)

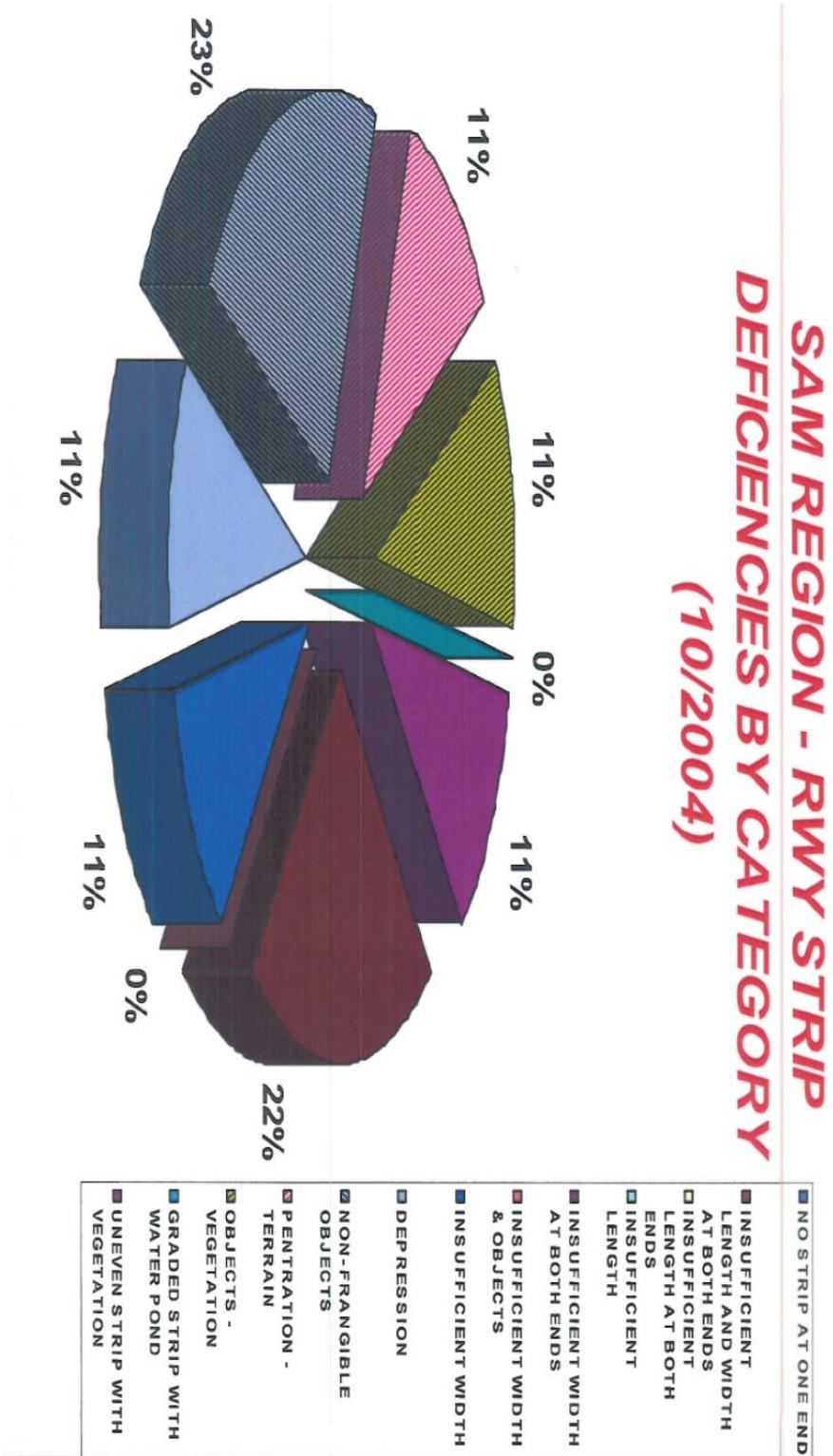


Figure 8 – SAM Region – Runway strip deficiencies by root causes (pie chart)

