

# Raptor Monitoring in the Pinedale Anticline Project Area



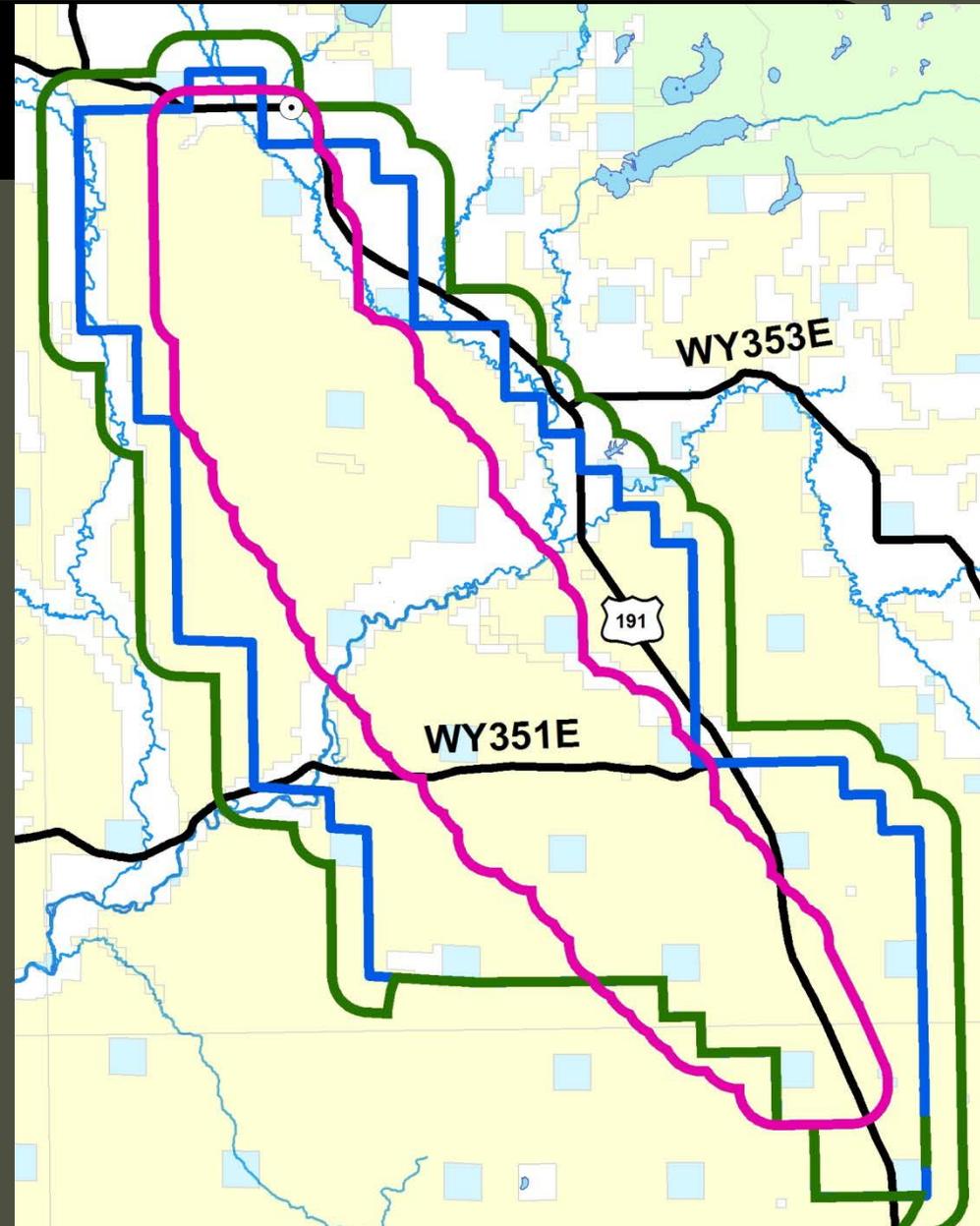
Hayden-Wing Associates, LLC  
Natural Resource Consultants

# Introduction

- **The 2008 Record of Decision (ROD) for the Pinedale Anticline requires the annual monitoring of raptor nests.**
- **Monitoring implemented under the 2008 ROD aims to:**
  - **Protect and maintain existing raptor nesting habitat.**
  - **Comply with the Bald and Golden Eagle Protection Act, and Migratory Bird Treaty Act.**
- **Hayden-Wing Associates was contracted to report the activity and productivity of:**
  - **Raptors nests in and within one mile of the Pinedale Anticline Core and Potential Development Area (CPDA).**
  - **Any Ferruginous Hawk, Bald Eagle or Golden Eagle nest in and within one mile of the Pinedale Anticline Project Area (PAPA).**

