

Uinta National Forest

State of the Forest Report
For
Fiscal Year 2005

September 2006

Introduction and Purpose

On April 7, 2003, Intermountain Regional Forester Jack Troyer signed the Record of Decision approving the Uinta National Forest's 2003 Land and Resource Management Plan (Forest Plan). The Forest Plan identifies the Desired Future Condition (DFC) for the resources on the Forest, and establishes goals and objectives, standards and guidelines, and a Monitoring and Evaluation Plan. This State of the Forest Report reviews the questions in the Monitoring and Evaluation Plan (Chapter 6 in the Forest Plan) and summarizes the monitoring that was conducted in Fiscal Year 2005 (10/1/2004 – 9/30/2005). This Report evaluates this data to determine if the Forest is making progress toward or meeting those goals and objectives, and/or appropriately applying Forest Plan direction. This report is made available to the public by posting on the Forest's web page (<http://www.fs.fed.us/r4/uinta/>).

Each indicator has a different monitoring and reporting frequency based on the characteristics of the indicator. The reporting frequency is in parentheses following the indicator. In some cases, interim data collected this year for indicators with reporting frequencies of 5 to 10 years have been included in this report for information purposes. This data will be compiled and analyzed in its entirety at a later date as specified in the monitoring plan.

The State of the Forest Report is intended to help National Forest managers, other agency managers, and the public evaluate environmental conditions and trends, and the effects of Uinta National Forest land management activities and supporting programs.

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1. Are Forest management activities affecting **Management Indicator Species**, and what are the population trends and habitat relationships?

DFC: As required by the planning regulations, each National Forest, through its Land and Resource Management Plan (Forest Plan), must identify species to be used to evaluate and monitor management practices. These species serve as ecological indicators of the effects of management actions on communities. A description of each of these species and the communities they represent is included with the monitoring data.

Indicator	Monitoring
<p>Northern Goshawk:</p> <p>a. Goshawk territory activity (annually survey at least one third of known territories and post the results; evaluate trends/results every five years).</p> <p>b. Habitat conditions (every 5 years).</p>	<p>Description: In addition to being classified as a Management Indicator Species, the northern goshawk is also classified as sensitive by the Intermountain Region of the Forest Service. This species is widely distributed throughout North America and Eurasia. In Utah, goshawks are widely distributed throughout the mountainous areas. Goshawks are typically permanent residents or short-distance migrants. The goshawk is broadly associated with forested vegetation types on the Uinta National Forest. They occur in stable aspen, seral aspen, spruce/fir, Douglas-fir/white fir, and forested riparian vegetation types. Goshawks nest in relatively dense, mature stands, and forage in a variety of habitat types, including open habitats and early-seral vegetation types. They prey on a wide variety of birds and small mammals. Most common prey species include woodpeckers, jays, grouse, snowshoe hares, and red squirrels.</p> <p>Goshawk populations on the Uinta National Forest are most likely to be potentially impacted by timber, fire, and vegetation management. The Forest monitors goshawk territory occupancy as an index of goshawk population trend. Percent territory occupancy is assumed to be positively correlated with goshawk population abundance. Each year at least one third of known goshawk territories are monitored, and surveys are conducted in project areas to try to find previously unknown territories.</p> <p>The Forest has information on goshawk territory occupancy dating back to the early 1980s. In 2001, 46% of the goshawk territories monitored were occupied. In 2002, 64% of the territories monitored were occupied.</p> <p>2003: a. Five of 14 (36%) goshawk territories monitored were occupied.</p> <p>b. Habitat conditions will be evaluated and reported at the prescribed 5-year interval (2008).</p> <p>2004: a. Six of 15 (40%) goshawk territories monitored were occupied. These monitoring data provide no evidence that goshawk population trend has been declining on the Uinta National Forest in recent years.</p>

Indicator	Monitoring
	<p>b. Habitat conditions will be evaluated and reported at the prescribed 5-year interval (2008).</p> <p>2005: a. Ten of the 16 (63%) goshawk territories monitored were classified as occupied. Monitoring data provides no evidence that goshawk population trend has been declining on the Uinta National Forest in recent years. Several goshawk territories that were used in calculating occupancy in the past were dropped from further analysis in 2005 because: 1) the territory had never been confirmed, 2) the territory had not been occupied in over 20 years, and 3) the habitat is no longer considered suitable for goshawk nesting.</p> <p>b. Habitat conditions will be evaluated and reported at the prescribed 5-year interval (2008).</p>
<p>American beaver: Number of active beaver dams (at least 20% of sample streams/ watersheds measured and reported annually; evaluate population trends/results every five years).</p>	<p>Description: Beaver were widely distributed across Alaska, Canada, and the continental U.S. prior to 1800. They were quickly trapped out, however, and by the mid 1800s many beaver populations had been eliminated or dramatically reduced. Populations have reestablished throughout much of the U.S. and Canada and are increasing range-wide. Beaver are widely distributed across the Forest. They inhabit a broad variety of riparian habitats in drainages that are not too steep and have permanent stream flow and sufficient woody food resources. On the Forest, primary woody food resources are willow, aspen, and in lower-elevation riparian forests, cottonwood and alder. Beaver are trapped in Utah, but trapping pressure is not considered to be heavy enough to significantly impact overall population levels on the Forest.</p> <p>Livestock grazing, fire, water uses, and vegetation management are the management activities on the Forest most likely to impact beaver. Livestock grazing impacts levels of herbaceous vegetation, willow, and aspen, all of which are important food resources for beaver. Water use projects can result in inadequate stream flows to support beavers and their habitat. Many ecologists believe that fire suppression efforts have reduced the occurrence of wildfire during the past century and this is resulting in loss of aspen forest due to conifer encroachment in many areas of the Intermountain West. Loss of aspen forest negatively affects beaver because aspen is such an important source of food and construction material for beavers. Prescribed burning and mechanical treatments designed to reduce conifer encroachment and increase areas of young aspen will improve beaver habitat.</p> <p>The beaver is useful as an indicator species because it is a riparian obligate species and forest management activities and/or uses can impact riparian vegetation communities. Population trends for beaver provide an indication of how the Uinta National Forest is managing its important riparian communities.</p>

Indicator	Monitoring																								
	<p>Several areas and drainages have been surveyed in the past for beaver presence and/or population trends. Population trend of beavers in the upper Strawberry River watershed was assessed by counting beaver dams and colonies on aerial photos dating back to 1938.</p> <p style="text-align: center;">Numbers of Beaver Dams and Colonies Counted on Aerial Photos in Upper Strawberry River Watershed</p> <table border="1" data-bbox="617 435 1791 716"> <thead> <tr> <th>Year of Aerial Photos</th> <th>Beaver Colonies</th> <th>Beaver Dams</th> </tr> </thead> <tbody> <tr> <td>1938</td> <td>3</td> <td>15</td> </tr> <tr> <td>1956</td> <td>66</td> <td>335</td> </tr> <tr> <td>1964</td> <td>68</td> <td>329</td> </tr> <tr> <td>1971</td> <td>72</td> <td>362</td> </tr> <tr> <td>1984</td> <td>90</td> <td>545</td> </tr> <tr> <td>1987</td> <td>77</td> <td>333</td> </tr> <tr> <td>1998</td> <td>66</td> <td>259</td> </tr> </tbody> </table> <p>2003: The Forest Plan states that a Forest-wide monitoring protocol for monitoring beavers will be developed (p.6-6). A new protocol for monitoring beaver population trend was drafted and tested on the Nebo Unit. Fourteen sections within the Nebo Unit were randomly selected to be surveyed in October 2003. Six of these sections were considered to be too steep to include suitable beaver habitat and were not ground surveyed. Of the 8 sections ground surveyed, 1 active beaver colony was found in each of 2 sections.</p> <p>In addition; portions of 10 streams were surveyed on the Heber Ranger District (Willow Creek, Tut Creek, Bjorkman Hollow, Bryants Fork, Mill B Creek, 2 miles of the Strawberry River, Lake Creek, West Fork of Duchesne River, Hobble Creek, and Point of Pines Creek) and 2 streams were surveyed on the Spanish Fork Ranger District (Left Fork White River and Nebo Creek). A total of 81 active and 21 old beaver dams were found on the portions of the 10 streams surveyed.</p> <p>2004: A total of 44 sections were surveyed across the Forest (44 square miles or 28,160 acres). Eight of 44 (18%) sections contained at least 1 active beaver colony. The density of active colonies was 0.48 colonies/mile² (for a total of 21 active colonies/44 sections). Densities of beaver colonies reported in the literature vary greatly, ranging from 0 colonies/mile² to 11.9 colonies/mile². Many old, abandoned beaver colonies were found, especially in areas where aspen had declined due to conifer encroachment, and in areas with either no or only small willow communities.</p>	Year of Aerial Photos	Beaver Colonies	Beaver Dams	1938	3	15	1956	66	335	1964	68	329	1971	72	362	1984	90	545	1987	77	333	1998	66	259
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	<p>2005: A total of 52 sections were surveyed across the Forest (52 square miles or 33,280 acres). Nine of 52 sections (17%) contained at least 1 active beaver colony. The density of active colonies was 0.42 colonies/mile² (for a total of 22 active colonies/52 sections). Densities of beaver colonies reported in the literature vary greatly, ranging from 0 colonies/mile² to 11.9 colonies/mile². Many inactive beaver colonies were found (in 35% of the surveyed sections), especially in areas where aspen had declined due to conifer encroachment and in areas with either no or only small willow communities.</p>
<p>American three-toed woodpecker:</p> <ul style="list-style-type: none"> a. Index of population abundance (Breeding Bird Surveys will be conducted and results reported annually). b. Habitat conditions (every 5 years). 	<p>Description: In addition to being classified as a Management Indicator Species on the Uinta National Forest, the American three-toed woodpecker is classified as sensitive by the Intermountain Region of the Forest Service. The three-toed woodpecker is also classified as a Utah Partners in Flight Priority Species. This species is widely distributed throughout boreal and subalpine forests of North America. It occurs throughout mountainous areas of Utah. Three-toed woodpeckers do not migrate, although periodic irruptions occur, presumably due to failure of the food supply. On the Uinta National Forest, three-toed woodpeckers occur in conifer forest types and are most closely associated with the spruce/fir forest type. The woodpeckers excavate cavities in snags and dead portions of live trees. Most of their diet consists of wood-boring beetles and caterpillars that attack conifers. Densities of three-toed woodpeckers can increase substantially in response to spruce beetle (<i>Dendroctonus rufipennis</i>) outbreaks.</p> <p>Timber management and fire are the activities on the Uinta National Forest most likely to affect three-toed woodpecker populations. The three-toed woodpecker is closely associated with old forest structural characteristics in spruce/fir forests, the forest type in which much of the timber harvesting on the Uinta National Forest occurs. Although population levels of three-toed woodpeckers are known to fluctuate considerably over short periods of time, its long-term population trend is likely to reflect changes in forest management practices on the Forest.</p> <p>In the past, many areas have been surveyed to determine three-toed woodpecker populations and densities in the survey areas. In addition, annual surveys have been conducted on three Breeding Bird Survey (BBS) routes located on the Uinta National Forest (one since 1980, one since 1992, and one since 1996). Data from these surveys is summarized in the following table:</p>

Indicator	Monitoring														
	Three-toed Woodpeckers Detected on Breeding Bird Surveys on the Uinta NF, 1992-2005														
	^{1/} BBS Route	Number of Birds Detected													
		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
	Soapstone	0	NS	NS	NS	2	0	NS	0	0	1	2	0	1	0
	Heber Mtn	NS	NS	NS	NS	0	1	1	0	0	0	0	0	1	0
	Sheep Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NS: Indicates the route was not surveyed that year.														
	<p>^{1/} This is the official data off the BBS website.</p> <p>^{2/} The 2003 State of the Forest Report had 2 detections listed for 2003 on the Soapstone route but 0 detections are listed here. This is because the route was surveyed on three dates and 2 woodpeckers were detected on the third day. However, the official BBS website only reports the first survey's data and no three-toeds were detected on the first survey</p> <p>Although this woodpecker species is widely distributed, it occurs at relatively low densities in most areas. Population trend analysis for three-toed woodpeckers was conducted using data published on the Breeding Bird Survey website (http://www.mbr-pwrc.usgs.gov/bbs/trend/tf04.html). Trend analysis was conducted at the spatial scale of the western BBS region because of the low densities of woodpeckers on the three BBS routes on the Uinta National Forest. During the past 20 years (1984 to 2004), the population trend estimate was 10.22, which was a non-significant (P = 0.18) increase in population trend.</p> <p>2003: a. The three BBS routes were surveyed (see above). In addition to the annual BBS surveys, the Forest Plan states that an additional Forest-wide monitoring protocol will be developed. In 2003, a more intensive three-toed woodpecker monitoring protocol was drafted and tested. A random sample of survey stations located across the Uinta National Forest was generated. The monitoring protocol is based on conducting broadcast surveys (playing a recording of three-toed woodpecker calls and drumming) at each survey station and determining the percentage of total survey stations at which three-toed woodpeckers respond. Eleven stations were surveyed. Eight three-toed woodpeckers were recorded at one station, and none were encountered at the other 10 survey stations.</p>														

Indicator	Monitoring
	<p>b. Habitat conditions will be evaluated and reported at the prescribed 5-year interval (2008).</p> <p>2004: a. As described previously, the three BBS routes were surveyed. In addition, surveys were conducted in accordance with the additional Forest-wide protocol that was drafted in 2003. Three-toed woodpeckers were detected at 14 of 43 (33%) survey stations across the Uinta National Forest. In addition, three-toed woodpeckers were detected at an additional 17 sites on the Forest during project surveys or incidental observations. Each detection represented a confirmed sighting of at least one three-toed woodpecker (1 to 4 three-toed woodpeckers were observed at each site). Three-toed woodpeckers were detected in spruce/fir, Douglas-fir, and lodgepole pine forest types, and were commonly detected in areas with spruce beetle activity.</p> <p>b. Habitat conditions will be evaluated and reported at the prescribed 5-year interval (2008).</p> <p>2005: a. As described previously, the three BBS routes were surveyed. In addition, surveys were conducted in accordance with the additional Forest-wide protocol that was drafted in 2003. Three-toed woodpeckers were detected at 17 of 42 (40%) survey stations across the Uinta National Forest. In addition, three-toed woodpeckers were detected at an additional 45 sites on the Forest during project surveys or incidental observations. Each detection represented a confirmed sighting of at least one three-toed woodpecker (1 to 4 three-toed woodpeckers were observed at each site). Three-toed woodpeckers were detected in spruce/fir, Douglas-fir, and lodgepole pine forest types, and were commonly detected in areas with spruce beetle activity.</p> <p>b. Habitat conditions will be evaluated and reported at the prescribed 5-year interval (2008).</p>
<p>Colorado River cutthroat trout:</p> <p>a. Population estimates (at least 33% of sample streams surveyed, and results reported annually; population trends will be evaluated and</p>	<p>Description: Colorado River cutthroat trout are a Region 4 and State sensitive species. Conservation Agreements have been developed for this species within the State of Utah. The conservation and recovery for this species depends on eliminating or reducing the impact of activities that threaten the species' existence. Colorado River cutthroat trout will be used as MIS in sub-basins that have been identified as containing either persistence or conservation populations of this species.</p> <p>Colorado River cutthroat trout were selected as aquatic MIS because: (1) the species is closely associated with a particular community type and can be impacted by several major management activities on the Forest; (2) population trends of this species may reflect management activities on the Forest; (3) the species is relatively well-distributed across the Forest within the community type it represents and is a permanent resident in that community type; and (4) it is feasible to collect survey data for the species that is</p>

Indicator	Monitoring																											
<p>reported every 5 years).</p> <p>b. Habitat conditions (every 5 years).</p>	<p>of sufficient quality to accurately reflect changes in population abundance.</p> <p>2003:</p> <p>a. Eight streams, equating to 53% of the populations on the Forest, were surveyed for Colorado River cutthroat trout.</p> <p style="text-align: center;">2003 Colorado River Cutthroat Trout Survey Results</p> <table border="1" data-bbox="535 467 1848 881"> <thead> <tr> <th>Stream</th> <th>2003 CRCT fish/m*</th> <th>2003 CRCT K-factor**</th> </tr> </thead> <tbody> <tr> <td>Right Fork White River</td> <td>No estimate</td> <td>1.01</td> </tr> <tr> <td>Left Fork White River</td> <td>Channel dry (and no fish present) in sample reach</td> <td>Channel dry (and no fish present) in sample reach</td> </tr> <tr> <td>Middle Fork White River</td> <td>Channel dry (and no fish present) in sample reach</td> <td>Channel dry (and no fish present) in sample reach</td> </tr> <tr> <td>West Fork Duchesne #1</td> <td>0.21</td> <td>0.97</td> </tr> <tr> <td>West Fork Duchesne #2</td> <td>0.23</td> <td>0.91</td> </tr> <tr> <td>Little West Fork Duchesne</td> <td>0.66</td> <td>1.08</td> </tr> <tr> <td>Vat Creek</td> <td>0.21</td> <td>0.99</td> </tr> <tr> <td>Low Pass Creek</td> <td>Channel dry (and no fish present) in sample reach</td> <td>Channel dry (and no fish present) in sample reach</td> </tr> </tbody> </table> <p>* fish/m = fish per meter</p> <p>** K-factor = condition factor, a weight to length index to determine general fish health. A K-factor of 1 indicates an average, healthy fish.</p> <p>Data indicates that there may be a slight upward trend in condition of cutthroat trout, but that population abundance appears static.</p> <p>b. Survey data will be summarized and habitat conditions evaluated and reported in 2008. This year continued a series of several moderate to extreme drought years, and as a result, many streams had reduced flows and/or dry reaches.</p> <p>2004:</p> <p>a. The Forest Plan states that a Forest-wide monitoring protocol will be developed. In FY2004, a draft cutthroat trout monitoring protocol was developed. Sixteen streams, equating to 94% of the populations on the Forest, were surveyed for Colorado River cutthroat trout.</p>	Stream	2003 CRCT fish/m*	2003 CRCT K-factor**	Right Fork White River	No estimate	1.01	Left Fork White River	Channel dry (and no fish present) in sample reach	Channel dry (and no fish present) in sample reach	Middle Fork White River	Channel dry (and no fish present) in sample reach	Channel dry (and no fish present) in sample reach	West Fork Duchesne #1	0.21	0.97	West Fork Duchesne #2	0.23	0.91	Little West Fork Duchesne	0.66	1.08	Vat Creek	0.21	0.99	Low Pass Creek	Channel dry (and no fish present) in sample reach	Channel dry (and no fish present) in sample reach
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	2004 Colorado River Cutthroat Trout Survey Results		
	Stream	2004 CRCT fish/m*	2004 CRCT K-factor**
	Right Fork White River	0.15	0.87
	Left Fork White River	0.02	0.94
	Middle Fork White River	Channel dry in sample reach	Channel dry in sample reach
	West Fork Duchesne #1	0.55	0.95
	West Fork Duchesne #2	0.23	0.91
	Little West Fork Duchesne	0.58	1.05
	Vat Creek	0.19	0.99
	Jones Cabin Creek	0.04	1.01
	Low Pass Creek	0.01	1.16
	Right Fork Currant Creek	0.29	1.00
	Left Fork Currant Creek	0.28	1.12
	South Fork Currant Creek	0.11	1.03
	Tut Creek	0.06	1.06
	Pass Creek	0.05	1.15
	Race Track Creek	0.07	1.18
	Willow Creek (Lower)	0.46	1.02
	Tabbyune Creek	Not sampled	Not sampled
	<p>* fish/m = fish per meter</p>		
<p>** K-factor = condition factor, a weight to length index to determine general fish health. A K-factor of 1 indicates an average, healthy fish.</p>			
<p>Data indicates that there may be a slight upward trend in condition of cutthroat trout, but that population abundance appears static.</p>			
<p>b. Survey data will be summarized and habitat conditions evaluated and reported in 2008. Based on the Standardized Precipitation Index, 2004 was a year of near-normal precipitation that followed several years of moderate to extreme drought. As a result, many streams continued to have reduced flows and/or dry reaches.</p>			

