CURRENT AND POTENTIAL USE LEVELS BY ACTIVITY.

The public has the perception that current levels of participation are likely to increase for all types of recreational activities. There is public disagreement about the effects that levels of use are likely to have on the environment. Some elements of the public believe that the current level of motorized use is causing environmental damage, and that significant environmental damage could result if there is an increase of certain types of motorized use. In particular, some elements of the public are concerned about the amount of ATV, motorcycle, and snowmobile traffic, and the potential for increased participation in these activities. Concerns with crowding have been voiced. Some elements of the public dispute the effects motorized activities have on the environment, but they do believe that levels of participation are likely to continue to increase, and the Forest Service should be providing opportunities to accommodate those increases. There is a need to evaluate trends in recreation activity participation, and the potential for increased levels of participation in various activities.

1. EXISTING CONDITION

a. Participation in Outdoor Recreation

Responding to the issue of potential recreational use requires not just an assessment of use levels for various forms of recreation, but an assessment of the recreating public, its' demographics, and perceptions of recreation settings. National, regional, and state recreation activity participation rates from several studies are analyzed. Perceptions of whether there is crowding on the national forest are reported. Local recreation trend projections are developed from national and regional projections in future recreation participation rates.

Michael Tarrant reported that the current rate of increase in recreation participation mirrors the slowing rate of population increase. In addition to the increase in demand for outdoor recreation experiences, there is potential for other highly important changes in outdoor recreation. Tarrant suggested that, "factors such as an aging population, a decline in leisure time, geographically uneven population growth, increasing immigration, changes in family structures, and increasing levels of education, among other factors, have significantly changed the way Americans recreate in the outdoors. Examples include: (a) a change in the nature of vacations with a trend toward shorter, more frequent excursions; (b) an increasing diversity of participation patterns across groups; (c) a resurgence in wilderness recreation visits; (d) a growth in non-recreational values of wilderness such as scenic, scientific, educational, conservation, and historical; and (e) an increase in more passive activities appropriate for an aging population" (Michael Tarrant et al. 1999).

A national survey conducted by the Forest Service (Cordell, H.K.; Teasley, J.; Super, G. 1997) indicates that nearly 98 percent of Americans participate in some type of outdoor recreational activity on an annual basis.

Data in Table III-20 were developed from a survey of 57,868 people across the U.S. between July 1999, and July 2002 (USDA Forest Service 2003).

Table III-20.
National Participation in Selected Outdoor Activities

Type of Outdoor Activity	Percent of Population 16 or Older	Number of People In Millions
Participated in any Type of Activity	97.6	207.9
Trail / Street / Road Activities		
Bicycling	39.4	83.9
Mountain Biking	21.2	45.2
Walking	82.3	175.4
Horse Riding and Equestrian	9.6	20.5
Hiking	32.7	69.7
Backpacking & Camping Activities		
Backpacking	10.4	22.2
Developed Camping	26.4	56.3
Primitive Camping	15.9	33.9
Visit a Wilderness or Primitive Area	32.0	68.2
Viewing & Photographing Activities		
Bird-Watching	31.8	67.8
Viewing Other Wildlife	44.1	93.9
Viewing Natural Scenery	59.5	126.8
Hunting		
Big Game	8.4	17.9
Driving for Pleasure & Sightseeing		
Sightseeing	50.6	107.8
Driving for Pleasure through Natural Scenery	50.3	107.2
Off-Road 4-Wheel Driving, ATV, or Motorcycle	17.4	37.1
Traditional Social Activities		
Picnicking	54.6	116.4
Fishing		
Freshwater	29.1	62.0
Snow and Ice Activities		
Downhill Skiing	8.5	18.1
Cross Country Skiing	3.8	8.1
Snowmobiling	5.5	11.7

Source: USDA Forest Service. 1999-2002 National Survey on Recreation and the Environment. USDA Forest Service and the University of Tennessee, Knoxville, TN. http://www.srs.fs.usda.gov/trends/Nsre/Rnd1t13weightrpt.pdf

The Forest Service conducted national surveys from 1999 to 2004 which indicated a large jump in percentages of population participating at least once annually in off-road motorized driving or riding. Off road is defined as off of paved or graveled roads. Participating rates jumped from 17.6 percent in 1999 to 23.2 percent in 2004. Data in Table III-21 reflects these increases in OHV use. Use by people over 50 increased by 57 percent in that time period. This and other Forest Service recreation trend studies are available at: http://www.srs.fs.fed.us/trends.

Table III-21.
Number of people (in millions) in the U.S. age 16 or older participating at least once in the last 12 months in off-road vehicle use, 1999-2004

Demographic	Fall 1999-Summer 2000	Fall 2003-Summer 2004
Total Participating	37.6	49.6
Age- Under 30	15.1	18.2
Age- 30-50	16.3	21.7
Age- 51 and older	6.1	9.6
Male	23.2	29.8
Female	14.6	20.0
Non-metropolitan	10.0	13.6
Metropolitan	27.3	34.2

In another assessment to determine participation rates and additional information, the Forest Service looked at a 1994-1995 national survey of the American population participating in various outdoor activities as reported by Cordell, et al. (1999). Table III-22 focuses on participation rates for just the population in the Rocky Mountains region, including the state of Montana (note that the percentages of people participating do not add to 100 percent, because many people participate in more than one activity).

