CHAPTER 2: MARYLAND'S OUTDOOR RECREATION DEMAND

A. Planning Methodology

A project team comprised of staff from the Land Acquisition and Planning Division of the DNR, a multi-agency Technical Advisory Committee, and a statewide Trails Committee guided the development of the Maryland ***Land Preservation and Recreation Plan***. This collaborative effort has created a five year plan with goals and recommendations that incorporates local knowledge and institutional history. The following methodologies were used.

Public Engagement and Needs Assessment

Citizen stakeholder meetings were held in each of the four DNR regions – Eastern (16 participants), Central (34 participants), Southern (20 participants), and Western (54 participants). Four meetings with the Technical Advisory Committee were held over the course of the planning process, as well as two focus group meetings with members of the Maryland Association of Counties and Maryland Recreation and Park Association. DNR staff project meetings and key staff interviews were held as needed.

A statistically-valid phone survey was conducted with 2,800 households, as well as an online open link survey for members of the public who did not receive a randomly selected telephone survey, which had 2,475 respondents. Written and online comments were accepted from individuals who could not attend the stakeholder meetings.

Demographics/Trends/Previous Planning Efforts

A demographic summary was prepared using data from the Maryland Department of Planning. A trends analysis explored state and national trends in outdoor recreation participation, multi-cultural recreation, and healthy lifestyles. Existing state plans were reviewed to determine commonalities and provide guidance.

DNR Land and Water Based Inventory and Level of Service Analysis

An inventory update of Maryland's outdoor recreation assets was conducted using GIS data from the Maryland Department of Planning. All publicly accessible DNR lands and waters were included, as well as all National Park Service (NPS) lands in the state. Other providers such as counties, municipalities, and alternative providers were not included for the purposes of this plan, because the data was not available for every County.

Only resource-based recreation sites were included in the inventory. User-based recreation facilities that focus less on natural settings, such as sports complexes or swimming pools, were excluded, as such amenities are not within the purview of the DNR. Along with locating each site within the state, data was gathered on all recreation amenities at each location such as facilities (shelter, boat ramp, etc.), permitted activities (hunting, swimming, etc.), and resources (natural area, beach, etc.).

In addition to several resource maps, a total of seven levels of service analysis maps were produced. Analyses focused on proximity to all DNR assets across the state of Maryland, and considered population density. Specially developed GIS tools were utilized as part of a Geo-Referenced Amenities Standards Process (GRASP®) methodology.

Findings and Visioning Workshops

Findings were presented to DNR staff, the Technical Advisory Committee, and members of the Maryland Association of Counties and Maryland Recreation and Park Association summarizing all information gathered, followed by visioning workshops to obtain feedback on the key issues and analysis components of the plan.

Recommendations and Action Steps

Based on the findings and analysis, key issues, strategies, and recommendations were identified and developed with DNR staff, the Technical Advisory Committee, and members of the Maryland Association of Counties and Maryland Recreation and Parks Association.

B. Public Engagement Summary

The information gathering phase of the ***Maryland Land Preservation and Recreation Plan*** included a comprehensive process to obtain citizen, user group, staff, and stakeholder input through multiple outreach and engagement tools**.** The goals of the public participation process for this project were to:

- Gather relevant and meaningful information to inform decisions and recommendations.
- Provide Maryland residents and stakeholders the opportunity to be involved in creating the plan's strategies and recommendations.

Complete results of the random survey are included in ***Appendix H: Survey Report.*** Highlights of the public participation process for the ***Maryland Land Preservation and Recreation Plan*** follows.

1. Statistically Valid Survey

In a random telephone survey of Maryland residents, a high percentage of respondents indicated that a member of their household participates in outdoor recreation activities (82%). The most popular outdoor recreation activities are:

- Walking (75%)
- Visiting historical sites (75%)
- Picnicking (65%)
- Visiting natural areas (59%)
- Participation in outdoor special events (57%)
- Visiting playgrounds (56%)
- Swimming outdoors (55%)

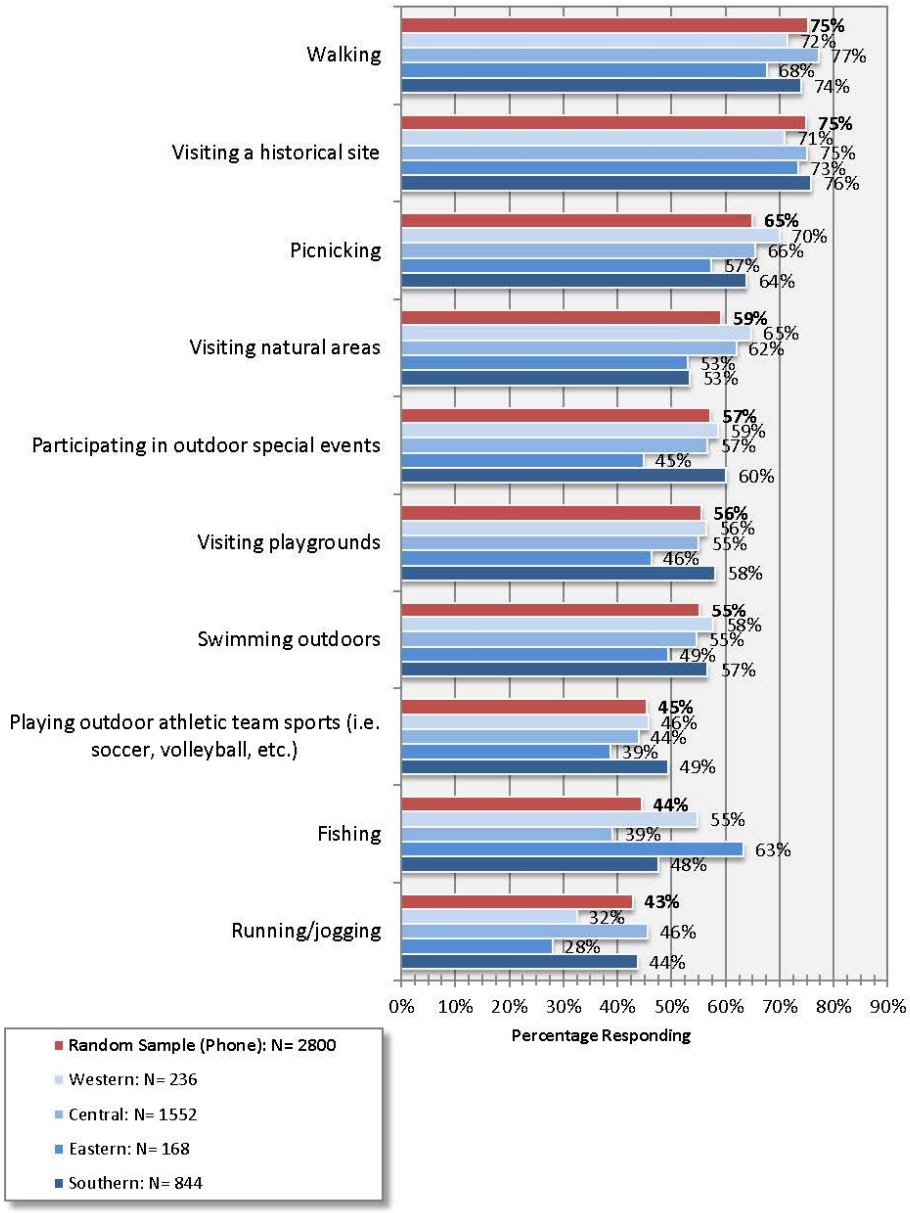
Not surprisingly, the activities that were most popular in each of the regions reflected their unique characteristics. For example, water sports are more popular in the Eastern Region than in the state overall. Respondents from the Eastern Region were more likely to participate in fishing (63%), paddle sports (37%), motor boating (38%), and sailing (15%) than respondents in the other three regions.

Conversely, respondents in the Western Region are more likely to participate in hiking/backpacking (51%), fishing (55%), hunting (36%), tent camping (47%), or sledding/snow play (44%) than the average Marylander.

Participation in Outdoor Recreation Activities

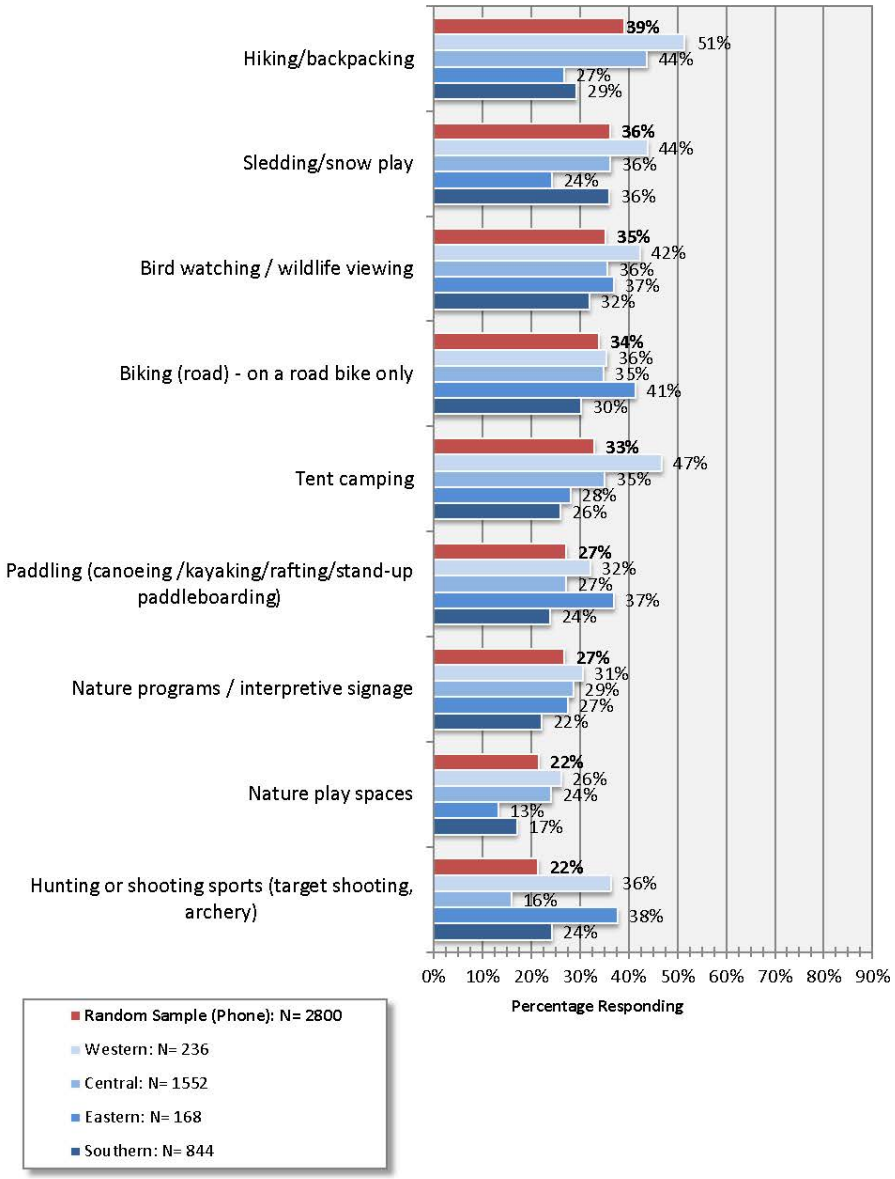
The top ten list of activities in ***Figure 4*** shows a balanced mix of generally low cost natural resource based recreation preferences and participation at developed recreation sites such as playgrounds, historic sites, and sports areas.

