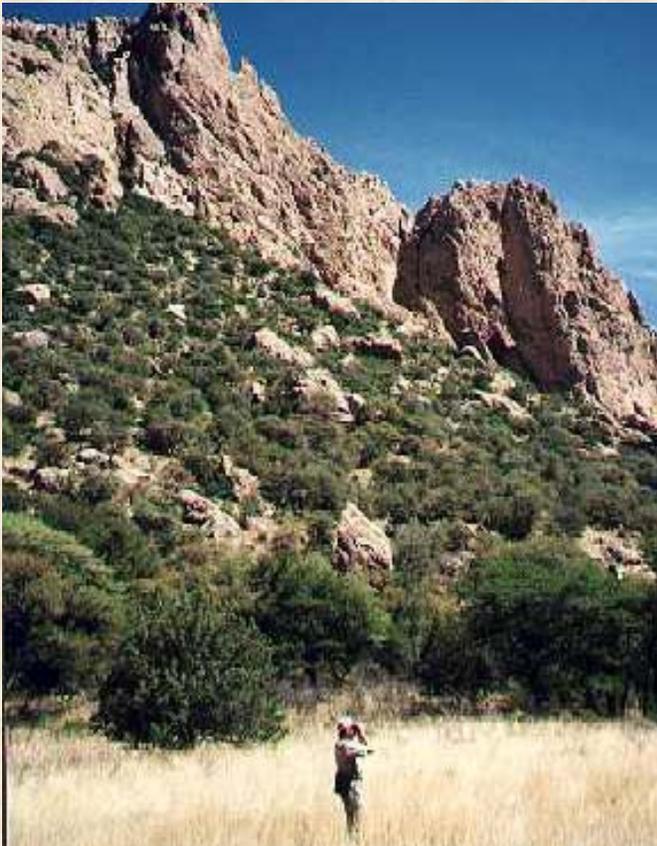


NGPN Avian Inventory and Monitoring for 2003



Arvind Panjabi
Rocky Mountain Bird
Observatory

7 Parks Selected for I & M Work



Devil's Tower

Fort Laramie



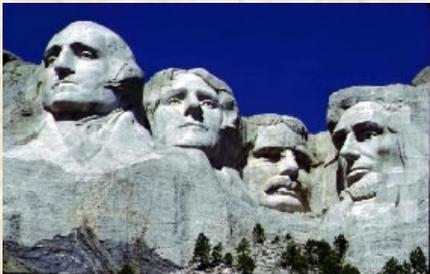
Fort Union Trading Post



Jewel Cave



Knife River Indian Villages



Mount Rushmore



Wind Cave

Objectives

Inventory

- Document presence of 90% of expected breeding avifauna over 3 year period

Monitoring

- Detect trends in bird populations over time





Methods

Inventory

- Target habitat searches and/or call-response surveys

Monitoring

- Point-transect surveys

Devil's Tower



Inventory Results

- 55 species observed in 2003
- 17 of these species not observed in 2002

Monitoring Results

- Ponderosa Pine Forest Point Transect
- Density estimates for Red-breasted Nuthatch, Robin, Yellow-rumped Warbler, and Cowbird
- Average density of all bird species combined was 2.9 birds/ha

Priority Species for Devil's Tower

White-throated Swift



Red-headed
Woodpecker

Fort Laramie



Inventory Results

- 61 species observed in 2003
- 10 of these species not observed last year
- Observed 5 species that were expected but not previously documented (Ferruginous hawk, Eastern Phoebe, Pinyon Jay, Tree Swallow, and Marsh Wren)
- Observed the Eurasian Collared Dove (exotic sp.)

Fort Laramie



Monitoring Results

- Riparian Habitat Transect
- Average density of all bird species combined was 9.8 birds/ha

Priority Species for Fort Laramie

Red-headed Woodpecker

- Management that affects availability of large snags could impact this species.