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	<p>2005:</p> <p>a. The Forest Plan states that a Forest-wide monitoring protocol will be developed. In FY2004, the cutthroat trout monitoring protocol was developed and implemented. The Uinta National Forest contains sixteen streams that either contain or have the potential to contain Colorado River cutthroat trout populations. Colorado River cutthroat trout populations and habitat conditions were surveyed on fifteen streams or 94% of the Colorado River cutthroat trout streams on the Forest during FY2005.</p> <p style="text-align: center;">2005 Colorado River Cutthroat Trout Survey Results</p> <table border="1" data-bbox="533 500 1919 1094"> <thead> <tr> <th>Stream</th> <th>2005 CRCT Fish/m*</th> <th>2005 CRCT K-factor**</th> <th>2005 HSI***</th> </tr> </thead> <tbody> <tr><td>Right Fork White River</td><td>0.08</td><td>1.05</td><td>0.86</td></tr> <tr><td>Left Fork White River</td><td>0.01</td><td>0.91</td><td>0.80</td></tr> <tr><td>Middle Fork White River</td><td>Not sampled</td><td>Not sampled</td><td>Not sampled</td></tr> <tr><td>West Fork Duchesne</td><td>0.55</td><td>0.95</td><td>0.86</td></tr> <tr><td>Little West Fork Duchesne</td><td>0.26</td><td>1.27</td><td>0.81</td></tr> <tr><td>Vat Creek</td><td>0.16</td><td>1.20</td><td>0.75</td></tr> <tr><td>Jones Cabin Creek</td><td>0.03</td><td>0.91</td><td>0.81</td></tr> <tr><td>Low Pass Creek</td><td>0.08</td><td>1.02</td><td>0.84</td></tr> <tr><td>Right Fork Currant Creek</td><td>0.26</td><td>1.12</td><td>0.75</td></tr> <tr><td>Left Fork Currant Creek</td><td>0.05</td><td>1.16</td><td>0.74</td></tr> <tr><td>South Fork Currant Creek</td><td>0.36</td><td>1.24</td><td>0.76</td></tr> <tr><td>Tut Creek</td><td>0.16</td><td>1.24</td><td>0.75</td></tr> <tr><td>Pass Creek</td><td>No data</td><td>No data</td><td>0.74</td></tr> <tr><td>Race Track Creek</td><td>0.13</td><td>1.03</td><td>0.75</td></tr> <tr><td>Willow Creek (Lower)</td><td>0.45</td><td>1.12</td><td>0.77</td></tr> <tr><td>Tabbyune Creek</td><td>0.04</td><td>1.07</td><td>0.52</td></tr> </tbody> </table> <p>* Fish/m = fish per meter ** K-factor = condition factor, a weight to length index to determine general fish health. A K-factor of 1.00 indicates an average, healthy fish. ***HSI = Habitat Suitability Index for cutthroat trout. A HSI of 1.00 indicates excellent habitat for all life stages of cutthroat trout. (sc) = Snorkel count survey.</p>	Stream	2005 CRCT Fish/m*	2005 CRCT K-factor**	2005 HSI***	Right Fork White River	0.08	1.05	0.86	Left Fork White River	0.01	0.91	0.80	Middle Fork White River	Not sampled	Not sampled	Not sampled	West Fork Duchesne	0.55	0.95	0.86	Little West Fork Duchesne	0.26	1.27	0.81	Vat Creek	0.16	1.20	0.75	Jones Cabin Creek	0.03	0.91	0.81	Low Pass Creek	0.08	1.02	0.84	Right Fork Currant Creek	0.26	1.12	0.75	Left Fork Currant Creek	0.05	1.16	0.74	South Fork Currant Creek	0.36	1.24	0.76	Tut Creek	0.16	1.24	0.75	Pass Creek	No data	No data	0.74	Race Track Creek	0.13	1.03	0.75	Willow Creek (Lower)	0.45	1.12	0.77	Tabbyune Creek	0.04	1.07	0.52
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<p>Bonneville cutthroat trout:</p> <p>a. Population estimates (at least 33% of sample streams surveyed, and results reported annually; population trends will be evaluated and reported every 5 years).</p> <p>b. Habitat conditions (every 5 years).</p>	<p>Description: Bonneville cutthroat trout are a Region 4 and State sensitive species. Conservation Agreements have been developed for this species within the State of Utah. The conservation and recovery for this species depend on eliminating or reducing the impact of activities that threaten the species' existence. Bonneville cutthroat trout will be used as MIS in sub-basins that have been identified as containing either persistence or conservation populations of this species.</p> <p>Bonneville cutthroat trout are a focal species that can be used to assess the effects of a proposed action and to evaluate the effectiveness of management activities that have been implemented. Bonneville cutthroat trout were selected as aquatic MIS because: (1) the species is closely associated with a particular community type and can be impacted by several major management activities on the Forest; (2) population trends of this species may reflect management activities on the Forest; (3) the species is relatively well-distributed across the Forest within the community type it represents and is a permanent resident in that community type; and (4) it is feasible to collect survey data for the species that is of sufficient quality to accurately reflect changes in population abundance. Data from previous years indicate that there may be a slight upward trend in condition of cutthroat trout, but that population abundance appears static.</p> <p>2003:</p> <p>a. Two streams were surveyed for Bonneville cutthroat trout, which equates to 1% of the population.</p> <p style="text-align: center;">2003 Bonneville Cutthroat Trout Survey Results</p> <table border="1" data-bbox="535 1149 1801 1289"> <thead> <tr> <th data-bbox="535 1149 989 1219">Stream Sampled</th> <th data-bbox="995 1149 1394 1219">2003 BCT Populations (fish/m*)</th> <th data-bbox="1400 1149 1801 1219">2003 Fish Condition Index (K-factor**)</th> </tr> </thead> <tbody> <tr> <td data-bbox="535 1224 989 1252">North Fork American Fork River</td> <td data-bbox="995 1224 1394 1252">0.37</td> <td data-bbox="1400 1224 1801 1252">0.98</td> </tr> <tr> <td data-bbox="535 1256 989 1289">Holman Creek</td> <td data-bbox="995 1256 1394 1289">0.19</td> <td data-bbox="1400 1256 1801 1289">1.00</td> </tr> </tbody> </table> <p>* fish/m = fish per meter ** K-factor = condition factor, a weight to length index to determine general fish health. A K-factor of 1 indicates an average, healthy fish.</p>	Stream Sampled	2003 BCT Populations (fish/m*)	2003 Fish Condition Index (K-factor**)	North Fork American Fork River	0.37	0.98	Holman Creek	0.19	1.00
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Indicator	Monitoring		
2004 Bonneville Cutthroat Trout Survey Results			
	Stream Sampled	2004 BCT Populations (fish/m*)	2004 Fish Condition Index (K-factor**)
	North Fork American Fork River	0.35	1.01
	South Fork American Fork River	BCT not observed	BCT not observed
	Mainstem American Fork River	BCT not observed	BCT not observed
	Fifth Water	0.07	1.10
	Chase Creek	0.04	1.20
	Shingle Mill	BCT not observed	BCT not observed
	Sixth Water	0.06	1.19
	Halls Fork	0.01	0.96
	Cottonwood Creek	0.17	1.02
	Upper Diamond Fork	0.01	1.08
	Lower Diamond Fork	BCT not observed	BCT not observed
	Tie Fork	BCT not observed	BCT not observed
	Nebo Creek	0.01	1.10
	Holman Creek	0.19	1.00
	Little Diamond Creek	0.32	1.10
	Wanrhodes	Channel dry in sample reach	Channel dry in sample reach
	Provo Deer Creek	BCT not observed	BCT not observed
	Right Fork Hobble Creek	BCT not observed	BCT not observed
	Left Fork Hobble Creek	BCT not observed	BCT not observed
	Wardsworth Creek	0.08	1.11
	Peteetneet Creek	0.69	1.08
	Wimmer Ranch Creek	0.46	1.14
<p>* fish/m = fish per meter ** K-factor = condition factor, a weight to length index to determine general fish health. A K-factor of 1 indicates an average, healthy fish.</p>			
<p>In addition to the above, Bear Lake cutthroat trout populations were monitored in four Strawberry Reservoir tributaries. This species is not native in the Strawberry River drainage.</p>			

Indicator	Monitoring																	
	<p style="text-align: center;">2004 Bear Lake Cutthroat Trout Survey Results</p> <table border="1" data-bbox="535 300 1801 509"> <thead> <tr> <th data-bbox="535 300 989 370">Stream Sampled</th> <th data-bbox="995 300 1394 370">2004 CT Populations (fish/m*)</th> <th data-bbox="1400 300 1801 370">2004 Fish Condition Index (K-factor**)</th> </tr> </thead> <tbody> <tr> <td data-bbox="535 375 989 407">Willow Creek</td> <td data-bbox="995 375 1394 407">0.51</td> <td data-bbox="1400 375 1801 407">1.10</td> </tr> <tr> <td data-bbox="535 412 989 444">Upper Strawberry River #1</td> <td data-bbox="995 412 1394 444">0.83</td> <td data-bbox="1400 412 1801 444">0.95</td> </tr> <tr> <td data-bbox="535 449 989 482">Upper Strawberry River #2</td> <td data-bbox="995 449 1394 482">0.37</td> <td data-bbox="1400 449 1801 482">0.95</td> </tr> <tr> <td data-bbox="535 487 989 509">Bryant's Fork</td> <td data-bbox="995 487 1394 509">0.97</td> <td data-bbox="1400 487 1801 509">No Data</td> </tr> </tbody> </table> <p data-bbox="579 548 892 574">* fish/m = fish per meter</p> <p data-bbox="579 579 1890 643">** K-factor = condition factor, a weight to length index to determine general fish health. A K-factor of 1 indicates an average, healthy fish.</p> <p data-bbox="535 683 1919 743">Data from previous years indicate that there may be a slight upward trend in condition of cutthroat trout, but that population abundance appears static.</p> <p data-bbox="535 784 1898 911">b. Survey data will be summarized and habitat conditions evaluated and reported in 2008. Based on the Standardized Precipitation Index, 2004 was a year of near-normal precipitation that followed several years of moderate to extreme drought. As a result, many streams continued to have reduced flows and/or dry reaches.</p> <p data-bbox="535 951 611 977">2005:</p> <p data-bbox="579 982 1902 1146">a. The Forest Plan states that a Forest-wide monitoring protocol will be developed. In FY2004, the cutthroat trout monitoring protocol was developed and implemented. The Uinta National Forest contains thirty streams that either contain or have the potential to contain Bonneville cutthroat trout populations. Bonneville cutthroat trout populations and habitat conditions were surveyed on thirty streams or 100% of the Bonneville cutthroat trout streams on the Forest during FY2005.</p>			Stream Sampled	2004 CT Populations (fish/m*)	2004 Fish Condition Index (K-factor**)	Willow Creek	0.51	1.10	Upper Strawberry River #1	0.83	0.95	Upper Strawberry River #2	0.37	0.95	Bryant's Fork	0.97	No Data
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Indicator	Monitoring			
2005 Bonneville Cutthroat Trout Survey Results				
	Stream Sampled	2005 BCT fish/m*	2005 BCT K-factor**	2005 HSI***
	American Fork (Mainstem)	0.04 (sc)	No data	0.81
	American Fork (North Fork)	0.44 (sc)	No data	0.79
	American Fork (South Fork)	BCT not observed	BCT not observed	0.79
	Bench Creek	0.65	0.81	0.77
	Chase Creek	0.18	0.99	0.70
	Cottonwood Creek	0.20 (sc)	No data	0.81
	Daniels Creek	0.49	0.99	0.91
	Diamond Fork (Lower)	BCT not observed	BCT not observed	0.87
	Diamond Fork (Middle)	0.02	1.03	0.86
	Diamond Fork (Upper)	0.09 (sc)	No data	No data
	Dip Vat Creek	0.05	1.26	0.82
	Fifth Water	0.10 (sc)	No data	0.83
	Halls Fork	0.02	1.13	0.78
	Hobble Creek (Right Fork)	BCT not observed	BCT not observed	0.86
	Holman Creek	0.04	1.15	0.80
	Little Diamond Creek	0.11	1.01	0.74
	Little South Fork Provo	0.45	1.14	0.79
	Nebo Creek	0.02	1.23	0.72
	Peteetneet Creek	0.72 (sc)	No data	0.78
	Provo Deer Creek	BCT not observed	BCT not observed	0.86
	Shingle Mill	0.08	1.14	0.77
	Sixth Water	0.21 (sc)	No data	0.75
	Soapstone Creek	0.32	1.17	0.80
	Soldier Creek	BCT not observed	BCT not observed	0.74
	South Fork Deer Creek	0.13	1.01	0.85
	Tie Fork	0.01 (sc)	No data	0.73
	Upper South Fork Provo	0.38	1.15	0.81
	Wanrhodes	BCT not observed	BCT not observed	0.52
	Wardsworth Creek	0.11	0.98	0.87
	Wimmer Ranch Creek	0.37	1.18	0.73

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	<p>* Fish/m = fish per meter ** K-factor = condition factor, a weight to length index to determine general fish health. A K-factor of 1.00 indicates an average, healthy fish. ***HSI = Habitat Suitability Index for cutthroat trout. A HSI of 1.00 indicates excellent habitat for all life stages of cutthroat trout. (sc) = Snorkel count survey.</p> <p>In addition to the above, Bear Lake cutthroat trout populations were monitored in ten Strawberry Reservoir tributaries. The Bear Lake strain of Bonneville cutthroat trout is not native in the Strawberry River drainage.</p> <p style="text-align: center;">2005 Bear Lake Cutthroat Trout Survey Results</p> <table border="1" data-bbox="535 636 1921 1019"> <thead> <tr> <th>Stream Sampled</th> <th>2005 Fish/m*</th> <th>2005 K-factor**</th> <th>2005 HSI***</th> </tr> </thead> <tbody> <tr> <td>Bryants Fork (North)</td> <td>0.54 (sc)</td> <td>No data</td> <td>0.93</td> </tr> <tr> <td>Clyde Creek</td> <td>1.26 (sc)</td> <td>No data</td> <td>0.74</td> </tr> <tr> <td>Indian Creek</td> <td>1.90 (sc)</td> <td>No data</td> <td>0.73</td> </tr> <tr> <td>Little Hobble Creek</td> <td>1.24 (sc)</td> <td>No data</td> <td>0.84</td> </tr> <tr> <td>Main Canyon Creek</td> <td>1.06 (sc)</td> <td>No data</td> <td>0.79</td> </tr> <tr> <td>Mud Creek</td> <td>No data</td> <td>No data</td> <td>0.75</td> </tr> <tr> <td>Murdock Hollow</td> <td>0.45</td> <td>No data</td> <td>0.73</td> </tr> <tr> <td>Strawberry River</td> <td>1.76</td> <td>1.00</td> <td>0.84</td> </tr> <tr> <td>Streeper Creek</td> <td>0.63 (sc)</td> <td>No data</td> <td>0.75</td> </tr> <tr> <td>Willow Creek (Upper)</td> <td>1.70</td> <td>No data</td> <td>0.76</td> </tr> </tbody> </table> <p>* Fish/m = fish per meter ** K-factor = condition factor, a weight to length index to determine general fish health. A K-factor of 1.00 indicates an average, healthy fish. ***HSI = Habitat Suitability Index for cutthroat trout. A HSI of 1.00 indicates excellent habitat for all life stages of cutthroat trout. (sc) = Snorkel count survey.</p> <p>Data from previous years indicate that there may be a slight upward trend in condition of cutthroat trout, but that population abundance remains static.</p> <p>b. Habitat survey data will be summarized and habitat conditions evaluated and reported in 2008. .</p>	Stream Sampled	2005 Fish/m*	2005 K-factor**	2005 HSI***	Bryants Fork (North)	0.54 (sc)	No data	0.93	Clyde Creek	1.26 (sc)	No data	0.74	Indian Creek	1.90 (sc)	No data	0.73	Little Hobble Creek	1.24 (sc)	No data	0.84	Main Canyon Creek	1.06 (sc)	No data	0.79	Mud Creek	No data	No data	0.75	Murdock Hollow	0.45	No data	0.73	Strawberry River	1.76	1.00	0.84	Streeper Creek	0.63 (sc)	No data	0.75	Willow Creek (Upper)	1.70	No data	0.76
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Indicator	Monitoring
	<p>Based on the Standardized Precipitation Index, 2005 was a moderately wet to very wet year that followed one year of near normal and several years of moderate to extreme drought. As a result, stream flows in many streams returned to more normal levels.</p>

2. Is the Forest protecting **Federally-listed Threatened and Endangered Species** and their habitat while implementing the Forest Plan?

DFC: Known populations of all federally-listed threatened, endangered, proposed, or candidate species occurring on the Forest are maintained or increased.

Indicator	Monitoring
<p>Bald eagle: Index of winter roosting activity on the Forest (annually).</p>	<p>Status: The bald eagle is currently classified as threatened under the Endangered Species Act (ESA). The U.S. Fish and Wildlife Service was petitioned in January 2001 to remove the bald eagle from the List of Threatened and Endangered Species.</p> <p>Very few bald eagles have nested in Utah in recent years, and none of the nests are located on or near the Uinta National Forest. Bald eagles do occur as migrants and winter residents on and near the Forest. They are most commonly observed foraging and roosting along rivers between November and March. They have often been seen during the winter in Heber Valley, the Vernon Unit, in canyons along the Wasatch Front (including Provo Canyon, American Fork, Hobbie Creek, White River, and Diamond Fork), and on the Nebo Unit along Salt Creek.</p> <p>Bald eagle populations across North America continue to increase from the lows in 1970s that resulted from the effects of pesticide use. Winter bald eagle surveys are conducted on parts of the Uinta National Forest by personnel from the Utah Division of Wildlife Resources (UDWR) and the Forest. Bald eagle roost and nesting surveys, which occur primarily off-Forest, indicate populations are increasing. Although there has been improvement in the overall habitat and environment used by this species, it is not likely that population increases are due to Forest management activities as roost sites on the Forest are limited. An increase in sightings and use of the Forest has occurred concurrently with the overall increase in the population.</p> <p>2003: January 2003 bald eagle data from UDWR showed 5 bald eagle sightings on the Forest, and 3 additional sightings within 1-2 miles of the Forest. The sightings on the Forest included observation of a roosting adult on two occasions in Provo Canyon, a roosting adult in Diamond Fork, and two roost sites with more than three individuals on the Vernon Unit.</p> <p>2004: Two standardized mid-winter surveys were conducted off-Forest by the UDWR. Fifty-three (53) eagles were counted on a survey route that starts in north of the Forest in Vernon, and goes toward Rush Valley and Ophir Canyon. A second survey starts near Fountain Green (southeast of the Nebo Unit), travels around Moroni, Freedom and Wales, and heads down through the Sanpete Valley. Eighty-</p>

Indicator	Monitoring
	<p>six (86) eagles were counted on this route. While neither of these routes are located on the Forest, the habitat covered in the surveys are similar to what is found on the Forest. Bald eagle roost mapping surveys, which occurs primarily off-Forest, were not conducted by the Division of Wildlife Resources in 2004.</p> <p>Bald eagles were also observed in the Diamond Fork area on four different days by students visiting the Diamond Fork Youth Forest. These sightings occurred between October and January, and involved at least 5 birds.</p> <p>2005: Bald eagles continue to be found along the routes in the Vernon Management area. Only 2 birds were seen this year. Both birds occurred in locations where eagles have been found in previous surveys. Eagles also continue to be found with regularity in the Diamond Fork area. Eagles were seen 20 times during trips to the Diamond Fork Youth Forest, with a record of 8 eagles seen in one day.</p>

Indicator	Monitoring
<p>Canada lynx: Documentation of observations (every 5 years).</p>	<p>Status: The Canada lynx was listed as threatened under the Endangered Species Act in 2000. Information on the status of Canada lynx on the Uinta National Forest was summarized as part of the viability assessment completed during revision of the Uinta National Forest’s Forest Plan. There are no known breeding populations of lynx in Utah, although historically the species regularly occurred throughout the Uinta Mountains. Two Lynx Analysis Units (LAUs) have been designated on the Uinta National Forest. They are located on the northern part of the Heber Ranger District in the Upper Provo River and West Fork Duchesne River drainages. Hair-snare surveys were conducted for lynx as part of the National Lynx Survey during 1999, 2000, and 2001 within these two LAUs, but no lynx was detected. Lynx inhabit high-elevation conifer forests in the Rocky Mountain region and feed on snowshoe hares, red squirrels, other small mammals, and forest grouse. Lynx typically den under logs, stumps, rocks, or thick patches of live vegetation.</p> <p>2003: No observations were documented.</p> <p>2004: Two different lynx were detected on the Uinta National Forest. Both were animals that had been translocated to Colorado and had collars. A male lynx passed through the Strawberry Valley area in July 2004. A female lynx was located at several locations on the Forest during fall 2004. Both lynx kept moving, did not stay in one area for more than a week, and eventually moved off the Forest.</p> <p>2005: A collared female lynx from Colorado was tracked with an airplane and located in the Soapstone Basin on the west end of the Uinta Mountains in January 2005. She passed through and did not remain on the Uinta.</p>
<p>Clay phacelia: Documentation of observations and project surveys in potential habitat (every 5 years).</p>	<p>Status: The endangered clay phacelia is endemic to Spanish Fork Canyon on substrates derived from shales of the Green River Formation. The plant occurs on steep, sparsely vegetated slopes among mountain brush and pinyon/juniper communities, at elevations from 5,900 to 6,500 feet. No populations are known to occur on the Forest, but they do occur adjacent to it (within a few hundred yards of the boundary). Potential habitat exists on the Forest, as confirmed by a study comparing soils, vegetation, and physical parameters of potential sites on the Forest with those of occupied sites.</p> <p>Surveys for the species were conducted on the Forest as part of the aforementioned survey, and surveys have also been conducted as part of several project-specific analyses, but no plants were found as a result. There is an approved recovery plan for clay phacelia, and the Uinta National Forest participates actively in recovery efforts, both as a member of the recovery team and in implementing recovery tasks. The U.S. Fish and Wildlife Service plans to update the Recovery Plan for this species. The Forest is taking part in the development of the updated recovery plan.</p>

Indicator	Monitoring
	<p>Dr. Kim T. Harper of Utah Valley State College and students buried pots containing soil and seeds from an existing clay phacelia colony in three potential habitat areas on the Forest in 1996 and 1997, using soil from both private and NFS habitat. They found that the two soil sources did not differently affect seed germination. These pot sites were surveyed in 2002, but no clay phacelia plants were found.</p> <p>2003: The 1996 experimental planting sites were surveyed, but no clay phacelia plants were found.</p> <p>2004: A Decision Notice signed approving an interagency project to introduce clay phacelia on up to thirteen sites of apparently suitable habitat on the Uinta N. F over a period of several years. Plant surveys for projects on the Forest have not found clay phacelias to date. No projects were proposed or surveyed within likely clay phacelia habitat in 2004.</p> <p>2005: No action occurred related to clay phacelia on the Uinta National Forest this year, including no project related surveys for the species. The clay phacelia reintroduction project progressed with the germination of about 60 young phacelias in winter 2005-2006 by the USDA Rocky Mountain Research Station Provo Shrub Lab, from some of the seed collected in 2004. Those plants will be grown to produce additional seed, which in turn will provide seedlings to plant on the Forest. No 2004 seedlings survived the winter of 2004-2005 at their private land habitat, so no seed was collected in 2005.</p>
<p>Ute ladies'-tresses: Documentation of observations and project surveys in potential habitat (every 5 years).</p>	<p>Status: Populations of Ute ladies'-tresses (<i>Spiranthes diluvialis</i>; ULT) are found in a few locations in Utah and Wasatch Counties, including sites within the Provo, American Fork, and Spanish Fork River drainages. The species occurs elsewhere in the state, as well as in Washington, Idaho, Montana, Wyoming, Colorado, and western Nebraska. A draft recovery plan has been developed for the species. The U.S. Fish and Wildlife Service is in the process of completing a status review for this species.</p> <p>The only known occurrences of this orchid on the Uinta National Forest are along Diamond Fork, with adjacent populations located just off-forest along the Spanish Fork River. Extensive surveys have failed to locate it elsewhere on the Forest. In the Diamond Fork drainage, 77 plant colonies have been identified, each occurring on a distinct depositional (flood-created) surface. In 1998, a year of record flowering in Diamond Fork, an extensive survey resulted in a population estimate of 16,500 flowering individuals in these colonies. Based on population estimates and acres of occupied habitat, the Diamond Fork complex is the largest along the Wasatch Front (the six other occurrences total less than 1,000 flowering individuals) and one of the largest, most concentrated occurrences throughout the species' range. The U.S. Fish and Wildlife Service considers this population to be one of the most valuable metapopulations range-wide, and as such, a high priority for conservation and protection.</p>

Indicator	Monitoring
	<p>2003: In 2001 twenty (20) bee boxes were placed within existing ULT habitat to see if they would increase pollinator habitat. They were checked in 2002 to see if they were used by pollinators, and no use was found. Dr. Vincent Tepedino told us we had placed them in sites too wet to appeal to bees. In 2003 the beehives were repositioned in adjacent upland areas per Dr. Tepedino’s recommendation, and 20 bundles of elderberry twigs were added nearby, to see if Ute ladies’-tresses pollinating bees would use them for nesting. The boxes and twig bundles were scheduled to be inspected again in 2005. The one project related survey conducted was in the Diamond Fork Campground, to make sure a trail to be constructed avoided known colonies and visible plants.</p> <p>2004: There were no project-related surveys for ULT conducted in 2004.</p> <p>2005: Some project-related surveys for ULT were conducted in upper Diamond Fork and some other stream courses, but no new populations were found in those areas. Monitoring for bee use of the introduced boxes and twig bundles found no use of the boxes, but unidentified bees had used a few of the twigs as nesting sites.</p>
<p>Ute ladies’-tresses: Population trends (every 5 years).</p>	<p>2003: This species is dependent on sub-irrigated soils in wet meadows along perennial streams, rivers, lakes, or springs. It often grows on point bars and sedimentary surfaces created by recent flooding. Surveys for Ute ladies’-tresses have been conducted by the Central Utah Water Conservancy District (CUWCD) in Diamond Fork Canyon. Approximately 40 acres of potential habitat were surveyed. Survey results are displayed below. The number of colonies identified indicates an increasing trend. The number of individuals, however, has fluctuated significantly from year to year. The dramatic drop in the number of plants found in 2003 is thought to be due to extended drought conditions that have lowered the water table.</p> <p>2004: The trend for fewer observed Ute ladies’-tresses plants continued, as shown in the following table. This is likely due to a combination of the continued drought, and first implementation of lowered summer water tables following completion of the Diamond Fork water pipeline and restoration of a more natural summer flow in the creek.</p> <p>2005: The decline in observed Ute ladies’-tresses plants was firmly reversed in 2005. New colonies were found, and several times more plants were counted. This increase was very likely due to the above-average precipitation over the winter and spring. The new colonies were found from the Diamond Campground downstream to the Forest boundary.</p>

Indicator	Monitoring																																									
	<p>Ute Ladies'-tresses Monitoring Results</p> <table border="1" data-bbox="896 300 1606 787"> <thead> <tr> <th data-bbox="896 300 1131 370">Year</th> <th data-bbox="1131 300 1369 370">Number of Plants</th> <th data-bbox="1369 300 1606 370">Number of Colonies</th> </tr> </thead> <tbody> <tr><td data-bbox="896 370 1131 402">1992</td><td data-bbox="1131 370 1369 402">303</td><td data-bbox="1369 370 1606 402">8</td></tr> <tr><td data-bbox="896 402 1131 435">1993</td><td data-bbox="1131 402 1369 435">6,049</td><td data-bbox="1369 402 1606 435">32</td></tr> <tr><td data-bbox="896 435 1131 467">1994</td><td data-bbox="1131 435 1369 467">804</td><td data-bbox="1369 435 1606 467">33</td></tr> <tr><td data-bbox="896 467 1131 500">1997</td><td data-bbox="1131 467 1369 500">13,481</td><td data-bbox="1369 467 1606 500">46</td></tr> <tr><td data-bbox="896 500 1131 532">1998</td><td data-bbox="1131 500 1369 532">16,892</td><td data-bbox="1369 500 1606 532">53</td></tr> <tr><td data-bbox="896 532 1131 565">1999</td><td data-bbox="1131 532 1369 565">6,003</td><td data-bbox="1369 532 1606 565">61</td></tr> <tr><td data-bbox="896 565 1131 597">2000</td><td data-bbox="1131 565 1369 597">19,793</td><td data-bbox="1369 565 1606 597">71</td></tr> <tr><td data-bbox="896 597 1131 630">2001</td><td data-bbox="1131 597 1369 630">26,344</td><td data-bbox="1369 597 1606 630">74</td></tr> <tr><td data-bbox="896 630 1131 662">2002</td><td data-bbox="1131 630 1369 662">18,063</td><td data-bbox="1369 630 1606 662">77</td></tr> <tr><td data-bbox="896 662 1131 695">2003</td><td data-bbox="1131 662 1369 695">1,040</td><td data-bbox="1369 662 1606 695">77</td></tr> <tr><td data-bbox="896 695 1131 727">2004</td><td data-bbox="1131 695 1369 727">697</td><td data-bbox="1369 695 1606 727">77</td></tr> <tr><td data-bbox="896 727 1131 760">2005</td><td data-bbox="1131 727 1369 760">12,495</td><td data-bbox="1369 727 1606 760">89</td></tr> </tbody> </table>			Year	Number of Plants	Number of Colonies	1992	303	8	1993	6,049	32	1994	804	33	1997	13,481	46	1998	16,892	53	1999	6,003	61	2000	19,793	71	2001	26,344	74	2002	18,063	77	2003	1,040	77	2004	697	77	2005	12,495	89
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3. Are **National Register eligible sites** and districts being protected?

