



PROTECTING ACTIVE GOLDEN EAGLE NESTS IN YOSEMITE NATIONAL PARK



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Abstract

Yosemite National Park protects Golden Eagles through environmental compliance, collaborations with search and rescue personnel, and implementation of climbing closures. Golden Eagles occur year-round in the park, nest primarily on precipitous, rocky ledges, and breed at elevations ranging from approximately 900 to 3,000 m. Since 2009, we have collected monitoring data at twelve golden eagle nesting areas in the park. The park used the nesting data to avoid conducting search and rescue trainings in sensitive locations and to evaluate the necessity of climbing closures. Whereas periodic surveys were useful for targeted management purposes, the absence of a standardized survey effort limited our knowledge of the species distribution and nesting status throughout the park.

Objectives

- Our primary objective was to protect active Golden Eagle nests from known human disturbances. We did this by:
- Working directly with search and rescue personnel to minimize disturbances to nesting eagles during training and rescue operations
 - Working directly with helitack personnel to regularly update flight plans to include emergency flight paths that provided a buffer around known nesting sites
 - Assessing potential disturbances from rock climbers and closing climbing routes accordingly

Methods

We scanned suitable habitat for Golden Eagles while conducting standardized surveys for Peregrine Falcons from 2009-12. For each Golden Eagle nest, we determined nesting status, photo-documented the nest and its associated cliff habitat, and revisited it in subsequent years. We assessed each active nest for potential impacts from park rescue and helicopter operations and rock climbing activity and worked closely with park management to minimize potential disturbances.



Results

From 2009 to 2012, we identified 12 Golden Eagle nests, and of those, five were active. Two nesting sites, Elephant Rock area and Parkline Slabs, were vulnerable to helicopter and climbing activity. Rescue training involving helicopter use was relocated away from the Elephant's Graveyard in 2011 and 2012. No climbing closures were implemented for Golden Eagle nests.

Survey history of Golden Eagle nests in Yosemite 2009-2012

Nest Site	Year Nest Discovered	2009	2010	2011	2012	Notes
Bunell Point East Face	2012				ACTIVE	
Cascade Cliffs	2009	x	x	x	x	Nest ledge used by Peregrine Falcons 2009-12
Elephant Rock (historical)	1978	x	x	x	x	Active: 1978, 1988, 1990, 1992, 1993, 1996, 2007
Elephant Rock East	2003	x	x	x	x	
Elephant's Graveyard	unknown	x	x	ACTIVE FAILED		
Hetch Hetchy	unknown		ACTIVE	x	x	
Morrison Creek	2010					
Nevada Fall	unknown	x	x	x	x	Nest ledge used by Peregrine Falcons 2012
Parkline Slabs (historical)	1994	x	x	x	x	
Parkline Slabs (alternate)	2010		ACTIVE	x	x	
Phantom Spire	2010		x	x	x	
Poopenaut Valley	Unknown					Active: 1994
Watkin's Pinnacle	2009	x	ACTIVE ACTIVE ACTIVE			

— = No survey conducted
x = Inactive

Conclusion

Opportunistic surveys enabled park biologists to monitor and protect targeted Golden Eagle nests that were most at risk to disturbance. Though climbing closures were *not* implemented for eagles during this study, the park will implement a climbing closure if an active eagle nest is located adjacent to a popular rock climbing route. As rock climbing in Yosemite continues to increase in popularity, cliff nesting raptors will become more vulnerable to disturbances and abandonment.

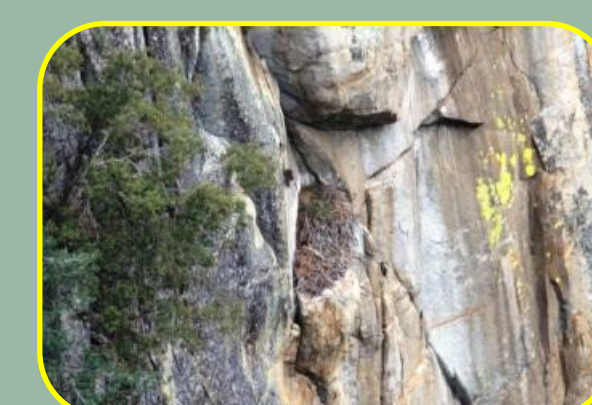
To keep pace with increasing disturbances and to continue to protect nests, park biologists will probably need to redirect efforts toward more general raptor surveys and management as opposed to focused research (e.g., Peregrine Falcon). In the absence of a robust monitoring program, Golden Eagle population dynamics are presently not well understood.



