# The Economic Importance of Recreation Funding on Central Oregon's National Forests DESCHUTES AND OCHOCO NATIONAL FORESTS

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For over 45 years ECONorthwest has helped its clients make sound decisions based on rigorous economic, planning, and financial analysis. For more information about ECONorthwest: www.econw.com.

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## **Executive Summary**



The Deschutes National Forest (DNF) and the Ochoco National Forest (ONF) support an extensive network of over 2,000 miles of trails and 300 other developed recreation sites, including campgrounds, that provide opportunities for a wide range of outdoor recreation activities to residents and visitors alike, near the communities of Central Oregon (Figure ES- 1).

These amenities and opportunities supported by the DNF and the ONF host over 2 million trips for recreational activities each year, and this number is expected to grow to over 3 million trips per year by 2040. Recreational infrastructure on the two national forests is an essential driver of the vitality and resilience of the Central Oregon economy and community, benefiting Deschutes County in particular. Demand from residents and visitors continues to grow rapidly, while the development and maintenance budget for the two forests cannot keep pace. Timber harvest revenue and federal appropriations historically provided a financial basis to support the full range of uses on national forests, but they can no longer be relied upon. Volunteers provide a central and critical role in the creation, maintenance, and improvement of the recreation infrastructure, with over 60,000 hours contributed annually. But there are limits to the roles and capital requirements volunteer hours can address.







This report compiles the best available information on the state of the recreation infrastructure on the DNF and the ONF from a supply perspective, as well as the uses and users from a demand perspective.

In conjunction, this information supports analysis of the benefits, spending, and economic impacts of recreation in both forests for the regional community and businesses. It also helps to highlight where and how investment is needed to keep pace with growing demand, considering the priorities of local private and public stakeholders, and the kinds of funding mechanisms that may be used to capture the variety of benefits generated by beneficiary type and geography.



Figure ES- 2. Trail Miles by Activity Type, ONF

Note that managed is the primary use designation for a trail, and acceptable includes other uses that are allowed on a particular trail but not necessarily intended or a factor in design and management.

Both forests differ in the types of recreational opportunities they supply and the types of demand they cater to. Compared to the DNF, the ONF provides less developed recreational opportunities. It has fewer miles of trails and campgrounds compared to the DNF and primarily attracts dispersed use. Trail-based activities are popular on both forests but ONF primarily caters to hikers and equestrian users while the DNF serves a growing community of local and non-local mountain bikers. The DNF also supplies more opportunities for snow-based activities to visitors due to its higher elevation and greater snowfall patterns along with motor-based trail use. Both forests provide recreational opportunities to communities within 60-minute drivetimes. While the DNF is very close to Bend, Sunriver, Sisters, and LaPine as well as Crescent, parts of the ONF such as the Crooked River National Grasslands are close to Madras and Prineville.



Figure ES- 3. Trail-Based Trips on ONF, 2021

Note: Calculations based on forecast from 2018 survey data. Snow-based includes non-motorized trail-related snow activities and does not include downhill skiing.



Figure ES- 4. Trail Miles per Thousand Trips, ONF



Trails on both forests are generally categorized by their primary managed use as well as other activities that are accepted (as opposed to restricted or discouraged uses). Hiking has the most total miles available in terms of total accessible trail miles, although trail miles are most often "managed for" horseback riders (Figure ES- 2). The practice of designing for a particular use reflects the design parameters (i.e., trail clearing width or overhead clearance) necessary for a particular use and is not intended to prioritize that use over others. Equestrian users face particularly high challenges due to sharing trails with others. Their use of trails may be constrained by limited parking capacity for trailers at busy sites and encounters with trail users unfamiliar with stock. Hiking is the most common trail-based trip on the DNF and the ONF, followed by biking on the DNF and motor-based use on the ONF (Figure ES- 3). When considering the proportion of trail miles by activity type to annual trips for that activity type, hiking and pedestrian trail activities see the scarcest supply of primary dedicated trail availability on both forests (Figure ES- 4). High abundance of a particular trail type relative to demand provides an economic opportunity for the region, to utilize and support economic development and tourism. Low abundance of a particular trail type relative to demand can identify areas of future investment need.







Campgrounds are an important recreation resource in both forests that enable visitors to spend multiple days on the forests and engage in a variety of recreation activities.

The DNF has a very well-developed network of campgrounds that can host approximately 12,550 campers and 2,300 cars at a time while the ONF has relatively smaller capacity of 626 campers and 126 cars at a time. Both forests have campgrounds concentrated near heavily-used highways for easy access to visitors.

These recreational trips on the DNF and the ONF provide direct benefit, or "surplus" value to recreational visitors. We can estimate the surplus value based on the difference between the cost of the trip in terms of expenses including travel and time, and the benefits in terms of how much a user might be willing to pay for such an experience.



In total, this calculation finds approximately **\$223 million** and **\$12 million** in annual benefit to users from direct participation in the recreational activities on the DNF and the ONF respectively (Figure ES- 6).

Both forests provide the highest benefits to visitors through trail-based recreation opportunities. While the DNF also provides benefit to visitors through downhill skiing and non-motorized water-based recreation opportunities, the ONF provides benefits particularly through hunting, fishing, and gathering of forest products and camping. Based on data from surveys of visitors to the two forests in terms of the frequency and type of activity, we can see the breakdown between local<sup>1</sup> and non-local visitors. Based on trip types and trip lengths, locals are responsible for approximately 60% of the recreational trips in both forests. At the same time, non-locals spend more in total than locals do on these trips, for a total across locals and nonlocals of \$223 and \$12 million in recreational spending annually on the DNF and ONF respectively.

But these trip-specific expenditures and impacts do not fully capture the local impact on the economy. Many businesses, entrepreneurs, skilled workers, and others choose to locate, live, work, and play in Central Oregon in part because of the opportunities and amenities offered and accessed by the recreation infrastructure on the two national forests.



These expenditures support over 2,000 jobs in Central Oregon and engage several industry sectors.

<sup>&</sup>lt;sup>1</sup>Local visitors to the DNF are defined as residents of Deschutes County while local visitors to the ONF are defined as residents of Crook, Deschutes, Jefferson, and Wheeler County.









Although residents of Crook, Jefferson, and Wheeler Counties recreate in the ONF and the DNF, Deschutes County residents are the primary local beneficiaries of recreation infrastructure in both national forests. Residents around the ONF prefer dispersed recreation activities like pack and saddle trips and tend to visit state parks such as Lake Billy Chinook for recreation. Not only do Deschutes County residents frequently recreate in both forests, the developed recreation and tourism industry in the county enables non-local visitors from around Oregon to also visit and recreate in the two forests. As such, both consumer surplus from recreational visits and economic benefits of non-local visitation to the region are concentrated in Deschutes County.

The local and non-local visitation to the two forests impose costs on the recreational infrastructure in the forests and on surrounding communities who facilitate this visitation. While both forests have developed recreation infrastructure detailed above, the relative magnitude of the infrastructure network and the higher recreation demand on the DNF mean higher costs of maintenance relative to the ONF. Interviews with public and private local stakeholders revealed that communities around the forests experience wear and tear on their infrastructure particularly transportation routes and feel like they have fewer opportunities for recreation due to competition with non-local visitors. Community members were also concerned about the growing number of houseless individuals who camp on national forest land and can impose additional costs on emergency services and sanitation services of the local jurisdictions.

Higher user fees could potentially be utilized to capture a greater portion of the consumer surplus generated for visitors to the national forests and the resulting revenue can be used to fund this growing cost of maintenance for the recreational infrastructure on national forests and surrounding communities. However, complex administrative processes for changes to existing user fees or introduction of new user fees combined with equity implications of who can pay and access public lands has made user fees a less than ideal source of revenue. Programs like \$ for Trails that instead ask visitors to local businesses like hotels and restaurants to contribute \$1 per transaction to support local trails can capture some of this consumer surplus instead.

Like the \$ for trails program, transient lodging taxes (TLT) also capture some of this consumer surplus. The tax which is levied on local lodging businesses can then be passed onto to end consumers who tend to be non-local visitors to the region. The use of TLTs is however limited by legislation and by mixed local opinions on where and what kinds of projects TLT revenues should fund. Legally, TLT revenues must be dedicated towards tourism promotion through marketing and towards tourism infrastructure facilities that are very narrowly defined. Local opinions also differ in whether TLT revenues should be used to improve or maintain USFS recreational infrastructure that lies outside of the jurisdiction in which the revenues are generated. Deschutes County has been developing sources of funding through transient lodging tax (TLT) revenues and the Bend Sustainability Fund to support some of these costs on the DNF but the ONF which is also frequented by Deschutes County residents does not enjoy similar sources or magnitude of revenue.

Interviewees acknowledged the challenges of capacity and limited resources faced by USFS and would like to find new ways of collaborating to improve outcomes. Stakeholders like the Upper

Deschutes Watershed Council and Bend Parks and Recreation District are currently partnering for riparian restoration and trail and river access improvements along the Deschutes River, utilizing pooled funding from multiple public and private sources including the Bend Sustainability Fund. There is potential for the USFS to also collaborate with local stakeholders to maintain and develop its recreational infrastructure.



Collectively such efforts and others, capturing the full range of users and beneficiaries, will need to be harnessed for the recreation amenities on both forests to continue to provide the high level of services and benefits. While long-term trends in the West show rural communities losing population and jobs to major cities, Central Oregon has seen the opposite trend. Investing in the engines that drive the region's economic prosperity and vitality will be critical as past funding sources are no longer capable. The information in this report provides a basis for identifying the beneficiaries in terms of users, communities, and businesses. And these beneficiaries can provide the foundation to build a long-term, resilient funding strategy. The communities of Central Oregon must fully partner with the USFS for funding and management to maintain a resilient recreational infrastructure system that achieves its potential in terms of meeting the growing needs in a sustainable manner.



## 1. Introduction

## Report Overview and Motivation

Recreation is one of the most valuable resources provided by public lands in Central Oregon. Access to the incredible natural amenities of the region is a major factor in the quality of life for the area, directly benefiting residents and visitors alike, but also playing a key role in decisions by businesses to locate in the region and driving business opportunities. The Deschutes National Forest (DNF) and the Ochoco National Forest (ONF) are the centerpieces of Central Oregon's identity, home to the mountains, rivers, lakes, and forests that draw so many residents, visitors, and businesses. Key to providing access to these amenities and opportunities are the forests' recreation infrastructure systems which includes thousands of miles of trails and non-trail based recreation facilities. While the forests hosts some of the most impressive and valuable recreation facilities and trails in the country, they are under stress. Demand from residents and visitors continues to grow rapidly, while the budget for the DNF and the ONF is continually spread thin. There are challenges to pay for basic maintenance of the recreation infrastructure, let alone the improvements necessary to support growing populations, and provide a more equitable and sustainable trail experience. Volunteers provide a central and critical role in the maintenance and improvement of the DNF and ONF recreation infrastructure, with over 60,000 hours contributed annually.





Source: ECONorthwest with data provided by Oregon Department of Forestry.

This report provides a detailed analysis of the recreation infrastructure on the two forests, the value they provide, the economic contributions they make to the regional economy, and what they will need to continue to resiliently serve the community and visitors in an equitable manner. There is currently a gap in the funding and support needed to maintain and improve the recreation infrastructure and the resources available. The primary resource needs are financial, although staff and volunteer support are needed as well, as general project implementation capacity within the USFS is constrained. This study finds that the value the recreational infrastructure contributes far outsizes these costs. Whereas timber harvest revenue historically supported recreation investments on public forests across Oregon, reduced harvests over the past several decades means this revenue source can no longer be relied upon to fund

the forests' recreation infrastructure maintenance needs (Exhibit 1). And while reduced harvests provide more space for recreation, they also necessitate that beneficiaries of the national forest take a more direct role in providing this valuable resource.

Statewide resident and national non-resident surveys show that environmental quality, natural amenities, and access to nature are some of the characteristics that Oregonians most appreciate about their state, and that non-residents see as fundamental to the image of Oregon.<sup>2</sup> Wisely managing and making access more equitable are key responsibilities for the DNF and ONF recreation system moving forward.

## Study Area and Scope

This study focuses on the trail-based and non-trail-based recreational amenities and resources of the Deschutes and Ochoco National Forests. We begin with an overview of the recreational infrastructure focused on the activities they support and the communities they serve. This is followed by an evaluation of the demand and use of this infrastructure, the benefits to recreational visitors, and the regional economic impact of recreation-based trips. We then proceed to analyze and forecast the costs of providing and maintaining this recreational infrastructure, and the contributions users are already providing. We supplement our analysis of regional economic benefits generated by the two forests through interviews with local public and private stakeholders about their priorities for the two forests. Finally, we consider different funding mechanisms that may add to the Forest Service's federal appropriations to close the gap between the infrastructure maintenance needs and funding on the Deschutes and Ochoco National Forests.

The following research questions addressed in this study are relevant for the key issues facing the Forest Service, program partners, and potential participants both in terms of businesses and customers.

- What does the recreational infrastructure on the DNF and ONF supply in terms of valuable outdoor recreation opportunities and forest access? What is the extent and accessibility of this infrastructure?
- What is the trail-based and non-trail based recreational usage pattern for the DNF and the ONF? How much use does the system currently support? Where is demand greatest relative to available amenities in terms of geography and type of recreational activity?
- What is the user population for the recreational infrastructure network? How is it expected to grow over time?
- What is the expected level of demand on the recreational infrastructure in coming years? What is the value of this use, the spending associated with this usage, and the broader economic impact for the regional economy of this usage, including businesses?

<sup>&</sup>lt;sup>2</sup> DHM Research. 2013. Oregon Values and Beliefs Surveys. Available: <u>http://oregonvaluesproject.org/findings/top-findings/</u>.

- What is the current funding and effort that supports this trail network? Where does the funding originate and how much do users pay? What additional funding will be needed in the future?
- What additional funding pathways can help the Forest Service maintain the recreational infrastructure that generates benefits outside of recreational visitors to the forests?

Collectively, this information is intended to support decision-making both in terms of why the DNF and ONF recreational infrastructure should receive broader support from the communities that benefit from this resource, but also how those investments can be targeted to provide the most value to users, local businesses, the regional community, and the economy as a whole.

## 2. Supply of Recreation Opportunities

The DNF hosts approximately 2,190 miles of trails, 252 sites for recreational activities, and support facilities including over 300 toilets across 1.6 million acres. The ONF has a smaller trail network with 320 miles of trails and 97 sites for recreational activities. Since the ONF is at a lower elevation and receives less snowfall than the DNF, the two forests differ in the kinds of trail and non-trail-based recreation opportunities they offer.

