

Grand Canyon-Parashant NM & Vermilion Cliffs NM

Human Impact Inventories



Pam Foti, Ph.D., NAU
Tim Carley, M.S. Candidate,
Shaya Rohrbach, Research Assistant

Grand Canyon-Parashant and Vermilion Cliffs National Monuments

Human Impact Monitoring

Rapid Site Inventory - Roads

January 8, 2001

Revised April 24, 2001

Project Responsibilities

NAU Functions:

Inform BLM of data collection periods in advance.

Check with BLM prior to data collection periods to confirm logistics and to receive information related to human impact locations.

Record on-site data on hardcopy forms and record GPS coordinates using NAU's Geo-Explorer units.

Take digital images of each human impact site and log photos.

Input data into Microsoft Access Data Base; post the data base on the web.

Record human impact sites on field maps.

Protect the data in the field and ensure proper and complete input of all data following collection.

Report on data collection at a final meeting.

Prepare a final report of the data collected with maps generated by BLM GIS Specialists.

BLM Functions:

Provide field maps for all data collection sites (maps may be topographic maps or other BLM generated maps which display the target roads).

Advise NAU's field staff on roads/locations/resource information and other pertinent details related to field collection.

Provide a vehicle for field collection, if available.

Provide access to BLM Administrative Sites for overnight use.

Provide a radio for field personnel to use in the case of emergencies.

Grand Canyon-Parashant & Vermilion Cliffs National Monuments
Human Impact Monitoring
Rapid Site Inventory - Roads
January 8, 2001
Revised: April 24, 2001

Operating Protocol

The objective of this study is to inventory (using a *Rapid Site Inventory* approach) the RECREATIONAL HUMAN IMPACTS on the Grand Canyon-Parashant and Vermilion Cliffs National Monuments for the Bureau of Land Management (BLM). All roads to be inventoried for recreational human impacts are at the assignment and discretion of the BLM and shall be identified to NAU in a timely manner. Roads to be inventoried may be added to the scope of the project at any time; however, a significant addition of roads may lead to an increase in budgetary needs.

Recreational Human Impacts to be inventoried include:

All sites which are VISIBLE from the identified road/route. Visibility means that the field personnel can see the site impacts from the road, or they can see people/equipment currently using the site, or the site is a "common knowledge" use site based on BLM information or the BLM Road Inventory (data to be provided by Mike Parma).

Inventory field personnel are only responsible for data collection on those roads identified by BLM and noted on the Arizona Strip map.

The Recreational Human Impact Inventory consists of the following steps:

- 1). Assign a site ID:
Monument identifier, zone identifier, 3-digit site identifier.
P _ _ _ _ (Grand Canyon-Parashant NM)
V _ _ _ _ (Vermilion Cliffs NM)
- 2). Obtain the GPS coordinates (UTM scale) for the site. Record the site ID.
- 3). Take an adequate number of photos to record site location and site parameters. Record the site ID on the photo "white board" and include the photo white board in each photograph.
- 4). Assess the current site attributes on the hardcopy form. Include the site ID on the hardcopy form.
- 5). Lab Work: (a) Correct GPS coordinates using the Pathfinder software; (b) Re-name digital photo files to reflect the site ID; (c) input the site attributes into the data base and post to the web-site.

Grand Canyon-Parashant and Vermilion Cliffs National Monuments
Human Impact Monitoring
Rapid Site Inventory - Roads
January 8, 2001
Revised: April 24, 2001

Revised Implementation Schedule

Start Date:	October 1, 2000
Planning	October, 2000-February, 2001
Data Collection	March, 2001 (VNM Section C - Liz Boussard)
	April 23-24, 2001 (Field Orientation - Shaya Rorhbach)
	May 3-8, 2001 (VNM Section A)
	May 16-19, 2001 (VNM Section B - Pam Foti)
	May 24-June 3, 2001 (GCPNM Section B)
	June 13-23, 2001 (GCPNM Section A)
	July 7-17, 2001 (GCPNM Section C)
	July 23-29, 2001 (GCPNM Section D)
	August 3-13, 2001 (GCPNM Section E)
	August 16-20, 2001 (VNM Section B/catch up)
Data Analysis	September, 2001
Data Reporting	October, 2001
End Date:	November 15, 2001

Grand Canyon-Parashant & Vermilion Cliffs National Monuments
Human Impact Monitoring
Rapid Site Inventory - Roads
January 8, 2001
Revised: April 24, 2001
Revised: June 16, 2001