Golden Eagle

- Highly sensitive to human intrusion before and during nesting period

Fort Laramie



- Majority of bird species in the park occur within the riparian habitat.
- Ensuring proper regeneration of cottonwoods and willows is essential to maintaining a diverse and healthy avifauna at FOLA.

Fort Union Trading Post

Inventory Results

- 70 species observed in 2003
- 15 of these species not detected in 2002
- Caspian Tern (neither expected or documented) was observed



Fort Union Trading Post



- Riparian habitat supports vast majority of all birds and bird species, especially neotropical migrant songbirds.
- Grasslands support few birds (although non-natives compromise area).

Jewel Cave



Inventory Results

- 46 breeding or summering species
- 11 of these species not recorded in 2002
- 4 additional species not listed as expected or documented were recorded

Jewel Cave



Monitoring Results

- Point transect in burned ponderosa pine forest
- Average density of all bird species was 3.5 birds/ha

Jewel Cave

Priority Species

- Average density of the Black-backed Woodpecker in JECA about 5 times greater than across rest of Jasper Burn
- Due to old-growth pre-fire condition of forest and absence of post-fire logging.



Knife River Indian Villages



Inventory Results

- 77 breeding or summering species observed
- 14 of these species were not observed 2002

Knife River Indian Villages

- Greatest # of birds found in North Woods with dense, mature riparian forest with an abundance of dead and downed wood.
- Much fewer species found in open woodlands treated with fire and/or thinning.
- Recommend not decrease density of live and dead vegetation in North Woods otherwise negatively impact rich bird life presently there.



Knife River Indian Villages



Grassland Monitoring

- Density of bobolinks (2/ha) and grasshopper sparrows (1/ha) exceptionally high
- Bobolink in both native mixed-grass and non-native grasslands
- Grasshopper sparrows limited to mixed-grass prairie