DFC: Visitors to the Forest find opportunities to touch, explore, enjoy, and learn about their cultural heritage. They recognize and respect the diversity of past Forest users, and understand the fundamental relationship between people and the land. This access to the past is constantly growing through an active heritage program, which is fully integrated into other management areas including recreation, interpretation, and environmental education. A long-term management plan is developed in consultation with local Tribes, Historical Societies, and other interested publics to address management of heritage resources, including historic Forest Service structures. Information about past human activities provides a context for understanding current ecological issues, and provides a foundation for ecological restoration projects. Knowledge of past activities is increased through archaeological and historical research. Known sites are protected against erosion and impacts from recreation.

Indicator	Monitoring
<p>Mitigation measures including pre-disturbance surveys applied/not applied (every 5 years).</p>	<p>2003: All ground disturbing projects in 2003 were surveyed for cultural resource sites, and the potential effects to the sites were evaluated. Overall, 790 acres were surveyed for cultural resources, and 63 new sites documented. Fifty of these were abandoned mines on the Vernon unit that were documented as part of a mine safety closure project. Only two projects had potential adverse effects to cultural resource sites. These include a vegetation management project (American Fork Canyon Mine Reclamation) and a special uses project (Buckley Diversion Trench). No range projects were reviewed that had the potential to affect heritage sites.</p> <p>The American Fork Canyon Mine Reclamation project was redesigned to protect the concrete concentrator foundation at the Dutchman Mine. Post-project monitoring showed that the redesign successfully preserved the foundation. The Buckley Draw Diversion runs adjacent to a historic lime kiln complex, and was designed to divert potential mud flows away from subdivisions at the mouth of the canyon. The project was monitored after its completion, and after a debris flow episode. Both the trench construction and debris flow occurred without affecting the overall historic integrity of the lime kiln.</p> <p>2004: All ground disturbing projects in 2004 were surveyed for cultural resource (heritage) sites, and the potential effects of the projects to the sites were evaluated. The potential effect of FY2004 scheduled maintenance activities on historic guard stations was also evaluated. Only one project had the potential to adversely affect a National Register eligible site. It is discussed below. Overall, 2,042 acres were surveyed for cultural resources, and 26 new sites documented. Only seven of these sites were documented in the course of evaluating the potential effects of Forest projects on sites. The majority of the sites (19) were documented by <i>Passport in Time</i> Program volunteers assisting the Forest Heritage Program in fulfilling its obligation to document, evaluate, and protect National Register eligible heritage resources.</p>

Indicator	Monitoring
	<p>Reservoir No. 1 Reclamation project adversely affected the historic integrity of the reservoir itself, which is part of the historically significant Daniel’s Irrigation Company Canal System. Adverse effects to the reservoir are being resolved through a 1995 Programmatic Agreement between the Central Utah Project Completion Act Program, the Central Utah Water Conservancy District, the Uinta National Forest, and the Utah State Historic Preservation Office. This adverse effect was recognized during the NEPA process and mitigation implemented in the final project design. Mitigation measures include interpretive signs describing the history of the system. No sites of any kind were found in either the Three Forks Culvert Parking Lot or the Springville Crossing Enclosure project areas, where post-implementation monitoring was also conducted.</p> <p>2005: All ground disturbing projects that had the potential of affect cultural (heritage) resources were surveyed in FY 2005, and the potential effects of the projects evaluated. The potential effect of FY2005 scheduled maintenance activities on historic guard stations was also evaluated. Only one project had the potential to adversely affect a National Register eligible site. The Diamond Fork Group Campground Site was found to have an adverse effect on a small site adjacent to one of the group sites; however, this will be mitigated by fencing the site and interpreting its history. Seventeen surveys were conducted to evaluate the effects of other Forest projects on heritage resources. Fourteen sites were identified during these surveys. One volunteer Passport in Time project was also done, which helped the Heritage Program to identify and evaluate four additional sites. Overall, 5,112 acres were surveyed for cultural resources, and 14 of the 18 sites identified were found to be sufficiently important to local history to be Eligible for the National Register of Historic Places.</p> <p>No heritage sites were found within the areas of potential effect of either the Silver Meadows Fence or the Rocky Top Timber Sale projects. No heritage sites were found within the portion of the Questar Pipeline that crossed lands managed by the Uinta National Forest. In addition, the Forest’s Heritage Staff helped the archaeologist working for Questar to identify and avoid known sites within the rest of the gas line right of way in the foothills east of Provo. A single National Register Eligible site was located within the overall analysis area of the Halls Fork Prescribed Burn, but this site was avoided through project planning that excluded it from the burn area. The site was visited during post-implementation monitoring, and found not to have been affected by project activities, including staging of equipment.</p>
<p>Unapproved impacts to sites (every 5 years).</p>	<p>2003: None; see discussion above.</p> <p>2004: None; see discussion above.</p> <p>2005: None; see discussion above.</p>

4. Is **permitted grazing** in compliance with the Forest Plan? Are Forest Plan **utilization standards** effective in mitigating impacts of grazing?

DFC: Grazing opportunities are maintained on open cattle and sheep allotments and continue to support the livestock industry in the local communities. Livestock grazing continues to be a viable and sustainable use of vegetation on these allotments, and is managed to ensure that the long-term resource goals for soil productivity, vegetative communities, wildlife habitats, and water quality are achieved. See also the DFC for Vegetation.

Indicator	Monitoring
Compliance with utilization standards (every 5 years).	<p>2003: All term grazing permits on the Forest include the Forest Plan utilization standards. The permits require the permittee to monitor their livestock use, and to move their livestock to another grazing unit or from the allotment before these standards are exceeded. These requirements are reviewed with each permittee prior to each grazing season. The Forest Service monitored utilization on eight allotments on the Spanish Fork Ranger District and nine allotments on the Heber Ranger District (24% of active allotments forest-wide). All were found to be within compliance.</p> <p>2004: See 2003 discussion. The Forest Service monitored utilization on eleven allotments on the Spanish Fork Ranger District (52% of the district allotments) and nine allotments on the Heber Ranger District (20% of active allotments on the district). All were found to be within compliance.</p> <p>2005: See 2003 discussion. The Forest Service monitored utilization on eight allotments on the Spanish Fork Ranger District (36% of the district allotments) and ten allotments on the Heber Ranger District (22% of active allotments on the district). All were found to be within compliance.</p>
Allotments administered to standard (annually).	<p>2003: Three allotments on the Spanish Fork Ranger District and eight allotments on the Heber Ranger District were administered to standard (a Forest-wide total of about 128,900 acres).</p> <p>2004: Four allotments on the Spanish Fork Ranger District and five allotments on the Heber Ranger District were administered to standard (a Forest-wide total of about 91,000 acres).</p> <p>2005: Two allotments on the Spanish Fork Ranger District and three allotments on the Heber Ranger District were administered to standard (a Forest-wide total of about 87,300 acres).</p>
Range condition and trend (every 5 years).	<p>2003: Nineteen studies were read on the Heber Ranger District. The trend of 36.8% of the studies was down, of 31.6% was stable, and of 31.6% was up. The ecological status was determined by comparing these studies with other sites that were originally set up as Potential Natural Communities (PNC). However, the degree to which the PNC sites accurately represent many of the study sites is</p>

Indicator	Monitoring
	<p>questionable. The ecological status of 36.8% of the studies was early seral, of 47.4% was mid-seral, and of 5.3% was late seral. There was no PNC for 10.5% of the sites.</p> <p>Eight studies were read on the Spanish Fork Ranger District. The trend of 12.5% of the studies was down, of 62.5% was stable, and of 12.5% was up. No trend is available on 12.5% as this was the first reading. The ecological status was determined by using the professional judgment of the Range Conservationist as no appropriate PNC comparison sites were available. Ecological status on 25% was mid-seral/fair, and the ecological condition on 75% was late seral/good. Fair and Good are the terms used on sites that were seeded with non-native species.</p> <p>Nineteen additional sage or sage/grass sites were read on the Vernon Unit of the Spanish Fork Ranger District. Fourteen of these sites were newly established, and five have data from previous years. Ocular cover data was collected in addition to the nested frequency data normally collected. The purpose of these surveys was to gather data about cover as it relates to sage grouse populations. The trend on 80% of the five existing studies was down. The trend on the other 20% was up. Drought may be the cause for the downward trend of these sites.</p> <p>2004: Nine studies were read on the Heber Ranger District. The trend of 33.3% of the studies was stable, and of 66.7% of the studies was up. Three studies had no trend because they were either moved or were new installations with no comparison data. The ecological status of 11.1% was early seral, of 77.8% was mid-seral, and 11.1% was late seral.</p> <p>Five studies were read on the Spanish Fork Ranger District. The trend of 0% of the studies was down, 20% was stable and 40 % was up. No trend is available on 40% because they were newly installed and it was the first reading. The ecological status was determined by using the professional judgment of the Range Conservationist as no appropriate PNC comparison sites were available. Ecological status on 0% was early seral, 40% was mid-seral/fair, 60% was late seral/good.</p> <p>2005: Five studies were read on the Heber Ranger District. The trend of two (40%) of the studies was stable, one (20%) of the studies was stable to slightly downward, and two (40%) of the studies was up. The ecological status of all 5 (100%) of the studies was mid-seral. Two of the studies were rated mid-seral due to the abundance on introduced species (smooth brome at 1 study, smooth brome and Kentucky bluegrass at the other).</p> <p>Ten upland studies were read on the Spanish Fork Ranger District. The trend of four studies was down,</p>

Indicator	Monitoring
	<p>and 6 studies were static. It is believed the major reason the trend is down is due to the extended effects of the drought. Two of the studies are in areas that are not grazed by livestock. Where the study site has been seeded in the past with non-native vegetation, the range status is expressed in terms of condition rather than ecological status. Seven of the ten studies are in areas that have been seeded. Of these studies, five are in good condition and two are in poor condition. Those in poor condition are due to noxious weeds, less than desirable seeded vegetation and other human disturbance. Of the three remaining native sites, two are in late seral status and one is in early seral status. The ecological status/condition was determined by using the professional judgment of the Range Conservationist as no appropriate PNC comparison sites were available.</p>
<p>Riparian condition and trend (every 5 years).</p>	<p>2003: Six riparian studies were read on the Heber Ranger District. One of the creeks had dried up due to the drought, so the study on that creek was not included in the analysis. On the other five studies, the greenline status was very early seral on 20%, late seral on 20%, and PNC on 60%. The greenline stability was moderate on 40%, good on 40%, and excellent on 20%. The trend was stable on 40% and up on 60%.</p> <p>Sixteen riparian studies were read on the Spanish Fork Ranger District. The greenline status was very early seral on 31.25%, early seral on 25%, mid-seral on 18.75%, late seral on 12.5%, and PNC on 12.5%. Greenline stability was poor on 18.75%, moderate on 62.5%, good on 12.5%, and high on 6.25%. The trend was down on 6.25%, stable on 56.25%, and up on 37.5%.</p> <p>2004: Three riparian studies were read on the Heber Ranger District. The greenline status was mid-seral on 33.3%, late seral on 33.3%, and PNC on 33.3% of the studies. Greenline stability was moderate on 33.3%, good on 33.3%, and excellent on 33.3% of the studies. The trend was down on 33.3%, stable on 33.3%, and up for 33.3% of the studies.</p> <p>Six riparian studies were read on the Spanish Fork Ranger District. The greenline status was very early seral on 16%, early seral on 34%, mid-seral on 0%, late seral on 16%, and PNC on 34%. Greenline stability was poor on 16%, moderate on 34%, good on 34%, and excellent on 16%. The trend was down on 0%, stable on 66%, and up on 34%.</p> <p>2005: There were no riparian studies read on the Spanish Fork Ranger District in 2005</p> <p>Seven riparian studies were read on the Heber Ranger District. The greenline status was very early seral on 28%, early seral on 44%, and PNC on 28%. Greenline stability was moderate on 72%, good on 14%, and excellent on 14%. The trend was stable on 86%, and up on 14%.</p>

5. Are infestations of **noxious weeds** being contained, controlled, or eliminated?

DFC: Noxious weeds and undesirable invasive plants are effectively combated using integrated pest management. Priority is first given to eliminating weeds from critical habitats and preventing new infestations, then to reducing density or eliminating longer-established populations. The Forest uses public education to motivate the public to employ weed prevention practices.

Indicator	Monitoring
<p>Application of Forest Plan direction and project mitigation measures including permit and contractual requirements (every 5 years).</p>	<p>2003: Monitoring was conducted on the American Fork Mine Reclamation project. In accordance with the 2003 Forest Plan, the contractor was required to clean all equipment before entering the Forest. In addition, noxious weed free hay was required.</p> <p>The Silver Lake and Tibble Fork Summer Homes are authorized under special use permits, and the Operation and Maintenance Plans associated with these permits require removal of noxious weeds. Site inspections were conducted for each of the homes. One item monitored in these inspections is noxious weeds. The inspections found permittees were removing noxious weeds in accordance with Forest Plan and permit requirements. In FY 2003, Silver Lake Summer Home permittees removed about 3 acres of Canada thistle and burdock, and Tibble Fork Summer Home permittees removed about 6 acres of Canada thistle.</p> <p>One non-structural range improvement project on the Forest conducted in FY 2003 was seeding of the Springville burn. This seeding involved application of native grass and forb species on about 491 acres on the Forest. The approved plan for this project called for use of certified weed-free seed mixes of common barley and native grass and forb species. Seed was procured and tested for viability and weed content prior to application. The seed was aerially applied. Cereal barley, which is a non-persistent non-invasive annual, was chosen for its ability to provide a quick cover for erosion control and help stabilize the upper watersheds of the area burned by a fire. Executive Order 13112 (2/3/1999) on invasive species, was considered and a determination was made that the introduced species (barley) would not be “likely to cause economic or environmental harm or harm to human health.”</p> <p>2004: American Fork Mine Reclamation - The equipment cleaning on this project apparently worked. Informal checks of the project area showed no new weed populations.</p> <p>Three Forks Culvert Parking Lot – This project was located in a part of Diamond Fork Canyon that had for many years received heavy unmitigated recreational use with personal vehicles, which have potential for weed seed transportation. The site had a pre-existing seed bank of weeds such as</p>

Indicator	Monitoring
	<p>cheatgrass, Canada thistle and likely other species. Construction of this project was done with heavy equipment that had been washed prior to NFS land entry, to minimize weed introduction. This action was in the contract provisions (Clause 3(d)). Use of silt fences for erosion control rather than organic mulches or barriers also had the effect of minimizing a potential source of weed seeds. There was no weed treatment prior to start of the construction project. Revegetation was done using seed of native species. Utah State prohibits sale of seed into Utah containing noxious weed seeds. Monitoring on the Three Forks Culvert Parking Lot found that vegetation on that site is mostly grasses with a mixture of weeds.</p> <p>Reservoir No. 1 Restoration – This was part of a larger set of actions authorized under an interagency Record of Decision signed in 2001. The actions altering the area of the reservoir took place in 2002. The project proponent (Central Utah Water Conservancy District, i.e., CUWCD), did weed control work in the year of construction. An arrangement was developed about 2003, whereby the CUWCD funded the Heber R. D. to do weed control and some other work for five years. The Heber R.D. is doing weed monitoring and control work at this site on a yearly basis. Monitoring during the field trip found some cheatgrass, thick patches of Canada thistle, and some black medic and Virginia Creeper. Heber R. D. believes the cheatgrass may have been introduced during the project, but the Canada thistle and other species pre-dated the project.</p> <p>Springville Crossing Enclosure – This enclosure fence was built to keep sheep from the riparian area. Fence construction is an activity with a low potential for weed seed introduction. Soil disturbance from holes dug can bring up buried dormant weed seeds. Many riparian zones on this Forest have long-established populations of Canada thistle, which has wind-borne seeds. Monitoring of this project found no evidence the project had introduced weeds or caused a change in the degree of weed infestation in the area.</p> <p>2005: Silver Meadow Fence - This log worm fence was authorized to counter ATV intrusions into the meadow. This meadow is about 15 acres, very wet over about half to a third of its area, and home to one of the largest known Botrychium populations in the western U. S. The fence was constructed in FY 2004, along the eastern edge of Silver Meadow. This year two extensions were constructed to block the adjacent user-created road, and a gap was opened in the south end of the fence to allow recreation horse passage along an existing trail.</p> <p>Construction of the fence has been successful in preventing ATV entry into the eastern side of the meadow, where tracks were noted in 2003. Currently there are no known populations of noxious weeds</p>

Indicator	Monitoring
	<p>and invasive alien plants in the meadow. Weeds are very often introduced into new areas by vehicles, and find easy establishment in soil bared and churned up by vehicles. Therefore, preventing the unauthorized ATV entry with the fence benefited the Silver Meadow area by preventing vehicle-induced new weed populations on the east end. Vehicles can still enter the west, drier end of the meadow from the road just north of the meadow.</p> <p>Construction of the fence itself had low potential for establishment of weeds. Few holes were dug to build the fence. The logs used had little potential for bringing weeds with them.</p> <p>Construction of the fence was in compliance with LMP Goal FW-Goal-2: <i>“Biologically diverse, sustainable ecosystems maintain or enhance habitats for native flora and fauna, ...”</i>, Sub-Goal 2-6: <i>“Activities and vegetation management minimize or eliminate the occurrence of non-native pests (including noxious weeds) and epidemic episodes of native pests.”</i> It complies with Objective-2-8: <i>“Detect and prevent new infestations of noxious weeds and other undesirable plants from becoming established, and prevent further spread or reduce existing infestations.”</i></p> <p>Rocky Top Timber Sale – This sale was authorized in 1999. Timber cutting and removal occurred in these units in 2004. The Forest Monitoring Team monitored Units 1 and 2. The Decision Notice includes a mitigation measure for noxious weeds: <i>“Provisions would be made to monitor disturbed sites and to treat noxious weeds should they begin to become established within the treatment areas. In addition, harvesting equipment would be washed off of the Forest prior to transport and arrival on the Forest. The district’s weed crew currently reviews all past and active timber sales to detect and treat weeds.”</i> On page 23, noxious weeds are included in the items to be monitored for yearly in the sale area. On September 20, the District Rangeland Management Specialist confirmed that this and other timber sales were being monitored for weeds. Currently there are few weeds evident in the units, but he did discover a cluster of five Canada thistle stems there during the field trip. We don’t believe they were introduced by sale activities. The Sale Administrator told us the heavy equipment used on the sale was washed to prevent weed introduction prior to entering the sale area. No hay or straw was used in sale activities, and thus this was not a potential source of weeds. Road gravel was brought in from “the valley” and, so far as known, potential for weeds was not considered or mitigated on this material.</p> <p>Taking action to prevent weed establishment, and monitoring to control any weeds that do become established complies with LMP Goal FW-Goal-2, Sub-Goal 2-6, and Objective-2-8.</p> <p>Hall’s Fork Prescribed Burn – We visited this site on August 31, 2005. The decision for this burn was</p>

Indicator	Monitoring
	<p>signed prior to 2003, so the project can be managed under the provisions of the older LMP. The Hall’s Fork burn was conducted in October 2004, and is the first of the burn authorized under the Decision Notice to be accomplished. The purposes of the prescribed burns authorized are to restore a variety of age classes in the aspen, oak, and oak/maple forest types, and to remove excess ground fuels to help prevent a large-scale wildfire.</p> <p>Preventing the spread of noxious weeds is considered in the environmental assessment (pages 16-17, 31-35). On page 17 of the EA and adopted into the DN, noxious weeds are mitigated for by avoiding burning areas where high infestations of noxious weeds currently exist, to limit potential spread. The Hall’s Fork area was noted to have some patches of musk thistle.</p> <p>Taking action to prevent weed establishment, and monitoring to control any weeds that do become established complies with LMP Goal FW-Goal-2, Sub-Goal 2-6, and Objective-2-8.</p>
<p>Acres of weeds treated (annually).</p>	<p>2003: 1,222 acres of noxious weeds and 93 acres of other invasive plants were treated (see “Estimated acres infested” row in the following table). These acres are approximately 50% of what was treated in 2002 and 80% of what was treated in 2001. The reduction in acres treated is due to a decrease in available funding.</p> <p>2004: 1,086 acres of noxious weeds and 1,493 acres of other invasive plants were treated (see “Estimated acres infested” row in the following table). In addition, the Uinta N. F. cooperated in treating 45 acres of adjacent private land, to prevent spread of noxious weeds onto the Forest.</p> <p>2005: 1,796 acres of noxious weeds and 761 acres of other invasive plants were treated (see “Estimated acres infested” row in the following table). In addition, the Forest cooperated in treating 10 acres of adjacent private land, to prevent spread of noxious weeds onto the Forest.</p>
<p>Estimated acres infested (every 5 years).</p>	<p>2003: It is estimated that 24,506 acres are infested with noxious weeds and about 3,760 acres are infested with other undesirable plants (see the following table). Estimated acres infested with noxious weeds remained stable from 2002, but increased by about 20% from the 2001 estimate.</p>

Indicator	Monitoring		
	Estimated Acres Infested and FY 2003 Treatments of Noxious Weeds and Other Undesirable Species		
	Species	Estimated Acres Infested	Acres Treated in FY 2003
	Utah Listed Noxious Weed Species		
	Canada thistle	5,300	156
	Diffuse knapweed	10	0
	Dyer’s woad	30	2
	Hoary cress (white top)	1,000	146
	Leafy spurge	10	2
	Medusahead	5	0
	Musk thistle	18,000	834
	Perennial pepperweed	6	6
	Russian knapweed	5	0
	Scotch thistle	30	14
	Spotted knapweed	12	12
	Squarrose knapweed	48	1
	Yellow starthistle	50	50
	TOTAL NOXIOUS	24,506	1,222
	Other Undesirable Species		
	Blue spurge	5	5
	Common burdock	60	60
	Dalmatian toadflax	1,500	15
	Hounds tongue	2,000	13
	Jointed goatgrass	25	0
	Russian olive	5	0
	Tamarisk (salt cedar)	15	0
	Yellow sweetclover	150	0
	TOTAL OTHER	3,760	93
	COMBINED TOTAL	28,266	1,315
	<p>2004: It is estimated that 39,767 acres are infested with noxious weeds and about 45,575 acres are infested with other undesirable plants (see the following table, shown in two parts). This is a large</p>		

Indicator	Monitoring																																																						
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6. Is long-term **soil productivity** being maintained?