Table III-22. Percentage of Population Participating and Mean Trips and Days per Participant in the Rocky Mountains Region

Activity	Percentage	Mean (i.e., Average)	
		Number of Trips	Number of Days
Big Game Hunting	10.3%	5.5	9.5
Camping at Developed Sites	27.0 %	4.4	9.8
Camping in Dispersed Areas	24.2 %	5.5	9.6
Hiking	33.4 %	9.7	17.7
Backpacking	11.8 %	4.3	8.2
Off-Road-Driving	20.4 %	11.3	18.9
Horseback Riding	11.2 %	9.5	28.9
Horseback Riding on trails	7.7%	Not available	Not available
Picnicking	54.6 %	5.5	8.8
Cross-Country Skiing	4.4 %	4.2	6.4
Snowmobiling	5.1 %	4.2	8.9
Wildlife Viewing	37%	10.0	35.9

Source: Cordell, H. K. 1999. *Outdoor recreation in American life: a national assessment of supply and demand trends.* 274-277.

Data from the 1994-1995 National Survey on Recreation and the Environment (NSRE) provides information as shown in Table III-23 for selected recreational activities nationally and on National Forest System lands in the Northern Region of the Forest Service (Montana, northern Idaho, and parts of North and South Dakota).

Table III-23.
National and Regional Participation And Mean Trips per Year for Selected Activities

Type of Outdoor Activity	National		Region 1 – USFS	
	Mean Trips per year	Number People (millions)	Mean Trips per year	Number People (millions)
Trail / Street / Road Activities				
Bicycling	9.6	553.02	6.1	2.16
Horseback Riding	8.7	124.32	6.9	1.11
Hiking	9.1	434.23	8.6	2.96
Backpacking & Camping				
Backpacking	4.5	68.47	5.2	0.59
Developed Camping	4.7	196.78	4.3	1.45
Primitive Camping	4.8	134.50	5.4	1.60
Viewing & Photographing Activities				
Bird-Watching	7.1	385.51	4.3	1.34
Viewing Other Wildlife	10.7	670.74	10.3	5.17
Hunting				
Big Game	8.1	115.72	7.9	2.05
Driving for Pleasure & Sightseeing				
Sightseeing	9.1	1036.9	7.2	4.56
Off-Road Driving	13.2	368.83	13.5	2.96
Traditional Social Activities				
Picnicking	5.3	518.74	5.5	3.29
Fishing				
Freshwater	12.4	606.17	14.2	6.06
Snow and Ice Activities				
Downhill Skiing	4.5	75.47	5.8	0.80
Cross Country Skiing	3.8	24.64	4.1	0.35
Snowmobiling	3.2	23.06	5	0.68

Source: Cordell, H. K., et al. 1997. Outdoor recreation in the United States: results from the National Survey on Recreation and the Environment. Report to the Forest Service. USDA Forest Service www.srs.fs.usda.gov/trends/fsallreg.pdf

These data allow a comparison between national and regional participation rates. They suggest that people are seeking and participating in a variety of outdoor activities, and that no single type of activity is the predominant choice. In the foreseeable future, outdoor recreation participation is expected to increase for most activities, placing greater demands on the natural settings available in national forests, particularly those in close proximity to urban areas (Betz, C.; English, D.; Cordell, H.K. 1999).

Table III-24 shows Percent of U.S. Population, Rocky Mountain states, and Montana, population 16 and over, participating in outdoor recreation activities, ranked highest to lowest by the Rocky Mountain Area participation rate. Data gathered is for years 2000-2001.

Table III-24. Percent of U.S. Population, 16 and Older, Participating One or More Times in the Last 12 Months in Selected Outdoor Activities (2000-2001)

Type of Outdoor Activity	Percent in United States Participating In Activity (16 years+)	Percent in Rocky Mtn Area Participating In Activity)	Percent of Montanan's Participating In Activity
Walking for pleasure	83	81	86
Viewing/Photographing Natural Scenery	60	67	78
Viewing/Photographing Other Wildlife	45	53	74
Picnicking	54	61	64
Driving for Pleasure	51	57	61
Visiting Primitive area or Wilderness	33	44	60
Sightseeing	52	55	59
Day Hiking	33	47	56
Fishing (Coldwater)	14	29	50
Gathering mushrooms/berries	29	30	48
Camping (developed)	27	35	44
Camping (Primitive)	17	30	41
Hunting (Big Game)	8	12	33
Mountain Biking	21	25	32
Off Road Driving	18	27	32
Backpacking	11	18	26
Downhill Skiing	9	14	22
Snowmobiling	6	8	20
Hunting (Small Game)	7	8	20
Horseback Riding Trails	8	11	17
Mountain climbing	6	13	16
Cross-country Skiing	4	5	13
Snowshoeing	2	4	6

Tables 2.1, 13.1, 13.2, 13.3, 13.11 Cordell, K.; et al. 2004. ***Outdoor Recreation for 21st Century America, A Report to the Nation: The National Survey on Recreation and the Environment.*** State College, PA: Venture Publishing, Inc.

This table's figures enable a good comparison between national, Rocky Mountain, and Montana percent of participation rates in various recreation activities. Activity participation rates in Montana are higher in every activity category than those rates for the nation and the Rocky Mountain area. This indicates the widespread popularity of these outdoor activities, and their ready availability.

