

Mt. Rainier National Park  
Mountaineering Report  
2015



## Summary and Highlights -2015

The largest contributing factor to this summer's climbing season was the unseasonably warm winter and spring. Although precipitation was average, it came as rain, not snow. Freezing levels were high. January was 10 degrees warmer than normal! The winter's snowfall (measured July 1st - June 30 the following year) only brought 260 inches of snow. This was the least snow Paradise had ever received in its recorded history. There was never much more than 70 inches of snow on the ground at any one time, often less. Snowplay (sledding) never opened at Paradise. Winter camping (60" required) was never allowed.

However, up higher on the mountain, we recorded 'average' to 'above average' winter accumulation. These are physical measurements we take between 9,000 and 11,000 feet. The winter balance on the glaciers at these altitudes were right on par with every year in April and May. That being said, snow melted off the Disappointment Cleaver earlier than normal. June temperatures in Washington State were the warmest on record. Although the Disappointment Cleaver route was never 'out', it was a bit of a chore for the guide services to keep it in. A few guides and rangers who were pioneering routes fell in crevasses up high, which is also unusual.

The wonderful winter, spring, and early summer weather deteriorated on July 22 with a decent rain event. After this day, climbing numbers fell dramatically from average, based on a not entirely true notion that the climbing route was becoming too difficult. By the end of the climbing season in October, no less than 1000 fewer climbers had registered than the year before over the same period. This represents a year-to-year decrease of almost 10%, which has only been seen in recent times once in the early 2000's.

Though two were planned, climbing rangers conducted one technical rope rescue training on the upper mountain with the three primary guide services guide services, Rainier Mountaineering Inc., Alpine Ascents International, and International Mountain Guides. A mock rescue was conducted from Camp Misery (11,600) back to Camp Muir. These joint trainings have been highly valued by everyone involved. Rangers and guides are on the mountain everyday. Learning to work together and use similar techniques is leading to more efficient and well polished responses to emergency incidents.

This was the second year of an exclusive use helicopter contract based at Mt. Rainier. The helicopter was contracted to fill a void in available rescue methods for climbers above high camps on Mt. Rainier by using short-haul technique. However, in order to defray costs associated with the helicopter, it was contracted out on forest fires to perform firefighting and rescue services throughout the fire season. In order to maintain helicopter skills and short-haul proficiency and provide a reliable crew to perform the duties for which the helicopter was contracted, climbing rangers staffed the helicopter on local fires in August and September. This arrangement was necessary in 2015, but plans are being made now for the helicopter to have its own crew in 2016, thereby decreasing substantially the burden to the climbing rangers in staffing the helicopter. Developing a suitable exclusive use helicopter program that meets the needs of all interested parties has been one of the ranger division's biggest challenges at the park.

## Overall Climbing Statistics and Route Use

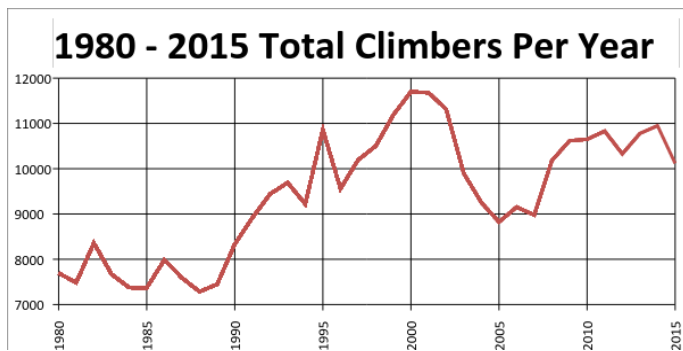
**Figure 1 – Number of climbers, 1980-Present**

Over time, the general multi-year increases and decreases in climbing numbers correspond directly to economic indicators like the 'gross domestic product' or the NASDAQ. This was true of the 50's, 60's, 70's, 80's, 90's, and 2000's, but in the last 10 years, this correlation has neither been as clear nor as strong. Although the economy crashed with the housing bubble in 2007, climbing numbers saw one of its bigger all-time year-to-year increases. And

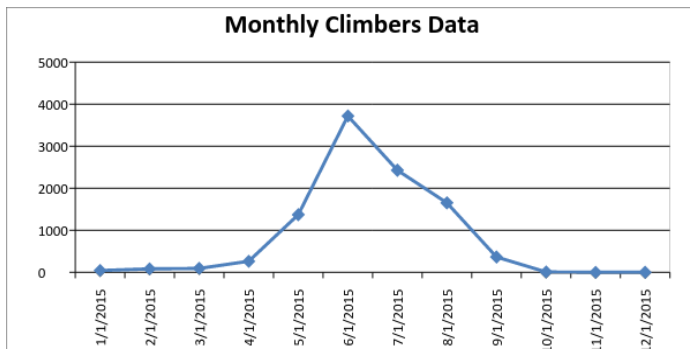


again, between 2014 and 2015, when the economy was improving, climbing numbers saw one of their larger year-to-year decreases (~950). Because the climbing program is primarily funded by the sales of climbing permits and funds from that year must be spent by September 30 of the same year, it makes planning the program quite difficult!

Day use access to Camp Muir was also busy in 2015. An effort to measure just how busy it is will be undertaken in 2016 during the National Park Service centennial. Estimates of day-use at Camp Muir during busy weekends during the summer are somewhere between 500-1000 people!



**There were roughly 10025 climbers in 2015**



**Figure 2 - Monthly Data (2015)**

As discussed above, general climbing numbers have much to do with the economy, however, if every weekend in the summer is cloudy, rainy, or somehow the main routes are thought to be more challenging than normal, there will also be fewer climbers. In figure 2, above, there would usually be quite a few more climbers in the 7/1/2015 column, but poor weather and a generally tougher route, stemmed climbers' ambitions.