## Trail Infrastructure

Trail miles are managed for a variety of uses throughout the year, along with facilities to access and support trail usage. Trails that are "managed" for a particular use are designed to accommodate that use seasonally or year around. Trails that are "acceptable" for a particular use are generally suitable for that use, and the use is permitted, but the trail isn't designed or maintained for that use.





Hiking trails in the DNF and hiker/pedestrian trails in the ONF rank highest in total managed and acceptable trail miles across activities. Although snow-based trails in ONF have greater official mileage compared to hiker/pedestrian trails, the reliance on sufficient snowfall in the region limits the use of snow-based trails. Packsaddle (horseback riding/equestrian) trails have the most managed trail miles for both forests (Exhibit 3). All trail miles generally receive some level of inspection and maintenance effort annually, particularly for managed uses. Removal of fallen trees from the trail is the most common maintenance activity while brushing and drainage work occur less often and are completed to the extent needed. Although nearly all trail miles are managed for one particular use to comply with a primary design parameter, most trail miles are expected to cater to multiple uses. The use patterns set by various trail user types on shared-use trails do not always mirror the managed use. For example, a trail may be managed for equestrian use but, because it is a shared-use trail, the volume of mountain bike trail use may shift and exceed that of equestrians, therefore dissuading use by equestrians to avoid user conflicts.





Note: Mileage of snow-based trails does not reflect actual usable trails that depend on the variable snowfall patterns

An important question for evaluation is how these trail miles align with demand, both geographically and by use levels. And it is important to consider how this usage and demand is expected to change over time to develop and maintain a sustainable and equitable trail network.

The geographic distribution of trails on the DNF and the ONF with their accessibility for various communities is a relevant factor when considering the overall usefulness, value, equity, and needs of the trail network. Just as the trail network generally provides good coverage and access across the DNF, the forest is relatively accessible from all the surrounding communities by the region's road system.<sup>3</sup> For example, most of the DNF trail network in terms of nearest road access is within 60-minute drivetime from Bend. Similarly, the Crooked River National Grassland region of the ONF lies within a 60-minute drivetime from nearby communities of Madras and Prineville (Exhibit 4). There are regions on the ONF with dense trail networks that lie outside the 60-minute drivetime from these communities but a large share of these trails are managed for equestrian use. For all groups, the availability of close-to-home trails is particularly important for frequent trips, opportunities to reduce vehicle traffic, road congestion, and emissions.

<sup>&</sup>lt;sup>3</sup> <u>ECONorthwest. 2022. The Economic and Social Importance of Deschutes National Forest Trails: Contributions and Future Needs.</u>





Trail width, which includes both on the ground tread and the clearing of brush around the tread, is also an important characteristic on a variety of dimensions. Motorized trail users require the widest trails, and horseback riders also prefer wide trails, both for ease of passage but also for good sightlines to spot other users with sufficient time to move or prepare their animals for encounters. Hikers and mountain bikers tend to prefer more narrow single-track trails. On both the DNF and the ONF, trail widths generally correspond to managed uses. Most trail treads in both forests are under 24 inches in width with an additional 48 inches of clearing around the tread (Exhibit 5).<sup>4</sup> There is a relatively consistent distribution of trail miles above 24 inches in tread for the balance of trails, providing a diverse set of trail experience opportunities. Studies have shown that trail width does positively correlate with level of usage (wider trails see more use, but also can be the result of heavy usage).<sup>5</sup>

<sup>&</sup>lt;sup>4</sup> <u>ECONorthwest. 2022. The Economic and Social Importance of Deschutes National Forest Trails: Contributions and Future Needs.</u>

<sup>&</sup>lt;sup>5</sup> Zhai, Y., Baran, P.K. and Wu, C., 2018. Can trail spatial attributes predict trail use level in urban forest park? An examination integrating GPS data and space syntax theory. *Urban Forestry & Urban Greening*, 29, pp. 171-182.





We can also consider how the overall supply and availability of trail miles by trail type compares to the corresponding demand. High abundance of a particular trail type relative to demand provides an economic opportunity for the region, to utilize and support economic development and tourism. Low abundance of a particular trail type relative to demand can identify areas of future investment need. Exhibit 6 shows the trail miles for each trail type relative to the number of corresponding annual trips in terms of managed and acceptable designated uses on the ONF. This information can be used to compare the relative abundance and scarcity of each trail type for each type of activity. On the DNF, horseback, snowmobile, and motor-based trails are the most abundant in terms of available trail miles relative to number of trips.<sup>6</sup> Hiking, (non-motorized) snow-based, and bike trails have the least abundant trails per thousand trips.<sup>7</sup> This information suggests that hiking, biking, and snow-based trails are under-supplied in the DNF relative to the number of trips they host compared to trails for other activities. Of note though, horseback trail users face unique challenges than do other users when sharing trails. So, the sense of scarcity and abundance of trail miles might not correlate with these trail miles per thousand trips results.

Like the DNF, horseback trails are the most abundant while hiking and pedestrian trails are the least abundant in terms of available trail miles relative to number of trips in the ONF. Although motor-based trails are some of the least abundant trail types in the ONF, the lack of motorized trail mileage is reflective of the lack of community desire to develop motorized trails in the ONF and does not reflect an incidental undersupply. Additionally, since the ONF has historically served as a pack and saddle forest with trails managed primarily for equestrian use, bikers prefer not to use the current trails on the ONF despite the trails being designated as "acceptable" for mountain biking. New mountain biking-focused trails would be necessary to meet this category of demand.

<sup>&</sup>lt;sup>6</sup> <u>ECONorthwest. 2022. The Economic and Social Importance of Deschutes National Forest Trails: Contributions and Future Needs.</u>

<sup>7</sup> Ibid.





Note: Snowmobiling and Snow-based trails not shown due to high margins of error for trip estimates

Trail-based activities vary in the length of typical trips. Snowmobiling and motorized trips tend to be long (60 to 120 miles) and hiker/pedestrian trips tend to be short (5 to 15 miles). When accounting for typical trip mileage across the various activities, biking and hiking becomes the scarcest trail type on DNF while motor-based and hiking are the scarcest trail types on the ONF (Exhibit 7). However, when accounting for preferences of recreation groups, hiking communities do not perceive a scarcity of trails in either forest and there is a greater desire for managing trails for biking rather than motorized trails on the ONF. Trails designated for horseback riding show relatively high abundance across the activity types in both forests.





Note:

Snowmobiling and Snow-based trails not shown due to high margins of error for trip estimates Low and High Mileage Range represent short and long trips for each recreational activity

## Non-trail Recreation Infrastructure

In addition to trails, the DNF and the ONF also offer non-trail-based recreation opportunities to visitors. Visitors can enjoy more non-trail-based opportunities like camping, fishing, snow-based activities on the DNF than the ONF. While the DNF hosts over 200 sites where a variety of motorized, non-motorized, snow and non-snow-based recreation occurs, the ONF hosts less than a 100 such sites and offers primarily non-snow-based and non-motorized recreation.





Campgrounds provide an important base for a variety of trips to both forests and an opportunity for visitors to spend multiple days in the region. In the DNF campgrounds are most densely concentrated and heavily used along the Cascades Lake Highway and in proximity to lakes of that region, as well as within the Newberry Crater Volcanic Monument (Exhibit 9). In the ONF, campgrounds are concentrated along Route 26 that connects Prineville to Mitchell and Route 97 that connects Madras to Redmond. Campgrounds are an important recreational facility. According to data from recreation.gov, campgrounds in the DNF can host approximately 12,550 campers and 2,300 cars while campgrounds in the ONF can host approximately 626 campers and 126 cars.



Exhibit 9. Campsite Reservations, Ochoco NF

## 3. Demand for Recreation Opportunities

## Local User Base

The DNF and ONF span a large area broadening the potential visitor pool geographically. The analysis defines "locals" as people who drive 60 or fewer miles to visit the forest and "nonlocal" as all other visitors.<sup>8</sup>

### Local Population

The DNF crosses Jefferson, Deschutes, Klamath, and Lake Counties while the ONF crosses Jefferson, Crook, Grant, and Wheeler Counties. Exhibit 10 shows the total populations of these counties. Since Deschutes County is the most populous county, seven times as populous as the next biggest county, Deschutes County residents likely represent the bulk of regional visitation to both forests.



Exhibit 10. Resident Population by County

Source: ECONorthwest, using data from U.S. Census Bureau (2020)

Exhibit 11 shows that Bend is the most populous city with 94,000 residents, followed by Redmond and Prineville. Although residents from all five counties shown in Exhibit 11 likely visit both forests, based on proximity, Redmond, Prineville, and Madras residents are more likely to visit the Crooked River National Grasslands on the ONF instead of DNF for recreation.

<sup>&</sup>lt;sup>8</sup> White, E. M. (2017). Spending patterns of outdoor recreation visitors to national forests. Gen. Tech. Rep. PNW-GTR-961. Portland, OR: US Department of Agriculture, Forest Service, Pacific Northwest Research Station.

#### Exhibit 11. Resident Population by Local Community





To project visitation growth, we use data from Portland State University's Population Research Center to first project growth in the user base. The Population Research Center estimates Oregon's population at the state, county, and urban growth boundary (UGB) levels. From this, we calculated the average annual growth rate from 2020 to 2045 and scaled our results accordingly.

We estimate the user base separately for local and nonlocal users. Although visitation from Deschutes County is high for both ONF and the DNF (see Exhibit 18 and Exhibit 19), for the purposes of this analysis we used the Deschutes County population forecasts (1.9 percent) to estimate the local growth rate for the DNF and Crook, Deschutes, Jefferson, and Wheeler County population forecasts (0.8 percent) to estimate the rate for the ONF. The nonlocal growth rate was calculated using state-level forecasts (0.9 percent), though nonlocal visitation also comes from beyond Oregon. Deschutes County's high growth rate means that forest infrastructure and maintenance on both the DNF and ONF will be more challenged to keep up with the local community's need for outdoor spaces. Higher regional economic benefits and recreational revenue allocation within Deschutes County than in Crook, Grant, Jefferson, and Wheeler County could provide more local revenue to address this increased pressure on the DNF than on the ONF. Exhibit 12 shows the raw data used to calculate these rates.

#### Exhibit 12. Population Forecast by County and UGB

Source: Population Research Center (2018)<sup>10</sup>

Geography	2010	2020 (forecasted)	2030	2040	2045
Crook County	20,978	23,528	26,565	29,571	30,894

<sup>&</sup>lt;sup>9</sup> U.S. Census Bureau (2020). Total Population. 2016-2020 American Community Survey 5-Year Estimates (Table B01003). Retrieved from American Community Survey API.

<sup>&</sup>lt;sup>10</sup> Population Research Center 2018. Coordinated Population Forecast, Deschutes County, 2018 through 2068. Portland, OR: Population Research Center, Portland State University.

Prineville UGB	11,213	12,399	14,180	16,299	17,365
<b>Deschutes County</b>	157,733	199,793	244,018	289,225	310,827
Bend UGB	77,010	98,205	123,574	153,696	168,364
La Pine UGB	1,653	2,081	2,670	3,386	3,739
Redmond UGB	26,508	30,812	38,524	48,575	53,750
Sisters UGB	2,038	3,018	3,889	4,867	5,380
Outside UGB Area	50,524	65,677	75,362	78,702	79,593
Grant County	7,445	7,067	6,771	6,566	6,477
Jefferson County	21,720	24,139	26,375	28,145	28,828
Madras UGB	6,987	7,302	8,249	9,035	9,388
Wheeler County	1,441	1,355	1,299	1,250	1,235

### **Forecasted Demand**

While the local user base indicates the potential users of the forests, these numbers do not represent actual visitation. We estimated current visits to the ONF and the DNF based on the US Forest Service's National Visitor Use Monitoring (NVUM) survey from 2018 as our base. The NVUM data publishes total annual visitation and the percent of visitors who enjoy various activities in the forest. We scaled these base numbers up using population growth rates and trends in activity participation. Population growth data helped forecast visitation from 2018 to 2040. Trend data helped us understand which activities were declining or increasing in popularity over time. This forecast does not reflect the surge in visitation for and participation in outdoor recreation activities that occurred during the COVID-19 pandemic in 2020 and 2021.

Exhibit 13 shows the total visitation for the DNF was 2.1 million in 2021 and will increase to 2.9 million in 2040. Trail-based activities (including running, biking, horseback, cross-country skiing, and OHV use) are the main purpose of visits, making up almost 20 percent of the visits. Downhill skiing and nature study are the next most popular activities. Across the 20-year timespan, visitors will take over 51 million unique trips to the DNF. Over this time the share of local visitors will increase from 59 percent to 63 percent.

#### Exhibit 13. Current and Forecasted Visitation, Deschutes NF

Source: ECONorthwest analysis, using data from NVUM Master Report (2018), PSU Population Research (2020), White et al. (2016)<sup>11</sup>, and White (2017)<sup>12</sup>

	Trips (thousands)		
Activity	2021	2040	2021-40 sum
Camping	79	103	1,817

<sup>&</sup>lt;sup>11</sup> White, Eric M.; Bowker, J.M.; Askew, Ashley E.; Langner, Linda L.; Arnold, J. Ross; English, Donald B.K. 2016. Federal outdoor recreation trends: effects on economic opportunities. Gen. Tech. Rep. PNW-GTR-945. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Station.

<sup>12</sup> White (2017).

Downhill Skiing	397	560	9,486
Hunting, Fishing, and Gathering Forest Products	162	200	3,613
Motorized Non-trail	38	48	868
Nature Study	255	325	5,784
No Activity Reported	36	47	836
Non-motorized Water	132	177	3,072
Other	88	114	2,017
Outdoor Leisure / Sporting	159	207	3,644
Trail-based	833	1,129	19,471
Local	1,278	1,810	30,600
Nonlocal	904	1,103	20,011
Grand Total	2,183	2,914	50,612
Discounted Total	N/A	N/A	N/A

Exhibit 14 shows the total visitation for the ONF was 120,000 in 2021 and will increase to 154,000 in 2040. Trail-based activities (including running, biking, horseback, cross-country skiing, and OHV use) are the main purpose of visits, making up 31 percent. Hunting, fishing, and gathering forest products are the next most popular activities. Across the 20-year timespan, visitors will take over 2.7 million unique trips to the ONF. Over this time the share of local visitors will increase from 61 percent to 64 percent.