Figure 4: Participation in Outdoor Recreation Activities – Top Ten Activities Overall



Similar to the top ten activities, the middle ten activities in terms of participation showed a balance of natural resource based activities and developed area activities. ***Figure 5*** shows regional differences appearing as well, with hiking, sledding, wildlife viewing, and camping garnering more participants in the Western region than in other regions. Road bicycling, paddling, and hunting were the most popular in the Eastern Region. This finding aligns with respondents preferences for a balance of outdoor recreation development and natural resource protection.

Figure 5: Participation in Outdoor Recreation Activities – Middle Ten Activities Overall



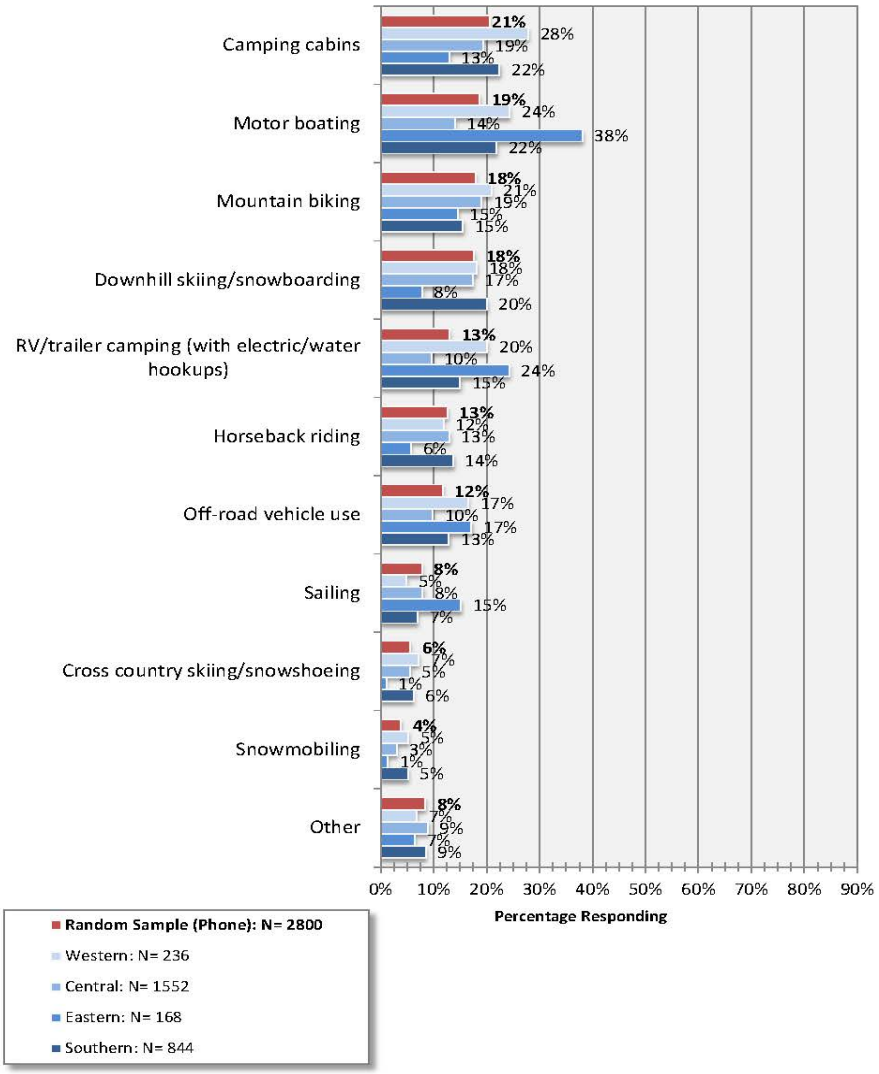
As noted in ***Figure 6***, survey respondents ranked cabin camping in the bottom ten activities. A review of data relative to state park visitation shows that cabin visits are the lowest of the three visitor categories (cabins, overnight, and day visitors). This combination of data suggests an evaluation and possible shift of resource allocation from cabin maintenance and management and other bottom tier activities to supporting activities in the top ten in participation such as:

- Trail connectivity for expanded walking and jogging opportunities
- Promotion of historical and cultural sites to further celebrate Maryland's rich heritage
- Increasing land acquisition for nature based recreation and land protection
- Expanding access to water based recreation to support swimming and fishing

A trend toward motorized activities and those activities with relatively high equipment costs showing up in the bottom ten participated in activities suggests that these users groups are smaller but have the financial means to engage in these activities.

Through Maryland's Program Open Space process, these findings can provide guidance to county and municipal recreation and parks agencies on Marylanders' preferences for developed recreation supporting field sports, playgrounds, and special events.

Figure 6: Participation in Outdoor Recreation Activities – Bottom 10 Overall



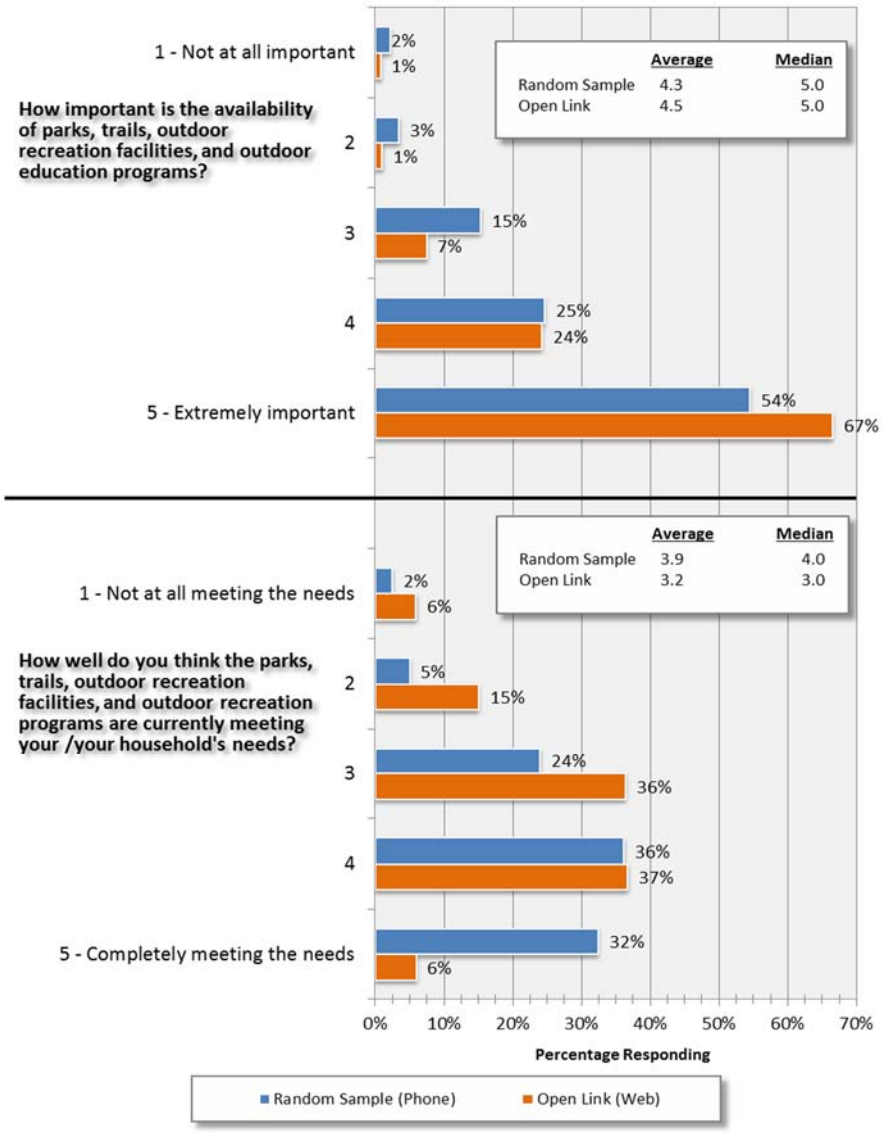
Importance of Outdoor Recreation to Marylanders

Results from the random telephone survey conducted for the ***Maryland Land Preservation and Recreation Plan*** revealed that over half of all respondents indicated that the availability of parks, trails, outdoor recreation facilities, and outdoor education programs is "extremely important" to their household. ***Figure 7*** shows that according to the top two ratings, 79 percent of phone survey respondents and 91 percent of online survey respondents, perceived outdoor recreation as important or extremely important. This data aligns with the high participation rate (82%) noted earlier.

Furthermore, a large percentage of respondents perceived that their need for parks, trails, and outdoor recreation facilities and education programs was being met. When the top responses from each methodology are compared, 68 percent of the phone survey participants felt that their needs were being met, while only 43 percent of the online survey respondents felt that their needs were being met.

The demand for outdoor recreation is echoed by a statewide coalition of over 165 groups (Partners for Open Space), which seeks to secure, save, and protect Maryland's land conservation programs. The group produced *"The Case for Open Space"* in 2012*,* a resource highlighting County level success stories related to DNR's Program Open Space (POS). The report identifies the negative consequences on heritage, agricultural, recreation, and other land and water based resources if POS funding is diverted.

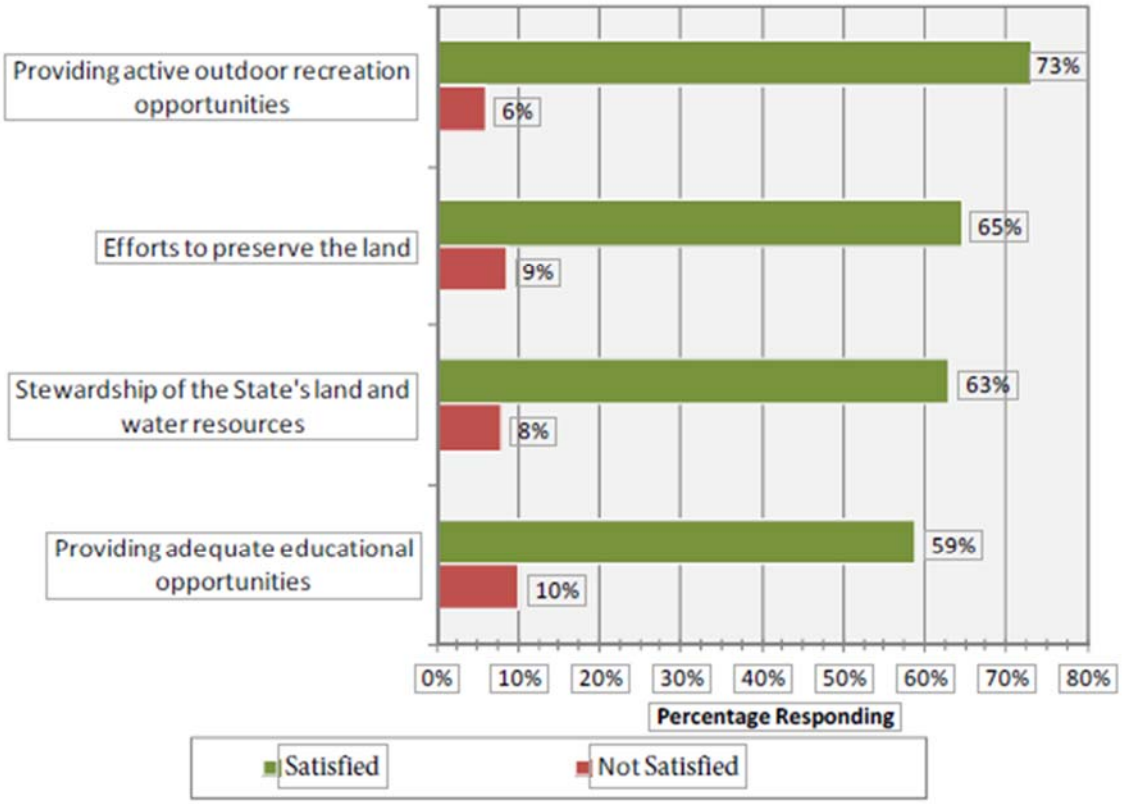
Figure 7: Importance and Level of Needs Being Met for Parks, Trails, Outdoor Recreation Facilities, and Education Programs



Level of Satisfaction with the Attributes of DNR

Ratings of satisfaction with the DNR are high overall. Respondents are most satisfied with the Department's provision of active outdoor recreation opportunities. Respondents are satisfied with the Department's ability to provide educational opportunities. When examined by region, respondents from the Western Region are most satisfied with all attributes than their counterparts in other regions. Respondents from the Eastern and Southern regions tend to have slightly lower ratings of the DNR for all attributes, as noted in ***Figure 8*** below.