Revised Budget

Salary and Wages	\$8,340
Liz Boussard \$ 840 (expended)	
Tim Carley \$ 500 (expended)	
Shaya Rohrbach \$7,000	
Employee Related Expenses	\$ 667
8% of Salaries and Wages	
Liz Boussard \$840 x 8% = \$67 (expended)	
Tim Carley \$500 x 8% = \$40 (expended)	
Shaya Rohrbach \$7,000 x 8% = \$560	
Travel	\$4,423
Transportation	\$3,097
April 23-24	\$250 (expended)
May 3-8, 2001 (VNM Section A) \$210 + 225	\$435 (expended)
May 16-19, 2001 (VNM Section B - Pam Foti)	\$156 (expended)
May 24-June 3, 2001 (GCPNM Section B)	\$600 (expended)
June 13-23, 2001 (GCPNM Section A)	\$360
July 7-9 (GCPNM Section B - Pam Foti)	\$116
July 7-17, 2001 (GCPNM Section C)	\$360
July 23-29, 2001 (GCPNM Section D)	\$260
August 3-13, 2001 (GCPNM Section E)	\$360
August 16-20, 2001 (VNM Section B/catch up)	\$200
Per Diem	\$1,093
Pam Foti	
4 days x \$29.50/day = \$118	
Shaya Rohrbach	
65 days x \$15/day = \$975	
Presentation of Results	\$ 333
Vehicle	
\$30/day x 2 days + \$0.09/mile x 500 miles = \$105	
Lodging	
2 Rooms x \$55/night = \$110	
Per Diem	
\$29.50 x 2 people x 2 days = \$118	
Supplies	\$ 850
Miscellaneous Field Supplies	
Overhead	\$2,142
NAU Overhead @ 15% (through CESU)	
TOTAL BUDGET:	\$16,422

Grand Canyon-Parashant National Monument
Vermilion Cliffs National Monument
Human Impact Monitoring
Rapid Site Inventory - Roads

- ___ 1). Data Collector Initials
- P ___ 2). Site ID (Monument, Zone, 3-Digit Site Number)
- V ___
- ___ 3). Road ID (if available)
- ___ 4). GPS Coordinates
- ___ Rover File
- ___ Coordinates
- ___

Note: Record Location/Site ID on Map.

- ___ 5). Digital Photo Log
- Photo Number: ___ Direction of View: ___
- Photo Number: ___ Direction of View: ___
- Photo Number: ___ Direction of View: ___
- Photo Number: ___ Direction of View: ___
- ___ 6). Dominant Vegetation Type
- | | |
|--------------------|-----------------------------------|
| PP-Ponderosa Pine | TD-Tall Desert Shrub (> 1 meter) |
| PJ-Pinyon/Juniper | SD-Short Desert Shrub (< 1 meter) |
| NR-Native Riparian | NG-Native Grassland |
| ER-Exotic Riparian | B-Barren |
- ___ 7). Water Presence (0 = no water presence)
- | | |
|-----------|------------|
| 1. Spring | 3. Pothole |
| 2. Stream | 4. Other |
- ___ 8). Surrounding Landform
- | | |
|----------------|-----------------|
| 1. Ridge/Top | 3. Flat/Open |
| 2. Canyon/Wash | 4. Other: _____ |
- ___ 9). Site Distance from Road
- | | |
|---------------------|-----------------------|
| 1. Next to the Road | 3. 50-100 feet back |
| 2. 10-50 feet back | 4. Over 100 feet back |
- ___ 10). Cryptobiotic Soil Presence
- | | |
|--------|-------|
| 1. Yes | 2. No |
|--------|-------|
- ___ 11). Site Party Size
- | | |
|------------------------|---------------------|
| 1. Single Party Site | 3. Large Group Site |
| 2. Multiple Party Site | 4. Site Cluster |
- ___ 12). Barren Core Area of the Site
- | | |
|------------------------|--------------------------|
| 1. <50 square feet | 4. 501-1000 square feet |
| 2. 50-200 square feet | 5. Over 1000 square feet |
| 3. 201-500 square feet | |

FW-4WD Driving

PI-Picnicking

PO-Pullout

39). **Comments:**

1. Yes

Human Impact Monitoring

Grand Canyon–Parashant National Monument



**Arizona Strip District
Arizona Bureau of Land Management**



All monitoring information is collected and managed by Pam Foti, Ph.D. and many hard working students at Northern Arizona University