DFC: Most soils have adequate protective ground cover, soil organic matter, and large woody material. Soils have adequate physical properties for vegetative growth and soil-hydrologic function. Physical, chemical, and biological processes in most soils function similarly to soils that have not been disturbed. Degradation of soil quality and loss of soil productivity is prevented. Soil hydrologic function and productivity in riparian areas is protected, preserving the ability to serve as a filter for good water quality and regulation of nutrient cycling. Soil productivity, quality, and function are restored where adversely impaired and contributing to an overall decline in watershed condition.

Indicator	Monitoring
<p>Detrimental soil disturbance (every 5 years).</p>	<p>Detrimentially disturbed soil is soil that has been detrimentially displaced, compacted, puddled, or severely burned. No more than 15% of an activity area should have detrimentially disturbed soil after the completion of all management activities.</p> <p>2003: The QWK Pipeline Project was approved in 2001 and implemented in Fiscal Years 2002 and 2003. The Record of Decision (ROD) approving this project noted: “Short-term (1-3 year) increases in soil erosion would occur in areas disturbed by construction. ... By implementing the mitigation measures described in Appendix A of the FEIS, long-term impacts to soil resources from any of the alternatives will be small.” Mitigation measures included use of waterbars, stockpiling and reapplication of topsoil, prompt revegetation of disturbed areas, and limiting vehicle access, to the extent feasible, to existing roads and/or areas to be restored following pipeline construction. Uinta National Forest personnel monitored implementation of the portion of this project occurring on the Forest and found that BMPs called for in the ROD were appropriately applied.</p> <p>Monitoring was conducted on the White River Prescribed Burn Vegetation Management project. This project involved no earth-disturbing fireline construction, fire containment equipment was confined to existing roads, and the burn was aerially ignited. Therefore, there were no project activities that would have caused soil compaction or puddling. Post-burn monitoring indicates that only about 15% of the project area (i.e., the area within the fire perimeter) burned with sufficient intensity to reduce fuels and regenerate the vegetation. No accelerated erosion or detrimental soil displacement was observed during the monitoring visits. Only a small fraction of the acreage (15%) burned at high intensity, therefore, detrimental soil disturbance was well within the 15% threshold.</p> <p>No special use or range projects were implemented in FY2003 that involved use of fire or could have resulted in severely burned soils. In 2002 data was collected to evaluate the effects of grazing on soil erosion in the Strawberry watershed. This data, analyzed in 2003, showed that areas grazed by cattle</p>

Indicator	Monitoring
	<p>have significantly more bare soil (average 25% bare ground) than areas grazed by sheep (average 19% bare ground) and non-grazed lands (average 14% bare ground) in aspen and sagebrush ecosystems (probability = 95%). This study also indicates that although the average percent bare ground is greater for areas grazed by sheep than non-grazed lands, the differences are not statistically significant. Soil erosion rates are generally closely related to the amount of bare ground.</p> <p>2004: The Three Forks Culvert Parking Lot project was designed to mitigate and rehabilitate the flood plain areas adjacent to Diamond Fork from dispersed use by the public for parking on the stream terraces and from crossing the stream. The stream terraces were denuded, soils compacted, and the stream banks were eroding causing stream sedimentation. Soil surfaces on the flood plains were roughened to alleviate compaction and to limit runoff, thus effectively reducing stream sedimentation. Soils consist mainly of coble, gravels, and sandy loams. Large woody debris was left on the surface to add organic matter and to aid in long-term soil productivity. Vegetation establishment consists mainly of grasses with a mixture of weeds. In a few cases some woody species were observed including a few forbs. Vegetation cover is less than 80%.</p> <p>The Springville Crossing Enclosure area was established to limit cattle access to the riparian corridor. Vegetation cover was greater within the enclosure, especially on the stream banks, thus helping stabilize the banks against further trampling and erosion.</p> <p>The Reservoir No.1 Restoration was part of the Daniels Rehabilitation project, in which the reservoir was rehabilitated. This was previously a reservoir site, and the soils are devoid of topsoil. Although the site has been seeded and some vegetation and associated ground cover is being established, rills are present on north and south slopes in exposed areas. Bare ground averages 60 percent with a few large areas ranging from 25 percent. Because the reservoir site is just being vegetated, so there is very little litter ground cover.</p> <p>2005: The Silver Meadow Buck and Pole Fence was installed in 2005 to help reduce illegal OHV access to the meadow and surrounding area. The fence project complies with Purpose and Need described for the project, and with Forest Plan direction. The hydrologic and physical soil conditions were assessed in the general area and were determined to be satisfactory in all categories. The biological soil conditions ratings were also satisfactory. Overall, the soil health trend is aggrading and the soil health rating is satisfactory.</p> <p>A segment of the Questar Pipeline was replaced in 2005. The pipeline segment is aligned with the</p>

Indicator	Monitoring
	<p>base of the Wasatch Front. A portion of the replaced segment located just south of Y-Mountain Trailhead and within the Forest boundary was monitored. The disturbed corridor was set back to approximate original contour, hydromulched and seeded with a Forest Service approved seed mix. The hydrologic and physical soil condition ratings were all classified as satisfactory. The biological soil condition is rated as impaired with a less productive plant community since the vegetation community has not fully established since seeding. Overall, the soil health rating is satisfactory and the trend is aggrading.</p> <p>The Hall’s Fork Prescribed Burn was conducted during FY2005 (October 2004) and is located on the Spanish Fork District. The portion of the burn that was assessed is located in the headwaters of Shingle Mill Creek. Two area transects were completed to assess soil health and trend, including ground cover and soil hydrophobicity.</p> <ul style="list-style-type: none"> • (1st Transect) – Hydrologic and physical soil conditions were rated satisfactory, except for soil hydrophobicity and effective ground cover which were both rated impaired. Soil hydrophobicity was greatest at 3-inches, taking an average 25 seconds for water to infiltrate the soil. The biological health indicators were rated satisfactory for coarse woody debris, but impaired for vegetation community since plant establishment has not fully recovered since the burn. Overall, the soil health rating is satisfactory and soil health trend is aggrading. • (2nd Transect) – Hydrologic and physical soil conditions were rated satisfactory, except for soil hydrophobicity which was rated impaired. The soil hydrophobicity was greatest at 3-inches, taking an average 27 seconds for water to infiltrate the soil. The biological soil condition was rated satisfactory for both coarse woody debris and vegetation community composition. The overall soil health rating is satisfactory and the soil health trend is aggrading. <p>The Rocky Top Timber Sale was authorized in 1999 and timber harvest and removal occurred in 2004. Units 1 and 2 were monitored. The hydrologic and physical soil conditions were rated satisfactory, except for soil compaction which was rated impaired. Compaction was measured on a 100 foot transect and showed 27% compaction which primarily occurred within the skid trail areas. The biological soil conditions were rated satisfactory. Overall, the soil health rating is satisfactory and the soil health trend is aggrading.</p>
<p>Down woody debris (every 5 years).</p>	<p>Coarse woody debris is defined in Forest Service Handbook 2509.18 as organic materials such as plant stems, branches, and logs with a diameter greater than 3 inches. Coarse woody debris guidelines apply to ecological types that are capable of producing forested and woodland ecosystems. The minimum amount of large woody debris required to maintain nutrient and moisture supplies adequate to sustain site productivity varies by ecological type.</p>

Indicator	Monitoring
	<p>2003: Monitoring was conducted on the White River Prescribed Burn Vegetation Management project. Forest Plan Guideline Veg-18 calls for retention of at least 30 tons/acre of large woody debris per 10 treated acres. Monitoring indicates that the amount of down woody debris over 3 inches in diameter changed little as a result of the burn. Both pre-burn and post-burn monitoring data indicates there were about 2 tons/acre of down woody debris greater than 3 inches in diameter. Although this does not meet the Forest Plan guideline, the data indicates the prescribed fire did not affect short-term compliance with this guideline. The data also suggests that in the long-term, down woody debris levels will be improved by the burn. Monitoring data shows that the number of dead trees per acre was substantially increased by the burn. These burn-killed trees will eventually fall and increase the amount of down woody debris. Only about 15% of the project area (i.e., the area within the fire perimeter) burned, and down woody debris levels were unaffected elsewhere within the treatment area.</p> <p>2004: The Reservoir No.1 Restoration project involved reclamation of a lake area to a wetland with surrounding upland conditions. The site was not forested; therefore, the down woody debris guideline does not apply to this project.</p> <p>The Springville Crossing Enclosure occurred on a range site, and therefore the down woody debris guideline is not applicable.</p> <p>The Three Forks Culvert Parking Lot project is a reclaimed parking area with access to the Three Forks trailhead. Improvements included an arch culvert crossing with expansion, leveling and graveling the parking lot with installation of a single-vault toilet and information board. The existing parking lot, vehicle ford and damaged stream banks were rehabilitated. Large cottonwood trees are present, but the restoration and culvert installation with parking improvements did not affect these standing trees. Large woody debris was left on the surface to add organic matter and to aid in long-term soil productivity.</p> <p>Monitoring was conducted on the Bjorkman Headcut Restoration project that was implemented in July 2003. Large aspen felled during implementation were spread across the final prepared surface and meet the 30 tons/acre for large woody debris per 10 treated acres. The aspen logs are beginning to settle into the soil surface with root masses still retaining some of the original soil still packed around the roots. Logs are still sound with very little decomposition or bark sloughing off the surface.</p> <p>2005: The Rocky Top Timber Sale was authorized in 1999 and timber harvest and removal occurred in 2004. Units 1 and 2 were monitored. Effective ground cover assessments showed 9% large woody debris cover. The biological soil condition for coarse woody debris was rated satisfactory.</p>

Indicator	Monitoring
<p>Ground cover (every 5 years).</p>	<p>2003: Changes in ground cover associated with grazing are monitored through the range condition and trend study sites across the Forest. Nineteen range study sites were monitored on the Heber Ranger District. The bare ground on the sites ranged from 6.5% to 41.5%, with an average of 24%. Eight range studies were monitored on the Spanish Fork Ranger District. Bare ground on these sites ranged from 0% to 36.25%, with an average of 12.88%. Additionally, ground cover data was collected on 19 studies on the Vernon Unit of the Spanish Fork Ranger District. The bare ground on these sites ranged from 28.5% to 56.75%, and averaged 44.71%.</p> <p>Ground cover was also monitored for the White River Prescribed Burn Vegetation Management project. Nested frequency plot data from the aspen stands burned in this project show minor, non-significant changes in ground cover due to the burn. A small increase in vegetative ground cover (3.125%), a small decrease in litter cover (3.75%), and a small decrease in bare ground (0.625%) were observed.</p> <p>2004: Changes in ground cover associated with grazing are monitored through the range condition and trend study sites across the Forest. Nine range study sites were monitored on the Heber Ranger District. The bare ground on the sites ranged from 3.0% to 27.5%, with an average of 17.9%. Five range trend studies were monitored on the Spanish Fork Ranger District. Bare ground on these sites ranged from 3% to 47%, with an average of 25%.</p> <p>Project specific monitoring was also done at three locations. See the discussion of this monitoring under the “Detrimental Soil Disturbance” monitoring indicator above.</p> <p>2005: The Silver Meadow Buck and Pole Fence was installed in 2005 to help reduce illegal OHV access to the meadow and surrounding area. The fence project complies with Purpose and Need described for the project, and with Forest Plan direction. The hydrologic and physical soil condition for ground cover was assessed in the general area and was determined as satisfactory. The assessed area had 79% live plant cover and 21% litter cover.</p> <p>A segment of the Questar Pipeline was replaced in 2005. The pipeline segment is aligned with the base of the Wasatch Front. A portion of the replaced segment located just south of Y-Mountain Trailhead and within the Forest boundary was monitored. The disturbed corridor was set back to approximate original contour, hydromulched and seeded with a Forest Service approved seed mix. The hydrologic and physical soil condition rating for ground cover is classified as satisfactory. A hundred foot transect showed 7% rock cover, 49% litter/debris cover (hydromulch), 38% living plant cover, and 6%</p>

Indicator	Monitoring
	<p>bare soil. However, if living plant cover doesn't establish sufficiently in the future as the hydromulch breaks down, sufficient ground cover may not be satisfactory to control surface sheet, rill and gully soil erosion.</p> <p>The Hall's Fork Prescribed Burn was conducted during FY2005 (October 2004) and is located on the Spanish Fork District. The portion of the burn that was assessed is located in the headwaters of Shingle Mill Creek. Two area transects were completed to assess ground cover.</p> <ul style="list-style-type: none"> • (1st Transect) – Hydrologic and physical soil condition for ground cover was rated impaired. The transect showed 49% bare soil, 20% live plant cover, 27% litter/woody debris cover, and 4% rock cover. • (2nd Transect) – Hydrologic and physical soil condition for ground cover was rated satisfactory. The transect showed 18% bare soil, 35% plant cover, 43% litter/woody debris cover, and 4% rock cover. <p>The Rocky Top Timber Sale was authorized in 1999 and timber harvest and removal occurred in 2004. Units 1 and 2 were monitored. The hydrologic and physical soil condition for ground cover was rated satisfactory. Effective ground cover assessments showed 12% bare soil, 23% live plant cover, 56% litter and 9% large woody debris cover.</p>

7. Is **water quality** being adequately protected and meeting desired conditions?

DFC: Water quality is managed to meet clean water standards established by the State of Utah. All existing water rights are validated. Streams are managed to maintain natural fluvial processes where possible, in turn providing high quality aquatic habitat and water quality. Upland vegetation in all management areas is managed to maintain sufficient ground and soil cover to limit erosion and sediment transport to streams. Riparian Habitat Conservation Areas (RHCAs), regardless of width, are in a stable or upward trend. RHCAs and their corresponding stream channels provide quality habitat for associated terrestrial and aquatic wildlife species. Forest management activities are implemented in a manner that prevents unacceptable watershed impacts.

Indicator	Monitoring
<p>Application of Best Management Practices (BMPs) designed to protect or improve water quality (every 5 years).</p>	<p>2003: The American Fork Canyon Mine Reclamation project was monitored to ensure that Best Management Practices were implemented during the project. The purpose of the project was to remove contaminated mine wastes from direct contact with surface water. During the project silt fences, hay bales, and a drainage ditch (along with several other procedures) were used to protect water quality. All American Fork Mine sites were analyzed for pH and zinc. In addition, sites 5-8 were also analyzed for arsenic, cadmium, and lead. Only pH values not meeting state water quality monitoring standards are reported. None of the arsenic, cadmium, or lead reported values exceeded state Water Quality Monitoring standards. Determination of state standards for zinc values is based logarithmically on water hardness. Water hardness for the sites was not analyzed, and therefore, compliance with standards cannot be determined. All reported zinc values generally trended downward with the exception of samples collected at #2 Lower Bog Mine Adit, which has remained relatively stable.</p> <p>The Diamond Fork Pipeline project, a component of the Central Utah Project, is an ongoing special use activity on the Forest. The Record of Decision (ROD) and Environmental Impact Statement (EIS) for this project called for strict application of BMPs including silt fencing, locating ground disturbing (where feasible) and other activities such as fuel and chemical storage and filling areas away from floodplains and water courses, waterbarring roads, and revegetation following disturbance. The Forest Service participated in development of the EIS and ROD, and participated in weekly coordination meetings during the project’s ongoing implementation. Forest Service personnel also worked with the other agencies to ensure the project, including application of BMPs, was appropriately implemented. BMPs were installed as called for, and generally adequately maintained. Water quality was monitored by CUWCD and reported on the EPA’s STORET website.</p> <p>The purpose of the Strawberry River Enclosure project implemented in 2003 was to protect water quality and wildlife and fisheries habitat along part of the Strawberry River. The fence was designed to implement the BMP of minimizing livestock access to the riparian area and river banks by excluding</p>

Indicator	Monitoring
	<p>livestock. The project design incorporated BMPs of keeping away from the river channel by using a buck and pole fence to negate or minimize the need for ground disturbance from fence construction in or near the riparian area. These BMPs were applied during implementation.</p> <p>2004: The Reservoir No.1 Restoration was part of the Daniels Rehabilitation project and included rehabilitation of the reservoir as wetland mitigation. Sediment sources from parking lot and partially vegetated adjacent uplands are affecting water quality in the wetland. However, the wetland is functioning, as designed, to filter and capture sediment.</p> <p>The Springville Crossing Enclosure was established to limit cattle access to the riparian corridor. The enclosure is effective in keeping livestock out of the stream reach and associated riparian zone. Stabilizing riparian vegetation is being re-established, and aiding in restoring floodplain and stream function. As vegetation is re-established, the stream’s ability to filter and capture sediment or other pollutants will increase.</p> <p>The Three Forks Culvert Parking Lot is a heavily visited trailhead. Users were causing resource damage to floodplain and water resources by direct stream crossing and parking in the floodplain and other stream terraces. Installation of the culvert crossing alleviated direct impact to water quality and streambanks resulting from repeated vehicle crossing. The established parking area concentrated use within the gravel surfaced area, reducing soil compaction, stream bank, and floodplain alteration. The channel and adjacent floodplain were restored to natural conditions. BMPs recommended in the environmental document and in the Stream Alteration Permit successfully mitigated sedimentation to the stream during and following construction. However, groundcover was marginally adequate on the reconstructed floodplain.</p> <p>The American Fork Canyon Abandoned Mine Reclamation project was monitored to ensure that BMPs implemented during the project are functioning as designed. During the 2004 spring season, snow melt runoff formed small rills on the face of the Dutchman Flat Repository, mainly on the far eastern faces that have slopes steeper than 3:1. In addition, vegetation establishment from the October 2003 hydroseeding resulted with only 10-15 percent cover. Follow up actions were performed on July 29, 2004 by seeding the bare eroding areas on the repository face and on top of the repository. The seeded areas were mulched using certified weed free straw. Straw wattles were installed on the top lip of the repository to prevent runoff from the top edge of the repository. The Sultana Smelter reclaimed area was also reseeded and mulched. Sampling data summary for samples in 2000, 2003, and 2004 are listed below:</p>

Indicator	Monitoring
	<p><u>Lower Bog Mine area:</u></p> <p><u>Adit</u> Water quality parameters to date yield relatively constant values for dissolved metals: Cadmium ~ 0.01 mg/L, Iron ~ 7.1 mg/L, Lead ~ 0.004 mg/L, Zinc ~0.55 mg/L. PH values measured fluctuate between 4.0 – 4.5</p> <p><u>North Fork American River Below Lower Bog Mine area</u> Drops in all dissolved metals, including Zinc, were noted. Levels of pH recorded ranged from 7.9 to 8.1.</p> <p>Extending the runoff channel from the adit to the North Fork American River initially allowed much of the iron to drop out before reaching the North Fork American River. Spring 2004 iron levels of 7.2 mg/L at the adit were reduced to 0.069 mg/L before joining the North Fork American River. However, during the fall 2004 sampling, the pH drops from 5.5 at the adit to 4.5 just above the confluence with the North Fork of American Fork River. Thus, the earlier improvements of pH and iron values are no longer evident, and the mine drainage is again compromised.</p> <p><u>Pacific Mine Area:</u></p> <p><u>Adit</u> Water quality parameters to date yield relatively constant values for dissolved metals: Cadmium ~0.01 – 0.02 mg/L, Iron ~ 0.07 – 0.10 mg/L, Lead ~ 0.005 mg/L. Zinc values recorded at the adit have continued to rise since 2000. Spring 2004 sampling of the site measured a Zinc value of 2.5 mg/L. PH is remaining relatively stable at 7.0 – 7.5.</p> <p><u>North Fork American River Below Pacific Mine</u> Cadmium values have remained constant at this site throughout the samplings. Iron, lead, and zinc values are lowering. PH levels are fluctuating between 8.0 – 8.3.</p> <p>The mine drainage wetland filtration system appears to be working as designed. Most notably, the wetland system is dramatically dropping out the high concentration of zinc. Sampling this spring yielded 2.5 mg/L at the adit, 0.410 mg/L at the outlet of the first pond, and 0.23 mg/L at the outlet of the fourth pond. Current zinc levels contributed to the North Fork American Fork River are similar to levels above the mine facility, with only a small increase (0.01 mg/L).</p> <p>2005: The Silver Meadow Buck and Pole Fence was installed in 2005 to reduce illegal OHV access to</p>

Indicator	Monitoring
	<p>the meadow and surrounding area. The fence complies with Project Purpose & Need and Forest Plan Direction.</p> <p>A segment of the Questar Pipeline that is aligned with the base of the Wasatch Front was replaced in 2005. The Forest Monitoring Team visited a segment located on the forest just south of Y-Mountain Trailhead. The disturbance corridor was hydro-mulched and seeded with Forest Service approved mix. Waterbars were installed with appropriately and with adequate frequency to reduce overland flows. A large portion of the cover from the monitoring transect was mulch, so erosion may increase as this cover breaks down if vegetation is not established.</p> <p>The Hall’s Fork Prescribed Burn was conducted in October of 2004. The Forest Monitoring Team visited the project area and monitored implementation in the Shingle Mill Creek Headwaters. Two groundcover and hydrophobicity transects were completed. (see the soils section of this document)</p> <p>American Fork Canyon Abandoned Mine Reclamation monitoring data for the American Fork Canyon, and Mineral Basin area are summarized below:</p> <p><u>Lower Bog Mine area:</u> <i>Adit</i> Water quality parameters to date yield relatively constant values for dissolved metals: Aluminum ~0.4 mg/L, Cadmium ~ 0.01 mg/L, Copper ~0.02 mg/L, Iron ~ 7.5 mg/L, Lead ~ 0.007 mg/L, Nickel ~0.01 mg/L, Zinc ~0.62 mg/L. PH values averages 5.3 with measured values fluctuating between 4.2 – 5.7.</p> <p><u>North Fork American River Above and Below the Lower Bog Mine area</u> The only consistent detectable soluble heavy metal is zinc. Soluble zinc levels remain constant in the North Fork river before and after the Lower Bog Mine area; average zinc values are 0.035 mg/L before and 0.035 mg/L after. River pH values average 7.8 in the North Fork River before and after the Lower Bog Mine area with levels of pH ranging from 7.2 to 8.3.</p> <p>Extending the runoff channel from the adit to the North Fork American River for treating the mine adit drainage has little effect on removing dissolved heavy metals, except for iron and zinc. Approximately 77 percent of the iron is removed. During the 2006 sampling season, iron averaged 8.7 mg/L at the adit and averaged 2.0 mg/L just above the confluence with the North Fork.</p>