The Forest Service conducted national surveys from 1999 to 2004 which indicated a large jump in percentages of population participating at least once annually in off-highway vehicle driving. Off-highway vehicles(OHV's) in the study were popularly defined as 1) 4-wheel drive jeeps, automobiles, or sport utility vehicles; 2)motorcycles designed for off-highway use; 3)all-terrain vehicles, better known as ATVs and other

specially designed off road motor vehicles used for recreation activities. National participation rates jumped from 16.8% in 1999 to 23.8% in 2004. This percentage is the percentage of the population 16 and older, and includes anyone 16 or older who has participated at least once in the last year in the recreational off-highway use of an OHV. Data in Table III-24A reflects these increases in OHV nationally (Cordell; Betz; Green; and Owens, 2005). The Cordell study of 2005 said that OHV sales have tripled between 1995 and 2003, and that ATV's account for 70% of the OHV market. This and other Forest Service recreation trend studies are available at http://www.srs.fs.fed.us/trends.

Table III-24A. Percentage of People in U.S., age 16 or Older, Participating at least once in the last 12 months in Recreation using an Off-Highway Vehicle (1999-2004)

Demographic	Fall 1999- Summer 2000	Fall 2003- Fall 2004
Total Participating(All ages)	16.8	23.8
Age- Under 30	26.9	34.8
Age- 30-50	17.6	26.5
Age- 51 and older	8.1	12.8
Male	21.3	30.1
Female	12.8	18.2
Non-metropolitan	23.3	32.5
Metropolitan	15.4	21.0

This same study reported for the first time in 2005 specific OHV uses by state. Montana participation rates are shown in Table III-24B, and are based on 619 respondents between 1999 and 2004. Montana has the sixth highest percentage of population of residents using OHV's for recreation. The western region of the nation (AZ; CO; ID; MT; NV; UT; WY) had an average of 24.1 days spent annually in the activity.

Table III-24B. Percentage of People in Montana, age 16 or Older, Participating at least once in the last 12 months in Recreation using an Off-Highway Vehicle (1999-2004)

Demographic	1999-2004
Total Participating(All ages)	29.1
Age- Under 30	54.0
Age- 30-50	29.9
Age- 51 and older	11.8
Male	37.6
Female	20.7
Non-metropolitan	30.9
Metropolitan	25.5

In a National Visitor Use Monitoring recreation use survey conducted on the Forest in 2000 and 2001 (Table III-25), those visiting the forest were asked what activities they participated in. (Kocis, S. and others, *National Visitor Use Monitoring Results: Lewis and Clark National Forest*, 2002). **This study and an updated data base of the 2000-2001 survey is available for review at the Lewis and Clark National Forest Supervisors Office. A follow-up survey for the forest is being conducted 2006-2007.**

TABLE III-25.
Lewis and Clark NF Recreation Activity Participation and Primary Activity, sorted by order of Percent Participation

Recreation Activity	Percent Participation	Percent who said it was their primary activity
Viewing wildlife, birds, fish on NFS	77.4	1.5
Viewing natural features such as scenery, flowers, etc. on NFS lands	71.1	4.4
General/other-relaxing, hanging out, escaping noise and heat etc.	54.3	12.3
Driving for pleasure on roads	46.7	8.5
Hiking or walking	43.3	7.1
Hunting-all types	28.6	27.3
Fishing-all types	16.7	4.7
Picnicking and family day gatherings in developed sites (family or group)	12.8	0.8
Backpacking, camping in unroaded areas	11.9	2.4
Downhill skiing or snowboarding	11.1	10.7
Camping in developed sites (family or group)	10.4	3.6
Primitive camping	7.8	2.3
Off-highway vehicle travel (ATV, motorcycle)	7.4	1.4
Nature Study	6.8	.9
Gathering mushrooms, berries, firewood, or other natural products	6.0	2.2
Horseback riding	5.3	2.8
Bicycling, including mountain bikes	5.0	0.9
Resorts, cabins & other accommodations	4.1	0.7
Non-motorized water travel (canoe, raft)	3.3	1.2
Other non-motorized activities (swimming, games and sports)	2.6	0.0
Viewing history and prehistoric sites/area	2.6	0.3
Snowmobile Travel	1.6	0.5
Cross-country skiing or snow shoeing	1.3	0.9
Visiting a nature center or nature trail	0.8	0
Motorized water travel (boats, ski sleds etc.)	0	0
Other motorized land/air activities (plane, other)	0	0

Source: Kocis, et. al., August 2002, "National Forest Visitor Use Monitoring Results".

Participants in the same National Visitor Use Monitoring survey were asked about their perceptions of whether or not they felt crowded in the settings they recreated in. Data in the table below indicate **little** perception of overcrowding by participants in the survey. The question of overcrowding related to dispersed recreation areas on the Lewis and Clark National Forest (called General Forest Areas in the survey). This is important to note when compared with projected changes in participation in recreation activities, and whether there may be feelings of overcrowding then.

TABLE III-26.
Perception of Crowding by Recreation Visitors in General Forest Areas (i.e. areas away from designated wilderness or developed recreation sites)

Perception Of Crowding	General Forest Areas (% of participants responding)
10 = Overcrowded	0 %
9	0 %
8	0 %
7	5.6 %
6	11.4 %
5	11.8 %
4	7.9 %
3	14.2 %
2	19.2 %
1 = Hardly anyone there	29.9%

Source: Kocis, et. al., August 2002, "National Forest Visitor Use Monitoring Results".