Human Impact Monitoring Web Site

Human Impact Monitoring Reports Rapid Site Inventory -- Roads

Grand Canyon-Parashant – Zone A

Summary Report

56 sites

Vegetation Types	Party Size	Water Presence
* Native Grassland (1)	* Large Group Site (2)	* None (54)
* Native Riparian (1)	* Multiple Party Site (21)	* Other (1)
* Pinyon/Juniper (35)	* Single Party Site (30)	* Spring (1)
* Ponderosa Pine (10)	* Site Cluster (3)	
* Short Desert Shrub (3)		
* Tall Desert Shrub (6)		
Barren Core Area	Surrounding Landform	Distance From Road
* <50 square feet (1)	* Canyon/Wash (28)	* 10–50 feet back (34)
* 201–500 square feet (16)	* Flat/Open (14)	* 50–100 feet back (7)
* 501–1000 square feet (15)	* Ridge/Top (14)	* Next to the road (11)
* 50–200 square feet (9)		* Over 100 feet back (4)
* Over 1000 square feet (15)		

Activities		
Field 1	Field 2	Field 3
* 4WD Driving (3)	* 4WD Driving (2)	* 4WD Driving (2)
* Archery (1)	* ATV Riding (2)	* Camping (1)
* Backpacking (1)	* Camping (3)	* Driving For Pleasure (1)
* Camping (47)	* Hiking/Walking/Running (1)	* Horseback Riding (1)
* Staging/Parking (1)	* Hunting (3)	* Hunting (1)
* Target Practice (1)	* Picnicking (1)	* Pull Out (4)
* Unknown (1)	* Pull Out (10)	* Staging/Parking (15)
* View Point (1)	* Staging/Parking (15)	* View Point (1)
	* Unknown (2)	* Viewing Cultural Sites (1)
	* View Point (1)	
Field 4	Field 5	Field 6
* ATV Riding (1)	* Target Practice (1)	
* Gathering Products (1)		
* Hunting (1)		
* Picnicking (1)		
* Target Practice (1)		

Grand Canyon-Parashant – Zone A

Summary report (continued)

Yes/No Data	
Cryptobiotic Soil Present * Yes (8) * No (48)	Mountain Bike Impacts * No (56)
Campsite * Yes (52) * No (4)	Cryptobiotic Soil Impacts * Yes (1) * No (55)
Social Trails * Yes (5) * No (51)	Delicate Rock Impacts * No (56)
Campfire Evidence * Yes (52) * No (4)	Human Caused Streambank Impacts * No (56)
Campsite Construction * Yes (6) * No (50)	Presence Of Cultural Dwellings * No (56)
Litter * Yes (49) * No (7)	Presence Of Rock Art * No (56)
Evidence Of Human Waste * Yes (11) * No (45)	Presence Of Historic Inscriptions * No (56)
Human Caused Tree Damage * Yes (22) * No (34)	Presence Of Cultural Artifacts * Yes (6) * No (50)
Root Exposure Of Trees * Yes (1) * No (55)	Vandalism Of Cultural Dwellings * No (56)
Human Caused Shrub Damage * Yes (18) * No (38)	Vandalism Of Rock Art * No (56)
Evidence Of Livestock Use * Yes (43) * No (13)	Vandalism Of Historic Inscriptions * No (56)
Evidence Of Packstock Use * No (56)	Vandalism Of Cultural Artifacts * No (56)
ATV Impacts * Yes (4) * No (52)	Vandalism Onsite * Yes (2) * No (54)

Human Impact Monitoring Reports Rapid Site Inventory -- Roads

Grand Canyon-Parashant – Zone B Summary Report

38 sites

Vegetation Types	Party Size	Water Presence
* Exotic Riparian (8)	* Large Group Site (5)	* None (26)
* Native Riparian (1)	* Multiple Party Site (14)	* Other (11)
* Pinyon/Juniper (8)	* Single Party Site (17)	* Spring (1)
* Short Desert Shrub (14)	* Site Cluster (2)	
* Tall Desert Shrub (7)		

Barren Core Area	Surrounding Landform	Distance From Road
* 201–500 square feet (8)	* Canyon/Wash (16)	* 10–50 feet back (12)
* 501–1000 square feet (13)	* Flat/Open (10)	* 50–100 feet back (4)
* Over 1000 square feet (17)	* Other (6)	* Next to the road (20)
	* Ridge/Top (6)	* Over 100 feet back (2)

