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El Dorado County Board of Supervisors  
Folsom City Council

Mather Airport  
Standard Terminal Arrival Route  
(STAR)

Presented by

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in support of the  
Sacramento County Airport System

May 24, 2011



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solutions and  
service meet.

11-0453.H.1

## Today's Briefing

- A Collaborative Effort
- The Objective
- The Problem
- The Solution
- Benefits of the MHR STAR
- Desired Outcome
- Next Steps
- Questions

## A Collaborative Effort

- City of Folsom (Bruce Cline)
- El Dorado County (Jim Ware and Roger Trout)
- United Parcel Service (Captain Karl Blackmun)
- FAA Western Pacific Region (Bill Withycombe and Steve May)
- FAA Northern California TRACON (Patty Daniel)
- Sacramento County Airport System (Glen Rickelton)
- ESA Airports (Steve Alverson)

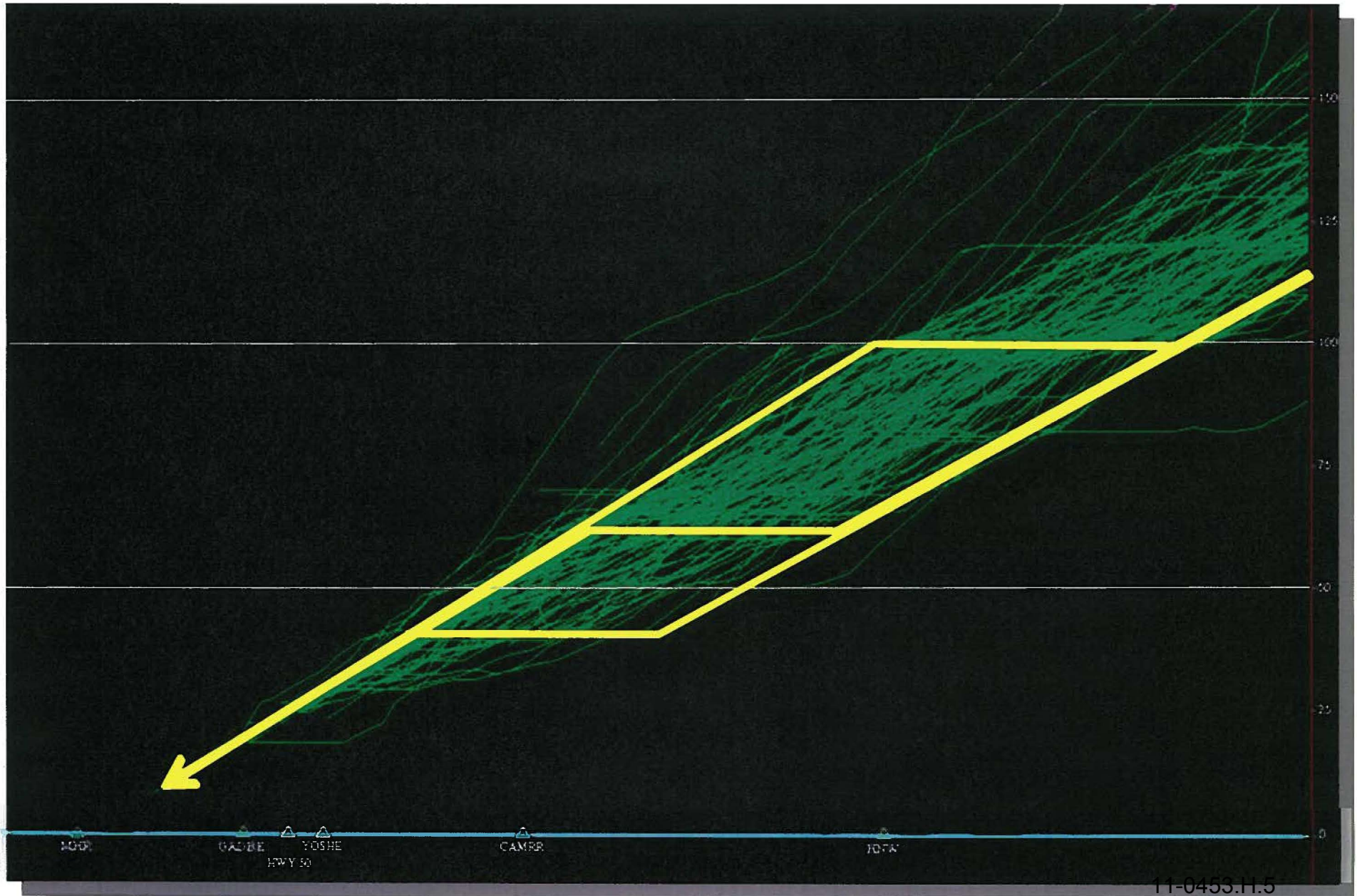


## Objective - Develop a published procedure that:

- Reduces noise under portions of the approach course
- Enhances safety and improves efficiency
- Reduces pilot workload
- Reduces controller workload
- Reduces distance flown and time in flight
- Reduces fuel consumption
- Reduces air emissions