#### Exhibit 14. Current and Forecasted Visitation, Ochoco NF

Source: ECONorthwest analysis, using data from NVUM Master Report (2018), PSU Population Research (2020), White et al. (2016), and White (2017)

	Trips (thousands)		
Activity	2021	2040	2021-40 sum
Camping	16	21	371
Downhill Skiing	-	-	-
Hunting, Fishing, and Gathering Forest Products	24	29	535
Motorized Non-trail	8	10	198
Nature Study	13	17	311
No Activity Reported	1	2	43
Non-motorized Water	-	1	20
Other	6	7	138
Outdoor Leisure / Sporting	10	14	247
Trail-based	37	50	874
Local	73	99	1,710
Nonlocal	47	55	1,030
Grand Total	120	154	2,741

Discounted Total N/A N/A N/A
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## Placer.ai Data Results

We used spatial trip data to better understand visitation, extrapolated by the analytics company Placer.ai, which aggregates data using location-based services on devices (for users who have enabled location sharing). We used Placer.ai's proprietary services as an additional data source to provide additional dimensions to our visitation estimates as Placer.ai collects data on visitation, visitor profiles, and location trends. We also used it to "check" the accuracy of our estimates.

### **Regional Trends**

To attain detailed information, we split the DNF into nineteen subareas and the ONF into seven subareas. We designed subareas to be roughly equal in size, to capture high-trail-density or low-trail-density areas, and to avoid roads and private lands. The resulting areas are displayed in Exhibit 15. Note that our analysis of the DNF focused on high population areas such as those around Bend (Areas 7 and 8), Sisters (Areas 2 and 5), and La Pine (Area 15).



### Exhibit 15. Placer Subareas, Ochoco and Deschutes NF

Source: ECONorthwest's analysis of Placer.ai data

The bulk of the visits (1.4 million) to the DNF occurred in Area 8 (as shown on Exhibit 15), an area close to Bend and home to Mr. Bachelor as well as many summer and winter trails. Other popular areas include the region around Sisters (Areas 2 and 5) and the region near La Pine (Area 15). Area 1, the section closest to Prineville, Redmond, and Bend, was the most popular site in the ONF with 488,000 visits.

### Seasonal Trends

We collected data from the past three years to understand seasonal visitation trends. We found that overall visitation to both forests peaks every summer between July and August at 900,000 monthly visits to the DNF and 120,000 monthly visits to the ONF.

Most of the subareas on the DNF follow this seasonal trend of peak visitation in the summer and lower numbers in the winter. However, Areas 7 and 8 near Bend actually saw a reverse trend. While visitation was high in the summer (around 150,000 visits in that region alone, onesixth of visits), visitation skyrocketed to 200,000 in the winter months. Area 8 is home to Mt. Bachelor, one of the most population downhill skiing locations in Oregon, which accounts for the spike. Thus, in most of the DNF, summertime activities are the most popular and draw the most people out into the forest at large. However, areas such as Section 8 provide specific winter sport opportunities which account for visitors outside the normal user base.

From March to July, visitation to the ONF steadily increases, and from August to October, visitation steadily decreases. Virtually all visitation occurs in the western area of the ONF that is near Madras and Metolius (Area 1).



#### Exhibit 16. Placer Visitation, Deschutes NF

Source: ECONorthwest's analysis of Placer.ai data

#### Exhibit 17. Placer Visitation, Ochoco NF





### **Prior Locations**

Placer.ai also reports the home locations and most common prior-visit destination categories.

Using home location data, we found that most visitors to the DNF and the ONF live in Deschutes County in communities including Sunriver and Bend (Exhibit 18 and Exhibit 19). Approximately 48 percent of visitors to the DNF and 25 percent of visitors to the ONF were residents of Deschutes County. Visitors to the DNF also included residents of Lane county (12%) while visitors to the ONF also included residents of Jefferson county (19%) and Crook (13%) county. Other regional population centers like Portland, Gresham, Salem, and Eugene in Oregon and Vancouver in Washington also supply non-local visitors to the forests. Residents of Multnomah, Clackamas, and Washington Counties comprised 15 to 20 percent of visitation to the DNF and ONF.



Exhibit 18 Home Locations of Visitors to the Deschutes NF in 2021 Source: ECONorthwest's analysis of Placer.ai data

All subareas within the DNF have "Home" as their most common location prior to visiting the DNF (39-48 percent) except for Area 8, where the most common location is split between home, and hotels and casinos (38 percent each). As noted above, this area is closest to Bend, and thus most likely to be frequented by out-of-town visitors. The second most common prior-visit destination was for leisure (e.g. attractions, bars & pubs, natural landmarks, event halls), followed by dining and shops and services. Overall, subareas were similar in their prior visit profiles.

All subareas within the ONF have "Home" as their most common location prior to visiting the forest (37-69 percent). The second most common prior-visit destination was for shopping and services (e.g., banks, gas stations, pet stores, etc.), followed by dining. Subareas were very similar in their prior visit profiles.

The household income breakdown did not vary across the subareas for either forest. Thus, folks were not more likely to visit one area compared to another based on their income in either the DNF or the ONF.



Exhibit 19 Home Locations of Visitors to the Ochoco NF in 2021 Source: ECONorthwest analysis of Placer.ai data

## 4. Benefits

## **Beneficiaries**

The DNF and ONF attract both local and non-local recreation visitors. Residents from the surrounding communities recreate in the forests and may also collect special forest products for subsistence. Non-local visitors may travel to Central Oregon to visit the two forests for the recreational opportunities they offer. Both local and non-local recreational visitors enjoy recreational benefits but also contribute to the local recreational economy. Trip-related spending at local businesses in the recreation industry contribute to labor income and output for those businesses. Non-local visitors also spend money for lodging, gas, food, and other amenities contributing to economic sectors other than recreation. This direct spending by recreation visitors then flows through the local economy as the businesses directly impacted increase their spending to procure inputs from industries upstream and the employees spend their earnings in other sectors. As a result, the scope of beneficiaries of and stakeholders impacted by recreation infrastructure on the ONF and DNF extend past recreational visitors to the local economy which enjoys economic output and the local governments that can enjoy higher tax revenues from increased output. The magnitude of these benefits and economic effects are discussed below.

## **Consumer Surplus**

These trips generate benefit and value for the users, and spending on trip-related expenses that have impacts for local businesses. The benefit of a trip to a participant net of the trip expenses is known as consumer surplus. This surplus value is the net value to a visitor. We can estimate the net benefit to trail users per trip by applying average consumer surplus estimates generated by the USFS for specific types of outdoor recreation activities applicable to the Pacific Northwest. These consumer surplus values are based on peer-reviewed studies applying empirical, well-established economic methods to estimate average value a visitor receives net of the travel expenses. This is done by modeling demand based on level of usage for different visitors experiencing different total trip costs. Actual benefit for any individual trip can vary dramatically, even for the same repeat participant. These methods strive to calculate an average value that is weighted for applicability across the full set of trips.

The total consumer surplus supported by recreation infrastructure on the DNF and the ONF is calculated by applying average regionally derived consumer surplus values for each activity type to the trip forecasts calculated above. In total these trips currently provide approximately \$223 million and \$12 million in annual net benefit to participants on the DNF and ONF, respectively. These net benefits would rise to \$298 million and \$16 million annually by 2040 in 2021 dollars, not including inflation (or discounting). In total, with growth over time, the next twenty years of recreation trips to the DNF and ONF are expected to provide \$5.2 billion and

\$282 million in user net benefits, or \$3.9 billion and \$213 million when discounting future values at 3 percent annually relative to 2021.<sup>13</sup> These numbers should be interpreted as order-of-magnitude, rather than in a narrowly precise manner, due to the challenge of fully capturing the values that locals receive from convenient access to the recreation infrastructure on the DNF and ONF.

The analysis projects that trail-based recreation activities would generate the highest consumer surplus between 2021 and 2040 on both forests. While recreational visitors to the DNF would also enjoy high consumer surplus values from downhill skiing and non-motorized water activities, visitors to the ONF would enjoy high consumer surplus values through hunting, fishing, and gathering forest products, and camping. Nature study and outdoor leisure/sporting would also generate value for visitors who recreate in both forests.

#### Exhibit 20. Consumer Surplus, Deschutes NF

Source: ECONorthwest, using data from NVUM Master Report (2018), PSU Population Research (2020), White et al. (2016), White (2017), and Rosenberger et al. (2017)<sup>14</sup>

	Consumer Surplus (thousand \$)		
Activity	2021	2040	2021-40 sum
Trail-based	83,900	113,520	1,959,230
Downhill Skiing	40,570	57,240	968,810
Non-motorized Water	21,120	28,340	491,140
Nature Study	20,790	26,490	470,510
Hunting, Fishing, and Gathering Forest Products	17,440	21,450	387,490
Outdoor Leisure / Sporting	16,580	21,520	378,920
Camping	9,300	12,030	212,170
Other	7,130	9,240	162,840
Motorized Non-trail	3,290	4,160	74,160
No Activity Reported	2,680	3,480	61,380
Local	130,520	184,880	3,123,840
Nonlocal	92,310	112,630	2,042,850
Grand Total	222,840	297,510	5,166,700
Discounted Total	N/A	169,670	3,900,100

Note: Values may not sum due to rounding.

<sup>&</sup>lt;sup>13</sup> This typical social discount rate is applied as a standard method to account for time preferences and opportunity costs associated with future values relative to present value. For more description see for example: U.S. Environmental Protection Agency. 2014. Discounting Future Costs and Benefits. Guidelines for Preparing Economic Analyses. Chapter 6.

<sup>&</sup>lt;sup>14</sup> Rosenberger, Randall S.; White, Eric M.; Kline, Jeffrey D.; Cvitanovich, Claire. 2017. Recreation economic values for estimating outdoor recreation economic benefits from the National Forest System. Gen. Tech. Rep. PNW- GTR-957. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station.

#### Exhibit 21. Consumer Surplus, Ochoco NF

Source: ECONorthwest, using data from NVUM Master Report (2018), PSU Population Research (2020), White et al. (2016), White (2017), and Rosenberger et al. (2017)

	Consumer Surplus (thousand \$)		
Activity	2021	2040	2021-40 sum
Trail-based	3,820	5,130	88,970
Hunting, Fishing, and Gathering Forest Products	2,730	3,260	59,860
Camping	2,130	2,740	48,510
Nature Study	1,130	1,450	25,760
Outdoor Leisure / Sporting	1,070	1,390	24,520
Motorized Non-trail	720	890	16,170
Other	480	630	11,170
Non-motorized Water	140	190	3,280
No Activity Reported	140	180	3,220
Local	7,510	10,180	175,690
Nonlocal	4,890	5,710	105,810
Grand Total	12,400	15,900	281,510
Discounted Total	N/A	9,060	212,950

Note: Values may not sum due to rounding.

These dollar amounts can be considered and applied in numerous ways. Not only do they represent how valuable the trips are to participants, residents, and visitors alike, but they also speak to how valuable the recreation infrastructure investments are in comparison to the costs to provide these recreation benefits. And in theory, participants should be willing to pay for this surplus value to provide these recreational opportunities if they cannot be enjoyed otherwise.

## 5. Economic Impacts

### Spending on Recreational Trips

Recreational trips provide benefits to users, and there are expenses to bear to enjoy these trips by the participants directly. The USFS provides trip spending profiles by visitor-type and trip type, generated from information compiled in visitor surveys. This spending has economic ripple effects throughout the community and regional economy, which we calculate and discuss later in this report. These spending totals and associated economic impacts do not capture the full spending of visitors to the region using the DNF and ONF recreation infrastructure. Specifically, these calculations do not include the spending of residents who in part choose to live in the region because of the forests and their recreational opportunities, other than those immediate trip-specific expenditures.<sup>15</sup>

We used IMPLAN and the spending patterns from White (2017) data to calculate the spending per party per visit by origin and time of day. These values used 2017 as a base year so we used the CPI to convert them to 2021 values. We then joined the spending data to the trips data to calculate total spending. To do this we divided the spending per party by the average party size to get spending per person in the trip. That value was then multiplied by the number of trips to get the total spending in 2021. We differentiate overnight trips (OVN) that involve stays on the DNF and ONF from others. See the Technical Appendix for more details on the analysis.

In total these methods applied to the number of trips provide an estimate of \$197 million and \$12 million in spending associated with recreational trips to the DNF and ONF (respectively) annually as of 2021, growing to \$246 million and \$14 million by 2040 in 2021 dollars, uninflated and undiscounted (Exhibit 22 and Exhibit 23). In total this spending over the next twenty years is forecast to be \$3.3 billion and \$196 million (discounted) in the DNF and ONF, respectively. This spending can then be traced based on the specific ways and geographies the dollars are spent, and the associated businesses and jobs that are affected. Note that this does not include the spending or impacts of activities to develop and maintain the recreational infrastructure on either forest. It also does not include spending by locals separate from individual trip-specific expenditures.

#### Exhibit 22. Spending, Deschutes NF

Source: ECONorthwest analysis, using data from NVUM Master Report (2018) ECONorthwest, using data from NVUM Master Report (2018), PSU Population Research (2020), White et al. (2016), and White (2017)

	Spending (thousand \$)		
Activity	2021	2040	2021-40 sum
Trail-based	75,160	95,200	1,695,800
Downhill Skiing	35,850	47,270	826,110
Nature Study	23,060	27,450	503,880
Hunting, Fishing, and Gathering Forest Products	14,650	16,880	314,830
Outdoor Leisure / Sporting	14,380	17,450	317,420
Non-motorized Water	11,920	14,940	267,560
Other	7,970	9,650	175,720
Camping	7,190	8,690	158,330
Motorized Non-trail	3,480	4,100	75,670
No Activity Reported	3,300	4,000	72,860
Local	27,450	38,870	656,860
Nonlocal	169,550	206,810	3,751,370

<sup>&</sup>lt;sup>15</sup> Some portion of non-trip spending by residents using trails would be captured if their salary is in part attributable to induced effects of trip-related spending by others.

Grand Total	197,000	245,680	4,408,230
Discounted Total	N/A	140,100	3,339,310

Note: Values may not sum due to rounding.

#### Exhibit 23. Spending, Ochoco NF

Source: ECONorthwest analysis, using data from NVUM Master Report (2018) ECONorthwest, using data from NVUM Master Report (2018), PSU Population Research (2020), White et al. (2016), and White (2017)

	Spending (thousand \$)		
Activity	2021	2040	2021-40 sum
Trail-based	3,690	4,560	82,360
Hunting, Fishing, and Gathering Forest Products	2,390	2,650	50,410
Camping	1,590	1,900	34,950
Nature Study	1,340	1,590	29,310
Outdoor Leisure / Sporting	1,060	1,270	23,270
Motorized Non-trail	870	990	18,650
Other	590	710	13,020
No Activity Reported	180	220	4,130
Non-motorized Water	80	100	1,930
Local	1,050	1,430	24,680
Nonlocal	10,780	12,600	233,390
Grand Total	11,830	14,040	258,080
Discounted Total	N/A	8,000	196,010

Note: Values may not sum due to rounding.