Activities		
Field 1	Field 2	Field 3
* Camping (32)	* ATV Riding (1)	* 4WD Driving (1)
* Fishing (1)	* Camping (2)	* Hunting (2)
* Pull Out (3)	* Fishing (9)	* Picnicking (1)
* Staging/Parking (1)	* Horseback Riding (1)	* Pull Out (3)
* Unknown (1)	* Hunting (2)	* Social Gathering (1)
	* Picnicking (1)	* Staging/Parking (4)
	* Pull Out (1)	* Target Practice (2)
	* Staging/Parking (10)	
	* Target Practice (2)	
	* Unknown (1)	
	* View Point (1)	
Field 4	Field 5	Field 6
* 4WD Driving (1)		
* Pull Out (1)		
* Staging/Parking (2)		
* Target Practice (1)		
* View Point (1)		

Grand Canyon-Parashant – Zone B

Summary report (continued)

Yes/No Data	
Cryptobiotic Soil Present * Yes (5) * No (33)	Mountain Bike Impacts * No (38)
Campsite * Yes (34) * No (4)	Cryptobiotic Soil Impacts * Yes (2) * No (36)
Social Trails * Yes (9) * No (29)	Delicate Rock Impacts * No (38)
Campfire Evidence * Yes (34) * No (4)	Human Caused Streambank Impacts * No (38)
Campsite Construction * Yes (4) * No (34)	Presence Of Cultural Dwellings * No (38)
Litter * Yes (33) * No (5)	Presence Of Rock Art * No (38)
Evidence Of Human Waste * Yes (11) * No (27)	Presence Of Historic Inscriptions * No (38)
Human Caused Tree Damage * Yes (7) * No (31)	Presence Of Cultural Artifacts * No (38)
Root Exposure Of Trees * No (38)	Vandalism Of Cultural Dwellings * No (38)
Human Caused Shrub Damage * Yes (26) * No (12)	Vandalism Of Rock Art * No (38)
Evidence Of Livestock Use * Yes (26) * No (12)	Vandalism Of Historic Inscriptions * No (38)
Evidence Of Packstock Use * Yes (5) * No (33)	Vandalism Of Cultural Artifacts * No (38)
ATV Impacts * Yes (1) * No (37)	Vandalism Onsite * No (38)

Human Impact Monitoring Reports Rapid Site Inventory -- Roads

Grand Canyon–Parashant – Zone C Summary Report

101 sites

Vegetation Types	Party Size	Water Presence
* Pinyon/Juniper (77)	* Large Group Site (6)	* None (98)
* Ponderosa Pine (22)	* Multiple Party Site (40)	* Other (3)
* Short Desert Shrub (1)	* Single Party Site (49)	
* Tall Desert Shrub (1)	* Site Cluster (6)	
Barren Core Area	Surrounding Landform	Distance From Road
* 201–500 square feet (39)	* Canyon/Wash (13)	* 10–50 feet back (35)
* 501–1000 square feet (30)	* Flat/Open (52)	* 50–100 feet back (9)
* 50–200 square feet (11)	* Ridge/Top (36)	* Next to the road (32)
* Over 1000 square feet (21)		* Over 100 feet back (25)

Activities		
Field 1	Field 2	Field 3
* 4WD Driving (1) * Camping (94) * Hunting (1) * Pull Out (2) * Staging/Parking (2) * Unknown (1)	* 4WD Driving (3) * ATV Riding (1) * Camping (3) * Hunting (40) * Interpretive Exhibit Viewing (1) * Pull Out (1) * Staging/Parking (31) * Target Practice (1) * Unknown (2) * View Point (14)	* 4WD Driving (2) * ATV Riding (1) * Camping (1) * Hiking/Walking/Running (1) * Hunting (9) * Photography (3) * Pull Out (5) * Social Gathering (1) * Staging/Parking (35)
Field 4	Field 5	Field 6
* 4WD Driving (1) * Hunting (1) * Pull Out (7) * Staging/Parking (4) * Target Practice (2)		

Grand Canyon--Parashant -- Zone C

Summary report (continued)

