

Gifford Pinchot National Forest Beargrass Harvest Program Monitoring Final Report



Northwest Forest Worker Center

April, 2015

Gifford Pinchot National Forest, Beargrass Harvest Program Monitoring, Final Report

Executive Summary:

The Gifford Pinchot National Forest (GPNF) has the largest program of non-timber forest products (NTFPs) harvesting of all national forests, and the sale of beargrass (*Xerophyllum tenax*) accounts for about 17% of annual revenues from this program. Over 2,000 permits for harvesting beargrass are issued annually. Yet, there is little available information about the beargrass harvest, and permitting and harvesting go forward with very little information upon which to base management decisions or evaluate harvester satisfaction.

To address this lack of information, the Gifford Pinchot National Forest (GPNF) and the Northwest Forest Worker Center (NFWC) entered into a cost share agreement to monitor the beargrass harvest in 2014. The goals of this project were to:

- Establish a baseline of information about the beargrass harvest and harvesters,
- Identify problem areas in the harvest and assess future monitoring needs, and
- Elicit harvester concerns about the current permitting system.

Although we originally planned to hire beargrass harvesters to serve as monitors who would gather information on the harvest and harvester concerns as they went about their normal harvesting activities, we were unable to find any harvesters interested in serving in this capacity. We therefore adopted a strategy of talking to harvesters at ranger stations as they came in to purchase their permits. We developed a brief questionnaire (Appendix B) to use as a guide to conducting semi-structured interviews with harvesters. All together we spoke with 18 harvesters who harvest beargrass on the GPNF, 2 harvesters who lease private and state land to harvest salal, 3 buyers, 2 buyers agents, 1 retired Forest Service professional who has been involved in the floral greens industry his entire life, 1 Forest Service employee who issues permits, 4 current Forest Service officials, 1 Washington Department of Natural Resources official and 1 university-based expert on NTFPs. We also analyzed the GPNF's database of all beargrass permits purchased in 2013. Carl Wilmsen, Ph.D., Executive Director of the Northwest Forest Worker Center, and Betsaid Garcia, Project Assistant, conducted all interviews and analysis.

In 2013, about 414 individual harvesters purchased a total of 2,367 beargrass permits on the GPNF. This figure could be slightly smaller because some duplicate names, about which it was unclear whether they referred to the same or different people, were left in the database. Seventy-five percent of the surnames in the 2013 database were Spanish and 21% were Asian.

Ninety-four percent of the permits harvesters bought from the GPNF in 2013 were 5-day permits. Many harvesters work for 5 days and then take a couple of days off. Some limit themselves to 5 days of picking at one time out of concern for being able to sell all the beargrass



they pick. Others pick beargrass when other work is unavailable. Some harvesters pick for 5 days, spend a couple of days cleaning, sell their cleaned beargrass, and then get another 5-day permit. It appears that most harvesters do not clean, however, but rather sell their beargrass by the uncleaned pound.

About half of the harvesters we interviewed said they go home at the end of the day. One said he stays in a motel, and the rest said they camp.

Just 63 harvesters (15%) accounted for more than half of the permits sold. The median number of permits purchased was 3. Judging by the number of days on their permits, 7 harvesters spent 33 weeks (8.25 months) or more harvesting beargrass on the GPNF. Most harvesters harvested part time on the GPNF. The majority of the harvesters we interviewed said that they earn about 25% of their annual income from harvesting beargrass. Most also harvest other NTFPs.

Estimates of how much beargrass a harvester picks in a day ranged from 100 to 400 pounds. The amount varies from day to day, because beargrass may be sparse in some areas and harder to find. In areas where beargrass is abundant, harvesters pick amounts closer to the higher estimates. On average the harvesters we interviewed picked between 168.33 and 222.5 pounds per day.

Although the price paid to harvesters for beargrass fluctuates, in 2014 it was consistently around \$0.35 per pound for uncleaned beargrass and \$0.35 per bundle for cleaned. There are 2 to 3 bundles in a pound of beargrass. At these prices, a harvester picking the average daily amounts the harvesters we interviewed reported would gross roughly between \$59 and \$78 per day.

In 2013, the harvesters who purchased beargrass permits on the GPNF gave home addresses in 54 different cities and towns (including some from out of state), but 61% came from just 2 cities: Tacoma and Aberdeen. Seventy-nine percent came from just 7 Washington cities and these harvesters accounted for 80% or more of the purchases of beargrass permits of all types except 20-day. Harvesters tended to buy permits at the ranger stations that were closest to their homes.

Although the beargrass season is open all year on the GPNF, the purchasing of permits follows a pattern tied to the seasonal round of holidays. There is a spike in the purchasing of permits in the spring, around the Easter and Mother's Day holidays, and another in the late summer and fall in preparation for the Christmas holiday. More than half of the beargrass permits purchased on the GPNF in 2013 were sold in 4 months: August through November.

In general, the harvesters we interviewed were satisfied with the Forest Service's current permitting system, giving it an average rank of 4.07 (somewhat satisfied) on a 5 point scale. Several harvesters gave suggestions for improving the system including, having more patrols to prevent illegal harvesting, selling 5- and 10-day permits for the same price because it is not



always possible to pick every day, allowing people to scout for beargrass before buying a permit, improving the efficiency of issuing permits (such as selling permits online), and encouraging forest users to stop littering.

The people we interviewed were nearly unanimous in their opposition to the idea of setting aside portions of the GPNF for leasing. Many of the harvesters said that they would not be able to afford the lease prices. Some of the people we interviewed were concerned that leaseholders would not pay hired workers very well. It is common in the floral greens industry for buyers to hold leases on harvest lands, and to contract labor contractors to provide workers to harvest the greens. The labor contractors bring the harvesters, who often depend on them for transportation, to the leaseholder's brush shed at the end of the day to sell their product. In this way the harvesters are tied to one buyer, and are not free to shop around for the best price for their product. Labor contractors often charge the harvesters fees for transportation and demand a portion of the value of their daily production as well.