TABLE III-27.
Trends in estimated percentages and numbers of person age 12 and older who participated 1 or more times in the last 12 months by activity, 1982-1983 and 2000-2001

Activity	Percent Participating 1982-1983	Millions Participating 1982-1983	Percent Participating 2000-2001	Millions Participating 2000-2001	% Change in numbers participating 1982-1983 to 2000-2001
View/Photograph birds	12	22	31.8	72.9	231.4
Day hiking	14	26	33.3	76.3	193.5
Backpacking	5	9	11.1	25.4	182.2
Snowmobiling	3	6	5.9	13.5	125.0
Primitive camping	10	18	16.6	38.0	111.1
Driving off road	11	20	18.3	41.9	109.5
Walking for pleasure	53	100	83.1	190.5	90.5
Developed camping	17	33	26.8	61.5	86.4
Cross-country skiing	3	6	3.9	9	50.0
Picnicking	48	90	53.9	123.6	37.3
Horseback Riding	9	17	10.2	23.3	37.1
Sightseeing	46	86	51.4	117.7	36.9
Driving for pleasure	48	90	51.0	116.8	29.8
Hunting	12	22	11.6	26.6	20.9

Source: Tables 2-1, Cordell, K. 2004. Outdoor Recreation for 21st Century America, A Report to the Nation: The National Survey on Recreation and the Environment, State College, PA. Venture Publishing, Inc.

b. Future Trends

Recreation Activity Projections. Table III-27 above reflects national changes in participation rates in various outdoor activities. National trends, however, can not be directly extrapolated to a particular National Forest. According to researchers (Cordell et al, 1999) the two factors most generally affecting projections of the number of people involved in a particular form of recreation are: 1) population growth, and 2) real income growth (after accounting for inflation). Each factor is expected to grow significantly over time. Population growth by 2025 in the Rocky Mountain/Great Plains area (i.e., those states in which the Rocky Mountains are located) is expected to increase by 32 percent from 1995.

In a personal discussion on December 1, 2004 between Lewis and Clark National Forest Recreation Planner Ron Yates, and researcher Ken Cordell, Cordell said that these population projections were done in 1999, a year before the national census was taken. Post-census projections were not available. Recognizing that population growth projections for the counties served by the Rocky Mountain Ranger District are different than his projections for the Rocky Mountain area, Cordell felt it very reasonable to prorate out his projections for future recreation activities based on the most accurate population projections available to the Forest.

Using county population projections from the Montana State Department of Commerce (2004), and data from the recreation use survey on the Lewis and Clark National Forest (Kocis, S. et al. 2002), population projections were prorated across counties according to their relative contribution of recreation visitors to the entire Lewis and Clark National Forest (see Table 7 of this survey for zip code distribution). It is estimated that the populations of counties providing visitors to the Forest (prorated according to relative numbers of visitors from each county) will be about 7 percent higher in 2025 than they were in 1995. This is considerably less than the 35 percent increase in population predicted by Cordell for the Rocky Mountain region. The projected 7 percent increase in local population reflects the very slow population growth **projected** for most of the counties using the Lewis and Clark National Forest for recreation. These projections were then used to adjust Cordell's projections of participation and number of days spent on a particular recreation activity.

Real income is expected to increase nationally by approximately 44 percent between 1995 and 2025 (Cordell, et al.1999). Age and gender and population demographics are other factors expected to change over time.

Increases in minority populations, and declines in percentage of white populations will also have some smaller effect. These factors were utilized by Cordell in developing projections for future recreation activity. In this analysis, we took Cordell's projections and modified those using best available population projections for the area served by the Lewis and Clark National Forest. **Please note that these are projections only, and rely upon Cordell's projections modified by Forest user population projections.**

Table III-28 was used by Cordell to develop use projections for specific recreation activities for the nation and the Rocky Mountain area. Variables shown are indexed from a starting point of 1995 (index value of 1). Projections in the variables of national age, real income, etc. are made from that starting date.

Table III-28.
Indexed Explanatory Variable Projections for Regional RPA Forecasts

Variable	1995	2000	2010	2020	2030	2040	2050
Age (Nationally)	1	1.02	1.056	1.089	1.114	1.126	1.126
Real Income (Nationally)	1	1.067	1.209	1.357	1.515	1.691	1.888
Population Growth Rocky Mtn. Area	1	1.064	1.17	1.272	1.369	1.457	1.530
Population Growth Nationally	1	1.042	1.126	1.217	1.299	1.4	1.439

Source: Cordell, et al. 1999. *Outdoor Recreation in American Life: a national assessment of demand and supply trends.* p.324.

In the above table Cordell projects that in 2030 average age nationally will increase by over 11 percent, and that real income will increase about 52 percent in that same time period. Population growth in the Rocky Mountain area is projected to increase 37 percent.

Again, our calculations for the Lewis and Clark National Forest using local population projections indicate that populations of local counties recreating on the **Lewis and Clark National Forest, when prorated out by relative amounts of forest visitors coming from each county,** would increase by only about 7 percent in 20**25** from 1995, compared with Cordell's regional increase in population of about 37 percent.

Ken Cordell and others developed two types of models to estimate both the probability that an individual will participate in a given recreation activity, and the days an individual will spend in a given projected year (Cordell, et al, 1999). Data was based on surveys taken across the nation in 1995 and split into geographical regions.

The following table takes the projection information for days participated in particular recreation activities for the Rocky Mountain/Great Plains region (as projected by Cordell), and modifies it to reflect population projection estimates for areas served by the Lewis and Clark National Forest. The table can be used to show estimates of increase or decrease in days spent on that particular type of outdoor recreation. For example, cross-country skiing is expected to increase far more than any other activity by 2030, i.e., a 74 percent increase in days spent doing that activity. On the other hand, a 15 percent decrease in days spent snowmobiling is projected.

