

# Assessing the Fate of Returning Upper Yukon River Chinook Salmon

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## Abstract

To assess the behavior of Chinook Salmon (*Oncorhynchus tshawytscha*) migrating past the Whitehorse Hydro Plant (WHP), 68 fish were gastrically implanted with acoustic transmitters in 2017. Twenty acoustic receivers were deployed between Lake Laberge and the spawning grounds in the Michie Creek – M’Clintock River system. Forty-eight fish were captured in the Whitehorse Rapids Fishladder viewing chamber, acoustically tagged, and released there. As a pilot study to assess passage efficiency of the ladder, an additional 10 fish were captured in the viewing chamber, tagged, and released downstream of the WHP, and 10 fish were captured by gill net between the WHP and Lake Laberge. Gill netted fish were tagged and released at the point of capture, with the exception of three fish that were released alive without transmitters and one fish that died in the net. Fish were tagged between August 2<sup>nd</sup> and 29<sup>th</sup>, 2017, and 76% of tagged fish were male. Hatchery-origin fish made up 28% of the sample, which included 88% medium-sized (70-100 cm) fish and 12% small-sized (<70 cm) fish. Of the netted and tagged fish, eight moved upstream and two were not detected. None passed the WHP, though six approached the facility. Of the ten fish released below the viewing chamber, seven returned to the WHP and two passed above. Three of these fish were not detected. A total of 50 fish passed above the WHP. Of these, 43 terminated in the upper Michie Creek – M’Clintock River system. Four fish terminated in Wolf Creek, and two fish fell back below the WHP. One fish was last detected above the Lewes Dam. Additional data from an acoustic receiver array deployed by Environment Yukon throughout the Southern Lakes are not yet available. No unknown terminal locations were detected, though a larger than expected number of fish terminated in Wolf Creek. Gill netting holds greater promise for future passage research than transporting fish below the viewing chamber.

## Introduction

Upper Yukon River Chinook Salmon (*Oncorhynchus tshawytscha*) populations (defined for the purpose of this study as fish that terminate in the mainstem Yukon River or its tributaries above the confluence with the Teslin River) have experienced similar declines to other Yukon River populations in the past half century. Greater declines probably occurred much earlier in the past century throughout the river most likely due to overfishing associated with human population increases in the region in the wake of the Klondike Gold Rush (Gilbert and O’Malley 1921; von Finster pers. comm.). Traditional ecological knowledge and historical accounts indicate that abundant Chinook Salmon were harvested annually in the Michie Creek - M’Clintock River system (Cox 1997, Herkes, 2015). Brown et al. (1976) convey reports of several families harvesting 500 fish per family. Indigenous families would dry and smoke salmon along the banks of the M’Clintock River, and some caches of dried salmon were large enough to last through winter (Herkes, 2015). In 1957, the Chief Biologist for the Pacific Area wrote to the Deputy Minister of Fisheries that “as many as 10,000 spring salmon were taken in the M’Clintock River some years ago” (Cox 1997). Similarly, a fishery officer recorded that as many as 25 families once harvested 300-400 fish each there, based on an interview with Johnny

Joe (Cox 1997). However, by the mid-1950s, annual harvests appear to have declined to a few hundred fish or less per year (Cox 1997).

The current spawning and rearing capacity of the Michie Creek – M’Clintock River system is unknown. Returns counted at the Whitehorse Rapids Fishladder have averaged ~1200 since the ladder was constructed in 1959. Initial returns were ~1100 for the first four years, then declined until the late 1980s when returning hatchery-reared fish began to supplement wild returns (W. R. Ricks Consulting and DNA Enterprises 1996). In the Stillaguamish River, Washington, redd densities ranged from 2.5 to 13.8 redds/km in streams of similar size to the Michie Creek – M’Clintock River system (Montgomery et al. 1999). Historically, there may have been > 50 km of potential spawning habitat in this system above the confluence of the two streams, though some of this is currently inaccessible because of beaver dams (e.g., Byng Creek). Chinook Salmon redd densities ranged from 1/112 m<sup>2</sup> to 1/235 m<sup>2</sup> in known high spawning density areas in the Nechako River, British Columbia, (Nielson and Banford 1983). The amount of optimal and suitable spawning habitat in the Michie Creek – M’Clintock River system has not been estimated.

The fate of many Chinook Salmon after they pass the fish ladder is largely unrecorded. Previous radio telemetry studies (Cleugh and Russel 1980; Matthews 1999) showed that 74% to 81% of these Chinook Salmon traveled to the Michie Creek - M’Clintock River system, though sample sizes were small. Contemporarily, the majority of Chinook Salmon migrating above the WHP are believed to spawn in Michie Creek, between Michie Lake and Byng Creek (de Graff 2015); although, M’Clintock River has been identified as a historically important spawning ground as well (Cox 1997; Herkes 2015). Confirming whether Chinook Salmon spawn elsewhere in the Michie Creek - M’Clintock River system will inform further efforts to recover the stock. The fate of the ~25% of Chinook Salmon that pass the fish ladder but do not terminate in the Michie Creek - M’Clintock River system is unknown. These fish could spawn in unknown locations between the Whitehorse Hydro Plant (WHP) and Southern Lakes system, or they may expire before reaching any spawning ground. In either case, determining the terminal location of all Chinook Salmon migrating above the WHP will help identify management actions for restoring the habitat and vitality of this stock.

The role of the WHP as a barrier to Chinook Salmon migration is largely unknown. No reports of passage numbers exist prior to the construction of the WHP in 1958. The population has been in part maintained by the Whitehorse Hatchery, constructed in 1984 in an effort to mitigate increased Chinook Salmon fry loss as a result of a fourth turbine being constructed at the WHP (Yukon Energy Corporation 2011). Although there are records of Chinook Salmon migrating through the WHP, the portion that spawn or expire below the WHP is unknown. The Whitehorse Rapids Fishladder is a vertical slot ladder. Other studies on vertical slot ladders have shown high passage efficiency but low attraction efficiency (Roscoe et al. 2010; Pon et al. 2006). Little is currently known about the attraction efficiency of the Whitehorse Rapids Fishladder.

Similarly, little is known about delays, stress, or energetic costs of fish passage at the WHP. More than five decades of successful passage and subsequent spawning in the Michie Creek - M'Clintock River system provide clear evidence of individual passage success. However, sub-lethal and population-level consequences of passage are unclear. No substantial studies on this specific site have been conducted but the broader literature on this topic is extensive. Dams can lead to passage delays, increased disease incidence, higher pre-spawning mortality (Hinch et al. 2012) as well as acute energetic stress (Roscoe et al. 2010) resulting in suppression of reproductive hormones (Kubokawa et al. 2001) and mortality (Burnett et al. 2017). New studies in physiological methods and their applications to dam passage have helped quantify the effects of passage on migrating salmon (Pon et al. 2012). These studies have shown that salmon recover relatively quickly from acute energetic stress associated with approaching and ascending fish ladders (Roscoe et al. 2010), yet post-passage mortality has still been observed (Burnett et al. 2017), indicating long term effects undetectable by these physiological studies. Silva et al. (2017) argue that we now have the ability to address all of these problems.

This project has two primary goals. The first is to identify depleted stocks that are candidates for restoration, along with potential spawning restoration sites. Specific objectives for this proposal associated with this goal are to assess:

- 1) What other terminal locations exist above Lake Laberge aside from the known areas of the Takhini River, McIntyre Creek, the Yukon River below the WHP, Wolf Creek and the M'Clintock River;
- 2) What portion of Chinook Salmon terminate in the respective known areas;
- 3) Where Chinook Salmon spawn in the Michie Creek - M'Clintock River system;
- 4) Whether some Chinook Salmon that pass the WHP fail to reach the spawning grounds in the Michie Creek - M'Clintock River system.

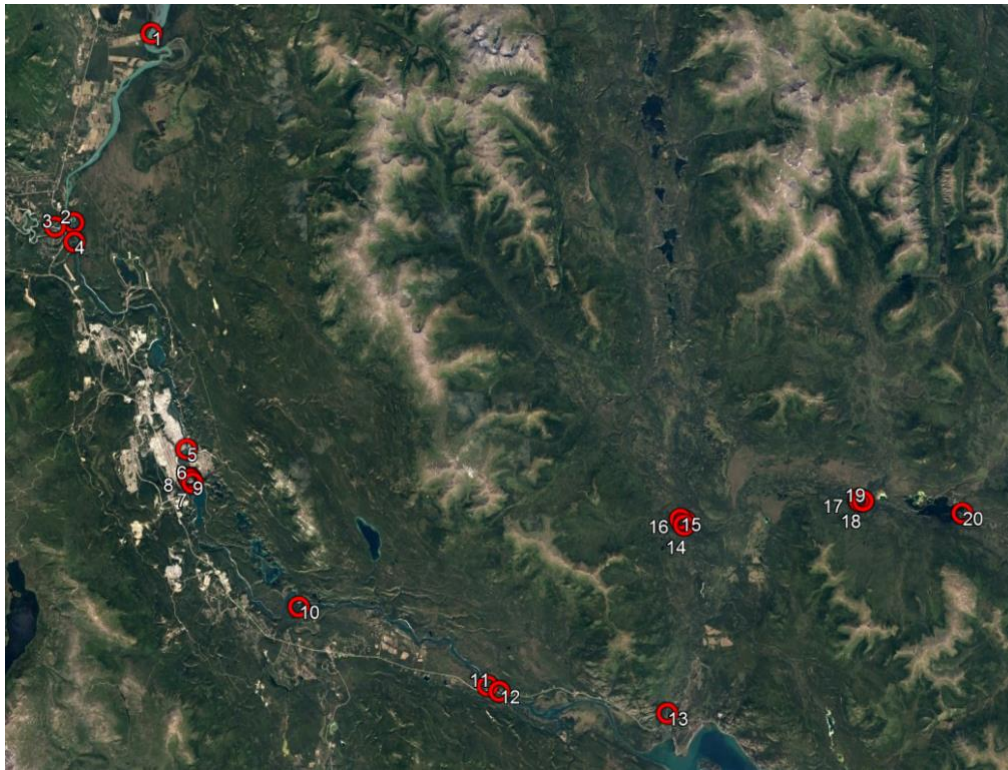
The second goal is to assess whether challenges associated with passage at the WHP are limiting production of upper Yukon River Chinook Salmon stocks. Because of issues raised about proposed methods for completing this objective, part of this season's efforts were focused on pilot projects to assess the feasibility of proposed methods. The specific objectives for this pilot project were to assess:

- 5) Whether fish resume normal behavior after capture by gill netting and tagging;
- 6) Whether fish resume normal behavior after capture in the viewing chamber, tagging, and transport and release downstream;
- 7) Whether either of the above methods is feasible for addressing questions of attraction and passage efficiency at the Whitehorse Rapids Fishladder in future years.

## Methods

### Study Site and Receiver Locations

The 2017 study site consisted of the Yukon River and its tributaries upstream of Lake Laberge, near Whitehorse, YT. Twenty Vemco VR2W receivers were deployed between Lake Laberge and the spawning ground in the Michie Creek - M'Clintock River system (Figure 1).