Below, in figure 3, you can see that about five years ago there were as many as 1800 climbers on the Emmons Glacier. However, that number decreased over the following years, even as the number on the Disappointment Cleaver increased.

**Figure 3 – Route Use Table**

Route	2015	2014	2013	2012	2011	2010	6-Year Total	Avg
Disappointment Cleaver (DC)	7386	8138	7831	7253	7150	5568	43326	81.89%
Emmons – Winthrop	1465	1466	1670	1469	1826	1694	9590	18.13%
Ingraham Direct	99	126	98	330	398	2081	3132	5.92%
Kautz Glacier	520	414	432	388	553	403	2710	5.12%
Fuhrer's Finger	76	189	202	167	160	169	963	1.82%
Little Tahoma	148	152	167	130	152	108	857	1.62%
Liberty Ridge	74	94	129	161	137	127	722	1.36%
Gibraltar Ledges	77	123	102	90	169	152	713	1.35%
Glacier Only	68	119	70	214	61	138	670	1.27%

Kautz Cleaver	17	34	14	14	45	45	169	0.32%
Ptarmigan Ridge	19	38	10	9	50	37	163	0.31%
Tahoma Glacier	12	22	14	21	48	38	155	0.29%
Success Cleaver	7	9	5	14	24	11	70	0.13%
Nisqually Glacier	13	4	4	11	13	21	66	0.12%
Gibraltar Chute	3	10	2	11	13	2	41	0.08%
Mowich Face	6	2	7	16	2	4	37	0.07%
Wilson Headwall	5	0	3	13	4	12	37	0.07%
Kautz Headwall	2	3	6	0	5	20	36	0.07%
Sunset Ridge	2	4	3	4	2	5	20	0.04%
Nisqually Ice Cliff	3	0	2	8	2	4	19	0.04%
Nisqually Cleaver	2	0	4	3	3	5	17	0.03%
Sunset Amphitheater	3	2	4	2	3	0	14	0.03%
Tahoma Cleaver	3	0	0	0	2	8	13	0.02%
Edmonds HW	2	4	0	0	2	0	8	0.02%
Curtiz Ridge	4	0	0	0	0	0	4	0.01%
Total	10016	10953	10779	10328	10830	10652	52906	18.93%

Figure 3, above, shows route use in 2014 indicated a fairly average spread between all the routes and also shows the 6 year average vs. 2015 route use on all climbed routes in 2015.

## Climbing Program Operations



The climbing program's mission is to provide professional emergency services, mountaineering information, and resource protection while supporting the greater mission of the National Park Service. Climbing rangers focus on five core skills and devote much of their time to training in these skills, which include: 1) Mountaineering, 2) Technical Rope Rescue, 3) Aviation, 4) Emergency Medical Technician, and 5) Avalanche / Snow Safety.

In 2015, the climbing ranger program had several new rangers filling vacancies from rangers who did not return from 2014 as well as two new permanent supervisory rangers. The climbing ranger program had six permanent members on its staff, including the Alpine District Ranger and a program assistant in 2015. Permanent positions allow rangers to be on duty longer throughout the year, train more, and maintain a higher skill level. This has been a long-term (20-year) goal of the climbing program. The majority of the staff in 2015 were returning climbing rangers from previous seasons. Staff retention is key to maintaining and developing a professional mountain rescue organization.

The District Ranger works year around is paid for out of park base funding. This position performs many all-park duties and roles including serving as the Search and Rescue coordinator and performs avalanche assessments on the road to Paradise in the winter. As a side note, climbers are not involved with most of the rescue incidents each year. The climbing program also has a permanent (career seasonal) administrative assistant who works 9 months each year.

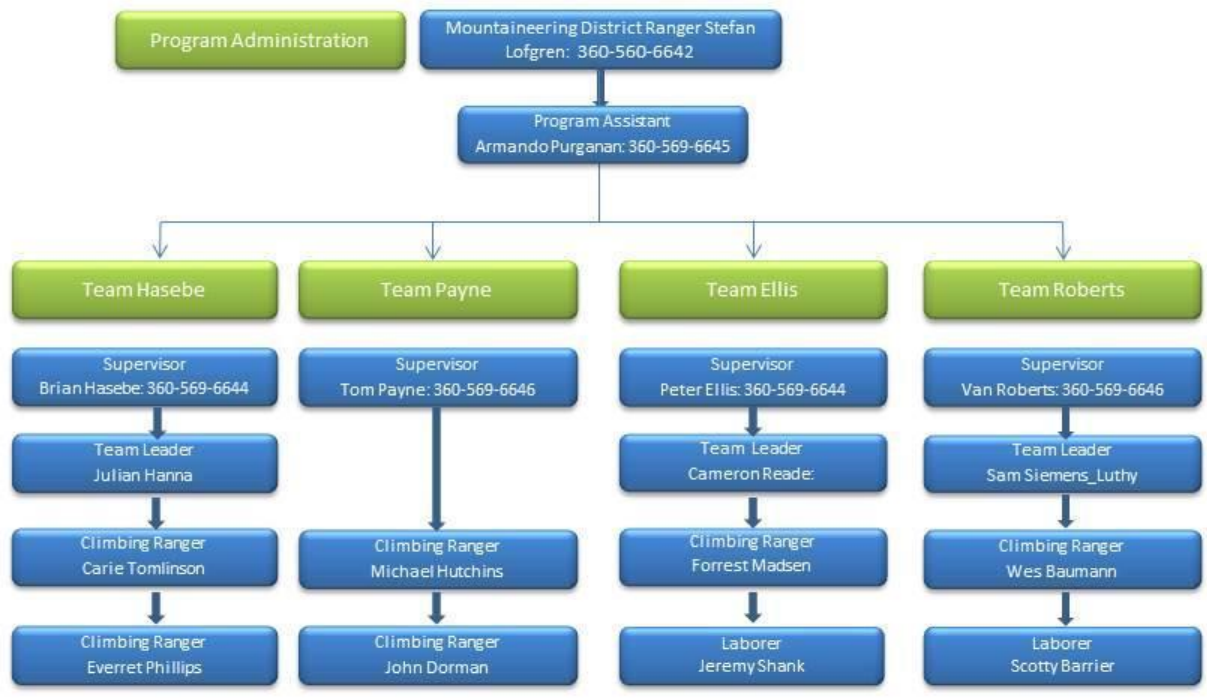
There are currently four supervisory climbing ranger positions. These rangers work 9 ½ - 10 months per year. They are the core staff and maintain the highest level of proficiency in the five core climbing ranger skills. They take on much of the daily coordination of operations and provide oversight on emergency incidents.