This information is an estimate of changes in recreation days comparing 1995 to 2025. Projections from a later year, such as 2000, are not available. Additionally, the existing number of visitor days spent on **specific districts** by recreation activity is not available.

The data below are projection estimates only. They are based on a combination of population growth, age of population, income, available recreation, race, sex, and other factors. The factors changing the most are population and income. Those recreation activities with less than a seven percent increase in days in the year 2025 are not keeping up with population growth.

Estimated large increases in a particular activity are anticipated to occur only in those activities that cause minimal to no physical impacts to the environment. They include cross-country skiing, motor boating, non-consumptive wildlife activities, sightseeing, and visiting historical places. Projections for motorized recreation show a significant decline in snowmobiling (-15percent), while off-road driving (OHV use) increases just 2 percent. Horseback riding declines 5 percent. Since OHV and horseback use are the most physically

impacting to trails, the projected changes for those activities are not expected to have a significant impact on the trail system.

TABLE III-29.
Projected Changes in Recreation Activity Days between 1995 and 2025 in Rocky Mountain Region and on Lewis and Clark National Forest

Recreation Activity	Projected Population Increase expected in Rocky Mtn. Area from 1995 to 2025	Projected Change in Activity Days expected in Rocky Mtn. Area from 1995 to 2025	Projected Change Not Caused by Population Growth (projected change in activity days divided by projected population increase)	Projected Population Increase In Area Served by LCNF in 2025	Estimated Change in Recreation Activity Days on LCNF in 2025 (product of adjacent 2 columns on left)	Estimated Percent Change in Recreation Activity Days on LCNF. between 1995 and 2025
Cross-Country Skiing	1.32	2.15	1.63	1.07	1.74	74%
Down-Hill Skiing	1.32	1.25	0.95	1.07	1.01	1%
Snowmobiling	1.32	1.05	0.80	1.07	0.85	-15%
Canoeing	1.32	1.3	0.98	1.07	1.05	5%
Motor boating	1.32	1.42	1.08	1.07	1.15	15%
Rafting/Floating	1.32	1.22	0.92	1.07	0.99	-1%
Fishing	1.32	1.34	1.02	1.07	1.08	8%
Hunting	1.32	1.13	0.86	1.07	0.91	-9%
NonConsumptive Wildlife Activities	1.32	1.58	1.20	1.07	1.28	28%
Backpacking	1.32	1.09	0.83	1.07	0.88	-12%
Hiking	1.32	1.24	0.94	1.07	1.00	0%
Horseback Riding	1.32	1.18	0.89	1.07	0.95	-5%
Off-road Driving	1.32	1.25	0.95	1.07	1.02	2%
Primitive Camping	1.32	1.19	0.90	1.07	0.96	-4%
Rock Climbing	1.32	1.08	0.82	1.07	0.87	-13%
Bicycling (all types)	1.32	1.25	0.95	1.07	1.01	1%
Developed Camping	1.32	1.3	0.98	1.07	1.05	5%
Picnicking	1.32	1.35	1.02	1.07	1.09	9%
Sightseeing	1.32	1.5	1.14	1.07	1.21	21%
Visiting Historic Places	1.32	1.49	1.13	1.07	1.21	21%
Walking	1.32	1.28	0.97	1.07	1.04	4%

Projected low increases in OHV activity days of just two percent reflects projections that activity days will not increase as much as population, i.e., a 1.25 projected change in activity days vs. a 1.32 projected population growth in the above table for off-road driving. This is a long term projection for the local area only, and does not reflect the short term large national increase in OHV users shown in Table III-21 for the time period 1999-2004. Locally, Cascade County contributes the majority of users on the Lewis and Clark National Forest.

Unlicensed OHVs registered in the county have increased just two percent annually from 1994 to 2002. **Since 2002 registrations for the county for have increased dramatically, averaging approximately 20% more registrations for each of the last three years.** (MT Department of Justice, Motor Vehicle Division data **by county**.)

Snowmobile use projections show a projected local decline of 15 percent by 2025. Montana Department of Justice Motor Vehicle Division data provided the Forest shows that Cascade County had a 38 percent drop in registered snowmobiles from 1994 to 2002, or a four to five percent annual drop in registrations. **Oddly, number of snowmobiles registered doubled from 2002 to 2004, suggesting some other force was at play besides simply doubling of the county's snowmobile population in two years.**

It is certainly possible that selection of a travel plan alternative that encourages more OHV and snowmobile use could change the demographics of where forest visitors come from. That could be the case if other adjacent forests restrict this kind of use by making fewer trails available for motorized use, causing some of their motorized users to look to the Lewis and Clark National Forest for that kind of recreation activity.

Population Demographics. In a study *2020 Vision for Montana State Parks* (MT FWP 1998) several significant national trends potentially affecting the desired future condition for outdoor recreation were noted:

1) Increased demand for recreation, especially close-to-home and near urban centers

- Time has become a more limiting factor than money for many recreationists.
- More working mothers with children.
- More single-parent families.
- More home-based employment, part-time work, and flexible hours.
- More interest in physical fitness and exercise.
- More short vacations (75 percent of all overnight vacation trips are three days or less.) Between 1980 and 1996 the number of weekend trips taken by Americans jumped by 70 percent.
- More interest in recreation and leisure for mental and physical health.

