Annual Visitation Estimate

Visit Type	Visits (1,000s)	90% Confidence Level (%)#		
Total Estimated Site Visits*	1,967	±8.5		
→ Day Use Developed Site Visits	640	±13.0	**33%**	8
→ Overnight Use Developed Site Visits	44	±12.2	**2%**	
→ General Forest Area Visits	1,254	±11.6	**64%**	
→ Designated Wilderness Visits†	29	±23.8	**1.5%**	
Total Estimated National Forest Visits§	1,631	±8.2		
→ Special Events and Organized Camp Use‡	91	±0.0		

Selected Forests:

Tongass NF-Stikine (FY 2005, FY 2008, FY 2009)Tongass NF-Ketchikan (FY 2005, FY 2009)Tongass NF-Sitka and Hoonah (FY 2011)Tongass NF-Juneau and Admiralty National Monument (FY 2010)Tongass NF-Yakutat, Petersburg, and Wrangell (FY 2012)

* A Site Visit is the entry of one person onto a National Forest site or area to participate in recreation activities for an unspecified period of time.

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Information from NVUM on the type of site visit for the Tongass indicates general forest area visits made up 64 percent of all forest site visits or 1.8 million visits annually. General forest area visits include IRA visitation since they do not include day use developed sites, overnight use developed sites nor wilderness visits. The existing 110 IRAs on the Tongass cover 9.2 million acres which is 55 percent of the forest outside of wilderness. Developed areas cover about 1.3 million acres, or about 8 percent, wilderness covers about 5.9 million acres or 35 percent of the forest; leaving 2 percent of other general forest area. Visitation in IRAs and other general forest area visits rely upon access routes and thus the assumption that general forest area visits are evenly distributed on a per acre basis is likely an overestimate of IRA visitation. However this provides an upper bound estimate useful for analysis of cost related to displacement from timber harvest.

		2017	114.3
2,874,000	visits estimated by Eric White in USDA Forest Service 2017	2018	114.8
1,839,360	total general forest area visits	2019	115.6

2,399.17 Potentially displaced visitors on an average annual basis due to harvest of suitable old-growth in IRAs

Although the alternatives would vary in terms of the amount and location of acres suitable for timber harvest, the total volumes expected to be harvested would be the same under each regulatory alternative. The Record of Decision for the 2016 Forest Plan estimated that a total of approximately 24,000 old-growth acres would be harvested Forest-wide after 25 years, with a total of 42,500 old-growth acres harvested after 100 years. Using the same assumptions for young growth, an estimated 284,000 acres of young growth would be harvested over 100 years under all alternatives (USDA Forest Service 2016). These estimates represent an approximate upper-bound ceiling of the number of roadless acres that could be potentially harvested under any of the regulatory alternatives (USDA Forest Service 2019) and provide a per acre basis for measuring potential displacement of IRA visitors. First acreage estimates need to be converted to annual average acres harvested. As a conservative upper-bound the annual average of the 25 year old growth estimate (24,000/25=960 acres) is added to the annual average of the 100 year young growth estimate (284,000/100=2,840 acres) to estimate average annual disturbance due to harvest (3,800 acres). In any given year the annual harvest is likely to be less than or greater than the annual average over the 25 or 100 year periods, thus the estimate of disturbance is tripled (12,000) which is also half the suitable old-growth acres anticipated to be harvested Forest-wide after 25 years. Of the 1.8 million IRA visitors across 9.2 million acres of IRAs, approximately 2,400 visitors may be displaced with an upper bound estimate of annual harvest of suitable young- and old-growth.

$382,199,600 Total Annual Spending Related to NF Visits as estimated by Eric White in USDA Forest Service 2017

$244,607,744 Assuming the type of trip taken by IRA visitors is the same as the segment share distribution for the rest of the forest provides an estimate of total annual spending by IRA visitors

$319,054 total expenditure by displaced IRA

Total annual spending or costs related to all recreation visitation on the Tongass is $382 million dollars (USDA Forest Service 2017). Not all of this spending is due to IRA visit This estimate is based on recreation spending across 10 categories: • Motels
• Campgrounds
• Restaurants
• Groceries
• Gas & oil
• Other transportation expenses
• Entry fees
• Recreation & entertainment
• Sporting goods
• Souvenirs and other expenses
Spending in these categories are sampled across the type of trip (local or non-local visitors who are on day trips or staying overnight on and off the forest). After separating economic survey responses into these trip-types and excluding outliers and contaminants, sample sizes are too small at the forest level to reliably estimate spending averages for each trip-types on individual national forests so Tongass total annual spending or costs are based on these national averages. However visitor spending can differ from place to place with differences in local spending opportunities and local prices. To account for these differences trip types spending profiles are available for forest with below-average, average and above-average spending. Thus total spending is also based on the Tongass' classification as an average spending forest. Total spending or costs for all visitors is proportional to IRA visitors if we assume the distribution of the type of trip taken by IRA visitors is the same as the rest of the forest. Thus total costs for IRA visitors are approximately $621,500.