**Predictable, reliable, and repeatable**

## The Problem: Step-down Approaches





## Step-down Approach Configuration



**Speed brakes deployed**

**Landing gear is down**

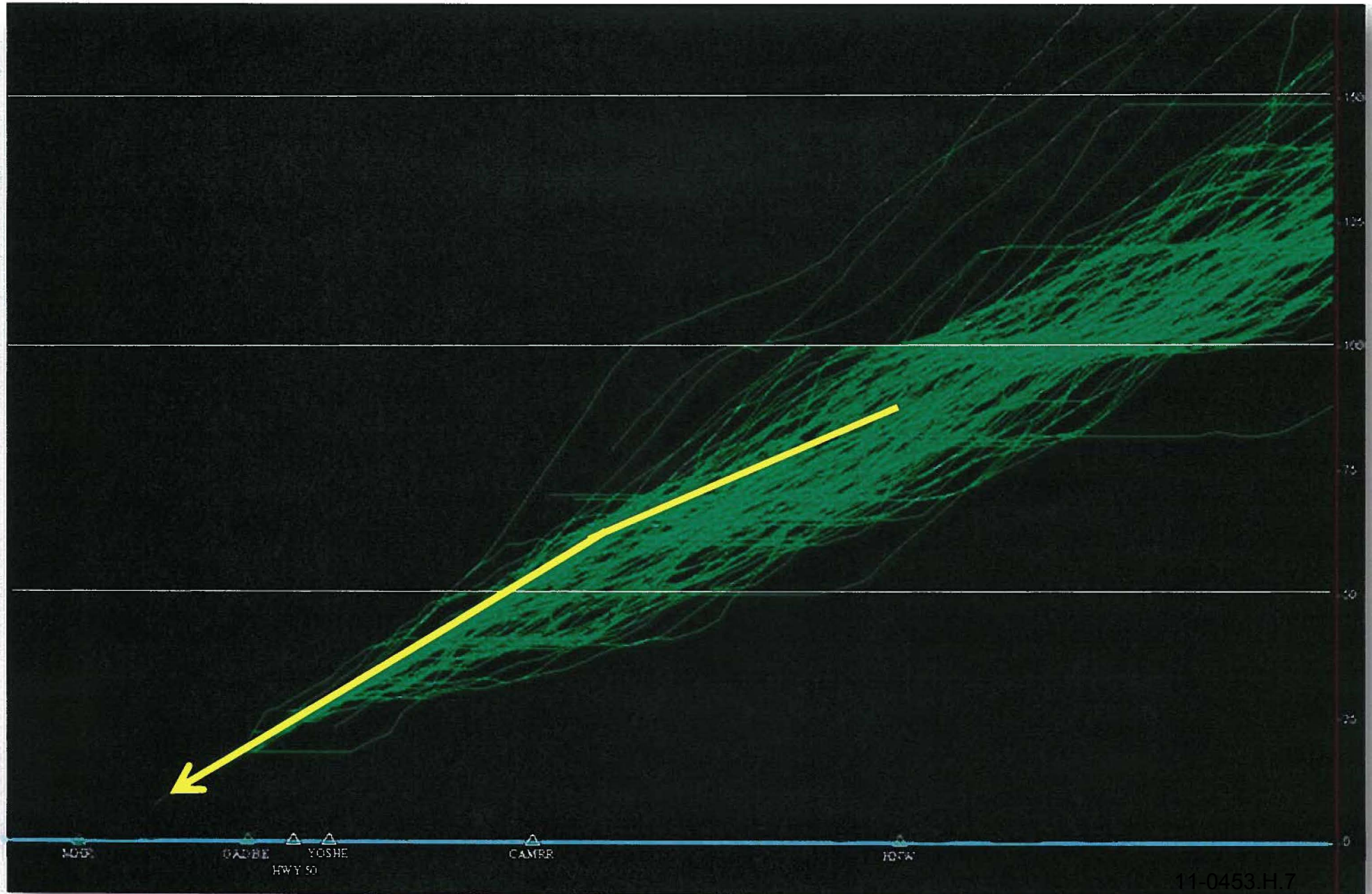
**Drag is increased**

**Thrust is up**

**Noise is increased**

**A “dirty” aircraft is a noisier aircraft**

## The Solution: Continuous Descent Approaches





## CDA Approach Configuration



**Speed brakes down**

**Landing gear is up**

**Drag is reduced**

**Thrust is at idle**

**Noise is reduced**

**A “clean” aircraft is a quieter aircraft**



# Sample Altitude Profile Comparisons

GADBE

CAMRR

HNW

## Optimum Altitude Profile

Actual Altitude Profiles  
from December 2010

8500 ft at Hangtown (HNW)

6100 ft at CAMRR

Altitude  
(100's ft)

From	To	Color
0	30	Red
30	40	Yellow
40	50	Green
50	60	Blue
60	70	Purple
70	999	Grey

