

2020 Blackfoot Monitoring Results



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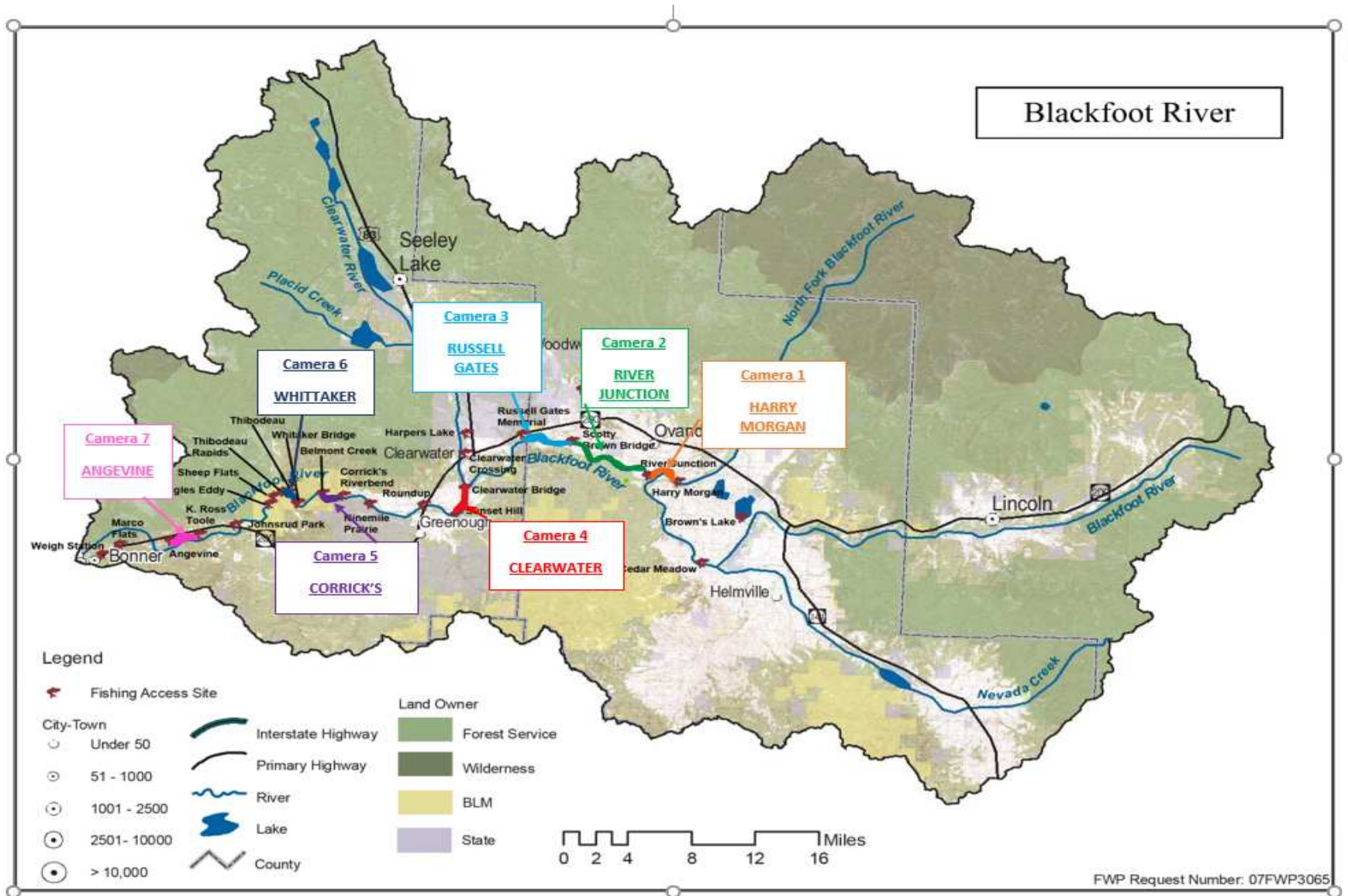
Introduction

In 2020, FWP continued and expanded a 14-year program of monitoring recreation use on the Blackfoot. 2020 was a unique year due to the COVID-19 pandemic. Record numbers of vehicles, people, and boats were recorded. In-person surveys were not conducted due to safety protocols and COVID-19. The basis of monitoring efforts included traffic counters at the FAS sites, the same camera monitoring set-up and data given to FWP from outfitters.

Methods of Collection

In 2019, seven cameras were installed along the river to count boats during the busiest months of the season (June-September). 2020 was the second season cameras were used for monitoring. Figure 1 shows the location of the cameras. The placement of the cameras was guided by the 2010 Blackfoot Management Plan that laid out reaches of the Blackfoot. The cameras were placed with the intention of each camera capturing a reach. The cameras provide video footage 24 hours a day. The footage was reviewed, and all watercraft were counted.

Figure 1: Placement of Monitoring Cameras

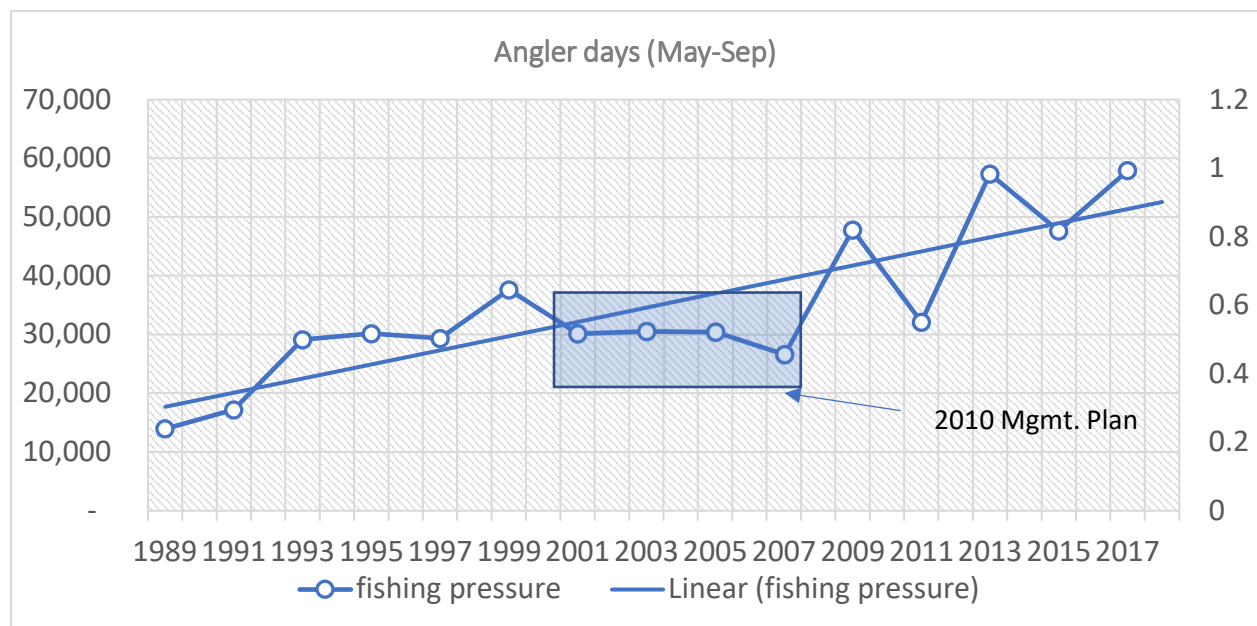


Background

The 2010 Blackfoot Management Plan guides the management of the river. This plan separates the river into reaches and describes desired conditions for each. In summary, the desired conditions describe lower levels of use, crowding, and conflict in the upper reaches of the Blackfoot with higher concentrations of use occurring in lower reaches of the river.

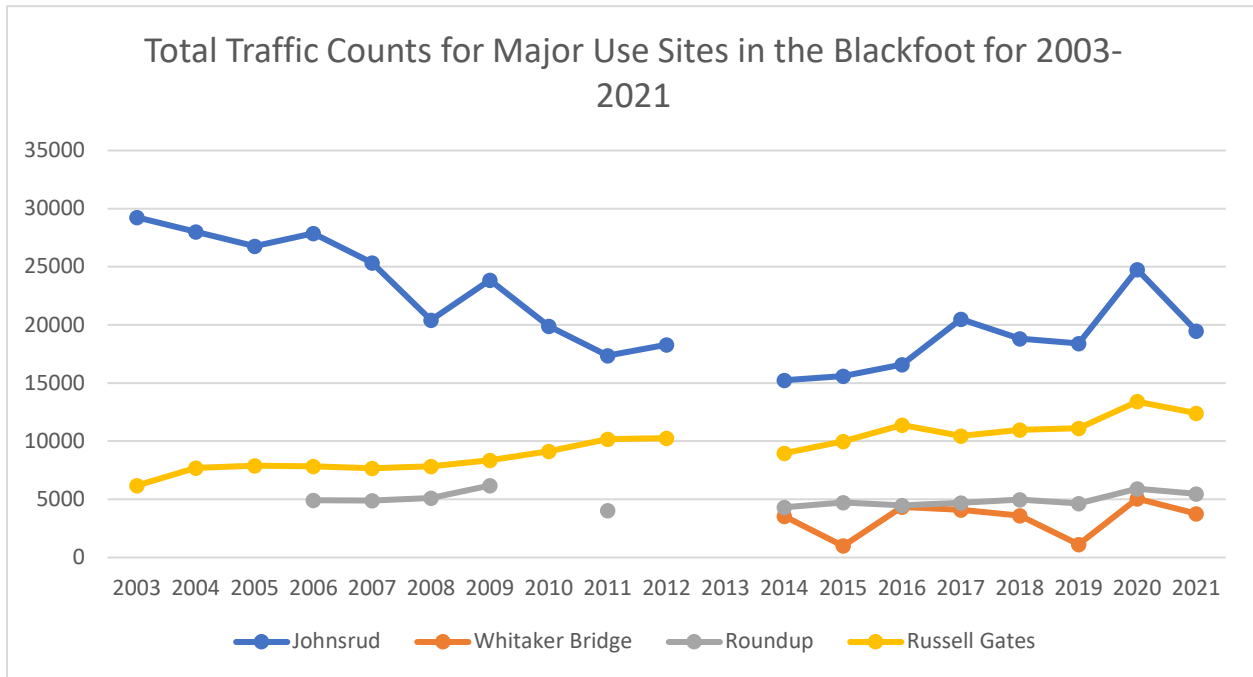
In recent years, FWP monitoring has shown that use of all types on the Blackfoot River are growing. It is critical to monitor the resources and review the desired conditions along the river. Looking at fishing pressure in Figure 2, it is clearly increasing and higher than it was when the 2010 plan was written. The amount of commercial use is also an indicator of increasing Blackfoot River use. Figure 3 shows commercial use levels from 2006-2020. This is also on the rise.

Figure 2: Blackfoot Fishing Pressure 1989-2017



FWP has used traffic counters for many years to gauge the number of vehicles coming into sites. These were installed underground in the early 1990s and many of them no longer operate. An upgraded system that will count traffic at all the sites in the Blackfoot will be utilized for the 2022 season. Figure 3 shows the traffic counter data available from sites in the Blackfoot from 2003 to 2021. In 2020, all the sites saw an increase. Russell Gates received more traffic than ever recorded in 2020. Johnsrud saw a sharp increase in traffic from 2019-2020 but levels went back down in 2021.

Figure 3: Traffic Counts for Sites in the Blackfoot 2003-2021



Commercial use increased slightly in 2020 from 9,905 use days to 9,976 use days (Figure 4). Commercial use was tamped down by the pandemic in the spring and early summer. The largest amount of commercial use occurred in July and August as COVID-19 cases in Montana were not as high as other states in the nation (Figure 5).