Security was also a major concern expressed about leasing. Many of the people we interviewed said that there would have to be locked gates on all roads leading to leased areas to prevent theft of the beargrass.

The supply chain in the global floral greens market includes harvesters, labor contractors, landowners, leaseholders, buyers, wholesalers, retailers and consumers. Harvesters may work on their own (or in small family groups), purchasing their own permits, providing their own transportation and selling to buyers, or they may work for a labor contractor.

Regardless of labor arrangements, harvesters sell their beargrass to buyers who have small to mid-sized companies (often called brush sheds). The buyers hire cleaners to clean the beargrass and then sell the cleaned bundles to wholesalers who sell to retailers or to other wholesalers. Some 80% of the beargrass harvest is sold to European firms. Most of the brush sheds (buyers) that buy beargrass harvested on the GPNF are located in Tacoma. There may also be brush sheds in Aberdeen and Chehalis, however. In addition, some of the harvesters we interviewed said that the garage behind the Chevron station in Randle is a brush shed.

Our interviews with harvesters and others in the beargrass industry yielded conflicting accounts of the effects of commercial harvest on beargrass. Some interviewees are concerned that unsustainable harvesting practices are destroying the beargrass resource. One harvester said that beargrass does come back after harvest, but it takes 4 to 5 years. We found very little in the peer-reviewed literature on the effects of commercial harvest on beargrass.

Future monitoring needs include research on the effects of commercial harvest on beargrass as well as on working conditions, pay and relations between harvesters, labor contractors and buyers.

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Introduction:

The Gifford Pinchot National Forest (GPNF) has the largest program of non-timber forest products (NTFP) harvesting of all national forests. The forest collects around \$900,000 in permit fees and sales annually. The sale of beargrass (*Xerophyllum tenax*) accounts for about 17% of these revenues, with bough cuttings, mushroom, huckleberry and salal products accounting for most of the remainder. Over 2000 permits for harvesting beargrass are issued annually. Having hundreds of harvesters enter the forest during each of the different harvest seasons creates a number of forest management problems. These include litter and trash, damage to forest resources due to improper harvesting practices, off-road vehicle travel, sanitation around dispersed, long-term campsites, safety and security of harvesters and other forest users, conflict between user groups, harvest of NTFPs in prohibited areas, and NTFP theft (failing to get a permit or harvesting more than the permit allows). Barriers to communication between harvesters and Forest Service officials exacerbate these problems, and limited information about the harvesting of some NTFPs creates a challenge for their management.

There is a paucity of information when it comes to the beargrass (*Xerophyllum tenax*) harvest. There is only one formal opportunity for harvesters and Forest Service officials to make contact with each other: when the harvester purchases the beargrass harvesting permit. After this initial contact, Forest Service officials typically never see the harvester again. While the permit states a limit to the amount of beargrass a harvester may gather, no one knows how much harvesters actually remove from the forest. No data is collected on the actual quantity of beargrass harvested. Little is known about where the harvesters sell their product, how the product is graded for quality, what prices are paid for different grades of beargrass, what costs harvesters incur, or what impacts harvesting has on the resource. No one, except harvesters themselves, knows how the harvesters feel about the permitting system as well. Are they satisfied with it, or do they have suggestions for changes? In short, permitting and harvesting is going forward with very little information upon which to base management decisions or evaluate harvester satisfaction.

Information exchange between the agency and harvesters is complicated by a number of characteristics of harvester communities. There is no single point of contact where the majority of harvests can be reached with new information after their initial contact when buying permits. Many harvesters speak little or no English, and they come from a variety of ethnic backgrounds including Latino, Mien, Hmong, Laotian, Cambodian, Russian, and others. Many harvesters mingle only with members of their own ethnic communities, and some avoid contact with people of other ethnicities. In some harvester cultures government officials are viewed with suspicion and distrust.



Given the lack of information about the beargrass harvest and minimal communication between harvesters and Forest Service officials, the Gifford Pinchot National Forest (GPNF) and the Northwest Forest Worker Center (NFWC) entered into a cost share agreement to monitor the beargrass harvest in 2014. The goals of this project were to:

- Establish a baseline of information about the beargrass harvest and harvesters,
- Identify problem areas in the harvest and assess future monitoring needs, and
- Elicit harvester concerns about the current permitting system.

This report presents the findings of our interviews with beargrass harvesters, buyers and other NTFP professionals, as well as our analysis of the Gifford Pinchot National Forest's database of permit purchases in 2013. After discussing the methods we used, we present our findings on the number and type of permits purchased, harvesters' work strategies, number of weeks spent harvesting, the quantities of beargrass harvesters pick in a day, prices paid for beargrass, spatial and temporal patterns in the purchase of permits, the level of satisfaction with the Forest Service's permitting system, and opposition to leasing GPNF land for the harvest of beargrass. We then give a brief outline of the structure of the floral greens industry, including labor relations. We finish with a discussion of the concerns people we interviewed raised about the current condition of the beargrass resource.

Methods:

The methods we planned to use for this project and the ones we ended up actually using turned out to be quite different. Our original plans included hiring harvesters from two distinct harvester ethnic communities who were bilingual in English and the language of the harvester community to which they belonged (i.e. Spanish and one of the Asian languages commonly spoken by harvesters). These two harvesters would serve as beargrass monitors who would talk to their fellow harvesters as they went about their daily harvesting activities in different parts of the national forest gathering information on the level of satisfaction with the Forest Service's management of beargrass as well as the permitting system, quantities of beargrass harvested, and any concerns harvesters have about the beargrass harvest. The monitors would also note impacts on forest resources such as litter and trash and evidence of heavy or improper harvesting of beargrass.