Mather

GADBE

Folsom

El Dorado Hills

CAMRR

Cameron Park

HNW

Placerville

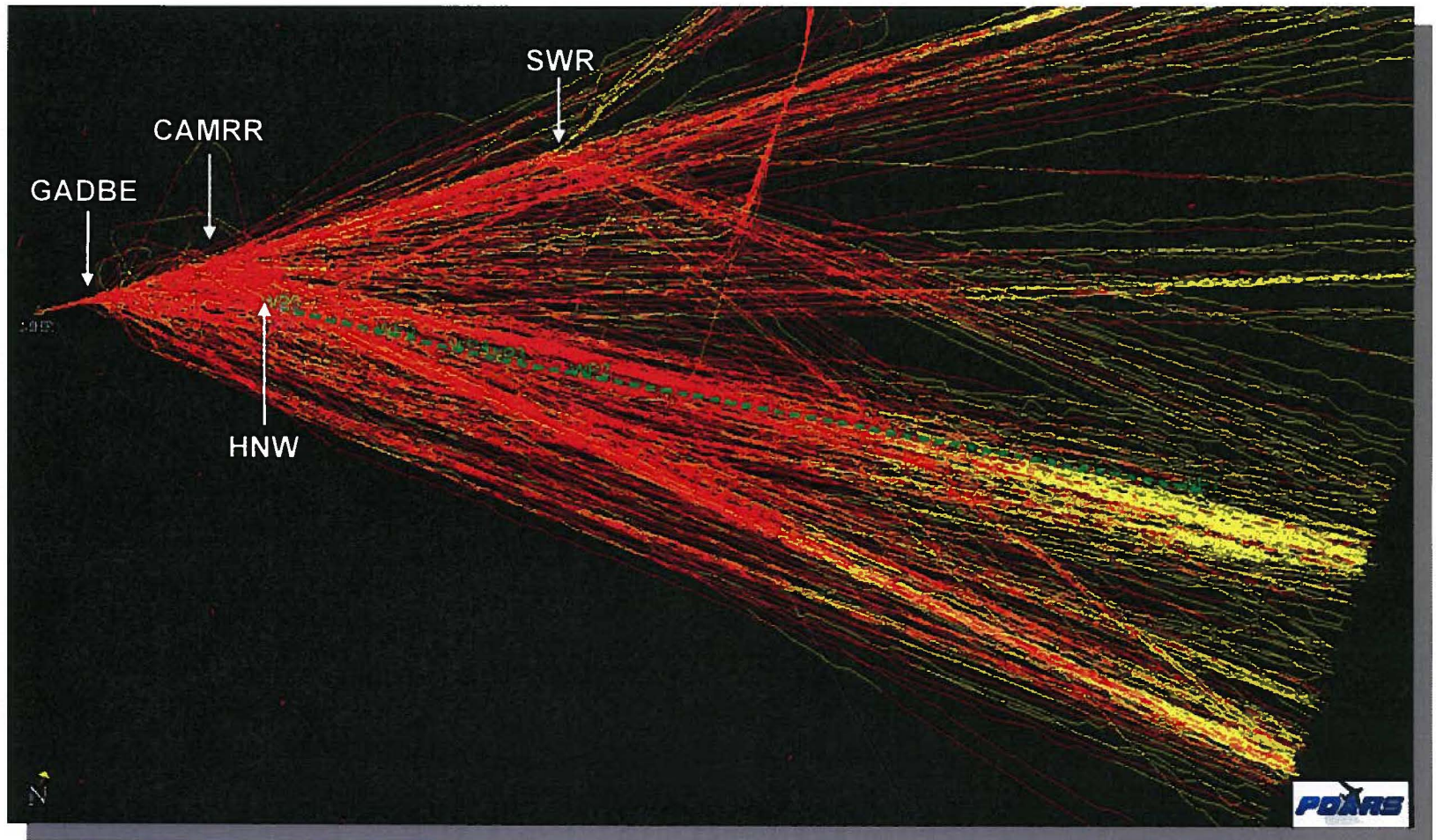
6,000 ft MSL

4,000 ft MSL

3,000 ft MSL

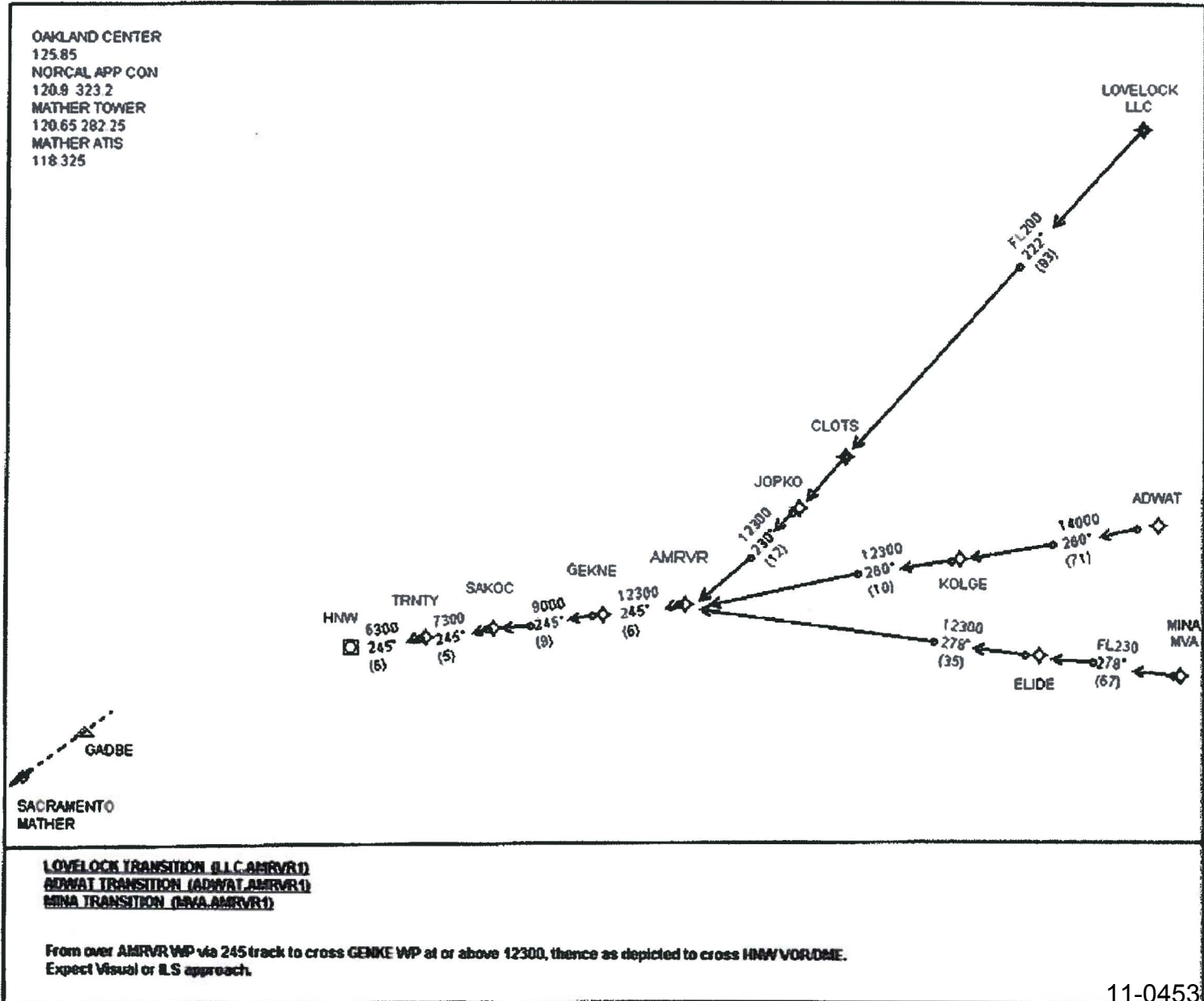


## UPS Flight Tracks into MHR, JUL – DEC 2010