Yes/No Data	
Cryptobiotic Soil Present * Yes (10) * No (91)	Mountain Bike Impacts * No (101)
Campsite * Yes (98) * No (3)	Cryptobiotic Soil Impacts * Yes (2) * No (99)
Social Trails * Yes (9) * No (92)	Delicate Rock Impacts * No (101)
Campfire Evidence * Yes (97) * No (4)	Human Caused Streambank Impacts * No (101)
Campsite Construction * Yes (8) * No (93)	Presence Of Cultural Dwellings * No (101)
Litter * Yes (76) * No (25)	Presence Of Rock Art * No (101)
Evidence Of Human Waste * Yes (23) * No (78)	Presence Of Historic Inscriptions * No (101)
Human Caused Tree Damage * Yes (39) * No (62)	Presence Of Cultural Artifacts * Yes (1) * No (100)
Root Exposure Of Trees * No (101)	Vandalism Of Cultural Dwellings * No (101)
Human Caused Shrub Damage * Yes (40) * No (61)	Vandalism Of Rock Art * No (101)
Evidence Of Livestock Use * Yes (50) * No (51)	Vandalism Of Historic Inscriptions * No (101)
Evidence Of Packstock Use * Yes (2) * No (99)	Vandalism Of Cultural Artifacts * No (101)
ATV Impacts * Yes (3) * No (98)	Vandalism Onsite * No (101)

Human Impact Monitoring Reports

Rapid Site Inventory -- Roads

Grand Canyon–Parashant – Zone D

Summary Report

65 sites

Vegetation Types	Party Size	Water Presence
* Native Grassland (1)	* Large Group Site (1)	* None (63)
* Pinyon/Juniper (45)	* Multiple Party Site (29)	* Other (2)
* Short Desert Shrub (13)	* Single Party Site (33)	
* Tall Desert Shrub (6)	* Site Cluster (2)	
Barren Core Area	Surrounding Landform	Distance From Road
* 201–500 square feet (24)	* Canyon/Wash (14)	* 10–50 feet back (31)
* 501–1000 square feet (15)	* Flat/Open (13)	* 50–100 feet back (3)
* 50–200 square feet (18)	* Ridge/Top (38)	* Next to the road (25)
* Over 1000 square feet (8)		* Over 100 feet back (6)

Activities		
Field 1	Field 2	Field 3
* ATV Riding (1) * Camping (64)	* Hiking/Walking/Running (5) * Hunting (30) * Staging/Parking (8) * Unknown (1) * View Point (8)	* ATV Riding (2) * Hunting (2) * Pull Out (1) * Staging/Parking (30) * Target Practice (3) * View Point (3)
Field 4	Field 5	Field 6
* ATV Riding (2) * Hiking/Walking/Running (2) * Hunting (4) * Pull Out (1) * Staging/Parking (1) * Target Practice (3) * View Point (1)		

Grand Canyon-Parashant – Zone D

Summary report (continued)

Yes/No Data	
Cryptobiotic Soil Present * Yes (16) * No (49)	Mountain Bike Impacts * No (65)
Campsite * Yes (64) * No (1)	Cryptobiotic Soil Impacts * Yes (3) * No (62)
Social Trails * Yes (6) * No (59)	Delicate Rock Impacts * No (65)
Campfire Evidence * Yes (64) * No (1)	Human Caused Streambank Impacts * No (65)
Campsite Construction * No (65)	Presence Of Cultural Dwellings * No (65)
Litter * Yes (48) * No (17)	Presence Of Rock Art * No (65)
Evidence Of Human Waste * Yes (5) * No (60)	Presence Of Historic Inscriptions * No (65)
Human Caused Tree Damage * Yes (16) * No (49)	Presence Of Cultural Artifacts * Yes (2) * No (63)
Root Exposure Of Trees * No (65)	Vandalism Of Cultural Dwellings * No (65)
Human Caused Shrub Damage * Yes (5) * No (60)	Vandalism Of Rock Art * No (65)
Evidence Of Livestock Use * Yes (43) * No (22)	Vandalism Of Historic Inscriptions * No (65)
Evidence Of Packstock Use * Yes (2) * No (63)	Vandalism Of Cultural Artifacts * No (65)
ATV Impacts * Yes (3) * No (62)	Vandalism Onsite * No (65)