**Figure 1:** Locations (marked by red circles) of acoustic receivers deployed in 2017.

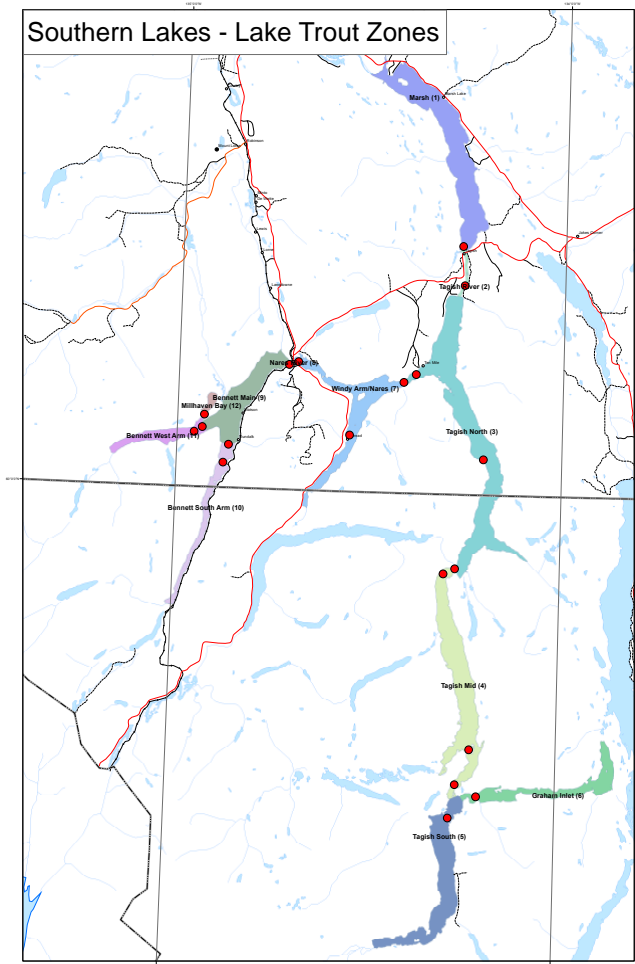
**Table 1:** Description of 2017 acoustic receiver locations and rationale for site selection

Receiver #	Location	Rationale
1	Upstream of Lake Laberge	To detect any netted fish that fall back after tagging
2	Mouth of Takhini River	To detect fish at the confluence of the Takhini and Yukon Rivers
3	Takhini River	To detect fish that migrate up the Takhini River
4	McIntyre Creek	To detect use of a previously known spawning location
5	Rotary Park	To detect fish that moved upstream from netting locations to approach the WHP. Locations further upstream were unsuitable because of river noise or braided channels. Also to detect fish that fell back after being tagged in the viewing chamber and released downstream
6	Ladder entrance	To detect fish holding at the ladder entrance

7	Viewing chamber	To confirm detections in the viewing chamber
8	Below spillway	To detect fish that breached the weir or fell back after passing the ladder
9	Schwatka Lake	To confirm ladder passage success and timing
10	Wolf Creek	To detect use of a known spawning location
11	Downstream of Lewes Dam	To quantify passage delays at the Lewes Dam
12	Upstream of Lewes Dam	To quantify passage delays at the Lewes Dam
13	Mouth of the M'Clintock River	To detect entrance to the Michie Creek - M'Clintock River system
14	M'Clintock River, downstream of Michie confluence	To identify movement direction after passing the Michie Creek - M'Clintock River confluence
15	M'Clintock River, upstream of Michie confluence	To identify movement direction after passing the Michie Creek - M'Clintock River confluence
16	Michie Creek, upstream of M'Clintock River	To identify movement direction after passing the Michie Creek - M'Clintock River confluence
17	Michie Creek, downstream of Byng confluence	To identify movement direction after passing the Byng Creek - Michie Creek confluence
18	Byng Creek, upstream of Michie confluence	To identify movement direction after passing the Byng Creek - Michie Creek confluence
19	Michie Creek, upstream of Byng Creek	To identify movement direction after passing the Byng Creek - Michie Creek confluence
20	Michie Creek, upstream of Michie Lake	To detect movements upstream of Michie Lake

Given the possibility of fish migrating upstream of Marsh Lake, just south of the confluence of the M'Clintock and Yukon rivers (Figure 1 - Receiver 13) we have been given access to an acoustic receiver array deployed by Environment Yukon for a study of Lake Trout (*Salvelinus namaycush*) in the Southern Lakes (see Figure 2). These receivers will be retrieved in spring 2018, providing data on any tagged Chinook Salmon that visited the Southern Lakes.





**Figure 2:** Environment Yukon Southern Lakes acoustic receiver array in 2017-2018. Receiver locations marked by red circles (Figure courtesy of Environment Yukon)

## Tagging Methods

Chinook Salmon were gastrically implanted with Vemco V16 acoustic transmitters. A length of PVC pipe was used to apply transmitters, the end of which was coated in PlastiDip to prevent injury to the viscera. A transmitter was placed in the pipe, which was inserted into the fish's mouth and pushed to the stomach. A rod, also coated in PlastiDip was then inserted into the pipe to hold the transmitter in place as the pipe was withdrawn from the stomach. Subjects were then externally tagged with a colored Floy tag behind the dorsal fin and marked with a hole punch through the caudal fin. External tags allowed treatment groups to be visually identified. Marks provided redundancy to avoid double tagging, ensuring that subjects could be identified if their Floy tag was lost. Sex, origin (hatchery or wild), and fork length to the nearest 5 cm were recorded.

**Table 2:** Origin, sex, and length of tagged fish for three treatments. Small Chinook Salmon were defined as having a fork length between 60 and 70 cm, medium as between 70 and 100 cm, and large as >1 m.

	Tagged and released in the fish ladder	Tagged in the fish ladder and released downstream	Captured via gillnet, tagged and released downstream
Medium Wild Male	21	6	6
Medium Wild Female	8	1	3
Small Wild Male	4	-	-
Medium Hatchery Male	10	1	-
Medium Hatchery Female	2	1	1
Small Hatchery Male	3	1	-

## Tagging in the Ladder

Fifty-eight Chinook Salmon were tagged at the Whitehorse Rapids Fishladder. Fish were selected based on size, sex, origin, and run timing, in an attempt to mimic the characteristics of an average run. Most tagged fish were of medium size, given that the run consisted mostly of fish between 70 and 100 cm fork length. No large fish were tagged so as to protect the oldest fish in the run. Few small fish were tagged as they are not common in the run and small fish run a greater risk of being damaged by the transmitter applicator. A majority of fish tagged were male, as there was roughly a 2:1 ratio of males to females in the run. Females are also more susceptible to injury and fatigue as they prepare to spawn. A greater portion of wild-origin fish was selected for tagging to better understand the post-passage movements of wild fish and identify any potential unknown spawning locations. Fish that were selected for tagging were dip netted from the viewing chamber. Total handling time was approximately two minutes. Forty-eight of 58 fish tagged in the ladder were released on the far side of the viewing chamber to track their movement above the WHP and into their spawning grounds. The other 10 were used in the pilot project described below. Tagging ceased as fish condition deteriorated toward the end of the run, thus two transmitters were not used in 2017.

## Releasing Fish Below the Ladder

Of the fish tagged in the viewing chamber, 10 were transported downstream in an aerated hatchery tank. In addition to tracking movements above the WHP, our objectives include assessing efficiency of the fish ladder and the extent of delays encountered here. This required tagging fish downstream of the WHP; however, project partners expressed concerns about the ability to capture fish downstream, and of the effects of capture and handling on behavior. As such, a pilot study was conducted to assess alternative experimental designs. The first alternative was to capture Chinook Salmon in the viewing chamber of the Whitehorse Rapids Fishladder, implant them with acoustic transmitters, and release them 100-1000 meters downstream of the WHP. We selected a small, sheltered bay roughly 1 km (a three-minute drive) below the WHP to release the tagged fish. The handling time to transfer to a hatchery

truck was less than two minutes and the transport time from the truck to the bay was less than one minute. Time in the truck varied between 5-10 minutes depending on how many fish were transported that day.

## Gill Netting

As a second method for tagging fish below the WHP, Chinook Salmon were captured by gill net. A 30.5-m (100 ft) long, 3.05-m (10 ft) tall, 3:1 hang ratio, 16.5-cm mesh size, cable-laid gill net was used. The hang ratio encouraged entanglement over gilling to minimize harm and facilitate removal. Scissors were used to cut the net whenever this allowed fish to be removed faster although the majority of fish could easily be rolled out of the net. Nets were set along eddy lines for one hour. Nets were watched and retrieved immediately if the float line indicated a fish capture, or checked at the end of the hour and re-set.

Fourteen Chinook Salmon were captured by gill net. Half were captured downstream of the Yukon River – Takhini River confluence, and the remainder were captured above Mc’Intyre Flats. One died and was donated to First Nations partners, as per fish collection permit conditions. Three others were released without transmitters because of poor condition, either from netting injuries or prior deteriorating condition. These fish were tagged with Floy tags, but were not observed again. The remaining fish were handled identically to fish tagged at the viewing chamber, and were released ~100 m upstream of the capture location. Handling time was roughly 3 minutes including net removal and transport for release.

## Travel Rate Calculation

Travel times were calculated using the first detection at the downstream receiver of each reach and the first detection at the upstream receiver. The distance between receivers was estimated by manually tracing a path along the thalweg of each reach in Google Earth.

## Results

The majority of Chinook Salmon that passed the WHP made it to the spawning grounds, with 43 out of 50 (86%) last detected within the Michie Creek - M’Clintock River system. Twenty (47%) of those were last detected upstream of the confluence Michie Creek and Byng Creek. The 5 fish last detected downstream of Byng Creek - Michie Creek confluence are assumed to have spawned somewhere in the lower reach of Michie Creek or M’Clintock River along with 13 fish (a total of 18; 42%) last detected below the Michie Creek - M’Clintock River confluence. The remaining 5 (11%) terminated in the M’Clintock River above Michie Creek. No fish terminated in Byng Creek, though two fish explored this stream. No fish were detected moving upstream of Michie Lake.

Travel rates were highest from the mouth of the M’Clintock River to the mouth of Michie Creek, and slowest from this junction to the mouth of Byng Creek (Table 3). It took an

average of 5.17 days for fish to reach Byng Creek from the viewing chamber. Fish spent an average of 5.36 hours ascending the ladder from the viewing chamber to Schwatka Lake; however, the majority of these fish were also recovering from handling during this time. The two fish released downstream of the ladder that returned to pass it took three and four hours respectively to travel from the viewing chamber to Schwatka Lake. Migratory delays were generally not observed at the Lewes Dam though three fish paused there for approximately 10 hours. Fish continued moving until September 3<sup>rd</sup>, with detections continuing until September 19<sup>th</sup>; however, later detections appeared to be associated with carcass drift and deposition.

Another four fish (8% of fish that passed the WHP) were last detected in Wolf Creek. One fish travelled to the confluence of Michie and Byng creeks before returning to Wolf Creek over the course of two weeks. The other three fish did not enter the Michie Creek - M'Clintock River system before terminating in Wolf Creek. Of the remaining three fish tagged in the viewing chamber, two fell back through the WHP after travelling upstream of the Lewes Dam and the final fish was last detected upstream of the Lewes Dam.

Of the Chinook Salmon tagged in the fish ladder and transported downstream for release as part of our pilot study, 5 returned to the viewing chamber within an average of 32 hours. Three of those five fish were not detected again; the other two reached the Michie Creek - M'Clintock River system. Of the fish that did not return to the ladder, two were detected in the Takhini River. The remaining three tagged Chinook Salmon were not detected.

**Table 3:** Travel times, distances, and minimum movement rates for Chinook Salmon in the upper Yukon River, 2017. The distance between receivers was estimated by manually tracing a path along the thalweg of each reach in Google Earth. The average movement rate represents the minimum movement rate, had fish traveled directly between receivers. Sample sizes differ from terminal location counts due to fish occasionally passing receivers undetected.

Travel Location	Average Time (hours)	Standard Deviation (hours)	Sample Size	Minimum Time (hours)	Maximum Time (hours)	Distance (km)	Average Rate (km/hr)
Viewing chamber to Schwatka Lake	5.4	8.4	49	1.7	51.4	0.3	0.06
Schwatka Lake to the mouth of the M'Clintock River	40.0	23.2	43	17.3	122.0	46.0	1.15
Downstream to upstream of Lewes Dam	1.0	1.8	49	.3	10.3	1.4	1.58
Mouth of M'Clintock River to mouth of Michie Creek	20.0	4.9	44	13.2	32.3	32.3	1.61
Mouth of Michie Creek to Byng - Michie confluence	58.7	32.2	26	22.7	156.3	21.5	0.37

Eight of ten Chinook Salmon captured by gill net and tagged with acoustic transmitters were later detected upstream of the capture location. Six were detected at the entrance to the fish ladder, two caught below the Takhini and four caught at Mc'Intyre Flats. The two fish captured below the Takhini River took approximately 54 and 48 hours to reach the WHP and the other four fish took an average of 80 hours. Only one fish was detected as far as the viewing chamber, but it did not proceed further. Three of the six Chinook Salmon were last detected at the entrance to the fish ladder with the rest last detected at the Takhini River. The remaining two Chinook Salmon were not detected.

Additional receiver data will be available in the spring. The loss of two receivers limited detections downstream of the WHP and at the Michie Creek - M'Clintock River confluence. Receiver 5 in downtown Whitehorse was lost, whereas receiver 16, at the mouth of Michie Creek was unrecoverable due to ice. Another retrieval will be attempted in the spring. Data from Environment Yukon's receiver array in the Southern Lakes will provide information on any movements in this area.