We had planned to find beargrass harvesters who were interested in hiring on as beargrass monitors through NFWC's connections in mushroom and huckleberry harvester communities. However, it turns out that the floral greens industry in Washington and the matsutake mushroom industry in Oregon (in which NFWC has had a harvest monitoring project for over 10 years) are separate industries that draw on separate communities for labor. With NFWC lacking the connections, and relationships of trust cultivated over many years of working together, in the



floral greens industry in Washington, it was not possible to find beargrass harvesters who were willing to serve as monitors.

We hired Betsaid Garcia, an undergraduate at Washington State University, whose family has been involved in harvesting salal (*Gaultheria shallon*) for many years, as Project Assistant. Mr. Garcia and Carl Wilmsen, Ph.D., Executive Director of the Northwest Forest Worker Center, were the project personnel.

We developed a brief questionnaire to serve as a guide for conducting semi-structured interviews with harvesters. The questionnaire included questions about harvesters' satisfaction with the Forest Service's permitting system, their opinion on permitting versus leasing, the land jurisdictions where they pick beargrass (federal, state, private) and how often they go out picking, how much beargrass they pick in a day, the permits they usually buy, other NTFPs they pick, the percentage of their annual income they earn from picking beargrass and the language they speak at home (the questionnaire is attached to this report as Appendix B).

When initial efforts to find harvesters willing to serve as monitors failed, we adopted a strategy of waiting at the Mt. Adams and Cowlitz Valley ranger stations for harvesters to come in to buy their permits. This included talking with harvesters as they waited to buy their huckleberry permits on the opening day of huckleberry season, some of whom were also buying beargrass permits, in August, 2014. We then engaged them in conversations, asking the questions on the questionnaire, and also asking follow up questions as the conversation flowed.

We also spoke with buyers and other professionals who are knowledgeable about the beargrass harvest.

All together we spoke with 18 harvesters who harvest beargrass on the GPNF, 2 harvesters who lease private and state land to harvest salal, 3 buyers, 2 buyers agents, 1 retired Forest Service professional who has been involved in the floral greens industry his entire life, 1 Forest Service employee who issues permits, 4 current Forest Service officials, 1 Washington Department of Natural Resources official and 1 university-based expert on NTFPs.

We also analyzed the GPNF's database of harvesters who purchased permits to pick beargrass from January 1, 2013, to July 7, 2014. The database included harvesters' full names and street addresses, date of purchase of permit, type of permit (5-day, 10-day, 20-day, or 30-day), and district on which the permit was purchased. Although we had data for part of 2014, we focused our analysis on the 2013 calendar year since this corresponds to one full beargrass harvest season on the GPNF. We used Microsoft Excel to generate descriptive statistics and analyze relationships between variables with crosstabulations.

**Permittees, Permits Purchased and Weeks Spent Harvesting:**

In 2013, about 414 individual harvesters purchased a total of 2,367 beargrass permits on the Gifford Pinchot National Forest (GPNF). The exact number of harvesters could be slightly smaller because there are some names in the database that could indicate the same person. We found a number of names that clearly referred to the same people. For example, some surnames were entered without hyphens and later entered with them (i.e. Torres Garcia and Torres-Garcia). When such names were entered with the same given names and addresses, they clearly referred to the same person. In some cases, it was not as clear, however. Some names were identical, but had different addresses (did the person move, or were these actually two people with the same name?). We took a conservative approach and left duplicate names, about which there was any lack of certainty, in the database. Thus, although elimination of verifiably duplicate names whittled the number of harvesters who bought permits in 2013 from an original count of 441 down to 414, the number could be somewhat smaller.

Seventy-five percent of the surnames in the 2013 database were Spanish and 21% were Asian. The remaining 4 percent were either northern European names or names for which we could not identify the ethnicity. Of the 18 beargrass harvesters we spoke with in 2014, 9 said they speak Spanish at home. Of these 2 said they also speak English and 1 said she also speaks Zapoteco. Another harvester said he speaks English and Mixteco at home. Three said they speak Mien, 3 said they speak Lao, 1 said he speaks English and Lao, and 1 each said they speak only Cambodian and English.

Work Strategies:

The vast majority of the permits (94%) harvesters bought from the Gifford Pinchot National Forest in 2013 were 5-day permits (Table 1).

Table 1: Number of beargrass permits sold in 2013 by district and type

Ranger District	Permit Type					Total
	5-day	10-day	20-day	30-day	Other*	
Mt. St. Helens	1092	27	0	3	0	1122
Mt. Adams	395	35	0	3	0	433
Cowlitz Valley	745	47	4	14	2	1558
Total	2232	109	4	20	2	2367

*The 2 other permits had their values incorrectly entered in the GPNF database.

The reasons harvesters we interviewed in 2014 gave for buying 5-day permits had to do with work and relaxation patterns, the condition of the resource, the market and livelihood strategies.



Some harvesters said that they buy 5-day permits because they work for 5 days, and then take a couple of days off. One said that he sometimes buys 10-day permits, but the picking was bad in 2014 so he is only buying 5-day permits. Another said that floral greens companies only buy small quantities so he gets 5-day permits because if he picks too much beargrass, he cannot sell it. Other harvesters said that they come to pick beargrass when they cannot find any other work in the city or the company they normally work for is having a slow period.

One of the salal lease holders we interviewed described the following pattern for beargrass harvesters.

Buy a 5-day permit and go into the forest and camp for 4 nights. Pick for 5 days until the truck is full, come back to home base and clean for 3 to 4 days. Then buy another 5-day permit and start over again.

Although we did not quantify the number of harvesters who follow this pattern, our interviews suggest that most harvesters do *not* follow it. Most pickers do not clean, but sell their product by the uncleaned pound.

Close to half (8 individuals) of the harvesters we interviewed said that they go home at the end of each day. Six of them said they camp and 1 said he stays in a motel (Table 3).