2) Increased proportions of older Americans

- Disproportionate growth of older families recreating.
- Intensified pressure on high-amenity resources, particularly close to urban areas, as Baby Boomers look for retirement sites.
- Healthier and more physically active older people than in the past, who will recreate longer. Conversely, the growing number of older people will also result in more recreationists who are not in good physical condition.
- Accessibility of facilities will become a growing need.
- More demand for relatively less active recreation pursuits (e.g., golf, walking paths, gardening, etc.*)*

3) Increased recreation demands by women, ethnic minorities, and the disabled population. Conversely, participation rates among low-income groups have declined.

4) Growth in new recreation-related technology and business activity.

Expanding technology will enable recreationists to be places they've never been able to go to before; doing things they heretofore couldn't do because of the lack of equipment allowing such participation. For example, GPS units allow people to navigate to places they would have previously needed map and compass skills to get to. Inflatable kayaks enable novices and intermediate level people to float difficult waters they previously could not have handled with less technologically advanced equipment. Similarly, in unroaded areas the use of the cell phone promotes a feeling of safety previously not obtainable. As a result of this development of high tech recreation equipment, Alan Ewert (1995) anticipates the following to occur nationally.

- People will become less self-sufficient and rely on this equipment more and more as it extends their "bubble of safety" and feeling of security.
- Remote places will become less so as they are entered by people relying on this technology.
- It will become more difficult for the individual to stand apart and be independent from the overwhelming forces of society.
- There will be a loss of solitude and chances to exert true self-sufficiency as backcountry and other areas are more easily entered.

In Region 1 and elsewhere, snowmobiles have become increasingly powerful and more and more capable of going places they could not previously access, including steep high altitude alpine areas. This has resulted in more incursions onto terrain that previously was not physically accessible to them. Jet skis enable people to access streams previously not accessible by boats; their lower costs enable more people to use motorized watercraft. ATVs and "swamp craft" with low pressure tires enable people to go places previously inaccessible. Already, technology is being developed to enable users to "fly" into remote places utilizing various alternatives to airplanes.

Idaho Parks Department has a website describing upcoming "future" kinds of recreation activities (http://www.idahoparks.org/Data_Center/recreation_next.htm). Motorized and/or mechanized activities described on the site include:

- Helibiking—Helicopter takes mountain bikers to a mountain top trail and they coast down.
- Extreme Mountain Biking—Mountain bikers use trails typically thought too rough for bikes. There is the potential for cross-country trail development from such activities.
- Mountain boarding—Skateboarding on mountain trails using specially adapted skateboards.
- Rough terrain vehicles—4x4 vehicles of assorted widths ridden like cars but with tubular steel bodies and the potential for increasingly narrow widths.
- Segways—Not yet on the market, these are 4-wheeled battery powered lightweight (150 lbs.) with widths approximately 36 inches, that could negotiate some trails of adequate width and travel up to 20 mph.

c. Desired Condition

This issue reflects concerns for potential resource impacts as numbers of recreationists grow. Also of concern is the ability of different recreationists to get along with each other, including public attitudes towards "crowding," as influenced by encounters with other recreationists. It also includes public preferences relating to motorized and non-motorized recreation.

Research by Michael Tarrant and others (1999) suggests that feelings of overcrowding are influenced by several factors:

- **Number of encounters**. The number of perceived encounters had a significantly higher correlation to perceptions of crowding perceptions than did use levels, i.e., meeting other groups was more influential on whether one felt crowded than did amount of recreation use.
- **Location of encounters**. Encounter locations in or near higher use areas, such as: trailheads and campgrounds and boat launches, rather than wilderness or on the trail or away from developed sites, are more tolerated by people than encounters in more remote areas. Encountering others in areas that one expects to be un-crowded raises the perception of being crowded.
- **Type of Group or Recreation Activity Encountered**. Encountering one large group in an outdoor area results in more feelings of being crowded than meeting several smaller parties separately. Groups pursuing the same recreation activity have greater tolerance for each other than when meeting groups perceived as having different goals, values, or skill levels. Means of transportation (motorized or non-motorized; stock or hiker) and group size are the most visible means of assessing similarity or dissimilarity between groups. Additionally, the more "obtrusive" an activity is (e.g., motorized use versus hiking), the lower the tolerance for encountering people engaged in that activity.

In research on visitor preferences and satisfaction with site attributes, a national study called CUSTOMER interviewed 11,000 people across the nation recreating on National Forests, Bureau of Land Management, and Tennessee Valley Authority lands (Tarrant, M.; Smith E.; Cordell, K 1999). Surveyed members of the public were asked to rank site attributes by their level of importance to them. In dispersed recreation settings (trail dominated and away from roads) the third most important attribute of 16 possible choices was, "separation of motorized and non-motorized uses." The first and second attributes of most importance were "naturalness of the setting" and "presence and evidence of wildlife." In winter settings dominated by ice and/or snow, "separation of motorized and non-motorized uses" was rated fifth in importance out of 24 factors. Rated ahead of it was the desire for: 1) plowed roads; 2) short lift lines; 3) un-crowded areas; and 4) challenging trails.

Desired Future Condition. The following desired future conditions reflect the Forest Plan, research cited above, and changing population demographics described.