Indicator	Monitoring
	<p><u>Pacific Mine Area:</u> <u>Adit</u> Water quality parameters to date yield relatively constant values for dissolved metals: Cadmium ~0.02 mg/L, copper ~0.01 mg/L, Iron <0.1 mg/L, Nickel ~0.01 mg/L, and Zinc ~3.1 mg/L. Zinc values averaged 2.0 mg/L in 2004, 3.9 mg/L in 2005, and 3.7 mg/L in 2006. PH overall average is 6.95 with average yearly values of 7.0 in 2004, 6.6 in 2005, and 7.1 in 2006.</p> <p><u>North Fork American River Above and Below Pacific Mine</u> Soluble zinc averages 0.024 mg/L above the Pacific Mine and 0.084 mg/L below the Pacific Mine. All other heavy metal values are non-detectable. PH levels average 8.1 above the Pacific Mine and 8.1 below the Pacific Mine.</p> <p>Overall, zinc values drop from 3.7 mg/L at the adit discharge to 0.51 mg/L at Pond 4 outfall. The notable increase in soluble zinc values in the North Fork below the Pacific Mine may be attributable to the zinc discharge from Pond 4. The wetland treatment system is dropping out the high concentration of soluble zinc from the mine adit drainage, but with decreased efficiency with time. The wetland treatment system effectiveness for removing soluble zinc continues to degrade with an increase from 2004 to 2005; average outfall values from Pond 4 average 0.024 mg/L in 2004 to 0.44 mg/L in 2005. Both acute 1 hour and chronic 4 hour water quality standards for soluble zinc are exceeded during 2005.</p>
<p>Compliance with water quality standards (every 5 years).</p>	<p>The Uinta National Forest maintains a network of 24 baseline water quality sites. These sites are monitored in cooperation with the Utah Division of Water Quality on a four-year rotation.</p> <p>2003: Eight baseline sites were monitored from July 2002 to June 2003. Monitoring began on an additional seven sites in July 2003. In addition, eight sites were monitored in American Fork Canyon as part of the American Fork Mines Reclamation project.</p> <p>One site at Hall’s Fork met all water quality standards. At Left Fork of White River, dissolved aluminum exceeded standards, but is decreasing from previous readings. At Currant Creek, total phosphorus levels exceeded standards but have decreased over the last five years. Dissolved oxygen is increasing at Willow Creek, and it meets all other State water quality standards. At Indian Creek near Strawberry Reservoir total phosphorus and dissolved oxygen are decreasing slightly and temperature has remained stable. On the Strawberry River, dissolved oxygen was at its highest in 2003 and total phosphorus decreased. PH and temperature are remaining stable above state levels. Chipman Creek has an excess of phosphorus, but levels are decreasing.</p>

Indicator	Monitoring
	<p>Of the seven sites where monitoring was begun in July 2003, two are meeting all standards. Phosphorus levels have decreased at Trout Creek. Phosphorus levels are stable at Indian Creek above the mouth of Streeper Creek. At Clyde Creek, phosphorus levels are up since 1996, but have decreased from readings in 1994. Two sites that were monitored in 2003 (Indian Creek near Strawberry Reservoir and Strawberry River) are being followed in 2004 as well. Data for these sites is given in the previous paragraph.</p> <p>Water flowing from the Lower Bog Mine did not meet state standards for pH. Arsenic, cadmium, and lead levels were not above state levels at any of the sites used to monitor the Pacific Mine. Data was not collected to determine if zinc levels were exceeding state standards; however, the levels on all sites were down except the Lower Bog Mine adit, which was stable.</p> <p>2004: Seven baseline sites were sampled from January 2004 through June 2004. Sampling of eight baseline sites was completed from July 2004 through October 2004. Wide Hollow Creek above the confluence with Strawberry River and Daniels Creek at the First Diversion met all water quality standards. Streeper Creek above Indian Creek road had one exceedence of dissolved oxygen. Strawberry River below the confluence with Willow Creek had an exceedence of dissolved oxygen and also had one exceedence of phosphorus. Indian Creek above the mouth of Streeper Creek has one exceedence in temperature. Strawberry River above the Daniels Diversion exceeded phosphorous levels for all four samplings as well as one exceedence of dissolved oxygen. Willow Creek above the confluence with Strawberry River had one exceedences of dissolved oxygen and one of phosphorus. West Fork Duchesne River above Vat Creek diversion dam had elevated phosphorus in one sampling.</p> <p>2005: Nine sites were sampled by the Uinta National Forest, Utah Department of Environmental Quality, or partners. The sampling was completed from April through October 2005. The analytes selected for exceedance reporting include dissolved oxygen (DO), total phosphorus (TP), temperature, pH, and Total Suspended Solids (TSS). Standards of Quality for Waters of the State are listed in Utah Administrative Code – Rule R317-2, available on the world wide web at http://www.rules.utah.gov/publicat/code/r317/r317-002.htm#T7.</p> <p>Overall, all sites sampled returned elevated levels of Phosphorous. SNOTEL sites across the Forest in 2005 showed average to above average precipitation and snow pack. However, SNOTEL data from the preceding four years (2000 – 2004) shows average to well below average precipitation and snow packs. Drought can indirectly affect water quality through reduction of vegetative vigor/production, recruitment,</p>

Indicator	Monitoring
	<p>and litter production—all of which negatively affect groundcover. Drought followed by an above average year of precipitation and snow pack may account for some, or in some cases, most of the elevated levels of phosphorous reported through 2005 sampling. Results for each site are described below.</p> <p>Right Fork White River at NF Boundary – (STORET #4932880). Sampling of this site in 2005 resulted 4 Chronic and 2 Acute exceedances for TP. Due to a high degree of variation in TP results, trend on this parameter is difficult to determine with confidence. The remaining parameters show a stable trend with no exceedances from the 2005 samplings. Projects completed in the contributing watershed since the last sampling round include stream channel restoration on the Right Fork, reconstruction of 2.5 miles of road, and installation of a pipe-arch culvert. All other management activities in the contributing watershed have continued without substantial changes.</p> <p>Co-op Creek above confluence Strawberry River – (STORET #4936530). Sampling of this site in 2005 resulted 4 Chronic / 2 Acute exceedances for TP. Due to a high degree of variation in TP results, trend on this parameter is difficult to determine with confidence. TSS levels are stable to increasing in trend. DO and pH levels are in a stable to decreasing trend. Management activities in the contributing watershed have continued without substantial changes.</p> <p>Co-op Creek Narrows 1.25 miles below NF boundary – (STORET #4936560). Sampling of this site in 2005 resulted in 6 Chronic exceedances for TP, and 1 Chronic / 1 Acute exceedance for pH. DO, pH, and TSS remain stable, while TP levels are decreasing. Management activities in the contributing watershed have continued without substantial changes.</p> <p>Trail Hollow Creek above confluence Chipman Creek – (STORET #4936580). Sampling of this site in 2005 resulted in 1 Chronic exceedance for DO. DO, temperature, pH, and TSS remain stable, while TP levels continue on a downward trend. Management activities in the contributing watershed have continued without substantial changes.</p> <p>Salt Creek at the NF boundary – (STORET #4995360). Sampling of this site in 2005 resulted in 6 Chronic / 3 Acute exceedances for TP. DO, pH, and temperature all exhibit stable or improving trends. TP and TSS exhibit slight increase in trend. Sedimentation originating from a road slope failure may be at least partially responsible for increases in sediment, TSS, and TP. Management activities in the contributing watershed have continued without substantial changes.</p> <p>Holman Creek above Nebo Creek – (STORET #4995840). Sampling of this site in 2005 resulted 1</p>

Indicator	Monitoring
	<p>Chronic / 1 Acute exceedance for TP, and 1 Chronic / 1 Acute exceedance for pH. Due to low sampling frequency, trend on water quality parameters for this site cannot be determined at this date.</p> <p>Right Fork Current Creek 0.5 mi above FR 70471 – (STORET #5936483). Sampling of this site in 2005 resulted 3 Chronic / 1 Acute exceedance for Total Phosphorous. This site was established in 2005 so additional years of sampling will be required to establish water quality trends. Sampling of this site is planned to continue through Fiscal Year 2006 to establish baseline conditions.</p> <p>Left Fork Hobble Creek above Right Fork – (STORET #4996130). Trend for pH, temperature, and DO are stable to upward. TP levels are trending downward. No standard exceedance report was available for the 2005 samplings. Activities on the Forest that may have impacted water quality since the last sampling period include the Cherry II Fire (October 2003) and associated burned area emergency response treatments, creation of the Pole Haven trailhead and road maintenance. Approximately 40 percent of the watershed is privately owned, with much of the property being sub-developed.</p> <p>Lower South Fork Provo River at Gaging Station – (STORET #4996830). No exceedance report was generated for this site, and water quality for this stream is good overall. Temperature, DO, pH, and TSS for this site are stable to improving, TP shows a decreasing trend. Less than 25 percent of the contributing watershed is privately owned, while the remaining acreage is administered by the Forest. Management activities in the Forest Service contributing watershed have continued without substantial changes.</p>
<p>Number of 303(d) listed water bodies (annually).</p>	<p>2003: The North Fork of the American Fork River and tributaries above Tibble Fork Reservoir are listed in the Draft 2002 303(d) List of Waters for arsenic. The North Fork American Fork River will be listed for effects caused by historic mining activity in the watershed. Lakes on the Uinta National Forest listed on the 303(d) list include Strawberry Reservoir, Mill Hollow Reservoir, and Big East Lake due to dissolved oxygen levels/total phosphorus, total phosphorus, and dissolved oxygen, respectively. Diamond Fork Creek has been moved from the 303(d) list to the 305(b) list.</p> <p>2004: In previous 303(d) lists, the State of Utah had identified only those waters needing TMDLs and has removed Assessment Units that had approved TMDLs from the list. For the 2004 305(b) report and the 303(d) list, the State has adopted the five-part integrated list for reporting the status of the State's water.</p>

Indicator	Monitoring
	<p><u>Streams</u> The North Fork of the American Fork River and tributaries above Tibble Fork Reservoir were removed from the 2004 303(d) List of Waters due to recent assessment that water quality standards are being met. The fish consumption health advisory for this river segment was lifted and development of TMDL is not needed. The American Fork River and Tributaries from diversion at mouth of Canyon to Tibble Fork Reservoir is now included on the list as a Category 5A and requires development of a TMDL for pH exceedances and for partially supporting beneficial uses.</p> <p><u>Lakes</u> Lakes on the Uinta National Forest listed on the 303(d) list include Strawberry Reservoir, Mill Hollow Reservoir, and Big East Lake due to dissolved oxygen levels/total phosphorus, total phosphorus/pH, and dissolved oxygen, respectively. A TMDL (Total Maximum Daily Limit) Study for Strawberry Reservoir is scheduled for completion in 2005.</p> <p>2005: Streams within or adjacent to the Uinta National Forest included on the <u>Utah's 2004 303(d) List of Impaired Waters</u> are as follows:</p> <p style="padding-left: 40px;"><i>American Fork River and Tributaries from diversion at mouth of Canyon to Tibble Fork Reservoir.</i> This river segment is included on the 2004 303(d) List – Category 5A- for Partially Supporting Beneficial Uses 2B, 3B, and 4 Criteria for pH.</p> <p style="padding-left: 40px;"><i>Soldier Creek from confluence with Thistle Creek to confluence of Starvation Creek.</i> This river segment is included on the 2004 303(d) List – Category 5A for partially supporting Class 3A Beneficial Use Criteria for sediment and Total Phosphorous.</p> <p>Lakes within the Uinta National Forest included on the <u>Utah's 2004 303(d) List of Impaired Waters</u> are as follows:</p> <p style="padding-left: 40px;"><i>Mill Hollow Reservoir.</i> This reservoir is included on the 2004 303(d) List – Category 5A for partially supporting Class 3A Beneficial Use Criteria for pH and Total Phosphorous.</p> <p style="padding-left: 40px;"><i>Big East Lake.</i> This reservoir is included on the 2004 303(d) List – Category 5A for partially supporting Class 3A Beneficial Use Criteria for Dissolved Oxygen.</p> <p style="padding-left: 40px;"><i>Strawberry Reservoir.</i> This reservoir is included on the 2004 303(d) List – Category 5A for</p>

Indicator	Monitoring
	<p>Partially Supporting Class 3A Beneficial Use Criteria for pH and Total Phosphorous.</p> <p>The Uinta NF and UDEQ are scheduled to conduct water sampling on Big East Lake and Mill Hollow Reservoir in Fiscal Year 2006 in order to further determine the nature and extent of the impairment, and to develop mitigation measures for water quality improvement.</p>

8. Are **airsheds** on the Forest meeting or trending toward desired conditions?

DFC: Smoke emissions from prescribed and wildland fires are within the historical frequency and distribution for the various vegetation types across the Forest. Resulting ambient air quality and visibility values across the Forest are within federal and state standards for particulate matter and visibility.

Indicator	Monitoring
<p>Forest Service management activities do/don't result in exceedances from established NAAQS standards (every 5 years).</p>	<p>2003: The Cascade II Prescribed Burn initiated in September 2003 escaped control lines. Emissions during the planned burning period were within state standards; however, the wildfire resulting from the escape resulted in PM10 emissions of 350 and 160 micrograms per cubic meter of air at the Hawthorne monitoring station in Salt Lake City on September 25 and 26, respectively, exceeding the 150 microgram level deemed unhealthy by the Environmental Protection Agency. This was the first exceedance of National Ambient Air Quality Standards (NAAQS) experienced by the Uinta National Forest as a result of a management action.</p> <p>2004: No prescribed burns were implemented on the Uinta National Forest during Fiscal Year 2004.</p> <p>2005: The Halls Fork Prescribed Burn was conducted in October of 2004 (FY 2005). A smoke plan for the burn was approved October 14, 2004. Air quality in the general area is monitored by the State of Utah Division of Air Quality (UDAQ) through a network of stations. Five stations are located in Utah County, and none in Wasatch, Juab, Sanpete or Tooele Counties. Only 2 of these (Lindon and North Provo) monitored particulate matter levels at the time of project implementation. Data from the Lindon station shows that PM10 24-hour concentrations ranged from 3.2 - 8.7 $\mu\text{g}/\text{m}^3$ during implementation of the Halls Fork Prescribed Burn, well below the 65 $\mu\text{g}/\text{m}^3$ standard for this air quality indicator. Similarly, PM2.5 levels ranged from 3.6 – 12.9 $\mu\text{g}/\text{m}^3$ during the burning period, well within the range considered “good” air quality (i.e., $\text{PM}_{2.5} \leq 15.4 \mu\text{g}/\text{m}^3$).</p> <p>In addition, particulate (PM2.5) air quality for this project was monitored using a remote weather station located near the burn. Monitoring showed daily average pre- and post-burn PM2.5 concentrations of about 0.5 $\mu\text{g}/\text{m}^3$ with daily average levels rising to a maximum of 2.2 $\mu\text{g}/\text{m}^3$ during project implementation. Maximum short-term (i.e., 5-7 minutes) levels recorded were 17.9 $\mu\text{g}/\text{m}^3$. Air quality in the project area and along the nearby Wasatch Front met established air quality standards during this project's implementation.</p>
<p>Degradation of lichen biomonitoring sites (every 5 years).</p>	<p>2003-2004: Lichen biomonitoring samples were collected in 2003. This involved sampling at 11 previously established sites located along the Wasatch Front, and establishment and collection of baseline data on an additional 12 sites. The 2003 Forest Plan indicates there were 13 additional sites;</p>

Indicator	Monitoring
	<p>however, only 12 additional sites were identified and established. The samples were analyzed in 2004; however, a report describing the results was not completed until February of 2005 (FY 2005). The results of this report are described in the 2005 section below.</p> <p>2005: Field review of the 11 original air quality biomonitoring reference sites (established in 1995) during the 2001-2003 re-sampling did not show any visually detectable changes in the lichen communities. All substrates (bark, lignum, rock and soil) at these sites still support viable lichen communities. The average number and abundance of pollution sensitive indicator species at these sites appears to remain unchanged and the occurrence of the more pollution sensitive, larger foliose and fruticose species is still low in comparison with other less impacted areas in the intermountain western United States. Necrotic and/or bleached thalli are generally absent these sites. Elemental analysis data indicates overall pollutant element concentrations in sensitive indicator species have generally declined. In 1995 sulfur levels were elevated at 10 of the 11 sites, but in 2002 nine of the 10 showed significantly reduced sulfur levels. In 1995 chromium and nickel were elevated at 2 sites, but in 2002 chromium and nickel levels were well within background levels at these sites. In 1995 lead levels were moderately elevated at 7 sites, but in 2002 only at 1 site. Arsenic levels were elevated at 10 sites in 1995; in 2002 seven of these sites showed reduced concentrations and 3 showed elevated concentrations. Iron-titanium ratios are generally still elevated across many of the original sites. Ten of 11 of the sites showed elevated floride concentrations. Overall, there is a trend of decreasing concentrations for most pollutant levels; likely related to the declining operation at the steel mill in Utah Valley.</p> <p>During 2003, 12 additional baseline reference sites were established. These sites were established in management areas not represented by the eleven 1995 sites. The 12 new sites show many of the same basic lichen communities patterns observed for the original 1995 sites. However, the average number of sensitive indicator species for the new sites is much higher (11.3 vs. 6.3). Overall, pollutant element concentrations at the 12 new sites are lower than the original sites. Sulfur concentrations were moderate-high at 3 sites, and 9 of 12 were within background levels. Two sites showed moderately high concentrations of lead, and 4 sites showed moderately high concentrations of cobalt. Three sites showed moderate to high levels of arsenic. Eleven of the 12 sites showed elevated floride concentrations. The higher average number of sensitive indicator species per site and overall lower pollutant element concentrations are most likely due to the fact that many of the new sites are located further east or in one case further west and away from the Wasatch Front. The consistently high floride concentrations at all sites is difficult to interpret, and needs further exploration. Collections from the 12 new sites added 9 new genera and 27 new lichen species; bringing the total number of lichen taxa across all 23 sites to 56 genera and 182 species.</p>

Indicator	Monitoring
<p>Exceedances from NAAQS standards (every 5 years).</p>	<p>NAAQS for the 7 criteria air pollutants (lead, ozone, sulfur dioxide, nitrogen dioxide, carbon monoxide, particulate matter < 10 microns [PM₁₀], and particulate matter < 2.5 microns [PM_{2.5}]) are monitored at several sites by the Utah Division of Air Quality. Several sites are located in counties that contain the Uinta National Forest. These include several sites in Utah County, one site in Tooele County, and several sites in nearby Salt Lake County.</p> <ul style="list-style-type: none"> ◆ Lead is monitored at 2 Salt Lake County, and no Utah and Tooele County sites. ◆ Ozone is monitored at 3 Utah County sites, 6 Salt Lake County sites, no Tooele County sites. ◆ Sulfur dioxide is monitored at 3 Salt Lake County sites, and no Tooele or Utah County sites. ◆ Nitrogen dioxide is at 1 Utah County site, 2 Salt Lake County sites, and no Tooele County sites. ◆ Carbon monoxide is monitored at 2 Utah County, 4 Salt Lake County and no Tooele County sites. ◆ PM₁₀ is monitored at 2 Utah County, 4 Salt Lake County, and no Tooele County sites. ◆ PM_{2.5} is monitored at 4 Utah County, 1 Tooele County, and 6 Salt Lake County sites <p>2003: In 2003, 8 exceedances from NAAQS for PM₁₀ were recorded at air quality monitoring sites in Salt Lake County. This included 2 exceedances at the Hawthorne monitoring site in Salt Lake County. (see discussion above for the indicator <i>“Forest Service management activities do/don’t result in exceedances from established NAAQS standards”</i>). No other exceedances for PM₁₀, or the other criteria pollutants were recorded at the air quality monitoring sites in Utah County, Tooele or Salt Lake Counties in 2003.</p> <p>2004: In the winter of 2004, one exceedance from NAAQS for PM_{2.5} and one for PM₁₀ were recorded at one Salt Lake County site. Neither of these exceedances were caused by, or coincided with Forest management actions that might have contributed to the elevated levels of particulates.</p> <p>2005: In 2005 NAAQS for the 7 criteria air pollutants were monitored at several sites by the Utah Division of Air Quality. Several sites are located in counties that contain the Uinta National Forest. The stations monitoring lead and ozone have changed, and these are summarized below:</p> <ul style="list-style-type: none"> ◆ Lead was monitored at 1 Salt Lake County (Magna) station. ◆ Ozone was monitored at 3 Utah County, 5 Salt Lake County, and 1 Tooele County stations. <p>In 2005, 1 exceedance (Magna) from NAAQS for PM₁₀ was recorded. The NAAQS allows 3 exceedances of the standard over a 3-year period. In 2005, four Salt Lake County stations had a 4th highest reading greater than 0.080 ppm. The NAAQS (≤ 0.080 ppm) is based on a 3-year average of</p>

Indicator	Monitoring
	the 4 th highest ozone reading at each monitor. No other exceedances were recorded at the air quality monitoring sites in Utah County, Tooele or Salt Lake Counties in 2005.

9. Are **vegetation conditions** stable or moving toward desired future conditions?

DFC: Deteriorated vegetated communities are assessed for estimated potential for recovery, and active restoration work is completed as appropriate. Suitable habitat conditions are provided for plant-pollinating insects. Vegetative communities exist in a full range of seral stages and age classes. Vegetation management focuses on improving the diversity of forested and non-forested communities, with an emphasis on aspen stand regeneration and insect and disease control in conifer species. Vegetation is managed to create a more diverse mosaic of species and size classes within the landscape in an effort to move the vegetation towards desired future conditions. Wildlife habitat needs are considered in designing treatment projects, but do not necessarily drive the purpose and need for treatment. Forested vegetation that is classified as capable and available is managed to provide a portion of the Forest’s Allowable Sale Quantity (ASQ). Forested vegetation throughout the remainder of the Forest is managed for general forest health and other forest resource needs.

The Uinta National Forest supports a wide variety of vegetation types. The most common vegetation community types on the Forest are aspen forest, oak/maple, sagebrush, conifer forest, pinyon/juniper woodlands, mountain brush, and riparian.

The desired future condition of each habitat type is a vegetation community where species composition and age-class distribution are within the historic range of variability for that community type and approach patterns described under properly functioning conditions. Vegetation conditions that are within the historic range of variability are desired because these are habitat conditions under which all native species evolved and to which they are adapted. Vegetation composition and structure are important because they largely determine types and amounts of food and cover available for each species.