A small proportion of the 414 harvesters who bought beargrass permits in 2013 made the majority of purchases of permits. Just 5% (22 individual harvesters) purchased 25% of the 5-day permits and 12% of the 10-day permits. Fifteen percent (63 individual harvesters) purchased 50% of the 5-day, 32% of the 10-day and 38% of the 30-day permits.

The median number of permits purchased was 3. Two individuals each bought more than 40 permits in 2013, another two bought more than 30 each, and 16 individuals bought more than 20 permits apiece (Table 2).

The number of permits purchased provides a rough estimate of the number of weeks a harvester spends harvesting. (This assumes a 5-day work week with 2 days off. Work strategies are discussed in more detail later.) Table 2 shows the data for all the harvesters who spent 20 weeks or more harvesting beargrass in 2013. Four individuals were engaged in the harvest of beargrass on the Gifford Pinchot National Forest for 40 weeks (10 months) or more in 2013. Another three harvested beargrass on the GPNF between 33 and 38 weeks (8.25 to 9.5 months) in that year. The remaining 18 harvesters spent between 20 and 29 weeks (5 to 7.25 months) harvesting beargrass. All the other 389 harvesters who bought beargrass permits on the GPNF in 2013 spent less than 20 weeks (7.25 months) harvesting beargrass on that national forest. The median



number of weeks GPNF harvesters spent harvesting beargrass was 3 and the average was 6.2 (slightly more than 1.5 months).

Table 2: Number of weeks spent harvesting and number of permits purchased by individuals who harvested for 20 weeks or more on the GPNF in 2013

Permittee #*	# 5-day permits	# 10-day	# 20-day	# 30-day	Total # permits	# Weeks spent harvesting
1	41	4			45	49
2	13	4		4	21	45
3	7	2		5	14	41
4	40				40	40
5	36	1			37	38
6	34				34	34
7	23	5			28	33
8	23	3			26	29
9	9	4		2	15	29
10	28				28	28
11	28				28	28
12	27				27	27
13	24				24	24
14	24				24	24
15	24				24	24
16	24				24	24
17	12	6			18	24
18	23				23	23
19	12	2		1	15	22
20	11	2		1	14	21
21	20				20	20
22	20				20	20
23	20				20	20
24	20				20	20
25	20				20	20

*Permittee names were replaced with arbitrary numbers that do not correspond to any data in the GPNF database.

From this data we can conclude that very few harvesters are engaged in harvesting beargrass on a full-time, year-round basis on the Gifford Pinchot National Forest. It is possible that some of these harvesters spend many weeks harvesting beargrass on other national forests and/or on state or private lands, thereby piecing together year-round employment in beargrass harvesting. About a third (6 individual harvesters) we interviewed said definitively that they harvest beargrass on other national forests, state, and/or private land in addition to the Gifford Pinchot National Forest

Table 3: Data from harvester interviews (2014)

Interview Number ¹	Satisfied with FS	Number yrs. Picking	Where pick	Where stay at night	Max lbs/day	Min. lbs/day	Number Permits/yr.	Proportion of annual inc. from beargrass	Pick other NTFPs ²
1		20	GPNF ³		250	250	48		
2	3			go home	300	200			salal; mushrooms
3			NFs ⁴ , state, private	Camp	200	200			mushrooms
4	3	14	NFs, state, WA & OR	go home; sometimes camp	200	100		0.2	
5	3	10	All NFs	go home	120	120	16	0.325	salal
6	4	17.5	GPNF	go home	200	200		0.25	
7	4		GPNF	Camp	200	200			mushrooms
8	5	5	All NFs, WA & OR		250	100	25	0.25	
9	3	15	All NFs, WA & OR	camp; sometimes go home	400	100	26	0.25	salal; mushrooms
10	5	1	GPNF & state	motel			1		huckleberries
11	5	1	GPNF	go home			1	0.25	huckleberries
12	2	3	GPNF	go home	200	200	1	0.25	salal; mushrooms; huckleberries
13	5	1	NFs	camp				0.25	huckleberries
14	5	1	NFs	go home	100	100	2	0.25	salal; mushrooms; huckleberries; boughs
15	5	4	Private	go home	250	250		0.25	salal; mushrooms; huckleberries
16		1	NFs	Camp			1	0.25	huckleberries
17	5	30	NFs	Camp			1	0.75	salal; mushrooms; huckleberries
18									mushrooms; huckleberries
average	4.07	8.82			222.5	168.33		0.29	
max		30			400			0.75	
min		1			100			0.20	

¹Interview numbers do not correspond to permittee numbers in Table 2; ²NTFPs = Non-timber forest products; ³GPNF = Gifford Pinchot National Forest; ⁴NFs = National Forests



(Table 3). Some said they harvest in both Washington and Oregon. However, most of the harvesters we interviewed said that 25% or less of their annual income comes from harvesting beargrass. The average proportion of annual income from beargrass was 29%. Most of the harvesters we interviewed (14 individuals) said that they also pick other non-timber forest products including salal, mushrooms, huckleberries and boughs (Table 3). For these harvesters, harvesting beargrass is one part of a livelihood strategy that includes picking two or more different NTFPs.

Quantities Picked and Beargrass Prices:

Estimates of the amount of beargrass a harvester can pick in a day ranged from 100 to 400 pounds. These estimates were given by the professionals we talked to and they happen to correspond exactly with the minimum and maximum values of the amount the harvesters we interviewed said they pick in a day. However, the professionals and several of the harvesters we spoke with qualified their answers. They said that in areas where beargrass is abundant, a good harvester can pick up to 400 pounds in a day. Yet, the beargrass is often hard to find and when that is the case, a harvester will only pick 100 to 150 pounds per day. In sparse areas, harvesters may spend a large portion of their time walking from gathering site to gathering site, and that limits the amount they can pick. The quantity picked also depends on the skill of the picker. Slower pickers obviously pick less.