Human Impact Monitoring Reports Rapid Site Inventory -- Roads

Grand Canyon-Parashant – Zone E Summary Report

132 sites

Vegetation Types	Party Size	Water Presence
* Native Grassland (1)	* Large Group Site (4)	* None (128)
* Pinyon/Juniper (71)	* Multiple Party Site (51)	* Other (3)
* Ponderosa Pine (59)	* Single Party Site (73)	* Spring (1)
* Short Desert Shrub (1)	* Site Cluster (4)	
Barren Core Area	Surrounding Landform	Distance From Road
* <50 square feet (4)	* Canyon/Wash (4)	* 10–50 feet back (58)
* 201–500 square feet (58)	* Flat/Open (27)	* 50–100 feet back (3)
* 501–1000 square feet (26)	* Other (4)	* Next to the road (41)
* 50–200 square feet (29)	* Ridge/Top (97)	* Over 100 feet back (30)
* Over 1000 square feet (15)		

Activities		
Field 1	Field 2	Field 3
* Camping (127) * Hunting (1) * Pull Out (1) * Staging/Parking (2) * Viewing Cultural Sites (1)	* ATV Riding (1) * Camping (1) * Hiking/Walking/Running (7) * Hunting (99) * Interpretive Exhibit Viewing (1) * Pull Out (1) * Staging/Parking (12) * Unknown (1) * View Point (2)	* Hiking/Walking/Running (4) * Hunting (4) * Photography (1) * Social Gathering (1) * Staging/Parking (62) * Target Practice (4) * Unknown (1) * View Point (5) * Viewing Cultural Sites (1)
Field 4	Field 5	Field 6
* Hiking/Walking/Running (3) * Hunting (5) * Pull Out (3) * Staging/Parking (4) * View Point (1) * Viewing Cultural Sites (1) * Viewing Wildlife (1)	* Picnicking (2)	

Grand Canyon–Parashant – Zone E

Summary report (continued)

Yes/No Data	
Cryptobiotic Soil Present * Yes (1) * No (131)	Mountain Bike Impacts * No (132)
Campsite * Yes (128) * No (4)	Cryptobiotic Soil Impacts * No (132)
Social Trails * Yes (4) * No (128)	Delicate Rock Impacts * No (132)
Campfire Evidence * Yes (128) * No (4)	Human Caused Streambank Impacts * No (132)
Campsite Construction * Yes (5) * No (127)	Presence Of Cultural Dwellings * No (132)
Litter * Yes (98) * No (34)	Presence Of Rock Art * Yes (2) * No (130)
Evidence Of Human Waste * Yes (6) * No (126)	Presence Of Historic Inscriptions * No (132)
Human Caused Tree Damage * Yes (37) * No (95)	Presence Of Cultural Artifacts * Yes (1) * No (131)
Root Exposure Of Trees * No (132)	Vandalism Of Cultural Dwellings * No (132)
Human Caused Shrub Damage * Yes (8) * No (124)	Vandalism Of Rock Art * Yes (1) * No (131)
Evidence Of Livestock Use * Yes (38) * No (94)	Vandalism Of Historic Inscriptions * No (132)
Evidence Of Packstock Use * Yes (2) * No (130)	Vandalism Of Cultural Artifacts * No (132)
ATV Impacts * Yes (1) * No (131)	Vandalism Onsite * No (132)

Human Impact Monitoring

Vermilion Cliffs National Monument



**Arizona Strip District
Arizona Bureau of Land Management**



All monitoring information is collected and managed by Pam Foti, Ph.D. and many hard working students at Northern Arizona University

Human Impact Monitoring Web Site

Vermilion Cliffs – Zone A

Human Impact Monitoring Reports Rapid Site Inventory -- Roads

Vermilion Cliffs – Zone A Summary Report 78 sites

Vegetation Types	Party Size	Water Presence
* Native Grassland (4)	* Large Group Site (10)	* None (78)
* Pinyon/Juniper (67)	* Multiple Party Site (36)	
* Ponderosa Pine (1)	* Single Party Site (24)	
* Short Desert Shrub (6)	* Site Cluster (8)	
Barren Core Area	Surrounding Landform	Distance From Road
* 201–500 square feet (18)	* Canyon/Wash (14)	* 10–50 feet back (24)
* 501–1000 square feet (30)	* Flat/Open (15)	* 50–100 feet back (8)
* 50–200 square feet (3)	* Ridge/Top (49)	* Next to the road (29)
* Over 1000 square feet (27)		* Over 100 feet back (17)