Figure 8: Level of Satisfaction with Attributes of DNR



Perceptions of DNR Fees

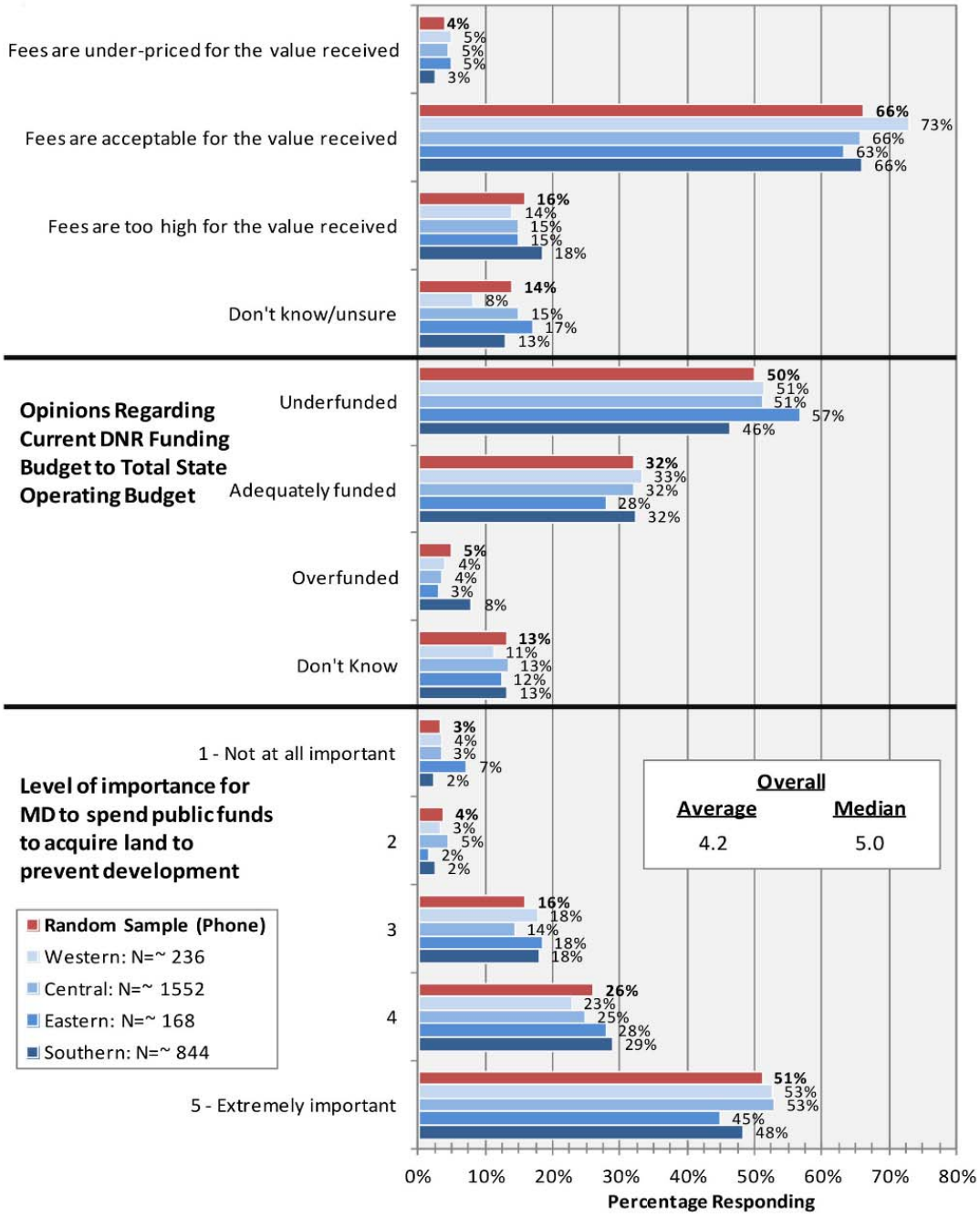
Respondents were asked how they felt about the fees charged directly to them by the DNR. As noted in ***Figure 9***, the majority felt that the fees are acceptable for the value received (66%), while 16 percent felt that the fees are too high for the value received, and four percent felt that the fees are underpriced for the value received. Of the regions, respondents from the Western Region were most likely to feel that the fees are acceptable for the value received (73%), while responders from the Eastern Region were least likely (63%) to feel that the fees are acceptable for the value received.

Half of the respondents felt that the DNR is underfunded in the state operation budget (50%). Thirty-two percent (32%) of the responders felt that the department is adequately funded, while only five percent of responders felt that it is overfunded. This perception underscores the importance of tracking DNR revenue streams from hunting, fishing, state parks, vessel taxes, and ORV permits to begin to illustrate the vital role public outdoor recreation and natural resource conservation play in Maryland's economy.

As illustrated in ***Figure 9***, over half of all responders indicate that it is "extremely important" that the State of Maryland spend public funds to acquire land to prevent development. Only three percent feel that it is "not at all important." This finding suggests that DNR established practices in land and water conservation and preservation efforts should continue and possibly expand.

Figure 9: DNR Funding and Fees by Region

How Respondents Feel About Fees Charged Directly to Them



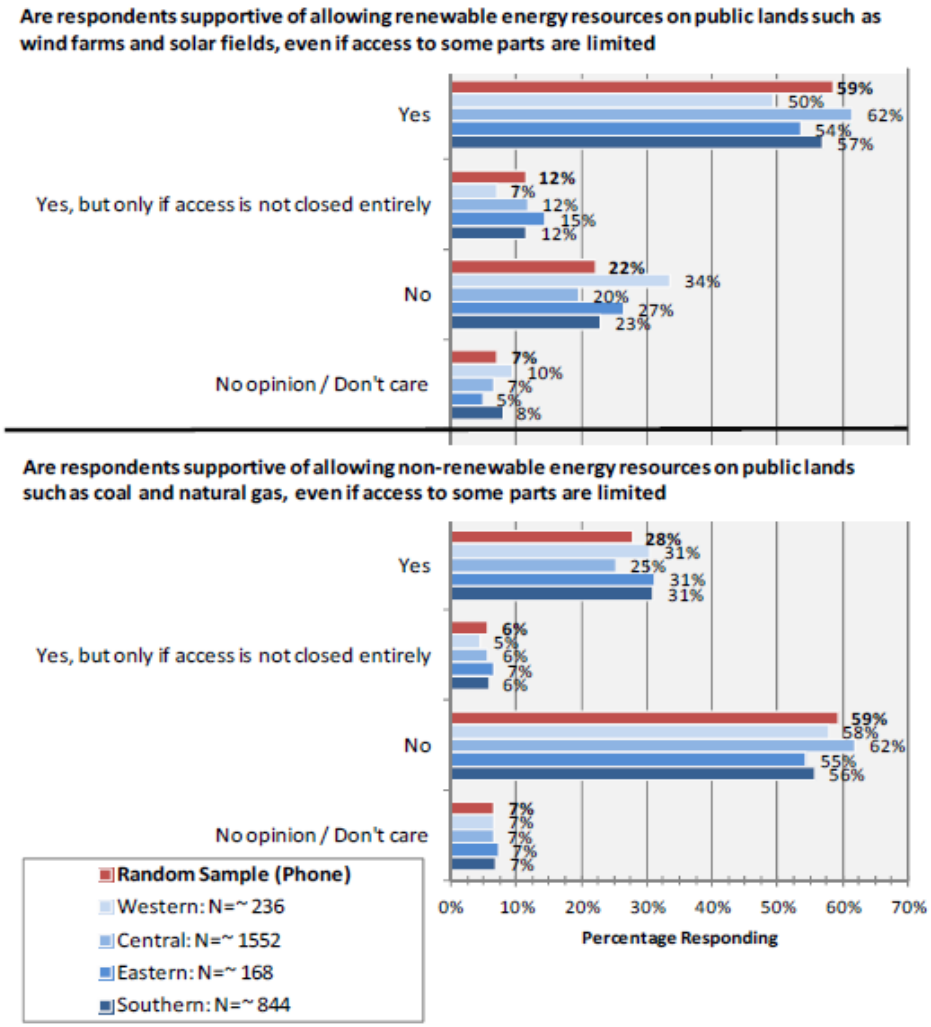
Renewable and Non-renewable Resources

Respondents were asked to consider allowing both renewable and non-renewable energy resources on public lands. Renewable energy resources were defined as sources such as wind farms and solar fields, while non-renewable resources were considered to be coal and natural gas.

Overall, respondents are more favorable towards allowing renewable energy resources on public lands even if access to some of the land is limited (71 percent favorable). Another twelve percent indicated that they are in favor of renewable energy resources as long as the access to the public lands was not closed entirely. Twenty-two percent (22%) of respondents are not in favor of allowing renewable resources on public lands. Respondents from the Western and Eastern Regions were not as likely to be in favor of allowing renewable resources on public lands as their counterparts in the Central and Southern Regions.

The majority of respondents are not in favor of allowing non-renewable resources on public lands (59 percent), although 34 percent are open to some level of activity. Respondents from the Central Region are more unfavorable (62%) than responders from the other regions.

Figure 10: Renewable and Non-renewable Resources by Region



Barriers to Participating in Outdoor Recreation
The most frequently given reason for not participating more in outdoor recreation was that respondents had "no time, other personal issues, or physical limitations" (46%). The next most common barriers were: "not aware of program/facilities offered" (9%), "price/user fees" (7%), "lack of facilities/programs" (6%), "transportation access issues" (6%), and to a lesser extent "safety and security," "conditions or parks," "hours of operation," and "size of facilities/amount of space available." Only 17 percent of responders indicated that they did not have any barriers to participation.

2. Technical Advisory Committee (TAC), Maryland Association of Counties, Maryland Recreation and Park Association

Four meetings were held with the project's Technical Advisory Committee, resulting in identification of the following highlights:

- **Coordinate GIS data with Local Governments**
  - Long range goal for every county and municipality to provide the DNR with GIS mapping for trails, natural resources, public water access, and picnic amenities

- **Explore Collaborative Partnerships**
  - Appalachian Environmental Lab
  - GIS lab at Washington College
  - Salisbury University
  - Urban Resources Initiative
  - Outward Bound Baltimore
  - Appalachian Trail conference – Potomac Trail Club (across border)
  - Baltimore Ecosystem Study
  - Adventure Sports Institute in Garrett County – National Whitewater Hall of Fame
  - Maryland Recreation and Park Association
  - Maryland Association of Counties
  - Baltimore Metropolitan Planning Authority
  - Maryland Association for Outdoor and Environmental Education
  - 1000 Friends of Maryland

- **Expand Messaging and Branding**
  - Produce short "how to" videos (access information, educational, safety)
  - QR code readers on signage, brochures could link to DNR website
  - Consider mobile phone version of DNR website
  - Link local outdoor recreation, cultural, and natural resource sites to DNR website
  - Share DNR information with health community to support park prescriptions

- **Water Recreation Access**
  - Reassess the gaps after DNR and county data is combined, then collaboratively identify priorities
  - Need fishing access link on DNR website, coordinate with county access opportunities

- **Trail Connectivity, Connecting People to Nature Across the Age Span**
    - Reluctance to use trails because of safety issues (natural predator or crime)
        - Trail partners, walking partners
        - Power of storytelling, testimonials about experiences
        - Use emergency locator numbering, integrating technology for safety
        - Incorporate emergency personnel into planning
        - "Friends of" groups to help with vigilance
    - Better access from front door – plan connections early during local development, then look at state level planning for connections to points of interest, natural areas, picnicking, water, etc.