### **Economic Contributions**

Using information on economic effects of spending by local and non-local visitors on recreation in national forests (see Technical Appendix for more details on the analysis), we can estimate the impacts of spending for the full set of recreational trips now and forecast over the next twenty years. The impact estimates in the near-term should be interpreted with more confidence than those in the future. IMPLAN does not measure long-term impacts, but rather looks at the economy at a single point in time. Applying these annual values to future estimates should be done with caution because the structural relationships of the local economy are likely to change in the future (e.g., there will be different suppliers and people will spend their wages on different items). It is also important to remember that these are gross, rather than net, impact estimates. A net analysis would require estimating and modeling how a dollar would be spent if these recreational opportunities did not exist on the DNF and ONF and measure the incremental local impact differences between those two scenarios. Since it is likely that spending would still occur in the region even without the recreational opportunities on the two forests, these gross estimates are likely to be higher than net estimates.
The forests' economic contributions to employment include jobs in sectors like outdoor recreation that are directly impacted by spending on outdoor recreation (direct effect), jobs in sectors that provide materials and labor to the directly affected sectors (indirect effect), and jobs in sectors like the service industry where employees of the directly and indirectly affected sectors chosen for analysis for a specific year and Value Added refers to the sectors' contribution to the GDP, calculated by removing the value of intermediate inputs from the Output.

In total the forecasted recreational trips on the DNF support 2,150 jobs as of 2021, rising to 2,662 by 2040 (

Exhibit 24). This means \$88 million in annual labor income in 2021, increasing to \$109 million by 2040 (in 2021 dollars, without inflation or discounting). The total labor income resulting over the twenty-year timeframe is \$2 billion. Total output associated with the spending was \$236 million in 2021 and will reach \$292 million by 2040 (in 2021 dollars, uninflated) (

Exhibit 25).

	Employment			Labor Income (thousand \$)		
Activity	2021	2040	2021-40 sum	2021	2040	2021-40 sum
Trail-based	820	1,032	18,437	33,620	42,270	755,700
Downhill Skiing	391	512	8,981	16,030	20,990	368,130
Nature Study	252	297	5,478	10,310	12,180	224,550
Hunting, Fishing, and Gathering Forest Products	160	183	3,423	6,550	7,490	140,300
Outdoor Leisure / Sporting	157	189	3,451	6,430	7,750	141,450
Non-motorized Water	130	162	2,909	5,330	6,630	119,230
Other	87	105	1,910	3,560	4,280	78,300
Camping	78	94	1,721	3,210	3,850	70,560
Motorized Non-trail	38	44	823	1,550	1,820	33,720
No Activity Reported	36	43	792	1,470	1,770	32,460
Local	203	287	4,858	8,160	11,550	195,310
Nonlocal	1,947	2,374	43,068	79,960	97,530	1,769,150
Grand Total	2,150	2,662	47,926	88,120	109,090	1,964,460
Discounted Total	N/A	N/A	N/A	N/A	62,210	1,488,680

Exhibit 24.	Employ	ment a	nd Labor	Income.	<b>Deschutes NF</b>
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Source: ECONorthwest analysis, using data from White (2017) and IMPLAN (2022) software

Note: Values may not sum due to rounding.

#### Exhibit 25. Value Added and Output, Deschutes NF

Source: ECONorthwest analysis, using data from White (2017) and IMPLAN (2022) software

	Value	e Added (th	iousand \$)	Output (thousand \$)		
Activity	2021	2040	2021-40 sum	2021	2040	2021-40 sum
Trail-based	51,920	65,190	1,166,160	90,030	113,110	2,022,720
Downhill Skiing	24,760	32,370	568,080	42,940	56,160	985,350
Nature Study	15,930	18,790	346,520	27,630	32,610	601,040

Hunting, Fishing, and Gathering Forest Products	10,120	11,560	216,510	17,550	20,060	375,540
Outdoor Leisure / Sporting	9,930	11,950	218,290	17,230	20,730	378,630
Non-motorized Water	8,230	10,230	183,990	14,280	17,750	319,140
Other	5,500	6,610	120,840	9,540	11,470	209,600
Camping	4,960	5,950	108,880	8,610	10,320	188,860
Motorized Non-trail	2,400	2,800	52,040	4,170	4,870	90,270
No Activity Reported	2,280	2,740	50,100	3,950	4,750	86,900
Local	11,470	16,240	274,550	20,660	29,260	494,460
Nonlocal	124,600	151,980	2,756,900	215,300	262,610	4,763,640
Grand Total	136,080	168,230	3,031,460	235,970	291,870	5,258,100
Discounted Total	N/A	95,940	2,297,410	N/A	166,450	3,984,780

Note: Values may not sum due to rounding.

Compared to the DNF, ONF would support fewer jobs, labor income, and output associated with recreational trips in Central Oregon. The ONF supports 133 jobs as of 2021, rising to 157 by 2040 (Exhibit 26). This means \$5 million in annual labor income in 2021, increasing to \$6 million by 2040 (in 2021 dollars, without inflation or discounting). The total labor income resulting over the twenty-year timeframe is \$115 million. Total output associated with the spending was \$14 million in 2021 and will reach \$17 million by 2040 (in 2021 dollars, uninflated) (

Exhibit 27).

#### Exhibit 26. Employment and Labor Income, Ochoco NF

Source: ECONorthwest analysis, using data from White (2017) and IMPLAN (2022) software

	Employment			Labor Income (thousand \$)		
Activity	2021	2040	2021-40 sum	2021	2040	2021-40 sum
Trail-based	42	51	925	1,660	2,040	36,880
Hunting, Fishing, and Gathering Forest Products	27	30	566	1,070	1,180	22,580
Camping	18	21	393	710	850	15,650
Nature Study	15	18	329	600	710	13,120
Outdoor Leisure / Sporting	12	14	261	470	560	10,420
Motorized Non-trail	10	11	210	390	440	8,350
Other	7	8	146	260	310	5,830
No Activity Reported	2	3	46	80	100	1,850
Non-motorized Water	1	1	22	30	40	860
Local	8	10	181	290	400	6,960
Nonlocal	126	147	2,718	5,010	5,860	108,630
Grand Total	133	157	2,899	5,310	6,270	115,590
Discounted Total	N/A	N/A	N/A	N/A	3,570	87,810

Note: Values may not sum due to rounding.

#### Exhibit 27. Value Added and Output, Ochoco NF

	Value Added (thousand \$)			Output (thousand \$)		
Activity	2021	2040	2021-40 sum	2021	2040	2021-40 sum
Trail-based	2,570	3,160	57,270	4,510	5,550	100,320
Hunting, Fishing, and Gathering Forest Products	1,660	1,840	35,060	2,910	3,220	61,410
Camping	1,110	1,320	24,300	1,950	2,310	42,570
Nature Study	930	1,100	20,380	1,640	1,930	35,700
Outdoor Leisure / Sporting	730	880	16,180	1,290	1,540	28,340
Motorized Non-trail	610	680	12,970	1,060	1,200	22,720
Other	410	490	9,060	720	860	15,870
No Activity Reported	130	150	2,870	230	270	5,040
Non-motorized Water	60	70	1,340	100	130	2,350
Local	410	560	9,750	760	1,040	17,980
Nonlocal	7,840	9,160	169,720	13,690	16,000	296,370
Grand Total	8,250	9,730	179,480	14,460	17,050	314,360
Discounted Total	N/A	5,550	136,350	N/A	9,720	238,820

Source: ECONorthwest analysis, using data from White (2017) and IMPLAN (2022) software

Note: Values may not sum due to rounding.

Given the economic growth and diversification underway in Central Oregon, it is likely that more and more of the spending for recreational trips will occur local to the forests and have local multiplier effects. If patterns at least maintain their current trajectories, these trips could contribute to gross economic output of over \$4 billion (discounted) over the next twenty years.

Overall, these employment effects are primarily attributable to visitors (non-locals), particularly when considering the full trip spending of all trips by non-locals. In an aggregate sense for the communities of Central Oregon as a whole, it is difficult to fully identify and quantify the job creation and regional economic output of residents attributable to recreational infrastructure on the DNF and ONF. The extent, variety, accessibility, and quality of the trails and non-trail based recreational facilities attract skilled, well-educated workers and business owners and executives.<sup>16</sup> Not only do the forests create value for residents who live near recreational infrastructure, but also create value for businesses involved in the construction and real estate industries. This analysis does not explicitly address event-related spending and impacts. Events that utilize recreational infrastructure can also attract large numbers of non-locals and generate high rates of spending, dollars that would not likely have been spent locally otherwise.

<sup>&</sup>lt;sup>16</sup> <u>ECONorthwest. 2017. Economic Contributions of Bend Park and Recreation District. Bend Parks and Recreation District.</u>

## 6. Costs of Recreation Infrastructure

Providing the overall trail network and other recreational facilities on Deschutes and Ochoco National Forests is a concerted effort across thousands of volunteers, trail crews, the USFS staff. Resources required include materials and heavy equipment, facility upkeep and capital improvement, design, planning, permitting, administration, and other efforts. It also must be coordinated with management objectives and investments related to the multiple use mission of the agency to manage water quality, habitat, timber resources, and wildfire risk. This section provides a summary of available cost data specific to the trail-based and non-trail-based recreational infrastructure in the DNF and ONF. It includes a forecast of costs based on expected growth in recreational demand and usage as described earlier. It does not include all capital investments that will likely be required over the next twenty years to keep pace with demand and maintain a high level of service. For example, new trailheads, bridges, erosion control, toilets etc. are not directly included in these analyses. These costs should be interpreted as representative of the order-of-magnitude of costs necessary to maintain the current recreational experience (primarily trail clearing). The following costs do not include investments in recreation infrastructure and its maintenance through federal appropriations under legislation such as the Great American Outdoors Act.

Key data references and assumptions for this cost analysis are listed below.

- Current annual spending on recreation infrastructure maintenance by the USFS (estimated): \$6 million in DNF and \$1 million in ONF
- Current percentage of trail miles maintained annually: 60% in DNF and 20% in ONF
- Current percentage of non-trail-based recreation infrastructure maintained annually: 60% in DNF and 20% in ONF
- Current annual volunteer hours on infrastructure maintenance: 162,500 hours in DNF and 30,000 hours in ONF
- Expected annual growth in recreation infrastructure usage through 2040: 1.3% per year in DNF and 0.7% in ONF (population growth plus average annual growth in recreation activity participation).
- Infrastructure maintenance backlog is addressed over first five years.
- Annual infrastructure maintenance increases from 60% in DNF and 20% in ONF to 100% in 2023.
- Maintenance costs increase across all categories at a constant ratio relative to existing spending proportionate to number of annual trips.
- The increase in annual maintenance over time is partly addressed by volunteers, at the same ratio as for overall existing maintenance.
- Value of volunteer time = \$25.43/hour (standard USFS estimate).
- Discount rate on future costs for net present value calculations = 3%.

Below are summaries of estimated costs for recreation infrastructure maintenance in the DNF and ONF to meet projected population growth and associated recreation demand through 2040 (Exhibit 28 and Exhibit 29). Costs are based on data provided by USFS staff and data extracted from the recreational infrastructure management database (INFRA). Since the DNF has a much larger trail network and higher number of recreational sites like campgrounds etc., the investment in infrastructure maintenance is also larger. USFS currently invests approximately \$3,500,000 and \$400,000 annually to maintain and operate recreation infrastructure on the DNF and ONF, respectively. This includes funds spent on permanent/seasonal employees, materials and supplies, and volunteer support.<sup>17</sup> Volunteers dedicate an estimated 57,000 hours in the DNF to support trail and facility maintenance activities.<sup>18</sup>

Maintenance activities on trails vary considerably with most trails being cleared for logs and only a small share of trails receiving substantial maintenance or improvements.<sup>19</sup> For our analysis, we assume the annual investment maintains 60% and 20% of trails and non-trail-based recreational facilities to continue to meet USFS standards in the DNF and ONF, respectively. The annual funding gap to approach the same maintenance standard on 100% of recreational infrastructure between 2022 and 2040 would require \$7.4 million in the DNF and \$2.4 million in the ONF.<sup>20</sup>

The current best estimate of costs for identified needed capital improvements and deferred capital investments in recreation facilities is \$5.6 million in the DNF and \$475,000 in the ONF but the actual investments are expected to be significantly higher to capture costs of paving such as asphalt repair and other intermittent investment needs.<sup>21</sup>. The analysis assumes these capital investments required to meet maintenance standards would occur in the next five years. This generally doesn't capture the looming more extensive capital needs on the horizon such as facility replacement beyond useful life including campground water systems, toilets, boat ramps and docks.

- <sup>20</sup> Ibid.
- <sup>21</sup> Ibid.

<sup>&</sup>lt;sup>17</sup> Machnik, Lisa. (Staff, U.S. Forest Service). Personal Communication. February 2022.

<sup>&</sup>lt;sup>18</sup> Ibid.

<sup>&</sup>lt;sup>19</sup> Ibid.

Exhibit 28 Estimated Ani	nual Costs for Recreation	n Maintenance and Fun	ding Gap, Deschutes NF

Cost Item	Current Estimated Annual Budget	Estimated Budget to Reach 100 Percent Maintenance	Estimated Immediate Funding Gap	Estimated Annual Funding Need by 2040
Trail Maintenance	\$350,000	\$583,000	\$233,000	\$731,000
Trailhead Facilities Maintenance	\$281,000	\$468,000	\$187,000	\$587,000
Other Recreation Facilities Maintenance	\$463,000	\$772,000	\$309,000	\$967,000
Staffing	\$750,000	\$1,250,000	\$500,000	\$1,566,000
Total Budget	\$1,844,000	\$3,073,000	\$1,229,000	\$3,851,000
Volunteer Hours	57,000	94,000	38,000	118,000
Value of Volunteer Hours*	\$1,697,000	\$2,828,000	\$1,131,000	\$3,544,000
Total Costs Including Volunteer Hours	\$3,541,000	\$5,901,000	\$2,360,000	\$7,395,000

\* Value of a volunteer hour was approximated at \$29.95 based on national data.

Note: Values may not sum due to rounding; Other Recreation Facilities include campgrounds, day-use areas, picnic sites, boat ramps etc.