The rest of the staff are seasonal (temporary) employees and volunteers. Temporary paid staff are limited to 6 months. Temporary climbing rangers typically work about 5 months (mid-April to mid-September) each year. Most years there are 6-8 temporary climbing rangers. There are also 2 general laborers who are hired primarily to take care of the human waste removal system. They have also often been trained as climbing rangers and provide support on incidents.

In 2015, the climbing program did not use full-time volunteers as it has in the past. It is difficult, but not impossible, to find the kind of person who is able to work for five months and earn \$20 / day (per diem for volunteers). In 2016, we are transitioning to a more limited use of volunteers. Instead of what we have done in the past, we will be trying to use volunteers for far shorter periods of time. In this manner will decrease the complexity of managing this program by not having to issue (and buy) them gear (and uniform) items, not putting them through our background check processes and not giving them access to government IT systems, not having to find park housing for them, etc... Volunteer tours are expected to be 2 days to maybe 2 weeks in some cases!

Figure 4 – Climbing Ranger Program Organization Chart

## 2015 CLIMBING RANGERS ORGANIZATIONAL CHART



## MOUNT RAINIER NATIONAL PARK

### Training

Climbing rangers train extensively. There are five identified core skills:

1. Mountaineering
2. Technical Rope Rescue
3. Aviation
4. Emergency Medicine
5. Avalanche

In the last two years, a great emphasis has been put on professional mountaineering training. Every climbing ranger is now enrolled in the AMGA (American Mountain Guide Association) Alpine Guide curriculum, and some rangers are also



taking the Ski Guide curriculum. Within the next year, several rangers shall receive certification in at least one of these disciplines.

Because we can't fit all the training in during the summer season and because some targeted training only occurs in the winter, especially for temporary employees, the climbing program has tried to encourage rangers to take additional training by partially subsidizing the tuition of some of it during the off-season. This has amounted to a relatively small, but productive way of raising our skill level to industry standard levels.

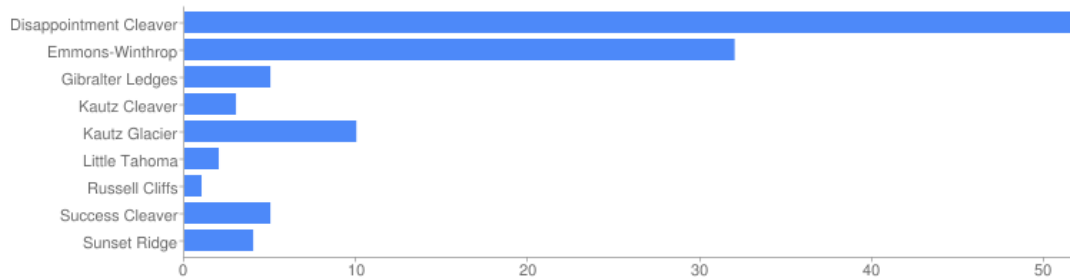
These types of off-season trainings are limited to the 5 core skill areas, especially where it leads to certification.

In 2015, the climbing ranger program recorded nearly 3,300 personnel-hours of training. Trainings included these categories:

**Figure 5– Climbing Ranger Training 2015**

<b>Category</b>	<b>Number</b>	<b>Personnel-Hours</b>
Administrative	2	40.5
Avalanche	3	225
Aviation	8	660.5
Ranger	4	69.5
EMS	2	472
SAR	20	1705
Supervisor	2	9
Wildland Fire	1	81
<b>Total</b>	<b>42</b>	<b>3262.5</b>

Below are the routes and number of ranger ascents on each route that climbing rangers patrolled in 2015.



**Figure 6 - Climbing Ranger Route Patrols**

Climbing rangers, as you can see from the table above, spend much of their time patrolling the standard routes on Mt. Rainier. However, climbing rangers do routine patrols on less traveled routes for resource protection and monitoring, to maintain their mountaineering skills, as well as to gain familiarity with the mountain.



Below, figure 7 shows the percentage of nights that Camps Muir and Schurman were staffed in 2015, by at least one climbing ranger, and multiple climbing rangers. The climbing program strives to have a team of at least two rangers staffing the high camps as much as possible in the summer months. But due to rescues, trainings, rangers taking leave, or being sick, this is not always possible. And while having one ranger at a high camp is better than having zero, it is not ideal, as a single ranger cannot effectively affect a rescue operation. But they can act as a point of contact for the public, and start the early stages of a rescue, such as gathering information, and alerting the appropriate resources. Or simply keeping up on the day to day chores around the high camps. This is a reason why was also train with the guide services. Guide services contribute greatly to the park’s SAR readiness.