## Discussion

Of the 50 fish that passed the fish ladder, 85% (43) reached the Michie Creek - M'Clintock River spawning grounds. Only 47% (20) of the fish that reached this area appeared to spawn in the primary known location in Michie Creek between Byng Creek and Michie Lake (DeGraff 2015; Brown et al. 1976). A further 11% (5) terminated in the M'Clintock River above the confluence with Michie Creek. The remaining 42% (18) terminated downstream of Byng Creek in either Michie Creek or the M'Clintock River downstream of Michie Creek (see Figure 3). The lack of data from the receiver in the mouth of Michie Creek prevents confirmation of directionality of movement here, though 1/3 of these fish were last detected near Byng Creek and the remainder in the M'Clintock River. Further insight may be gained if receiver 16 is recovered in the spring. This distribution of terminal locations confirms traditional ecological knowledge and other previous studies stating that a significant portion of Chinook Salmon spawn throughout the Michie Creek - M'Clintock River system (Cox 1997), rather than just in the primary area in Michie Creek above Byng Creek. Few studies have differentiated between reaches of Michie Creek or the M'Clintock River (Matthews 1999; Brown 1976). However, Cleugh and Russell (1980) observed that 80% of radio tagged fish terminated in the upper reach of Michie Creek. Our results suggests that other parts of the system warrant greater monitoring and management attention. Additionally, inter-annual variation in optimal spawning locations has been noted (Beechie 2008), and further acoustic telemetry research is required to reveal whether the proportions observed this year are consistent. Given that all fish that passed the ladder either reached spawning grounds or fell back only after travelling considerable distances upstream, handling and passage did not appear to have latent effects on the spawning success of Chinook Salmon. The stress and energetic costs of passage did not prevent fish from completing their migration, though ultimate spawning success was not evaluated.

The majority of fish released in the viewing chamber remained in the ladder for no more than 4 hours (Table 3). The average residency time in the Whitehorse Rapids Fishway was 5.36 hours. This number was skewed by three fish that remained in the ladder from 12 hours to over two days. Similarly, three fish spent approximately ten hours below Lewes Dam, whereas all other fish were delayed less than an hour below this structure. This water-level-control structure does not appear to impede Chinook Salmon migration; however, the effect of the dam may depend on water level during the migration period, given that other studies have found delays around this structure of up to two days (Cleugh and Russell, 1980).



**Figure 3:** Receiver locations (marked by red circles) at the confluence of the M’Clintock River (seen flowing south past receivers 15 then 14), and Michie Creek, seen flowing west past receiver 16 into the M’Clintock River.

Wolf Creek has been the site of fry stocking by the Whitehorse Hatchery every year since its founding in 1986 (Joint Technical Committee of the Yukon River U.S./Canada Panel 2017). Four fish (8% of those that passed the fish ladder) were last detected in Wolf Creek: three of hatchery origin and one wild. Given that only one receiver was deployed in Wolf Creek, movement direction could not be confirmed, and it is possible that these fish terminated in the mainstem Yukon River between Schwatka Lake and the Lewes Dam. Another 10% (5) explored the creek before continuing upstream to the M’Clintock River. The number of fish appearing to terminate in Wolf Creek is consistent with previous studies that found 1.9%, 3%, and 11.5% of escapement above the WHP terminating in Wolf Creek (Matthews 1999). A fishway installed on Wolf Creek at the Alaska Highway, approximately 2.5 km upstream of the mouth of the creek, was non-operational in 2016 (N. Lapointe, Canadian Wildlife Federation, pers. obs.) but operating in 2017 (L. Vano, Access Consulting, pers. comm.). Continuation of this study will reveal whether a significant proportion of the run annually selects Wolf Creek for spawning.

Three fish that passed the WHP did not terminate in spawning grounds in either the Michie Creek - M'Clintock River system or Wolf Creek. Two fish (4%) tagged in the viewing chamber successfully passed the ladder, then fell back through the WHP. These fish were detected at the Lewes Dam before falling back, a distance of 30.5 km, indicating that fallback was not associated with immediate exhaustion after ascending the ladder. One additional fish was not detected again after passing Lewes Dam. It may have died before reaching the confluence of the M'Clintock and Yukon rivers or could have terminated in the Southern Lakes. Southern Lakes receiver data were not available at the time of this report. It is possible that other fish that reached known spawning grounds first forayed into the Southern Lakes. Results will be updated when additional receiver data are available.

Catch rates for gill netting were higher than expected, given the relatively clear water of the upper Yukon River, the experience that fish have avoiding nets after their long migration, and the small size of the run in this region. Bycatch of fish in too poor condition to tag (either because of netting injuries or prior condition) was lower than expected, with 10 of 14 fish in suitable condition to tag. Most fish (at least 80%) captured and tagged by gill netting are confirmed to have resumed upstream movement, indicating successful recovery after handling. This is lower than reported for radio telemetry studies conducted further downstream (98%; Eiler et al. 2014), though sample size was small. Fish captured in the study area may be more sensitive to handling given their long migration and proximity to spawning grounds. Conversely, given that receiver 5, the receiver upstream of the netting site, was missing, it is possible that the two remaining fish resumed upstream movement but did not reach the ladder entrance. Neither was detected downstream of the tagging location.

Gill netted fish that moved upstream either travelled to the ladder entrance or ascended the Takhini River. Only one of the six fish that reached the ladder was detected as far as the viewing chamber. Several possible explanations exist. These fish may have intended to spawn downstream of the ladder and were merely exploring slightly upstream. The ladder could have low attraction efficiency, or sub-lethal handling effects may have reduced their ability to climb the ladder. Efforts will be made to reduce handling stress in future years (shorter net sets, reduced transport time), and the project team will discuss the feasibility of capture by gill net to assess ladder efficiency.

The downstream transport and release of fish from the viewing chamber appeared to strongly affect their migration success. These fish had already located and partially ascended the ladder and were therefore expected to resume this migration. However, only 5 of the 10 fish reached the viewing chamber again, and only two successfully passed the ladder and reached the spawning grounds. Five fish did not appear to return to the ladder entrance. This indicates that downstream transport had a significant effect on fish and is not a feasible method for assessing ladder efficiency.



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## Appendices

**Appendix 1:** Chinook Salmon tagged in the Whitehorse Rapids Fishladder in 2017. An orange Floy tag indicates that the fish was released in the ladder; a green Floy tag indicates that the fish was transported downstream as part of our pilot study.

Date	Sex	Fork Length (cm)	Hatchery/Wild Origin	Floy Tag Color	Floy Tag Number	Acoustic Tag ID	Acoustic Tag Serial #
Aug 10 <sup>th</sup>	M	60	Hatchery	Orange	18	30439	1272568
Aug 10 <sup>th</sup>	F	95	Wild	Orange	16	30440	1272569
Aug 10 <sup>th</sup>	M	70	Wild	Orange	14	30445	1272574
Aug 10 <sup>th</sup>	M	70	Hatchery	Orange	17	30446	1272575
Aug 11 <sup>th</sup>	M	70	Hatchery	Orange	19	30441	1272570
Aug 11 <sup>th</sup>	M	75	Hatchery	Orange	20	30447	1272576
Aug 14 <sup>th</sup>	M	75	Hatchery	Orange	25	30437	1272566
Aug 14 <sup>th</sup>	M	70	Hatchery	Orange	24	30444	1272573
Aug 14 <sup>th</sup>	M	75	Wild	Orange	23	30448	1272577
Aug 14 <sup>th</sup>	M	75	Wild	Orange	22	30449	1272578
Aug 14 <sup>th</sup>	M	75	Wild	Orange	21	30451	1272580
Aug 15 <sup>th</sup>	M	65	Hatchery	Green	122	30450	1272579
Aug 15 <sup>th</sup>	M	75	Wild	Orange	26	30479	1272608
Aug 15 <sup>th</sup>	M	75	Wild	Green	123	30485	1272614
Aug 15 <sup>th</sup>	M	70	Wild	Green	121	30488	1272617
Aug 16 <sup>th</sup>	F	80	Hatchery	Orange	27	30473	1272602
Aug 16 <sup>th</sup>	M	75	Wild	Orange	28	30484	1272613
Aug 17 <sup>th</sup>	M	60	Wild	Orange	36	30452	1272581
Aug 17 <sup>th</sup>	M	60	Hatchery	Orange	33	30475	1272604
Aug 17 <sup>th</sup>	F	75	Wild	Orange	34	30476	1272605
Aug 17 <sup>th</sup>	M	80	Wild	Orange	32	30478	1272607
Aug 17 <sup>th</sup>	M	65	Hatchery	Orange	35	30481	1272610
Aug 17 <sup>th</sup>	M	90	Wild	Orange	29	30482	1272611
Aug 18 <sup>th</sup>	F	85	Wild	Orange	37	30486	1272615
Aug 19 <sup>th</sup>	M	65	Wild	Orange	38	30471	1272600
Aug 19 <sup>th</sup>	F	90	Wild	Orange	41	30474	1272603
Aug 19 <sup>th</sup>	M	80	Wild	Orange	39	30480	1272609
Aug 19 <sup>th</sup>	M	70	Wild	Orange	40	30483	1272612
Aug 20 <sup>th</sup>	F	70	Wild	Orange	42	30477	1272606
Aug 22 <sup>nd</sup>	M	65	Wild	Orange	44	30459	1272588
Aug 22 <sup>nd</sup>	M	70	Wild	Orange	43	30462	1272591
Aug 22 <sup>nd</sup>	M	70	Wild	Orange	45	30465	1272594
Aug 22 <sup>nd</sup>	M		Wild	Orange	46	30468	1272597

Aug 23 <sup>rd</sup>	M	80	Wild	Orange	47	30453	1272582
Aug 23 <sup>rd</sup>	F	70	Hatchery	Green	117	30454	1272583
Aug 23 <sup>rd</sup>	M	85	Wild	Green	119	30457	1272586
Aug 23 <sup>rd</sup>	M	65	Hatchery	Green	118	30458	1272587
Aug 23 <sup>rd</sup>	M	75	Wild	Green	116	30460	1272589
Aug 23 <sup>rd</sup>	F	80	Wild	Orange	48	30463	1272592
Aug 24 <sup>th</sup>	M	80	Wild	Orange	49	30455	1272584
Aug 24 <sup>th</sup>	M	70	Wild	Orange	50	30456	1272585
Aug 25 <sup>th</sup>	M	80	Wild	Orange	75	30464	1272593
Aug 28 <sup>th</sup>	M	70	Hatchery	Orange	74	30461	1272590
Aug 29 <sup>th</sup>	M	75	Hatchery	Orange	73	30469	1272598
Aug 29 <sup>th</sup>	F	85	Wild	Orange	72	30470	1272599
Aug 2 <sup>nd</sup>	M	70	Hatchery	Orange	1	30489	1272618
Aug 3 <sup>rd</sup>	M	70	Wild	Orange	2	30504	1272633
Aug 4 <sup>th</sup>	M	85	Wild	Orange	3	30492	1272621
Aug 8 <sup>th</sup>	M	80	Wild	Orange	4	30435	1272564
Aug 8 <sup>th</sup>	M	75	Wild	Orange	9	30436 <sup>b</sup>	1272565
Aug 8 <sup>th</sup>	F	85	Hatchery	Orange	8	30491	1272620
Aug 8 <sup>th</sup>	F	85	Wild	Orange	6	30499	1272628
Aug 8 <sup>th</sup>	M	80	Wild	Orange	5	30500	1272629
Aug 8 <sup>th</sup>	F		Hatchery	Orange	7	<sup>a</sup>	
Aug 9 <sup>th</sup>	M	80	Hatchery	Orange	12	30438	1272567
Aug 9 <sup>th</sup>	F	90	Wild	Green	124	30442	1272571
Aug 9 <sup>th</sup>	M	65	Wild	Orange	13	30443	1272572
Aug 9 <sup>th</sup>	M	80	Wild	Green	125	30496	1272625
Aug 9 <sup>th</sup>	M	70	Hatchery	Orange	11	30498	1272627

<sup>a</sup> This fish was not implanted with a transmitter due to potential harm caused by incorrect application technique.

<sup>b</sup> This fish was part of the downstream transportation pilot study and incorrectly Floy tagged with an orange tag

**Appendix 2:** Chinook Salmon caught and tagged via gill net in the upper Yukon River in 2017. A pink Floy tag indicates that the fish was implanted with an acoustic transmitter; a purple Floy tag indicates that the fish was not implanted with an acoustic transmitter due to poor condition upon capture.