Figure 4: Commercial Use 2006-2020

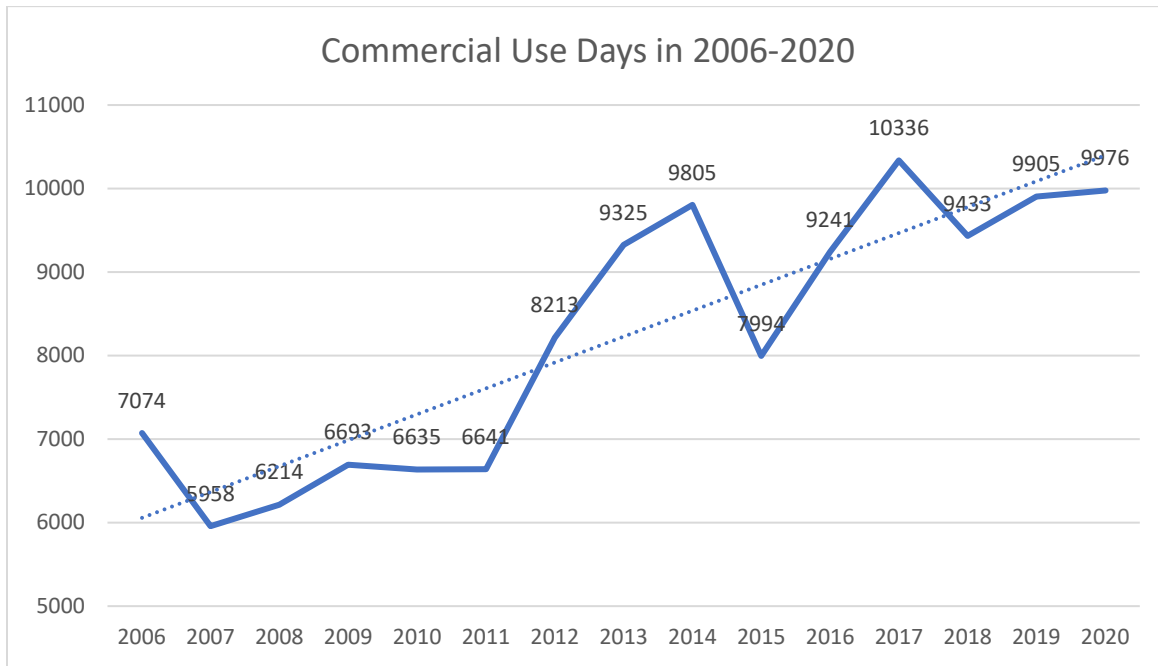
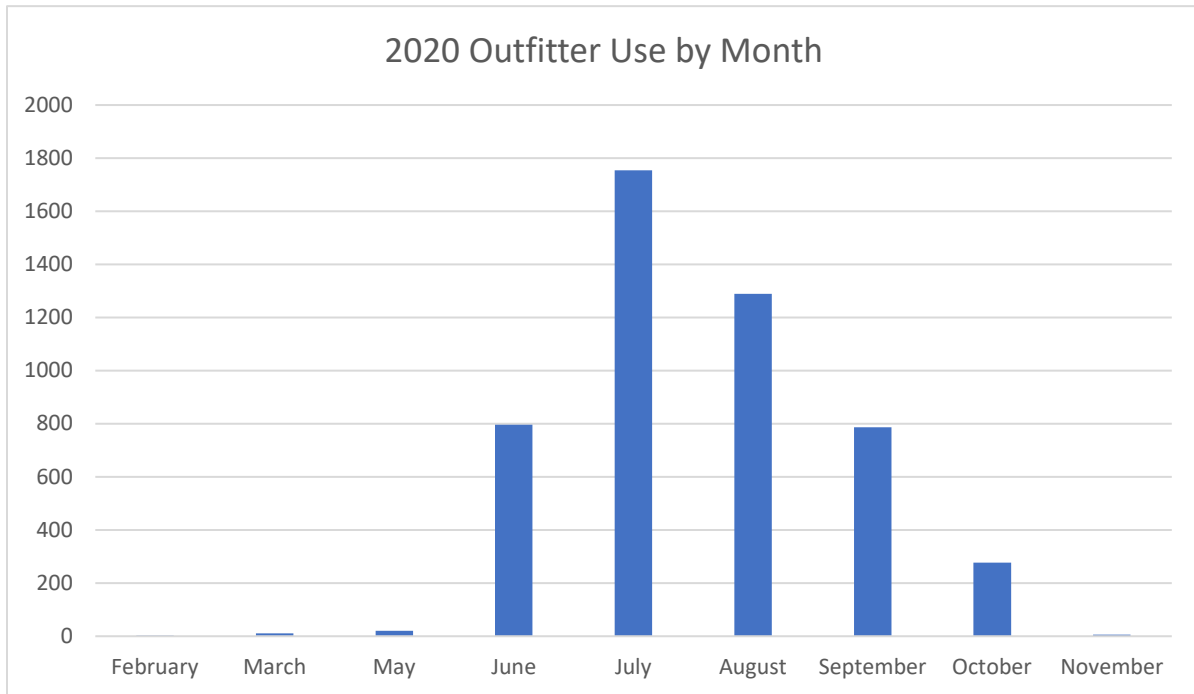


Figure 5: 2020 Outfitter Use by Month



Results

The total number of watercraft counted by camera on the Blackfoot River in 2019 was 11,270 and in 2020, using the same days available from 2019, we counted 16,328 (Table 1). More data was collected in 2020 than in 2019 but the comparisons are only made when both years are available. Using all the available data in 2020 and not just the days in common with 2019, the total number of watercraft counted was 20,640 watercraft.

Table 1: 2019 to 2020 Comparisons *Comparisons are only among days camera data was available for both years

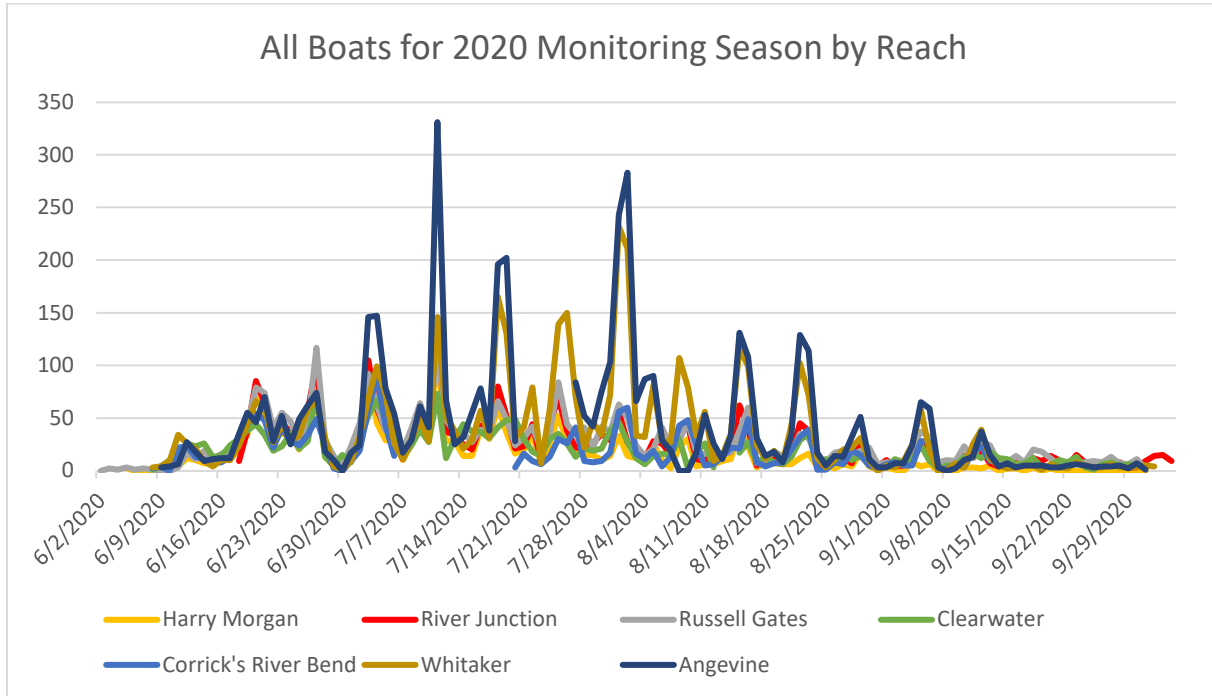
Camera/Section (Upstream to Downstream)	Watercraft Counted in 2019*	Watercraft Counted in 2020*	Percent % Increase from 2019 to 2020*	Maximum Number of Watercraft in a Day in 2020
Harry Morgan	615	1109	80% increase	106
River Junction	928	1359	46% increase	126
Russell Gates	1758	2404	37% increase	117
Clearwater	1795	1826	2% increase	67
Corricks River Bend	1002	1413	41% increase	90
Whittaker	2429	3928	62% increase	232
Angevine	2743	4259	55% increase	311
TOTAL COUNTED	11270	16328	45% increase	

* To make comparisons these figures are based only days when data was available for both years

The use counted from the Angevine camera was the highest of the reaches followed by Whittaker (Table 1). The highest single day use was counted at Angevine (331 craft). Although the amount of use differs

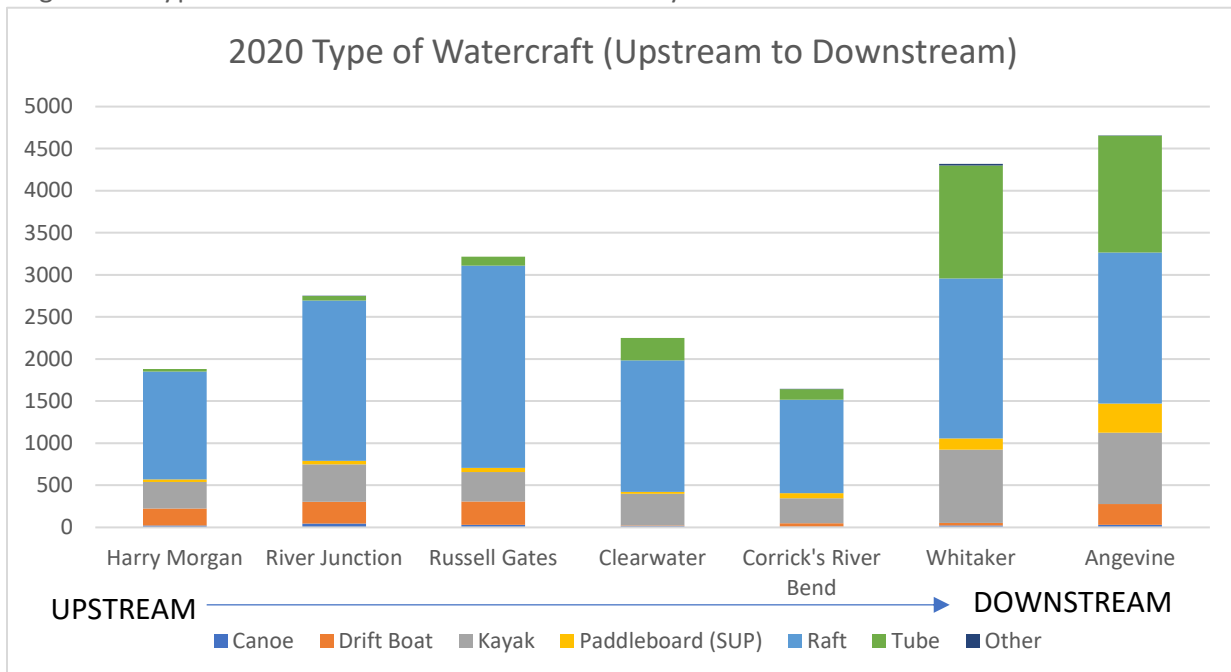
greatly, the trend across the summer and across reaches is very similar (Figure 6). These trends can be explained by weather, water levels, events, conditions on other reaches of the Blackfoot, and conditions on other rivers in Montana and the region.

Figure 6: All Boats Counted in 2020 by Camera Reach



The type of watercraft most often seen on the Blackfoot is rafts followed by kayaks, drift boats, and tubes (Figure 7). The type of watercraft used diversifies in the lower reaches.

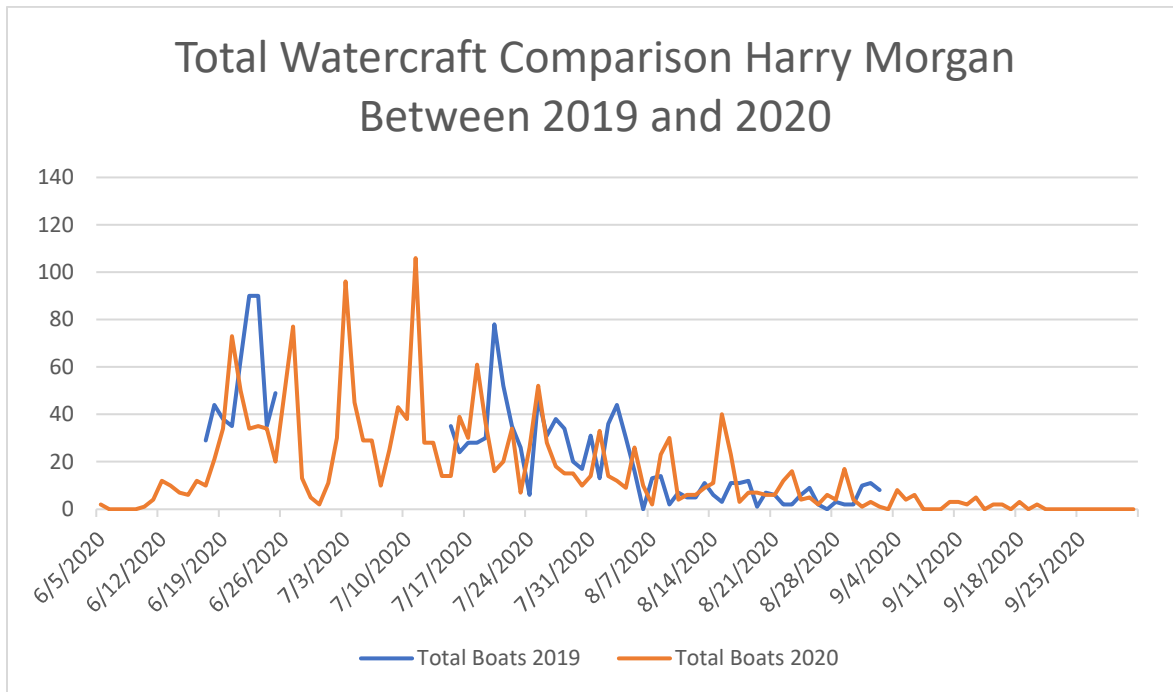
Figure 7: Type of Watercraft Counted in 2020 by Camera



Reach Specific-Harry Morgan

2019 data was not complete so comparisons can only be done across days that we have both years available. Harry Morgan camera saw the largest percent increase across all reaches. Use increased by 80 percent over 2019. A difference in use can be seen in August where the number of watercraft was higher in 2020 than in 2019. The most watercraft counted in this section in 2020 was in early and middle of July (Figure 8).

