

Precipitation Events									
Source	Threshold Precipitation	Antecedent Conditions	Time to Respond / Peak After Start of Rain*			Travel from Source		Duration of Response Relative to Storm	Specific Conductance Response
			Flow	Turbidity	Spec. Cond.	Time	Distance (ft)		
Lindsey (1959)						8 hrs			
Wisser & Cox (1960)				shortly after					
Todd (1963)						>50 days			
Lindsey (1964)				48					
Creegan (1972)				little lag time					
Engineering-Science (1991)								not down	
Watkins-Johnson (1992)	2 in/day			24					
SECOR (1998)	<0.2 in/hr	wet		3.5 - 5	3.5 - 6	6 hrs		similar up and/or down	
EMKO (1999)	every storm			30-50				much longer up	
	major or late-season storm	wet		3-6				longer down	
Farallon (2000) (WY 1999)		wet		3.5 - 6		≤6 hrs	>1,000	similar down then up	
Farallon (2001) (WY 2000)		dry		10 - 14		2 - 5 hrs		similar up	
		wet		2 - 5					
Balance Hydrologics (2005) (WY 2005) strong singals				9 - 19					
full range				4.5 - 32					

\*Various definitions of start and response times.

Tracer Tests			
Study	Map Distance from Injection Point	First Arrival	Arrival of Peak or Center of Mass
	(ft)		
Lindsey (1968)	450	6.5	10-20
PELA (2005)			
from MW NZA	800		7 hrs
from SH-6	4,100	3.3	10
from Reggiardo Ck	4,900	6.5	16
from Reggiardo trib.	5,400		29
from Laguna Ck	14,500	67	88

(times and distances are in relation to Liddell Spring)

Summary of Previous Interpretations of Liddell Spring's Response to Precipitation and Tracers

Table 39

*Nolan Associates*