Cost Item	Current Estimated Annual Budget	Estimated Budget to Address Backlog and Reach 100 Percent Maintenance	Estimated Immediate Funding Gap	Estimated Annual Funding Need by 2040
Trail Maintenance	\$30,100	\$151,000	\$121,000	\$171,000
Trailhead Facilities Maintenance	\$1,000	\$6,000	\$4,500	\$6,000
Other Recreation Facilities Maintenance	\$80,000	\$402,000	\$321,000	\$455,000
Staffing	\$137,000	\$684,000	\$547,000	\$775,000
Total Budget	\$248,000	\$1,242,000	\$993,000	\$1,407,000
Volunteer Hours	6,000	30,000	24,000	34,500
Value of Volunteer Hours*	\$182,000	\$910,000	\$728,000	\$1,031,500
Total Costs Including Volunteer Hours	\$430,000	\$2,151,000	\$1,721,000	\$2,439,000

#### Exhibit 29 Estimated Annual Costs for Recreation Maintenance and Funding Gap, Ochoco NF

\* Value of a volunteer hour was approximated at \$29.95 based on national data.

Note: Values may not sum due to rounding; Other Recreation Facilities include campgrounds, day-use areas, picnic sites, boat ramps etc.

Based on current best estimates for maintenance and operation costs for recreation infrastructure, an immediate funding gap of approximately \$2 million needs to be addressed in

the DNF and ONF separately. In addition, usage of recreation infrastructure is expected to grow by about 1.3 percent per year in the DNF and 0.7 percent in the ONF through 2040. Looking at the annual distribution of maintenance costs, we can observe an upward trend (Exhibit 30 and Exhibit 31). To meet this increased demand, it is expected that the level of spending on infrastructure maintenance will have to grow at an equivalent pace, with a total of \$95 million in the DNF and \$32 million in the ONF needed in additional funding (including capital investments) for this growth (in time-discounted net present value (NPV) terms) through 2040 in total (2022-2040).



Exhibit 30 Estimated Costs to Meet Projected Demand and Maintenance Backlog Including Volunteer Hours in 2023, Deschutes NF

Exhibit 31 Estimated Costs to Meet Projected Demand and Maintenance Backlog Including Volunteer Hours in 2023, Ochoco NF



These maintenance cost estimates do not include the costs of planning or building any new recreation facilities, mitigation activities, and the planning and permitting efforts involved in making capital improvements. Growth in the trail network and other recreational infrastructure to meet demand must adhere to the USFS's multiple use mission, including stewardship of natural resources and habitat, and account for staffing levels needed for maintenance. Environmental Assessments or Environmental Impact Statements in compliance with the National Environmental Policy Act for new improvements can range from a few thousand dollars (for a re-route or a simple bridge) to tens of thousands of dollars for each large and complex new project in terms of staff and specialist professional service expenses. Continued investment in the recreation infrastructure of the DNF and ONF to maintain current assets and keep pace with demand will require millions of additional dollars of funding annually. While these costs are high, it is important to keep in perspective that they are 2 orders of magnitude less than the hundreds of millions of dollars of annual value generated by the trail network, calculated earlier.

## 7. Stakeholder Interviews

This section contains the key findings and themes from the stakeholder interviews conducted in summer of 2022 for this report. The interviews were used to gather information from both a public and private perspective about the benefits, costs, and investment priorities for the two national forests, as well as consideration of funding options. Although individual interviewees and their responses have been kept confidential, the interviewees represented the following organizations and institutions:

- Public Stakeholders: Deschutes County, Jefferson County, City of Sisters, City of Bend, and Bend Parks and Recreation District
- Private Stakeholders: Visit Central Oregon, Sisters Chamber of Commerce, Madras Chamber of Commerce, Economic Development for Central Oregon, Central Oregon Trails Alliance, and Upper Deschutes Watershed Council, Hayden Homes

The primary questions for the interviews were:

#### Value of Trails and Recreation

- 1. What are the key benefits you see from trails and other recreation opportunities on the national forest? Do these support any key objectives or priorities for your organization/jurisdiction?
- 2. Are you concerned with only benefits to residents or are you concerned with benefits to visitors as well? Why?

#### Costs and Funding Needs

- 3. Are you generally aware of the costs of sustainably maintaining the trail and recreation infrastructure on national forests? What are the key needs you see from a sustainability perspective?
- 4. Are there important investment priorities you see in terms of trail and recreation infrastructure on the national forest?

#### Funding Sources

- 5. What role should local communities play in building, maintaining and operation trail and recreation infrastructure on national forests?
- 6. What role should visitors play in funding and maintaining this infrastructure?
- 7. Are there specific characteristics of funding strategies for these investments you see as important to pursue or avoid?
- 8. Are there specific funding mechanisms or pathways you see as most important to pursue or avoid? For example, fee-based systems, voluntary contributions, grant programs, property taxes, system development charges on new development, tax-increment financing, other taxes, indirect fees?

### Findings

#### Finding 1: National Forests create value for local communities

Interviewees generally recognized the importance of the DNF and the ONF in maintaining the quality of life of residents and attracting visitors to the area. Residents appreciated the value the forests provided through recreational opportunities and through economic activity associated with non-local recreational spending in the region. Recognizing the value generated by recreational infrastructure in the forests, Deschutes County extended a \$600,000 grant to the Deschutes Trail Coalition to invest in trail infrastructure in the DNF.

However, interviewees in Jefferson County believed that the ONF generated less value for residents of its surrounding counties than the DNF generated for Deschutes County. The ONF attracts less visitors as compared to the DNF due to less developed recreational infrastructure on the ONF. Additionally, there are fewer supporting businesses like hotels in the counties surrounding the ONF - Jefferson and Crook counties - such that the counties do not benefit from recreation related economic activity to a comparable level. For example, Lake Billy Chinook is seen to drive more recreational visitation for Madras and Jefferson County than the ONF.

## Finding 2: Recreational visitation to the National Forests results in costs for surrounding residents and jurisdictions

When asked about costs of maintaining recreational infrastructure on the two forests, interviewees emphasized that they already bear costs associated with wear and tear of the infrastructure frequently used by visitors to the DNF and the ONF. These costs seemed particularly high for transportation infrastructure used to access high-demand recreational sites such as Mt. Bachelor and Tumalo Falls. Limited regulation of visitation and high demand has resulted in increased congestion of transportation routes resulting in costs that local jurisdictions must cover. Interviewees appreciated the benefits from recreational visitation but expressed the need for better management of visitation through investments in better parking and transportation facilities.

Increased non-local visitation to the two forests has also affected the quality of the recreational experience for residents. Increased traffic on multi-use trails, particularly trails near residential areas, and lack of education on trail etiquette has reduced the quality of trail-based activities like walking, hiking, and horse riding for some residents, many of whom moved to the region for its proximity to recreation opportunities. Some interviewees expressed disappointment in the current campground reservation systems through which non-local visitors may reserve campsites but not use them, reducing the camping opportunities for others including residents. Some interviewees felt that residents should be given priority or charged lower rates to access campgrounds and other permitted recreational opportunities such as wilderness area access.

Several interviewees also raised concerns that unregulated dispersed camping in the two forests attracted houseless populations who set up camps in the forests in proximity to the nearby cities. Camps sheltering houseless populations have proliferated in the Crooked River National Grasslands in the ONF and along China Hat Road in the DNF among other forest locations and have generated issues of wildfire risk and impacts to local water quality from a lack of sanitation. Some interviewees recognized that the houseless camps in the forest reduced the pressure and number of camps in the cities but felt that the camps still impacted their recreational experience and created costs for the local jurisdictions. Houseless camps increase the need for services including search and rescue, emergency medical services, and fire management that are supported by local city and county general fund revenues.

## Finding 3: Local governments and organizations hope to coordinate with the Forest Service to find ways to increase efficiencies

Interviewees acknowledged that the forest service was limited by its reliance on federal appropriations and staff capacity to address the variety of demands on the national forests. Some of the interviewees hoped that better coordination between local governments and the forest service could result in strategic partnerships that addressed issues like sustainable development and maintenance of recreation infrastructure. Local organizations like Deschutes Trail Coalition and the Central Oregon Trail Alliance already assist in maintenance of trails on national forests through private funding and their network of volunteers.

Shared stewardship models that convene local stakeholders around a common resource or project could capitalize on the strengths and resources of government at various levels. The forest service could provide federal funding while local partners could contribute staff capacity to implement projects like recreation facility development and maintenance management. Local parks departments for example with high staffing levels and experience with trail and park development and management could provide a shared model. For example, the Upper Deschutes Watershed Council and Bend Parks and Recreation District are currently partnering for riparian restoration and trail and river access improvements along the Deschutes River, utilizing pooled funding from multiple public and private sources. This partnering model could potentially be extended upstream into the DNF and include FS staff.

## Finding 4: TLT revenues are an important source of revenue but are limited in how they may be used for infrastructure maintenance

Transient Lodging Taxes (TLTs) imposed on businesses like resorts and hotels that benefit from tourism in the region generate revenue for local jurisdictions particularly in Deschutes County and the cities of Bend and Sisters that receive the highest volumes of non-local visitors. While most of the revenue from pre-existing TLTs is allocated to each jurisdiction's general fund, the remaining must be used for tourism promotion which includes advertising and marketing and to fund tourism-related facilities. While some interviewees supported the potential use of TLT revenues to maintain recreational infrastructure on the national forests, other interviewees opposed this or did not believe it was legally possible. The legislative language narrowly

defines "tourism-related facility" such that infrastructure like trails on the national forests may not qualify. Additionally, since expenditures on tourism promotion that bring non-local visitors to Central Oregon are more likely to increase revenues for TLT paying businesses, the businesses tend to be more supportive of using TLT revenues for tourism promotion activities than investments in local infrastructure that can be enjoyed by local and non-locals alike.

## 8. Key Funding Sources

The data on recreational use of the national forests in Central Oregon, as well as interviews with key stakeholders, provide a basis for evaluating funding options to address the ongoing costs to sustainably support increasing demand. Existing funding sources also provide an important foundation for expansion with increasing usage. Key themes include:

- Central Oregon residents enjoy a large share of the recreational benefits from Central Oregon national forests Local residents of Central Oregon are the primary users of most outdoor recreation opportunities on the region's national forests. This extends across the region, with residents of Bend and Deschutes County responsible for most trips on ONF as well as DNF. This means that they enjoy most of the benefits provided.
- Visitors to Central Oregon for outdoor recreation are a substantial share of total usage – Visitors also are responsible for a large, although minority share of the visits. Their trip-specific spending though does total a majority of all trip-related spending and associated local economic impacts on jobs and income in the region. To the increasing extent that residents choose to live and work in Central Oregon due to the recreation opportunities, it becomes difficult to fully measure and capture the economic impact provided by residents as a result of outdoor recreation opportunities.
- Central Oregon businesses experience spending associated with residents and visitors who recreation on the national forests The full extent of local and visitor spending is difficult to fully capture, but the most direct measures suggest thousands of jobs and over \$100 million in annual economic activity as a result of outdoor recreation on national forests in Central Oregon. Businesses benefit strongly in this way, with certain categories of trip-related businesses experiencing the most.
- Federal, state, and local agencies support infrastructure, services, and other programs to allow recreation on Central Oregon's national forests Supporting these high and growing levels of outdoor recreation creates costs, often increasing, for a wide range of public services. Municipal, county, and state agencies maintain roads, emergency services, and increasingly social services associated with usage of the national forests. Federal funding does and will continue to play large roles in supporting local communities and visitors alike, particularly with decline in timber revenue and increase in necessary wildfire fuel treatment investments. All levels of government and tax-base will have critical roles to support the growing demand for visitation to Central Oregon's national forests. Moving forward, a range of social, environmental, and basic infrastructure support for a growing population will likely increase competition for local discretionary funds.
- Tourism-related dollars make sense for supporting outdoor recreation infrastructure Tax revenue directly associated with tourism and recreation activity naturally provides a strong nexus and relationship for funding the infrastructure and services that attract residents and visitors alike. It provides a mechanism for a share of visitors to contribute

to infrastructure costs, and it has been successfully used for trail investments from tax dollars generated for both the city of Bend and Deschutes County.

Local government is already playing an important role in the overall support of outdoor recreation on Central Oregon's national forests, and that is increasing as more transient lodging tax revenue is directed towards outdoor recreation infrastructure investment and maintenance. This use also generates opportunity costs in that the same dollars cannot be spent on other local government priorities. Locals also provide substantial contributions voluntarily through volunteer labor and financial contributions.

Direct user-generated and trip-generated revenue via fees makes the most sense from both an efficiency and equity perspective, particularly when combined with programs to assist or make exceptions for certain disadvantaged populations with limited discretionary budget or access. There are challenges to increasing revenue from these sources, but opportunities do exist.

And as it becomes more clear that businesses are critical beneficiaries from outdoor recreation investments on national forests, funding mechanisms could expand and mature that engage business, particularly when it can provide a marketing co-benefit as well. The following section provides more discussion of these three key funding sources. Additional review of other funding sources, including those that can play important complementary roles such as grant and loan programs, is available in the Appendix.

## Transient Lodging Tax Revenue (TLTs)

Resort or lodging or room taxes are a common financing method in areas with tourism to recoup some of the costs of nonlocal visitation. They can be charged to lodging, restaurants, establishments that serve alcohol, or destination recreational facilities such as ski resorts.

The 2003 Oregon legislature established the tax on a state level to fund Oregon Tourism Commission programs. Whoever collects the payment of occupancy of a transient lodging facility (eg. Hotel, Airbnb etc.) must pay 1.5 percent of the amount charged for occupancy. In addition to the state level tax, counties and cities in Oregon also levy TLTs.<sup>22</sup> In Central Oregon, Deschutes, Jefferson, Crook, and Grant counties levy TLTs that range between 6 to 9 percent.<sup>23</sup> Wheeler County does not levy a tax. Cities of Bend, Redmond, Sisters, Madras, Prineville also levy TLTs with Bend levying the highest tax rate of 10.4 percent and Prineville levying the lowest rate of 8.5 percent.<sup>24</sup>

In the case of Central Oregon, TLTs are used to fund tourism infrastructure and advertising. According to ORS 320.350(3), local jurisdictions with pre-existing TLTs must maintain the share of local TLT revenue used for tourism promotion and tourism related facilities as of July 2,

<sup>&</sup>lt;sup>22</sup> Oregon Department of Revenue. 2022. Transient lodging tax program.

<sup>&</sup>lt;sup>23</sup> Oregon Department of Revenue. 2022. Transient lodging administration.

<sup>&</sup>lt;sup>24</sup> Ibid.