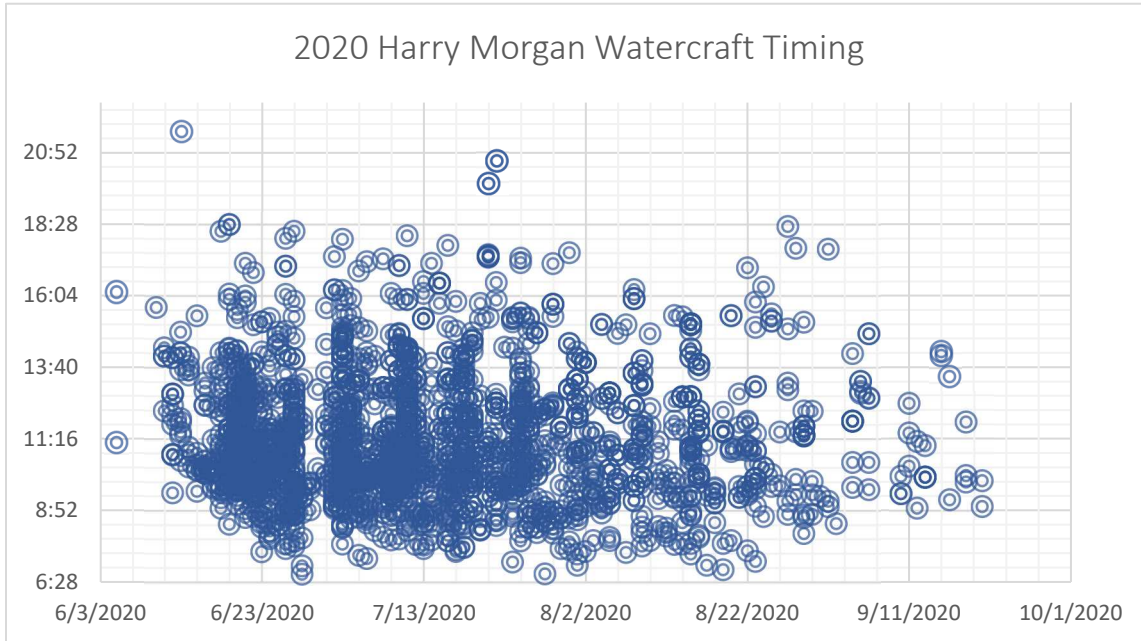
Figure 8: 2019 and 2020 Use from the Harry Morgan Camera



Timing

Cluster analysis of watercraft passing the camera show constant watercraft traffic from around 9:00 am to around 1:00 PM from June through early August (Figure 9). There is little to no time between craft passing indicating a very crowded situation. The majority of watercraft passed the camera between 6:30 am and 4:00 PM.

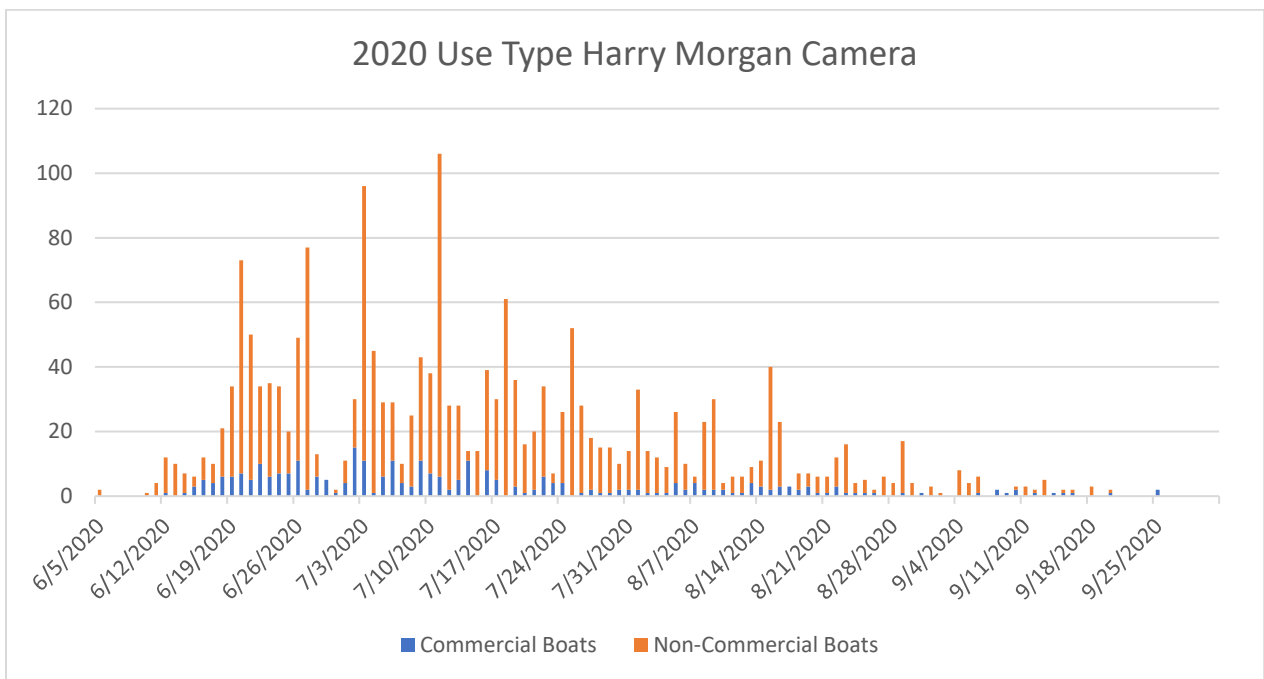
Figure 9: 2020 Watercraft Timing at Harry Morgan



Types of Use on Harry Morgan Camera

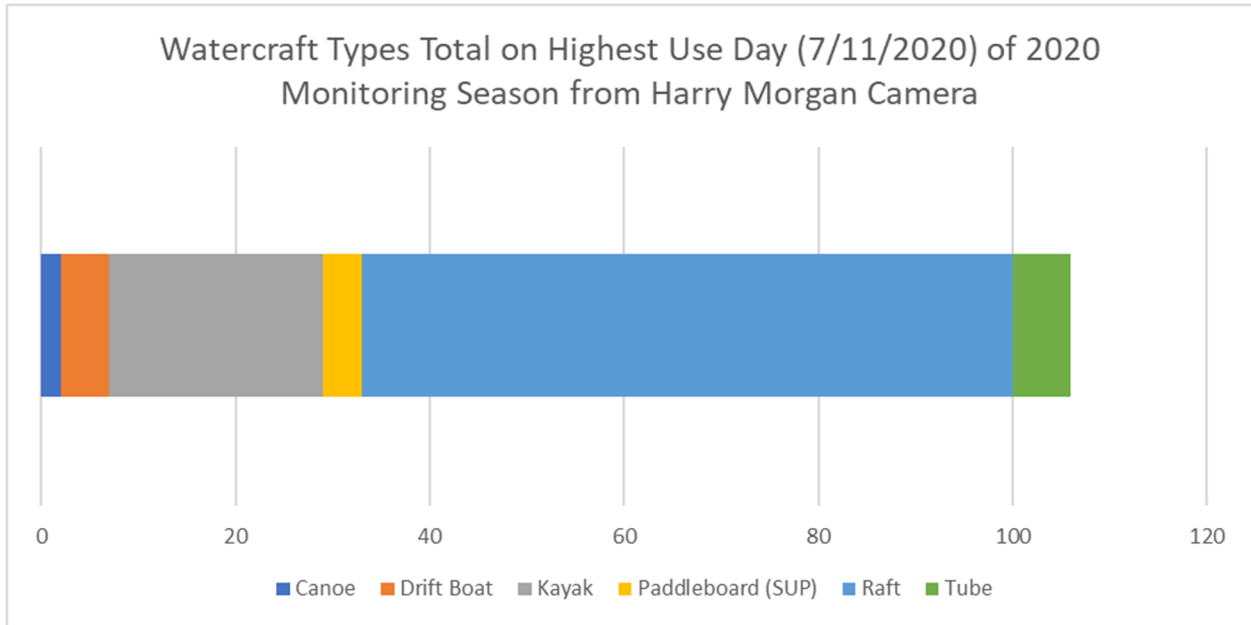
Most of the use on this section of the Blackfoot was non-commercial use (Figure 10). The highest amount of both commercial and non-commercial use occurred in July. Commercial use in this reach was down significantly from 2019.

Figure 10: 2020 Use Type at Harry Morgan



Most of the watercraft counted were rafts followed by tubes and drift boats (Figure 11). There is a diversity of watercraft type that was not seen in 2010 when the management plan was written.

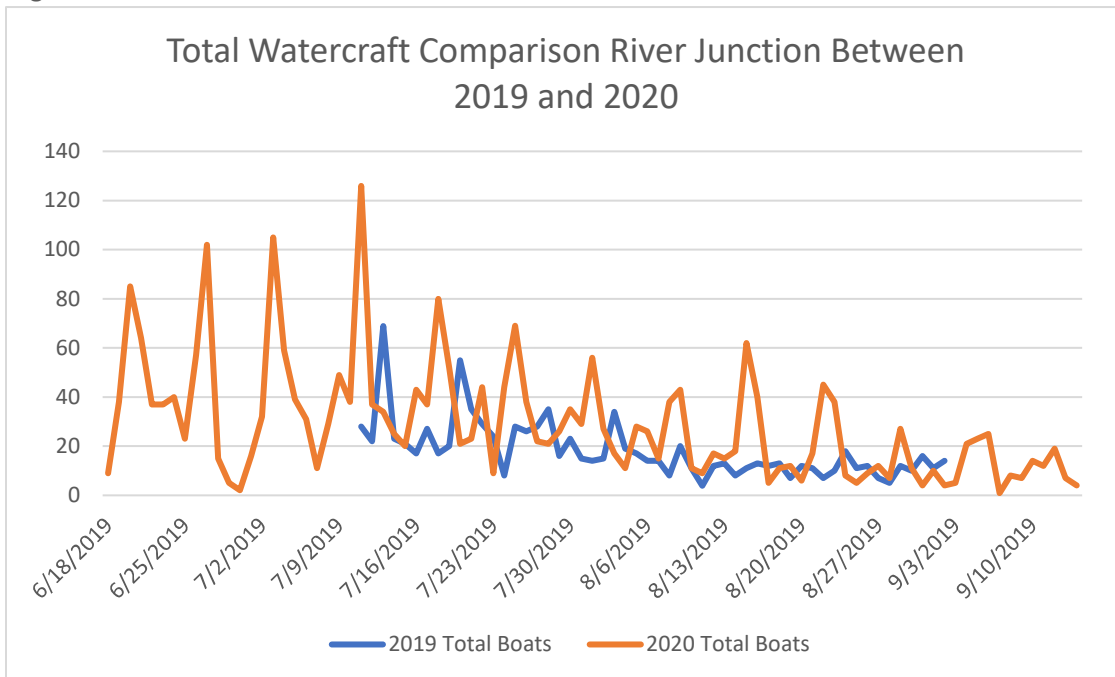
Figure 11: Watercraft Type on Highest Use Day on Harry Morgan Camera 2020



Reach Specific-River Junction

2019 data was not complete so comparisons can only be done across days that we have both years available. Using the same days for both years, there was a 46 percent increase in number of watercraft in 2020 in the River Junction reach (Figure 12).

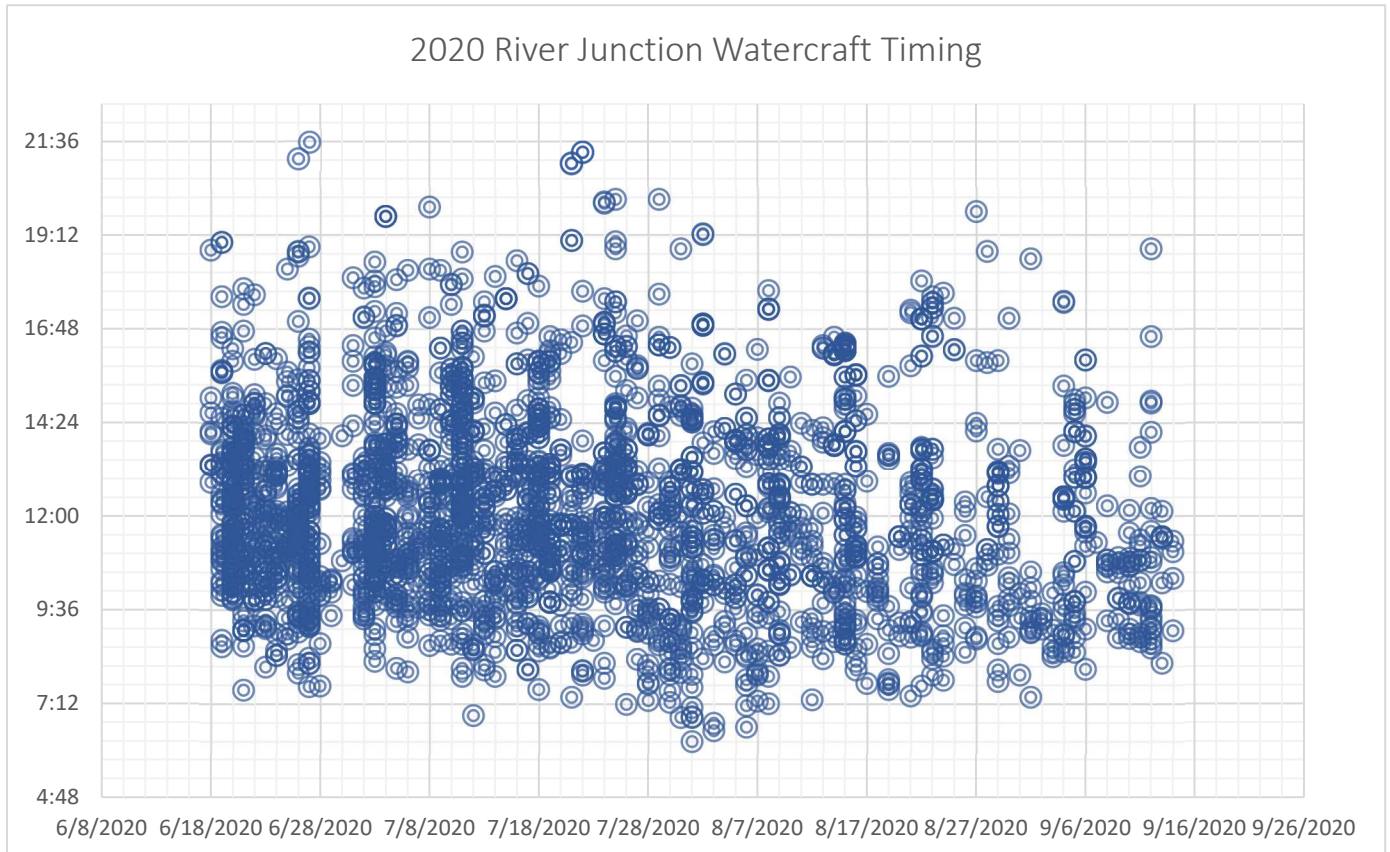
Figure 12: 2019 and 2020 Use from the River Junction Camera



Timing

The timing of watercraft passing this camera show crowded times between 9am and 2-4 pm in June and early July. Watercraft could be seen passing the camera much later in the evening than other reaches of the Blackfoot.