Many of the harvesters we interviewed gave a range of values when asked how much beargrass they pick in a day. We entered the lowest and highest values they gave in our database and averaged both. On average the harvesters we interviewed picked between 168.33 and 222.5 pounds of beargrass per day (Table 3).

For much of 2014, while we were conducting the field work for this report, the price paid to harvesters for uncleaned beargrass was \$0.35 per pound. Buyers typically buy uncleaned beargrass and hire workers to remove or trim rotting, damaged, burnt, or dead grass and gather the cleaned grass into small bundles. The cleaners are paid 5 to 9 cents per bundle. A pound of beargrass yields 2 to 3 cleaned bundles, and one bundle was fetching \$0.35 on the market during our field work. At these prices, a harvester picking the average daily amounts presented in Table 3 would gross roughly between \$59 and \$78 per day. Net earnings would, of course, be less. A harvester who cleaned his/her own beargrass could at least double gross earnings, but the extra time invested in cleaning would offset the additional earnings.

One of the salal lease holders we interviewed said he prefers to wait for the price to go up to 60 or 70 cents per pound before picking beargrass. A number of factors affect the price of beargrass



(Hummel, Foltz-Jordan and Polasky 2012), and the price does fluctuate. (At this writing in March, 2014, the price is \$0.55 per pound as well as per bundle.)

Spatial and Temporal Patterns of Permit Purchases:

In 2013, the harvesters who purchased beargrass permits on the Gifford Pinchot National Forest gave home addresses in 54 different cities and towns. Most of the harvesters were from Washington, but some came from Oregon (principally from Portland). Five came from California (one from as far away as Los Angeles), and one each came from Arizona and Iowa.

Sixty-one percent of the harvesters came from just 2 cities: Tacoma and Aberdeen, and 79% came from just 7 Washington cities (Table 4). The harvesters from these 7 cities accounted for 80% or more of the purchases of beargrass permits of all types except 20-day, and the harvesters from Tacoma and Aberdeen accounted for more than 50% (Table 4). These 7 cities lie in 3 broad “feeder regions” to the GPNF: 1) the southern Puget Sound area (Tacoma, Olympia and Lakewood), 2) the Grays Harbor/Pacific Coast area (Aberdeen and Hoquiam), and 3) Southwest Washington (Kelso and Centralia) (a full list of all cities the 2013 permittees gave in their addresses is provided in Appendix A). Most of the harvesters we interviewed in 2014 came from the southern Puget Sound and nearby areas (Olympia, Tacoma, Puyallup, Seattle), but 1 came from Aberdeen and 1 came from Raymond. They also came from Centralia, Rochester, Longview, Eugene, Oregon, and Merced, California.

Table 4: Cities of origin of most GPNF beargrass permit purchasers (2013)

City/Town	# Harvesters (n=414)	Permit Type				Total # permits (n=2367)
		5-day (n=2232)	10-day (n=109)	20-day (n=4)	30-day (n=20)	
Tacoma	151	661	49	1	16	727
Olympia	15	89	3	0	0	92
Lakewood	21	142	13	0	2	157
Aberdeen	103	517	18	0	0	535
Hoquiam	13	103	1	0	0	104
Kelso	13	169	1	0	0	170
Centralia	12	94	4	0	0	98
Total	328	1775	89	1	18	1883
% of Total	79	80	82	25	90	80



Where harvesters went to buy their permits in 2013 generally followed a logical spatial pattern. As Table 5¹ shows, harvesters generally tended to go to the ranger station that is closest to them. Harvesters from the Kelso area, which is to the west of the forest, largely bought their permits at the Mt. St. Helens Ranger Station which is also on the west side. Similarly harvesters from the Tacoma area (to the north of the forest) bought 48% their permits at the Cowlitz Valley Ranger Station (also on the north side) and 23% at the Mt. St. Helens Ranger Station which is further from Tacoma than Cowlitz Valley but much closer than the Mr. Adams Ranger Station. These figures include permit purchases made by the same harvesters, indicating that harvesters go to different parts of the forest to harvest.

Table 5: Percentage of harvesters from different regions buying 5-day permits at ranger stations

Region	Ranger District		
	Mt. St. Helens	Mt. Adams	Cowlitz Valley
Tacoma, Olympia, Puyallup, Lakewood, Seattle	23	30	48
Aberdeen, Hoquiam, Elma, Forks	75	0	25
Kelso, Centralia, Vancouver	80	2	18
Portland	11	89	0

Harvesters in the Portland and Aberdeen areas departed somewhat from this pattern. Although the Mt. St. Helens Ranger Station is much closer to Portland than the Mt. Adams Ranger Station, 89% of the Portland-based harvesters went to the latter to buy permits in 2013. Similarly, although the Mt. St. Helens Ranger Station is about a half-hour's driving time further from Aberdeen than the Cowlitz Valley Ranger Station, 75% of the harvesters from the Aberdeen area bought their permits at the former.

Other harvesters went further afield. Thirty percent of the harvesters from the Tacoma area bought their permits at the Mt. Adams Ranger Station, a considerable distance away. These tended to be different harvesters than those who bought permits at the two closer ranger stations, although a number of harvesters bought permits at all three ranger stations. In some cases, harvesters from the Tacoma area bought 5-day permits at the Cowlitz Valley Ranger Station and 10-day permits at the Mt. Adams Ranger Station suggesting that when they drive further from home, they stay out longer in the woods. On the other hand, 90% of the 30-day permits were purchased by people from the Tacoma area, but half of these were purchased at the Cowlitz

¹ Note that Table 5 only includes purchases of 5-day permits.



Valley Ranger Station (the one closest to Tacoma) and only 3 were purchased at the Mt. Adams Ranger Station.