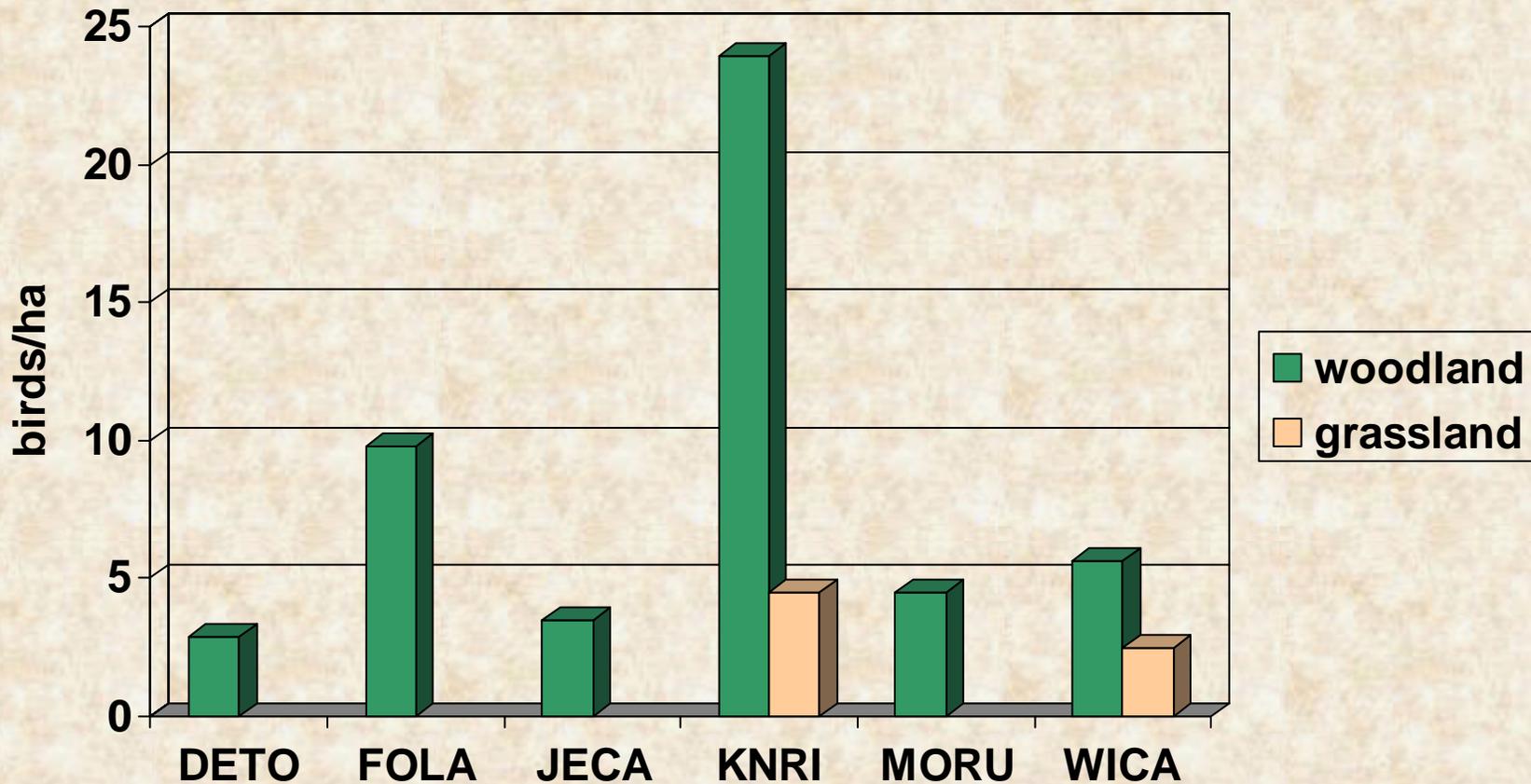
Knife River Indian Villages



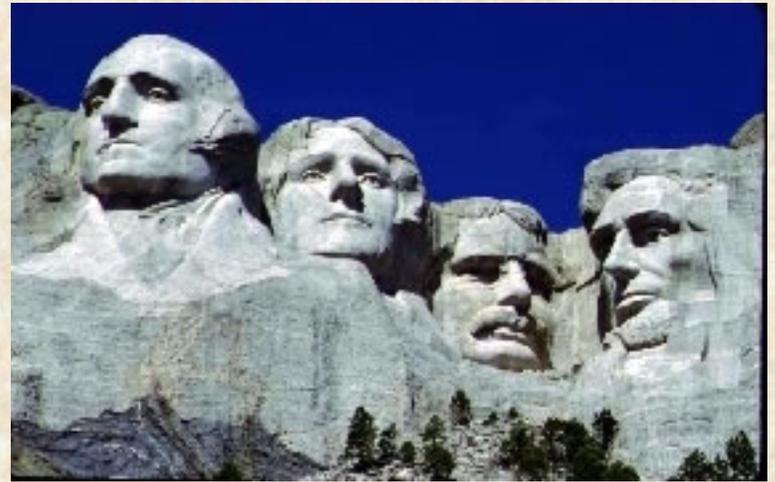
Riparian Monitoring

- Recorded 45 species in dense riparian woodlands.
- More species than on any other transect in any park.
- High density and richness of avifauna underscores value of riparian forest.

Estimated Average Density of All Bird Species Combined



Mount Rushmore



Inventory Results

- 33 breeding species observed
- 5 of these species not detected in 2002

Monitoring Results

- 28 species recorded on pine forest transect
- Average density of all birds species combined estimated at 4.5 birds/ha

Wind Cave



Monitoring Results

- Detected 40 species on Foothill Riparian Transect
- Average density was 5.6 birds/ha for all birds combined
- Richness was high due to diversity and good condition of habitats along Spring and Beaver Creeks

Wind Cave

Monitoring Results

- 17 species on mixed-grass prairie transect
- Average density of 2.5 birds/ha, but supports unique suite of species
- Number of Upland Sandpipers here far exceeds number typically found in Black Hills