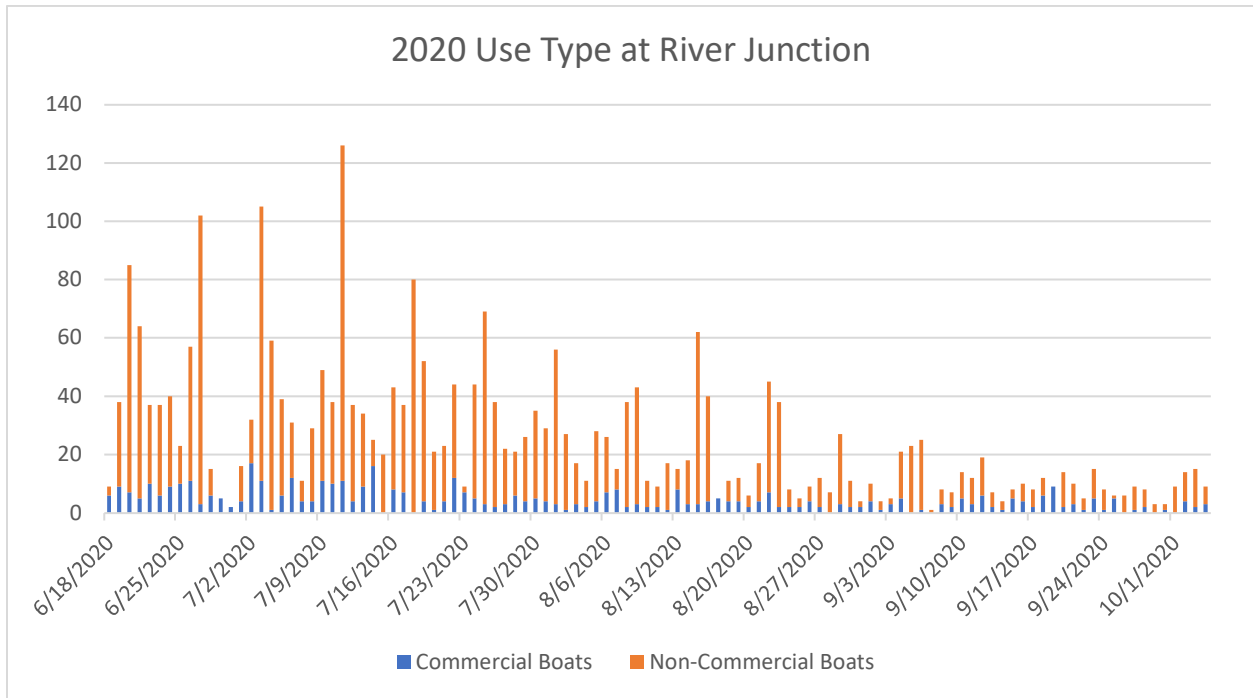
Figure 13: Watercraft Timing at River Junction



Most of the use in the River Junction reach in 2019 and 2020 was non-commercial use. The highest commercial use in 2020 was in mid-July (Figure 14). The highest level of non-commercial use was in early July.

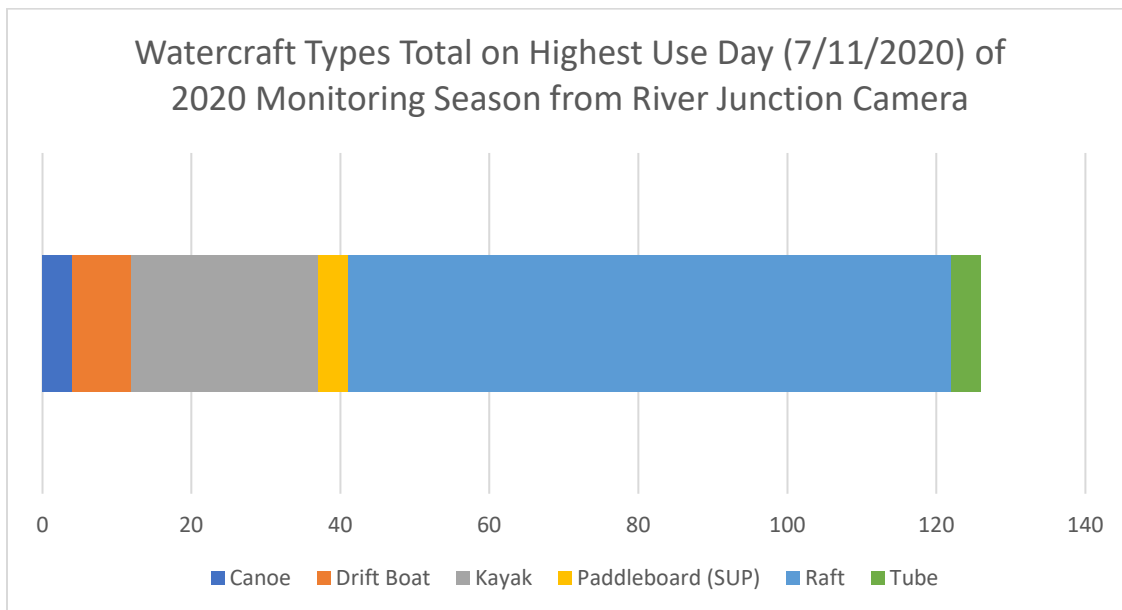
Types of Use at River Junction

Figure 14: 2020 Use Type at River Junction



Much like the reach above, this reach is dominated by rafts (Figure 15). Kayaks were seen most after rafts followed by drift boats.

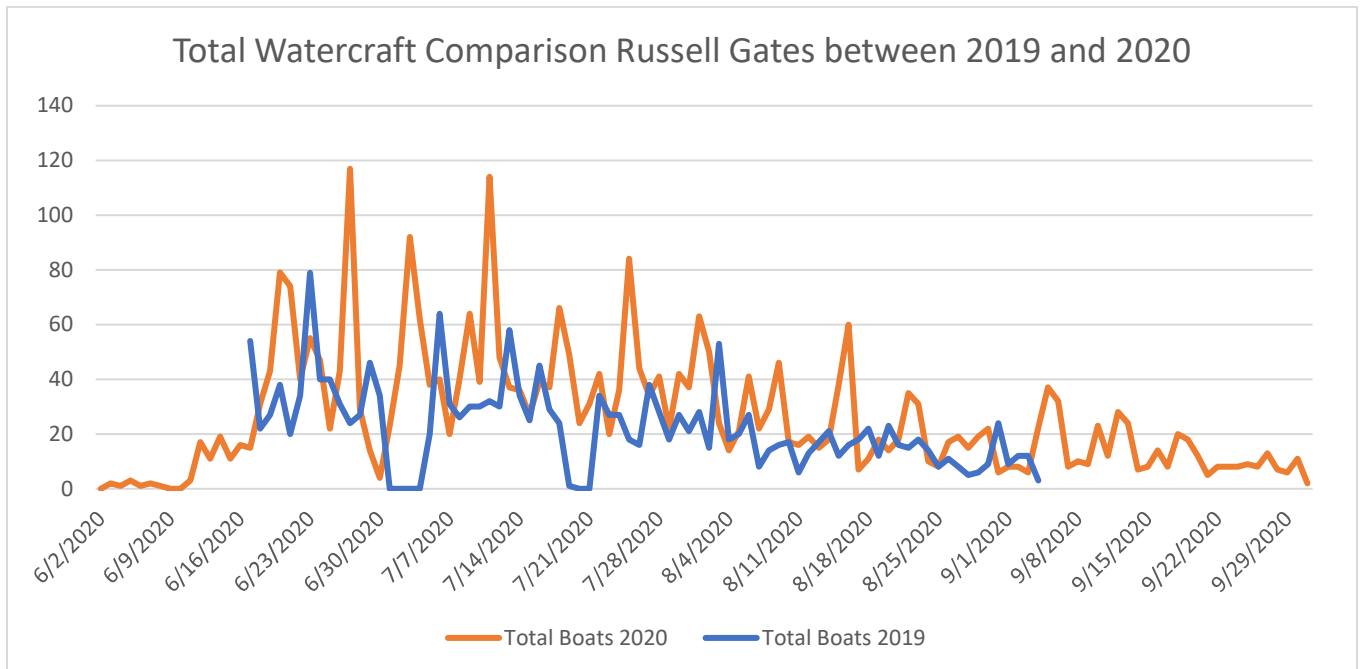
Figure 15: Watercraft Type on Highest Use Day at River Junction Camera 2020



Reach Specific-Russell Gates

There was some missing data for Russell Gates from 2019 but not as much as the previous two reaches. Comparing numbers of boats from days both years were available, there was a 37 percent increase in 2020 at Russell Gates. The maximum number of watercraft seen on this reach in 2020 was 117 watercraft. The highest number of watercraft was seen in late June and the beginning and middle of July (Figure 16). There was also a spike in use in mid-August.

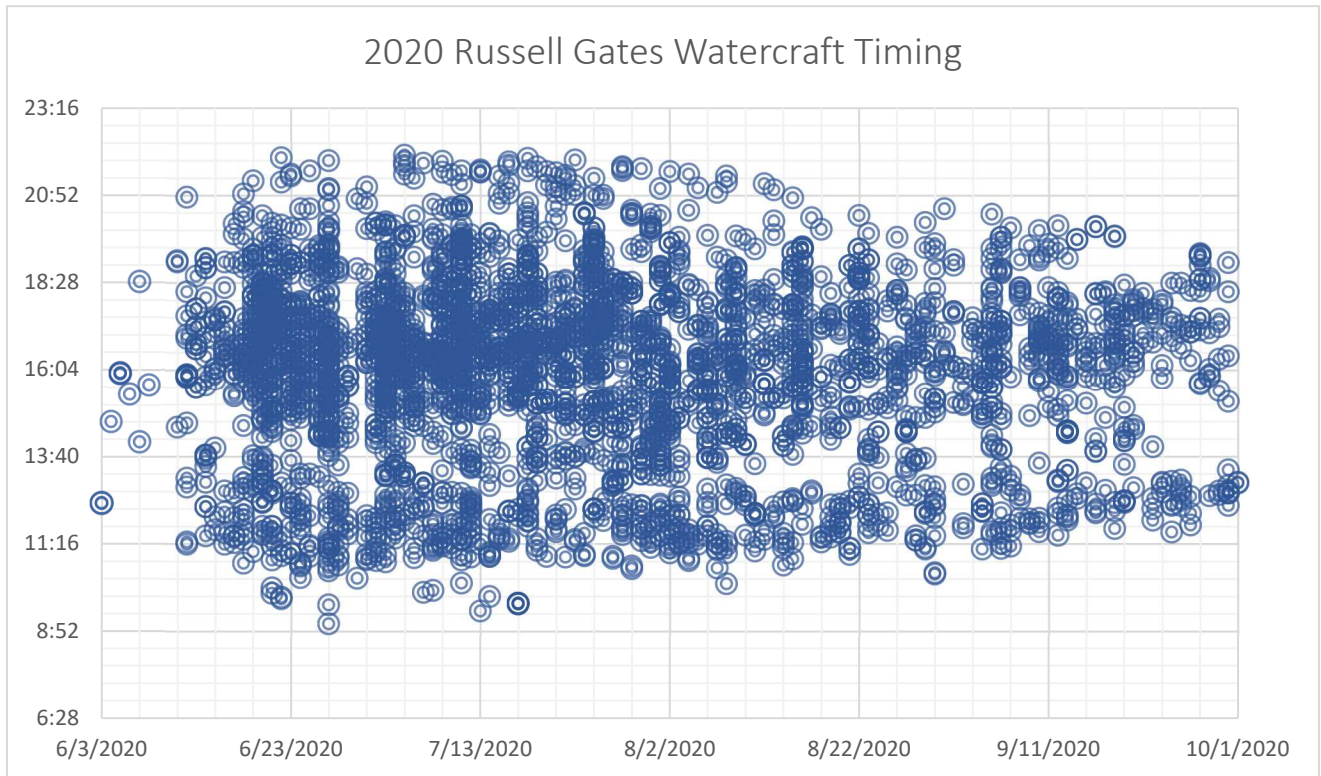
Figure 16: 2019 and 2020 Use from the Russell Gates Camera



Timing

Crowding can be seen in the late afternoon and early evening in June and July. Watercraft were floating past the camera very close to the same time or at the same time (Figure 17). Peak times during these months were from 11:00 am to 8:00 pm.