- The physical capacity of the district trail system to accommodate motorized and non-motorized recreation would not be exceeded.
- **Conflicts between users would be minimal.** Recreationists would know where to go to obtain satisfying experiences and where not to go in order to avoid conflicts with other groups, e.g., they would know locations of motorized and non-motorized trails.
- **Motorized** and non-motorized trail users would have more physical separation from each other.
- Recreationists would continue to not feel crowded.
- Recreationists would have a variety of trail opportunities to enjoy without long driving times on roads or travel time on trails.
- New transportation technologies would not permitted until assessments of their potential impacts on resources are made and a decision made on their acceptability on the Forest.

2. ENVIRONMENTAL CONSEQUENCES

a. Alternative 1 - No Action Alternative

1. Direct and Indirect Effects

***Physical Capacity/Crowding*.** The physical capacity of the district to accommodate recreation is not exceeded in this alternative. Public feelings of being overcrowded are minimal to non-existent, according to the 2000-2001 survey of the forest described above. Projected increases in recreation activity days by recreation activity are fairly low. Long term projected declines in the numbers of motorized users and stock users and backpackers will require less physical space to accommodate. If projected estimates for OHV use are low, this alternative will still provide adequate capacity for motorized users, unless the Forest becomes much more attractive to OHV users not presently using the Forest; such is possible if other forests nearby offer fewer OHV opportunities. Cross-country skiers may eventually need more places to ski, and expanding a groomed ski system is doable with this and other alternatives. Alternative 1 spreads motorized use across the district, providing more capacity than Alternatives 4 and 5, and about the same as Alternative 3. The recreation issue on providing a wide spectrum of recreation opportunities discusses ROS settings for this alternative, and its effects on non-motorized use.

Road vehicle use for all of the action alternatives will not exceed road capacity; as none of the alternatives significantly decrease availability of roads for use by cars, pickups, jeeps, and other SUVs.

Potential for Conflict. This alternative has the highest potential for conflict between motorized and non-motorized trail users. This is because motorized use is allowed on more trails in this alternative than in any other. The alternative has the least physical separation of motorized and non-motorized activities, with non-motorized use limited to 76 miles of trail (see Table III-3 under the "Wide Spectrum of Recreation Activities" issue). Feelings of crowding due to numbers of encounters between motorized and non-motorized user groups may be highest in this alternative because motorized use occurs on more miles of trail than other alternatives, although it is very similar to Alternative 3. Conflict because of crowding between motorized users would be lowest in this alternative, because motorized use is more dispersed in this alternative.

Access to Recreation/Driving Time Needed to Access. This alternative and Alternative 2 are about equal in allowing recreationists to readily access either motorized or non-motorized trails from trailheads and communities around the Jefferson Division. Motorized trails predominate the trail system, and can readily be accessed from all directions. Non-motorized trails require more effort to access than in Alternatives 4 and 5, and are much less available in the Castle and Crazy Mountains. In the Little Belts, although non-motorized trails are definitely in the minority, they are available across the mountain range.

Technology Threats to Solitude. All alternatives will have a statement in the decision memo that recreation vehicles presently unforeseen and not addressed in this analysis, will not be allowed access to the National Forest until analysis has been undertaken and a decision on their suitability is made.

2. Cumulative Effects

This alternative reflects the requirements of the three state OHV Environmental Impact Statement to keep any existing inventoried and undefined, often user-constructed roads and trails and make them part of the forest road and trail transportation system. It also reflects past decisions of timber and other resource environmental analysis that affect existing roads and trails. It will, like the action alternatives, be subject to minor change in the future as more specific smaller scale environmental analyses are undertaken and determinations are made that may affect the travel planning decisions made by this travel plan for certain roads or trails in light of new proposals to harvest timber, etc.

b. Action Alternatives 2-5

1. Direct and Indirect Effects

Physical capacity/Crowding The physical capacity of Alternative 3 to accommodate recreation is not exceeded in this alternative, which is very similar to Alternative 1. Alternative 4, in limiting motorized trail use to only 134 miles of trail, puts approximately five times the motorized use on these trails; assuming motorized use levels remain the same or increase slightly. There is no question that this will increase the wear on these trails significantly, but it is not believed that the capacity of these trails will be exceeded, given relatively light existing levels of use by all kinds of activities, including motorized use on the Jefferson Division. This is supported by the lack of public perceptions of being overcrowded in the 2000-2001 survey of the Forest as described above; this will likely change on the motorized trails of Alternative 4. Alternative 5 reduces the miles of motorized trail by half. This will not exceed the physical capacity of the motorized trail system. In both Alternatives 4 and 5, non-motorized trails will likely have fewer impacts from use than occur presently.

Road vehicle use for all of the action alternatives will not exceed road capacity, as none of the alternatives significantly decrease availability of roads for use by cars, pickups, jeeps, and other SUVs.

Potential for Conflicts between users Limiting motorized trail use to smaller areas and clearly identifying those areas with signing and maps will reduce conflicts between motorized and non-motorized users, but will increase perceptions of crowding for all users of those fewer motorized trails.

Alternative 3 is very similar in its effects to Alternative 1, although it does have ten more miles of non-motorized trails, slightly decreasing potential for conflict. Alternative 4 will reduce conflicts between motorized and non-motorized users more than any alternative because the large majority of trails would become non-motorized. It has the most physical separation between motorized and non-motorized users. Motorized use would be limited to just 134 miles of trail, concentrating motorized use on less than 20 percent of the miles of trail presently available to them. This greatly increases the potential for conflict between motorized users, as well as for conflicts between motorized users and those non-motorized users electing to use the remaining multiple use trails. Alternative 5 increases the miles of non-motorized trail to 234 miles, providing more opportunity for those non-motorized users to avoid meeting motorized users on the same trail, than do Alternatives 1 and 2. At the same time, Alternative 5 does not reduce the miles of motorized trail as severely as Alternative 4, keeping almost half of the existing motorized trails, and avoids concentrating motorized users on the small mileage of available trails seen in Alternative 4.