Indicator	Monitoring
Clearcut size and timber management practices according to Forest Plan direction (annually).	<p>2003: Seventy-nine acres were clearcut in aspen on the Forest.</p> <p>2004: Two cutting units totaling 39 acres were clearcut. Both cutting units were aspen regeneration harvests on the Dry Hollow Timber Sale. One cutting unit was 26 acres, and the other 13 acres in size.</p> <p>2005: No clearcuts occurred on the Forest in 2005.</p>
Prescribed fire and wildland fire use according to Forest Plan direction (every 5 years).	<p>2003: The Red Hollow Prescribed Burn (1,733 acres) was implemented in accordance with Forest Plan Direction and met burn objectives.</p> <p>The Cascade II Prescribed Burn (600 acres) was implemented September 23 and escaped control lines. As a result of the escape, Cascade III (820 acres) was also burned. In addition to these planned burn units, an additional 6,408 acres were burned, including 4,504 acres of state and private land. Overall, burn severity on 18% (1,406 acres) was high, 46% (3,580 acres) was moderate, and 36% (2,843 acres) was low or unburned. Generally, the planned burn units burned at moderate to low</p>

Indicator	Monitoring
	<p>intensities that met the prescribed objectives, and the vegetation stands within these units are expected to move toward the desired conditions described in the Forest Plan.</p> <p>Evaluation of the White River Prescribed Burn Vegetation Management Project was also completed in 2003. Monitoring and evaluation indicated that the burn achieved desired results on about 15% of the treatment area (i.e., the area within the burn perimeter). Overall, much of the burned unit either did not burn or burned at too low of an intensity to meet the objectives outlined in the Burn Plan.</p> <p>No wildland fire use fires occurred in FY 2003.</p> <p>2004: No prescribed burns or wildland fire use fires were conducted on the Uinta in FY2004.</p> <p>2005: The Halls Fork Prescribed Burn (2,408 acres), located in the Diamond Fork Management Area, was implemented in October 2004. The burn was implemented in accordance with Forest Plan Direction and met burn objectives.</p> <p>The Silver Wildland Fire Use Fire (1 acre) occurred in October 2004.</p>
<p>Acres of hazardous fuels treated (annually).</p>	<p>2003: Acres reported as being treated were 1,733 for Red Hollow, 600 for Cascade II, and 820 for Cascade III. Cascade III burned when Cascade II escaped containment lines and became a wildfire. Only the acres included within the original burn plan were reported as “acres of hazardous fuels treated.”</p> <p>2004: The only fuels-funded project completed in FY04 was the Bryant’s Fork Summer Home Fuelbreak, for 50 acres. In addition, several non-fuels-funded projects were completed that reduced fuels and/or potentially changed fire regime condition class on a localized scale. These included Bryant’s For Spruce Trap Tree Treatment (178 acres), Dry Hollow Thinning (20 acres), Heber Aspen Beaver Treatment #1 (38), Murdock Timber Sale (42 acres), Silver Meadows Timber Sale (184 acres), Squaw Peak Road (20 acres), and Strawberry Sage Grouse Lek Treatment (4 acres), as reported in the National Fire Plan Operations Reporting System (NFPORS) database, for a total of 578 acres treated.</p> <p>2005: In addition to the Halls Fork Prescribed Burn (2,408 acres), the Silver Lake/Tibble Fork Mechanical Fuels Project (80 acres) was completed in FY05. Several projects funded by resources other than fuels were completed in 2005 that reduced fuels and/or potentially changed fire regime condition class on a localized scale. These included Bryant’s Fork Trap Tree II (113 acres), Vernon Pinyon-Juniper Enhancement (25 acres), Spanish Fork Powerline Clearing (78 acres), Hope Campground (50 acres), Rocky Top Timber Stand Improvement (57 acres), Mill Hollow Campground</p>

Indicator	Monitoring
	<p>Hazard Reduction (18 acres), and Forest-wide Road Maintenance (6 acres), for a total of 2,835 acres treated.</p>
<p>Acreage with approved wildland fire use plan (every 5 years).</p>	<p>2003: Wildland fire use plans have been developed for the wilderness areas of the Forest. There are 58,400 acres with an approved plan.</p> <p>2004: A Forest-wide wildland fire use plan was developed as part of the 2003 Uinta and Wasatch-Cache National Forests’ Fire Management Plan. This wildland fire use plan allowed consideration of wildland fire use on 286,432 acres in several blocks across the forest. These blocks included wilderness and non-wilderness Forest lands.</p> <p>2005: A Forest-wide wildland fire use plan is included as part of the Uinta and Wasatch-Cache National Forests’ Fire Management Plan, and is updated yearly with the FMP. The 2005 wildland fire use plan allowed consideration of wildland fire use on 453,187 acres in several blocks of both wilderness and non-wilderness areas across the Forest.</p>
<p>Aspen, spruce/fir, Douglas-fir</p> <ol style="list-style-type: none"> Extent of conversion (acres) to younger age classes (every 5 years). Extent and distribution of old and mature (every 5 years). Extent of insect/disease infestations (every 5 years). 	<p>For aspen forests, desired future conditions include a heterogeneous mosaic of age classes, with young, mid, and old age classes represented across the landscape. Aspen regeneration should be sufficient to withstand browsing pressure from wildlife and livestock and still provide sufficient recruitment to ensure stand maintenance or stand replacement across the landscape. At least 30% of stands should be in mature or old age classes, and at least 10% should have old growth structural characteristics. Mature and old stands should have densities of at least two large-diameter snags (≥ 8 inches diameter at breast height) per acre, and at least five large-diameter logs (≥ 6 inches mid-point diameter) per acre. Desired future conditions also include seral aspen forests that are being maintained by periodic disturbance and not being converted at large spatial scales to conifer forest due to lack of disturbance. Grass, forb, and shrub growth is productive, providing forage and browse for both wildlife and livestock.</p> <p>For spruce/fir and Douglas-fir/white fir conifer forests, desired future conditions include a balanced range of age classes, with at least 40% of stands mature or old, and at least 10% having old growth structural characteristics. Mature and old growth stands should have multi-layered canopies, with densities of at least three large-diameter snags (≥ 18 inches diameter at breast height) per acre, and at least five large-diameter logs (≥ 12 inch mid-point diameter) per acre. Insects and disease are not causing large-scale tree mortality across entire landscapes.</p>

Indicator	Monitoring																					
	<p>2003:</p> <ul style="list-style-type: none"> a. Seventy-nine acres of aspen were regenerated by clearcutting, and about 349 acres of spruce-fir were selection cut (SOURCE: 2003 Annual Reforestation and Timber Stand Improvement Needs Report). The selection cuts are designed to maintain/create multi-species stands containing multiple age classes, including new regeneration. In addition, about 261 acres of aspen (< 1% of this type) and 12 acres of conifer (< 0.1% of the conifer) were burned (moderate to high intensities). b. Extent and distribution of old and mature will be evaluated within the 5-year reporting period. c. Insect and disease surveys identified the following: <div style="text-align: center;"> <p>2003 Insect and Disease Survey Results</p> <table border="1"> <thead> <tr> <th data-bbox="766 570 1024 607">Species</th> <th data-bbox="1024 570 1593 607">Damage Agent</th> <th data-bbox="1593 570 1736 607">Acres</th> </tr> </thead> <tbody> <tr> <td data-bbox="766 607 1024 644">Fir</td> <td data-bbox="1024 607 1593 644">Fir engraver beetle – mortality</td> <td data-bbox="1593 607 1736 644">4,226</td> </tr> <tr> <td data-bbox="766 644 1024 682">Subalpine fir</td> <td data-bbox="1024 644 1593 682">Western spruce budworm – defoliation</td> <td data-bbox="1593 644 1736 682">200</td> </tr> <tr> <td data-bbox="766 682 1024 719">Spruce</td> <td data-bbox="1024 682 1593 719">Spruce beetle – mortality</td> <td data-bbox="1593 682 1736 719">179</td> </tr> <tr> <td data-bbox="766 719 1024 781">Spruce-fir</td> <td data-bbox="1024 719 1593 781">Spruce beetle/fir engraver beetle – mortality</td> <td data-bbox="1593 719 1736 781">4,694</td> </tr> <tr> <td data-bbox="766 781 1024 818">Lodgepole pine</td> <td data-bbox="1024 781 1593 818">Mountain pine beetle – mortality</td> <td data-bbox="1593 781 1736 818">20</td> </tr> <tr> <td data-bbox="766 818 1024 855">Douglas-fir</td> <td data-bbox="1024 818 1593 855">Douglas-fir beetle mortality</td> <td data-bbox="1593 818 1736 855">1,488</td> </tr> </tbody> </table> </div> <p>2004:</p> <ul style="list-style-type: none"> a. Thirty-nine acres of aspen were regenerated by clearcutting, and about 169 acres of spruce-fir were selection cut (SOURCE: 2004 Annual Reforestation and Timber Stand Improvement Needs Report, as corrected). The selection cuts are designed to maintain/create multi-species stands containing multiple age classes, including new regeneration. In addition, about 55 acres of aspen (< 1% of this type) were burned on the Forest in 2004. b. Extent and distribution of old and mature will be evaluated within the 5-year reporting period. c. Insect activity increased substantially since 2003: 	Species	Damage Agent	Acres	Fir	Fir engraver beetle – mortality	4,226	Subalpine fir	Western spruce budworm – defoliation	200	Spruce	Spruce beetle – mortality	179	Spruce-fir	Spruce beetle/fir engraver beetle – mortality	4,694	Lodgepole pine	Mountain pine beetle – mortality	20	Douglas-fir	Douglas-fir beetle mortality	1,488
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	<p style="text-align: center;">2005 Insect and Disease Survey Results</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th data-bbox="766 300 1024 337">Species</th> <th data-bbox="1024 300 1591 337">Damage Agent</th> <th data-bbox="1591 300 1738 337">Acres</th> </tr> </thead> <tbody> <tr> <td data-bbox="766 337 1024 370">Fir</td> <td data-bbox="1024 337 1591 370">Fir engraver – mortality</td> <td data-bbox="1591 337 1738 370">5,040</td> </tr> <tr> <td data-bbox="766 370 1024 402">Spruce</td> <td data-bbox="1024 370 1591 402">Spruce beetle – mortality</td> <td data-bbox="1591 370 1738 402">1,981</td> </tr> <tr> <td data-bbox="766 402 1024 472">Spruce-fir</td> <td data-bbox="1024 402 1591 472">Spruce beetle/fir engraver beetle – mortality</td> <td data-bbox="1591 402 1738 472">10,586</td> </tr> <tr> <td data-bbox="766 472 1024 505">Lodgepole pine</td> <td data-bbox="1024 472 1591 505">Mountain pine beetle – mortality</td> <td data-bbox="1591 472 1738 505">2,484</td> </tr> <tr> <td data-bbox="766 505 1024 542">Douglas-fir</td> <td data-bbox="1024 505 1591 542">Douglas-fir beetle - mortality</td> <td data-bbox="1591 505 1738 542">6,802</td> </tr> </tbody> </table> <p>A summary of forest disturbance agents detected in the 2005 aerial detection survey follows.</p> <p style="text-align: center;"><u>Heber Ranger District</u></p> <ul style="list-style-type: none"> • Douglas-fir – Mortality attributed to Douglas-fir beetle decreased. Mortality was mapped in the South Fork Wolf Creek and a few pockets were mapped near Currant Creek Reservoir, and from Center Canyon northeast to the Forest boundary. • Engelmann spruce – Mortality due to Englemann spruce beetle increased from 2004. A large 200-tree pocket of mortality was mapped along the West Fork Duchesne River. Scattered pockets of mortality were also mapped west and south of Strawberry Reservoir. • Subalpine fir – Mortality due to western balsam bark beetle and other agents decreased. Large pockets of mortality were mapped throughout the District. Some of the larger pockets were north of Strawberry Reservoir. Large 100-tree pockets were also mapped in North Fork Three Forks, Brunt Stump Springs, Shingle Spring, and between Wheeler Fork and Pete Canyon. • Lodgepole pine – Mortality from mountain pine beetle decreased slightly. Four small pockets of tree mortality were mapped from Soapstone Pass east to Soapstone Creek. • White fir – Mortality and top kill attributed to fir-engraver beetle decreased noticeably. Small pockets of mortality were mapped from Right Fork Little Hobbie Creek east to Willow Spring. • Aspen – Aspen decline was mapped in Buffalo Canyon. <p style="text-align: center;"><u>Pleasant Grove Ranger District</u></p> <ul style="list-style-type: none"> • Douglas-fir – Mortality attributed to Douglas-fir beetle decreased noticeably. Scattered small pockets were mapped in Lone Peak Wilderness, American Fork Canyon, Davis Canyon, near Sundance, and south of Y Mountain. • White fir – Mortality attributed to fir-engraver beetle decreased noticeably. Scattered small 	Species	Damage Agent	Acres	Fir	Fir engraver – mortality	5,040	Spruce	Spruce beetle – mortality	1,981	Spruce-fir	Spruce beetle/fir engraver beetle – mortality	10,586	Lodgepole pine	Mountain pine beetle – mortality	2,484	Douglas-fir	Douglas-fir beetle - mortality	6,802
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Indicator	Monitoring
	<p>pockets were mapped in Slide Canyon, near Buckley Mountain, and Kolob Basin. Large groups of mortality were mapped in Big Flat Spring and Bear Canyon areas.</p> <ul style="list-style-type: none"> • Subalpine fir – Mortality from western balsam bark beetle and other agents decreased. Scattered pockets of mortality were mapped north of Sundance, near Silver Lake Flat Reservoir, north and south of Box Elder Peak, in American Fork Canyon and in Bear Canyon. <p style="text-align: center;"><u>Spanish Fork Ranger District</u></p> <ul style="list-style-type: none"> • Lodgepole Pine/Ponderosa Pine/Limber Pine – Mortality attributed to mountain pine beetle increased significantly. Four large pockets of mortality were mapped in Right Fork White River in Johnson Fork, Trail Canyon, Trail Hollow, and south of FS Road #081. • Douglas-fir - Mortality attributed to Douglas-fir beetle increased. Several 200-tree pockets were mapped in Oak Spring Canyon, Dry Canyon, and between the Left Fork of Timber Canyon and Corral Canyon. Several 100-tree pockets were mapped on Teat Mountain, Fifth Water Creek, First Water Creek, and Averett Canyon. • Subalpine fir – Mortality attributed to western balsam bark beetle and other agents decreased by about 50 percent. Many small pockets were found near the Nebo Scenic Loop. A 100-tree pocket was mapped in Holmann Creek, and smaller pockets were mapped near Beer Bottle Spring and Jumpoff Hollow, and in the Mt. Nebo Wilderness Area. • White fir – Mortality attributed to fir-engraver beetle decreased noticeably. Numerous small pockets were mapped in the northeast area of the District. • Aspen – Aspen decline was mapped on the District.
<p>Riparian forest types Extent and distribution of old and mature (every 10 years).</p>	<p>2003: Extent and distribution of old and mature will be evaluated within the 10-year reporting period. About 117 acres of riparian vegetation (< 1% of this type) on the Forest were burned and regenerated in FY 2003.</p> <p>2004: Extent and distribution of old and mature will be evaluated within the 10-year reporting period. About 2 acres of riparian forest types were burned and regenerated in the Cherry Creek II Fire. No riparian forest types were burned in the Red Bull Fire.</p> <p>2005: Extent and distribution of old and mature will be evaluated within the 10-year reporting period. No tree-dominated riparian forests were burned in 2005, but about 9 acres of willow/birch communities were burned and regenerated by wildfires.</p>
<p>Other forest types a. Extent and distribution of</p>	<p>For oak/maple cover types, desired future conditions include a heterogeneous mosaic of age classes, with young, mid, and old age classes represented across the landscape. Young age classes are not</p>

Indicator	Monitoring
<p>old and mature (every 10 years).</p> <p>b. Extent of insect/disease infestations (every 5 years).</p>	<p>only important for ensuring sustainability of the oak communities across the landscape: they also provide young leaf and shoot growth for mule deer, elk, and moose. Young vegetative growth on oak and other woody species is more palatable and nutritious than older growth, and Gambel oak communities are important in providing critical winter range for big game on the Forest.</p> <p>For pinyon/juniper woodlands, desired future conditions include open stands with productive herbaceous growth. Disturbance is sufficient to prevent large-scale invasion of adjacent vegetation associations (e.g., sagebrush and mountain brush) by pinyon/juniper.</p> <p>2003:</p> <p>a. Extent and distribution of old and mature will be evaluated within the 5-year reporting period. Approximately 1,366 acres of old and/or oak/oak-maple/mountain brush burned at high to moderate intensities (i.e., sufficient to regenerate these types) on the Forest in FY 2003.</p> <p>b. About 1,654 acres of pinyon ips beetle related mortality was reported in FY 2003.</p> <p>2004:</p> <p>a. Extent and distribution of old and mature will be evaluated within the 5-year reporting period. Approximately 4 acres of mountain brush (< 1% of this type), 2,497 acres of oak/oak-maple/oak-juniper burned in FY 2004. In addition, about 105 acres of pinyon/juniper on the Forest (< 1% of this type) burned at high to moderate intensity in FY 2004. Most species in the mountain brush and oak types sprout following fire. Moderate to high intensity fires typically kill most of the pinyon and juniper trees, except where they occupy areas of sparse fuels.</p> <p>b. No pinyon ips beetle related mortality was reported in FY 2004. (SOURCE: Region 4 Forest Pest Management Aerial Detection Survey Results, Uinta National Forest, 2004)</p> <p>2005:</p> <p>a. Extent and distribution of old and mature will be evaluated within the 5-year reporting period. Approximately 26 acres of mountain brush (< 1% of this type) burned, and about 26 acres were thinned (fuels treatment). Approximately 132 acres of oak/oak-maple burned, and another 13 acres were thinned (fuels treatment). Most species in the mountain brush and oak types sprout following fire or cutting. The thinning was implemented to reduce plant density and fuel loading/fire risk. This does not affect the age of the overstory plants, but will likely result in some sprouting and regeneration in the understory and/or holes in the overstory.</p> <p>About 17 acres of pinyon/juniper on the Forest (< 1% of this type) burned at moderate intensity and</p>

Indicator	Monitoring
	<p>another 27 acres were cut to eliminate their encroachment into sage or mountain brush stands (wildlife and fuels treatments). Moderate to high intensity fires typically kill most of the pinyon and juniper trees, except where they occupy areas of sparse fuels. Pinyon and juniper do not sprout after cutting.</p> <p>b. About 15 acres (estimated 30 trees) experienced pinyon ips beetle related mortality in FY 2005. (SOURCE: Region 4 Forest Pest Management Aerial Detection Survey Results, Uinta National Forest, 2005)</p>
<p>Sagebrush – Extent and distribution with >15% sage canopy cover (every 10 years).</p>	<p>For sagebrush cover types, desired future conditions also include a heterogeneous mosaic of age classes, with young, mid, and old age classes represented across the landscape. Similar to Gambel oak, young vegetative growth is more palatable and nutritious than older growth, and sagebrush communities also provide critical and high value winter range for big game. Grass and forb growth is productive, providing forage for many species of wildlife including greater sage grouse. Non-native annual grasses like cheatgrass and noxious weeds are not increasing in cover.</p> <p>Extent and distribution of sagebrush with greater than 15% canopy cover will be evaluated within the 5-year reporting period.</p> <p>2003: Range condition and trend data was collected at 11 sagebrush study sites in 2003. One of these sites was judged to be in early seral ecological status, six in mid-seral ecological status, and four in late seral ecological status. Range trend data for these sagebrush study sites indicated trends were upward at three sites, stable at three sites, and downward at three sites.</p> <p>Approximately 353 acres of sagebrush/grass burned in FY 2003.</p> <p>2004: Range condition and trend data was collected at 2 sagebrush study sites on the Heber District. One study showed a stable trend and was considered to be in mid-seral ecological condition. The other study was not given a trend rating because it was moved from an inaccessible hillside to a more representative site in the same vegetation type. The ecological condition of this site was determined to be late seral. On the Spanish Fork District, range condition and trend data was collected on one sagebrush study site. The site is in mid-seral/fair condition with a stable trend. Fair and good are terms used on sites that were seeded in the past with non-native species.</p> <p>Approximately 377 acres of sagebrush/grass burned at moderate to high intensities in FY 2004. In addition, about 67 acres burned at low intensities. In the mountain sagebrush types burned by these fires, moderate to high intensity fires remove or substantially reduce sagebrush densities in the areas</p>

Indicator	Monitoring																																																
	<p>burned. Low intensity fires usually thin, but do not eradicate sagebrush from the burned stands.</p> <p>2005: On the Heber Ranger District, range condition and trend data was collected on five studies, and two of these are considered sage/grass (<i>Artemisia vaseyana</i>/grass sp) sites (although the Mud Creek study site has a very minor sagebrush component due to past seeding with introduced grasses). The Squaw Peak study showed an upward trend and the Mud Creek study showed a stable to slightly downward trend. Both sites exhibited the effects of several years of drought. Both sites were considered to be in mid-seral ecological condition, primarily due to the abundance of introduced grasses (smooth brome at Squaw Peak, smooth brome and Kentucky bluegrass at Mud Creek). Sagebrush canopy cover and sage class information collected in FY2005 for the two sites is listed below:</p> <table border="1" data-bbox="625 602 1877 708"> <thead> <tr> <th>% Sagebrush Canopy Cover</th> <th>% Seedings</th> <th>% Young</th> <th>% Mature</th> <th>% Decadent</th> <th>% Dead</th> </tr> </thead> <tbody> <tr> <td>2.3</td> <td>1.45</td> <td>37.55</td> <td>61.00</td> <td>0.00</td> <td>0.00</td> </tr> <tr> <td>22.64</td> <td>0.00</td> <td>0.00</td> <td>80.30</td> <td>12.00</td> <td>7.70</td> </tr> </tbody> </table> <p>On the Spanish Fork Ranger District, range condition and trend data was collected on ten sites, and four of these are in sagebrush. Sagebrush canopy cover and sage class information collected in FY2005 for the four sites is listed below:</p> <table border="1" data-bbox="625 878 1877 1049"> <thead> <tr> <th>% Sagebrush Canopy Cover</th> <th>% Seedings</th> <th>% Young</th> <th>% Mature</th> <th>% Decadent</th> <th>% Dead</th> </tr> </thead> <tbody> <tr> <td>16</td> <td>7.40</td> <td>29.00</td> <td>32.50</td> <td>10.00</td> <td>15.40</td> </tr> <tr> <td>20</td> <td>0.00</td> <td>12.00</td> <td>67.00</td> <td>9.00</td> <td>12.00</td> </tr> <tr> <td>17</td> <td>4.20</td> <td>24.60</td> <td>32.30</td> <td>19.20</td> <td>19.80</td> </tr> <tr> <td>17</td> <td>5.90</td> <td>4.90</td> <td>60.80</td> <td>9.80</td> <td>6.80</td> </tr> </tbody> </table> <p>Wildfires burned approximately 2 acres of sagebrush/grass at moderate intensities. About 61 acres of sage/grass were also burned at low-moderate intensities in the Halls Fork Prescribed Burn. In addition, about 23 acres of sage/grass were mechanically treated (disked and seeded) as part of wildlife and range improvement projects intended to improve the community composition and ground cover. In the mountain sagebrush types, moderate to high intensity fires remove or substantially reduce sagebrush densities in the areas burned. Low intensity fires and mechanical treatments usually thin, but do not eradicate sagebrush from the affected stands.</p>	% Sagebrush Canopy Cover	% Seedings	% Young	% Mature	% Decadent	% Dead	2.3	1.45	37.55	61.00	0.00	0.00	22.64	0.00	0.00	80.30	12.00	7.70	% Sagebrush Canopy Cover	% Seedings	% Young	% Mature	% Decadent	% Dead	16	7.40	29.00	32.50	10.00	15.40	20	0.00	12.00	67.00	9.00	12.00	17	4.20	24.60	32.30	19.20	19.80	17	5.90	4.90	60.80	9.80	6.80
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trend (every 10 years).	<p>2003: Approximately 15 acres of grass burned on the Forest in FY 2003. Also see the discussion of range condition/trend presented previously in this document.</p> <p>2004: Approximately 274 acres of grass burned at low to moderate intensities in two large wildfires. Also see the discussion of range condition/trend presented previously in this document.</p> <p>2005: No grass was reported as burned in 2005. Also see the discussion of range condition/trend presented previously in this document.</p> <p>2003 – 2005: Grasshoppers and Mormon crickets are two major insect pests affecting Uinta National Forest rangelands. USDA-APHIS is the federal agency responsible for monitoring and treating insect pests on federal lands, including those managed by the Uinta National Forest. Grasshopper and Mormon cricket populations for the five-county area containing the Uinta NF peaked in 2001-2004, and have declined since.</p> <p>Although USDA-APHIS reported some heavy grasshopper and Mormon cricket infestations in FY2005 within counties containing parts of the Forest, no heavy infestations were reported on the Forest and no grasshopper or Mormon cricket treatments were implemented on the Forest. Acreages of heavy insect infestations in the five counties containing the Uinta National Forest are shown below:</p> <table border="1" data-bbox="655 902 1845 1149"> <thead> <tr> <th colspan="7">Acreages of Heavy Grasshopper Infestations (> 8 insects/yd²)</th> </tr> <tr> <th>Area\Year</th> <th>2000</th> <th>2001</th> <th>2002</th> <th>2003</th> <th>2004</th> <th>2005</th> </tr> </thead> <tbody> <tr> <td>Juab Co.</td> <td>33,000</td> <td>174,000</td> <td>NR¹</td> <td>21,030</td> <td>8,060</td> <td>2,250</td> </tr> <tr> <td>Sanpete Co.</td> <td>157,000</td> <td>183,500</td> <td>268,400</td> <td>142,680</td> <td>118,920</td> <td>56,740</td> </tr> <tr> <td>Tooele Co.</td> <td>5,700</td> <td>74,600</td> <td>161,800</td> <td>39,000</td> <td>2,550</td> <td>16,020</td> </tr> <tr> <td>Utah Co.</td> <td>29,000</td> <td>56,400</td> <td>8,500</td> <td>15,150</td> <td>16,440</td> <td>NR</td> </tr> <tr> <td>Wasatch Co.</td> <td>3,000</td> <td>65,600</td> <td>7,000</td> <td>17,540</td> <td>25,250</td> <td>NR¹</td> </tr> </tbody> </table>	Acreages of Heavy Grasshopper Infestations (> 8 insects/yd ²)							Area\Year	2000	2001	2002	2003	2004	2005	Juab Co.	33,000	174,000	NR ¹	21,030	8,060	2,250	Sanpete Co.	157,000	183,500	268,400	142,680	118,920	56,740	Tooele Co.	5,700	74,600	161,800	39,000	2,550	16,020	Utah Co.	29,000	56,400	8,500	15,150	16,440	NR	Wasatch Co.	3,000	65,600	7,000	17,540	25,250	NR ¹
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10. Are management activities effective in preventing excessive **catastrophic fire** events?