2003.<sup>25</sup> Additionally, at least 70% of the revenue generated from a new or increased TLT rate must be used for tourism promotion or tourism related facilities (including debt financing).<sup>26</sup> The statute defines tourism related facilities as conference center, convention center, visitor information center, or other improved real property with a minimum useful life of 10 years that supports tourism and tourist activities.<sup>27</sup>

County and city jurisdictions in Central Oregon together spend 62% of their TLTs revenues on general fund services like law enforcement. Between 2016 and 2021, the City of Bend generated approximately \$9.7 million annually, the highest among all local jurisdictions in Central Oregon, followed by Deschutes County, Redmond, Sisters, and La Pine (Exhibit 32). Visit Central Oregon, the regional Destination Management Office (DMO), relies on TLT revenues from Deschutes County and allocations from Travel Oregon, the statewide DMO.<sup>28</sup>

Between 2016 and 2021, City of Bend dedicated approximately \$3 million annually towards tourism promotion and, as of 2022, Bend allocates 35.4 percent of its TLT revenues to tourism through the Visit Bend program.<sup>29</sup> Specifically, the Bend Sustainability Fund, a Visit Bend project, uses the TLT allocations to fund projects that develop or steward tourism facilities with a minimum life of 10 years that have community support and would see substantial visitor use.<sup>30</sup>

Jurisdiction	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	Annual Average
Deschutes County	\$6,383,950	\$7,035,998	\$7,829,494	\$7,560,817	\$11,485,626	\$8,059,177
City of Bend	\$8,920,999	\$9,392,551	\$10,173,649	\$8,774,457	\$11,075,116	\$9,667,354
City of Redmond	\$884,304	\$983,008	\$1,060,753	\$891,565	\$1,132,816	\$990,489
City of Sisters	\$535,316	\$599,104	\$638,430	\$617,713	\$901,628	\$658,438
City of La Pine	\$150,732	\$158,850	\$154,412	\$143,472	\$101,247	\$141,743

Exhibit 32 Transient Lodging Tax Revenues by Jurisdiction in Central Oregon (2016-2021) Source: <u>Visit Central Oregon. 2022. Transient Room Tax Collections.</u>

<sup>25</sup> Oregon Revised Statutes, Volume 8, Title 29, Chapter 320, Section 350. Tax Moratoriam.

<sup>&</sup>lt;sup>26</sup> Ibid.

<sup>&</sup>lt;sup>27</sup> Ibid.

<sup>&</sup>lt;sup>28</sup> ECONorthwest. 2020. Local Transient Lodging Tax: Expenditures and Administration.

<sup>&</sup>lt;sup>29</sup> <u>City of Bend. 2020. Comprehensive Annual Financial Report 2020.</u>

<sup>&</sup>lt;sup>30</sup> Visit Bend. 2022. Bend Sustainability Fund.

### **User Fees**

The Federal Land Recreational Enhancement Act (FLREA) passed in 2004 allows five federal agencies including the USFS to charge and collect recreational fees on federal recreational lands. Under the Act, the USFS may set the following types of charges on sites<sup>31</sup>:

- Standard amenity recreation fee for amenities like toilets, parking, and law enforcement
- Expanded amenity recreation fee for enhanced amenities like cabins, campgrounds, and boat launches
- Special recreation permits for activities like OHV use, outfitting and guiding, and events

In addition to these site-specific fees, the agencies also issue recreational passes that cover entrance and site-specific fees on federal recreational lands. USFS collects fees for approximately 4,000 of its 30,000 developed recreation sites under the FLREA.<sup>32</sup>

USFS must use the revenue collected through recreational fees for on-site improvements, but some portion of the revenue may be used for other purposes as well. As per the Act, at least 60 to 80 percent of the revenue must be used at the site where it was generated.<sup>33</sup> The National Park Service and the USFS collected \$342 million from recreational fees in 2019 and used 60% of the revenue for facilities maintenance.<sup>34</sup> The agencies used the remaining revenue to fund interpretation and visitor services, fee collection costs, and other expenses.<sup>35</sup>

If the USFS hopes to increase revenue by expanding or increasing recreational fees charged at its developed sites, it must go through the official fee-setting process established under the Act. The Act allows agencies to establish Resource Advisory Committees (RACs) or use existing RACs to engage the public and gain approval for any new fees or changes to existing fees.<sup>36</sup> These RACs are 11 member committees with members who represent a variety of recreational, natural resource, and governmental interests and perspectives.<sup>37</sup> RAC meetings are open to the public and provide a formal setting for public input and deliberation on USFS's recreational fee programs. The Pacific Northwest Region uses pre-existing BLM RACs like the John Day RAC to

<sup>&</sup>lt;sup>31</sup> U.S. Department of Interior and U.S. Department of Agriculture. 2015. Triennial Report to Congress: Implementation of the Federal Lands Recreation Enhancement Act. Available at: <u>https://www.fs.usda.gov/sites/default/files/2015-flrea-triennial-report-web.pdf</u>.

<sup>&</sup>lt;sup>32</sup> Vincent, Carol Hardy. 2021. Federal Lands Recreation Enhancement Act: Overview and Issues. Congressional Research Service. Available at: <u>https://sgp.fas.org/crs/misc/IF10151.pdf</u>.

<sup>&</sup>lt;sup>33</sup> Ibid.

<sup>&</sup>lt;sup>34</sup> Ibid.

<sup>&</sup>lt;sup>35</sup> Ibid

<sup>&</sup>lt;sup>36</sup> U.S. Department of Interior and U.S. Department of Agriculture. 2012. Triennial Report to Congress: Implementation of the Federal Lands Recreation Enhancement Act. Available at: <u>https://www.fs.usda.gov/sites/default/files/2012-thirdflrea-triennial.pdf</u>.

<sup>&</sup>lt;sup>37</sup> Ibid.

provide input on implementation, elimination, and expansion of recreation fees.<sup>38</sup>Beginning in 2024, the region will be able to use Secure Rural School RACs for public input on recreational fees.

### **Business-Related Programs**

The \$1 for Trails is a program created by the Deschutes Trail Coalition (DTC) in 2017 whereby local beneficiaries, particularly businesses and visitors to the region, can contribute to investments in the trail network. The DTC is a non-profit organization comprised of 30 local and regional trail stakeholders dedicated to supporting the U.S. Forest Service in its efforts to manage the trail system in a sustainable manner.<sup>39</sup> Through the \$1 for Trails program, area businesses collect a one-dollar donation during the online booking processes, at point-of-sale checkouts or through an add-on to existing resort fees. Between 2018 and the first quarter of 2021, the program had received \$115,125 in donations. Most (81%) of these donations were received by Sunriver Resort, followed by Mt. Bachelor (15%), Visit Bend DMO (3%), and COVA (1%).

While several lodging properties and retail locations adopted the program readily at the outset, DTC is now seeking to expand the program. Crosscurrent Collective conducted a survey of local businesses to develop strategies to expand the adoption of the program. They recommended that the program develop partnerships with lodging properties in the area and develop a system that allows these properties, especially smaller businesses, to easily implement the program. They recommended that development of outreach materials and programming information like trail maps would help potential donors connect their donations to the benefits of the program potentially increasing donation. They also recommended improvements to the branding and investments in staffing to keep the program going.

<sup>&</sup>lt;sup>38</sup> U.S. Department of Agriculture. No Date. Recreation Resource Advisory Committees. Available at: <u>https://www.fs.usda.gov/visit/passes-permits/recreation-resource-advisory-committees</u>. Accessed on August 11, 2022.

<sup>&</sup>lt;sup>39</sup> See <u>https://www.deschutestrailscoalition.org/</u> for more detail.

## 9. Next Steps for Central Oregon's National Forest Outdoor Recreation Funding

The information provided in this report is intended to support ongoing efforts to improve investment, financing, and overall quality of the experience offered to residents and visitors alike by Central Oregon's national forests. Forest Service staff as well as regional partners have numerous efforts underway addressing identification of investment and maintenance needs for outdoor recreation opportunities, stewardship and governance including prioritization efforts and potentially planning processes, and ultimately long-term reliable funding strategies. Some of the key next steps include:

- Downscaling and tailoring this information to specific categories or geographies of recreation activity, or potentially even individual sites;
- Expanding the investment needs assessments to include other critical infrastructure and services necessary for access to the national forests, including transportation systems and potentially mass transit;
- Increasing the evaluation of specific investment needs tied to equitable access, including transportation systems;
- Facilitation of broader conversations with representatives across jurisdictions for specific investment identification, prioritization, and shared funding strategy development
- Applying this information to dedicated funding strategies that extend beyond one-off examples or high-level perspectives

The information in this report can also benefit from updates over time, combined with finetuning to focus on specific investment and funding needs. While the USFS will continue to play a critical role in these processes, continued success will require expanded involvement and ownership in this process by regional governmental and non-governmental leaders.

## 10. Appendix

## Deschutes Trails Coalition's Partnership with USFS

The mission of the Deschutes Trails Coalition (DTC) is to work collaboratively to foster an exceptional regional trail system that is sustainably managed and balances the needs of people and nature. The DTC provides an important model for implementing the type of multijurisdictional, joint investment and stewardship DNF and ONF will increasingly need to keep pace with demand. DTC was initially formed in 2017 by the Deschutes National Forest, in partnership with Discover Your Forest. The two organizations invited a diversity of local and regional recreation stakeholders to come together to provide community leadership and support to organizations and land management agencies to address escalating challenges to our trail system. DTC is made up of over 30 organizations and agencies representing public lands, outdoor recreation, conservation, tourism, businesses, and trail user groups; these stakeholders continues to drive the Coalition today. DTC recognizes the value of collaboration and that this approach is necessary to address the environmental, social, economic, and physical needs of a sustainable trail system.

Central Oregon is a place well known for its natural beauty and recreation opportunities, and trails are the means through which the majority of visitors experience the region: on federally managed lands, in State and local parks, and on public easements. Trails provide significant social and economic contributions that sustain 1,400 jobs and infuse up to \$200M of revenue annually into our local economies. Our expansive trail network contributes to the high quality of life that Central Oregon residents have, providing endless opportunities to access the physical, mental, and emotional health benefits that time outdoors provides.

While trails offer many benefits, there are also negative impacts that trails and trail-based recreation contribute to such as erosion, disturbances to wildlife, impacts to vegetation, and increased risk of wildfire. As trail use increases, the trade-off between benefits and costs is becoming more evident. Our community feels the demand for more trails, sees increasing instances of user conflicts, and also knows there are inequities in who is able to access the trail networks. Ecological impacts from existing trails and the creation and maintenance of new trails will certainly rise under this pressure, threatening sensitive wildlife and fragile habitats. This increased use and demand threatens to undermine the sustainable balance of our trail network. Climate change will also have impacts on trails, especially on winter recreation.

Additionally, the great economic value that trails provide is out of balance with the minimal monetary investments our community makes to sustain them. The funds that were once available to maintain and grow this trail network are being dramatically outpaced by the declining condition of our trails. Even with the over 40,000 hours of volunteer labor donated annually, current resources are woefully inadequate to address trail needs in a sustainable manner. This imbalance between escalating use and static funding will degrade the quality of the recreational experience in the region. To address these impacts and retain this resource, our

community must work collaboratively to invest in an exceptional regional trail system that is sustainably managed and balances the needs of people and nature.

DTC is working with the Forest Service, and other land management agencies, in a shared effort to promote the sustainability of our trail networks. This partnership aims to dovetail each other's strengths and capabilities to address the challenges of trails management through a collaborative approach.

While working with collaborative organizations is not new to the Forest Service, each relationship and agreement varies and there is no prescription for how to do this but rather is an iterative process between the agency and individual partnering organizations to determine needs, capabilities, capacities, and opportunities fostered by this relationship. There is a formal agreement in place that documents the relationship in somewhat general terms between DTC, Discover Your Northwest (DYNW – DTC's fiscal sponsor) and the U.S. Forest Service. The agreement states the DTC shall "work with Forest Service staff, specialists, and its partners to develop projects and set priorities for sustainably managed trails on USFS managed lands", and to "handle coordination, evaluation, and reporting for these projects and work with the U.S. Forest Service to submit all U.S. Forest Service required annual data (including trails data)". The Forest Service shall "work jointly with DTC to develop projects to address sustainable recreation and trail maintenance backlog".

The specific ways in which the FS and DTC do this are many and continue to grow as the relationship between the two organizations grows. DTC can enter into more specific agreements with the FS to receive federal funds to take on tasks for which the FS has funding but not the personnel capacity to implement. This can be done either by directly funding DTC staff to coordinate the project or program or DTC hiring and working with a contractor. An example of this is the FS's funding DTC to start up an independent professional trail crew that is of mutual benefit to the FS, DTC, and its partners to address trails management and maintenance needs. These are Great American Outdoors Act (GAOA) funds that are being dispersed at the Regional level.

The DTC Trail Crew Pilot is a 3-year project that will develop a professional trail crew to grow capacity in addressing the backlog of trail maintenance and repair of trails in Central Oregon. The intention would be for this crew to continue after three years and to be funded by the DTC or funding sources coordinated by DTC, as a non-profit (donations, grants, etc.) This crew would be hired and managed as a shared professional trail crew resource, employed by DTC, whose work would ultimately be determined by DTC and its partners, often in coordination with DNF Trails Program staff. The Deschutes National Forest hires a professional trail crew annually; typically the crew comprises four temporary employees led by two permanent DNF Trails Program staff. A crew of this size is not able to keep pace with growing infrastructure and maintenance needs. The DNF hosts a bounty of trail volunteers but there is still a growing backlog of projects that are either too remote or require specialized skills and equipment that make them less suitable to be accomplished by volunteers, hence the need for additional trail crew.

The exact cost of this program and how, specifically, it will function are still being determined. A rough annual estimate to operate a crew of 3 crew members, 1 crew leader, and a Trails Program coordinator is about \$175K/year for three years. This includes transportation and tool and equipment needs with the understanding that DTC may be using FS tools and work with Government Services Administration (GSA), which – among other things - serves as a vehicle management and acquisition service for federal agencies – to procure a vehicle for the operating season. Once these details are solidified, DTC and the FS will enter into a formal agreement to document the terms and conditions of these funds: what they can fund, reporting requirements, and limitations.

Agreements are also entered into for DTC to transfer funds to the FS for various projects and needs through grant programs the Coalition administers to which the FS may apply. This may fund materials for projects, support for volunteer trail maintenance training events, or services. For example, DTC administers an annual Small Project Grants program that has funded several FS projects; each project typically valued between \$2K and \$6K.

Being a local non-profit organization allows for nimble and efficient processes to accomplish tasks, in contrast to the more complex and established processes of a large agency like the Forest Service. DTC's process for hiring contractors or consultants, administering contracts, etc. is typically less time consuming and more simplified than the Forest Service's. DTC is also able to advocate for trails and seek funding for trail related projects from both public and private funding sources in a way that is not possible for the Forest Service.