Date	Sex	Fork Length (cm)	Hatchery/Wild Origin	Floy Tag Color	Floy Tag Number	Acoustic Tag ID #	Acoustic Tag Serial #
Aug 4 <sup>th</sup>	M	70	Wild	Pink	100	30495	1272624
Aug 4 <sup>th</sup>	M	70	Wild	Pink	99	30503	1272632
Aug 4 <sup>th</sup>	F	85	Hatchery	Purple	126		
Aug 7 <sup>th</sup>	M	70	Wild	Pink	77	30501	1272630
Aug 7 <sup>th</sup>	M	70	Wild	Pink	78	30502	1272631
Aug 7 <sup>th</sup>	M		Wild	Purple	150		
Aug 7 <sup>th</sup>	F	80	Wild	Pink	98	30493	1272627
Aug 8 <sup>th</sup>	F	80	Wild	Pink	97	30490	1272619

Aug 9 <sup>th</sup>	M	90	Wild	Pink	96	30494	1272623
Aug 9 <sup>th</sup>	F	85	Wild	Pink	95	30497	1272626
Aug 11 <sup>th</sup>	F	80	Wild	Purple	127		
Aug 15 <sup>th</sup>	M	95	Wild	<sup>a</sup>			
Aug 16 <sup>th</sup>	F	85	Hatchery	Pink	94	30487	1272616
Aug 17 <sup>th</sup>	M	95	Wild	Pink	79	30472	1272601

<sup>a</sup> This fish was found dead in the net and donated to First Nations partners.

**Appendix 3:** Detailed movement descriptions of acoustically tagged fish transported downstream of the Whitehorse Rapids Fishladder in 2017. Fish ID codes represent the transmitter code, followed by the tagging treatment (DS = downstream transport), followed by the size (M = medium; S = small), origin (H = hatchery; W = wild), and sex (F = female; M = male), and year tagged (17 = 2017).

Fish 30436-DS-MWM-17: tagged Aug 8<sup>th</sup>

- Yukon River Mainstem at the Takhini River
  - Aug 11<sup>th</sup> 5:30 pm
- Lake Laberge
  - Aug 12<sup>th</sup> 7:10 am
  - Aug 12<sup>th</sup> 7:25 pm
- Yukon River Mainstem at the Takhini River
  - Aug 13<sup>th</sup> 3:05 am
  - Aug 15<sup>th</sup> 7:10 pm, 7:50 pm
- Takhini River
  - Aug 15<sup>th</sup> 9 pm, 11:20 pm

Fish 30442-DS-MWF-17: tagged Aug 9<sup>th</sup>

- Whitehorse Rapids Fishladder entrance
  - Aug 9<sup>th</sup> 11:45 pm
- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 10<sup>th</sup> 2:10 am-2:40 am, 7:50 am-8:10 am, 10:15 pm

Fish 30496-DS-MWM-17: tagged Aug 9<sup>th</sup>

- Yukon River Mainstem at the Takhini River
  - Aug 11<sup>th</sup> 1:30 pm, 2 pm
- Takhini River
  - Aug 11<sup>th</sup> 4 pm
  - Aug 12<sup>th</sup> 5:15 am-5:30 pm
- Yukon River Mainstem at the Takhini River
  - Aug 12<sup>th</sup> 7:30 am
- Lake Laberge
  - Aug 12<sup>th</sup> 4 pm
  - Aug 13<sup>th</sup> 8:15 am
- Yukon River Mainstem at the Takhini River
  - Aug 13<sup>th</sup> 5:45 pm
- Takhini River
  - Aug 13<sup>th</sup> 7:30 pm,

- Aug 14<sup>th</sup> 1:45 am

Fish 30450-DS-MHM-17: tagged Aug 15<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 16<sup>th</sup> 4:45 pm-5 pm

Fish 30488-DS-MWM-17: tagged Aug 15<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 18<sup>th</sup> 6:10 pm-Aug 19<sup>th</sup> 10:30 pm

Fish 30485-DS-MWM-17: tagged Aug 15<sup>th</sup>

- Whitehorse Rapids Fishladder entrance
  - Aug 16<sup>th</sup> 2:30 pm
- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 16<sup>th</sup> 4 pm-Aug 17<sup>th</sup> 3:15 am
- Schwatka Lake
  - Aug 17<sup>th</sup> 5:45 pm
- Below Lewes Dam
  - Aug 17<sup>th</sup> 8:30 pm
- Above Lewes Dam
  - Aug 17<sup>th</sup> 9 pm
- Mouth of the M'Clintock River
  - Aug 18<sup>th</sup> 7:35 am-7:40 am
- M'Clintock River downstream of Michie Creek
  - Aug 18<sup>th</sup> 10:30 pm
- Michie Creek downstream of Byng Creek
  - Aug 21<sup>st</sup> 1:45 pm
- Michie Creek upstream of Byng Creek
  - Aug 21<sup>st</sup> 2 pm

Fish 30458-DS-SHM-17: tagged Aug 23<sup>rd</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 24<sup>th</sup> 1 pm-1:45 pm
- Schwatka Lake
  - Aug 24<sup>th</sup> 2:45 pm
- Below Lewis Dam
  - Aug 25<sup>th</sup> 5 am
- Above Lewis Dam
  - Aug 25<sup>th</sup> 5:30 am
- Mouth of the M'Clintock River
  - Aug 25<sup>th</sup> 12:10 pm-12:15 pm
- M'Clintock River downstream of Michie Creek
  - Aug 26<sup>th</sup> 1:30 am
- Michie Creek downstream of Byng Creek
  - Aug 27<sup>th</sup> 5:20 am
- Michie Creek upstream of Byng Creek
  - Aug 27<sup>th</sup> 5:30 am

Fish 30457-DS-MWM-17: tagged Aug 23<sup>rd</sup>

- Not detected

Fish 30454-DS-MHF-17: tagged Aug 23<sup>rd</sup>

- Not detected

Fish 30460-DS-MWM-17: tagged Aug 23<sup>rd</sup>

- Not detected

**Appendix 4:** Detailed movement description of fish captured by gill net in 2017. Fish ID codes represent the transmitter code, followed by the tagging treatment (GN = gillnet), followed by the size (M = medium; S = small), origin (H = hatchery; W = wild), and sex (F = female; M = male), and year tagged (17 = 2017).

Fish 30503-GN-MWM-17: tagged Aug 4<sup>th</sup> below the Takhini River

- Yukon River Mainstem at the Takhini River
  - Aug 4<sup>th</sup> 2 pm
- Whitehorse Rapids Fishladder entrance
  - Aug 6<sup>th</sup> 12:15 pm, 2:30 pm
- Yukon River Mainstem at the Takhini River
  - Aug 7<sup>th</sup> 10 am
- Takhini River
  - Aug 7<sup>th</sup> 11 am, 1:40 pm
- Yukon River Mainstem at the Takhini River
  - Aug 7<sup>th</sup> 2:30 pm
  - Aug 12<sup>th</sup> 5 am
- Takhini River
  - Aug 12<sup>th</sup> 6:30 am
  - Aug 13<sup>th</sup> 12 pm
- Yukon River Mainstem at the Takhini River
  - Aug 13<sup>th</sup> 12:30 pm-1 pm

Fish 30495-GN-MWM-17: tagged Aug 4<sup>th</sup> below the Takhini River

- Yukon River Mainstem at the Takhini River
  - Aug 4<sup>th</sup> 2 pm
- Whitehorse Rapids Fishladder entrance
  - Aug 6<sup>th</sup> 6:30 am-7 am, 9:45 am
- Yukon River Mainstem at the Takhini River
  - Aug 8<sup>th</sup> 12:20 pm

Fish 30502-GN-MWM-17: tagged Aug 7<sup>th</sup> below the Takhini River

- Yukon River Mainstem at the Takhini River
  - Aug 7<sup>th</sup> 4 pm-Aug 8<sup>th</sup> 6 am, 4:30 pm
  - Aug 10<sup>th</sup> 4 am, 7 am-8:45 am, 11 am-Aug 11<sup>th</sup> 1am, 5 am-1:45 pm
  - Aug 11<sup>th</sup> 10:15 pm-Aug 12<sup>th</sup> 1 am
  - Aug 12<sup>th</sup> 5 am-6 pm, 8:30 pm-Aug 13<sup>th</sup> 6:30 am
- Takhini River



- Aug 13<sup>th</sup> 4:30 pm-5 pm, 9 pm
- Yukon River Mainstem at the Takhini River
  - Aug 13<sup>th</sup> 10 pm-10:30 am
  - Aug 14<sup>th</sup> 8:30 am-1:15 pm, 9:30 pm-10:15 pm
  - Aug 16<sup>th</sup> 4:45 am

Fish 30501-GN-MWM-17: tagged Aug 7<sup>th</sup> below the Takhini River

- Yukon River Mainstem at the Takhini River
  - Aug 9<sup>th</sup> 5:30 am

Fish 30493-GN-MWF-17: tagged Aug 7<sup>th</sup> at Mc'Intyre Flats

- Whitehorse Rapids Fishladder entrance
  - Aug 11<sup>th</sup> 5:40 pm

Fish 30490-GN-MWF-17: tagged Aug 8<sup>th</sup> at Mc'Intyre Flats

- Yukon River Mainstem at the Takhini River
  - Aug 8<sup>th</sup> 1:30 pm-Aug 9<sup>th</sup> 3 am, 6 am-7 am
  - Aug 9<sup>th</sup> 7:45 pm-8 pm
- Whitehorse Rapids Fishladder entrance
  - Aug 11<sup>th</sup> 8:40 pm
- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 12<sup>th</sup> 6:20 pm-Aug 17<sup>th</sup> 5:45 pm (many gaps of anywhere from 2 to 20 hours)
- Whitehorse Rapids Fishladder entrance
  - Aug 18<sup>th</sup> 6:45 pm
- Yukon River Mainstem at the Takhini River
  - Aug 22<sup>nd</sup> 11:30 am

Fish 30494-GN-MWM-17: tagged Aug 9<sup>th</sup> at Mc'Intyre Flats

- Whitehorse Rapids Fishladder entrance
  - Aug 11<sup>th</sup> 2:20 pm, 3:30 pm

Fish 30487-GN-MHF-17: tagged Aug 16<sup>th</sup> at Mc'Intyre Flats

- Whitehorse Rapids Fishladder entrance
  - Aug 19<sup>th</sup> 5:30 pm

Fish 30497-GN-MWF-17: tagged Aug 9<sup>th</sup> at Mc'Intyre Flats

- Not detected

Fish 30472-GN-MWM-17: tagged Aug 17<sup>th</sup> at Mc'Intyre Flats

- Not detected

**Appendix 5:** Detailed movement description of acoustically tagged fish released in the Whitehorse Rapids Fishladder viewing chamber in 2017. Fish ID codes represent the transmitter code, followed by the tagging treatment (VC = viewing chamber), followed by the size (M = medium; S = small), origin (H = hatchery; W = wild), and sex (F = female; M = male), and year tagged (17 = 2017).

Fish 30489-VC-MHM-17: tagged Aug 2<sup>nd</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 2<sup>nd</sup> 10:10 am-11 am
- Schwatka Lake

- Aug 2<sup>nd</sup> 2:25 pm-3:05 pm
- Downstream of Lewes Dam
  - Aug 4<sup>th</sup> 7:45 pm-7:55 pm, 11:45 pm-Aug 5<sup>th</sup> 2:10 am, 4:50 am-5:25 am
- Upstream of Lewes Dam
  - Aug 5<sup>th</sup> 6 am-6:35am
  - Aug 6<sup>th</sup> 9:55 am-10:25 am
- Schwatka Lake
  - Aug 8<sup>th</sup> 3:10 pm, 4:15 pm-4:25 pm, 6:40 pm-6:55 pm, 11:30 pm, 11:55 pm-Aug 9<sup>th</sup> 12:10 am
  - Aug 9<sup>th</sup> 12:30 am-12:40 am, 12:55 am, 1:05 am, 1:30 am, 3:35 am, 6 am, 6:50 am
  - Aug 10<sup>th</sup> 5:50 am, 7:05 am, 11:30 am, 1 pm-1:05 pm
- Wolf Creek
  - Aug 11<sup>th</sup> 11:35 am, 11:55 am, 1:55 pm
- Downstream of Lewes Dam
  - Aug 11<sup>th</sup> 10 pm-10:10 pm
- Upstream of Lewes Dam
  - Aug 11<sup>th</sup> 10:20 pm-10:30 pm
  - Aug 12<sup>th</sup> 12:25 am
- Downstream of Lewes Dam
  - Aug 12<sup>th</sup> 12:40 am-12:55 am, 2:20 am-2:25 am
- Upstream of Lewes Dam
  - Aug 12<sup>th</sup> 2:45 am-3 am
  - Aug 13<sup>th</sup> 4:15 am
- Downstream of Lewes Dam
  - Aug 13<sup>th</sup> 4:25 am-4:40 am
- Schwatka Lake
  - Aug 13<sup>th</sup> 9:40 pm-9:50 pm
  - Aug 14<sup>th</sup> 12:05 am, 12:15 am, 4:30 am-4:45 am, 3:50 pm
- Yukon River Mainstem at the Takhini River
  - Aug 16<sup>th</sup> 6:15 pm
- Takhini River
  - Aug 16<sup>th</sup> 7:10 pm-7:15 pm
  - Aug 17<sup>th</sup> 7:10 am
- Whitehorse Rapids Fishladder Entrance
  - Aug 20<sup>st</sup> 6:20 pm
- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 20<sup>st</sup> 7:05 pm-Aug 22<sup>nd</sup> 12:40 am (Some gaps up to ~30 minutes)
  - Aug 22<sup>nd</sup> 3:30 pm-4:45 pm
- Whitehorse Rapids Fishladder Entrance
  - Aug 22<sup>rd</sup> 8:45 pm, 8:55 pm
- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 25<sup>th</sup> 9:10 am-9:40 am, 10:10 am
- Yukon River Mainstem at the Takhini River