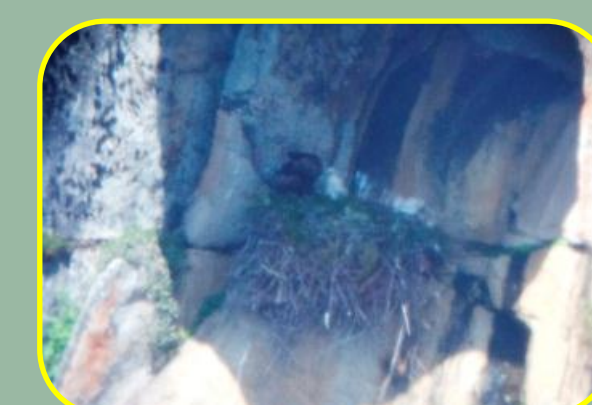
Bunell Point East Face



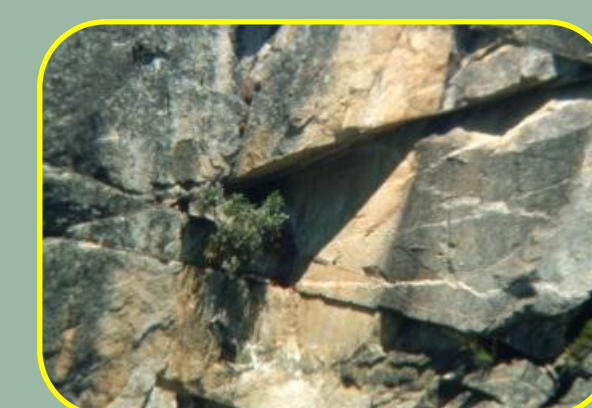
Cascade Cliffs



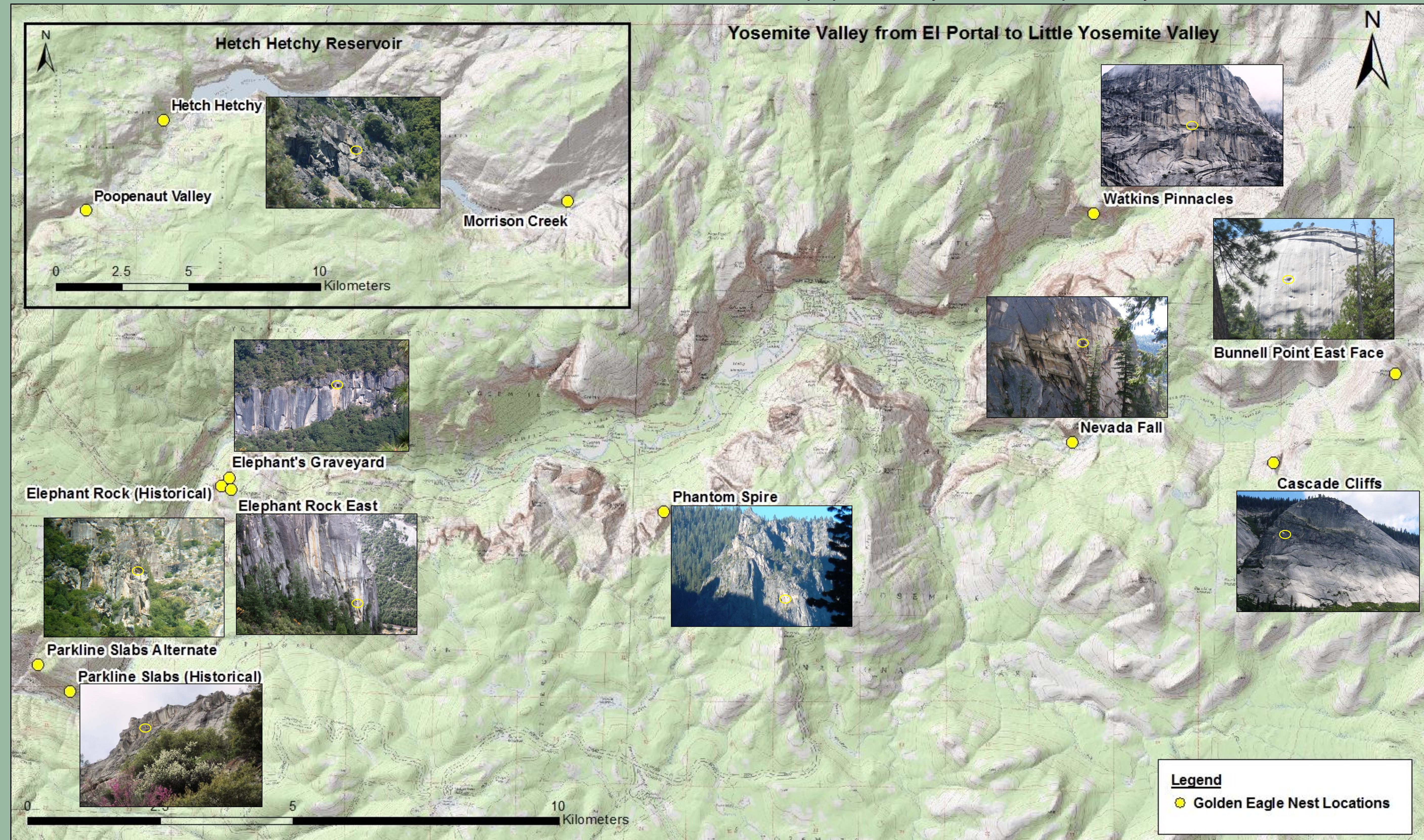
Elephant Rock East



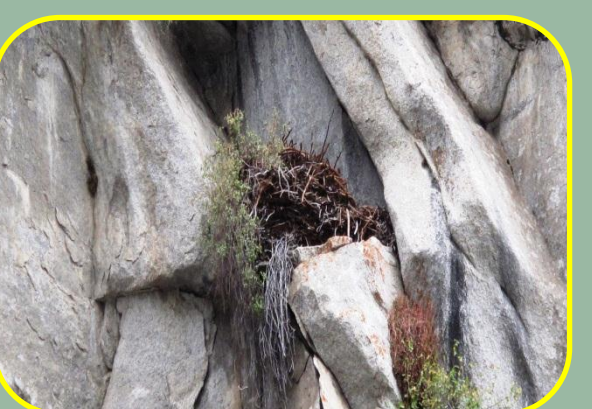
Elephant's Graveyard