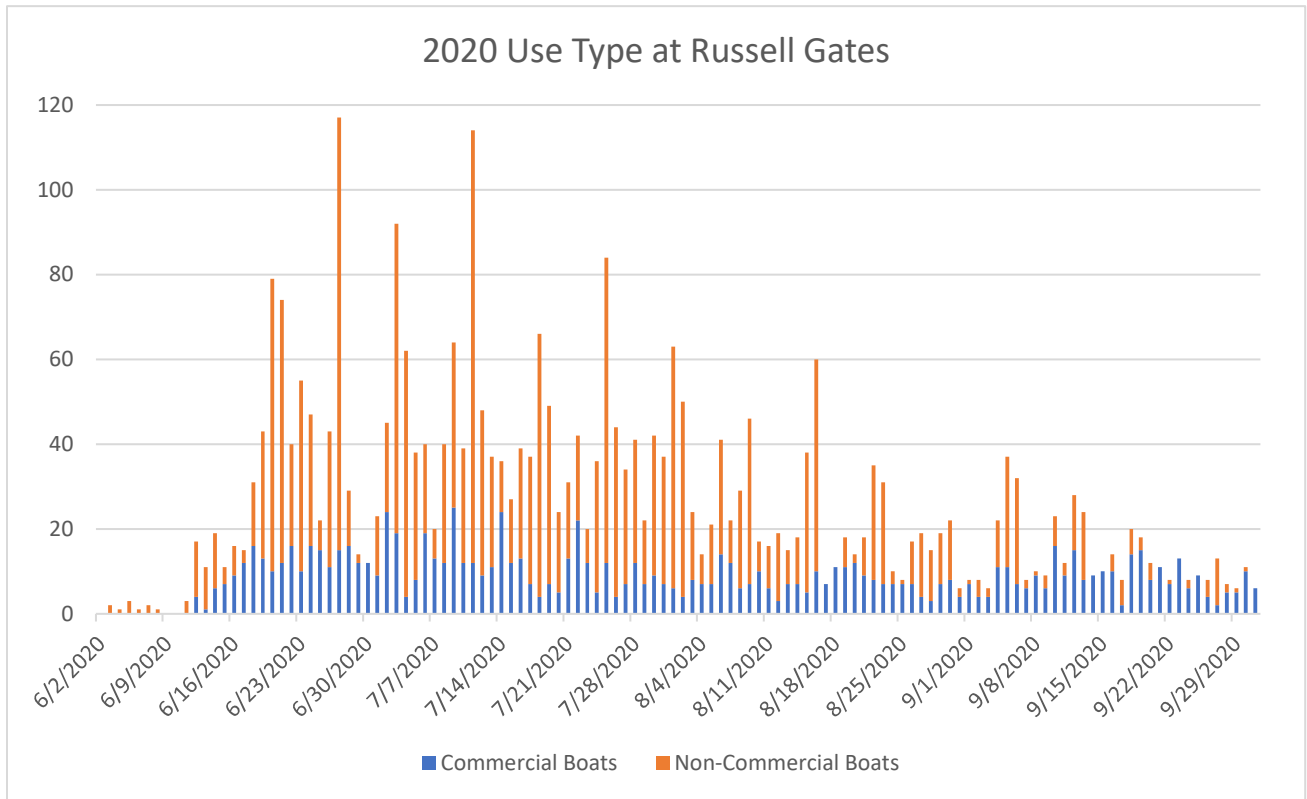
Figure 17: 2020 Watercraft Timing at Russell Gates



Types of Use on Russell Gates Camera

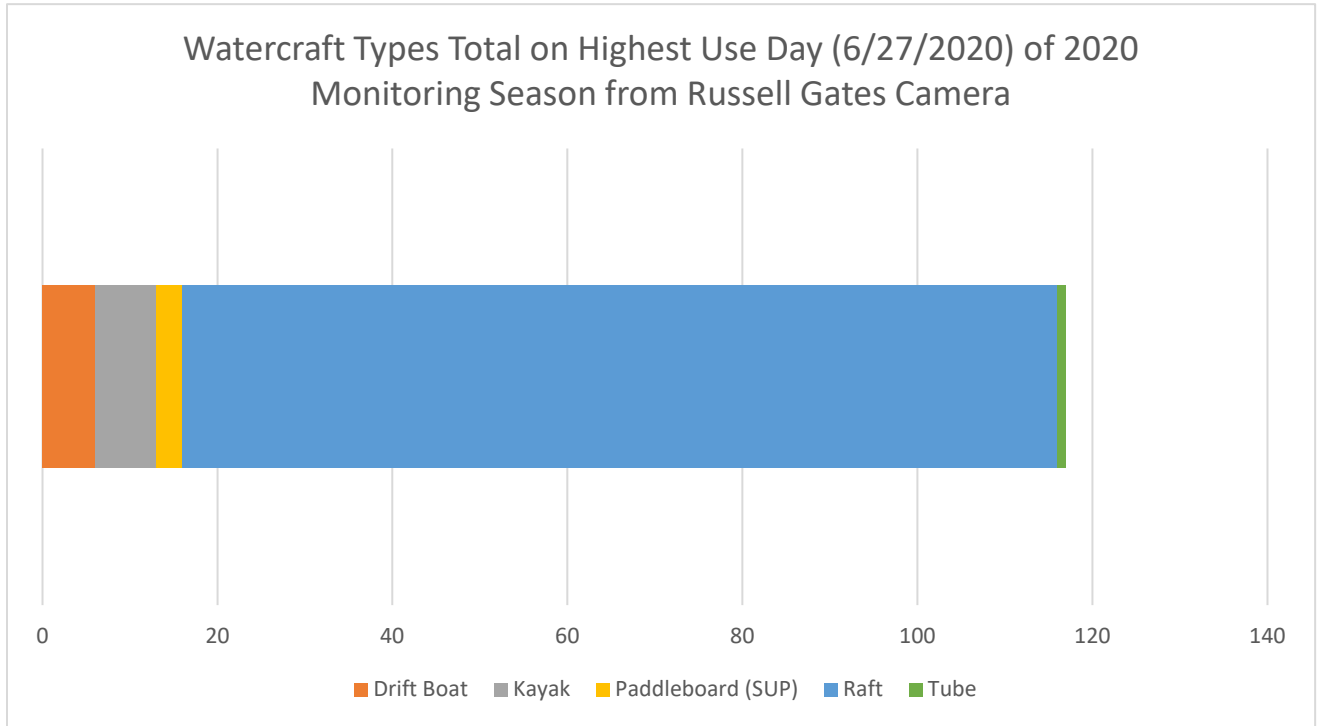
Overall, non-commercial use dominated this reach. However, looking at Figure 18, there are days when commercial use makes up all or most of the use. These occurrences are more common in this reach. The day of the week often determines this as outfitters are more likely to operate on weekdays with vacationers.

Figure 18: 2020 Type of Use at Russell Gates



On the busiest day of the season in this reach, rafts were the watercraft type most used. There is less diversity on type in this reach than others. Rafts were followed in popularity by drift boats and kayaks (Figure 19).

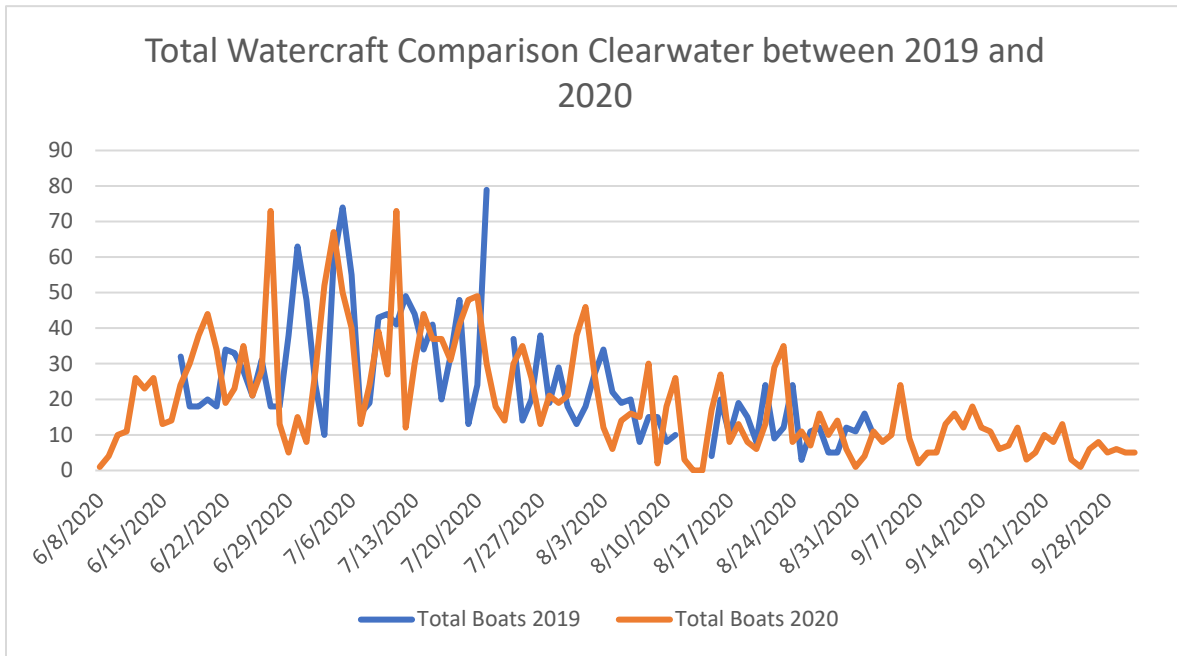
Figure 19: Watercraft Type on Highest Use Day on Russell Gates Camera 2020



Reach Specific- Clearwater

In direct comparison, the Clearwater Reach of the Blackfoot saw the smallest increase in use in 2020 from 2019 (2% increase). The highest number of watercraft seen in one day was 67. The highest use in this reach was seen in late June and mid-July. Use tapered off in August but peaks can still be seen and at similar times where peaks in use were seen in other reaches.

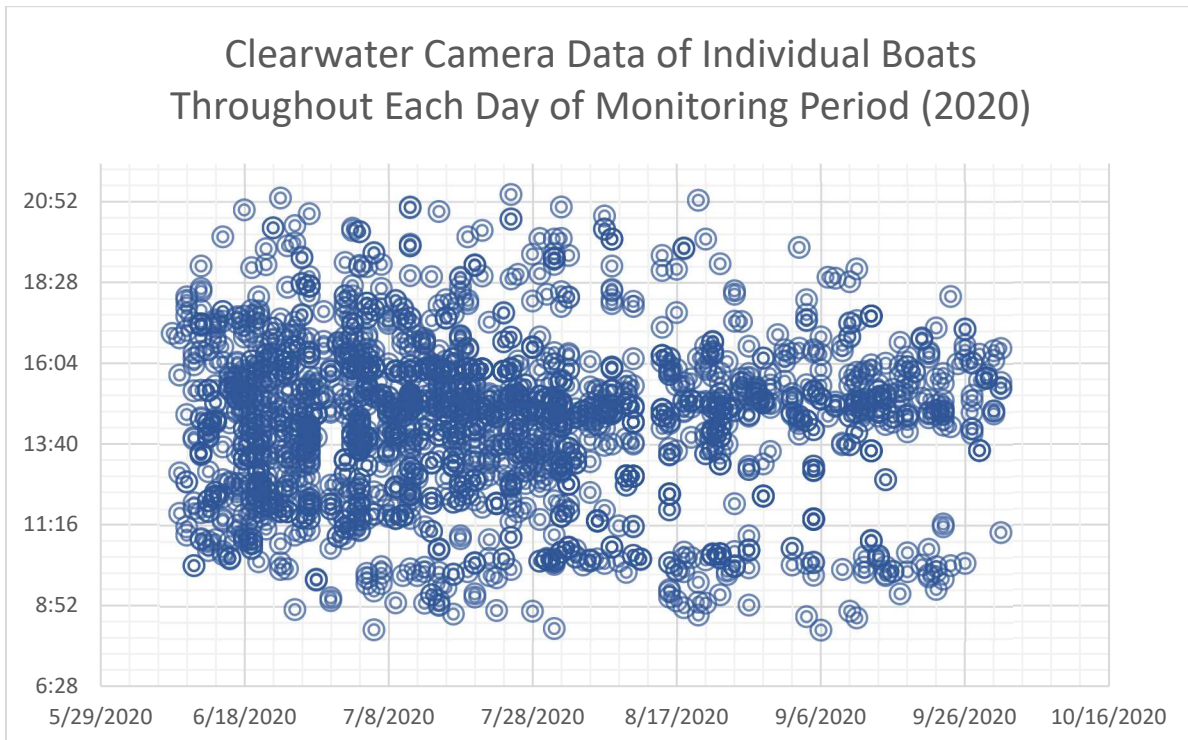
Figure 20: 2019 and 2020 Use from Clearwater Camera



Timing

Looking at Figure 21, this reach was not as crowded as others. Watercraft is closely spaced at times mostly in the middle of the day and late afternoon. The morning and evening were not busy in this reach.