DFC: Fire is effectively and safely reintroduced into the ecosystem wherever possible, and fuels levels and vegetation are moving towards desired future conditions. The reduction of fuels in the wildland urban interface protects homes, forest infrastructure, and sensitive watersheds from catastrophic wildfire. The Forest has implemented the National Fire Plan and associated Cohesive Strategy, President Bush’s Healthy Forests Initiative, and other forest policies. Fuels treatments consist of prescribed fire, wildland fire use, mechanical treatments, biological treatments, and other approved fuels treatment techniques. These treatments play an active role in the management of forested and non-forested vegetation health, rangeland health, wildlife habitat, watershed, and social concerns across the Forest. All fuels treatment methods are utilized to improve vegetation structure and age class diversity. Concurrent with this emphasis on fuels treatments, the Forest maintains an effective fire suppression organization that utilizes the appropriate management response to fires. Assessments for determining whether hazard fuel reductions are necessary have been completed. The Wasatch Front Fuels Assessment prioritizes treatment areas across state, local, and federal boundaries.

Indicator	Monitoring
<p>Acreage of human and naturally ignited wildland fire and wildland fire use (every 5 years).</p>	<p>2003: A total of 77 fires burned on the Uinta in FY 2003; 72 of these fires were caused by lightning. A total of about 8,175 acres were burned. There were no wildland fire use fires.</p> <p>2004: A total of 34 wildfires burned on the Uinta in FY 2004; 26 of these fires were caused by lightning. A total of about 1,863 acres were burned. There were no wildland fire use fires in FY04.</p> <p>2005: A total of 20 files burned on the Uinta in FY 2005. Five of these were human caused and burned about 57 acres, while 15 were lightning-caused and burned about 3 acres. A single wildland fire use fire burned 1 acre.</p>
<p>Fire condition classes (every 5 years).</p>	<p>2003: Fire regime condition class (FRCC) were evaluated for the Forest as part of the revision of the Forest Plan. Condition class was derived from the professional expertise of the Plant Ecologist, Fire Ecologist, Fire Management Officer, and content found in <i>Fire Ecology of Forest and Woodlands in Utah</i> (Bradley, Nonan, and Fischer, USDA FS Intermountain Research Station, GTR INT-287.1992) and <i>Fire Effects Information System</i> (USDA Rocky Mountain Research Station, Fire Sciences Laboratory, web application available at: http://www.fs.fed.us/database/feis, 2002). The findings presented in the FEIS for the 2003 Forest Plan are summarized below.</p>

Indicator	Monitoring																																																																			
	<p style="text-align: center;">Fire Condition Classes on the Uinta National Forest</p> <table border="1" data-bbox="621 302 1881 927"> <thead> <tr> <th data-bbox="621 302 1377 370">Vegetation Type</th> <th data-bbox="1383 302 1545 370">Acres</th> <th data-bbox="1551 302 1713 370">% of Forest</th> <th data-bbox="1719 302 1881 370">Condition Class</th> </tr> </thead> <tbody> <tr> <td data-bbox="621 375 1377 407">Aspen, aspen/conifer, conifer/aspen, and aspen/forb</td> <td data-bbox="1383 375 1545 407">269,260</td> <td data-bbox="1551 375 1713 407">30</td> <td data-bbox="1719 375 1881 407">2, 3</td> </tr> <tr> <td data-bbox="621 412 1377 444">Sagebrush/grass</td> <td data-bbox="1383 412 1545 444">160,660</td> <td data-bbox="1551 412 1713 444">18</td> <td data-bbox="1719 412 1881 444">2, 3</td> </tr> <tr> <td data-bbox="621 449 1377 508">Englemann spruce, subalpine fir, lodgepole pine, and mixed conifer</td> <td data-bbox="1383 449 1545 508">78,690</td> <td data-bbox="1551 449 1713 508">9</td> <td data-bbox="1719 449 1881 508">2, 3</td> </tr> <tr> <td data-bbox="621 513 1377 545">Barren land</td> <td data-bbox="1383 513 1545 545">36,840</td> <td data-bbox="1551 513 1713 545">4</td> <td data-bbox="1719 513 1881 545">N/A</td> </tr> <tr> <td data-bbox="621 550 1377 583">Oak brush-maple and mountain brush</td> <td data-bbox="1383 550 1545 583">226,540</td> <td data-bbox="1551 550 1713 583">25</td> <td data-bbox="1719 550 1881 583">2, 3</td> </tr> <tr> <td data-bbox="621 587 1377 620">Douglas-fir</td> <td data-bbox="1383 587 1545 620">13,750</td> <td data-bbox="1551 587 1713 620">2</td> <td data-bbox="1719 587 1881 620">2, 3</td> </tr> <tr> <td data-bbox="621 625 1377 657">Pinyon and juniper</td> <td data-bbox="1383 625 1545 657">43,370</td> <td data-bbox="1551 625 1713 657">5</td> <td data-bbox="1719 625 1881 657">2, 3</td> </tr> <tr> <td data-bbox="621 662 1377 695">Riparian</td> <td data-bbox="1383 662 1545 695">17,560</td> <td data-bbox="1551 662 1713 695">2</td> <td data-bbox="1719 662 1881 695">2, 3</td> </tr> <tr> <td data-bbox="621 699 1377 732">Sagebrush/grass</td> <td data-bbox="1383 699 1545 732">25,380</td> <td data-bbox="1551 699 1713 732">3</td> <td data-bbox="1719 699 1881 732">1</td> </tr> <tr> <td data-bbox="621 737 1377 769">Oak/mountain brush</td> <td data-bbox="1383 737 1545 769">16,690</td> <td data-bbox="1551 737 1713 769">2</td> <td data-bbox="1719 737 1881 769">1</td> </tr> <tr> <td data-bbox="621 774 1377 807">Other conifer</td> <td data-bbox="1383 774 1545 807">4,130</td> <td data-bbox="1551 774 1713 807"><0.5</td> <td data-bbox="1719 774 1881 807">1</td> </tr> <tr> <td data-bbox="621 812 1377 844">Aspen/forbs</td> <td data-bbox="1383 812 1545 844">2,200</td> <td data-bbox="1551 812 1713 844"><0.5</td> <td data-bbox="1719 812 1881 844">1</td> </tr> <tr> <td data-bbox="621 849 1377 881">Douglas-fir</td> <td data-bbox="1383 849 1545 881">1,500</td> <td data-bbox="1551 849 1713 881"><0.5</td> <td data-bbox="1719 849 1881 881">1</td> </tr> <tr> <td data-bbox="621 886 1377 919">Unknown vegetation (not mapped)</td> <td data-bbox="1383 886 1545 919">815</td> <td data-bbox="1551 886 1713 919">N/A</td> <td data-bbox="1719 886 1881 919">N/A</td> </tr> <tr> <td data-bbox="621 924 1377 956">Total vegetation</td> <td data-bbox="1383 924 1545 956">897,385</td> <td data-bbox="1551 924 1713 956">100</td> <td data-bbox="1719 924 1881 956">N/A</td> </tr> </tbody> </table> <p data-bbox="575 967 1703 1000">Condition classes will be reevaluated every 5 years in accordance with the Forest Plan.</p> <p data-bbox="575 1032 1881 1097">2004: No FRCC assessments were completed on the Uinta National Forest in Fiscal Year 2004, but several were scheduled for FY 2005.</p> <p data-bbox="575 1130 1703 1162">Condition classes will be reevaluated every 5 years in accordance with the Forest Plan.</p> <p data-bbox="575 1195 1919 1292">2005: Thirteen Fire Regime Condition Class assessments were completed in FY 2005; these assessments were conducted mostly at the 6th order Hydrologic Unit Code sub-watershed level. See the following table for results of those assessments.</p>				Vegetation Type	Acres	% of Forest	Condition Class	Aspen, aspen/conifer, conifer/aspen, and aspen/forb	269,260	30	2, 3	Sagebrush/grass	160,660	18	2, 3	Englemann spruce, subalpine fir, lodgepole pine, and mixed conifer	78,690	9	2, 3	Barren land	36,840	4	N/A	Oak brush-maple and mountain brush	226,540	25	2, 3	Douglas-fir	13,750	2	2, 3	Pinyon and juniper	43,370	5	2, 3	Riparian	17,560	2	2, 3	Sagebrush/grass	25,380	3	1	Oak/mountain brush	16,690	2	1	Other conifer	4,130	<0.5	1	Aspen/forbs	2,200	<0.5	1	Douglas-fir	1,500	<0.5	1	Unknown vegetation (not mapped)	815	N/A	N/A	Total vegetation	897,385	100	N/A
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Indicator	Monitoring						
	Fire Regime Condition Classes on the Uinta National Forest 6th order HUC Level Watersheds						
#	Project	Watershed	HUC #	Acres Assessed	Assessment Date	Watershed FRCC & percent departure	
1	First-Fourth Waters Burn (S)	Cottonwood Canyon	160202020302	10,900	11/10/04	2	59%
2	First-Fourth Waters Burn (N)	Fifth Water Creek	160202020303	13,300	11/10/04	2	54%
3	Billies Mtn (NC)	Lower Diamond Fork	160202020307	16,300	11/10/04	2	58%
4	Billies Mtn (W)	Upper Spanish Fork Creek	160202020501	4,400	11/10/04	2	60%
5	Billies Mtn (SE)	Lower Soldier Creek	160202020107	21,000	11/10/04	2	65%
6	Vernon	East Government Creek	160203040101	24,800	12/1/04	2	45%
7	Tibble Fork	Middle American Fork Canyon	160202010802	19,200	6/2/05	3	70%
8	Silver Lake	Upper American Fork Canyon	160202010801	19,200	6/2/05	3	72%
9	Alpine Loop	North Fork Provo River	160202030503	15,300	6/29/05	3	72%
10	Jones Hollow	Clyde Creek – Strawberry River	140600040102	9,500	7/19/05	3	70%

Indicator	Monitoring							
	#	Project	Watershed	HUC #	Acres Assessed	Assessment Date	Watershed FRCC & percent departure	
	11	Bryants Fork	Mud Creek	140600040103	10,500	7/19/05	3	78%
	12	Woodland South (N)	Bench Creek	160202030202	7,800	8/23/05	3	74%
	13	Woodland South (S)	Little South Fork Provo River	160202030201	12,600	8/23/05	2	64%
Condition classes will be reevaluated every 5 years in accordance with the Forest Plan.								

11. Are **goods and services** being provided in accordance with Forest Plan goals and objectives?

DFC: Management of the Forest contributes both tangible and intangible social and economic benefits to communities. Quality of life is maintained and enhanced by factors such as the availability of a variety of recreational opportunities, the ability to view sustainable populations of wildlife and fish in quality habitats, maintenance and improvement of air quality and water quality and quantity, and the ability to retreat from fast-paced urban life in a variety of forest settings. The economic diversity of local communities is enhanced by providing sustainable and predictable levels of goods and services such as recreation, wood products, forage, and other products consistent with management direction and ecosystem health. Forest landscapes and activities contribute to a sense of place and members of the public are assured that the ecosystems of the Uinta National Forest are maintained and/or improved for the benefit of current and future generations. Timber harvest activities conducted to achieve management objectives provide opportunities for the local dependant timber industry. Grazing opportunities are maintained on 71 open cattle and sheep allotments and continue to support the livestock industry in the local communities.

Indicator	Monitoring
<p>Allowable Timber Sale Quantity (annually), Total Timber Sale Program Quantity, and Other Forest products (Fuelwood and Christmas Trees Permits) (annually).</p>	<p>Goal: Goals are listed in the following table. Fuelwood demand has dropped substantially, ranging between 649 and 1,615 hundred cubic feet (CCF) per year between 1982-2002. Average demand over the last 25 years was about 3,875 CCF. Supplies have come primarily by the Heber Ranger District. The fuelwood supply is limited by access, but is adequate to meet or exceed demand. Demand over the next few years is expected to stay about the same. The Forest Plan objective is 800-1,200 cords/year, which equates to 1,025-1,535 CCF/year. Personal use Christmas tree permits are issued on the Heber and Spanish Fork Ranger Districts. Commercial Christmas tree sales are not offered. Demand for permits remains extremely high on the Heber Ranger District and permits are sold out within a few hours of going on sale.</p> <p>The ASQ under the previous Forest Plan was 1.9 MMBF/Yr. (\approx 3,300 CCF/Yr). The ASQ and TSPQ were reduced in the 2003 Revised Forest Plan (see the following table). During the 1991-2002 period about 2,560 CCF of timber chargeable toward the ASQ was sold, and the TSPQ volume sold was about 5,460 CCF/Yr. (2001-2002 State of the Forest Report, pg. 39-40). All sales advertised during the 2003-2004 period were sold. Purchasers continue to be locally-owned, small, family-operated sawmills.</p> <p>2003-2004: The Forest is meeting Forest Plan goals and objectives. See the table below.</p> <p>2005: Although the Forest is below objectives for ASQ (~72%), the overall objective for the timber sale program (i.e., TSPQ) is being slightly exceeded (103%). See the table below.</p>

Indicator	Monitoring				
	Timber Products Sold on Uinta National Forest				
		Allowable Sale Quantity (ASQ)	Total Timber Sale Program Quantity (TSPQ)^{2/}	Personal Use Fuelwood Permits	Christmas Tree Permits (also equals # of trees)
		N/A	N/A	1,117.3 CCF	1,863 Permits
	2003 Forest Plan Objective ^{1/}	640 CCF/Yr.	3,190 CCF/Yr.	1,025-1,535	N/A
	FY 2003	0 ^{7/}	4,528 CCF ^{3/, 5/, 6/}	1,080 CCF ^{4/}	1,989 Permits ^{4/}
	FY 2004	1,054 CCF	3,836 CCF ^{3/, 6/}	1,221 CCF ^{4/}	1,833 Permits ^{4/}
	FY 2005	322 CCF	1,504 CCF ^{3/, 6/}	1,182 CCF ^{4/}	1,801 Permits ^{4/}
	Average for planning period	459 CCF/Yr. ^{7/}	3,289 CCF/Yr.	1,161 CCF/Yr.	1,874 Permits/Yr.
	<p>^{1/} The Forest Plan objectives are the average volume/year over the 10-year (2003-2012) planning. Objectives for timber (O-3-2 and O-3-3) are on pg. 2-17 of the 2003 Forest Plan.</p> <p>^{2/} Personal use firewood permits are not included in the TSPQ.</p> <p>^{3/} SOURCE: Periodic Timber Sale Accomplishment Report, Regional Sale Report.</p> <p>^{4/} SOURCE: FY Cut and Sold Report.</p> <p>^{5/} The FY2003 State of the Forest Report erroneously reported that 388 CCF of timber sales were sold in FY2003. The Rock Garden Timber Sale, which was advertised in FY02, but not awarded (i.e., "sold") until November of 2002 (i.e., FY03) was inadvertently not included.</p> <p>^{6/} Includes sales offered the prior FY but not awarded (i.e. sold) till the current FY.</p> <p>^{7/} Does not include 3,552 CCF from the Rock Garden Sale that was advertised in FY02, awarded in FY03 (prior to 2003 Forest Plan approval). This was chargeable toward the ASQ under the 1984 Forest Plan, but is not on lands suited for timber production in the 2003 Forest Plan and not chargeable toward its ASQ.</p>				
<p>Level of permitted livestock grazing (annually).`</p>	<p>The 2003 Forest Plan objective (O-3-1) is <i>"Permit approximately 100,000 Animal Unit Months (AUMs) of forage per year for use by livestock."</i> (LRMP, pg. 2-17) As can be seen below, the Forest has met, and slightly exceeded this objective. Authorized use may differ from permitted use, depending on range conditions, market and economic factors, other conditions.</p> <p>2003-2005: As shown below, authorized use has been less than permitted use and the Forest Plan objective. No grazing was permitted on the Pleasant Grove Ranger District.</p>				

Indicator	Monitoring																																		
	<p style="text-align: center;">Grazing Animal Unit Months (AUMs) on the Uinta National Forest</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th rowspan="2" style="text-align: center;">Grazing Season^{2/}</th> <th colspan="3" style="text-align: center;">Permitted Use^{1/}</th> <th colspan="3" style="text-align: center;">Authorized Use^{1/}</th> </tr> <tr> <th style="text-align: center;">Cattle</th> <th style="text-align: center;">Sheep</th> <th style="text-align: center;">Total</th> <th style="text-align: center;">Cattle</th> <th style="text-align: center;">Sheep</th> <th style="text-align: center;">Total</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">2003^{3/}</td> <td style="text-align: center;">61,945</td> <td style="text-align: center;">45,276</td> <td style="text-align: center;">107,221</td> <td style="text-align: center;">46,341</td> <td style="text-align: center;">17,719</td> <td style="text-align: center;">64,230</td> </tr> <tr> <td style="text-align: center;">2004</td> <td style="text-align: center;">61,945</td> <td style="text-align: center;">45,276</td> <td style="text-align: center;">107,221</td> <td style="text-align: center;">54,210</td> <td style="text-align: center;">37,473</td> <td style="text-align: center;">92,074</td> </tr> <tr> <td style="text-align: center;">2005</td> <td style="text-align: center;">61,229</td> <td style="text-align: center;">45,111</td> <td style="text-align: center;">106,340</td> <td style="text-align: center;">58,061</td> <td style="text-align: center;">37,340</td> <td style="text-align: center;">95,401</td> </tr> </tbody> </table> <p>^{1/} SOURCE: “Annual Grazing Statistical Forest/Grassland Detail at Forest Level Report”, from INFRA database. ^{2/} In prior <i>State of the Forest Reports</i>, fiscal year was used. The “Grazing Season” for most allotments on the Uinta National Forest runs from May or June into October, and thus may span part of 2 fiscal years. Thus, standardized reports cannot be used to monitor this item. Consequently, this monitoring item will be reported by grazing season rather than fiscal year. ^{3/} Numbers differ from those reported in <i>2003 State of Forest Report</i>. The 2003 Report contained an estimate for the fiscal year, whereas, the figures above are for the grazing season. Source and grazing seasons defined in ^{1/} and ^{2/} above.</p>	Grazing Season ^{2/}	Permitted Use ^{1/}			Authorized Use ^{1/}			Cattle	Sheep	Total	Cattle	Sheep	Total	2003 ^{3/}	61,945	45,276	107,221	46,341	17,719	64,230	2004	61,945	45,276	107,221	54,210	37,473	92,074	2005	61,229	45,111	106,340	58,061	37,340	95,401
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<p>Acres leased for oil and gas exploration (annually).</p>	<p>2003: One lease for about 910 acres was issued.</p> <p>2004: Sixty six leases for about 139,590 acres were issued on the Heber and Spanish Fork Ranger Districts.</p> <p>2005: Twenty-two leases for about 46,742 acres were issued.</p>																																		
<p>Number of recreation Special Use permits (annually).</p>	<p>2003: 226 permits</p> <p>2004: 161 permits</p> <p>2005: 182 permits</p>																																		
<p>Number of lands Special Use permits (annually).</p>	<p>2003: 175 permits</p> <p>2004: 178 permits</p> <p>2005: 170 permits</p>																																		

12. Are we providing a diversity of **recreational opportunities** while protecting natural resources? Are conflicts between user groups minimal?

DFC: Summer use dispersed recreation management plans are developed. Developed recreation sites are managed to meaningful measures standards. Recreation special uses have site plans and are managed to standard. Travel management plans have been completed, and motorized trails have been built or reconstructed to meet trail standards. The portions of the Bonneville Shoreline Trail that are on the Forest have been completed. Off-highway vehicle (OHV) and all-terrain vehicle (ATV) use is limited to existing roads and trails, reducing indiscriminate use that causes resource damage in critical watersheds and habitats.

Indicator	Monitoring
<p>Acreage with approved Travel Management Plan (every 5 years).</p>	<p>2003: The Forest Plan was implemented in July 2003. During the remaining months of FY 2003 no travel management plans were developed. It is anticipated that during FY 2004, travel management planning will be initiated for the Vernon Unit.</p> <p>2004: During FY 2004 no travel management plans were developed. Most of the effort in this area was to correct the Forest’s summer Travel Map in response to a Forest Plan appeal and litigation.</p> <p>2005: No travel management plans were developed. A revised travel map was issued for the Forest in response to a Forest Plan appeal and litigation. The revised travel map updated the pre- Forest Plan revision 1988 travel map. The updates were limited to those where appropriate NEPA documents could be found authorizing the change (addition or deletion of a travel route, change in authorized use on a specific travel route, and general area-wide changes in authorized uses [i.e., prohibition on off-designated-route motorized vehicle use for game retrieval, over-snow restrictions, etc.]). It also included minor map corrections (such as better mapping depictions of the location, length, etc. of a road or trail).</p>
<p>Miles of non-motorized trail (annually).</p>	<p>The Forest is undertaking a multi-year project to improve the accuracy of road and trail databases and associated GIS information and maps. Consequently, the numbers of miles of trails reported have been changing and are likely to continue to change until this effort is complete. Actual on the ground differences in the number of miles of trails will be noted.</p> <p>2003: 285 (This data is based on the 2003 Uinta National Forest Travel Map. The number shown in last year’s State of the Forest Report [339] was in error. The Forest Plan [FEIS p. 3-538] reported 275 miles.)</p> <p>2004: 248 (This data reflects the results of a Forest Plan appeal and litigation that converted about 31 miles of non-motorized trail back to motorized, as well as further GPS refinement of transportation data. The number of actual miles of trail on the ground did not change.)</p>

Indicator	Monitoring
	<p>2005: 273 (This figure reflects the number of miles portrayed in the GIS database. The difference in miles is due in part to the travel map revision process, and to the methods used to calculate each trail length. In addition, about one mile of trail was added within the Diamond Fork Campground, called the Diamond Fork Discovery Trail. Just over one mile of trail was also added to the Bonneville Shoreline Trail above Lindon.)</p>
<p>Miles of motorized trail and road opportunities (annually).</p>	<p>The Forest is undertaking a multi-year project to improve the accuracy of road and trail databases and associated GIS information and maps. Consequently, the numbers of miles of trails and roads reported have been changing and are likely to continue to change until this effort is complete. Actual on the ground differences in the number of miles of trails and roads will be noted.</p> <p>2003: 898 (This data is based on the 2003 Uinta National Forest Travel Map, and includes 266 miles of motorized trails and 632 miles of roads open to mixed use [including OHV's]. The number shown in last year's State of the Forest Report [325] was in error.)</p> <p>2004: 945 (This data includes 316 miles of motorized trail and 629 miles of roads open to mixed use [including OHV's]. It reflects the results of a Forest Plan appeal and litigation that converted about 31 miles of non-motorized trail back to motorized, as well as further GPS refinement of transportation data. Other than the 31 miles, the number of actual miles of trails and roads on the ground did not change from 2003. The additional 7 miles of difference reflects corrections to mileages based on better GPS / GIS information.)</p> <p>2005: 915 (This data includes 301 miles of motorized trails and 614 miles of roads open to mixed use [including OHV's]. This figure shows the number of miles portrayed in the GIS database. The difference in miles from FY 2004 is due in part to revisions to the travel map in which there was a reduction in mixed use roads. In addition, the Monk's Hollow ATV Trail added 1.2 miles of new trail and 1.5 miles of unclassified road now used as a system trail.)</p>
<p>Miles of trails groomed for winter use (annually).</p>	<p>2003: 154 (This figure did not include all miles groomed by other organizations and Utah State Parks and Recreation for both snowmobiles and Nordic skiers.)</p> <p>2004: 248 (This figure includes miles groomed by the Forest Service and private organizations and Utah State Parks and Recreation for both snowmobiles [218 miles] and Nordic skiers [30 miles].)</p> <p>2005: No change from FY 2004 in miles of trails groomed for winter use.</p>