Although the beargrass season is open all year on the Gifford Pinchot National Forest, there is a seasonality to the picking. As Table 6 illustrates, April and May, and August through November were the months with the heaviest sales of beargrass permits in 2013. Demand for floral greens in the European market is high during the Easter, Mother’s Day and Christmas holidays (Draffan 2006) and this could account for spring and fall seeing the most beargrass harvesting activity. The professionals, buyers and harvesters we spoke with said that autumn is the time of year when the beargrass leaves are at their peak quality for the floral greens market. They are long, wide, green and fully developed in the fall. The figures in Table 6 reflect the coincidence of the maturity of beargrass leaves and preparations for the Christmas holiday: more than half of the beargrass permits purchased on the Gifford Pinchot National Forest in 2013 were sold in the 4 months of late summer to mid-fall. (In December, snowfall begins to interfere with harvesting.) The winter months saw the slowest permit sales.

Table 6: Number of permits purchased by season (2013)

Month	Winter	Spring	Summer	Late Summer/Fall	Cumulative Total
January	7				7
February	28				35
March	126				161
April		234			392
May		231			623
June			178		801
July			130		931
August				273	1204
September				409	1613
October				260	1873
November				355	2228
December	139				2367
Total	300	465	308	1297	2367
% of total	12	20	13	55	100

Level of Satisfaction with the Forest Service’s Permitting System

In general, the harvesters we interviewed were satisfied with the Forest Service’s current permitting system. On a 5 point scale (with 5 being “Very satisfied” and 1 being “Very



unsatisfied”) the average rank they gave to the current permitting system was 4.07. This corresponds to the response, “Somewhat satisfied.”

Several harvesters had suggestions for improving the permit system. One was concerned about people picking illegally. He said he would like to see more patrols to stop people from picking without permits. Sometimes he finds a good area, buys a permit, and by the time he gets back to the area, someone has already picked it.

One group of harvesters said that they would like 5- and 10-day permits to be sold at the same price. They argued that it is not always possible to pick every day of a 5-day permit. This same group would like forest managers to permit scouting for beargrass. They said scouting is necessary to determine whether marketable beargrass is present in sufficient quantities to make buying a permit worthwhile. They protested that, “If you are out scouting, they ask you if you have a permit, but you are just there scouting.”

Many harvesters we interviewed expressed dissatisfaction with the process of issuing permits on opening day of the huckleberry season. The long lines and slow pace of the process seemed inefficient to them. Some suggested selling permits online so harvesters would not have to stand in line (in many cases for hours) to get a permit. Others suggested hiring more staff for issuing permits and upgrading the agency’s computer system.

Two harvesters expressed concerns about trash in the woods. They would like to see the Forest Service do something to stop people from littering. One harvester said, “A lot of people leave trash, and then they blame us.”

Concerns about Leasing:

We found nearly unanimous opposition to the idea of setting aside portions of the Gifford Pinchot National Forest for leasing among all the people we interviewed. The main reasons people gave for opposing this idea concerned money and security. Many harvesters we talked to said that they would not be able to bid on the leases because they do not have the money that would enable them to do so. One harvester put it like this.

“It [leasing national forest lands] is not a good idea because only people with a lot of money would get the leases. People like us don’t have money. The person who got the lease would hire people to pick and not pay them very much. He [the lessee] wouldn’t work, and he’d get the most money.”

Some of the professionals we interviewed said they thought leasing would affect harvesters negatively because they would be tied to one buyer. The structure of the floral greens industry is



such that buyers often hold the leases to picking areas and they use labor contractors to provide the workers to harvest the greens. The expectation is that the labor contractor will bring the workers to the buyer/leaseholder to sell their product. Although the harvesters are technically free to sell to any buyer they choose, depending on price or other considerations, they are expected to sell to the buyer/leaseholder with whom the labor contractor has a working relationship. The harvesters are also often dependent on the labor contractors for transportation (McLain and Lynch 2010).

One buyer we spoke with also suggested that some leases would have better picking areas than others. Currently harvesters can move around to find the best areas. Leasing would restrict this ability and could potentially be unfair.

Buyers, harvesters and professionals alike expressed concerns about the security needed to make a leasing system work. If GPNF were to go over to a leasing system, the national forest lands set aside for leasing would need to have locked gates on all roads leading to them. Only the lessee should be issued a key. Without locked gates, beargrass on the leased lands would be subject to theft.

One of the salal leaseholders we interviewed said that thieves typically work at night. They go into the leased area and harvest in the dark. Then the trucks come in at first light to pick up the night's harvest. All of this is done before the lessee arrives for work. However, if the lessee shows up, the thieves are armed and capable of preventing the lessee from doing anything. Sheriff's deputies have on occasion set up hidden cameras and identified thieves in this way.

This same man said he was the victim of an attempted robbery at gunpoint in 2002. This was on private land that he was leasing for picking salal, not while picking beargrass on national forest land. He managed to get away with his harvest, and later identified the thief in a police photo lineup and testified against him at trial.

The two harvesters we interviewed who were in favor of leases liked the idea of having a specific area to go to. When asked about security, one of them said that there would have to be a gate with a lock to prevent people from going in and stealing the beargrass.

Structure of the Floral Greens Industry:

The supply chain in the global floral greens market includes harvesters, labor contractors, landowners, leaseholders, buyers, wholesalers, retailers and consumers. Little current information is available on quantities of beargrass sold annually in the Pacific Northwest or the importance of the beargrass harvest relative to salal (*Gaultheria shallon*) (the other major floral green harvested in the Pacific Northwest) and other floral greens. Schlosser and Blatner (1997)



estimated that over 19 million bunches of salal, with an estimated value of over \$13 million, and over 12 million bunches of beargrass valued at over \$11.5 million were harvested in western Washington, western Oregon and southwestern British Columbia in 1989. Draffan (2006) cites internal memos from the Washington Department of Labor and Industries dating from 2002 indicating that 27 million pounds of salal and 10 million pounds of beargrass with a “shed value” (i.e. amount paid to harvesters) of \$54 million are exported to Europe each year. The Gifford Pinchot National Forest estimates that its annual harvest levels of these two species are 5,734,164 pounds of beargrass and 1,559,280 pounds of salal (USDA Forest Service, Gifford Pinchot National Forest 2009).