- Aug 31<sup>st</sup> 1 am
- Takhini River
  - Aug 31<sup>st</sup> 7 am-7:15 am

Fish 30504-VC-MWM-17: tagged Aug 3<sup>rd</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 3<sup>rd</sup> 9:35 pm-10:20 pm
- Schwatka Lake
  - Aug 3<sup>rd</sup> 1:10 pm-2 pm, 10:15 pm, 10:30 pm
  - Aug 4<sup>th</sup> 10:10 am-2:30 pm, 11:35 pm, 11:50 pm
- Downstream of Lewes Dam
  - Aug 6<sup>th</sup> 1 am-1:15 am
- Upstream of Lewes Dam
  - Aug 6<sup>th</sup> 1:25 am
- Mouth of the M'Clintock River
  - Aug 6<sup>th</sup> 1:40 pm-1:50 pm
- M'Clintock River downstream of Michie Creek
  - Aug 7<sup>th</sup> 5:15 pm-5:20 pm
- Michie Creek downstream of Byng Creek
  - Aug 12<sup>th</sup> 12:00 am-12:20 am
  - Aug 13<sup>th</sup> 2:45 am-3:10 am
  - Aug 20<sup>th</sup> 3:45 am-3:50 am
- Michie Creek upstream of Byng Creek
  - Aug 20<sup>th</sup> 4:05 am
- Michie Creek downstream of Byng Creek
  - Aug 20<sup>th</sup> 4:15 am, 12:10 pm-12:20 pm
- Michie Creek upstream of Byng Creek
  - Aug 20<sup>th</sup> 12:30 pm, 3:35 pm
- Michie Creek downstream of Byng Creek
  - Aug 20<sup>th</sup> 3:40 pm, 5:05 pm
- Michie Creek upstream of Byng Creek
  - Aug 20<sup>st</sup> 5:10 pm
- Michie Creek downstream of Byng Creek
  - Aug 20<sup>st</sup> 6:05 pm, 6:20 pm, 6:35 pm, 11:30 pm-11:50 pm
  - Aug 21<sup>st</sup> 2:50 pm
  - Aug 22<sup>nd</sup> 7 am, 12:55 pm-1:05 pm
- Michie Creek upstream of Byng Creek
  - Aug 22<sup>nd</sup> 1:15 pm-4:15 pm, 5:05 pm-5:10 pm
- Michie Creek downstream of Byng Creek
  - Aug 22<sup>nd</sup> 6:10 pm, 8 pm
- Michie Creek upstream of Byng Creek
  - Aug 22<sup>nd</sup> 8:10 pm-8:45 pm
- Michie Creek downstream of Byng Creek

- Aug 22<sup>nd</sup> 11 pm-11:30 pm
- Michie Creek upstream of Byng Creek
  - Aug 22<sup>nd</sup> 11:45 pm
  - Aug 23<sup>rd</sup> 6:05 am-6:10 am
  - Aug 25<sup>th</sup> 3:20 pm
- Michie Creek downstream of Byng Creek
  - Aug 25<sup>th</sup> 3:25 pm, 6:05 pm, 6:15 pm
- Michie Creek upstream of Byng Creek
  - Aug 25<sup>th</sup> 6:25 pm-6:30 pm

Fish 30500-VC-MWM-17: tagged Aug 8<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 8<sup>th</sup> 1:15 pm-2:35 pm
- Schwatka Lake
  - Aug 8<sup>th</sup> 3:05 pm-3:15 pm
- Downstream of Lewes Dam
  - Aug 10<sup>th</sup> 1:55 pm-2:10 pm
- Upstream of Lewes Dam
  - Aug 10<sup>th</sup> 2:20 pm-2:25 pm
- Mouth of the M'Clintock River
  - Aug 10<sup>th</sup> 12:30 am-12:40 am
- M'Clintock River downstream of Michie Creek
  - Aug 11<sup>th</sup> 4:50 pm

Fish 30492-VC-MWM-17: tagged Aug 4<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 4<sup>th</sup> 9:30 am-10:05 am
- Schwatka Lake
  - Aug 4<sup>th</sup> 12 pm-12:15 pm
- Downstream of Lewes Dam
  - Aug 4<sup>th</sup> 11 pm-11:05 pm
- Upstream of Lewes Dam
  - Aug 4<sup>th</sup> 11:35 pm-11:45 pm
- Mouth of the M'Clintock River
  - Aug 5<sup>th</sup> 6:15 am-6:25 pm
- M'Clintock River downstream of Michie Creek
  - Aug 5<sup>th</sup> 10:35 pm-10:50 pm
  - Aug 7<sup>th</sup> 4 am-4:15 am, 8:55 am-9 am
- Michie Creek downstream of Byng Creek
  - Aug 10<sup>th</sup> 4:35 am-4:55 am

Fish 30435-VC-MWM-17: tagged Aug 8<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber

- Aug 8<sup>th</sup> 1:15 pm-2 pm
- Schwatka Lake
  - Aug 8<sup>th</sup> 3:40 pm
- Downstream of Lewes Dam
  - Aug 9<sup>th</sup> 3:15 pm-3:30 pm
- Upstream of Lewes Dam
  - Aug 9<sup>th</sup> 4:50 pm-4 pm
- Mouth of the M'Clintock River
  - Aug 10<sup>th</sup> 5:50 am-6 am, 6:30 am
- M'Clintock River downstream of Michie Creek
  - Aug 11<sup>th</sup> 8:20 am
- Michie Creek downstream of Byng Creek
  - Aug 15<sup>th</sup> 6:30 pm-6:45 pm

Fish 30491-VC-MWF-17: tagged Aug 8<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 8<sup>th</sup> 1:25 pm-2:20 pm
- Schwatka Lake
  - Aug 8<sup>th</sup> 3:20 pm-3:35 pm
- Downstream of Lewes Dam
  - Aug 9<sup>th</sup> 7:45 pm-7:55 pm
- Upstream of Lewes Dam
  - Aug 9<sup>th</sup> 8:25 pm-11:40 pm
- Mouth of the M'Clintock River
  - Aug 10<sup>th</sup> 3 pm-3:10 pm
- M'Clintock River downstream of Michie Creek
  - Aug 11<sup>th</sup> 12 pm
- M'Clintock River upstream of Michie Creek
  - Aug 11<sup>th</sup> 12:30 pm-12:40 pm

Fish 30499-VC-MWF-17: tagged Aug 8<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 8<sup>th</sup> 1:15 pm-2:45 pm
- Schwatka Lake
  - Aug 8<sup>th</sup> 3:25 pm-3:35 pm, 5:50 pm-6:35 pm
- Downstream of Lewes Dam
  - Aug 10<sup>th</sup> 11:25 pm-11:45 pm
- Upstream of Lewes Dam
  - Aug 11<sup>th</sup> 12 am-12:15 am
- Mouth of the M'Clintock River
  - Aug 11<sup>th</sup> 6:25 am-6:40 am
- M'Clintock River downstream of Michie Creek
  - Aug 11<sup>th</sup> 10:40 pm

Fish 30438-VC-MHM-17: tagged Aug 9<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 9<sup>th</sup> 2:10 pm-2:50 pm
- Schwatka Lake
  - Aug 9<sup>th</sup> 4:55 pm-5:05 pm
- Downstream of Lewes Dam
  - Aug 10<sup>th</sup> 4:25 pm-4:40 pm
- Upstream of Lewes Dam
  - Aug 10<sup>th</sup> 4:50 pm
- Mouth of the M'Clintock River
  - Aug 11<sup>th</sup> 9:20 am-9:25 am
- M'Clintock River downstream of Michie Creek
  - Aug 12<sup>th</sup> 8:05 am
- M'Clintock River upstream of Michie Creek
  - Aug 13<sup>th</sup> 1:30 am-1:40 am
  - Aug 19<sup>th</sup> 10:20 am
  - Aug 20<sup>th</sup> 2:20 pm
  - Aug 21<sup>st</sup> 5:30 pm
- M'Clintock River downstream of Michie Creek
  - Aug 21<sup>st</sup> 5:45 pm-Aug 22<sup>nd</sup> 6:05 am
- M'Clintock River upstream of Michie Creek
  - Aug 21<sup>st</sup> 6:20 am

Fish 30443-VC-MWM-17: tagged Aug 9<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 9<sup>th</sup> 1:30 pm-2:20 pm
- Schwatka Lake
  - Aug 9<sup>th</sup> 3:15 pm-13:35 pm
- Downstream of Lewes Dam
  - Aug 11<sup>th</sup> 8:05 pm-8:20 pm
- Upstream of Lewes Dam
  - Aug 11<sup>th</sup> 8:40 pm-8:50 pm
- Mouth of the M'Clintock River
  - Aug 12<sup>th</sup> 11:05 am-11:25 am
- M'Clintock River downstream of Michie Creek
  - Aug 13<sup>th</sup> 7:20 pm

Fish 30498-VC-MHM-17: tagged Aug 9<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 9<sup>th</sup> 1:25 pm-2:40 pm
- Schwatka Lake
  - Aug 9<sup>th</sup> 4:30 pm-4:45 pm

- Downstream of Lewes Dam
  - Aug 11<sup>th</sup> 2 am-2:20 am
- Upstream of Lewes Dam
  - Aug 11<sup>th</sup> 2:40 am-2:55 am
- Mouth of the M'Clintock River
  - Aug 11<sup>th</sup> 11:40 am-11:50 am
- M'Clintock River downstream of Michie Creek
  - Aug 12<sup>th</sup> 1:30 pm
- M'Clintock River upstream of Michie Creek
  - Aug 12<sup>th</sup> 2 pm-2:10 pm

Fish 30439-VC-SHM-17: tagged Aug 10<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 10<sup>th</sup> 1:30 pm-2:40 pm
- Schwatka Lake
  - Aug 10<sup>th</sup> 3:50 pm-7:20 pm
- Downstream of Lewes Dam
  - Aug 12<sup>th</sup> 5 am-5:05 am
- Upstream of Lewes Dam
  - Aug 12<sup>th</sup> 5:25 am-5:40 am
- Mouth of the M'Clintock River
  - Aug 12<sup>th</sup> 1:35 pm-1:45 pm
- M'Clintock River downstream of Michie Creek
  - Aug 13<sup>th</sup> 9:50 am
- Michie Creek downstream of Byng Creek
  - Aug 16<sup>th</sup> 1:25 am
- Michie Creek upstream of Byng Creek
  - Aug 16<sup>th</sup> 1:40 am

Fish 30440-VC-MWF-17: tagged Aug 10<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 10<sup>th</sup> 1:20 pm-1:40 pm
- Downstream of Lewes Dam
  - Aug 11<sup>th</sup> 5:40 am-6 am
- Upstream of Lewes Dam
  - Aug 11<sup>th</sup> 6:20 am-6:30 am
- Mouth of the M'Clintock River
  - Aug 11<sup>th</sup> 2:45 pm
- M'Clintock River downstream of Michie Creek
  - Aug 12<sup>th</sup> 1:30 pm
- Michie Creek downstream of Byng Creek
  - Aug 19<sup>th</sup> 1:50 am
- Michie Creek upstream of Byng Creek

- Aug 19<sup>th</sup> 2:10 am-2:20 am

Fish 30445-VC-MWM-17: tagged Aug 10<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 10<sup>th</sup> 1:20 pm-2:40 pm
- Schwatka Lake
  - Aug 10<sup>th</sup> 4:05 pm
- Downstream of Lewes Dam
  - Aug 11<sup>th</sup> 9:30 pm
- Upstream of Lewes Dam
  - Aug 11<sup>th</sup> 9:55 pm-10:05 pm
- Mouth of the M'Clintock River
  - Aug 12<sup>th</sup> 5:35 am-5:45 am
- M'Clintock River downstream of Michie Creek
  - Aug 13<sup>th</sup> 11:05 am