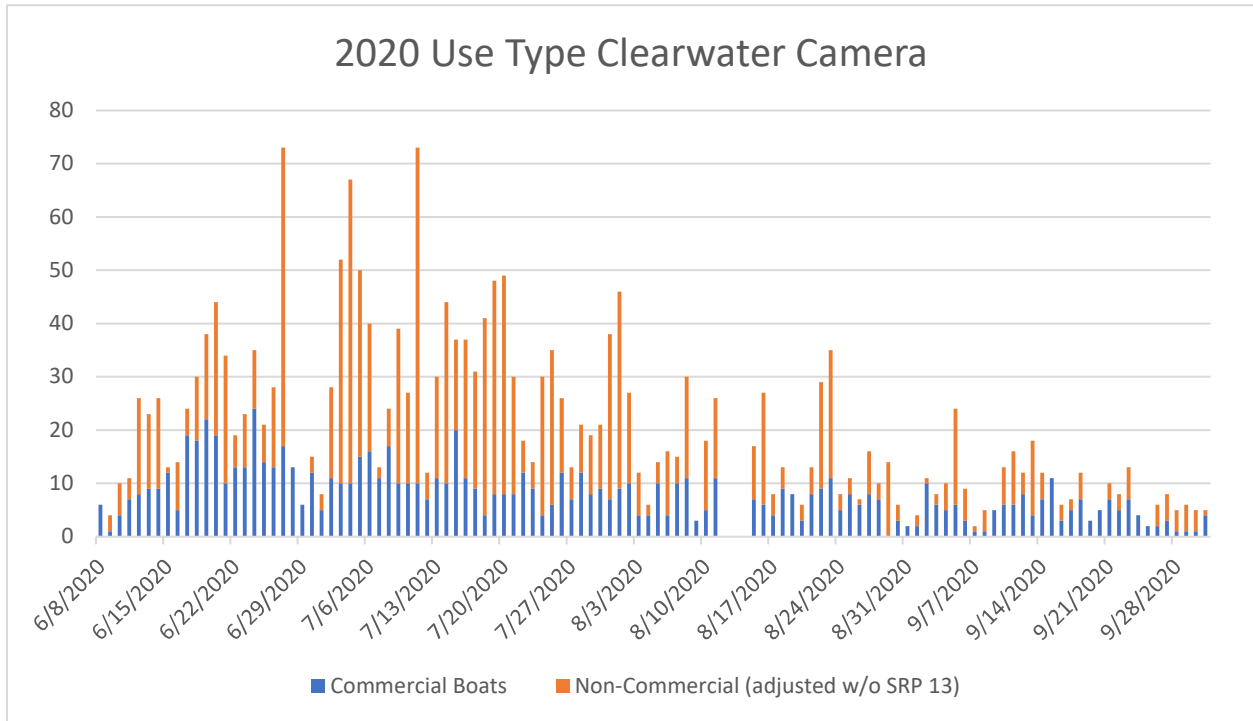
Figure 21: 2020 Watercraft Timing at Clearwater



Types of Use on Clearwater Camera

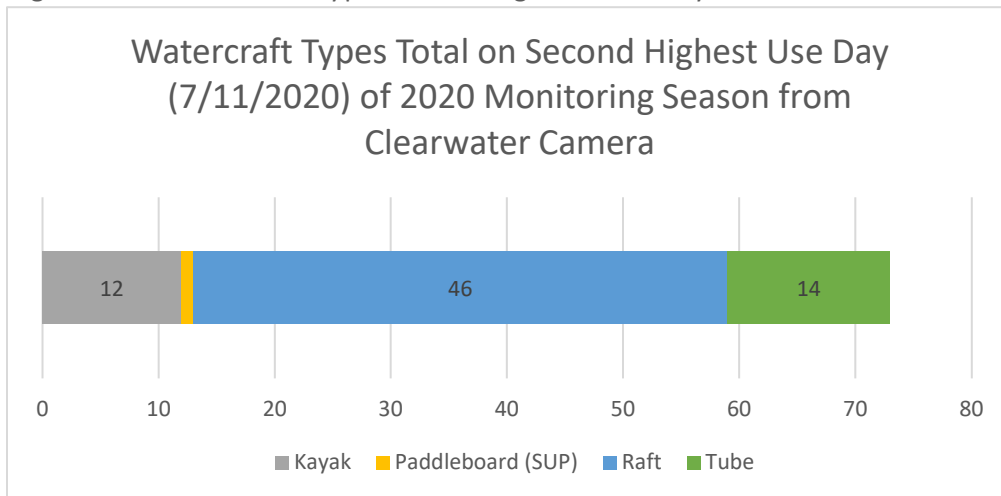
There was more commercial use in this reach than others and there are days in 2020 when commercial use is higher than non-commercial use (Figure 22). Commercial use was heaviest in late June and early July. Commercial use continued steadily throughout the 2020 season.

Figure 22: 2020 Use Type at Clearwater



On the busiest day for this reach, it was dominated by rafts followed by tubes and kayaks (Figure 23). The highest number of tubes in the upper river are in this reach. There is not much diversity on watercraft type in this reach.

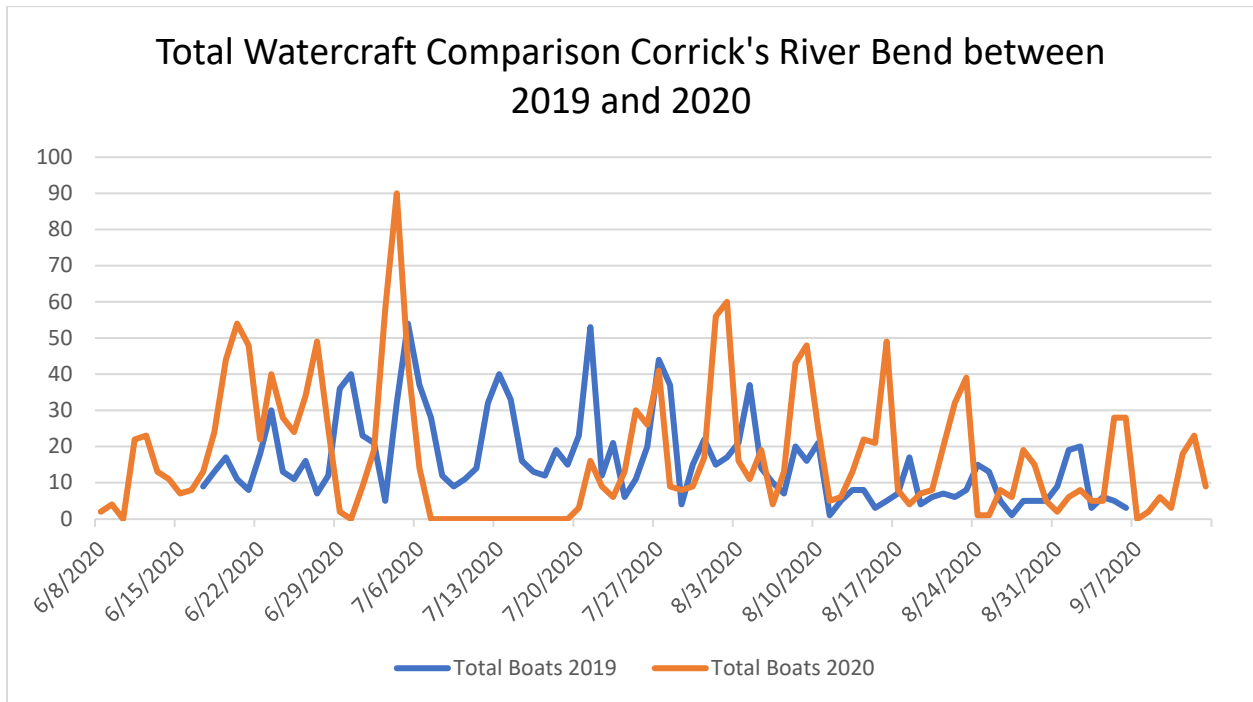
Figure 23: Watercraft Type on the Highest Use Day on Clearwater Camera 2020



Reach Specific- Corricks River Bend

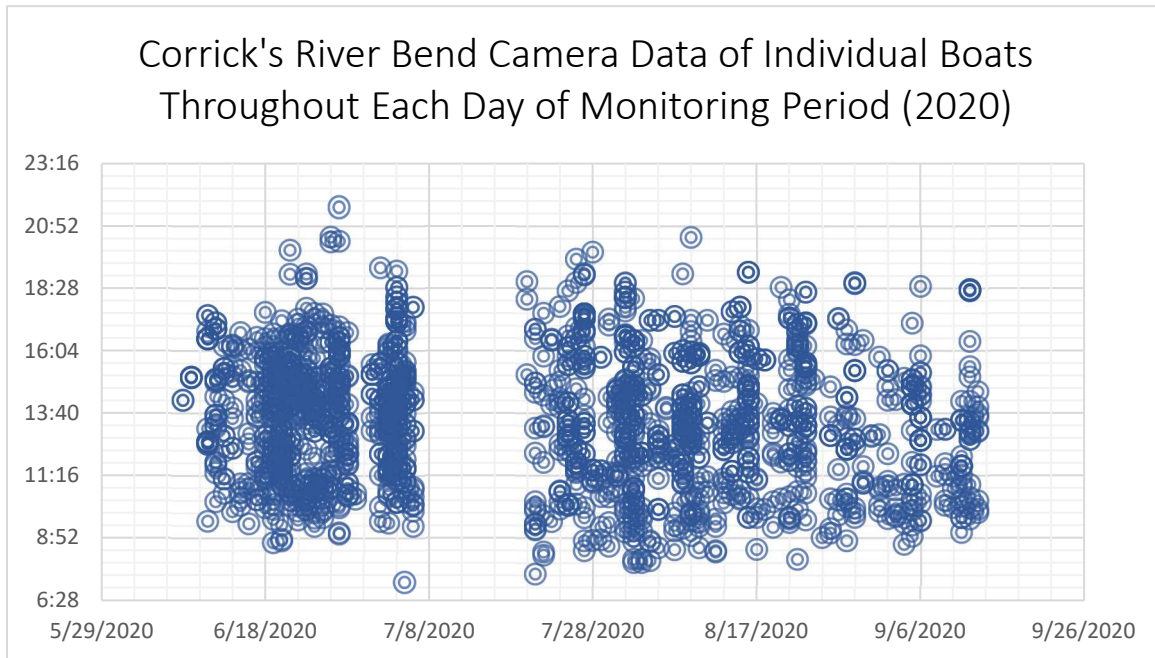
The data for this reach is not complete for 2020. As in previous reaches, the data to make comparisons was from days there were both years available. There was a 41 percent increase in watercraft from 2019 to 2020. On the busiest day, 90 watercraft were counted. This reach was busiest in early July 2020 (Figure 24). Use is higher in 2020 during most of the season except when it is almost equal in late July.

Figure 24: 2019 and 2020 Use from the Corrick's River Bend Camera



In June and July, this reach is busiest from 9:00 am until about 6:30 pm (Figure 25). Watercraft are clustered on days through the season. Watercraft is more spaced out in late August and early September.