Activities		
Field 1	Field 2	Field 3
* Archery (1) * ATV Riding (1) * Camping (62) * Hiking/Walking/Running (2) * Hunting (1) * Interpretive Exhibit Viewing (1) * Pull Out (4) * Social Gathering (1) * Staging/Parking (2) * Unknown (2) * Viewing Cultural Sites (1)	* 4WD Driving (2) * ATV Riding (3) * Camping (4) * Hiking/Walking/Running (3) * Horseback Riding (1) * Hunting (38) * Pull Out (2) * Staging/Parking (12) * Target Practice (2) * View Point (1) * Viewing Wildlife (1)	* Backpacking (1) * Camping (2) * Hiking/Walking/Running (2) * Hunting (6) * Interpretive Exhibit Viewing (1) * Motorcycling (1) * Pull Out (2) * Staging/Parking (27) * Unknown (1)
Field 4	Field 5	Field 6
* 4WD Driving (1) * ATV Riding (1) * Hiking/Walking/Running (2) * Hunting (1) * Photography (1) * Pull Out (2) * Staging/Parking (2) * Target Practice (2)		

Vermilion Cliffs – Zone A

Summary report (continued)

Yes/No Data	
Cryptobiotic Soil Present * Yes (11) * No (67)	Mountain Bike Impacts * No (78)
Campsite * Yes (67) * No (11)	Cryptobiotic Soil Impacts * Yes (3) * No (75)
Social Trails * Yes (34) * No (44)	Delicate Rock Impacts * No (78)
Campfire Evidence * Yes (66) * No (12)	Human Caused Streambank Impacts * Yes (1) * No (77)
Campsite Construction * Yes (5) * No (73)	Presence Of Cultural Dwellings * Yes (1) * No (77)
Litter * Yes (71) * No (7)	Presence Of Rock Art * No (78)
Evidence Of Human Waste * Yes (14) * No (64)	Presence Of Historic Inscriptions * No (78)
Human Caused Tree Damage * Yes (59) * No (19)	Presence Of Cultural Artifacts * Yes (3) * No (75)
Root Exposure Of Trees * Yes (2) * No (76)	Vandalism Of Cultural Dwellings * No (78)
Human Caused Shrub Damage * Yes (60) * No (18)	Vandalism Of Rock Art * No (78)
Evidence Of Livestock Use * Yes (57) * No (21)	Vandalism Of Historic Inscriptions * No (78)
Evidence Of Packstock Use * Yes (3) * No (75)	Vandalism Of Cultural Artifacts * No (78)
ATV Impacts * Yes (6) * No (72)	Vandalism Onsite * No (78)

Vermilion Cliffs – Zone B

Human Impact Monitoring Reports Rapid Site Inventory -- Roads

Vermilion Cliffs – Zone B Summary Report

103 sites

Vegetation Types	Party Size	Water Presence
* Pinyon/Juniper (99)	* Large Group Site (4)	* None (100)
* Ponderosa Pine (2)	* Multiple Party Site (26)	* Other (2)
* Short Desert Shrub (2)	* Single Party Site (71)	* Pothole (1)
	* Site Cluster (2)	

Barren Core Area	Surrounding Landform	Distance From Road
* <50 square feet (22)	* Canyon/Wash (4)	* 10–50 feet back (23)
* 201–500 square feet (23)	* Flat/Open (4)	* 50–100 feet back (5)
* 501–1000 square feet (15)	* Ridge/Top (95)	* Next to the road (66)
* 50–200 square feet (30)		* Over 100 feet back (9)
* Over 1000 square feet (13)		

Activities		
Field 1	Field 2	Field 3
* Camping (96)	* Camping (1)	* Camping (1)
* Hunting (1)	* Gathering Products (1)	* Gathering Products (1)
* Unknown (2)	* Hiking/Walking/Running (16)	* Hiking/Walking/Running (5)
* View Point (2)	* Horseback Riding (1)	* Hunting (1)
* Viewing Cultural Sites (2)	* Hunting (15)	* Pull Out (3)
	* Staging/Parking (13)	* Staging/Parking (13)
	* Unknown (1)	* Target Practice (1)
	* View Point (10)	* View Point (8)
	* Viewing Cultural Sites (8)	* Viewing Cultural Sites (1)
	* Viewing Wildlife (1)	
Field 4	Field 5	Field 6
* ATV Riding (1)		
* Hiking/Walking/Running (4)		
* Pull Out (2)		
* Staging/Parking (3)		

Vermilion Cliffs – Zone B

Summary report (continued)