**Figure 7- 2015 High Camp Coverage in percentage**

<b>Camp Muir</b>	<b>One Ranger</b>	<b>Two or More Rangers</b>
<b>May</b>	<b>61%</b>	<b>48%</b>
<b>June</b>	<b>83%</b>	<b>73%</b>
<b>July</b>	<b>84%</b>	<b>77%</b>
<b>August</b>	<b>77%</b>	<b>55%</b>
<b>September</b>	<b>30%</b>	<b>17%</b>

<b>Camp Schurman</b>	<b>One Ranger</b>	<b>Two or More Rangers</b>
<b>May</b>	<b>42%</b>	<b>32%</b>
<b>June</b>	<b>80%</b>	<b>50%</b>
<b>July</b>	<b>84%</b>	<b>74%</b>
<b>August</b>	<b>39%</b>	<b>26%</b>
<b>September</b>	<b>13%</b>	<b>0%</b>

**Climbing Information Center / White River Wilderness Information Center**

The climbing information center (CIC) at Paradise is the main climbing permit issuing station in the park. In 2015, the CIC was staffed by climbing rangers on a rotating schedule. This was a departure from how the CIC had been run for the past several years where it had its own dedicated staff. By placing climbing rangers in the CIC, it helped the program in two ways: 1) rangers giving information were the ones actually climbing the mountain and at high camps recently, and 2) working at Paradise in the CIC, day after day, all summer, is taxing work. Attitudes suffer. Working only short periods of 1-2 days in the CIC is easier to take. However, the downside is the complexity of managing a ranger station, fee collection system, and a permit issuing station.

The climbing rangers who work in the CIC also have the collateral duty of preventative search and rescue. It is part of their work to make sure climbers, campers, and day hikers on the Muir Snowfield are permitted, equipped and informed about the conditions and weather.

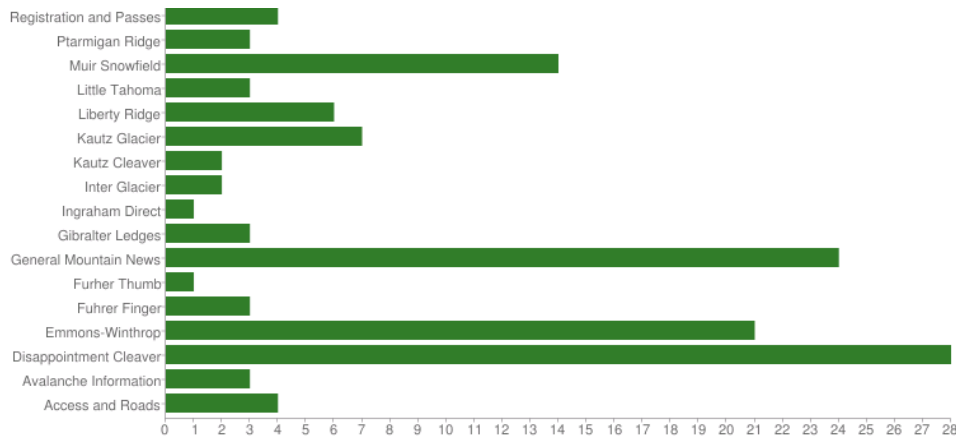
The White River Wilderness Information Center (WIC) is staffed by the Camp Schurman rangers on Friday afternoons and Saturday mornings. The rangers then climb to Camp Schurman on Saturday afternoon. The east district backcountry staff registers all other climbers from Sunday to Thursday. A big thanks to them!

**[Mountrainierclimbing.blogspot.com](http://Mountrainierclimbing.blogspot.com)**

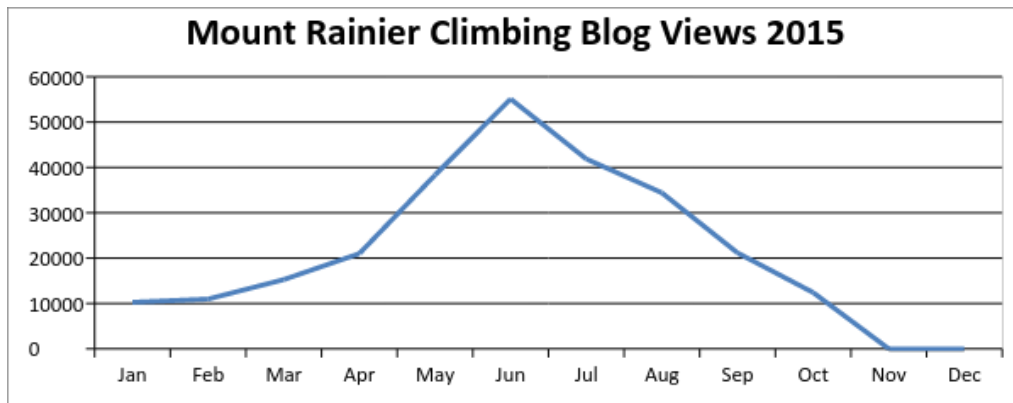
The climbing blog has been the best way the climbing rangers have been able to get updated route conditions out to the public in a timely way. The blog is immensely popular and takes hits from all over the world. In the past several years, there have been many hundreds of thousands of hits. We actually receive requests to advertise on it from large corporations.

Because of the installation of the network bridge to Camp Muir in 2011, the climbing rangers now have the ability to update the blog from Camp Muir, immediately after their climb. This should increase the timeliness of their route updates, reports, and communications. This feature should soon be coming to Camp Schurman.