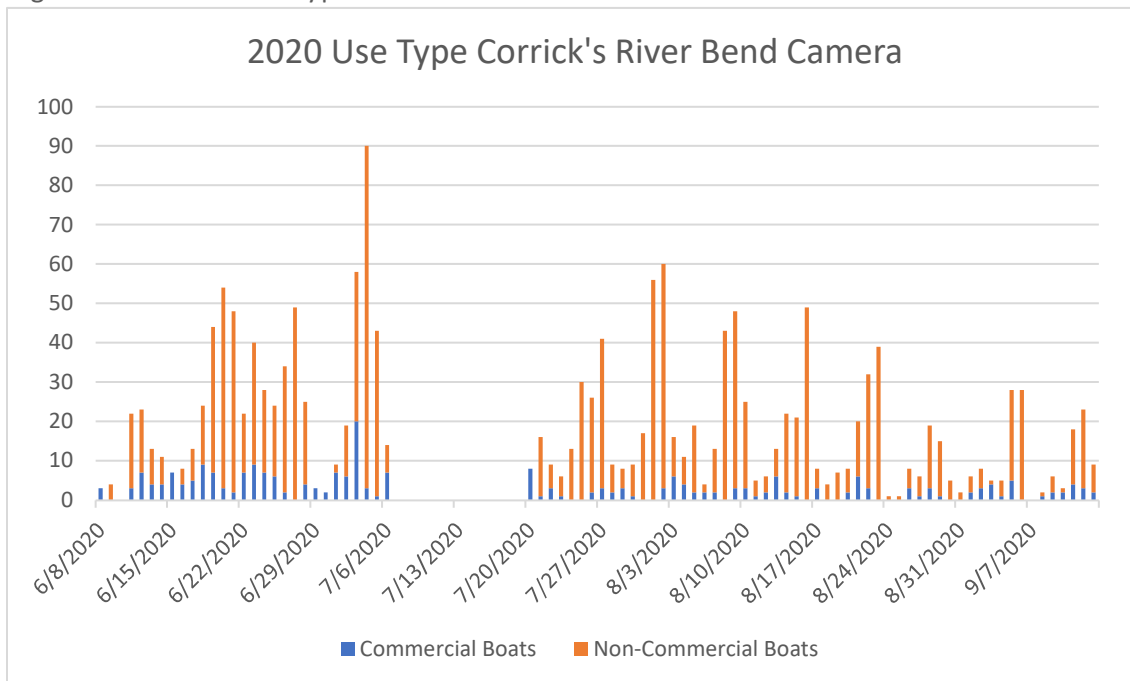
Figure 25: 2020 Watercraft Timing at Corrick's River Bend



Type of Use at Corrick's River Bend Camera

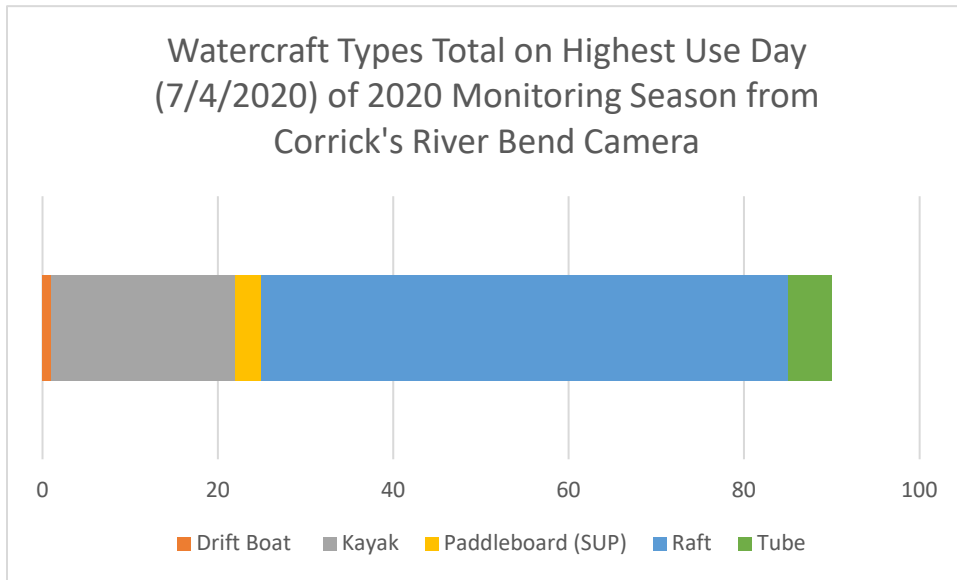
On most days of the season, this reach had more non-commercial traffic than commercial (Figure 26). There are days when commercial use is equal to or slightly higher than non-commercial but this was infrequent. Non-commercial and commercial use peaked in early July in this reach.

Figure 26: 2020 Use Type at Corrick's River Bend



This reach has mostly rafts floating with kayaks being the second most popular (Figure 27).

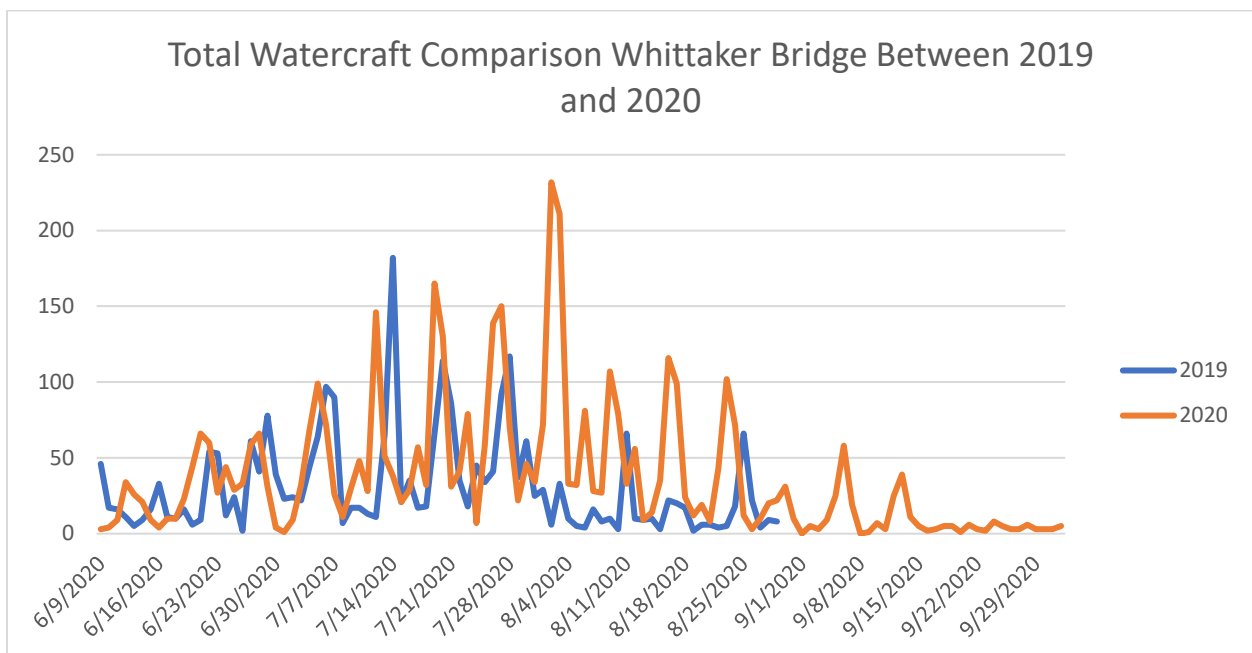
Figure 27: Watercraft Type on Highest Use Day on Corrick’s River Bend Camera 2020



Reach Specific- Whittaker

The use in the Whittaker Bridge reach increased 62 percent from 2019 to 2020. This was the second highest increase in a reach behind Harry Morgan at 80 percent. Use in this reach peaked at the beginning of August unlike in 2019 when it peaked in July (Figure 28).

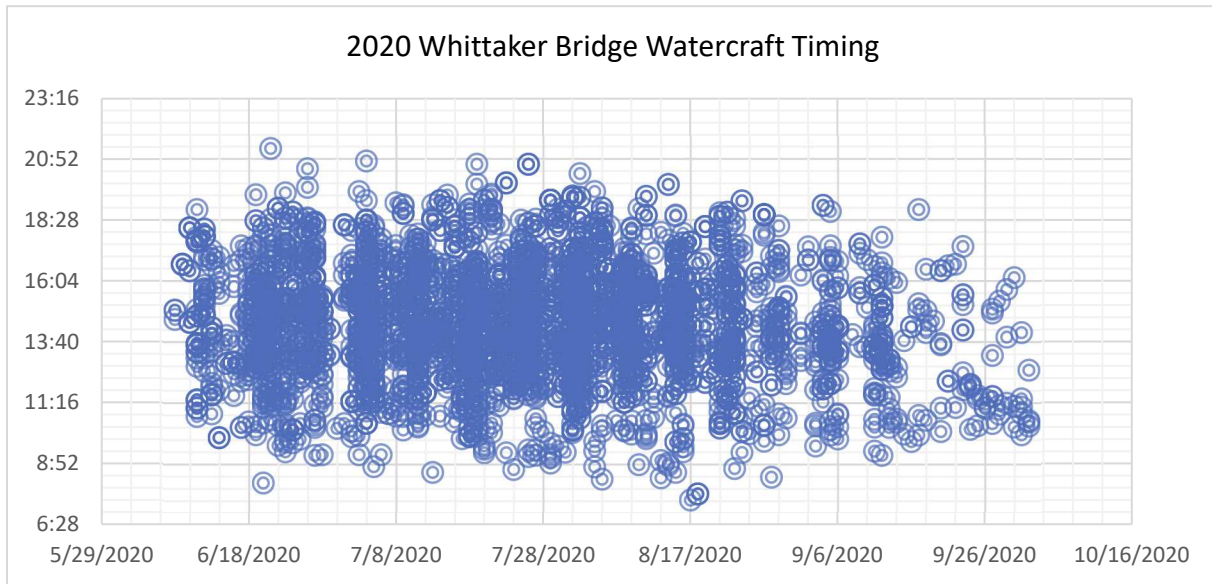
Figure 28: 2019 and 2020 Use from the Whittaker Bridge Camera



Timing

Watercraft were steady in this reach from 11:00 am until 6:00 pm from mid-June until mid-August (Figure 29). Use began slowing down in late August.

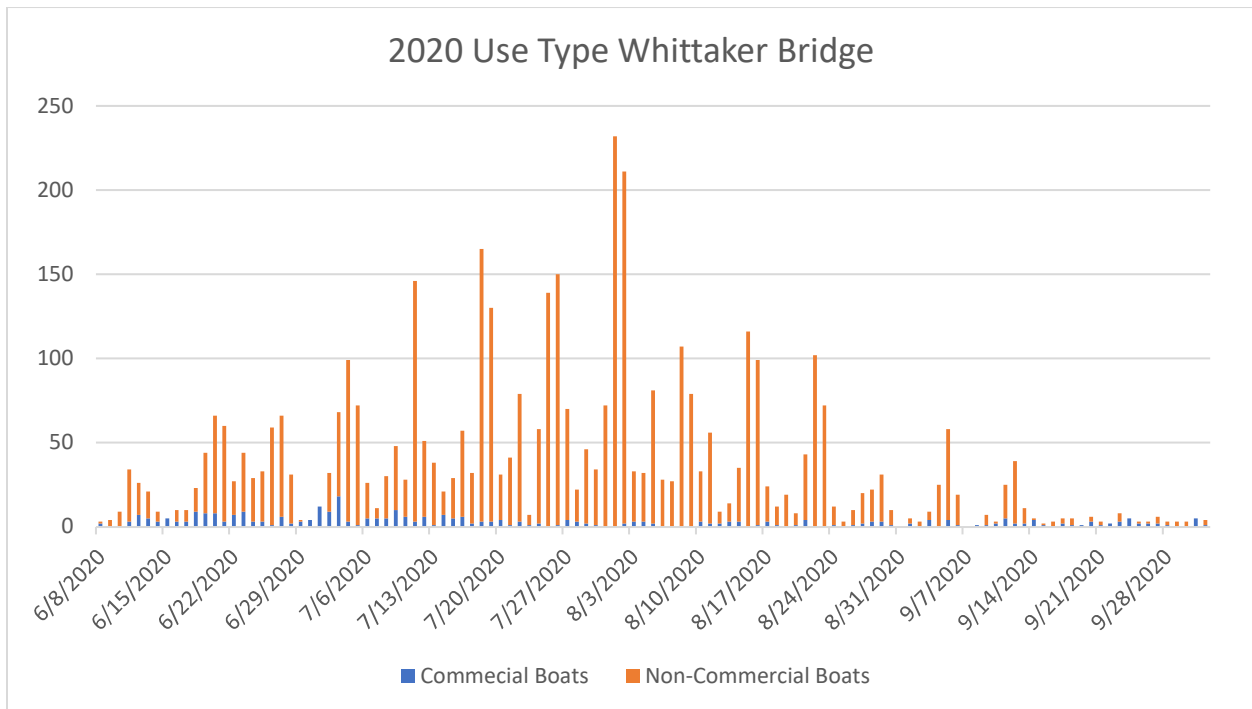
Figure 29: Watercraft Timing at Whittaker Bridge



Types of Use on Whittaker Bridge Camera

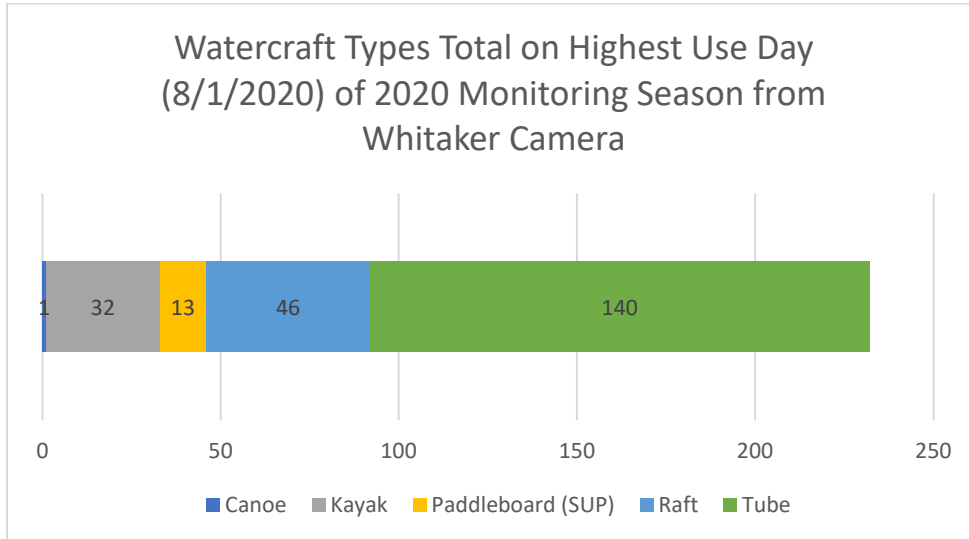
This reach sees mostly non-commercial use. Commercial use peaked in 2020 at the beginning of July (Figure 30). Non-Commercial use was at the highest level in the beginning of August. This increase in use was largely driven by tubes and groups of tubes.