3. Open Link Online Survey

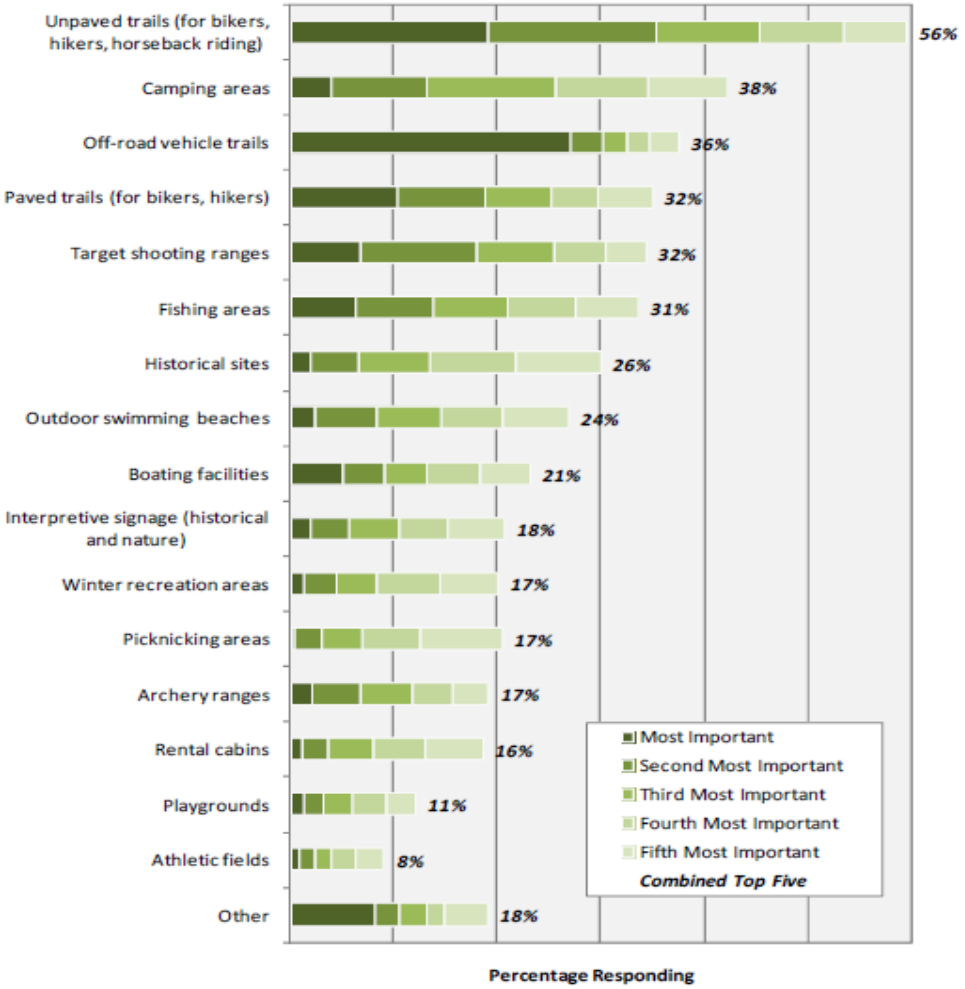
An open web-based survey was conducted with 2,475 respondents, identifying the following highlights:

- Top three aspects of outdoor recreation most in need of improvement:
    - Number of trail available (46%)
    - Number of parks (41%)
    - Connectivity of trails (32%)

- Top six outdoor recreation facilities that need to be added, expanded, or improved:
    - Unpaved trails (for bicyclists, hikers, horseback riding) (56%)
    - Camping areas (38%)
    - Off-highway vehicle trails (37%)
    - Paved trails (for bicyclists, hikers) (32%)
    - Target shooting ranges (31%)
    - Fishing Areas (31%)

These results are similar to opinions expressed during citizen stakeholder meetings, staff interviews, and in written comments, and the full responses are illustrated in ***Figure 11.***

Figure 11: Most Important Facilities to be Added, Expanded, or Improved



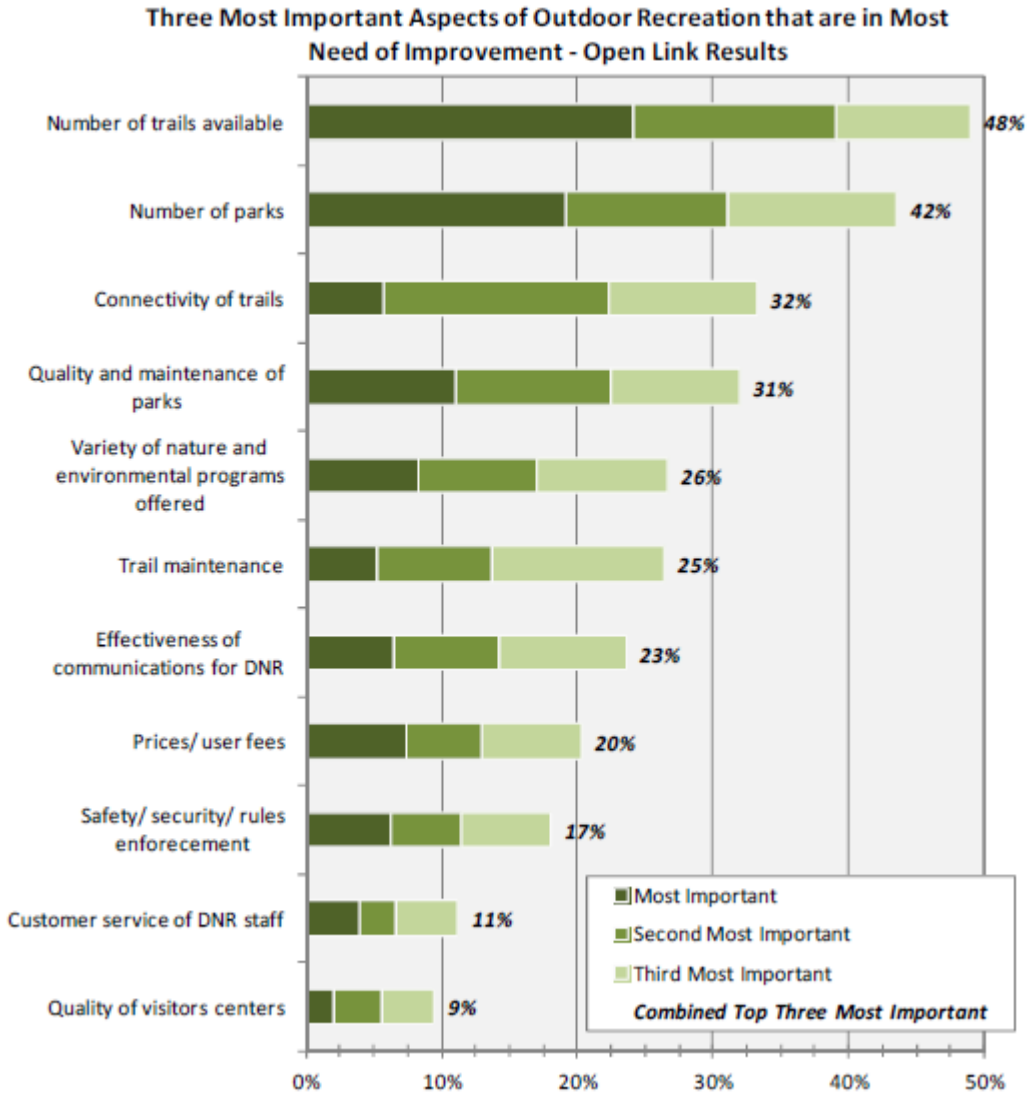
Aspects of Outdoor Recreation Most In Need of Improvement

The open link survey participants were asked to identify the three most important aspects of outdoor recreation most in need of improvement. As illustrated in ***Figure 12***, the areas that emerged when the top three most important responses were combined are:

- Number of trails available (48%)
- Number of parks (42%)
- Connectivity of trails (32%)
- Quality and maintenance of parks (31%)

The random phone survey did not include this question, so comparative data is not available. However, these results are similar to opinions expressed during in citizen stakeholder meetings, staff interviews, and in written comments.

Figure 12: Three Most Important Aspects in Most Need of Improvement



Open Link Survey Results Compared with Random Survey Results

The comparison of the online open link survey with the random phone survey revealed several consistent perceptions. Patterns emerged illustrating strong support for the importance of parks, trails, and outdoor recreation facilities, and a lack of time and awareness of opportunities as barriers to participation in outdoor recreation.

Environmental protection and improving the quality of life were a high priority for both sets of respondents. For phone respondents, promoting healthy lifestyles was the most important benefit of land conservation and outdoor recreation. For the online respondents, connecting people with nature was the highest priority. Both groups had a very high level of satisfaction with DNR's efforts toward land conservation and outdoor recreation, and had similar responses to use of public lands for renewable and non-renewable energy resources as noted in ***Figures 11*** and ***12*** above.

4. Access Issues Identified at Statewide Regional Public Meetings

Four public meetings were held across the state during the planning process, one in each of the regions identified – Eastern, Central, Southern, and Western – with a total of 124 attendees. All meetings began with a presentation by the planning team to introduce stakeholders to the purpose of the plan, the planning process, and goals for outdoor recreation, natural resources, and open space in Maryland.

An interactive discussion was held with stakeholders to receive input on broad questions relating to outdoor recreation. A complete list of questions can found in ***Appendix C: Regional Stakeholder Meeting Notes.***

Attendees then discussed two additional questions in detail:

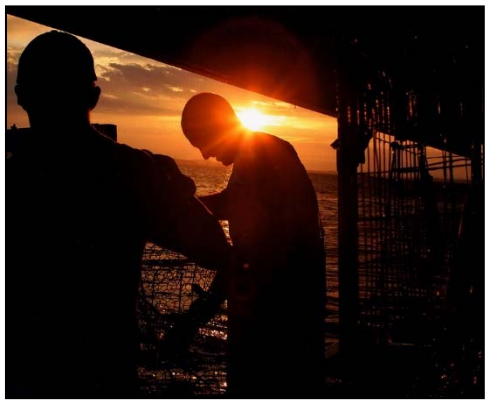
- What are strengths of Maryland's outdoor recreation resources?
- What improvements could be made to the outdoor recreation experience in Maryland?

Based on the large group discussion, the planning team grouped responses from stakeholders into common themes for small discussion groups around the key issues identified. Each group was moderated by a planning team member and addresses the following points regarding each key issue:

- Define the problem
- Identify barriers to resolution
- Recommend 2-4 feasible actions

Detailed summaries of each regional meeting are provided in ***Appendix C: Regional Stakeholder Meeting Notes***. Following are the highlights of the regional meetings.