**Figure 8 – Blog Post Topic Distribution in 2015**



**Figure 9 – 2015 Mount Rainier Climbing Blog Views. The annual total for 2015 was 260,755**



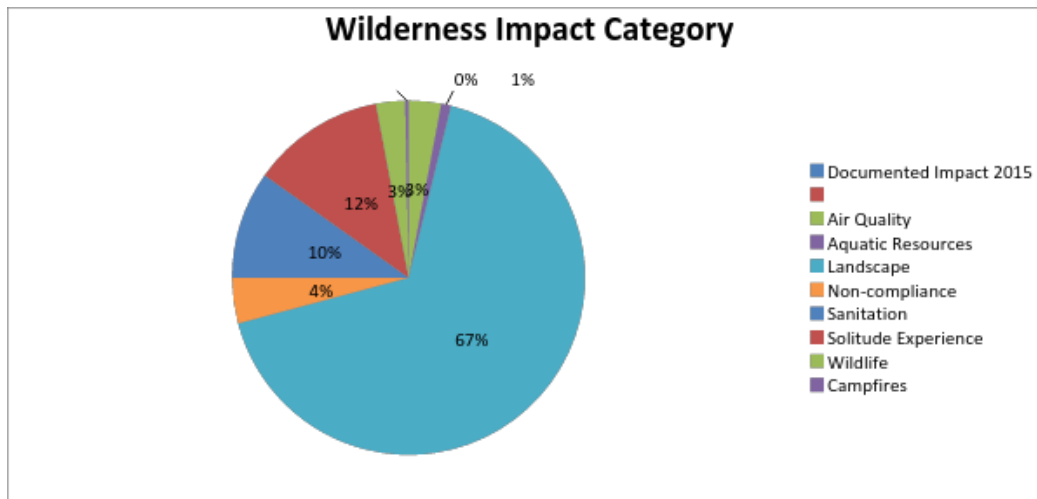
## Resource Protection

The climbing rangers are simply wilderness rangers who must have skill in climbing to access the alpine and glaciated terrain in the park, monitor its use, document impacts, and perform searches and rescues in that environment. As a part of each individual's weekly climbing ranger patrol log, rangers are required to enter each impact they observe. There are roughly 62 impact categories under 8 general categories. The more impacts the rangers record, the better managers can make decisions and intervene to control or mitigate these impacts.

Climbing rangers recorded over 500 individual impacts in 2015. It is important to consider that this doesn't represent an increase or decrease in total impacts on Mt. Rainier in recent years. Climbing rangers pick up and deal with far more things than they document. The total number of impacts only reveal, year-to-year, the relative importance and ease with which the ranger prioritizes 'documenting' each thing they are doing.



**Figure 10 – Wilderness Impact Category Totals**



**Figure 11- 2015 Wilderness Impact Observations Per-Week**



Figure 11, above, represents primarily litter and stray wands, which by the end of the summer, melt out of the snow and are just lying on bare ground. This doesn't necessarily show that more people are littering in August, but this is when we see most of the melted out litter on the ground. This figure also represents a large volume of meadow stomping, denuded vegetation, and campsite rings that develop later in the season after the snow has melted.

The data also suggests several areas where we could develop strategies to lessen the impacts on the mountain and preserve the wilderness character. These include removing wands from the Muir snowfield and the climbing routes and also removing blue bags and human waste. The data we are currently collecting on commercial, single engine, and military over-flights is being used in management plans to limit flights over the park.

**Human Waste**

Nothing much has changed from last year in our management of human waste. We have two systems, the toilets at the high camps and the blue bag system.



The toilets at high camps are not "composting" toilets, but they are somewhat effective at separating the solids and liquids. The liquids are dispersed directly back into the rock debris below Camps Schurman and Muir. The solids are somewhat dehydrated and then transferred to 40-gallon barrels, which in turn are flown off by helicopters. The barrels are then transported to a waste processing facility outside the park.

The blue bag system is used in areas where there are no toilets. Human waste is deposited on the ground or snow. The solids are picked up like you pick up your dog's poop in the park. The waste is transported by the visitor/climber to a high camp or ranger station where they are put in a barrel. The barrel is either flown from Camp Schurman/Muir or picked up by vehicle at ranger

stations. These barrels are then transported to an incinerating facility outside the park.

The overhead in maintaining these two systems costs between 80,000 and 100,000 dollars, if you include all the people, materials, supplies, and transportation costs. Several 10's of thousands of those dollars are paid for by money not associated with the climbing program or the cost recovery fee (climbing fee). The exact cost of operating the system is not easy to figure because you have to account for a percentage of several people's time who are not paid for out of cost recovery money. In 2015, of the total cost of operating the human waste system in the alpine areas of Mt. Rainier, the amount paid for out of climbing fees was about \$45,000.

Below is the number of each type of human waste barrel collected at Camp Muir.

**Figure 12 – Total Human Waste Removed from Mt. Rainier**

<b>Human Waste Collected from Mountaineering Operations</b>		
<b>Location</b>	<b>Number of Barrels</b>	<b>Pounds of Waste</b>
<b>Camp Muir</b>		
Raw Human Waste	13	6500
Blue Bags		1500
<b>Camp Schurman</b>		
Raw Human Waste	2.5	1250
Blue Bags		700
<b>White River</b>		
Blue Bags		100
<b>Paradise</b>		
Blue Bags		
<b>West Side Rd</b>		
Blue Bags		10
<b>Totals</b>	<b>15.5</b>	<b>10060</b>

**Volunteer, Student Conservation Association (SCA), and other partners**

The climbing program has in the past relied on volunteer interns. Many years, approximately ¼ of all employee hours are volunteer hours! The climbing program has traditionally included volunteers as a part of its 'core' staff, working volunteers just the same as regular employees: 40 hours per week for 5 months.