DTC is well positioned to convene conversations among the broader trail user community to help inform projects or proposals that will become formal NEPA proposals, encouraging timely and robust conversations that result in more informed projects and addressing conflicts before they get brought into the formal process. DTC's mission, vision and goals shared amongst all the user groups and partners it comprises, bring together the local trails community and those that directly or indirectly benefit from the local trails to act from a place of shared values. Because DTC comprises numerous stakeholders between which there are trusting relationships and demonstrated collaboration it is most effective to make use of this structure to host these conversations and use DTC's process to work through these issues and come up with solutions at a community-wide level. More formally, an example of this is the FS-DTC agreement put in place to fund a facilitator to support a DTC-hosted conversation around e-bike use on FS trails, something that is currently not allowed and is a contentious issue.

While the Forest Service has its own relationships with individual partner groups, the DTC serves as an additional conduit between DTC partners and the FS. DTC has relationships and regular contact with all levels of the Deschutes National Forest: senior leadership at the Forest and District levels, the Partnerships Coordinator, District Recreation staff, Natural Resource Specialists that analyze trail projects as part of the National Environmental Policy Act (NEPA) process, Trails Program leadership, and the crews working on the ground and directly with FS volunteers (many of whom are DTC partners as well). It wouldn't be feasible for each and every partner group to engage at all these various levels of the Agency. Because DTC represents the

broader trails community and its demonstrated relevance to the Deschutes National Forest DTC has access to keep abreast of FS matters relevant to the trails community as well as having "the ear" of the Forest to share updates, solicit support, and work closely together to affect positive outcomes to the Recreation resource. DTC can then share relevant information in support of individual partner groups as well as the trails community as a whole.

### Placer.ai Data



Exhibit A - 1 Annual Visits to Placer subareas in Deschutes National Forest (2019)

Source: ECONorthwest's analysis of Placer.ai data



Exhibit A - 2 USFS trails in Placer subareas in Deschutes National Forest





Exhibit A - 4 USFS trails in Placer subareas in Ochoco National Forest



### **Review of Other Potential Funding Mechanisms**

We have grouped funding mechanisms into four categories: Direct Use, Value Capture, Variable, and Other mechanisms.

- **Direct Use** mechanisms derive revenue directly from recreational use from visitors to the forests. These tools are easy to justify and implement at the point of use.
- Value Capture mechanisms operate under the assumption that the benefits from trails flow to the wider community, rather than just to those directly using the trails. Accordingly, value capture mechanisms are designed to raise revenue from those broad community beneficiaries.
- **Revenue-sharing** mechanisms rely on agreements between parties like local businesses and governments to raise and share revenue. Such agreements will have to be negotiated and would generate a variable amount of revenue year over year. For these reasons, this funding source is unreliable for consistent revenue amounts year over year.
- **Federal and State** funding mechanisms include funds and grant programs and generally rely upon funds generated outside the region or at larger geographic scales than other mechanisms.
- The final category includes **Other** miscellaneous sources of revenue that do not fall into any of the prior three categories.

### Direct Use Mechanisms

#### **User Fees**

User fees are a funding mechanism where visitors to the national forest are charged upon entry. In addition to generating revenue, user fees can be used as a visitor management tool to manage crowding, inadequate facilities, or environmental concerns.<sup>40</sup> However, studies show user fees disproportionately affect low-income visitors, with lower willingness or ability to pay, who may subsequently choose non-fee sites.<sup>41</sup> User fees typically make up a small amount of Forest Service recreation budgets. The Forest Service can charge for parking at day use sites, use of campground sites, and use of other amenities such as boat launches. In 2014, the USFS nationally sold 81,000 passes (annual and senior combined) for revenue of \$2 million.<sup>42</sup>

<sup>&</sup>lt;sup>40</sup> Chung, J. Y., Kyle, G. T., Petrick, J. F., & Absher, J. D. (2011). Fairness of prices, user fee policy and willingness to pay among visitors to a national forest. Tourism Management, 32(5), 1038-1046.

<sup>&</sup>lt;sup>41</sup> Lamborn, C. C., Smith, J. W., & Burr, S. W. (2017). User fees displace low-income outdoor recreationists. *Landscape and Urban Planning*, *167*, 165-176. Accessed at

https://www.sciencedirect.com/science/article/abs/pii/S0169204617301433\_

<sup>&</sup>lt;sup>42</sup> US Dept of the Interior & US Dept of Agriculture. (2015). Implementation of the Federal Lands Recreation Enhancement Act: Triennial Report to Congress.

Colorado "Fourteeners" found 62 percent of respondents are willing to pay an additional \$20 to the USFS to access the area.<sup>43</sup>

Recreation fees in national forests are not uniform. Generally fees are required to be limited to facilities and amenities with capital and maintenance investments and improvements. Deschutes National Forest supports considerably more fee-sites than the Ochoco National Forest does not. A full menu of potential user fees charged in these two forests is listed in Figure 1.

Location	Pass/Permit Name	Cost
Deschutes and Ochoco NF	Interagency Annual Pass*	\$80 annually
Deschutes and Ochoco NF	Interagency Senior Pass* (ages 62+)	\$20 annually \$80 lifetime
Deschutes and Ochoco NF	Regional Northwest Pass*	\$5 per day \$30 annually
Deschutes NF	Newberry National Volcanic Monument	\$10 for 3 days
Wildernesses within Deschutes and Ochoco NF	Central Cascades Wilderness Permit <sup>44</sup>	\$1 per person day use \$6 per overnight group (max 12)
Deschutes and Ochoco NF	ATV Permit <sup>45</sup>	\$10 for 2 years
Designated Sno-Parks within Deschutes and Ochoco NF	Sno-Park Parking Permit <sup>46</sup>	\$4 per day \$9 for 3 days \$25 annually
Deschutes NF	Single campsite (includes 1 vehicle) <sup>47</sup>	\$12-20 per night + \$8 per additional vehicle

Figure 1. Current User Fees Charged at USFS Sites

\* For Ochoco NF, pass is only required at concessionaire-managed sites. Entry is otherwise free of charge.48

<sup>&</sup>lt;sup>43</sup> Keske, C. M., & Mayer, A. (2014). Visitor willingness to pay US forest service recreation fees in new west rural mountain economies. Economic Development Quarterly, 28(1), 87-100. Accessed at: https://escholarship.org/content/qt0xs7c5cb/qt0xs7c5cb.pdf

https://escholarship.org/content/qtuxs/c5cb/qtuxs/c5cb.pdf

<sup>&</sup>lt;sup>44</sup> USDA Forest Service. (2022). Central Cascades Wilderness Permits. Accessed at:

https://www.fs.usda.gov/detailfull/willamette/home/?cid=FSEPRD688355&width=fullwillamette/home/

<sup>&</sup>lt;sup>45</sup> Oregon State Parks. (2022). ATV Permit. Park Store. Accessed at:

https://store.oregonstateparks.org/index.cfm?do=v.dsp\_item&itemId=100

<sup>&</sup>lt;sup>46</sup>Oregon Department of Transportation. (2022). Sno-Park Parking Permits. Oregon Driver & Motor Vehicle Services. Accessed at: https://www.oregon.gov/ODOT/DMV/pages/vehicle/sno\_park\_permits.aspx

<sup>&</sup>lt;sup>47</sup> USDA Forest Service. (2022). Deschutes National Forest: Campground Camping. Accessed at:

https://www.fs.usda.gov/activity/deschutes/recreation/camping-cabins/?recid=38280&actid=29

<sup>&</sup>lt;sup>48</sup> USDA Forest Service. (2022). Ochoco National Forest & Crooked River National Grassland: Passes & Permits. Accessed at: https://www.fs.usda.gov/detailfull/ochoco/passes-permits/?cid=stelprd3807596&width=full

#### **Special Use Permits**

Special-use permits are authorizations from the Forest Service required for specific activities on the land, including occupation or construction; use that charges fees or derives income; and use involving 75 or more participants or spectators. These permits are mainly for contracting or commercial use including special sports events. The minimum fee to use a USFS site for a special event is \$115 and the USFS may charge additional fees based on the amount of revenue generated by the event.<sup>49</sup>

The Forest Service issues over 70,000 permits every year covering a range of special uses and activities.<sup>50</sup> Over half the permits are issued for special land use authorizations. Outfitting and guiding services qualify as special uses related to outdoor recreation. Outfitting and guiding services include services or assistance provided for a fee like renting supplies or acting as a guide for activities like river rafting, hunting, OHV tours, etc.<sup>51</sup>

### Value Capture Mechanisms

#### **Resort Tax**

Resort or "luxury" taxes are charged on goods and services not deemed necessities of life. They are a common financing method in areas with tourism to recoup some of the costs of nonlocal visitation. Resort taxes can be charged to lodging, restaurants, establishments that serve alcohol, or destination recreational facilities such as ski resorts. The rate itself is commonly 2-3 percent. The city of Whitefish, Montana, taxes recreational guides and outfitters (such as for hunting, fishing, and horseback riding), sporting goods, motorcycles, ATVs, snowmobiles, and jet skis, among other things. A resort tax can be used to finance recreational infrastructure by directly taxing those who use equipment such as the above on trails and recreational sites. Deschutes County already has a transient room tax of 8 percent paid by people staying overnight in unincorporated parts of the County.<sup>52</sup>

#### **Recreation Improvement District**

A special assessment district can be created when a public entity has made significant investments in a certain geography that has raised assessed property values in that area. An additional property tax is levied in the district to "capture" the value of public investment that is otherwise pocketed by property owners. This method can be used to recoup recreation-based investments that have increased local property values. Special assessment districts commonly

<sup>&</sup>lt;sup>49</sup> https://www.fs.usda.gov/Internet/FSE\_DOCUMENTS/stelprdb5417577.pdf

<sup>&</sup>lt;sup>50</sup> https://www.aore.org/docs/002\_Guide\_External\_Guide\_USDFS\_Special\_Uses\_v01.1.pdf
<sup>51</sup> Ibid.

<sup>&</sup>lt;sup>52</sup> Deschutes County. (2021). Finance: Transient Room Tax. Accessed at: https://www.deschutes.org/finance/page/transient-room-tax

rely on a majority vote of property owners within the proposed district. The taxing district is usually a temporary creation with a fixed expiration date.

The White Mountain Lakes County Recreation Improvement District in Arizona was created as a special assessment district. It charges an additional 1.69 percent on properties within the geography.<sup>53</sup> In return, lake access is granted exclusively to district members and their guests. In FY 2022, the Lake District projects a budget of \$175,000 from property tax revenue from 3,400 land parcels.<sup>54</sup>

#### Tax Increment Financing

Tax increment financing (TIF) is a method of financing capital projects in a designated geographic area based on the anticipated increase in property tax within that area. The revenue generated by a TIF district is the increase in property tax assessed compared to the baseline property value prior to the project. Districts are established at the municipal level.

A nearby national forest is an amenity and thus a draw to local towns, making increased property prices a reasonable assumption.<sup>55</sup> The revenue gained from the increased property tax can then be used to address funding needs in the forest. TIF is relatively equitable because it "returns" value to the forest from which properties were otherwise benefitting. However, some communities have raised concerns that this adversely affects lower income communities and "siphons off funds that should have gone to public schools."<sup>56</sup> In certain contexts, such as rapidly growing outdoor communities like Bend with inflating property values, TIF may be a way to offset the impacts of continued growth that will occur with increased trail access.

TIF has not been widely used to fund natural resources but there is an extensive literature establishing the positive effect environmental amenities have on property values. Kim and Johnson (2002) studied McDonald-Dunn Research Forest in Corvallis, Oregon and found proximity to forests have a positive effect on property prices. A study of Saguaro National Park

<sup>&</sup>lt;sup>53</sup> Arizona Auditor General. (2021). Navajo County Tax Levy and Tax Rate Information Fiscal Year 2022. Accessed at: https://www.navajocountyaz.gov/Portals/0/Departments/Finance/Documents/Budget/2021-

<sup>2022/</sup>Navajo%20County%20FY2021-22%20Tentative%20Budget.pdf?ver=4kB7VV\_qew5CIrhvfhLtdw%3d%3d <sup>54</sup> White Mountain Lakes County Recreation Improvement District. (2021). WMLCRID 21/22 Projected Budget. Accessed at: https://www.wmlcrid.org/app/download/16334036/WMLCRID+2021-2022+PROJECTED+BUDGET+%28with+notes%29.pdf

<sup>&</sup>lt;sup>55</sup> Kim, Y. S., & Johnson, R. L. (2002). The impact of forests and forest management on neighboring property values. *Society &Natural Resources*, *15*(10), 887-901. Accessed at: https://www.researchgate.net/profile/Yeon-Su-Kim/publication/249015079\_The\_Impact\_of\_Forests\_and\_Forest\_Management\_on\_Neighboring\_Property\_Values/lin ks/56fc11a508ae3c0f264d6f8e/The-Impact-of-Forests-and-Forest-Management-on-Neighboring-Property-Values.pdf

<sup>&</sup>lt;sup>56</sup> Flint, A. (2018). The Hidden Costs of TIF: Reconsidering a Vaunted Economic Development Tool. Lincoln Institute of Land Policy. Accessed at: https://www.lincolninst.edu/publications/articles/hidden-costs-tif

West and Tucson Mountain Park found positive impacts of proximity to national parks on house prices.<sup>57</sup>

#### Pay for Success Financing

Pay for Success financing is a method being pioneered to fund investments within National Forests. Pay for Success sees investors funding trail stewards for maintenance and improvements. However, the trail stewards are not responsible for repaying investors. Instead, investors are repaid by local third parties who have benefitted from trail investment. These payors can be public or private entities, and they have an incentive to do so because trail investments are leading to positive outcomes for them. An outside fourth party is responsible for evaluating the trail benefits and coordinating repayment to investors using money taken from the beneficiaries.