Figure 30: 2020 Use Type at Whittaker Bridge



Unlike all other reaches, the last two reaches are mostly used by tubers. In the Whittaker Bridge reach, 140 tubes were counted on August 1st, 2020 (Figure 31). This was the highest use day of the season for this reach. On that same day, 46 rafts, 32 kayaks, and 13 paddle boards used this reach.

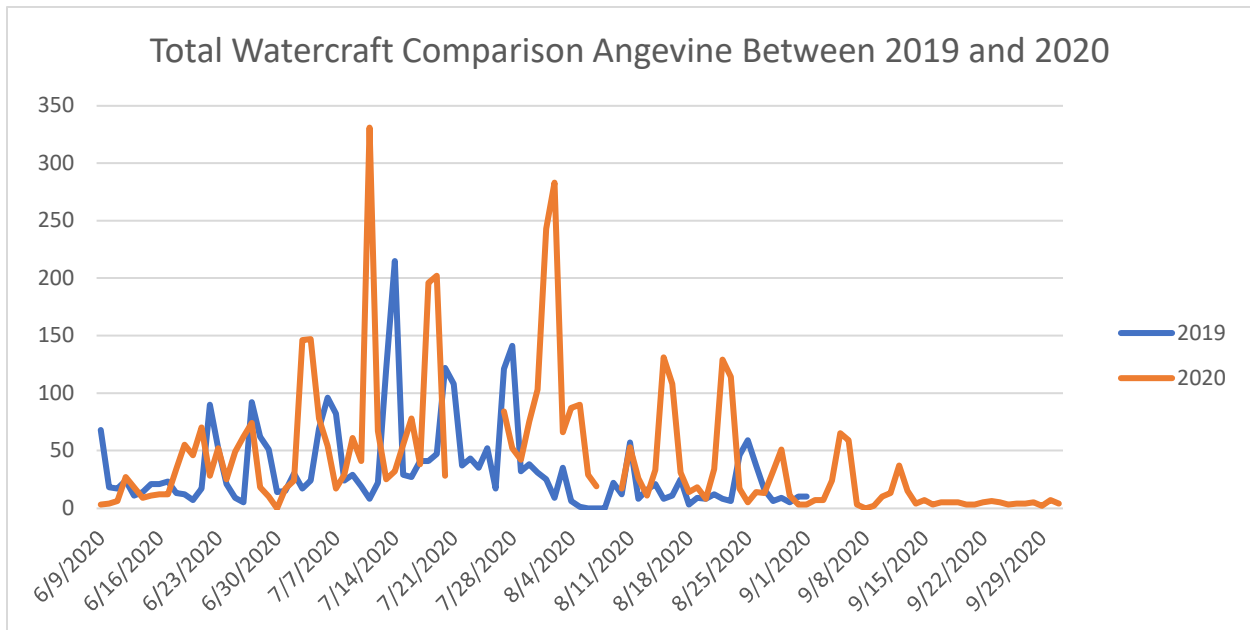
Figure 31: Watercraft Type on the Highest Use Day on the Whittaker Bridge Camera 2020



Reach Specific- Angevine

Some data is missing in both years. Comparing days in common, there was a 55 percent increase in use from 2019 to 2020 in the Angevine reach. This reach had the highest recorded number of watercraft ion one day at 311. Use peaks in mid to end of July and again in early August as seen in other reaches (Figure 32).

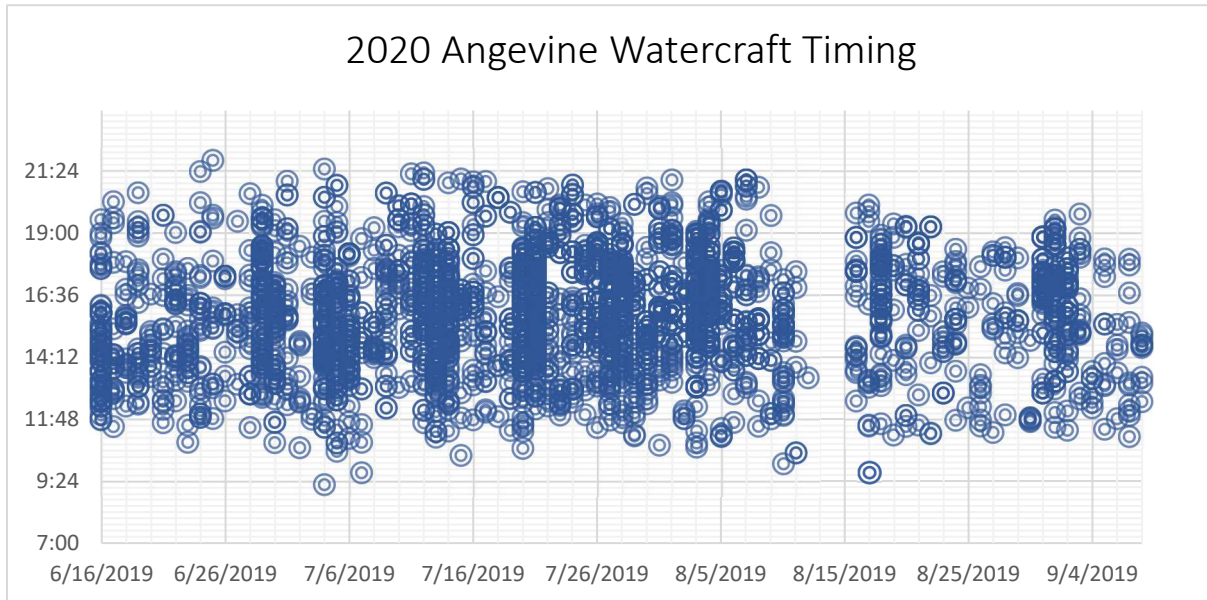
Figure 32: 2019 and 2020 Use from the Angevine Camera



Timing

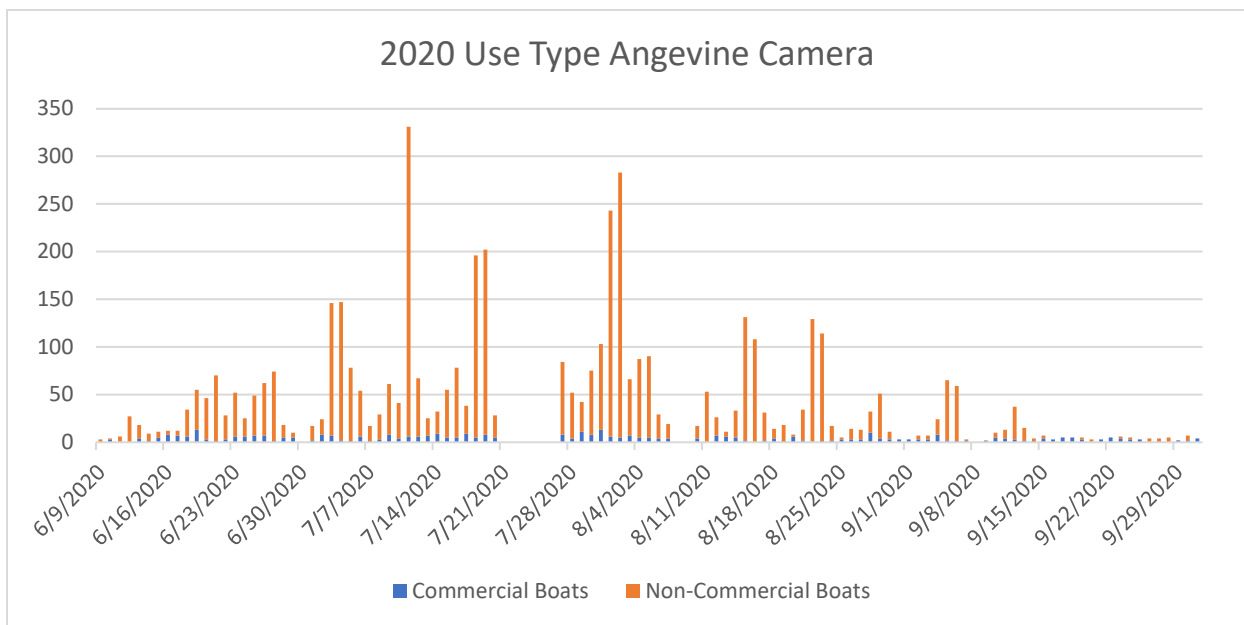
Use in the Whittaker Reach was heavy later in the day than other reaches. Active, busy times were seen between noon and 6:00 pm (Figure 33). Use remained in that timeframe through September data collection. Use began to taper off in this reach in August.

Figure 33: 2020 Watercraft Timing at Angevine



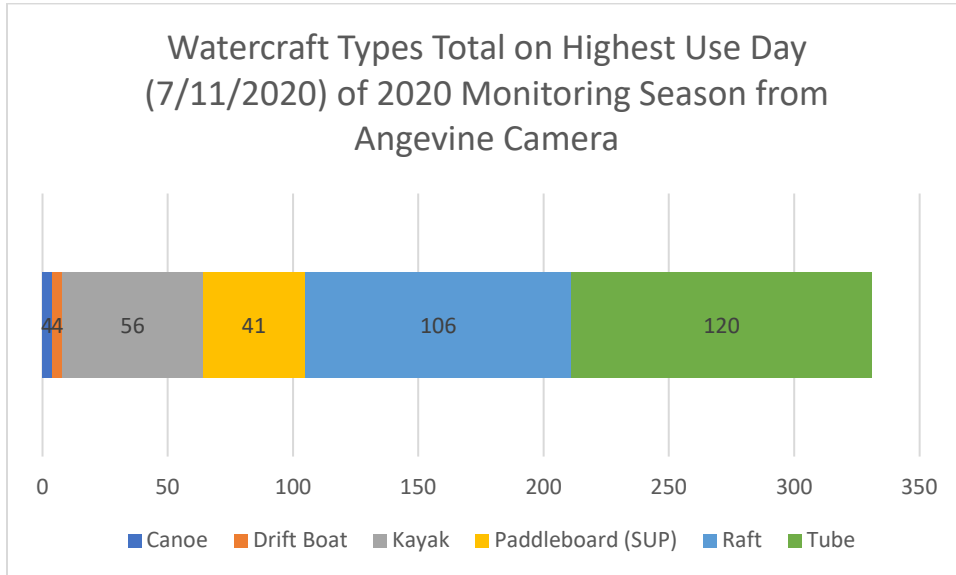
Types of Use on Angevine Camera

Figure 34: 2020 Use Type Angevine



Most use in this reach was non-commercial (Figure 34). Commercial use in this reach was highest in mid-June and again in late-July and early August. Non-commercial use peaked in mid-July and again in late July and early August.

Figure 35: Watercraft Type on Highest Use day on Angevine Camera 2020



The Angevine reach had a diversity of watercraft in use. Use is dominated by tubes and rafts. This is followed by kayaks and paddleboards (Figure 35).

Discussion of Results

2020 was a year of growth in every area of outdoor recreation. This was fueled by a pandemic (COVID-19) causing many people to spend more time outdoors where transmission of the virus was less likely. The Blackfoot River was no exception. Every reach of the river saw an increase over 2019. These levels of use are likely unsustainable as every resource was strained. The data collected in 2021 will help determine if the increase is likely to stay or if it was a phenomenon caused by the pandemic.

FWP, the public, outfitters and landowners understand that the Blackfoot is a multiple-use river that is busy in the months of June, July, and August. However, now the number of watercraft floating in reaches of the Blackfoot is quantified and can be compared from year to year. Use on individual days varies by the day of the week, the weather, and ambient temperature. On the days when these factors are favorable, the access sites and the river are busy.

Understanding the types of use on the river is key to successful management. The cameras allowed for the identification of type of watercraft floating on the river. The type of watercraft seen on the cameras varied widely but was dominated by rafts, especially upstream. Watercraft type is an indicator of other factors important to management. Type of watercraft correlates strongly with type of activity (angling/non-angling), motivation (solitude, socializing) and desired experiences (seeing relatively few people, catching a lot of fish). For example, people motivated by fishing are most often seen in rafts and drift boats while those desiring a social experience are seen in tubes. Managers can make better decisions with this information available.

Understanding use on the Blackfoot requires a broad look at the busy season but also a detailed analysis of what is happening in each section and when it is happening. Overall use on the Blackfoot is not dominated by commercial users although it may appear that way on some days in some access sites during the summer. Use is a mixture of both commercial and non-commercial. The Russell Gates and Clearwater reaches have the highest amount of commercial use compared to non-commercial.

There is a temporal pattern in the data showing that watercraft float past these cameras at similar times which is causing congestion especially at specific FASs like Harry Morgan and Russell Gates. Congestion on the Blackfoot is partly due to similar patterns of launch times among all users. A site may be completely full, and watercraft are in a steady stream on a Saturday at 2 pm and the site and river are practically empty on a Monday at 2 pm.

The experience in some sections of the river may not meeting desired conditions laid out in the 2010 plan. The 2010 plan describes the amount of people one can expect to see on the river in a cone shape with the tip of the cone at the most upstream sections and the broad top towards the bottom of the river and more urban areas. This implies low use in upstream sections and higher use in downstream sections. This is not the case in 2020. Use is steadily increasing in the upper sections of the river and use is diversifying.

2020 saw the highest use levels on record for the Blackfoot River. Use has been on an upward trend and was only increased by the effects of the pandemic. 2021 data was collected (both in-person surveys and camera monitoring) and will be analyzed and reported in the winter of 2022.