However, in 2015 the climbing ranger program did not have any full time volunteers on its staff. As the climbing program adds more training and a higher skill requirement, it is more and more difficult to find individuals with the required skill set who are willing to work full time on a volunteer basis.

However, the climbing program is still searching for a role for volunteers. In 2016, volunteers will be recruited by our climbing staff on an individual and much less formal basis for far more short-term periods. We hope to eliminate much of the complexity in taking on long-term employees by forgoing the issuance of climbing gear, a uniform, IT access cards, housing, and a few other things that take quite a long time to sort out.

We hope by doing this, we will avail resources who have more experience, training, but less time in life to contribute to our program.

**Figure 13– Total Volunteer Hours & Cost Valuation**

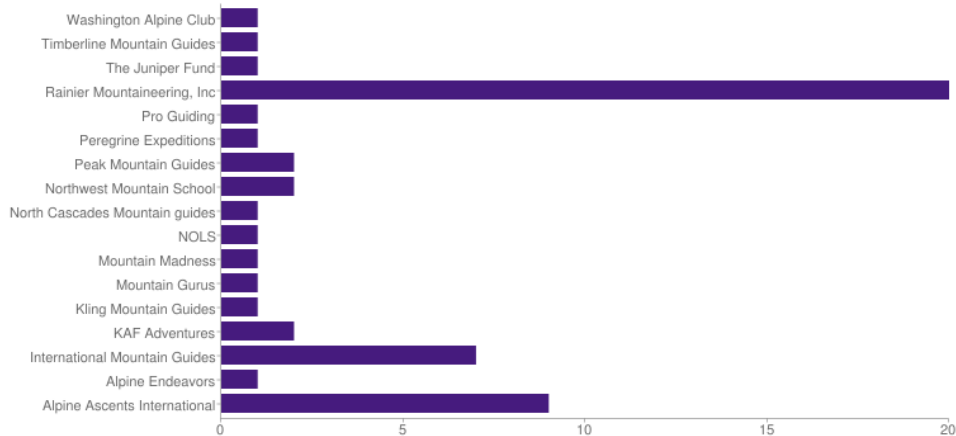
VIP Hours 2015			
VIP	SCA	MRA	Total
0	0	60	60
Paid Equivalent:		x \$20/hour	1200

**Guiding**

**Figure 14 – Guide Service Client-Guide Ratios and Totals**

Guide Service	Guides	Clients	Total
International Mountain Guides	401	753	1154
Alpine Ascents International	378	718	1096
Rainier Mountaineering, Inc.	743	2027	2770
Total:	1522	3498	5020

**Figure 15 – Commercial Guide Service Monitoring’s**



**Mountain Rescue Association (MRA)**

The MRA is of incredible importance to us. Mt. Rainier National Park currently has a patrol program with its Washington chapters where we invite them to come practice their skills here; in turn they are given free admittance to the park. They can perform a climbing patrol on the mountain while training. This allows them to be “proximal” to incidents when they are occurring. Mountain rescue’s participation in our search and rescue incidents is invaluable because for each MRA volunteer rescuing, we can keep an NPS ranger in their job and

keep a ranger station open. Rangers and MRA members also train together multiple times a year in rope rescue, and search and rescue techniques. As with the guide services, having rangers and MRA train on the same tactics provides for a more seamless emergency incident.

During the rash of large rescues in January 2012, Mt. Rescue contributed nearly 4000 rescuer-hours, which is the equivalent of over \$80,000 of paid time. Climbers and all outdoors men and women owe Mountain Rescue a high honor for their efforts.

Recently Mt. Rainier has added a lodging option for the MRA. Members can sign up, and come up to the park and simply patrol the backcountry, train, and respond to incidents when they occur. Having MRA members close at hand, especially in the fall and winter months when seasonal ranger staff is non-existent, is a huge benefit to the park.

The units that participated in our program in 2015 were: Tacoma, Everett, Olympic, Seattle, Bellingham, Central WA mountain rescue.

### **Searches and Rescues (SAR)**

In fiscal year 2015, (Oct 1, 2015 – Sept 30, 2015) there were 55 search and rescue operations. This was the busiest year in the number of rescues that Mt. Rainier National Park has ever seen. There was one upper mountain fatality, as well as three upper mountain short haul rescues.

However, only about 25% of emergency SAR incidents were attributable to climbers. Most of the SAR incidents this summer happened to day users, at or below treeline.

SAR costs are difficult to summarize. Training for SAR is mostly paid for by park base funding, grants, and to some extent for climbing rangers, through climbing cost recovery fees. When a SAR occurs during normally scheduled hours for that employee, their normal account pays for their time, no matter what account or for what purpose the employee exists. When the SAR goes into that employees overtime hours, then a regional NPS account pays for these ‘un-programmed’ costs. Helicopter expenses and a little bit of gear are also authorized to be charged to regional SAR accounts. In this way, each park is not hit with large unexpected costs that damage its ability to conduct normal operations. The national occurrence of SAR incidents is relatively stable and is readily supplied for by regional and national managers.

**Figure 16 – Total Unprogrammed Cost of SAR Operations – Last 10 Years**

<b>Year</b>	<b>Cost</b>
<b>2015</b>	<b>\$145,821.00</b>
<b>2014</b>	<b>\$149,023.00</b>
<b>2013</b>	<b>\$149,299.00</b>
<b>2012</b>	<b>\$359,342.00</b>
<b>2011</b>	<b>\$130,398.00</b>
<b>2010</b>	<b>\$160,689.00</b>
<b>2009</b>	<b>\$54,078.00</b>
<b>2008</b>	<b>\$68,740.00</b>
<b>2007</b>	<b>\$143,200.00</b>
<b>2006</b>	<b>\$62,303.00</b>
<b>2005</b>	<b>\$267,157.00</b>

These costs represent “unprogrammed” costs, which are defined as overtime, gear, supplies, and aviation resources that are not a part of normal scheduled operations. This cost does not account for the normal, scheduled time rangers are on duty. In general, the larger year’s sums represent years where there were multiple major search operations or multiple fatalities.