Not all recreation related costs associated with IRA visitation are expected to increase with temporary displacement due to harvest. It can be expected that three NVUM expenditure categories may be associated with displacement as they are associated with travel or guide related expenses. The three categories potentially associated with displacement are: gas and oil; local transportation costs (bus, shuttles etc.); and Recreation and entertainment (include guide fees, equipment rental). Together these three categories make up 24 percent of all expenditures by recreationists. Since these expenses include some costs not associated with spatial or temporal displacement (e.g., equipment rental) this cost estimate can be considered an upper-bound or ceiling. Further spatial or temporal displacement may result in a reduction in costs since substitute sites may be closer than the unavailable site, reducing travel distance and costs; thus the cost estimate can be further considered a conservative upper-bound or ceiling.

$	76,848	$13,315.16												
$	317.55	$ 55.02												$550,000 and ranged from a minimum of $76,000 to a maximum of $850,000
												550000	76000	850000
		page 18 of white and stynes 2010							343.7			597,365.84	82,545.10	923,201.76
									12.17			0.053%	0.385%	0.034%
		Gas & oil	**31.06**						74.59	0.0417333				
		Local Tran	**83.17**						1787			2012	105.214	
		admission	**77.17**	**191.4**								2013	106.929	
		Total	**748.1**	**0.25586**					0.241			2014	108.686	
Eric's data (from "New_Rnd3_spending_122716b.xlsx" on sharepoint)												2015	110.498	
Spend	Category	Seq51	NL Day	NL OVN-I	NL-OVI	Local D	Local O	Local O	Not primary			2016	112.238	
Average	All other	GASOIL14	27.82	57.532	81.44	14.3	43.72	56.82	62.09			2017	114.275	
Average	All other	LOCLTRAN	0.682	1.4793	5.534	0.175	0.045	1.199	3.057			2018	114.828	
Average	All other	REC_ENT1	3.355	7.6472	33.75	1.03	2.098	4.347	22.36			2019	115.6	
Average	All other	TOTSP214	66.53	241.408	581.9	34.46	174.7	266.7	421.7					

01-03 East Chilkats	361,545	67%	446	454	179	146	246	1,471	294	242,235
04-03 Sitka Area	345,862	85%	5,213	4,733	6,005	5,614	6,597	28,162	5,632	293,983
04-04A Rodman Bay	75,427	60%	250	428	385	347	508	1,918	384	45,256
04-04B Kelp Bay	144,680	89%	4,048	4,427	5,316	5,343	5,494	24,628	4,926	128,765
04-11A Port Frederick	112,512	77%	10	15	78	1,358	3,021	4,482	896	86,634
04-11B Freshwater Bay	160,078	61%	178	228	1,838	2,235	2,468	6,947	1,389	97,648
04-12 Tenakee Inlet	312,370	79%	95	89	108	230	407	929	186	246,772
04-13 Peril Strait	232,130	72%	744	1,057	1,473	1,254	1,368	5,896	1,179	167,134
CRD 00 Craig Ranger District	925,876	77%	2,574	1,920	2,125	1,798	926	9,343	1,869	712,925
K19 North Revilla	70,401	83%	217	269	101	286	193	1,066	213	58,433
P01 Mitkof Island	109,302	32%	1,179	1,106	1,105	681	568	4,639	928	34,977
P08 North Lindenberg Peninsula	75,605	78%	200	227	482	224	255	1,388	278	58,972
P12B Kuiu Island Road System	134,852	31%	167	91	174	156	108	696	139	41,804
P21 Muddy River Area	63,357	68%	474	330	411	263	257	1,735	347	43,083
TBRD 00 Thorne Bay Ranger District	901,507	40%	1,872	1,495	953	1,006	870	6,196	1,239	360,603
										2,619,223