Baileys Trail System on Wayne National Forest in Athens, Ohio, has been one of the first organizations to try this approach. Baileys was able to finance \$5.4 million over 5 years to invest in their 88-mile trail network. The payors to investors included the county, two cities, and two villages. The fourth party evaluator was Ohio University.<sup>58</sup>

### **Revenue-Sharing Mechanisms**

#### Voluntary Surcharge Program

A voluntary surcharge program solicits donations from the public and uses them to fund restoration and maintenance services for the local area. The donations are collected by local businesses at the point of sale, who then remit them to the steward organization. This method of funding keeps dollars in the local area and ensures that participants are also the people who most benefit from the program. The USFS considers a viable and successful voluntary surcharge program one that can raise at least \$25,000 annually.<sup>59</sup>

The \$1 for Trails program in Deschutes County, Oregon asks customers to add an additional \$1 to their purchases. The program is organized by the Deschutes Trails Coalition, which uses revenue to fund its Small Project Grant Program. The 1% for Open Space program in Gunnison County, Colorado has an opt-out program where participating businesses automatically add a 1 percent surcharge to customers' purchases. Gunnison County then

<sup>&</sup>lt;sup>57</sup> Mueller, J. M., Loomis, J. B., Richardson, L., & Fitch, R. A. (2021). Valuing impacts of proximity to Saguaro National Park on house prices. *Applied Economic Perspectives and Policy*. Accessed at: https://onlinelibrary.wiley.com/doi/10.1002/aepp.13196

<sup>&</sup>lt;sup>58</sup> Quantified Ventures (2018). US Forest Service: Sustainable Recreation Infrastructure Pay-for-Success Feasibility Report. Accessed at:

https://static1.squarespace.com/static/5d5b210885b4ce0001663c25/t/5d84e60cad88c13184eb6751/1568990738934/The% 2BBaileys%2BTrail%2BSystem%2BPay-For-Success%2BFeasibility%2BReport%2BFinal.compressed.pdf

<sup>&</sup>lt;sup>59</sup> US Forest Service. (n.d.). USFS Conservation Finance Toolkit: Voluntary Surcharge. Accessed at: https://www.nationalforests.org/assets/pdfs/Con-Fin-Example-Voluntary-Surcharge-Overview.pdf

distributes these funds to local organizations working to preserve open space in the County. Gunnison County reports raising approximately \$130,000 annually through the program.<sup>60</sup>

#### Municipal/Local Tax Revenue Sharing

Governments can enter agreements with trail agencies to send a one-time or annual sum of money towards trail maintenance or improvements. These agreements are typically negotiated and formalized in a Memorandum of Understanding. Deschutes County, Oregon transferred \$600,000 to the Deschutes Trails Coalition to go towards maintenance.

#### Specialty License Plates

License plate fees are a one-time cost assessed when one registers their vehicle. Specialty license plates include an additional fee, and the extra cost is used fund different causes which are advertised on the plate.<sup>61</sup> Specialty license plates are approved by the state, and costs vary by state and design. A license plate could be approved specifically to fund trails in Oregon forests.

Oregon has a Smokey Bear plate that has a \$40 surcharge for purchase and annual renewal. Of this fee, \$35 goes to Keep Oregon Green, a wildfire prevention organization. Keep Oregon Green raised \$108,000 in the initial six months of its release. Washington has a National Parks plate that costs \$77.25 for a passenger vehicle, with a \$30 yearly renewal fee. Of this fee, \$28 goes to support Washington's National Park Fund. Specialty plates raised \$226,000 for the National Park Fund in 2019.<sup>62</sup>

# Federal and State Funding Mechanisms (Funds and Grant Programs)

#### Land and Water Conservation Fund

Now a permanently funded source of potential project funding under the Great American Outdoors Act, the LWCF may be an increasingly reliable source of funding for recreation projects across the forests.

<sup>&</sup>lt;sup>60</sup> Murfee, M. (2014). 1% for Open Space: Understanding Voluntary Surcharge Programs. Tamarisk Coalition Funding Webinar Series. Accessed at: https://riversedgewest.org/sites/default/files/resource-center-documents/Molly%20Presentation 01.17.14.pdf

<sup>&</sup>lt;sup>61</sup> National Conference of State Legislatures. (2020). Vehicle Registration Fees by State. Accessed at: https://www.ncsl.org/research/transportation/registration-and-title-fees-by-state.aspx

<sup>&</sup>lt;sup>62</sup> Washington State Departement of Licensing. (2021). Special License Plate Annual Report. Accessed at: https://www.dol.wa.gov/about/docs/leg-reports/2020-Special-License\_Plate-Report.pdf

#### National Forest Foundation Matching Grants

NFF awards funding annually to tens of projects nationally enhance outdoor experience. Northwest Youth Corps received a grant in 2019 for work on the Deschutes and Ochoco National Forests.

#### Other grant programs

Funds like the American Hiking Society's National Trails Fund or the federal Recreational Trails Program are potential additional sources of grants. These are generally small, one-time sources of funds.

#### **OPRD-Administered Recreation Grants**

#### Local Government Grant Program

LGGP grants are used in four ways: 1) to acquire property, 2) to develop or improve outdoor recreation facilities or supporting infrastructure, 3) to rehabilitate grounds to meet ADA accessibility requirements, and 4) to fund planning and feasibility studies. Local government agencies who are required by law to provide public recreational facilities qualify as eligible applicant for the program. Eligible applicants include cities, counties, Metropolitan Service Districts, parks and recreation districts, and port districts.

The funding for the grants comes from state lottery funds and the total magnitude of funding available for projects depends on the scale of the project and legislative approval of OPRD's budget.<sup>63</sup> OPRD typically awards \$5 million annually. Applicants may request up to \$75,000 for a small grant, up to \$750,000 for a large grant, and up to \$40,000 for a small community planning grant. Match criteria varies between 20 and 50 percent depending on the population served by the applicant agency.<sup>64</sup> For example, Deschutes County with a population of 199,793 would be required to provide a match of 50 percent. Match may include revenue and funding from other local, state, or federal sources, labor, property, equipment and materials, cost of appraisals, and pre-development costs.

#### **Recreational Trails Program**

The Recreational Trails Program (RTP) is a federally funded grant program that is administered by OPRD and used to improve motorized and non-motorized trails and trailrelated facilities in Oregon. Eligible applicants include local, state, federal, Tribal, and other governments. RTP grants are used in four ways: 1) to construct or improve trails, 2) to develop or improve trailheads or supporting facilities, 3) to acquire land for trail development, and 4)

 $<sup>^{63}\,</sup>https://www.oregon.gov/oprd/GRA/pages/GRA-lggp.aspx$ 

<sup>&</sup>lt;sup>64</sup> Ibid.

for safety and education projects.<sup>65</sup> Routine and deferred maintenance activities do not qualify for the grant.<sup>66</sup> Trails can be for motorized, non-motorized, and water-based activities.

OPRD typically awards \$1.6 million annually, with at least 30 percent set aside for motorized trail projects. The minimum proposal amount is \$10,000, and non-motorized trail proposals have a \$150,000 maximum. There is no maximum for motorized trail proposals. These grants require a 20 percent match and are typically issued for two-year terms.

#### All-Terrain Vehicle Grant Program

The All-Terrain Vehicle (ATV) Grant program is funded by ATV user permit sales and a share of gasoline tax money. The grants fund off-highway vehicle (OHV) recreation across Oregon. Eligible applicants include public agencies that are required to provide OHV recreation (including federal, tribal, state, and local governments), private land managers who provide and maintain OHV infrastructure, and registered non-profit OHV clubs.<sup>67</sup>

The grants are used in six ways: 1) to acquire land for OHV recreation, 2) to plan for OHV recreation including environmental and feasibility studies, 3) to develop recreation areas from design and engineering of new trails to rehabilitation of existing ones, 4) to fund operation and maintenance expenses such as hiring employees and managing volunteers, 5) for law enforcement projects such as patrols, and 6) to provide emergency medical services.

These grants have a minimum 20 percent match requirement that can be satisfied with revenue and funding from other local, state, or federal sources, labor, property, and equipment and materials. The Deschutes County Sheriff's Office and Deschutes National Forest's COHVOPS program are grantees under the program.<sup>68</sup>

#### Land and Water Conservation Fund

The Land and Water Conservation Fund (LWCF) is a federally funded grant program. It is administered by OPRD and used to acquire land and water for public access or develop basic outdoor recreation facilities. Eligible applicants include cities, counties, park and recreation districts, metropolitan areas, port districts, Tribes, and Oregon state agencies. Projects that apply for a LWCF grant must be consistent with the State Comprehensive Outdoor Recreation Program (SCORP)'s goals, local land use plans, and park master plans. They must also be ADAaccessible.<sup>69</sup>

OPRD typically awards \$1.5 million every other year through this program. These grants can require up to 50 percent of project funding to be matched to donations, the value of

 $<sup>^{65}\,</sup>https://www.oregon.gov/oprd/GRA/Pages/GRA-rtp.aspx$ 

<sup>66</sup> https://www.oregon.gov/oprd/GRA/Documents/RTP-2021-Grant-Manual.pdf

<sup>&</sup>lt;sup>67</sup> https://www.oregon.gov/oprd/GRA/Pages/GRA-atv.aspx

<sup>68</sup> https://www.oregon.gov/oprd/GRA/Documents/ATV-2021-grant-awards.pdf

<sup>69</sup> https://www.oregon.gov/oprd/GRA/Pages/GRA-lwcf.aspx

property, equipment, materials, and/or labor. Land previously acquired cannot be used as a match, but pre-agreement design and engineering costs can.

#### County Opportunity Grant Program

The County Opportunity Grant Program (COGP) is funded by a share of the recreational vehicle registration fees. The program is administered by OPRD and is used 1) to acquire property for public camping facilities, 2) to develop new or add on to existing campgrounds and supporting facilities like restrooms, picnic tables, and trails, 3) to rehabilitate grounds to meet ADA accessibility requirements, and 4) to fund feasibility studies and park master plans for overnight camping facilities. Eligible applicants include all Oregon counties that own property or have long term leases, county property operated through public entities with interagency agreements, and counties with fewer than 30,000 residents seeking to develop campgrounds in or adjacent to fairgrounds.<sup>70</sup>

OPRD typically awards \$800,000 annually through this program. These grants require a 25 percent local match for counties with a population less than 30,000 and require a 50 percent local match for counties with a population greater than 30,000.

#### **RAISE Discretionary Grants**

The Rebuilding American Infrastructure with Sustainability and Equity (RAISE) discretionary grant program can be used road, rail, transit, port, and trail projects. It is meant to fund projects that are multi-modal, multi-jurisdictional, or have other qualities that make is difficult to qualify for federal grants. RAISE grants are distributed at the national level from a \$1.5 million funding pool.

#### Federal Lands and Tribal Transportation Program (FLTTP) Grants

#### Federal Lands Transportation Program (FLTP)

The Federal Lands Transportation Program disburses funds to improve transportation infrastructure owned by Federal Land Management Agencies (FLMA) that include the National Park Service, U.S. Fish and Wildlife Service, U.S. Forest Service, U.S. Army Corps of Engineers and the Bureau of Land Management. The program is administered by the Federal Highway Administration (FHWA).<sup>71</sup> The National Park Service, U.S. Fish and Wildlife Service, and U.S. Forest Service receive statutory funding on an annual basis while other agencies are allocated

<sup>&</sup>lt;sup>70</sup> https://www.oregon.gov/oprd/GRA/pages/GRA-

cogp.aspx#:~:text=The%20County%20Opportunity%20Grant%20Program,benefitted%20Oregon%20counties%20since %201983.

<sup>&</sup>lt;sup>71</sup> https://highways.dot.gov/federal-lands/programs/transportation

funding based on their application submissions. Between 2016 and 2020, the annual funding for the Forest Service ranged from \$15 to \$19 million.<sup>72</sup>

#### Federal Lands Access Program

The Federal Lands Access Program (FLAP) funds projects that provide access "to and through Federal Lands for visitors, recreationists, and resource users."<sup>73</sup> Proposed projects must be on a public highway, road, bridge, trail, or transit system that is located on, adjacent to, or provides access to Federal lands. Qualifying projects can be for transportation to the site or for trail-related improvements ("enhancements"). This program is intended for federal department use. The Oregon FLAP receives approximately \$39 million annually. Fund matching is not required.

#### Tribal Transportation Program

The Tribal Transportation Program (TTP) provides federal funding to develop and maintain transportation and public road access to and within Indian reservations, Indian lands, and Alaska Native Village communities. Only Native American Tribal governments are eligible to apply for the funds. In addition to ground transportation, the funds can also be used for planning and design activities and construction and maintenance activities on trails and pedestrian/bicycle facilities. The funds are disbursed to tribes based on tribal population, road mileages, and other factors.<sup>74</sup>

#### The Trail Fund (American Trails)

The Trail Fund is used for work on existing motorized and non-motorized trail projects, particularly on state and local lands (though Federal lands will be accepted).<sup>75</sup> Projects can include maintenance of existing trails, research, and stewardship training. Grants range from \$2,000 to \$15,000 and in 2021, American Trails distributed a total of \$50,000. These grants require a 20 percent match. Funds may not be used for new trail projects, indirect costs, budget deficits, debt reductions, or general operating expenses.

#### National Forest System Trail Stewardship Partner Funding Program

This program is a collaboration between the National Wilderness Stewardship Alliance and the Forest Service with other organizations like the American Hiking Society and American Trails, involved in the project selection process. The program is intended to increase maintenance and reduce trail backlogs for National Forest System trails while supporting volunteer and

 $<sup>^{72}\</sup> https://highways.dot.gov/sites/fhwa.dot.gov/files/docs/federal-lands/programs/federal-lands-transportation-program/8191/fast-fltp-fact-sheet.pdf$ 

<sup>73</sup> https://flh.fhwa.dot.gov/other/documents/flap/2021-OR-FLAP-Request-for-Proposal.pdf

 $<sup>^{74}\</sup> https://highways.dot.gov/sites/fhwa.dot.gov/files/docs/federal-lands/programs-tribal/32716/fhwa-tribal-transportation-program-overview.pdf$ 

<sup>75</sup> https://www.americantrails.org/apply-for-the-traail-fund

stewardship of the trails. Funding is available for all types of motorized and non-motorized terra trails. This program is intended for non-profit stewardship organizations. Grants range from \$2,000 to \$20,000 and in 2021, American Trails estimated \$550,000 in available funds. Grants require a one-to-one match.

### Other Funding Mechanisms

There are many other sources of funding to consider, and likely a sustainable funding mix for the forests will include several pools of funding.

#### Special Purpose Tax

Local governments also have the authority to directly levy taxes on their jurisdictions, typically in the form of sales, property, income/payroll, use, or fuel taxes. They can then transfer these funds to the trail agency. While sales tax revenues can provide significant funds to trail agencies, they are long-term, more volatile, and more susceptible to economic downturns compared to property taxes.

#### GO Bonds

General obligation (GO) bonds are a mechanism where funding for trails is raised via long-term government loans, called bonds. The government receives the money when people purchase the bonds and are then responsible for paying back their loans over time. GO bonds are backed by the "full faith and credit" of the government, meaning they are responsible for paying back their debts using any means necessary, including raising property taxes. GO bonds are a relatively stable investment for people, which has perpetuated their use for a variety of funding needs. GO bonds usually last 20 to 30 years, so a city or county could issue them to fund trail maintenance and capital improvements over a long period of time.

The Oregon State Legislature issued \$50 million in GO bonds in 2021 to help the Oregon Parks and Recreation Commission fund state park facility improvements (SB 5506).<sup>76</sup>

<sup>&</sup>lt;sup>76</sup> Rippee, M. (2021). News Release. Oregon Parks and Recreation Department, Accessed at: https://www.oregon.gov/oprd/AO/Documents/NEWS-2021-11-OSPRC-approves-initial-GO-bond-projects.pdf

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