No climbing fee money is dedicated to paying for any of these unprogrammed costs. However, a small percentage of the climbing fee money does go to search and rescue in the following way. The climbing fees pay for climbing rangers. If during the course of their normal duty there is a search or rescue, their scheduled hours are billed to the climbing ranger program. This most often represents about 5-10 % of the climbing ranger financial load. It is also important to remember that the entire climbing ranger program is roughly 80% funded by climbing fees and 20% funded by other monies.

We must also give a hearty thank you to the US Army Reserve’s 214<sup>th</sup> General Support Aviation Brigade from Joint Base Lewis-McChord. We train with this unit at Mt. Rainier and on their base before the season. They do not charge for their services, civilian search and rescue is part of their mission! They have helped us and many climbers out on numerous rescues over the years. In 2015 the 214th added an Air Force Pararescue jumper (PJ) to their response when they come to Mt. Rainier. PJ's are trained medics, as well as highly skilled and trained in rescuing downed airmen from any and all terrain, including mountainous environments. This relationship is mutually beneficial, as the PJ's get training in their mountain rescue skills, and the patients they care for receive a high level of medical attention. A big thanks to the 214th, as well as the PJ's and combat controllers from Joint Base Lewis-McChord.



## Noteworthy Events

2015 was a relatively quiet year on the upper mountain for the climbing ranger program. However, Camp Muir is in year two of a multi year project to restore and replace many of the existing structures. In 2014 back country carpenters began work on a new toilet system on the east side of camp, near the existing public shelter. This building is nearly complete, and should be finished in the summer of 2016. It should be noted how tremendous of an effort building a structure at 10,000 feet on a volcano is. Carpenters must have all of their large supplies and materials flown to them via helicopter. They must also make the 5 mile hike to Camp Muir each time they begin a shift before they can begin work.

Another noteworthy event for the climbing program in 2015 was the addition of a new exclusive use A Star B3 helicopter at Mt. Rainier. Climbing rangers rely heavily on aviation for many operations. Ranging from supplying high camps, to hauling out human waste barrels, to aerial search, and short haul rescue. Having a helicopter, staffed with a pilot and crew in the park, or within a close proximity is a huge advantage during search and rescue missions as well as for project work. This is a departure from how Mt. Rainier used to conduct aviation operations, with a "call when needed" helicopter. In this system the helicopter is based at a local airport, and may or may not be available immediately when Mt. Rainier National Park Mountaineering Report 2014



needed. The park also must find crew members for the helicopter, who are rangers doing their normal jobs. Having the exclusive use helicopter allowed the climbing program, as well as the other divisions in the park that utilize aviation, to train more efficiently as well as execute a number of short haul rescues. Currently, no money from the climbing program goes towards paying for this helicopter contract.



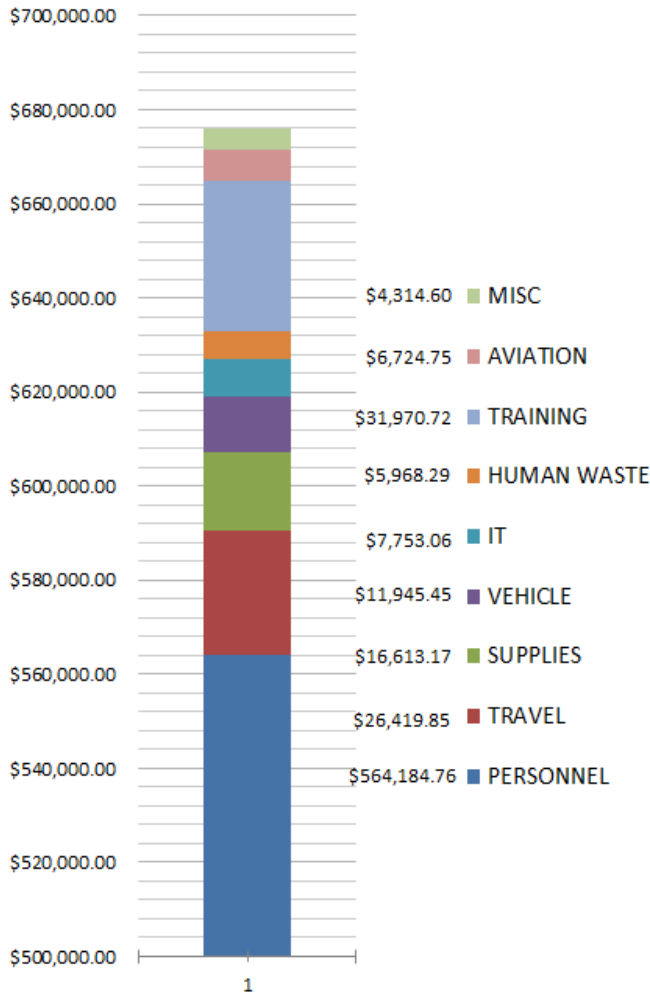
**Mt. Rainier's exclusive use A Star B3 out on a training mission**

In addition to the above events, Camp Schurman was outfitted with a network bridge, similar to the system in place at Camp Muir. This system will allow rangers at Camp Schurman to have access to the park computer network, as well as provide them with a landline telephone. Communications with the north side of Mt. Rainier and Camp Schurman have long been a problem. In order to maintain safety, and affect successful rescue operations, communications is imperative. This network bridge will allow for clear communications between Camps Muir and Schurman, park dispatch, as well as other work stations in the

park. Currently the system is waiting on right of way access to Grub Steak Peak to install the final piece to make the system operational. Unlike Camp Muir, which has a direct line of sight to Paradise and the park network equipment, the signal from Camp Schurman must be sent to Grub Steak Peak, then bounced down to the White River Ranger Station. The equipment and network system should be operational by summer 2016.