Access to Recreation/Driving Time to Access Alternative 3 is very similar to Alternative 1. Alternatives 4 and 5 make non-motorized trails more accessible by simply providing more of them. Alternative 4 has the least amount of motorized trails, but these are all readily accessible. This alternative provides the least access to motorized trails and the most access to non-motorized trails. Alternative 5 is between Alternative 4 and Alternatives 1 and 3 in the ease of access it provides to motorized and non-motorized trails. It has more motorized trails than Alternatives 1 and 3 and more non-motorized trails.

***Technology Threats to Solitude*.** All alternatives will have in the decision memo a statement that recreation vehicles presently unforeseen and not addressed in this analysis will not be allowed access to the national forest until analysis has been undertaken and a decision on their suitability is made. **Such would ensure that potential effects of new technologies are considered before allowing their use.**

2. Cumulative Effects

The action alternatives did not adopt most undefined roads and trails contained in Alternative 1 into the forest roads and trails transportation system. Each alternative also reflects past decisions of timber and other resource environmental analysis that have affected existing roads and trails. Like Alternative 1, the action alternatives are subject to minor change in the future as more specific smaller scale environmental analyses are undertaken and determinations are made that may affect the travel planning decisions made by this travel plan for certain roads or trails in light of new proposals to harvest timber, etc. Future travel planning for the forest may not occur for another 15 to 20 years, following the same time frame for the recent travel planning effort.

c. Effects Common To All Alternatives

1. Direct and Indirect Effects

Physical Impacts. Projected changes in recreation activity days by 2025 shown in Table III-29 indicate that no significant increases are expected to occur in amount of activities most potentially impacting to the physical environment. Stock use, bicycling, hunting (and associated transportation requirements), OHV use, backpacking, and hiking are expected to either decline, remain stable, or increase slightly in comparison with 1995 use. An expected decline of snowmobiling by 15 percent may reduce other resource impacts, such as impacts to wildlife. **These are projections only, based on existing information.**

Those activities with projected significant increases in user days (cross-country skiing, motor boating, fishing, non-consumptive wildlife activities, picnicking, sightseeing, and visiting historic sights) are the types of low-impact activities having little physical impact on the land. Several of those activities are more road than trail related. Fishing is a relatively low impact activity and is projected to increase just eight percent by 2025.

Physical capacity of the analysis area trail system to accommodate use varies by alternative in proportion to miles of trail open to motorized and non-motorized use.

Physical access from surrounding communities to all roads and trails is readily available in all alternatives.

User Knowledge of Travel Plan and "Light on the Land" techniques. Regardless of alternative, availability and readability of new travel plan maps and on-site signing will need to be improved. This will help users know where to go to find their preferred recreation setting and to avoid conflicts with other users. Improved travel plan maps that are simpler to understand and easier to obtain will help, as would possible portal signing along major roads will also help users better understand travel plan requirements. These options are all equally possible to accomplish regardless of the selected alternative. Light on the land/ Leave no Trace educational programs will continue to be offered and increased when necessary if new technology improves accessibility for new users to the backcountry, or if projections underestimate numbers of users. This will help in reducing potential impacts between user groups, and impacts to ground, vegetation, and water.

Recreationists Feelings of Crowding. Regardless of alternative, projected use levels for many recreation activities are flat to declining, indicating that the current existing condition of "little or no feeling of crowding" will largely continue for those alternatives. Exceptions are for those alternatives that reduce opportunities for motorized trail use by concentrating them on fewer miles of trail. Additionally, those activities with large projected increases in use may find more competition for places to cross-country ski or enjoy wildlife, picnic, fish, or sightsee. Those opportunities will vary by alternative.

Undue Driving Time to Recreation Places. All of the analysis area is within ready access of surrounding communities. Access to motorized or non-motorized trails varies by alternative, with all of them having ready access to motorized roads.

Minority and low-income recreationists. Effects on these groups are the same as on other recreational groups. Access to trails by low-income recreationists is made more difficult because of distance from major population centers in the state.

Technology Threats to Solitude. All alternatives will have in the decision memo a statement that recreation vehicles presently unforeseen and not addressed in this analysis will not be allowed access to the national forest until analysis has been undertaken and a decision on their suitability is made.

2. Cumulative Effects

The action alternatives typically assessed and made recommendations for undefined roads and trails addressed by the three state OHV Environmental Impact Statement. Some were kept and most were removed from the forest road and trail transportation system. All action alternatives, like Alternative 1, will be subject to change in the future as more specific smaller scale environmental analyses are undertaken and determinations are made that may affect the travel planning decisions made by this travel plan for certain roads or trails in light of new proposals to harvest timber, etc.

d. Effects Common To All Action Alternatives

1. Direct, Indirect, and Cumulative Effects

Any alternative that concentrates motorized use onto fewer miles of trails will increase the physical impacts of that use on those trails, themselves. Similarly, motorized trails that are made non-motorized in action alternatives will likely see lessened use and reduced physical impacts of use on those trails.