## Proposed MHR AMRVR RNAV STAR



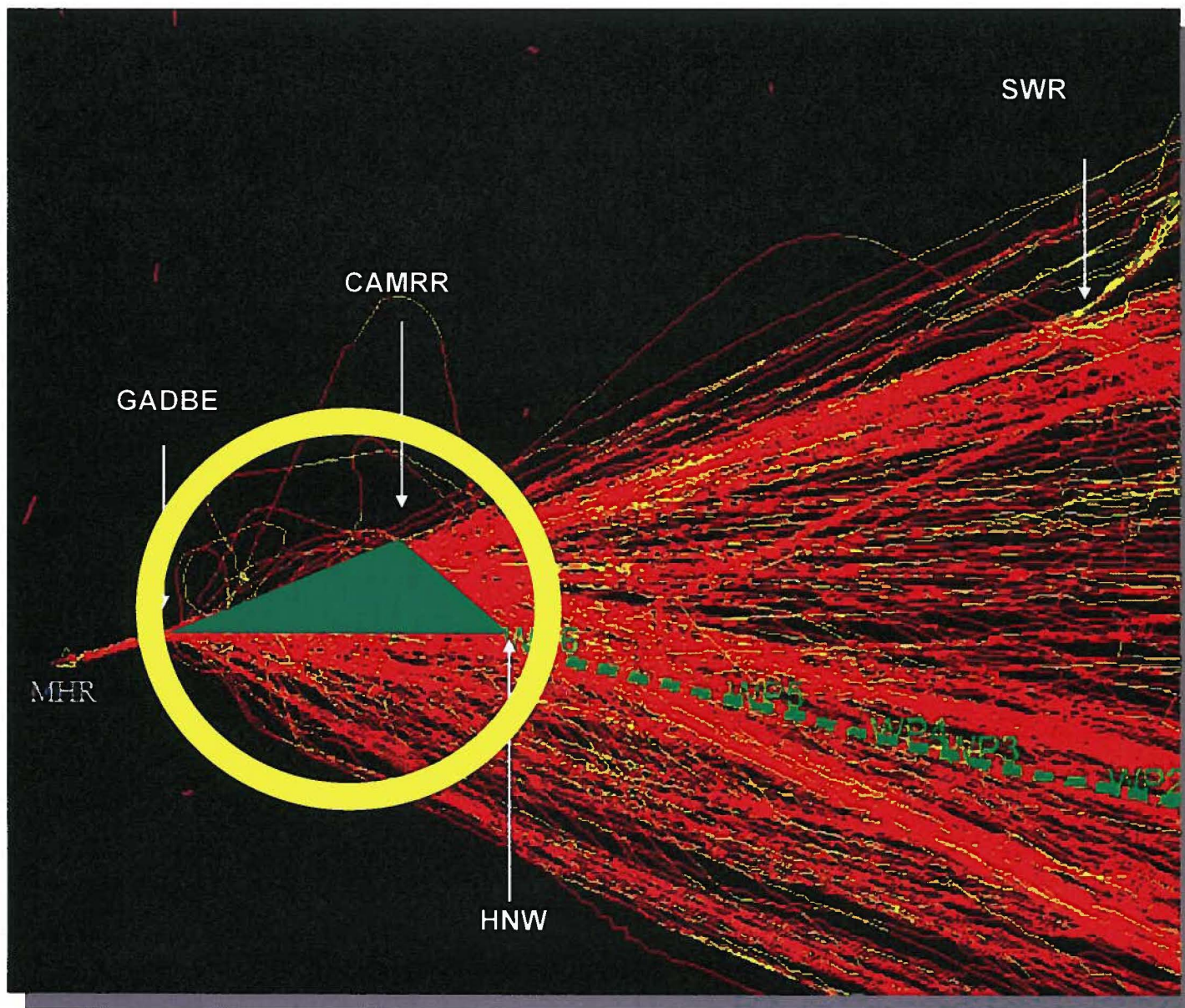


## Proposed MHR AMRVR RNAV STAR



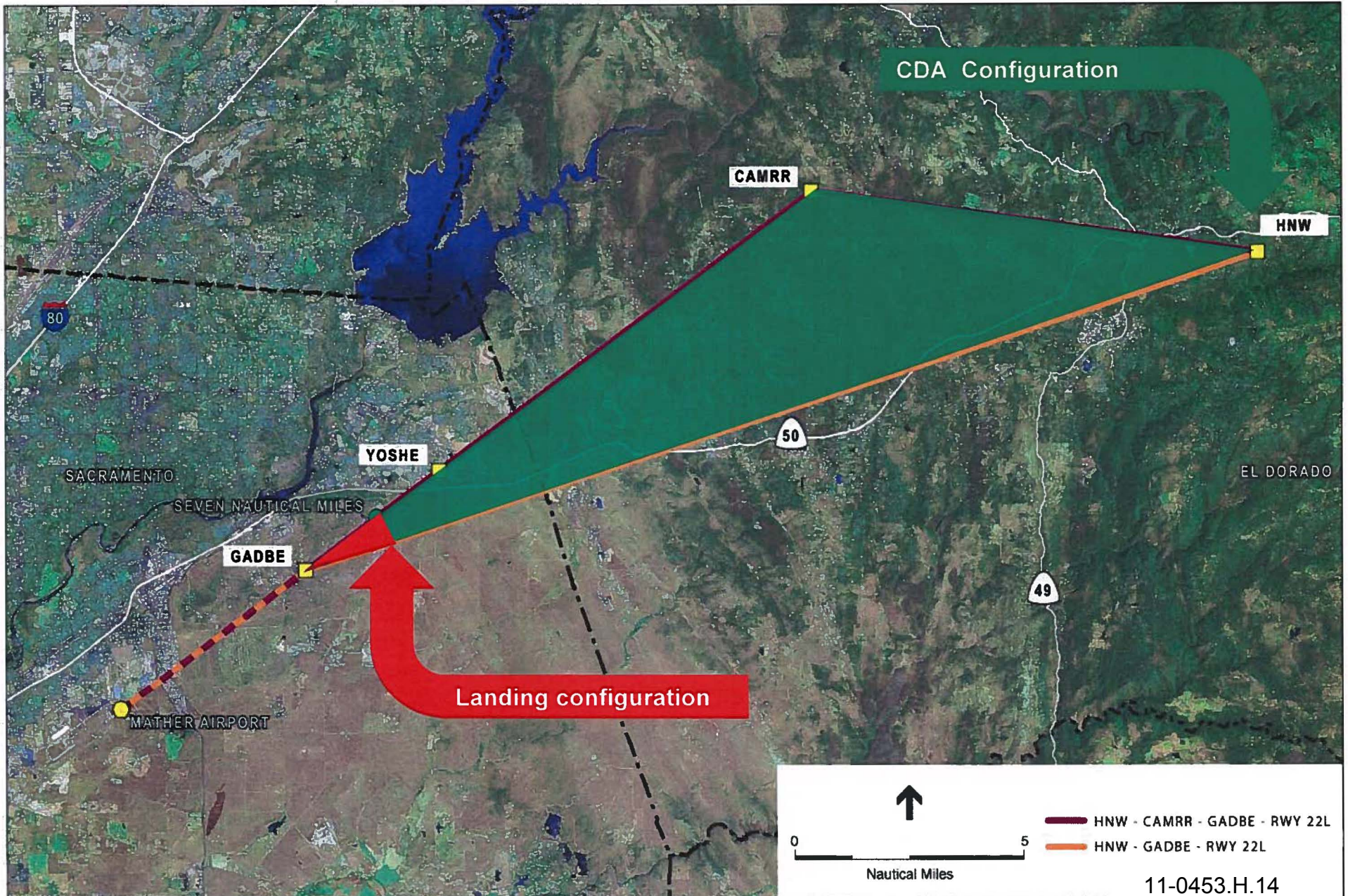


## UPS Flight Tracks into MHR, JUL – DEC 2010



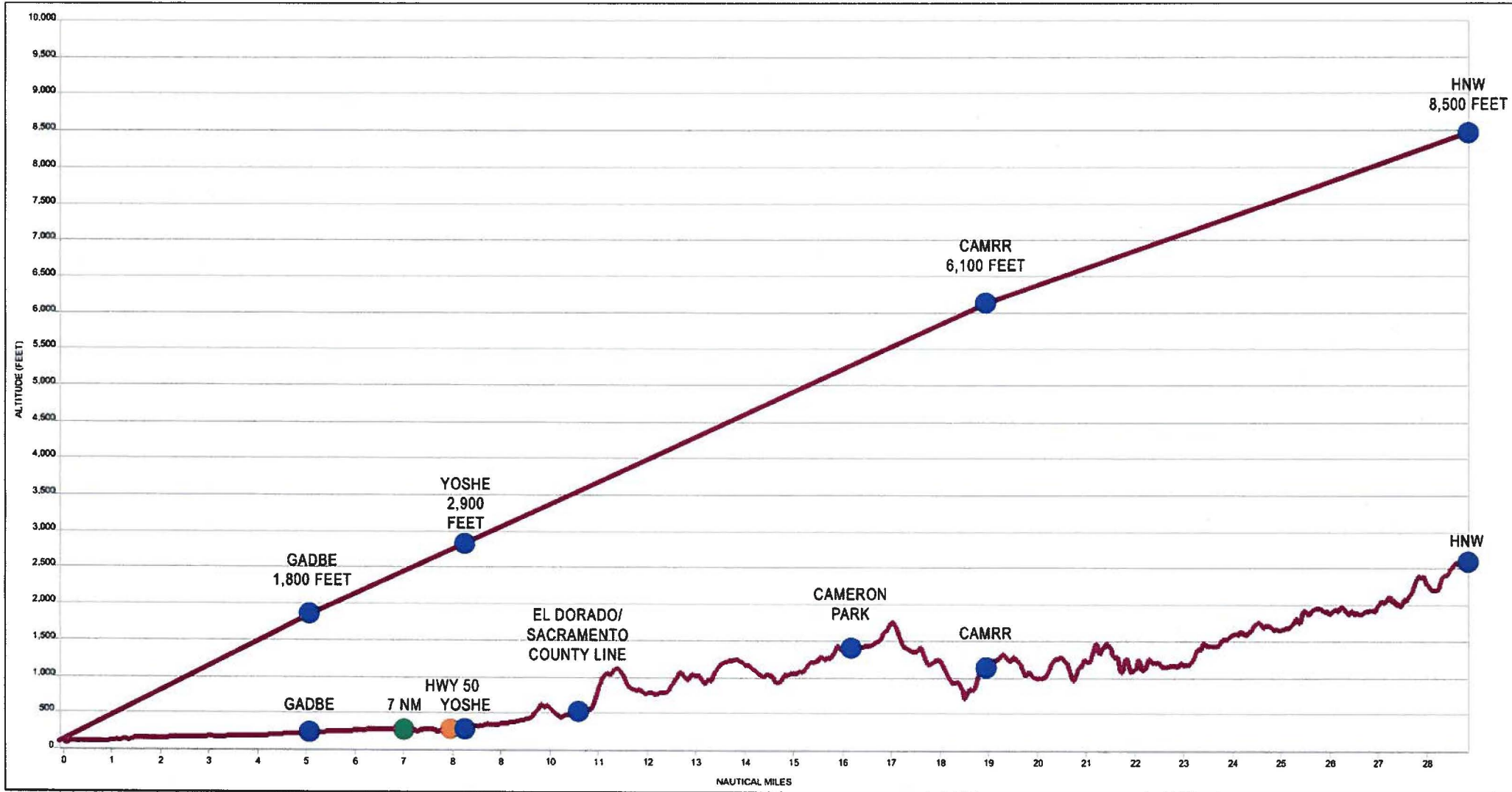


## Same Flight Paths, Optimal Configuration





# Terrain Profile HNW to CAMRR to GADBE



↑  
↓  
**Area of Measured Noise Benefit**

## Benefits of the Mather STAR

- Reduces noise under portions of the approach course
- Enhances safety and improves efficiency
- Reduces pilot workload
- Reduces controller workload
- Reduces distance flown and time in flight
- Reduces fuel consumption
- Reduces air emissions

**Predictable, reliable, and repeatable**



## Next Steps

- Finalize MHR AMRVR STAR Design
- Conduct Environmental Processing
- Publication of the MHR AMRVR STAR by FAA
- Use of the MHR AMRVR STAR /CDA by UPS
- Continue to pursue additional noise abatement options with the participation/support of the City of Folsom and El Dorado County

Thank you!

*Questions?*