Southern Region



The southern region identified off-highway vehicle (OHV) parks, hunting, equestrian facilities, and water access as key issues. Participants generated a list of feasible actions to address these issues, including:

- Use mine reclamation areas for development of OHV facilities
- Host public education seminars with DNR officials about wildlife management, safety, heritage, hunter safety classes, etc.
- Develop regional equestrian facilities
- Change land acquisition financing plans to require robust public access

Western Region
The western region identified off-highway vehicle (OHV) parks, educating youth, and trails as key issues. Participants generated a list of feasible actions to address these issues, including:

- Establish volunteer trail patrols for OHV trail systems
- Promote valuable unique cultural resources through tours and publications
- Expand partnerships for trail volunteers and increased funding for trail improvements

Eastern Region
The eastern region identified trail user conflicts and managing multiple uses on trails as key issues. Participants generated a list of feasible actions to address these issues, including:

- User groups should collaborate to publish and distribute a trail safety guide
- Employ Complete Street design approaches and multi-modal transportation planning at the local, regional, and state levels
- Practice sustainable trail design and maintenance (International Mountain Bicycling Association [IMBA] workshops)

Central Region
The central region identified youth outdoor time, connectivity, and user conflicts as key issues. Participants generated a list of feasible actions to address these issues, including:

- Include parents, educators, and youth leaders as champions of youth outdoor programs
- Begin dialogue with County Park/Planning Departments for collaboration on connectivity; suggest quarterly meetings with the DNR Land Trails Planner
- Design trails for multi-use

> "I know the budget is small, but a lot of places that I have gone to are understaffed. We need more people to monitor visitors. I would stress that the staff they have are incredibly devoted and excellent at their jobs."
> *Central Region Meeting Participant*

Regional Stakeholder Meeting Summary
Attendees at the four regional stakeholder meetings provided thoughtful and valuable insights, guidance, and suggestions to inform the direction of the ***Maryland Land Preservation and Recreation Plan.*** The issues raised and feasible actions provided contributed to the process of identifying the four key strategies and recommendations outlined in ***Chapter 6: Recommendations and Actions.***

5. Trails Committee

As part of the year-long planning process, the DNR created a **Trails Committee** to ensure that the ***Maryland Land Preservation and Recreation Plan*** included a section dealing specifically with trails. The committee included 15 people representing a broad range of perspectives, priorities, and expertise related to trails, and met four times during 2013. The goals established by the Trails Committee are listed below, and a complete discussion of trails is included in ***Chapter 4: Connecting People and Places***.

- Create a statewide network of trails that provides motorized and non-motorized links between DNR lands, water trails, and the communities where people live, learn, work, shop, and play.
- Educate citizens about the trail network's social, ecological, economic, and wellness benefits.
- Build, maintain, and renovate trails to create a sustainable system on DNR land that provides a quality and diverse user experience and promotes environmental stewardship.
- Map all DNR trails and make the data/information available in a user-friendly format.

- Address barriers to trail development, including funding and access, through partnerships with other State agencies, local governments, and trail stakeholder groups.

C. Demographic Profile and Analysis

Overview

Key demographic information and trends for the State of Maryland, including an analysis of four regions as identified by DNR staff, have been compiled for this plan. Several sources were used to sufficiently represent historical, current, and future demographics. These sources include the 2010 U.S. Census, Maryland Department of Planning, the 2006 – 2010 American Community Survey, and ESRI Business Solutions.

Key Demographic Highlights for Maryland Based on 2010 U.S. Census

- The estimated median household income for Maryland residents was $70,075 in 2012.
- The median age for Maryland in 2010 was 37.8, slightly higher than the average age (37.1) for the United States.
- Population in Maryland, at 5,775,562 in 2010, is projected to increase by 18.8 percent to 6,863,940 by 2040.
- The Central Region of Maryland ranks highest in population (3,197,920), followed by the Southern Region (1,741,515).
- The Western Region ranks third (485,999), while the Eastern Region has the lowest population (348,118) for 2010.

Population Demographics

According to Emilyn Sheffield, a researcher and Professor in the Department of Recreation and Parks Management at California State University, the Hispanic population in the United States has increased by 43 percent over the last decade, compared to five percent for the non-Hispanic portion, and accounted for more than half of all population growth.

In 2010, 8.3 percent of Maryland's population was Hispanic, and this percentage is expected to rise to 10.1 percent by 2017. The growing racial and ethnic diversity is particularly important to recreation and leisure service providers since family and individual recreation patterns and preferences are strongly shaped by cultural influences[7].

While the DNR has begun to address the impacts of national population trends within the operations of the State Park system, this data underscores the importance of continuing to provide relevant services for a multi-lingual visitor population including:

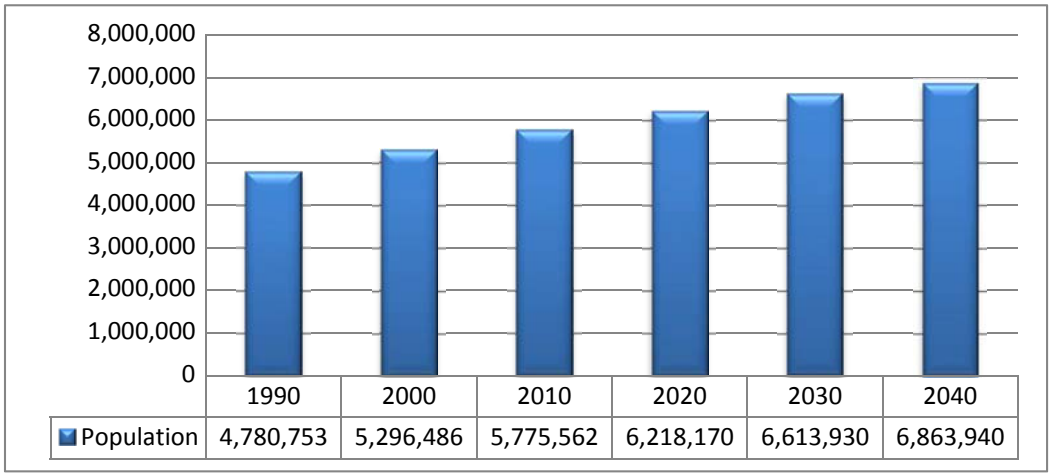
- Multi-lingual signage, technology, and print publications throughout the DNR system
- Cross-cultural programming, cultural festivals, and events
- Spanish speaking staff in parks and nature centers
- High visibility of the Spanish language option on the DNR website

[7] Sheffield, Emilyn, "Five Trends Shaping Tomorrow Today," *Parks and Recreation Magazine*, July 2012 p. 16-17.

Population Projections

The population in the State of Maryland is projected to continue to rise over the next 30 years, although not as quickly as it did from 1990 to 2000 (1.08 percent average annual growth), or from 2000 to 2010 (.87 percent average annual growth). According to the U.S. Census, the population in 2000 was 5,296,486, and in 2010, it was 5,775,562. As shown in ***Figure 13***, The Maryland Department of Planning projections to 2040 estimate that the State of Maryland will reach 6,863,940 residents by 2040. ***Maryland's population is forecast to grow by 18.8 percent in the next 30 years from 2010 to 2040, adding over 1,088,378 new residents.***

Figure 13: State of Maryland Population Forecast (1990 - 2040)



	1990	2000	2010	2020	2030	2040
Population	4,780,753	5,296,486	5,775,562	6,218,170	6,613,930	6,863,940

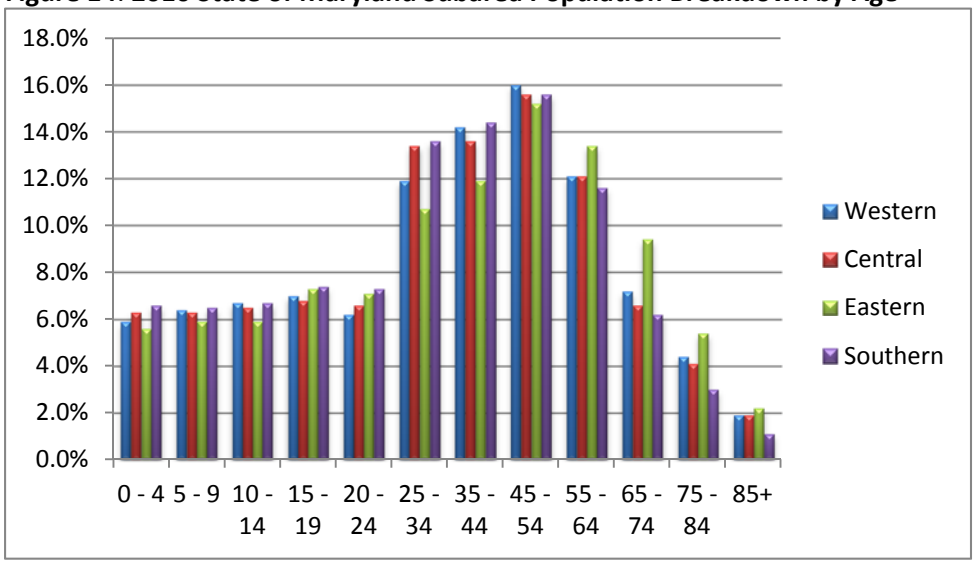
Source: Maryland Department of Planning

Age Distribution

As part of the population trend analysis, it is useful to examine age distribution in the State of Maryland as a whole as well as in each of the planning areas. A comparison of the planning areas is illustrated in ***Figure 14***.

- The largest age cohorts in the Western (42.1%), Central (42.6%), and Southern Regions (43.6%) are in the 25-54 age range, close to the state-wide percentage of 40.0. The Eastern Region's percentage in this age range dropping to 37.8.
- The Eastern Region, however, holds the greatest number of residents in the "over 55" age range, at 30.4 percent, while the "over 55" population in the other regions is in the 22 to 26 percent range, approaching the state-wide population of 26.4 in the "over 50" age cohort.