Harvesters may work on their own (or in small family groups), purchasing their own permits, providing their own transportation and selling to buyers, or they may work for a labor contractor who often has a relationship with a private landowner or leaseholder. Labor arrangements between harvesters and labor contractors may be exploitative, limiting the ability of harvesters to find the best price for their product. Labor contractors may also charge harvesters fees for transportation and require harvesters to pay them a percentage of the value of their daily production (McLain and Lynch 2010).

Regardless of labor arrangements, harvesters sell their beargrass to buyers who have small to mid-sized companies (often called brush sheds). The buyers hire cleaners to clean the beargrass and then sell the cleaned bundles to wholesalers who sell to retailers or to other wholesalers. Some 80% of the beargrass harvest is sold to European firms (Hummel, Foltz-Jordan and Polasky 2012).

Most of the brush sheds (buyers) that buy beargrass harvested on the Gifford Pinchot National Forest are located in Tacoma. However, the large concentrations of harvesters in Aberdeen and southwest Washington suggests that there may be buyers located in these areas as well. The person we spoke with at the Washington Department of Natural Resources was under the impression that there are buyers in Chehalis and Aberdeen, but we were unable to confirm their presence in these cities. In addition, some of the harvesters we interviewed said that the garage behind the Chevron station in Randle is a brush shed. NFWC staff attempted to contact this buyer three times, but each time the garage was locked and no one was around. One of the Washington-based buyers we spoke with said that his principal supplier of beargrass (a smaller brush shed) is located in Salem, Oregon.

The mid-sized to large companies that buy beargrass in Washington include the following.

- Brothers United Inc., Shelton, WA
- Canada Floral, based in Vancouver, BC, but buys floral greens in Tacoma, WA
- Cascade Floral Products, Everett, WA



- Continental Wholesale Florists, headquartered in San Antonio, TX
- Golden Eagle Evergreens, Shelton, WA
- Hiawatha Corporation, Shelton, WA
- Hood Canal Evergreens, Belfair, WA
- Mount St. Helens Evergreens, Shelton, WA
- Mountain Nature Greens, Lacey, WA
- Mr. Who Evergreens, Shelton, WA
- Puget Sound Evergreens, Belfair, WA
- Washington Evergreen Coop, Tenino, WA

Concerns about the Condition of the Beargrass Resource:

We encountered concern for the condition of the beargrass resource in our interviews. There was general consensus among the people we spoke with that 2014 was a bad year for the commercial harvest of beargrass. Harvesters, buyers and professionals all said that the leaves were shorter and were “getting burned up a lot” (drying in the sun and getting brown tips). One harvester said that once every 4 or 5 years there is a bad year in which the beargrass does not produce the kind of leaf the florists like.

Others see a more long-term problem with the sustainability of the beargrass harvest. One buyer’s representative we spoke with said that he thinks the beargrass business could die out in the next 5 years. He thinks that the manner in which pickers harvest beargrass destroys the part of the plant that produces marketable leaves. The retired forester we interviewed concurred with this view. He said that harvesters twist off the leaves and the central flower stalk together and this leaves a depression in the center of the plant just on top of the tuber. He said when rain water collects in this depression, the tuber rots, and the plant dies. He thinks the resource is being destroyed.

There is some evidence that the beargrass resource may be declining across the Pacific Northwest. Shebitz, Reichard and Woubneh (2008) found a 50% reduction in the beargrass cover over a 17 year period in some plots they sampled in the southeastern part of the Olympic National Forest. Hummel, Foltz-Jordan and Polasky (2012) report that Native American basket makers in Washington and California have observed a decline in beargrass abundance.

In contrast to these concerns, one harvester we interviewed opined that the leaves do come back after picking, but it takes 4 or 5 years for them to grow to a length that the florists like. Charnley and Hummel (2011) observe that although this is a common assumption, no research has confirmed it.



Indeed, there appears to have been no research done on the short- or long-term effects of commercial harvest on beargrass. Vance et al. (2001) observe that cutting into or tearing out the rhizome harms the plant, and Hummel, Foltz-Jordan and Polasky (2012) add that destroying the flowering shoots is also detrimental. There is a dearth of peer-reviewed studies to confirm or refute these observations, however.

Some research has been done on the effects of logging and fire suppression on beargrass reproduction. Clearcutting appears to be detrimental to beargrass, requiring a recovery period of 20 years after logging (Charnley and Hummel 2011). Few studies have been done on the effects of less-intensive silvicultural practices, such as shelterwood or group selection, on beargrass, although Blatner et al. (2004) found that beargrass is not of commercial quality unless the overstory density is 60% or greater. There is evidence that fire suppression can reduce beargrass abundance by effectively converting beargrass savannahs to forested landscapes (Peter and Shebitz 2006).

Although NTFP harvesters have detailed knowledge of the species they harvest and are often keen observers of how harvesting impacts NTFPs (Ballard, Trettevick and Collins 2008), our interviews with harvesters and others in the beargrass industry yielded conflicting accounts of the effects of commercial harvest on beargrass. These conflicting accounts, together with the absence of peer-reviewed literature, suggests a strong need for research on this topic.

Conclusions and Future Monitoring Needs

The data gathered for this project suggest that most harvesters who buy beargrass permits on the Gifford Pinchot National Forest appear to engage in a number of livelihood strategies that include harvesting beargrass on many national forests and/or state and private lands as well as harvesting other NTFPs. Many may be part-time harvesters who harvest beargrass only when other work is unavailable. Some may harvest beargrass full time across the forest lands of the Pacific Northwest, and a few individuals appear to harvest beargrass full time on the GPNF.