Fish 30446-VC-MHM-17: tagged Aug 10<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 10<sup>th</sup> 1:25 pm-2:40 pm
- Schwatka Lake
  - Aug 10<sup>th</sup> 4 pm
- Downstream of Lewes Dam
  - Aug 11<sup>th</sup> 6:50 pm, 7 pm-7:30 pm
- Upstream of Lewes Dam
  - Aug 11<sup>th</sup> 7:40 pm-7:50 pm
- Mouth of the M'Clintock River
  - Aug 13<sup>th</sup> 8:25 pm-8:40 pm
- M'Clintock River downstream of Michie Creek
  - Aug 14<sup>th</sup> 5:55 pm
- Michie Creek downstream of Byng Creek
  - Aug 16<sup>th</sup> 6:20 pm
- Michie Creek upstream of Byng Creek
  - Aug 16<sup>th</sup> 6:30 pm

Fish 30441-VC-MHM-17: tagged Aug 11<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 11<sup>th</sup> 1:15 pm-2:15 pm
- Schwatka Lake
  - Aug 11<sup>th</sup> 5:25 pm, 5:40 pm
- Wolf Creek
  - Aug 12<sup>th</sup> 5:40 pm, 7:30 pm
- Downstream of Lewes Dam
  - Aug 14<sup>th</sup> 7:25 pm-7:35 pm



- Upstream of Lewes Dam
  - Aug 16<sup>th</sup> 7:50 pm-8:05 pm
- Mouth of the M'Clintock River
  - Aug 15<sup>th</sup> 7:45 am-7:55 am
- M'Clintock River downstream of Michie Creek
  - Aug 16<sup>th</sup> 7:10 am-8:20 am

Fish 30447-VC-MHM-17: tagged Aug 11<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 11<sup>th</sup> 1:15 pm-1:25 pm, 6:10 pm
- Schwatka Lake
  - Aug 11<sup>th</sup> 7:20 pm-7:30 pm
- Downstream of Lewes Dam
  - Aug 13<sup>th</sup> 7:15 am-7:30 am
- Upstream of Lewes Dam
  - Aug 13<sup>th</sup> 7:45 am-8 am
- Mouth of the M'Clintock River
  - Aug 13<sup>th</sup> 7:40 pm-8 pm
- M'Clintock River downstream of Michie Creek
  - Aug 14<sup>th</sup> 4 pm

Fish 30444-VC-MHM-17: tagged Aug 14<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 14<sup>th</sup> 9:40 pm-Aug 15<sup>th</sup> 2 pm
- Schwatka Lake
  - Aug 15<sup>th</sup> 4:05 pm
- Downstream of Lewes Dam
  - Aug 16<sup>th</sup> 11:30 pm-Aug 17<sup>th</sup> 2:50 am
- Upstream of Lewes Dam
  - Aug 17<sup>th</sup> 3:20 am-3:50 am
- Mouth of the M'Clintock River
  - Aug 19<sup>th</sup> 6:20 pm-6:40 pm
- M'Clintock River downstream of Michie Creek
  - Aug 20<sup>th</sup> 4:00 pm
- Michie Creek downstream of Byng Creek
  - Aug 22<sup>nd</sup> 12:05 am
- Michie Creek upstream of Byng Creek
  - Aug 22<sup>nd</sup> 12:30 am
  - Aug 27<sup>th</sup> 1:10 pm
- Michie Creek downstream of Byng Creek
  - Aug 27<sup>th</sup> 1:20 pm-1:35 pm
- Byng Creek
  - Aug 27<sup>th</sup> 1:45 pm

- Michie Creek downstream of Byng Creek
  - Aug 27<sup>th</sup> 2 pm-3:20 pm
- Byng Creek
  - Aug 27<sup>th</sup> 3:30 pm, 5 pm
- Michie Creek downstream of Byng Creek
  - Aug 27<sup>th</sup> 5:30 pm, 7:25 pm-8:10 pm
- Byng Creek
  - Aug 27<sup>th</sup> 8:20 pm
- Michie Creek downstream of Byng Creek
  - Aug 27<sup>th</sup> 8:30 pm-8:50 pm, 10:20 pm-11:15 pm
- Michie Creek upstream of Byng Creek
  - Aug 27<sup>th</sup> 11:30 pm-Aug 28<sup>th</sup> 12:15 am
- Michie Creek downstream of Byng Creek
  - Aug 28<sup>th</sup> 12:20 am-3:45 am
- Michie Creek upstream of Byng Creek
  - Aug 28<sup>th</sup> 4 am, 7:20 pm
- Michie Creek downstream of Byng Creek
  - Aug 28<sup>th</sup> 7:25 pm, 10 pm-Aug 31<sup>st</sup> 2:30 am
- Michie Creek upstream of Byng Creek
  - Sept 1<sup>st</sup> 3 am, 5:45 pm
- Michie Creek downstream of Byng Creek
  - Sept 1<sup>st</sup> 5:55 pm-8:40 pm
- Michie Creek upstream of Byng Creek
  - Sept 1<sup>st</sup> 9:05 pm

Fish 30437-VC-MHM-17: tagged Aug 14<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 14<sup>th</sup> 9:40 am-11:10 am
- Schwatka Lake
  - Aug 14<sup>th</sup> 2:45 pm
- Downstream of Lewes Dam
  - Aug 15<sup>th</sup> 7:50 pm
- Upstream of Lewes Dam
  - Aug 15<sup>th</sup> 8:10 pm-8:30 pm
- Mouth of the M'Clintock River
  - Aug 16<sup>th</sup> 4:50 am-5 am
- M'Clintock River downstream of Michie Creek
  - Aug 16<sup>th</sup> 11 pm
- Michie Creek downstream of Byng Creek
  - Aug 19<sup>th</sup> 3:25 pm
- Michie Creek upstream of Byng Creek
  - Aug 19<sup>th</sup> 3:40 pm
  - Aug 24<sup>th</sup> 4:50 am

- Michie Creek downstream of Byng Creek
  - Aug 24<sup>th</sup> 5 am

Fish 30448-VC-MWM-17: tagged Aug 14<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 14<sup>th</sup> 9:30 am
- Schwatka Lake
  - Aug 14<sup>th</sup> 11:15 am-11:25 am
- Downstream of Lewes Dam
  - Aug 15<sup>th</sup> 11:30 pm-11:50 pm
- Upstream of Lewes Dam
  - Aug 16<sup>th</sup> 12:05 am-12:15 am
- Mouth of the M'Clintock River
  - Aug 16<sup>th</sup> 6:30 am-6:40 am
- M'Clintock River downstream of Michie Creek
  - Aug 17<sup>th</sup> 1:10 am
- Michie Creek downstream of Byng Creek
  - Aug 21<sup>st</sup> 6:10 am
- Michie Creek upstream of Byng Creek
  - Aug 21<sup>st</sup> 6:15 am

Fish 30449-VC-MWM-17: tagged Aug 14<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 14<sup>th</sup> 9:30 am-9:50 am
- Schwatka Lake
  - Aug 14<sup>th</sup> 11:35 am
- Downstream of Lewes Dam
  - Aug 15<sup>th</sup> 12:45 pm-1 pm
- Upstream of Lewes Dam
  - Aug 15<sup>th</sup> 1:15 pm
- Mouth of the M'Clintock River
  - Aug 15<sup>th</sup> 10:45 pm-10:50 pm
- M'Clintock River downstream of Michie Creek
  - Aug 16<sup>th</sup> 5:50 pm
- Michie Creek downstream of Byng Creek
  - Aug 19<sup>th</sup> 8:20 am
- Michie Creek upstream of Byng Creek
  - Aug 19<sup>th</sup> 8:30 am

Fish 30451-VC-MWM-17: tagged Aug 14<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 14<sup>th</sup> 9:25 am-10:35 am
- Schwatka Lake

- Aug 14<sup>th</sup> 11:35 am
- Downstream of Lewes Dam
  - Aug 15<sup>th</sup> 9:05 am-9:25 am
- Upstream of Lewes Dam
  - Aug 15<sup>th</sup> 9:30 am-9:40 am
- Mouth of the M'Clintock River
  - Aug 15<sup>th</sup> 6:15 pm-6:20 pm
- M'Clintock River downstream of Michie Creek
  - Aug 16<sup>th</sup> 2:35 pm
- Michie Creek downstream of Byng Creek
  - Aug 17<sup>th</sup> 4:50 pm-5:10 pm
- Michie Creek upstream of Byng Creek
  - Aug 17<sup>th</sup> 5:25 pm
  - Aug 20<sup>th</sup> 1 pm
- Michie Creek downstream of Byng Creek
  - Aug 20<sup>th</sup> 1:05 pm-1:45 pm, 2:35 pm-2:50 pm, 9:25 pm-9:35 pm
  - Aug 21<sup>st</sup> 11:55 am-12:15 pm, 8:30 pm-9:20 pm
- Byng Creek
  - Aug 21<sup>st</sup> 9:35 pm
  - Aug 22<sup>nd</sup> 10:20 am
- Michie Creek downstream of Byng Creek
  - Aug 22<sup>nd</sup> 10:30 am

Fish 30452-VC-SWM-17: tagged Aug 15<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 15<sup>th</sup> 4:50 pm-5:15 pm
  - Aug 17<sup>th</sup> 1:35 pm-7:15 pm
- Schwatka Lake
  - Aug 17<sup>th</sup> 8:15 pm-8:50 pm
- Downstream of Lewes Dam
  - Aug 19<sup>th</sup> 1:50 am-2:15 am
- Upstream of Lewes Dam
  - Aug 19<sup>th</sup> 2:30 am-2:55 am
- Mouth of the M'Clintock River
  - Aug 19<sup>th</sup> 12:50 pm-1:05 pm
- M'Clintock River downstream of Michie Creek
  - Aug 20<sup>th</sup> 12:50 pm
- Michie Creek downstream of Byng Creek
  - Aug 21<sup>st</sup> 3:40 pm
- Michie Creek upstream of Byng Creek
  - Aug 21<sup>st</sup> 3:50 pm

Fish 30479-VC-MHM-17: tagged Aug 15<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 15<sup>th</sup> 1:45 pm-3:05 pm
- Schwatka Lake
  - Aug 16<sup>th</sup> 11:40 am-11:55 am
- Downstream of Lewes Dam
  - Aug 17<sup>th</sup> 9:40 am-9:50 am
- Upstream of Lewes Dam
  - Aug 17<sup>th</sup> 10 am-10:10 am
- Mouth of the M'Clintock River
  - Aug 17<sup>th</sup> 5:40 pm-5:50 pm
- M'Clintock River downstream of Michie Creek
  - Aug 18<sup>th</sup> 11:30 am
- M'Clintock River upstream of Michie Creek
  - Aug 18<sup>th</sup> 12:10 pm-12:15 pm
  - Aug 19<sup>th</sup> 3:40 pm
- Michie Creek downstream of Byng Creek
  - Aug 20<sup>th</sup> 6:20 pm
- Michie Creek upstream of Byng Creek
  - Aug 20<sup>th</sup> 6:30 pm

Fish 30473-VC-MHF-17: tagged Aug 16<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 16<sup>th</sup> 3:20 pm-3:45 pm
- Schwatka Lake
  - Aug 16<sup>th</sup> 4:05 pm-4:30 pm
- Wolf Creek
  - Aug 20<sup>th</sup> 12:20 pm
  - Aug 21<sup>st</sup> 11:25 am

Fish 30482-VC-MWM-17: tagged Aug 16<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 16<sup>th</sup> 1:20 pm-1:30 pm
- Schwatka Lake
  - Aug 16<sup>th</sup> 4:20 pm
- Downstream of Lewes Dam
  - Aug 21<sup>st</sup> 9:40 am-9:45 am
- Upstream of Lewes Dam
  - Aug 21<sup>st</sup> 10 am-10:50 am, 3:30 pm
- Downstream of Lewes Dam
  - Aug 21<sup>st</sup> 3:45 pm-3:55 pm
- Wolf Creek
  - Aug 25<sup>th</sup> 5:05 pm, 5:20 pm
- Downstream of Lewes Dam

- Aug 27<sup>th</sup> 3 am-3:10 am
- Upstream of Lewes Dam
  - Aug 27<sup>th</sup> 3:20 am-3:30 am, 5:35 am
- Downstream of Lewes Dam
  - Aug 27<sup>th</sup> 5:45 am-5:50 am
- Wolf Creek
  - Aug 27<sup>th</sup> 10 am
  - Aug 30<sup>st</sup> 10:15 pm
- Downstream of Lewes Dam
  - Aug 31<sup>st</sup> 10:35 am-12 pm, 1:20 pm-4:45 pm
- Schwatka Lake
  - Sept 2<sup>nd</sup> 9:15 am
- Yukon River Mainstem at the Takhini River
  - Sept 2<sup>nd</sup> 6 pm
- Lake Laberge
  - Sept 2<sup>nd</sup> 9 pm