Figure 14: **2010 State of Maryland Subarea Population Breakdown by Age**

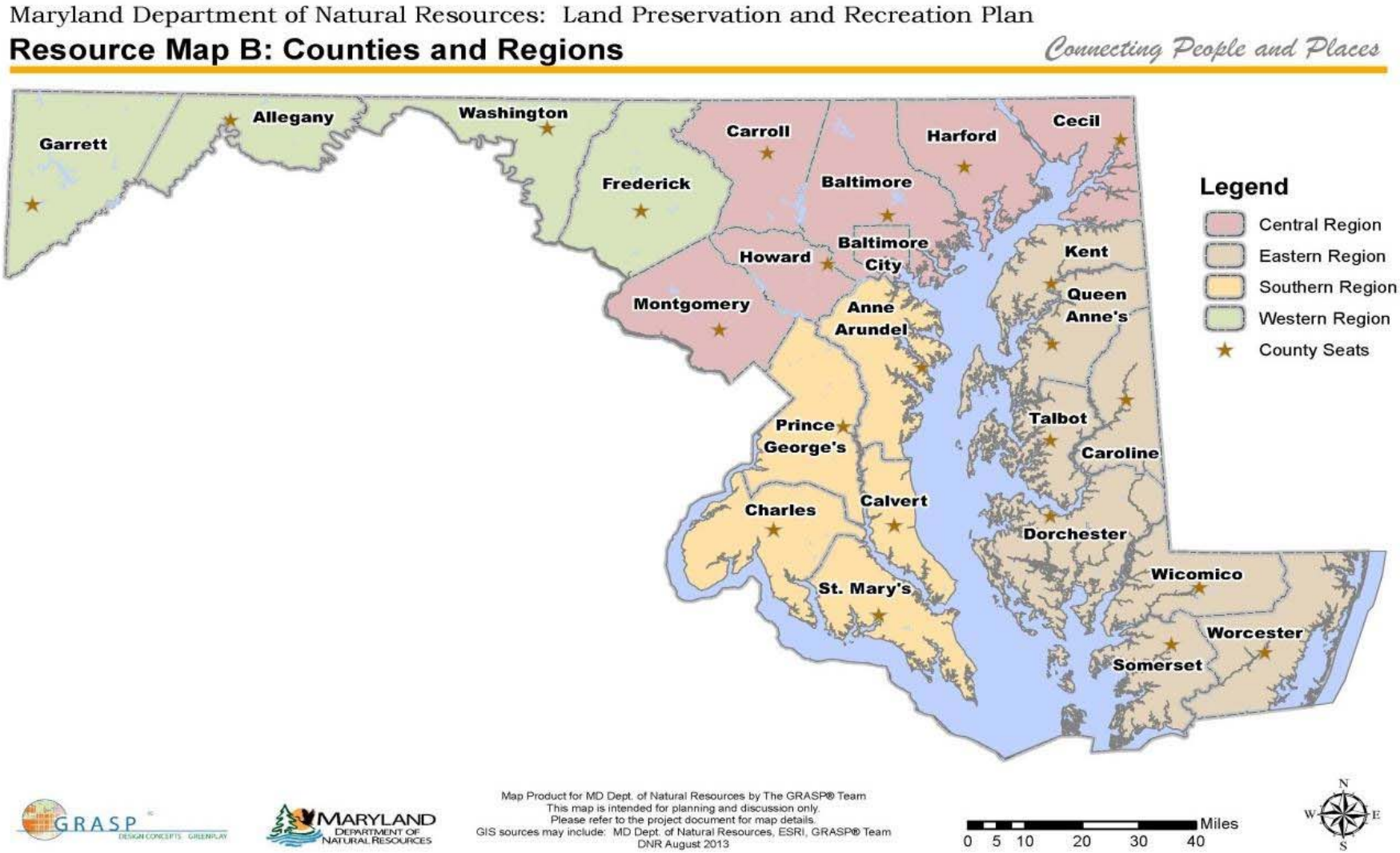


Source: 2010 U.S. Census, ESRI Business Information Solutions, 2012

Regional Demographic Analysis

Examining regional demographics in the four regions identified provides guidance for future outdoor recreation activity focus areas and land protection and use priorities. The following map provides a visual layout of the DNR regions as defined by agency staff.

Map 1: Maryland DNR Regions



The information in ***Table 4*** was collected for each subarea using the 2010 U.S. Census data for median age, median income, and population percentage. Key information about median income differences among various Maryland counties and how they compare the state's median income, $70,075, is provided in the Summary section of this chapter. The following table sets out the estimated median income for the four regions, in 2012.

In the four regions, the median age ranges from 39.4 in the Western Region to 36.4 in the Southern Region. The median income ranges span from $54,365 in the Eastern Region to $76,866 in the Southern Region. The Central Region holds the greatest percent of the population at 55.4 percent with the Eastern Region holding the lowest population at six percent. For the state as a whole in 2010, the median age was 37.8.

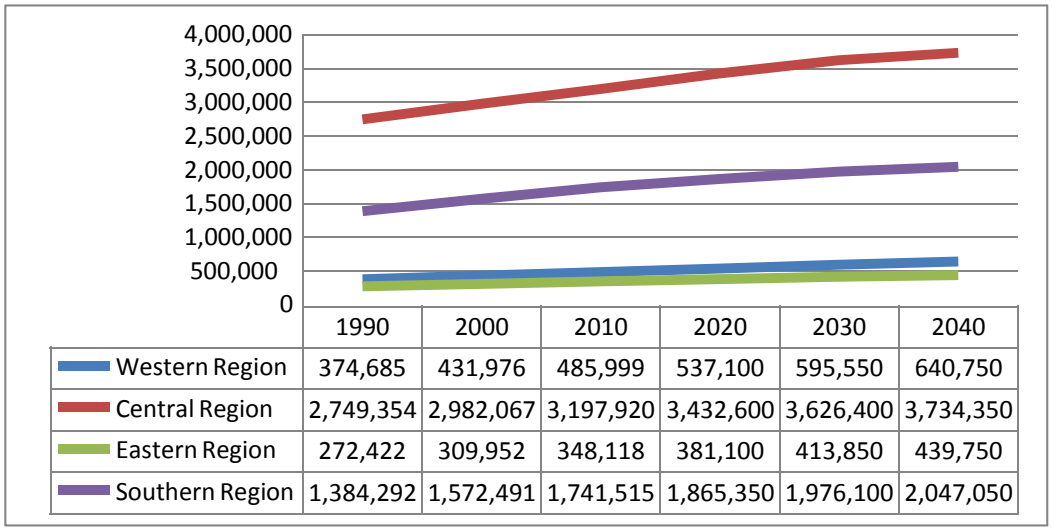
Table 4: Regional Demographic Overview

	Median Age (2010)	Median Income (2012 forecast)	Percent of State Population (2010)
Western Region	39.4	$59,591	8.4%
Central Region	38.1	$66,784	55.4%
Eastern Region	41.6	$54,365	6.0%
Southern Region	36.4	$76,866	30.2%

Source: ESRI Business Information Solutions, 2012

The population distribution represented in ***Figure 15*** shows the predicted growth for the four regions of the state through 2040. The Central region ranks highest in population (3,197,920 in 2010) and is predicted to grow by 16.8 percent to 3,734,350 by 2040. The next most populous region is the Southern region (1,741,515 in 2010), predicted to grow by 17.5 percent to 2,047,050 in 2040. While the Western region is considerably less populated than the Central and Southern regions (485,999 in 2010), it is predicted to grow by 31.8 percent to 640,750 by 2040. The Eastern region is the least populated region (348,118 in 2010) and is predicted to grow at the slowest rate, 5.3 percent, to 439,750 in 2040.

Figure 15: 2010 State of Maryland Regional Population Growth Projections



	1990	2000	2010	2020	2030	2040
Western Region	374,685	431,976	485,999	537,100	595,550	640,750
Central Region	2,749,354	2,982,067	3,197,920	3,432,600	3,626,400	3,734,350
Eastern Region	272,422	309,952	348,118	381,100	413,850	439,750
Southern Region	1,384,292	1,572,491	1,741,515	1,865,350	1,976,100	2,047,050

Source: Maryland Department of Planning

Key Demographic Facts by Region

Western Region

- Frederick County has the largest population in the Western Region with over 233,000 people, according to the 2010 U.S. Census.
- Allegany County is the only county in this region which has been losing population every decade since the 1970 U.S. Census.
- Garrett County has the lowest population in the Western Region – a little over 30,000 residents.
- The median income in three of the four counties in the Western Region is less than the median income of Maryland ($70,075). Only Frederick County's median income at $77,872 is higher than the Maryland median income.
- With the exception of Garrett County, all of the counties in the Western Region have a net migration gain. Most of the net migration gains in Frederick County are from Montgomery County.

Central Region

- Montgomery County's population (971,700) is the largest among all jurisdictions in Maryland. Three of the top five most populous jurisdictions are in the Central Region.
- Baltimore City is the only jurisdiction in this region that has been losing population every decade since the 1970 U.S. Census.
- Howard County has the highest median income among all the jurisdictions in Maryland, followed by Montgomery County – both of which are in the Central Region.
- Baltimore City has the second lowest median income among all of the jurisdictions in the State.
- According to the 2006 – 2010 American Community Survey, Baltimore County has the highest net-migration – around 13,700, most of which is from Baltimore City. Montgomery County has the second highest net migration around 5,100 with most of the in-migration from Prince George's County.
- Baltimore City has the largest decline in net migration among all of the jurisdictions with a drop of 10,233.
- Overall, the Central Region has a net migration of 7,633.

Eastern Region

- All of the counties in the Eastern Region have populations less than 100,000. Wicomico County has the highest population in this region at 98,700.
- Kent County's population (20,200) is the lowest among all of the jurisdictions in Maryland.
- Somerset County in the Eastern Region has the lowest median income in the State.
- Except for Queen Anne's County, median income in all other counties is less the than the Maryland State median income of $70,075.
- Except for Dorchester and Worcester Counties all of the other counties in the Eastern Region have a net migration that is positive, meaning more people are moving into the counties than moving out.

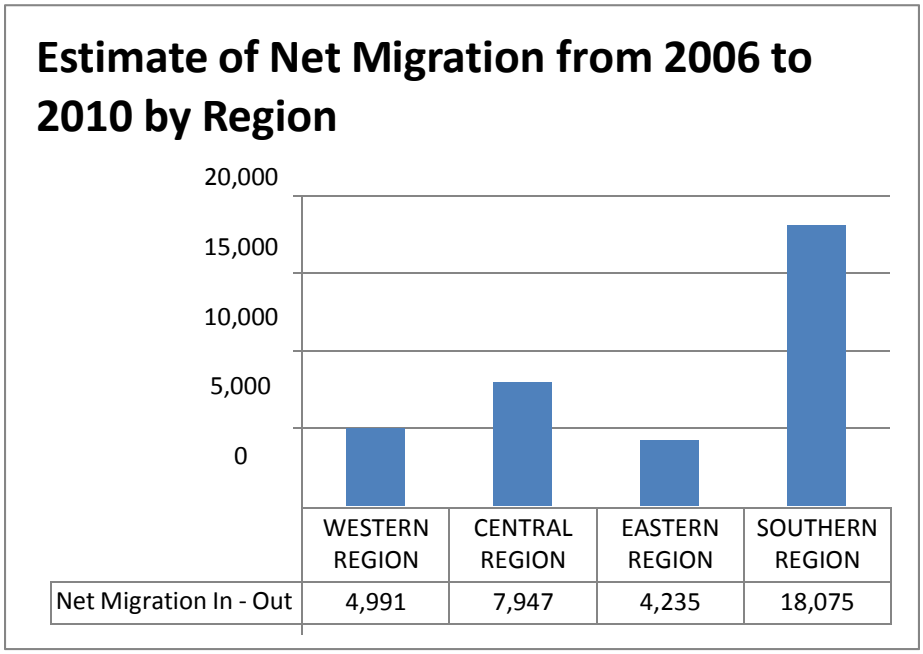
Southern Region

- Two of the five counties in the Southern Region have a population greater than 500,000. Prince George's County has the highest population in the region and the second highest among all jurisdictions in Maryland.
- The median income in all the counties in the Southern Region is higher than the median income in Maryland.
- Anne Arundel County has the second highest net-migration among all of the jurisdictions in the State, with most of the in-migration coming from Baltimore City and Prince George's County.
- A majority of the population gains in Prince George's county is in-migration from Montgomery County.
- Charles County gains a lot of in-migration from Prince George's County.
- Overall, the Southern Region has a net migration of 18,075.

Migration Flow by County and Region

The total net migration per region is shown on ***Figure 16***. At 18,075, the Southern Region saw the greatest net in-migration from 2006 to 2010. The Eastern Region saw the smallest net in-migration (4,235).

Figure 16: Net Migration by Region from 2006 to 2010



Source: U.S. Census American Community Survey 2006 – 2010

Demographics Summary

Demographic information and trends have been used to supplement data gathered through the public engagement and GIS inventory and analysis to inform the overall strategies for the ***Maryland Land Preservation and Recreation Plan***. Using population projections, migration patterns, age, income, and ethnic diversity information contributes to future priority setting, decision making, and resource allocation for land and water resource protection and outdoor recreation.

D. Trends Analysis

The following information highlights relevant outdoor recreation trends from various sources that inform the focus and recommendations of the ***Maryland Land Preservation and Recreation Plan***.

National Outdoor Recreation Trends

Each year, the Outdoor Foundation releases a "Participation in Outdoor Recreation[8]" report. According to the 2012 report, while there continues to be fallout from the recent economic downturn, outdoor recreation reached the highest participation level in five years in 2011. The Outdoor Foundation's research brought the following key findings.

Return to Nature: Nearly 50 percent of Americans ages six and older participated in outdoor recreation in 2011. That is a slight increase from 2010 and equates to a total of 141.1 million Americans.