## Income, Expenditures, and Budget

**Figure 17 – Program Expenditures**



The climbing program’s budget is difficult to manage. The budget cycle is by fiscal year (Oct-Sept). The planning, hiring, training, and equipping of the climbing program needs to be taken care of before the climbing season has begun, and thus before the fees have been collected! This means that we commit to spending money before we know exactly what our budget is. However much this seems like a poor business practice, we have been able to make this work since the fee’s inception in 1995.

The entire climbing program’s budget in 2015 was just over \$677,000. This includes the climbing program manager’s position.

In 2015, the climbing program consisted of 17 people. This breaks down into 1 program manager, 4 supervisors, 3 lead climbing rangers, 6 climbing rangers, 2 high camp maintenance rangers, and 1 administrative assistant.

Here are the expenditures of the climbing program roughly categorized from all funding sources combined.

Salaries of the permanent and seasonal staff account for roughly 82% of the climbing budget. These costs include regular hours, premiums such as overtime and hazard/environmental differential, as well as other benefits such as paying into unemployment insurance.

Travel is mostly in park and reimbursed as backcountry

perdiem.

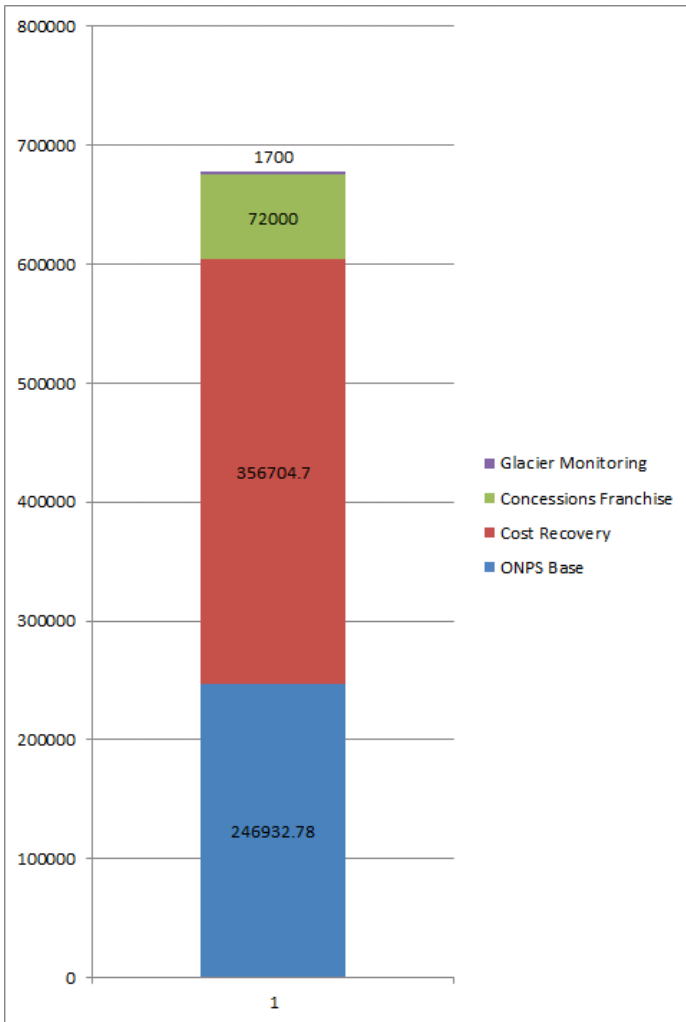
Training cost include EMT refresher training, aviation training, and technical rope rescue training, mountaineering and avalanche training.

Supplies represented here are both administrative supplies such as paper, forms, booklets, pocket guides, computers, IT equipment, as well as operational supplies such as carabiners, ropes, crampons, jackets, and other equipment.

Vehicle rentals are strictly the 3 vehicles the climbing rangers rent from GSA in order to provide transportation around the park while in duty status as well as one permanent fleet vehicle rented from GSA throughout the year.

The 5968.29 quoted for Human Waste is only an equipment/supply cost. The personnel staffing is bound up in the Salary Category, which would roughly equate to about \$45,000 of the large blue column. Also, not included in the 5968.29 is the cost of helicopter flights. That is also bound up in the “aviation” category and represents over half of that sum.

**Figure 18 – Program Income and Funding Sources**



The climbing program is funded out of climbing fees primarily, ONPS base funding, and Concessions Franchise Fees. North Cascades Glacier Research projects pays for one seasonal ranger for a two week period (spread out over the summer) for help in collecting glacier data.

There was a roughly \$50,000 decrease in climbing revenue from climbing fees in 2014 to 2015. This was due to an approximate 1000 climber decrease in 2015 plus a slightly different make-up of returning climbers and youth/adult distribution. More base funding was required in 2015 to make up this shortfall in fee revenue, which happened to be available, by chance, and cannot be counted on year after year.

This trend was first noticed the last week of July 2015. The trend continued through August. Because climbing rangers make up much of the SAR response into September, the park worked together to ensure that rangers had more normal length seasons than our fee revenue would have otherwise enabled.

The climbing program is budgeting for a smaller program in 2016 to account for a downward trend in climbing numbers.