Yes/No Data	
Cryptobiotic Soil Present * Yes (69) * No (34)	Mountain Bike Impacts * No (103)
Campsite * Yes (99) * No (4)	Cryptobiotic Soil Impacts * Yes (25) * No (78)
Social Trails * Yes (12) * No (91)	Delicate Rock Impacts * Yes (8) * No (95)
Campfire Evidence * Yes (94) * No (9)	Human Caused Streambank Impacts * No (103)
Campsite Construction * Yes (5) * No (98)	Presence Of Cultural Dwellings * Yes (3) * No (100)
Litter * Yes (72) * No (31)	Presence Of Rock Art * Yes (1) * No (102)
Evidence Of Human Waste * Yes (12) * No (91)	Presence Of Historic Inscriptions * Yes (1) * No (102)
Human Caused Tree Damage * Yes (55) * No (48)	Presence Of Cultural Artifacts * Yes (16) * No (87)
Root Exposure Of Trees * Yes (6) * No (97)	Vandalism Of Cultural Dwellings * No (103)
Human Caused Shrub Damage * Yes (30) * No (73)	Vandalism Of Rock Art * No (103)
Evidence Of Livestock Use * Yes (63) * No (40)	Vandalism Of Historic Inscriptions * No (103)
Evidence Of Packstock Use * Yes (5) * No (98)	Vandalism Of Cultural Artifacts * Yes (1) * No (102)
ATV Impacts * Yes (6) * No (97)	Vandalism Onsite * No (103)

Human Impact Monitoring Reports Rapid Site Inventory -- Roads

Vermilion Cliffs – Zone C Summary Report

16 sites

Vegetation Types	Party Size	Water Presence
* Barren (1)	* Large Group Site (1)	* None (15)
* Pinyon/Juniper (5)	* Multiple Party Site (2)	* Other (1)
* Short Desert Shrub (9)	* Single Party Site (11)	
* Tall Desert Shrub (1)	* Site Cluster (2)	
Barren Core Area	Surrounding Landform	Distance From Road
* <50 square feet (2)	* Canyon/Wash (3)	* 10–50 feet back (1)
* 201–500 square feet (1)	* Flat/Open (3)	* 50–100 feet back (1)
* 501–1000 square feet (2)	* Other (1)	* Next to the road (14)
* 50–200 square feet (5)	* Ridge/Top (9)	
* Over 1000 square feet (6)		

Activities		
Field 1	Field 2	Field 3
* 4WD Driving (3) * ATV Riding (9) * Camping (4)	* 4WD Driving (6) * ATV Riding (1) * Camping (2) * Hiking/Walking/Running (1) * Motorcycling (1) * Photography (2) * Pull Out (1) * Target Practice (1)	* 4WD Driving (2) * ATV Riding (1) * Hiking/Walking/Running (1) * Pull Out (1) * Social Gathering (2) * Staging/Parking (1) * Target Practice (2) * View Point (2)
Field 4	Field 5	Field 6
* Social Gathering (3) * Target Practice (6) * View Point (1) * Viewing Wildlife (1)	* Bicycling–Mountain (1) * Pull Out (1) * Staging/Parking (2) * Target Practice (1) * View Point (1)	

Vermilion Cliffs – Zone C

Summary report (continued)

Yes/No Data	
Cryptobiotic Soil Present * Yes (5) * No (11)	Mountain Bike Impacts * No (16)
Campsite * Yes (11) * No (5)	Cryptobiotic Soil Impacts * Yes (2) * No (14)
Social Trails * Yes (3) * No (13)	Delicate Rock Impacts * No (16)
Campfire Evidence * Yes (11) * No (5)	Human Caused Streambank Impacts * Yes (1) * No (15)
Campsite Construction * Yes (2) * No (14)	Presence Of Cultural Dwellings * Yes (2) * No (14)
Litter * Yes (12) * No (4)	Presence Of Rock Art * No (16)
Evidence Of Human Waste * Yes (3) * No (13)	Presence Of Historic Inscriptions * No (16)
Human Caused Tree Damage * Yes (3) * No (13)	Presence Of Cultural Artifacts * No (16)
Root Exposure Of Trees * No (16)	Vandalism Of Cultural Dwellings * No (16)
Human Caused Shrub Damage * Yes (15) * No (1)	Vandalism Of Rock Art * No (16)
Evidence Of Livestock Use * Yes (10) * No (6)	Vandalism Of Historic Inscriptions * No (16)
Evidence Of Packstock Use * No (16)	Vandalism Of Cultural Artifacts * No (16)
ATV Impacts * Yes (12) * No (4)	Vandalism Onsite * Yes (2) * No (14)