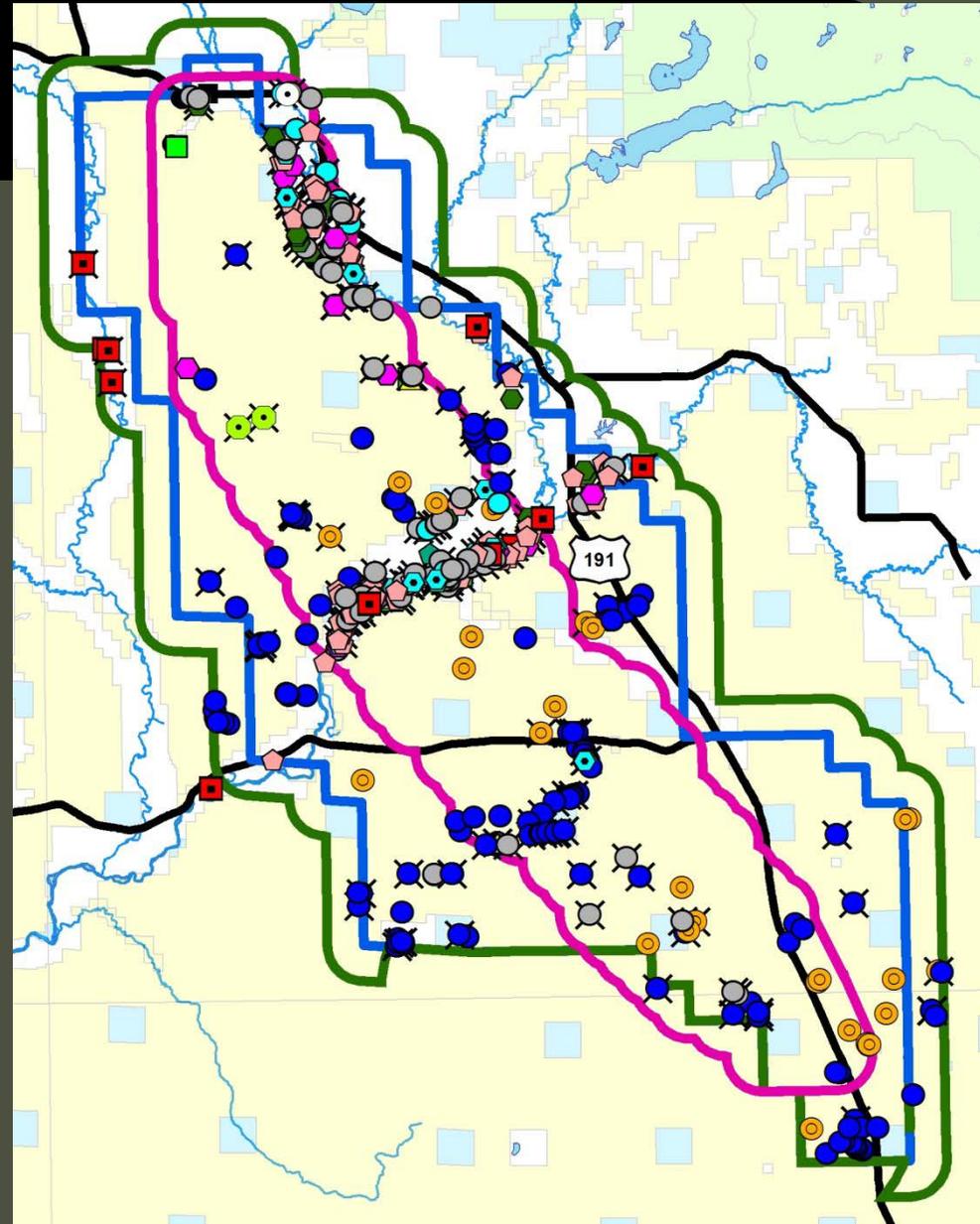
# Project Area

- Pinedale Anticline Project Area
  - 198,037 acres (**blue line**)
- FEHA, BAEA, GOEA survey area
  - 252,896 acres (**green line**)
  - BLM (74%), State (4%), and Private (20%) ownership
- CPDA survey area (**pink line**)
  - 198,037 acres
- Green River and New Fork River
  - Both support riparian habitats



# Project Area

- Raptor nests are particularly abundant within riparian habitats, the majority of which are private surface ownership.
- Access was granted by some landowners
- Two observers floated the river in an inflatable catamaran



# Methods

- Surveys were performed in accordance with the BLM's *Wildlife Survey Protocols – Pinedale Field Office, January 2011*.
- Ground surveys were conducted monthly (May to August) to:
  - 1) Verify the location and activity status of raptor nests
  - 2) Search for new or previously undocumented nests
  - 3) Determine the productivity of active raptor nests
- Active raptor nests were surveyed until the young fledged or the nest failed.
- Nests were observed from a distance, using binoculars and scopes to avoid disturbing nesting birds.