Most of the harvesters come from just 7 Washington cities, and tend to buy their permits at the ranger stations closest to where they live.

The data also suggest that the Forest Service's current estimate of 200 pounds picked per harvester per day for the purpose of setting permit values is probably fairly accurate.

The harvesters, buyers and professionals we interviewed are fairly satisfied with the current permitting system on the GPNF. They are almost uniform in their opposition to leasing of GPNF lands for beargrass harvest.



While the data from the permittee database presented in this report covers all harvesters who purchased permits on the GPNF in 2013, the data from our interviews comes from a small number of non-randomly selected harvesters and other people knowledgeable about the floral greens industry. Therefore, the figures on the amount of beargrass harvested per day as well as opinions about leasing and the current permitting system cannot be generalized to all harvesters who pick beargrass on the GPNF.

The project results suggest two future monitoring needs. Given the conflicting accounts of the sustainability of the current beargrass harvest on the GPNF, as well as the lack of peer-reviewed studies, there is a very strong need to study the impact of commercial harvesting on the beargrass resource. In addition, this project just scratched the surface with regard to labor relations in the harvest of beargrass. There is thus a strong need to study working conditions, pay and relations between harvesters, labor contractors and buyers in this section of the floral greens industry.

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APPENDIX A

All cities given with home addresses by 2013 permittees

Grays Harbor/ Pacific Coast	Southern Puget Sound	Southwest Washington	Other In State	Out of State
Aberdeen	Auburn	Battle Ground	Randle	San Tan Valley, AZ
Copalis Crossing	Belfair	Centralia		
Cosmopolis	Bethel	Chehalis	Friday Harbor	Los Angeles, CA
Elma	Black Diamond	Kelso	Silvana	Mendota, CA
Forks	Bremerton	La Center		Riverside, CA
Hoquiam	Enumclaw	Longview	Mattawa	San Jose, CA
Raymond	Federal Way	Stevenson	Quincy	Selma, CA
	Kent	Underwood	Walla Walla	
	Lacey	Vancouver	Wenatchee	Molalla, OR
	Lakewood	Winlock		Portland, OR
	Milton	Woodland	4 invalid zip codes	
	Olympia			Sumner, IA
	Puyallup			
	Rainier			
	Rochester			
	Seattle			
	Shelton			
	Sumner, WA			
	Tacoma			
	University Place			

APPENDIX B

Gifford Pinchot Beargrass Monitoring Project, 2014 Interview Guide for Beargrass Harvesters

Date: _____ Location of Interview: _____

Hello, my name is _____, and I'm with the Northwest Forest Worker Center. We're asking people questions to find out how they feel about the way the Forest Service is managing beargrass. Is it okay if I ask you a few questions?

If they say no, say "thank you," and move on.

If they say yes, say:

All your answers are confidential. I'm not going to ask you your name or write down anything that could connect you to the answers you give.

1. How satisfied are you with the Forest Service's permitting system?

- Very satisfied; Somewhat satisfied; Neither satisfied nor unsatisfied;
 Somewhat unsatisfied; Very unsatisfied

2. What could be done to improve the permitting system?

3. The Forest Service is considering going to a leasing system in which they would set aside certain areas on the national forest and have people bid on the lease to harvest beargrass in that area. The person who got the lease would be the only one allowed to pick beargrass there. He could hire workers to help him, but he would be the only one with the right to harvest in that area.

How do you feel about this proposal?

3. How many years have you been picking beargrass? _____ years.

4. Where do you usually pick? [**check all that apply**]

Private land County land State forest lands BLM lands

National Forests



4.a. What national forests do you pick on?

Gifford Pinchot; Snoqualmie; Olympic;

Other _____.

5. When you go picking, do you usually:

go home at the end of the day; stay in a motel;

camp in the woods; other _____.



5.a. If you camp in the woods, how long do you usually stay? _____ days.

6. How many pounds of beargrass do you pick in a typical day?

_____ pounds.

7. Do you work for someone picking beargrass, → [**Go to question 9**]

or do you buy your own permit? → [**Go to question 8**]

8. What type of permit do you typically buy?

5 day 10 day 20 day 30 day

8.a. How many do you buy per year? _____ permits

8.b. Why do you buy more than one?

[Questions 9 through 13.b. are for workers who work for someone else.]

9. If you work for someone, are you paid by the piece or by the hour?

10. How much do they pay? \$_____ per pound; \$_____ per hour

11. How many guys are on your crew? _____ crew members

12. Do they all buy their own permits, or does the boss buy permits for them?

boss buys a permit for each crew member; each crew member buys his own permit;

boss buys a permit for himself, and no one else buys a permit;

13. What type of permit does your crew usually get?

5 day 10 day 20 day 30 day

13.a. How many times does the crew buy one per year? _____ permits

13.b. Why do they buy more than one?

[The remaining questions are for everyone]

14. Thinking about how much money you made last year, how much of it came from harvesting beargrass?

One-quarter or less; One-quarter to one-half; One-half to three-quarters;

More than three-quarters

15. Do you harvest any other non-timber forest products? Which ones? **[check all that apply]**

Salal; Mushrooms; Huckleberries (berries); Huckleberry (greens) and Ferns;

Boughs; Other _____.

16. What language do you speak at home?

English; Spanish; Hmong; Mien; Lao; Cambodian; Russian;

Mixteco; Zapoteco; Triqui; Other _____.

17. What city/town do you live in?

18. Is there anything else you would like to say about beargrass harvesting?

Gifford Pinchot National Forest, Beargrass Harvest Program Monitoring, Final Report

Northwest Forest Worker Center

April, 2015

This project was made possible by funding from the following sources.

National Forest Foundation
USDA Forest Service, Gifford Pinchot National Forest,
Cost Share Agreement number 14-CS-11060300-006
Weyerhaeuser Family Foundation

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