[8] "Outdoor Recreation Participation Report 2012", Outdoor Foundation, 2012.

Accessibility is Important Factor: Activities that are affordable and accessible (Gateway Activities) have a contagious effect. Eighty-seven percent (87%) of hikers participate in one or more other activities. People with biking routes near their home get outdoors at a rate of 58 percent compared to a rate of 47 percent for those without easy access to biking routes.

First Time Participants: Activities with the highest percentage of first time participants in 2011 included stand up paddling, triathlons, freshwater fishing, and adventure racing.

Preservation of Land: The majority of Americans agree that preserving undeveloped land for outdoor recreation is important**.** A large percentage of outdoor participants also believe that developing local parks and hiking and walking trails is important and that there should be more outdoor education and activities during the school day.

The Outdoor Foundation reports that the top outdoor activities in 2012 were running, fishing, bicycling, camping, and hiking. Bird watching is also among the favorite outdoor activities by frequency of participation.

Outdoor recreation trends are also a recurring topic of study by the United States Forest Service through the Internet Research Information Series (IRIS). An IRIS report dated January 2012[9] provided the following nature-based outdoor recreation trends:

- Participation in walking for pleasure and family gatherings outdoors were the two most popular activities for the U.S. population as a whole.
- These outdoor activities were followed in popularity by swimming, sightseeing, viewing/photographing wildlife and wild birds, picnicking, boating, bicycling, fishing, snow/ice activities, and developed or primitive camping.
- There has been a growing momentum in participation in sightseeing, birding, and wildlife watching in recent years.

[9] "Recent Outdoor Recreation Trends", USDA Forest Service Internet Research Information Series (IRIS) Research Brief, January 2012, http://warnell.forestry.uga.edu/nrrt/nsre/IRISRec/IRISRec23rpt.pdf, accessed August, 2012.

Water Recreation Trends

Recreational boating is an extremely popular activity in Maryland, and public access to the water has become a statewide priority. In a statewide survey designed to identify participation rates in over 83 recreational activities during 2002, power boating was ranked as the 12th highest statewide and participation was substantially higher in Southern Maryland (8th) and the Eastern Shore (7th).

Passive boating such as canoeing, kayaking, and sailing also attracted significant participation among Marylanders. Boaters traveling from neighboring states are thought to increase the numbers of those recreating on Maryland waterways substantially.

The *National Outdoor Recreation Participation Report* for 2012, produced by the Outdoor Recreation Foundation, states that participation in recreational paddling/kayaking grew by 32 percent over the past three years and by 27 percent in the past year. The report also found that almost 60 percent of stand-up paddling participants tried the activity for the first time in 2011, and participation in the sport grew by 18 percent nationwide. The increased interest in non-motorized boating and paddle craft has resulted in an increased demand for public access sites that accommodate these types of vessels in Maryland.

It is estimated that recreational boating and marine-related industry contribute approximately $2.41 billion to Maryland's economy every year. The Maryland Tourism Development Board and the Department of Business and Economic Development report that in 2011, visitor spending on tourism involving recreation and entertainment was approximately $1.2 million, an increase of 8.5 percent from 2010.

Throughout the public participation process for the ***Maryland Land Preservation and Recreation Plan***, water quality and conservation, access to water for boating, fishing, and swimming, and land acquisition for watershed protection were high priorities for Marylanders.

Winter Recreation Trends

While winter sports participation takes place largely in the mountain region of Western Maryland, particularly Garrett County, it is useful to understand national trends in winter recreation. In a 2012 report, Snow Sports Industries America (SIA) uncovered the following snow sports participation habits:

- Six-point-nine percent (6.9%) of the total U.S. population (+6 years old) participates in at least one snow sport discipline.
- Alpine skiers (44%) and snowboarders (31%) make-up three-fourths of all participants.
- Participation in snow sports is becoming more diverse, with minority ethnic groups making up over 25 percent of all participants.

The Outdoor Foundation's *Topline Outdoor Recreation Report* for 2012[10] reflects a three-year increase in participation (from 2009 to 2011) in cross-country skiing (12.2%) and snowshoeing (40%). According to Global Industry Analysts, Inc., the snowmobiling industry has recovered from the recession and registered positive growth in 2011.

In the random survey, resident participation in winter recreation included sledding/snow play (36% of respondents), downhill skiing/snowboarding (17% of respondents), cross country skiing/snowshoeing (6% of respondents), and snowmobiling (4% of respondents).

Demographic Trends

Baby Boomer Trends – Planning for the Demographic Shift

The Baby Boomer age group exhibits characteristics of approaching retirement or already retired and typically enjoying grandchildren. In the book Leisure Programming for Baby Boomers[11], several trends related to this population are identified:

- Baby Boomers are a generation that consists of nearly 76 million Americans.
- Beginning in 2011, this influential population began their transition out of the workforce.
- As Baby Boomers enter retirement, they will be looking for opportunities in fitness, sports, outdoors, arts and cultural events, and other activities that suit their lifestyles.
- With their varied life experiences, values, and expectations, Baby Boomers are predicted to redefine the meaning of recreation and leisure programming for mature adults.

Active Seniors

According to the U.S. Census Bureau, current national population projections suggest that this group, aged 65 and older, will grow almost 70 percent in the next 13 years. Outdoor recreation planners and providers will need to be responsive to a more active, older population that seeks adventure in its outdoor experiences. Key trends for advancing this public health related agenda include:

- Active transportation and lifestyle programs, policy, and funding are getting recognition in communities across the country.
- Exercise walking, camping, and swimming are among the top ten athletic activities ranked by total participation.
- Trails, parks, and playgrounds are among the five most important community amenities considered when selecting a home.
- The majority of Americans agree that preserving undeveloped land for outdoor recreation is important and that there should be more outdoor education activities during the school day.
- Adventure racing, slack lines in parks, mountain bicycling, rock and ice climbing, trail running, and kayaking are growing in popularity nationwide.
- Geocaching, letterboxing, Segways for access to recreation, and tree top zip lines are recognized outdoor recreation activities.

[10] "Outdoor Recreation Participation Report 2012", Outdoor Foundation, 2012

[11] Cochran, Lynda J., Rothschadl, Anne M., and Ruddick, Jodi L. Leisure Programming For Baby Boomers, Human Kinetics, 2009.

Youth Participation in Outdoor Recreation

In his book Last Child in the Woods: Saving Children from Nature Deficit Disorder[12], Richard Louv introduced the concept of restorative nature, highlighting the profound impact of the natural world on both children and adults. This concept, and research in support of it, has led to a growing movement promoting connections with nature in daily life. Related trends in youth participation in outdoor recreation are outlined below:

- **Downward Trend Reversed**: For the first time since 2006, the downward trend of participation in outdoor sports among young boys has reversed to the upward direction. Female teenager participation has grown to the highest rate recorded in the Outdoor Foundation's annual reports.
- **The Influence of Family:** Most youth are introduced to outdoor activities by parents, friends, family, and relatives.
- **Physical education in schools**: The importance of physical education in the school curriculum cannot be overstated. Among adults ages 18 and older who are current outdoor participants, 82 percent say they had PE in school between the ages of 6 and 12.
- Among youth ages 6 to17, bicycling is the most popular outdoor activity.

Environmental Literacy Programming

Noted as early as 2003 in *Recreation Management* magazine, park agencies have been seeing an increase in environmental-oriented "back to nature" programs. In 2007, the National Recreation and Park Association (NRPA) sent out a survey[13] to member agencies in order to learn more about the programs and facilities that public park and recreation agencies provide to connect children and their families with nature. The most common programs include:

- Nature hikes
- Nature-oriented arts and crafts
- Fishing-related events
- Nature-based education in cooperation with local schools

The growth of these programs is thought to come from replacing grandparents as the teacher about the "great outdoors." It is also speculated that a return to natural roots and renewed interest in life's basic elements was spurred as a response to September 11, 2001.[14]

[12] Richard Louv, Last Child in the Woods: Saving Children from Nature Deficit Disorder, Algonquin Books of Chapel Hill, North Carolina, 2005.

[13] National Recreation and Parks Association (NRPA), "NRPA Completes Agency Survey Regarding Children and Nature," www.narrp.org/assets/Library/Children_in_Nature/nrpa_survey_regarding_children_and_nature_2007.pdf, April 2007.

[14] Ahrweile, Margaret, "Call of the Wild – From Beautiful Blossoms to Bugs and Guts, Nature Programs are Growing as People Return to Their Roots" *Recreation Management* magazine, http://recmanagement.com/200310fe04.php, October 2003.

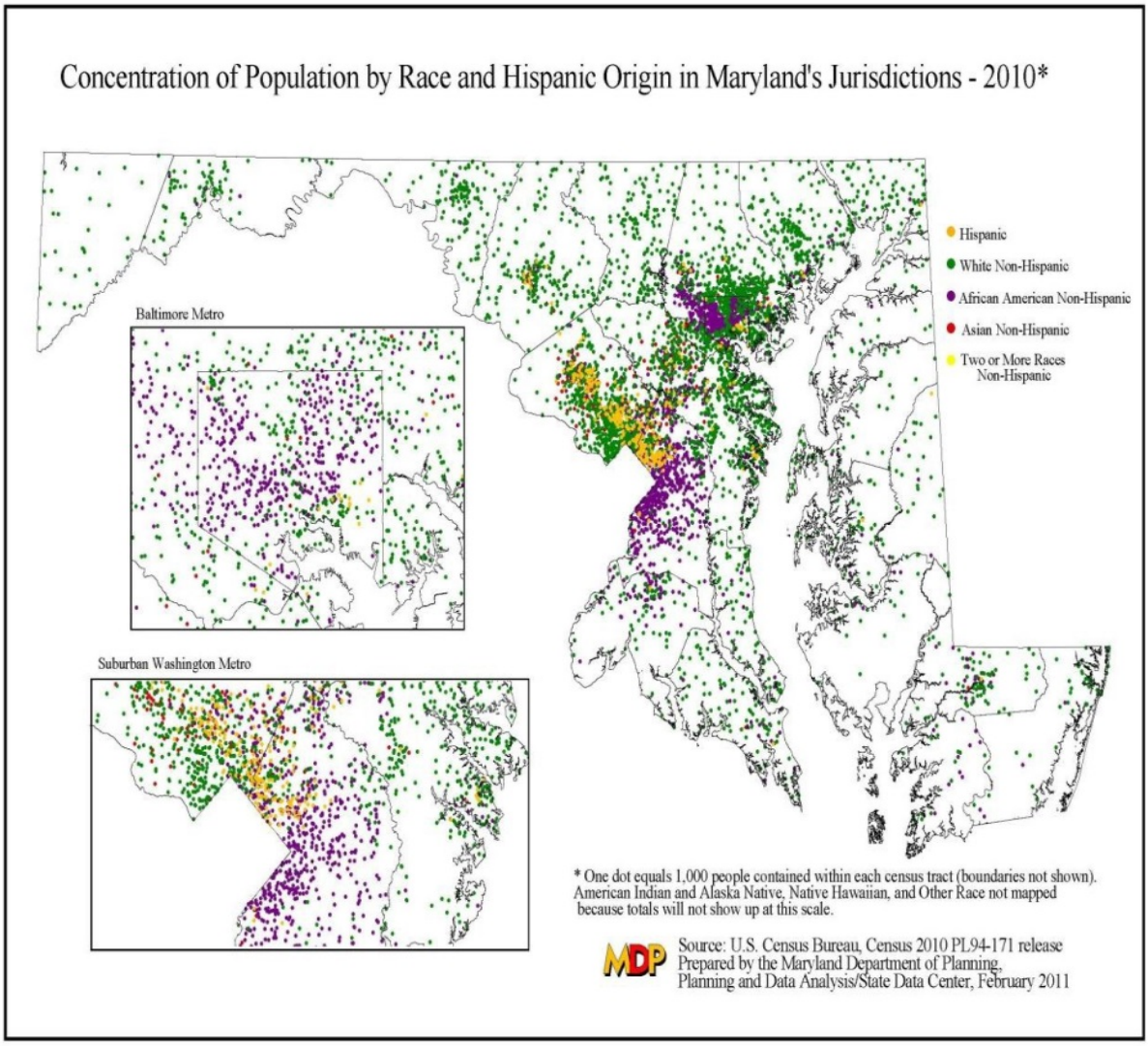
Diversity in Outdoor Recreation Participation

