

# 1 Problem

What	Problem(s)	Fall from helicopter, death
When	Date	September 12, 2013
	Time	1010 local time
	Different, unusual, unique	Improper harness connection
Where	Facility, site	Sequoia National Forest
	Unit, area, equipment	California Air National Guard helicopter (HH-60G)
	Task being performed	Environmental cleanup, restoration

## Impact to the Goals

Safety	Death of volunteer
Environmental	N/A
Customer Service	Volunteer incorrectly harnessed
Regulatory	Volunteer allowed on counterdrug flight
Production/ Schedule	?
Property/ Equipment	No damage
Labor/ Time	Investigation, report

# VOLUNTEER KILLED IN HELICOPTER FALL

Cause Map

## Use of plastic D-ring to lower volunteer results in death

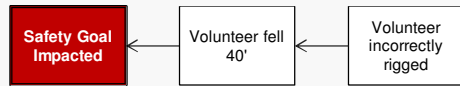
The failure of a personal, plastic D-ring mistakenly used instead of a government-issued, load-bearing metal D-ring severed the connection between the volunteer, who was being lowered from the helicopter, and the hoist. The volunteer fell 40 feet and died from blunt force trauma injuries.

"The death of Shane Krogen, executive director of the High Sierra Volunteer Trail Crew, last summer in the Sequoia National Forest, just south of Yosemite National Park, was a tragedy. But it was an entirely preventable one. It stands as a reminder of how dangerous military missions can be, and on the importance of a second set of eyes to make sure that potentially deadly errors, whenever possible, are reviewed and reversed before it is too late."

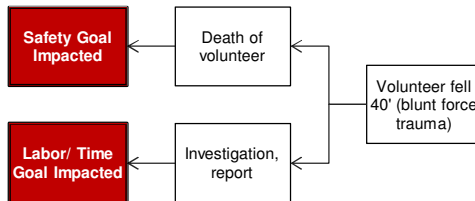
- Mark Thompson, "Air Force Report: String Of Errors Led to Civilian Helicopter Fatality",

# 2 Analysis

Basic Level Cause Map - Start with simple Why questions.



More Detailed Cause Map

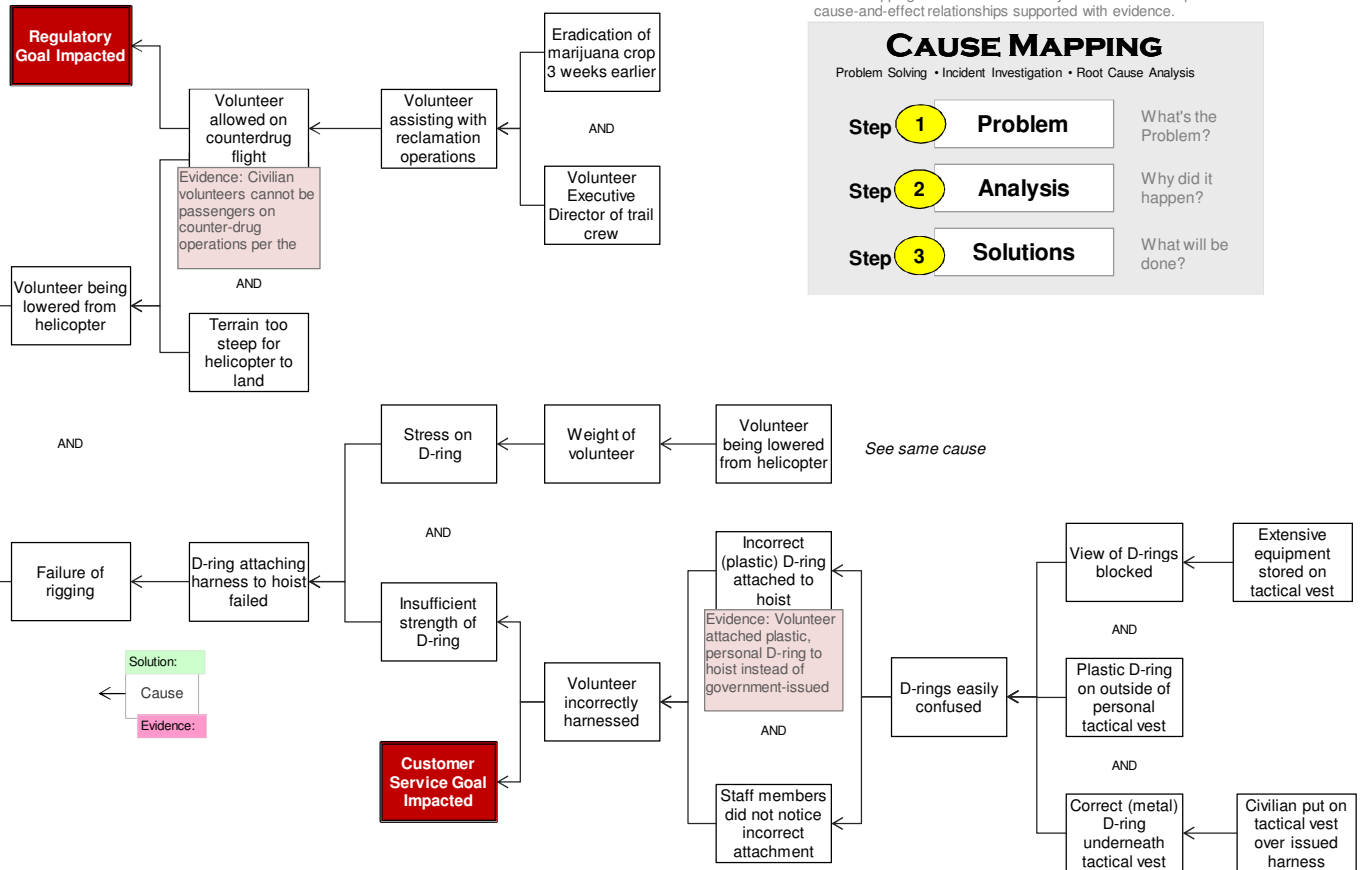


For a free copy of our Root Cause Analysis Template in Microsoft Excel, used to create this page, visit our web site.

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Cause Mapping is a Root Cause Analysis method that captures basic cause-and-effect relationships supported with evidence.

## CAUSE MAPPING

Problem Solving • Incident Investigation • Root Cause Analysis

- Step 1 **Problem** - What's the Problem?
- Step 2 **Analysis** - Why did it happen?
- Step 3 **Solutions** - What will be done?