Fish 30484-VC-MWM-17: tagged Aug 16<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 16<sup>th</sup> 1:20 pm
- Schwatka Lake
  - Aug 16<sup>th</sup> 4:10 pm-4:20 pm
- Downstream of Lewes Dam
  - Aug 17<sup>th</sup> 8:15 am-8:25 am
- Upstream of Lewes Dam
  - Aug 17<sup>th</sup> 8:40 am-8:55 am
- Mouth of the M'Clintock River
  - Aug 17<sup>th</sup> 7:30 pm-7:45 pm
- M'Clintock River downstream of Michie Creek
  - Aug 18<sup>th</sup> 3:30 pm
- Michie Creek downstream of Byng Creek
  - Aug 21<sup>st</sup> 10 am
- Michie Creek upstream of Byng Creek
  - Aug 21<sup>st</sup> 10:10 am

Fish 30475-VC-SHM-17: tagged Aug 17<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 17<sup>th</sup> 1:30 pm-2:50 pm
- Schwatka Lake
  - Aug 17<sup>th</sup> 4:50 pm-5:00 pm
- Wolf Creek
  - Aug 18<sup>th</sup> 10:25 pm
- Downstream of Lewes Dam

- Aug 19<sup>th</sup> 12:10 pm-2:10 pm
- Upstream of Lewes Dam
  - Aug 19<sup>th</sup> 2:25 pm-2:35 pm
  - Aug 19<sup>th</sup> 5:15 pm
- Downstream of Lewes Dam
  - Aug 19<sup>th</sup> 5:20 pm-5:40 pm
- Wolf Creek
  - Aug 19<sup>th</sup> 10:30 pm, 11:20 pm
  - Aug 20<sup>th</sup> 2:30 am, 3 am, 4:55 pm-5:05 pm

Fish 30476-VC-MWF-17: tagged Aug 17<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 17<sup>th</sup> 1:30 pm-1:35 pm
- Schwatka Lake
  - Aug 17<sup>th</sup> 3:55 pm-4:15 pm
- Downstream of Lewes Dam
  - Aug 18<sup>th</sup> 5:15 am-5:35 am
- Upstream of Lewes Dam
  - Aug 18<sup>th</sup> 5:50 am-6 am
- Mouth of the M'Clintock River
  - Aug 18<sup>th</sup> 1:30 pm-1:35 pm
- M'Clintock River downstream of Michie Creek
  - Aug 19<sup>th</sup> 10:40 am
- M'Clintock River upstream of Michie Creek
  - Aug 19<sup>th</sup> 11:20 am-11:30 am

Fish 30478-VC-MWM-17: tagged Aug 17<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 17<sup>th</sup> 1:25 pm-1:35 pm, 2:20 pm
- Schwatka Lake
  - Aug 17<sup>th</sup> 3:35 pm-3:45 pm
- Wolf Creek
  - Aug 20<sup>th</sup> 10:30 pm
  - Aug 21<sup>st</sup> 1:20 am
- Downstream of Lewes Dam
  - Aug 22<sup>nd</sup> 6:15 am-6:40 am
- Upstream of Lewes Dam
  - Aug 22<sup>nd</sup> 6:50 am-7 am
- Mouth of the M'Clintock River
  - Aug 22<sup>nd</sup> 5:30 pm-5:40 pm
- M'Clintock River downstream of Michie Creek
  - Aug 23<sup>rd</sup> 7:40 am

Fish 30481-VC-SHM-17: tagged Aug 17<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 17<sup>th</sup> 1:35 pm-4:40 pm
- Schwatka Lake
  - Aug 17<sup>th</sup> 6:40 pm-7:20 pm
  - Aug 18<sup>th</sup> 3 am, 10:40 am, 10:50 am
- Downstream of Lewes Dam
  - Aug 19<sup>th</sup> 12:30 pm-12:45 pm
- Upstream of Lewes Dam
  - Aug 19<sup>th</sup> 12:50 pm-12:55 pm
- Mouth of the M'Clintock River
  - Aug 19<sup>th</sup> 10:10 pm-10:20 pm
- M'Clintock River downstream of Michie Creek
  - Aug 20<sup>th</sup> 6 pm
- Michie Creek downstream of Byng Creek
  - Aug 22<sup>nd</sup> 12:45 pm
- Michie Creek upstream of Byng Creek
  - Aug 22<sup>nd</sup> 1 pm

Fish 30486-VC-MWF-17: tagged Aug 18<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 18<sup>th</sup> 10 am-10:50 am
- Schwatka Lake
  - Aug 18<sup>th</sup> 12:30 pm
- Downstream of Lewes Dam
  - Aug 19<sup>th</sup> 1:20 am-1:45 pm
- Upstream of Lewes Dam
  - Aug 19<sup>th</sup> 2 am-2:10 am
- Mouth of the M'Clintock River
  - Aug 19<sup>th</sup> 12:35 pm-12:45 pm
- M'Clintock River downstream of Michie Creek
  - Aug 20<sup>th</sup> 5:05 pm
- Michie Creek downstream of Byng Creek
  - Aug 22<sup>nd</sup> 6:55 am
- Michie Creek upstream of Byng Creek
  - Aug 22<sup>nd</sup> 7:10 am

Fish 30471-VC-SWM-17: tagged Aug 19<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 19<sup>th</sup> 9:40 am-10:50 am, 11:50 am, 3:15 pm-3:25 pm
- Schwatka Lake
  - Aug 19<sup>th</sup> 4:55 pm-5:15 pm
- Downstream of Lewes Dam



- Aug 20<sup>th</sup> 4:50 pm-5:05 pm
- Upstream of Lewes Dam
  - Aug 20<sup>th</sup> 5:15 pm-5:20 pm
- Mouth of the M'Clintock River
  - Aug 21<sup>st</sup> 2:30 am-2:40 am
- M'Clintock River downstream of Michie Creek
  - Aug 22<sup>nd</sup> 12:40 am
- Michie Creek downstream of Byng Creek
  - Aug 22<sup>nd</sup> 11:15 pm
- Michie Creek upstream of Byng Creek
  - Aug 22<sup>nd</sup> 11:50 pm
  - Aug 23<sup>rd</sup> 7:30 pm-7:35 pm
- Michie Creek downstream of Byng Creek
  - Aug 23<sup>rd</sup> 7:40 pm-8:10 pm, 9:35 pm
- Michie Creek upstream of Byng Creek
  - Aug 23<sup>rd</sup> 9:45 pm
  - Aug 25<sup>th</sup> 5:00 pm-5:10 pm
- Michie Creek downstream of Byng Creek
  - Aug 25<sup>th</sup> 5:25 pm-6:05 pm
- Michie Creek upstream of Byng Creek
  - Aug 25<sup>th</sup> 6:20 pm-Aug 26<sup>th</sup> 1 pm
- Michie Creek downstream of Byng Creek
  - Aug 26<sup>th</sup> 1:05 pm-2:30 pm
- Michie Creek upstream of Byng Creek
  - Aug 26<sup>th</sup> 2:40 pm-3:20 pm
- Michie Creek downstream of Byng Creek
  - Aug 26<sup>th</sup> 3:30 pm-4:15 pm
- Michie Creek upstream of Byng Creek
  - Aug 26<sup>th</sup> 4:30 pm, 6:15 pm
- Michie Creek downstream of Byng Creek
  - Aug 26<sup>th</sup> 6:20 pm-11:30 pm
- Michie Creek upstream of Byng Creek
  - Aug 26<sup>th</sup> 11:50 am-Aug 27<sup>th</sup> 12:10 am
  - Aug 27<sup>th</sup> 5:40 pm-5:45 pm
- Michie Creek downstream of Byng Creek
  - Aug 27<sup>th</sup> 6 pm-6:05 pm
- Michie Creek upstream of Byng Creek
  - Aug 27<sup>th</sup> 6:20 pm-6:25 pm
  - Aug 28<sup>th</sup> 6:50 pm-7 pm
  - Aug 29<sup>th</sup> 10:20 pm-10:30 pm
  - Aug 30<sup>th</sup> 2:25 am-3:20 am
- Michie Creek downstream of Byng Creek
  - Aug 30<sup>th</sup> 3:40 am-7:10 am, 9 am-12:30 pm

- Michie Creek upstream of Byng Creek
  - Aug 30<sup>th</sup> 12:50 pm-3:30 pm
- Michie Creek downstream of Byng Creek
  - Aug 30<sup>th</sup> 3:35 pm-4 pm
  - Aug 30<sup>th</sup> 5:40 pm-Aug 31<sup>st</sup> 12:55 am
- Michie Creek upstream of Byng Creek
  - Aug 31<sup>st</sup> 1:20 am, 4:55 pm
- Michie Creek downstream of Byng Creek
  - Aug 31<sup>st</sup> 5:10 pm-5:45 pm, 6:30 pm-10:30 pm
  - Sept 1<sup>st</sup> 12:10 am-7:05 am

Fish 30474-VC-MWF-17: tagged Aug 19<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 19<sup>th</sup> 1:45 pm-3:25 pm
- Schwatka Lake
  - Aug 19<sup>th</sup> 4:40 pm
- Downstream of Lewes Dam
  - Aug 20<sup>th</sup> 5:15 am-5:45 am
- Upstream of Lewes Dam
  - Aug 20<sup>th</sup> 5:50 am-6 am
- Mouth of the M'Clintock River
  - Aug 20<sup>th</sup> 11:55 am-12:10 pm
- M'Clintock River downstream of Michie Creek
  - Aug 21<sup>st</sup> 1:10 pm
- Michie Creek downstream of Byng Creek
  - Aug 23<sup>rd</sup> 8:05 pm
- Michie Creek upstream of Byng Creek
  - Aug 23<sup>rd</sup> 8:25 pm

Fish 30480-VC-MWM-17: tagged Aug 19<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 19<sup>th</sup> 9:40 am-10:50 am
- Schwatka Lake
  - Aug 19<sup>th</sup> 2 pm-2:10 pm
- Downstream of Lewes Dam
  - Aug 20<sup>th</sup> 10:55 am-11:15 am
- Upstream of Lewes Dam
  - Aug 20<sup>th</sup> 11:25 am
- Mouth of the M'Clintock River
  - Aug 20<sup>th</sup> 9:45-10:05 pm
- M'Clintock River downstream of Michie Creek
  - Aug 21<sup>st</sup> 5:40 pm
- Michie Creek downstream of Byng Creek

- Aug 23<sup>rd</sup> 7:50 pm-8:05 pm
- Michie Creek upstream of Byng Creek
  - Aug 23<sup>rd</sup> 8:30 pm

Fish 30483-VC-MWM-17: tagged Aug 19<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 19<sup>th</sup> 1:45 pm-3:25 pm
- Schwatka Lake
  - Aug 19<sup>th</sup> 4:45 pm-5:00 pm
- Downstream of Lewes Dam
  - Aug 20<sup>th</sup> 12:40 pm-12:50 pm
- Upstream of Lewes Dam
  - Aug 20<sup>th</sup> 1:05 pm
- Mouth of the M'Clintock River
  - Aug 29<sup>th</sup> 7:35 pm
- M'Clintock River downstream of Michie Creek
  - Aug 21<sup>st</sup> 6:50 pm
- Michie Creek downstream of Byng Creek
  - Aug 23<sup>rd</sup> 10:10 am
- Michie Creek upstream of Byng Creek
  - Aug 23<sup>rd</sup> 10:20 am

Fish 30477-VC-MWF-17: tagged Aug 20<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 20<sup>th</sup> 9:20 am-11:25 am
- Schwatka Lake
  - Aug 20<sup>th</sup> 2:05 pm
- Downstream of Lewes Dam
  - Aug 21<sup>st</sup> 9:30 am-9:50 am
- Upstream of Lewes Dam
  - Aug 21<sup>st</sup> 10 am

Fish 30459-VC-SWM-17: tagged Aug 22<sup>nd</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 22<sup>nd</sup> 9:20 am-11 am
- Schwatka Lake
  - Aug 22<sup>nd</sup> 12:50 pm-3:25 pm
- Wolf Creek
  - Aug 22<sup>nd</sup> 11:50 pm
  - Aug 23<sup>rd</sup> 12:15 am
- Downstream of Lewes Dam
  - Aug 23<sup>rd</sup> 8 am-8:30 am
- Upstream of Lewes Dam