# Methods

- Call broadcast surveys were conducted in suitable burrowing owl habitats
  - Known prairie dog colonies
  - Early morning (0.5 hours before to 2 hours after sunrise)
  - Early evening (2 hours before to 0.5 hours after sunset)
  - Several points per prairie dog colony to ensure complete visual coverage
- Call broadcast
  - Primary male (coo-coo) and alarm (*quick-quick-quick*)
  - FoxPro FX3 game caller
  - Played call for 10 minutes while scanning with binoculars

# Methods

- **Accurate locations of raptor nests were recorded using GPS equipment**
- **Nest status, condition, substrate, and species of raptor were documented**
- **Surveys were monthly, therefore productivity estimates were largely determined by nestling age combined with each species' nesting chronology to determine whether a nest was productive or failed**

# Results

- Within the Anticline and its one-mile buffer, 517 nest locations were surveyed, 1 was found to be a faulty point.
- Of the 516 actual nest locations, 69 were active raptor nests including:
  - 29 Red-tailed Hawk
  - 11 Great Horned Owl
  - 8 Bald Eagle
  - 7 American Kestrel
  - 3 Burrowing Owl
  - 3 Ferruginous Hawk
  - 3 Swainson's Hawk
  - 2 Osprey
  - 2 Prairie Falcon
  - 1 Golden Eagle



# Results

12 active nests of non-raptor species included:

- 7 Black-billed Magpie
- 3 nests occupied by Canada Goose
- 2 Common Raven
- Magpie and raven nests are surveyed annually because of the potential use by raptor species such as Great Horned Owls and Long-eared Owls.



# Results

## Red-tailed Hawk 75 nest locations

Active nests	29
Productive	24
Failed	5
Inactive nests	9
Inactive dilapidated	2
Gone nests	34
Unable to survey (access)	1

- average 1.5 fledglings per nest



# Results

## Great Horned Owl 23 nest locations

Active nests	11
Productive	11
Failed	0
Inactive nests	3
Inactive dilapidated	0
Gone nests	9
Unable to survey (access)	0

- average 1.6 fledglings per nest



# Results

## Bald Eagle 15 nest locations

Active nests	8
Productive	8
Failed	0
Inactive nests	2
Inactive dilapidated	0
Gone nests	5
Unable to survey (access)	0

- average 1.3 fledglings per nest



<http://pandasthumb.org/archives/2011/07/haliaeetus-leuc.html>

# Results

## American Kestrel

21 nest locations

Active nests	7
Productive	7
Failed	0
Inactive nests	8
Inactive dilapidated	0
Gone nests	6
Unable to survey (access)	0

- average 1.5 fledglings per nest



# Results

## Burrowing Owl 29 nest locations

Active nests	3
Productive	3
Failed	0
Inactive nests	17
Inactive dilapidated	4
Gone nests	5
Unable to survey (access)	0

- average 2.0 fledglings per nest



# Results

## Ferruginous Hawk

160 nest locations

Active nests	3
Productive	3
Failed	0
Inactive nests	25
Inactive dilapidated	78
Gone nests	54
Unable to survey (access)	0

- average 2.0 fledglings per nest



# Results

## Swainson's Hawk

23 nest locations

Active nests	3
Productive	2
Failed	1
Inactive nests	7
Inactive dilapidated	0
Gone nests	13
Unable to survey (access)	0

- average 1.0 fledgling per nest



# Results

## Osprey 10 nest locations

Active nests	2
Productive	2
Failed	0
Inactive nests	0
Inactive dilapidated	1
Gone nests	5
Unable to survey (access)	0

- average 2.0 fledglings per nest



# Results

## Prairie Falcon 5 nest locations

Active nests	2
Productive	2
Failed	0
Inactive nests	2
Inactive dilapidated	1
Gone nests	0
Unable to survey (access)	0

- average 1.5 fledglings per nest



# Results

## Northern Harrier 2 nest locations

Active nests	0
Productive	0
Failed	0
Inactive nests	1
Inactive dilapidated	0
Gone nests	1
Unable to survey (access)	0

- No fledglings



# Results

## Golden Eagle 7 nest locations

Active nests	1
Productive	0
Failed	1
Inactive nests	4
Inactive dilapidated	1
Gone nests	1
Unable to survey (access)	0

- No fledglings



# Results

- 22 NEW nests found by HWA in 2012 including:
  - 4 Burrowing Owl
  - 2 Red-tailed Hawk
  - 1 Ferruginous Hawk
  - 1 Osprey
  - 1 American Kestrel, and
  - 8 unknown raptor (inactive)
  
- 5 Black-billed Magpie



## Discussion

	2010	2011	2012*
Active nests	120	142	69
% Active nests	31%	37%	33%
Productive	98	113	62
% Productive	82%	80%	90%
New nests	94	78	22
Dilapidated	155	106	101
Failed	8	29	7
Did not locate	73	13	2

\*Survey size in 2012 was 57% smaller than 2011 (385 fewer nests)

# Discussion

- 2013 recommendations:
  - Productivity – if accurate productivity numbers or fledgling dates are required or desired by the PAPO, we suggest surveying active nests twice a week, especially when nearing the fledging date.
  - Duplicate nests – suggest removing duplicate and faulty nest locations from BLM database, so survey efforts aren't duplicated during future surveys.



# Acknowledgements

- Wyoming Game and Fish Department – Therese Hartman
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- Private Landowners – granting survey access



## HWA

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