More than ever, recreation, natural resource, and park professionals will be expected to work with, and have significant knowledge and understanding of, individuals from many cultural, racial, and ethnic backgrounds. Additional observations related to multicultural recreation participation:

> "The Parks and People Foundation is honored to work in partnership with the Department of Natural Resources to implement Maryland's Civic Justice Corps program. Taking young people from around the state who are at risk and connecting them to nature in State Parks, teaching them job skills, and helping them to restore our natural resources is important work that benefits not only those enrolled in the program, but every citizen in Maryland."
>
> *Jacqueline M. Carrera*
> *CEO & President*

- **Outdoor Participation Varies by Ethnicity**: Participation in outdoor activities is higher among Caucasians than any other ethnicity and lowest among African Americans in nearly all age groups.
- **Minority Youth More Focused on School:** Minority youth participants cite school work as the top reason they do not get out more often – a barrier they cite more prominently than Caucasian youth.
- **Hispanics Looking for Nearby Outdoor Recreation:** Hispanic participants and nonparticipants alike cite a lack of access to nearby places to participate in outdoor activities as a barrier to participation more often than other ethnicities.
- **The U.S. Hispanic Population has Grown:** From 14.6 million in 1980 to nearly 52 million as of 2011 (U.S. Census 2010). Maryland's Hispanic population has experienced astonishing growth between 2000 and 2012. ***Figure 17*** shows the concentration of Maryland's diverse population in a map prepared by the Maryland Department of Planning using U.S. 2010 Census Bureau data.

Figure 17: Concentration of Population in Maryland



Source: Maryland Department of Planning

Health Trends

Chronic diseases such as heart disease, cancer, and diabetes are the leading causes of death, disability, and health care costs in Maryland. Eliminating the three risk factors of smoking, poor eating habits, and physical inactivity would prevent 80 percent of heart disease and stroke, 80 percent of Type 2 diabetes, and 40 percent of cancers.[15] In 2006, Maryland's Department of Health and Mental Hygiene developed a ten-year *Nutrition and Physical Activity Plan*. The goal of the plan is to encourage the citizens of Maryland to adopt and maintain healthy eating habits and lead physically active lifestyles to prolong the length and quality of life.

[15] Shell, Donald, Director, Cancer and Chronic Disease Bureau, Prevention and Health Promotion Administration, Maryland Dept. of Health and Mental Hygiene, Presentation "What is a Healthy Community?", Maryland Healthy Eating and Active Lifestyle Coalition Spring 2013 Meeting, May 7, 2013.

Heritage Tourism Trends

The National Trust for Historic Preservation defines heritage tourism as "traveling to experience the places, artifacts, and activities that authentically represent the stories and people of the past." Maryland's Executive Order 13287 defines heritage tourism as "*…the business and practice of attracting and accommodating visitors to a place or area based especially on the unique or special aspects of that locale's history, landscape, and culture.*" Studies have consistently shown that heritage travelers stay longer and spend more money than other kinds of travelers.

The United Health Foundation has ranked Maryland 19th in its 2012 *State Health Rankings*, up from 24th in 2010. The State's biggest strengths include:

- Low percentage of children in poverty
- Low prevalence of smoking
- Ready availability of primary care physicians

Some of the challenges the State faces include:

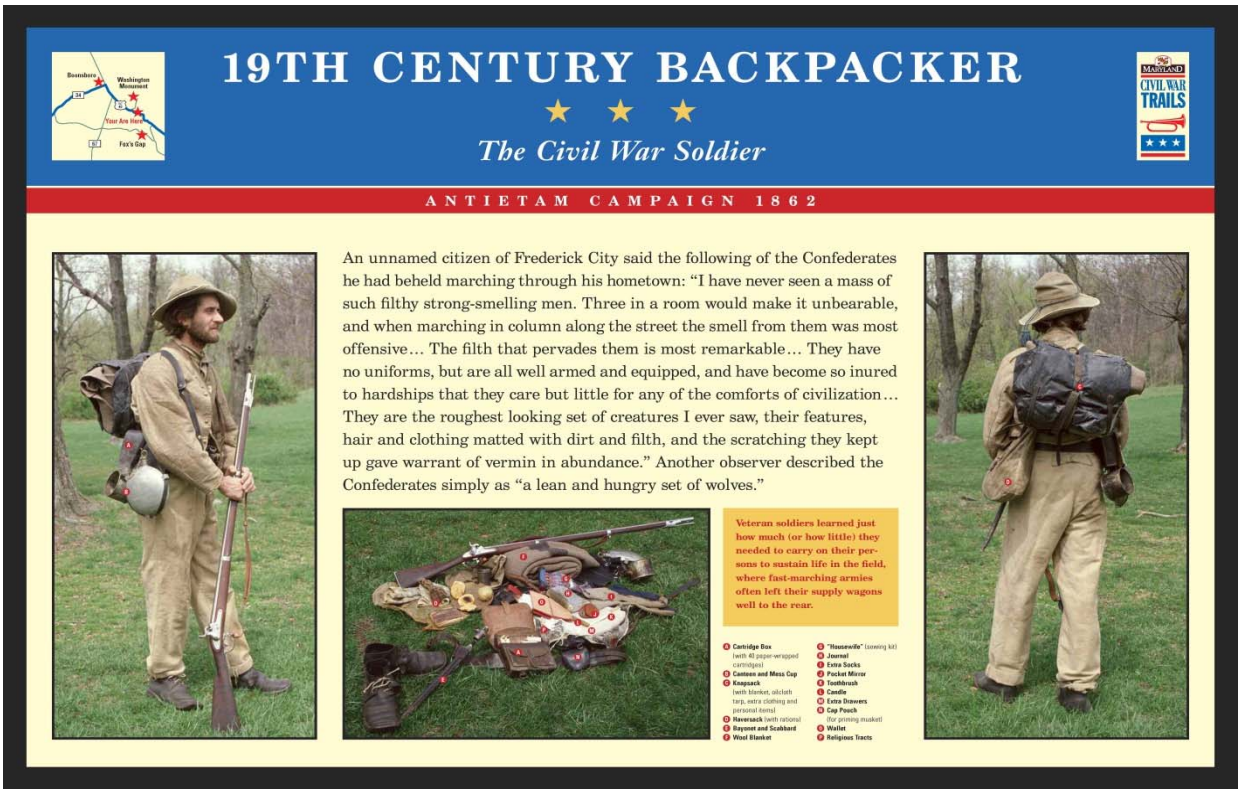
- High levels of air pollution
- High prevalence of low birth weight and high infant mortality rate
- High violent crime rate

NOTE: Maryland's air quality ranked 40th in air quality nationwide two years in a row.

For many communities in Maryland, heritage tourism is an important economic development tool.

A successful heritage tourism program requires a strong stewardship component. Conservation of the irreplaceable cultural, historical, and natural resources that make a place appealing to the heritage traveler is necessary for heritage tourism to thrive. Collaboration between cultural and natural resource interests is also critical.

During 2011, 34.4 million domestic travelers visited Maryland, an increase of 6.8 percent over the previous year. These visitors spent more than $14.3 billion on travel-related expenses in 2011, while generating close to $2 billion in state and local taxes, and providing more than 130,000 jobs for Marylanders. Due to proximity to major population centers, the drive market is the primary market for Maryland. Scenic Byways are one of the primary marketing tools utilized by the Maryland Office of Tourism Development in partnership with the Maryland State Highway Administration.



Programs like the Maryland Heritage Areas Program, administered by the Maryland Historical Trust, and the Scenic Byways Program, led by the State Highway Administration, are examples of how tourism and conservation goals can be mutually supportive.

Today, tourism, land preservation, heritage, and culture are much more likely to overlap. For example, the Maryland Heritage Area Authority, which is administered by the Maryland Historical Trust and the Maryland Department of Planning and funded by Maryland Department of Natural Resources Program Open Space, supports and collaborates with local agencies to advance heritage tourism.

The ***Maryland Land Preservation and Recreation Plan*** telephone survey finding that visiting historic sites is the most popular outdoor recreation activity in Maryland – tied only with walking – is remarkable. Clearly, Marylanders value and enjoy these types of experiences. This finding speaks to the need for state and local government to prioritize funding of outdoor recreation opportunities that incorporate both cultural and natural resource experiences for Marylanders and visitors.

> The majority of Maryland residents (78%) would like to see the DNR pursue an emphasis that focused on a balance between natural resource preservation/protection and providing outdoor recreation in natural settings.
>
> *2013 Maryland Land Preservation and Recreation Survey Report*

Climate Change Trends and Impacts on Outdoor Recreation & Natural Resources

An extensive discussion on climate change is provided in ***Chapter 5: Land Protection & Conservation***. However, a brief mention of the potential impacts of climate change on outdoor recreation, natural resources, and public safety may help raise awareness of this issue. Consideration must be given to outdoor recreation facility siting; storm event preparedness; energy conservation measures; water, forest, and farm management practices; and public information systems. The following conditions resulting from climate change have the potential to negatively impact the Maryland outdoor recreation experience:

- Erosion Vulnerability
- Wetland Adaptation Areas
- Storm Surge Risk
- Drought Hazard Risk
- Wildfire Priority Risk
- Loss of High Quality Cold Water Resources
- 100 and 500-Year Floodplain
- Coastal Flooding

E. Accessibility and Equity

Understanding demand for outdoor recreation provides DNR, counties, and local communities with guidance in policy development and planning for the future needs of Maryland's citizens and visitors. A collaborative approach among social service professionals, public health practitioners, educators and state, county, and local officials is essential to providing all Maryland with access to public lands and water resources.

Americans with Disabilities Act (ADA) – Compliance

On September 14, 2010 the U.S. Department of Justice (DOJ) issued amended regulations for implementing the Americans with Disabilities Act (ADA 2010 Standards). On March 15, 2011 the amended Act became effective and, for the first time in history, includes public recreational facility and amenity design and construction requirement. Compliance with the regulations became effective March 15, 2012. This includes the development of a three-year transition plan. By March 15, 2015, implementation of the three-year transition plan must be complete.

The DNR is continually working to expand opportunities for people with disabilities to enjoy Maryland's great outdoors. For example, the DNR recently completed a multiple year project at Martinak State Park that enhanced access to camping, fishing, picnic areas, park amphitheater, information kiosks, a fitness trail, and boat ramp for park visitors with disabilities. More information on accessible facilities and programs at DNR managed properties can be found online at DNR's "Access for All"[16] website.

[16] http://www.dnr.state.md.us/publiclands/accessforall.asp

Maryland's Park Equity Analysis Tool

The Park Equity Analysis provides a quantitative and statewide analysis to increase the access of public lands for children of unserved communities. For these purposes, unserved communities are those communities that have little to no access to nature and open space. The analysis is built upon the U.S. Census Data combined with statewide layers identifying public and local parks. The model prioritizes unserved areas of Maryland in need of park space by identifying areas with:

- High concentration of children under the age of 16
- High concentration of populations below the poverty line
- High population density
- Low access to public park space