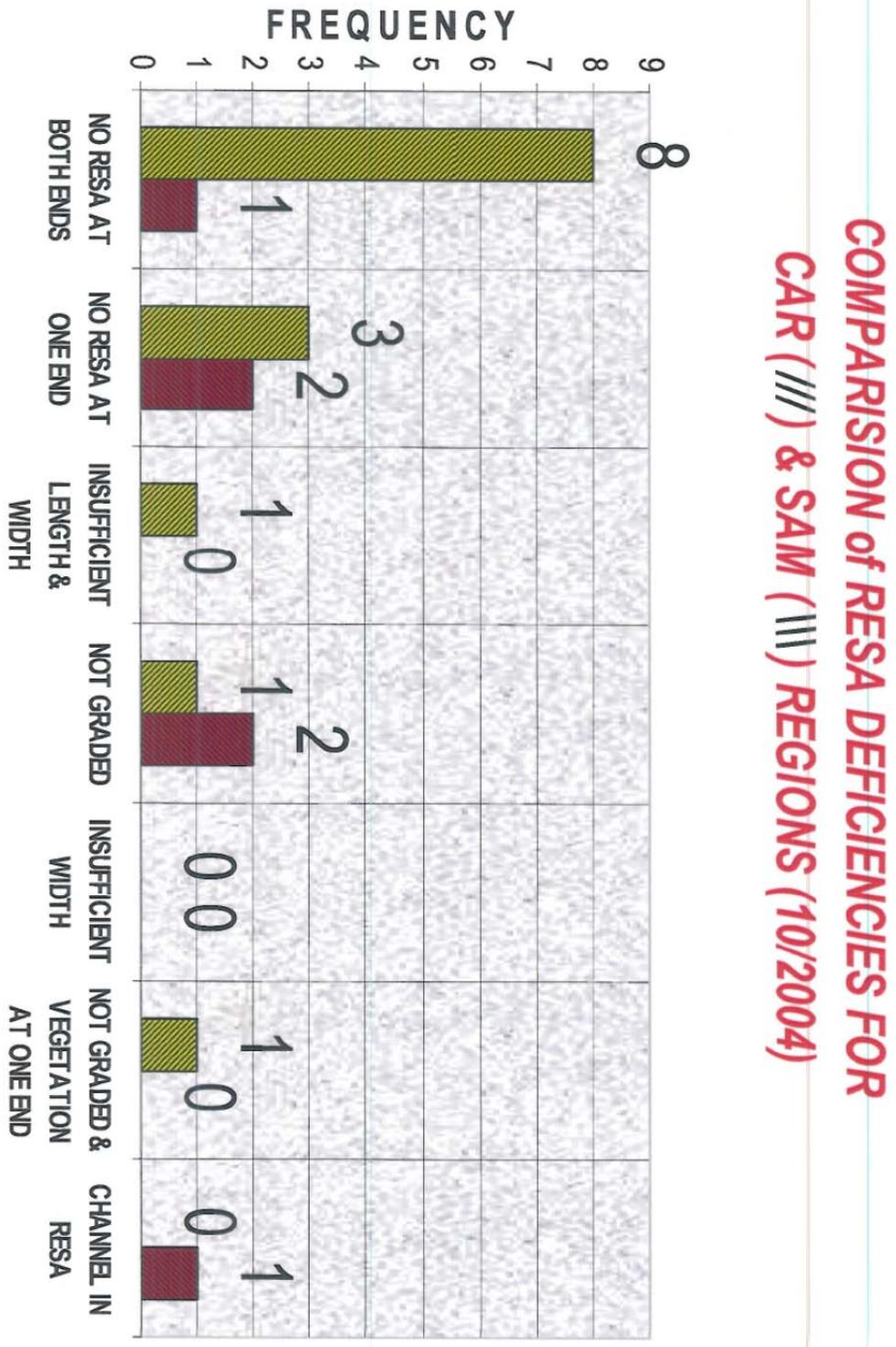
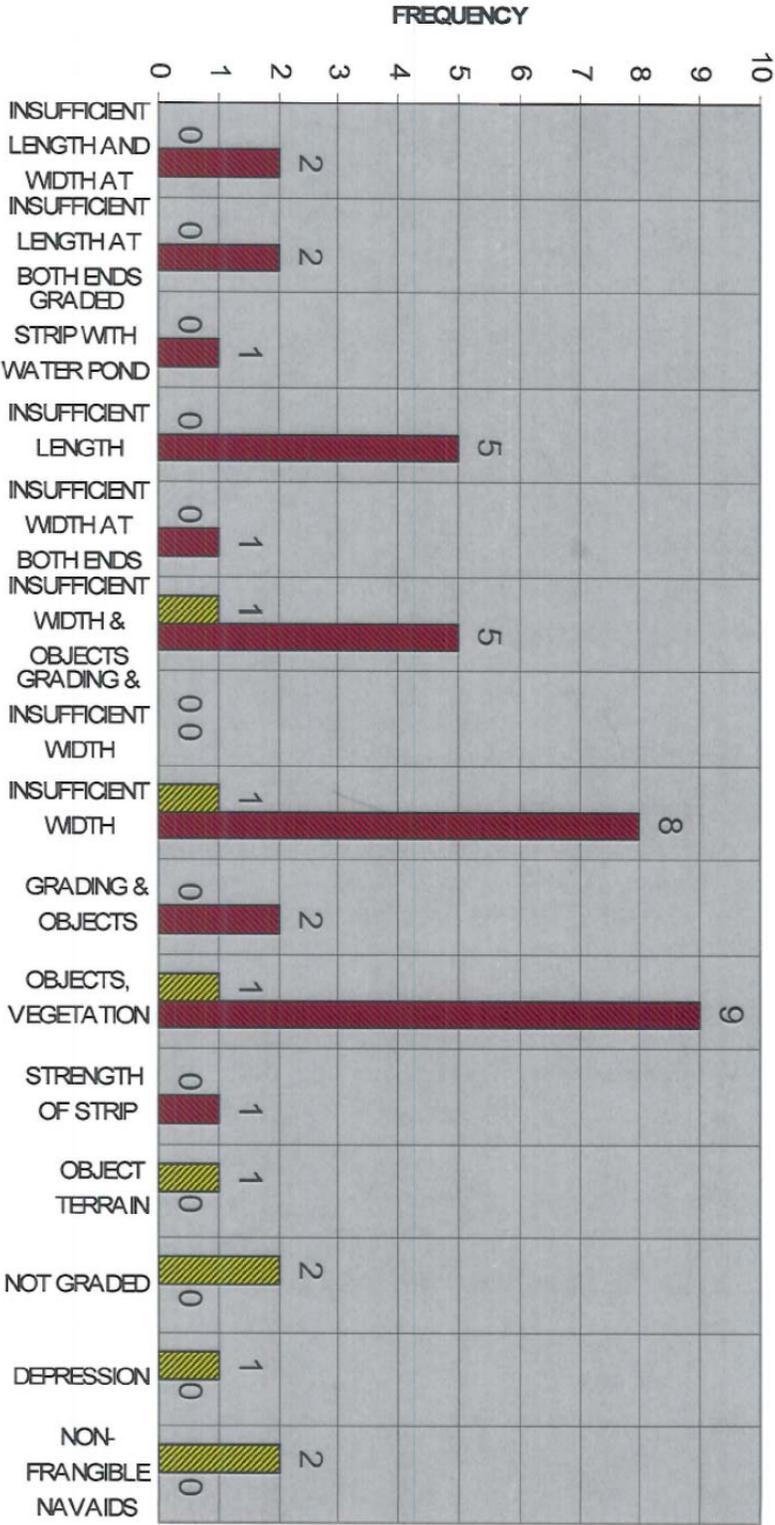


Figure 9 – Regional Comparison of RESA deficiencies by root causes (bar chart)



COMPARISON OF RWY STRIP DEFICIENCIES FOR CAR (///) & SAM (\\) REGIONS (10/2004)

Figure 10 – Regional Comparison of Runway strip deficiencies by root causes (bar chart)