Indicator	Monitoring
Trailheads maintained for winter use (annually).	<p>2003: 14 trailheads are maintained for winter use. Three are specifically designated for cross-country skiing.</p> <p>2004: No change from FY 2003 in trailheads maintained for winter use.</p> <p>2005: No change from FY 2003 or 2004 in trailheads maintained for winter use.</p>
Campground capacity (annually).	<p>2003: 12,581 PAOTS (Persons At One Time); 29 campgrounds available for use.</p> <p>2004: 12,281 PAOTS; 28 campgrounds available for use. This reflects temporary closure of Maple Lake Camping and Picnicking Area for reconstruction and temporary closure of Rock Canyon Campground because its water system does not meet State Water Quality Standards. It also includes closure of 6 sites to overnight camping at Little Mill Campground in order to reduce the potential threat of rolling rocks.</p> <p>2005: 12,411 PAOTS; 32 campgrounds available for use. Rock Canyon Campground remains closed, but the Maple Lake Camping and Picnicking Area has been reopened. In addition, three areas that were used by dispersed campers, but without facilities, were improved. These areas now include toilets, picnic tables, and fire rings. The 3 areas were Dry Canyon (middle Diamond Fork), Sawmill Hollow (upper Diamond Fork), and Unicorn (Sheep Creek).</p>
Developed recreation sites meeting accessibility (ADA) standards (every 5 years).	<p>The Americans with Disabilities Act (ADA) requires that after January 1992, design and construction of facilities or part of a facility constructed by, on behalf of, or for the use of a public entity, shall be designed and constructed in such manner that the facility or part of the facility is readily accessible to and usable by individuals with disabilities. Also after January 1992, each facility or part of a facility altered by, on behalf of, or for the use of a public entity in a manner that affects or could affect the usability of the facility or part of the facility shall, to the maximum extent feasible, be altered in such manner that the altered portion of the facility is readily accessible to and usable by individuals with disabilities. Design, construction, or alteration of facilities will be in conformance with the Uniform Federal Accessibility Standards (UFAS) (Appendix A to 41 CFR Part 101-19.6).</p> <p>Subject to the provisions of ADA, no qualified individual with a disability shall, by reason of such disability, be excluded from participation in or be denied the benefits of the services, programs, or activities of a public entity, or be subjected to discrimination by any such entity.</p> <p>2003: Replacement and construction of facilities has been conducted with the intent to provide for</p>

Indicator	Monitoring																																				
	<p>accessibility. The following table summarizes the Uinta National Forest's status as of 2003 relative to efforts to provide accessible recreation sites. This data is not currently complete in the INFRA database as accessibility is a new INFRA field and will be populated as the Forest works towards the completion of the next five years of inventory and condition surveys.</p> <p style="text-align: center;">Accessible Developed Recreation Facilities on the Uinta National Forest</p> <table border="1" data-bbox="808 435 1696 979"> <thead> <tr> <th data-bbox="808 435 1186 511">Developed Recreation Types</th> <th data-bbox="1186 435 1438 511">Number of Sites</th> <th data-bbox="1438 435 1696 511">Number Accessible</th> </tr> </thead> <tbody> <tr> <td data-bbox="808 511 1186 553">Family campgrounds</td> <td data-bbox="1186 511 1438 553">27</td> <td data-bbox="1438 511 1696 553">7</td> </tr> <tr> <td data-bbox="808 553 1186 596">Family picnic areas</td> <td data-bbox="1186 553 1438 596">8</td> <td data-bbox="1438 553 1696 596">1</td> </tr> <tr> <td data-bbox="808 596 1186 638">Group campgrounds</td> <td data-bbox="1186 596 1438 638">4</td> <td data-bbox="1438 596 1696 638">0</td> </tr> <tr> <td data-bbox="808 638 1186 680">Group picnic grounds</td> <td data-bbox="1186 638 1438 680">3</td> <td data-bbox="1438 638 1696 680">0</td> </tr> <tr> <td data-bbox="808 680 1186 722">Trailheads</td> <td data-bbox="1186 680 1438 722">26</td> <td data-bbox="1438 680 1696 722">3</td> </tr> <tr> <td data-bbox="808 722 1186 764">Visitor/interpretive sites</td> <td data-bbox="1186 722 1438 764">10</td> <td data-bbox="1438 722 1696 764">4</td> </tr> <tr> <td data-bbox="808 764 1186 807">Fishing access</td> <td data-bbox="1186 764 1438 807">14</td> <td data-bbox="1438 764 1696 807">2</td> </tr> <tr> <td data-bbox="808 807 1186 849">Boating access</td> <td data-bbox="1186 807 1438 849">5</td> <td data-bbox="1438 807 1696 849">0</td> </tr> <tr> <td data-bbox="808 849 1186 891">Nordic ski areas</td> <td data-bbox="1186 849 1438 891">2</td> <td data-bbox="1438 849 1696 891">0</td> </tr> <tr> <td data-bbox="808 891 1186 933">Snow parks</td> <td data-bbox="1186 891 1438 933">6</td> <td data-bbox="1438 891 1696 933">2</td> </tr> <tr> <td data-bbox="808 933 1186 979">Observation points</td> <td data-bbox="1186 933 1438 979">7</td> <td data-bbox="1438 933 1696 979">6</td> </tr> </tbody> </table> <p>Over the last five years, the Forest has replaced 57 of the 214 toilets on inventory with accessible units. Two of the family campgrounds have also been rebuilt to make them accessible facilities. Accessible facilities are in other sites that have not been reported because access to the facilities is not completed or does not currently meet standards.</p> <p>2004: An inventory of accessible facilities has been completed and the numbers below have been updated to reflect the results of that inventory.</p>	Developed Recreation Types	Number of Sites	Number Accessible	Family campgrounds	27	7	Family picnic areas	8	1	Group campgrounds	4	0	Group picnic grounds	3	0	Trailheads	26	3	Visitor/interpretive sites	10	4	Fishing access	14	2	Boating access	5	0	Nordic ski areas	2	0	Snow parks	6	2	Observation points	7	6
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Day-use developed site capacity (annually).	<p>Two picnic sites in the North Fork of American Fork Canyon have been rebuilt to better accommodate accessibility needs. Native surface trails have been replaced with paved trails.</p> <p>2003: 17,405 PAOTS (Persons At One Time).</p> <p>2004: 17,254 PAOTS. This is due to temporary closure of Maple Lakes Picnic Area and Campground for reconstruction.</p> <p>2005: 17,351 PAOTS. This is due to reopening of Maple Lakes Picnic Area and Campground and addition of a trailhead at Grove Creek on the eastern edge of Pleasant Grove.</p>														
Scenery Management Objectives compliance (every 5 years).	<p>The Forest Plan states that resource uses or activities should meet the assigned objectives for scenery management and that in the short-term there may be activities that produce impacts not meeting planned scenery objectives, yet facilitate a higher level of scenic quality in the long-term.</p> <p>2003: The Silver Meadows Fence involved construction of a fence to protect a rare plant species. The project area is adjacent to a road, and has an assigned visual quality objective of maximum modification. A buck and pole fence was used as it requires minimal ground disturbance and uses native materials that borrow aesthetically from the surrounding environment. The project complies with Forest Plan direction, which defines maximum modification as:</p> <p style="padding-left: 40px;">Management activities of vegetative and landform alterations may dominate the characteristic landscape; however, when viewed as background, the visual characteristics must be those of natural occurrences within the surrounding area or character type. When viewed as foreground or middleground, they may not appear to completely borrow from naturally established form, line, color, or texture. Alterations may be out of scale or contain detail that is incongruent with natural occurrences as seen in foreground or middleground (2003 Forest Plan, Glossary-34).</p> <p>Most range projects on the Forest have limited obvious impacts on visual quality. However, structural range improvements can create more noticeable visual impacts. The Strawberry River Enclosure was</p>														

Indicator	Monitoring
	<p>approved and constructed. This fence is located near a road, and is in an area with an assigned visual quality objective of partial retention. A buck and pole fence was used as it requires minimal ground disturbance and uses native materials that borrow aesthetically from the surrounding environment. The project complies with Forest Plan direction, which defines partial retention as:</p> <p style="padding-left: 40px;">Management activities remain visually subordinate to the characteristic landscape. Management activities should repeat form, line, color, or texture common to the characteristic landscape; however, structures can introduce form, line, color, or texture that are found infrequently or not at all in the characteristic landscape. Reduction in form, line, color, and texture to meet Partial Retention should be accomplished as soon after project completion as possible or, at a minimum, within the first year after project completion (2003 Forest Plan, Glossary-33).</p> <p>2004: The Springville Crossing Enclosure involved construction of a fence to protect a one-half mile of riparian habitat. The project area is adjacent to a road, and has an assigned visual quality objective of maximum modification. A buck and pole fence was used as it requires minimal ground disturbance and uses native materials that borrow aesthetically from the surrounding environment. The project complies with Forest Plan direction for maximum modification.</p> <p>The Reservoir No. 1 Restoration project involved reclamation of a reservoir into a wetland and surrounding uplands. Landform shaping and revegetation exemplify an excellent job of blending with the natural landscape. The pond does repeat characteristics of natural water forms found in the western landscape. This restoration effort enhances the landscape attractiveness and facilitates a higher level of scenic quality in the long term. The project complies with Forest Plan direction, which defines modification as:</p> <p style="padding-left: 40px;">Management activities may visually dominate the original characteristic landscape. However, activities involving vegetative and landform alteration must borrow from naturally established form, line, color, or texture so completely and at such a scale that its visual characteristics are those of natural occurrences within the surrounding area or character type. Additional parts of these activities such as structures and roads must remain visually subordinate to the proposed composition. <i>In summary, this broad objective allows for most forms of management activity including those such as structures which are more visually obtrusive, provided they are designed to fit the context of the natural surroundings at all viewing distances.</i> (2003 Forest Plan, Glossary-34).</p>

Indicator	Monitoring
	<p>Development of the Three Forks Culvert Parking Lot included installation of a seventeen foot arch culvert in Diamond Fork Creek to create vehicular access for Trailhead parking. The size and color of the culvert is very apparent to the casual forest visitor, and does not blend in with the natural landscape characteristics that are common to the Diamond Fork Creek. The project does not comply with Forest Plan direction, which defines retention as:</p> <p style="padding-left: 40px;">Management activities may only repeat the form, line, color, and texture frequently found in the characteristic landscape. Changes should not be evident to the casual forest visitor, and all retention activities to restore the area to a naturally appearing condition should be accomplished either during the operation or immediately after. <i>In short, a visitor to the Forest should not notice the management activity.</i></p> <p>Logs were placed in the floodplain area, but no boulders and limited vegetation were found on the site. Landscaping with boulders, native trees, shrubs and seedlings that blend and mimic a natural stream setting would improve visual quality here. This will occur over time as vegetation re-establishes around the culvert.</p> <p>2005: The Silver Meadows Fence involved construction of a fence to protect a rare plant species. The project area is adjacent to a road, and has an assigned visual quality objective of maximum modification. A buck and pole fence was used as it requires minimal ground disturbance and uses native materials that borrow aesthetically from the surrounding environment. Monitoring found that the project exceeds Forest Plan direction of maximum modification and currently meets retention.</p> <p>Halls Fork Prescribed Burn management activities are not visually evident to the casual visitor in the foreground. No visual deviations from the naturally evolving landscape scenic quality. Attributes monitored include natural soil color, vegetation patterns, emerging ground cover, and landforms. The project complies with Forest Plan direction.</p> <p>Questar Pipeline completed replacement of an existing 18-inch pipeline from Springville to Provo, Utah in 2004. This human management activity follows and repeats forms, lines, colors and textures that are distinctly found in the naturally evolved landscape character being viewed. There are no evident changes in the size intensity, direction or pattern of the surrounding landscape character. The project complies with Forest Plan direction.</p>

Indicator	Monitoring
	<p>Rocky Top Timber Sale would be considered to be natural-appearing by most casual visitors. Closer inspection reveals some remaining brush piles further back in the newly opened stands. When the brush and skids trails are removed or scattered as part of sale closure, it will provide a natural-appearing scene to most visitors. It easily meets the partial retention visual quality objective. The project complies with Forest Plan direction.</p>
<p>Compliance with travel management direction (every 5 years).</p>	<p>2003: 55 incident reports, 157 violation notices, 137 written warnings. This is a static trend from past years. Additionally, the Uinta National Forest has cooperative agreements with Juab, Tooele, Utah, and Wasatch Counties for enforcement on National Forest System lands.</p> <p>2004: 110 incident reports, 272 violation notices, and 129 written warnings. This is up from past years, and reflects an Agency-wide emphasis on OHV enforcement as part of the Forest Service Strategic Plan that address the Four Threats to keeping National Forests and Grasslands healthy. One of these threats is unmanaged recreation. The Forest continues its cooperative agreements with Juab, Tooele, Utah, and Wasatch Counties for enforcement on National Forest System lands.</p> <p>2005: 117 incident reports, 84 violation notices, and 20 written warnings were issued. This is down from past years. A new Uinta NF Travel Map was available to the public in June in two versions, summer and winter. It included information about travel management, principles of tread lightly, and Leave No Trace. The map also emphasized that use of ATV's off of designated routes for game retrieval was no longer allowed on the Uinta National Forest.</p>
<p>Compliance with wilderness direction (every 5 years).</p>	<p>2003: No violation notices were issued. Generally there are 10-15 issued per year. This suggests a downward trend for FY 2003.</p> <p>2004: One incident report and 1 written warning were issued on the Pleasant Grove Ranger District.</p> <p>2005: 25 incident reports, 2 written warnings, and 1 violation notice were issued on the Pleasant Grove Ranger District. This increase in incident reports is due to increased patrol work, and to citizens alerting law enforcement of potential violators.</p> <p>The Forest Service began using the elements within the "Chief's Ten Year Wilderness Stewardship Challenge" to monitor the effects of management on wildernesses and to bring them to a standard of management that reflected good stewardship. The goal of this challenge is to have all three wilderness areas meeting or exceeding the "minimum stewardship level" by 2014, the 50th anniversary of the Wilderness Act.</p>

Indicator	Monitoring
<p>Non-Forest Service participant assistance in compliance, education, and enforcement (every 5 years).</p>	<p>2003: The Bureau of Land Management (BLM), Utah State Parks, Utah Division of Wildlife Resources, Wasatch County, Utah County, and Juab County assisted the Forest in two OHV patrols on National Forest System lands. Two volunteers on the Pleasant Grove Ranger District contact other Forest users while working on mountain bike trails to encourage them to follow Forest Service rules.</p> <p>The Timpanogos Emergency Response Team (TERT) on Mount Timpanogos makes approximately 55-110 contacts each weekend about staying safe and following Forest Service rules to protect wilderness values.</p> <p>Timpanogos Cave National Monument and the Uinta National Forest are partners in a Recreation Fee Demonstration (Fee Demo) Project in American Fork Canyon. The Park Service provides four seasonal employees for a total of about 4,156 hours each year. These employees provide maps, safety information, wildlife information, and answers to the public’s questions. Additionally, the National Park Service provides a supervisor who spends approximately 40% of her time working directly with the fee booths. The Timpanogos Cave Visitor’s Center also provides educational information to people using National Forest System lands. In 2003 National Park Service personnel conducted 45 summer campfire programs at which people camping on National Forest System lands were welcome. Park Service personnel participate in campfire patrols in the canyon and in educating cub scouts and the public about the Leave No Trace program, fire restrictions, and fire safety. The Park Service Junior Ranger program is used to educate children.</p> <p>On the Spanish Fork Ranger District, many partners team up with the Uinta National Forest to provide public education. These include the National Wild Turkey Federation, Sportsmen for Fish and Wildlife, Hawkwatch International, Boy Scouts of America, Tread Lightly Inc., Utah Society of Environmental Education, Brigham Young University, Nebo School District, Norfolk Homeowner’s Association, Environmental Protection Agency, U.S. Fish and Wildlife Service, Bureau of Land Management, State Lands, Fish and Forestry, Alcoa, Neways, and Utah Division of Wildlife Resources. These partners provide individuals who educate the public at events including Jake’s Day, Women in the Outdoors, National Public Lands Day, and Fishing Derby Day. Representatives from these groups help to provide information to students in the Diamond Fork Youth Forest and teach private landowners adjacent to the Forest how to reduce fuels and decrease the risk of wildfire.</p> <p>The Forest has cooperative agreements with Juab, Tooele, Utah, and Wasatch Counties for law enforcement. These agreements provide funds to these counties for their assistance in patrolling National Forest System lands. As part of this agreement Wasatch County law enforcement officers spent</p>

Indicator	Monitoring
	<p>about 935 hours patrolling National Forest System lands. Patrol hour data for the other counties is not available.</p> <p>In addition, the Forest provided information at the Strawberry Visitor’s Center. It also participated in the Strawberry Wildlife Festival and Kokonee Days, similar to the events described for FY 2004, below.</p> <p>2004: The Forest continued to participate in the partnerships and programs described above for FY 2003, and also participated in activities at Strawberry Reservoir.</p> <p>The Strawberry Visitor’s Center on the Heber District serves as a key point of contact for visitors, and hosted over 20,000 people in 2004. The Center also has a number of active partners who use it to disseminate educational and compliance information. For example, in January the Visitor’s Center partnered with Utah State Parks and Recreation, the Utah Snowmobile Association, Wasatch County Fire Department, Life Flight, and Wasatch County Search and Rescue to present the Multi-Agency Search and Rescue Day. The event teaches snowmobile, fire, and avalanche safety, and teaches winter recreation regulations. Visitor’s Center staff also teaches the correct use of OHVs and snowmobiles during the winter months, including public land use laws and policies. In the early spring, the Visitor’s Center partners with the Division of Wildlife Resources for a six week event that focuses on the cutthroat trout spawning. About 6,000 people attend this event, and learn about Strawberry Reservoir area fish and their life cycles. It is also an opportunity to remind visitors about outdoor recreation ethics as they gear up for summer. In July, the Center emphasizes programs on illegal fireworks, lightning safety, and the beneficial role that fire plays in ecosystems. Partners include local firefighting organizations.</p> <p>The Strawberry Visitor’s Center partners again with the Division of Wildlife Resources for the annual Kokanee Salmon spawning season in September and October. In September 2004, 4,927 people entered the Visitor’s Center to learn about the salmon, and see the other interpretive exhibits, as well. The annual Strawberry Wildlife Festival is also held in September. The 2004 event included the Friends of Strawberry Valley, Division of Wildlife Resources, State Parks and Recreation, Wasatch County, Tracy Aviary, Daniels Summit Lodge, Strawberry Angler’s Association, Central Utah Water Conservancy District, Leave No Trace, Coast Guard Auxiliary, Utah Chapter of the Audubon Society, and Backcountry Horsemen. The event teaches about the ecology and long-term resource management of the area. October brings an emphasis on legal and proper hunting techniques, particularly O.H.V. rules and regulations. The Visitor’s Center teaches how to identify which types of trees are legal to cut as Christmas trees. They also teach which areas are legal to cut in, and the clothing and equipment</p>

Indicator	Monitoring
	<p>needed to safely cut trees in winter conditions.</p> <p>2005: Pleasant Grove Ranger District (PGRD) partnered Utah County, Wasatch County, Utah State Parks & Recreation and Utah Division of Wildlife Resources to enforce O.H.V. regulations within the American Fork Canyon – Alpine Loop High Impact Recreation Area (HIRA). An agreement is in place between the Forest Service and Utah County Sheriff Department to assistance with law enforcement and search and rescue incidents within the Rec. Area.</p> <p>The new Federal Lands Recreation Enhancement Act (FLREA) directed a compliance review of the American Fork Canyon Recreation Fee Program by March 11, 2005. As a result of that review the HIRA was found to be compliant with the intent of the Recreation Fee Program authorized by FLREA and therefore could continue to collect monies to enhance the recreation program within the HIRA. The three dollar – three day permit fee remained the same; this is the same rate first charged when the program began.</p> <p>Pleasant Grove RD continued to provide environmental education to 5th grades students attending the Alpine School District, Clear Creek Outdoor Education Camp. Students receive information about forest health, Leave No Trace, wildland fire, and the four threats. Approximately 2,000 students participated in the weekly educational presentation. Over 910 students, teachers, and parents were involved in an all-day outdoor education program at South Fork Park in which Forest Service representatives from PGRD provided exercise which participants learned about the Four Threats to the Health of the Nation’s Forests and Grasslands and Leave Not Trace ethics.</p> <p>The activities reported in FY 2004 continued at the Strawberry Visitor’s Center, with an increased number of visitors (over 23,000). Spanish Fork Ranger District partnerships and programs described in FY 2003 also continued.</p>

13. Is **adequate access** to and across the Forest being provided?

DFC: Miles of classified roads remain relatively unchanged. The Forest is well accessible with many roads in place and functioning for many years. Roads (particularly arterial and collector roads) are maintained and constructed to a standard that is providing a safe economical facility. Local roads provide access to and through the area. Ecosystem integrity, public safety, and available funding are in balance with access needs and desires to maintain a minimum road system. When possible, roads or portions of roads that have negatively affected watershed and aquatic conditions are relocated or hardened.

Indicator	Monitoring
Miles of classified road (annually).	<p>2003: 1,217 miles.</p> <p>2004: 1,222 miles. During FY 2004, the forest reexamined our inventory of system roads and trails. Where we found discrepancies in uses between previous Forest Travel Maps, those roads and trails were researched to find the most recent, documented use and the inventory was updated. This has increased the accuracy of the miles of classified road figure.</p> <p>2005: 1,218 miles. The decrease from 2004 reflects a continued effort to more accurately identify road miles.</p>
Miles of classified road open for public use (every 5 years).	<p>2003: 1,121 miles.</p> <p>2004: 1,129 miles. During FY 2004, the forest reexamined our inventory of system roads and trails. Where we found discrepancies in uses between previous Forest Travel Maps, those roads and trails were researched to find the most recent, documented use and the inventory was updated. This has increased the accuracy of the miles of classified roads open for public use figure.</p> <p>2005: 1,128 miles. The decrease from 2004 reflects a continued effort to more accurately identify road miles.</p>
Miles of new road construction (annually).	<p>2003: 0 miles.</p> <p>2004: 0 miles.</p> <p>2005: 0 miles.</p>
Miles of classified roads reconstructed or relocated	<p>2003: 9.1 miles were reconstructed or relocated. In addition, 8 miles of road were identified under deferred maintenance for access improvement.</p>

Indicator	Monitoring
(annually).	<p>2004: Fifteen miles of classified roads were reconstructed or relocated. Five miles of road were reconstructed or relocated in the Red Creek Mountain area by the Uinta National Forest. In addition, the Central Utah Water Conservancy District reconstructed 0.3 miles of road at Springville Crossing and timber operators reconstructed 9.7 miles of road in the Soapstone area. 18.3 miles of the Squaw Peak Road received heavy maintenance work.</p> <p>2005: Approximately 8.6 miles of classified roads were reconstructed. This includes 0.8 miles of road were reconstructed by timber purchasers.</p>
Miles of classified road maintained (annually).	<p>2003: 481 miles.</p> <p>2004: 503 miles.</p> <p>2005: 453 miles.</p>
Miles of unclassified road decommissioned (annually).	<p>2003: 4 miles.</p> <p>2004: 5 miles.</p> <p>2005: 3 miles.</p>
Miles of unclassified road (every 10 years).	<p>2003: Inventory is incomplete. Currently estimated to be about 155 miles.</p> <p>2004: Inventory is incomplete. Estimates continue to be about 155 miles.</p> <p>2005: The new Off Highway Rule has redefined roads for the National Forest System Lands. It defined roads into two categories called “Authorized” and “Unauthorized”. The current inventory is incomplete although there has been an effort over the past 4 years to identify the miles of unauthorized use occurring. The Forest has been preliminarily identifying unclassified roads from Digital Orthophoto Quads, and then ground-truthing them with on-site visits. In the past three years we have been able to identify 221 miles of unauthorized roads within the Soapstone, American Fork Canyon and Vernon areas. In 2005, we were unable to collect any ground-truth data.</p>