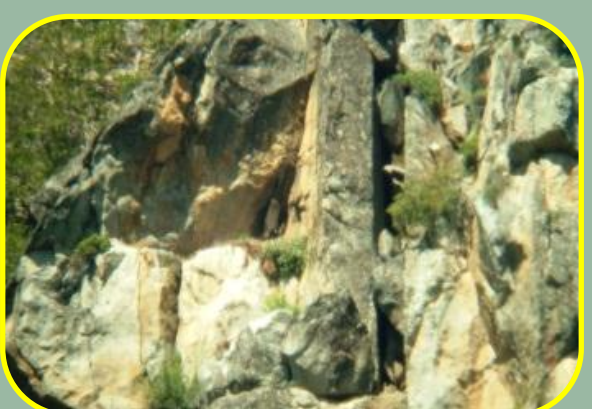
Hetch Hetchy



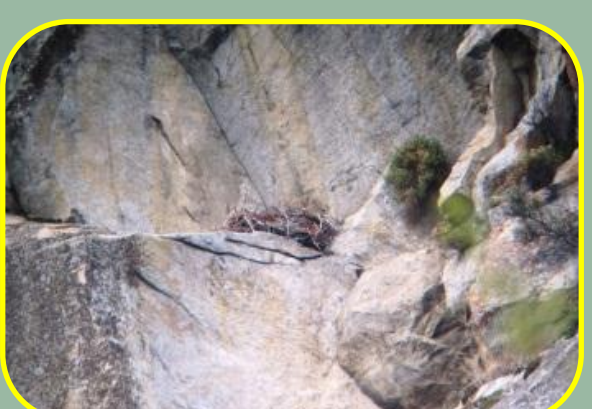
Golden Eagle nests documented in Yosemite National Park from 2009 to 2012



Nevada Fall



Parkline Slabs



Parkline Slabs Historical



Phantom Spire



Watkins Pinnacle