- Aug 23<sup>rd</sup> 8:40 am-8:45 am
- Mouth of the M'Clintock River
  - Aug 23<sup>rd</sup> 4:30 pm-4:35 pm
- M'Clintock River downstream of Michie Creek
  - Aug 24<sup>th</sup> 8:30 am

Fish 30462-VC-MWM-17: tagged Aug 22<sup>nd</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 22<sup>nd</sup> 9:20 am
- Schwatka Lake
  - Aug 22<sup>nd</sup> 11:35 am
- Downstream of Lewes Dam
  - Aug 23<sup>rd</sup> 2:30 am-2:40 am
- Upstream of Lewes Dam
  - Aug 23<sup>rd</sup> 3:10 am-3:30 am
- Mouth of the M'Clintock River
  - Aug 23<sup>rd</sup> 4:05 pm-4:15 pm
- M'Clintock River downstream of Michie Creek
  - Aug 24<sup>th</sup> 10 am

Fish 30465-VC-MWM-17: tagged Aug 22<sup>nd</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 22<sup>nd</sup> 9:25 am-10:45 am
- Schwatka Lake
  - Aug 22<sup>nd</sup> 12:30 pm-1 pm
- Downstream of Lewes Dam
  - Aug 23<sup>rd</sup> 5:50 pm-6 pm
- Upstream of Lewes Dam
  - Aug 23<sup>rd</sup> 6:25 pm
- Mouth of the M'Clintock River
  - Aug 24<sup>th</sup> 1:05 am-1:15 am
- M'Clintock River downstream of Michie Creek
  - Aug 24<sup>th</sup> 3:35 pm
- M'Clintock River upstream of Michie Creek
  - Aug 24<sup>th</sup> 5:05 pm
  - Sept 1<sup>st</sup> 9:05 pm
- M'Clintock River downstream of Michie Creek
  - Sept 1<sup>st</sup> 9:35 pm
  - Sept 2<sup>nd</sup> 12:20 am
- M'Clintock River upstream of Michie Creek
  - Sept 2<sup>nd</sup> 12:55 am-1 am, 5:30 am
- M'Clintock River downstream of Michie Creek
  - Sept 2<sup>nd</sup> 4:25 pm-4:45 pm

- M'Clintock River upstream of Michie Creek
  - Sept 2<sup>nd</sup> 6:15 pm-6:25 pm

Fish 30468-VC-MWM-17: tagged Aug 22<sup>nd</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 22<sup>nd</sup> 9:25 am-10:40 am
- Schwatka Lake
  - Aug 22<sup>nd</sup> 11:10 am
- Downstream of Lewes Dam
  - Aug 22<sup>nd</sup> 11:40 pm-11:50 pm
- Upstream of Lewes Dam
  - Aug 23<sup>rd</sup> 12:20 am-12:30 am
- Mouth of the M'Clintock River
  - Aug 23<sup>rd</sup> 7 am-7:10 am
- M'Clintock River downstream of Michie Creek
  - Aug 23<sup>rd</sup> 8:15 pm
- Michie Creek downstream of Byng Creek
  - Aug 26<sup>th</sup> 9:25 pm-9:30 pm
- Michie Creek upstream of Byng Creek
  - Aug 26<sup>th</sup> 9:40 pm
  - Aug 27<sup>th</sup> 9:30 am
- Michie Creek downstream of Byng Creek
  - Aug 27<sup>th</sup> 9:35 am, 2 pm
- Michie Creek upstream of Byng Creek
  - Aug 27<sup>th</sup> 2:10 pm

Fish 30453-VC-MWM-17: tagged Aug 23<sup>rd</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 23<sup>rd</sup> 9:30 am-11:20 am
- Schwatka Lake
  - Aug 23<sup>rd</sup> 12:50 pm
- Downstream of Lewes Dam
  - Aug 24<sup>th</sup> 3:40 am-3:50 am
- Upstream of Lewes Dam
  - Aug 24<sup>th</sup> 4:10 am-4:30 am
- Mouth of the M'Clintock River
  - Aug 24<sup>th</sup> 12:25 pm-12:35 pm
- M'Clintock River downstream of Michie Creek
  - Aug 25<sup>th</sup> 3:50 am
- Michie Creek downstream of Byng Creek
  - Aug 26<sup>th</sup> 3 pm
- Michie Creek upstream of Byng Creek
  - Aug 26<sup>th</sup> 3:15 pm

- Aug 27<sup>th</sup> 3:40 pm
- Michie Creek downstream of Byng Creek
  - Aug 27<sup>th</sup> 3:45 pm-4:05 pm
- Michie Creek upstream of Byng Creek
  - Aug 27<sup>th</sup> 2:20 pm-4:55 pm, 5:30 pm-5:45 pm
  - Aug 28<sup>th</sup> 6:20 pm-7:45 pm, 11:55 pm-Aug 29<sup>th</sup> 1 am
  - Aug 29<sup>th</sup> 10:35 am-10:45 am
- Michie Creek downstream of Byng Creek
  - Aug 29<sup>th</sup> 10:50 am-1:30 pm
- Michie Creek upstream of Byng Creek
  - Aug 29<sup>th</sup> 1:35 pm-3:25 pm
- Michie Creek downstream of Byng Creek
  - Aug 29<sup>th</sup> 3:30 pm
- Michie Creek upstream of Byng Creek
  - Aug 29<sup>th</sup> 3:40 pm

Fish 30463-VC-MWF-17: tagged Aug 23<sup>rd</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 23<sup>rd</sup> 9:30 am-9:40 am
- Schwatka Lake
  - Aug 23<sup>rd</sup> 12:15 pm
- Downstream of Lewes Dam
  - Aug 23<sup>rd</sup> 11 pm-11:15 pm
- Upstream of Lewes Dam
  - Aug 23<sup>rd</sup> 11:30 pm
- Mouth of the M'Clintock River
  - Aug 24<sup>th</sup> 5:30 am-5:35 am
- M'Clintock River downstream of Michie Creek
  - Aug 25<sup>th</sup> 8:25 am

Fish 30455-VC-MWM-17: tagged Aug 24<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 24<sup>th</sup> 9:35 am-12:10 pm
- Schwatka Lake
  - Aug 24<sup>th</sup> 12:50 pm
- Downstream of Lewes Dam
  - Aug 25<sup>th</sup> 1:25 am-1:30 am
- Upstream of Lewes Dam
  - Aug 25<sup>th</sup> 1:45 am-2 am
- Mouth of the M'Clintock River
  - Aug 25<sup>th</sup> 7:35 pm
- M'Clintock River downstream of Michie Creek
  - Aug 25<sup>th</sup> 9 pm

Fish 30456-VC-MWM-17: tagged Aug 24<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 24<sup>th</sup> 9:35 am-10:05 am
- Schwatka Lake
  - Aug 24<sup>th</sup> 11:40 am
- Downstream of Lewes Dam
  - Aug 25<sup>th</sup> 6:05 am-6:35 am
- Upstream of Lewes Dam
  - Aug 25<sup>th</sup> 6:35 am-7:05 am, 3:40pm
- Downstream of Lewes Dam
  - Aug 25<sup>th</sup> 4 pm-7:15 pm
  - Aug 26<sup>th</sup> 2:10 pm-6:45 pm
- Upstream of Lewes Dam
  - Aug 26<sup>th</sup> 2:45 pm-2:55 pm, 6:45 pm
- Downstream of Lewes Dam
  - Aug 26<sup>th</sup> 7 pm-6:10 pm
- Wolf Creek
  - Aug 29<sup>th</sup> 2:40 am, 2 am
- Downstream of Lewes Dam
  - Aug 29<sup>th</sup> 8:30 am
- Upstream of Lewes Dam
  - Aug 29<sup>th</sup> 8:45 am-8:55 am, 10 am
- Downstream of Lewes Dam
  - Aug 29<sup>th</sup> 10:10 am-11:30 am
- Wolf Creek
  - Aug 29<sup>th</sup> 5:45 pm
  - Aug 30<sup>th</sup> 12:45 am-1 am, 3:30 am, 12:50 pm-1 pm, 10:20 pm-11:05 pm
  - Sept 1<sup>st</sup> 4 am, 4:05 am, 7:30 am, 7:35 am, 3:30 pm-3:35 pm
- Downstream of Lewes Dam
  - Sept 1<sup>st</sup> 9:30 pm-9:40 pm
- Upstream of Lewes Dam
  - Sept 1<sup>st</sup> 9:50 pm-10:15 pm
  - Sept 2<sup>nd</sup> 6 am
- Downstream of Lewes Dam
  - Aug 2<sup>nd</sup> 6:10 am
- Wolf Creek
  - Aug 2<sup>nd</sup> 1:10 am, 11:15 am, 2 pm, 2:15 pm

Fish 30464-VC-MWM-17: tagged Aug 25<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 25<sup>th</sup> 9:50 am-11:10 am
- Schwatka Lake

- Aug 25<sup>th</sup> 4:35 pm, 4:55 pm, 5:00 pm, 5:10 pm
- Downstream of Lewes Dam
  - Aug 26<sup>th</sup> 6:20 am-6:30 am
- Upstream of Lewes Dam
  - Aug 26<sup>th</sup> 6:40 am-6:50 am
- Mouth of the M'Clintock River
  - Aug 26<sup>th</sup> 1:05 pm-1:15 pm
- M'Clintock River downstream of Michie Creek
  - Aug 27<sup>th</sup> 3:20 am
- Michie Creek downstream of Byng Creek
  - Aug 28<sup>th</sup> 5:15 pm
- Michie Creek upstream of Byng Creek
  - Aug 28<sup>th</sup> 5:25 pm
  - Sept 3<sup>rd</sup> 1:45 am
- Michie Creek downstream of Byng Creek
  - Sept 3<sup>rd</sup> 1:55 am-Sept 4<sup>th</sup> 7:40 am

Fish 30461-VC-MHM-17: tagged Aug 28<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 28<sup>th</sup> 9:40 am-11 am
- Schwatka Lake
  - Aug 28<sup>th</sup> 3:15 pm
- Downstream of Lewes Dam
  - Aug 29<sup>th</sup> 3:30 am-3:40 am
- Upstream of Lewes Dam
  - Aug 29<sup>th</sup> 3:50 am-4:10 am
- Mouth of the M'Clintock River
  - Aug 29<sup>th</sup> 10:05 am-10:15 am
- M'Clintock River downstream of Michie Creek
  - Aug 30<sup>th</sup> 1:30 am
- Michie Creek downstream of Byng Creek
  - Aug 31<sup>st</sup> 5:30 am-5:55 am
- Michie Creek upstream of Byng Creek
  - Aug 31<sup>st</sup> 5:55 am
  - Sept 6<sup>th</sup> 6:15 pm
- Michie Creek downstream of Byng Creek
  - Sept 6<sup>th</sup> 6:20 pm
  - Sept 7<sup>th</sup> 2 am
- Michie Creek upstream of Byng Creek
  - Sept 7<sup>th</sup> 2:20 am
- Michie Creek downstream of Byng Creek
  - Sept 7<sup>th</sup> 5:20 pm
- M'Clintock River upstream of Michie Creek



- Sept 8<sup>th</sup> 12:30 pm, 4:05 pm
- M'Clintock River downstream of Michie Creek
  - Aug 8<sup>th</sup> 4:30 pm
- Mouth of the M'Clintock River
  - Aug 9<sup>th</sup> 2:45 am-3:10 am
- Upstream of Lewes Dam
  - Sept 9<sup>th</sup> 9:10 am
- Downstream of Lewes Dam
  - Sept 9<sup>th</sup> 9:20 am-9:30 am
- Wolf Creek
  - Sept 9<sup>th</sup> 4:30 pm
  - Sept 10<sup>th</sup> 7:40 pm-Sept 19<sup>th</sup> 7 am (Detections became sparser near the end, but still consistent; fish appears to have died near the receiver)

Fish 30469-VC-MHM-17: tagged Aug 29<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 29<sup>th</sup> 9:30 am-11:20 am
- Schwatka Lake
  - Aug 29<sup>th</sup> 12:50 pm-1 pm
- Downstream of Lewes Dam
  - Aug 30<sup>th</sup> 3:30 am-3:50 am
- Upstream of Lewes Dam
  - Aug 30<sup>th</sup> 4 am-4:25 am
- M'Clintock River downstream of Michie Creek
  - Aug 31<sup>st</sup> 5:35 am

Fish 30470-VC-MWF-17: tagged Aug 29<sup>th</sup>

- Whitehorse Rapids Fishladder Viewing Chamber
  - Aug 29<sup>th</sup> 9:30 am, 12:05 pm-12:15 pm
- Schwatka Lake
  - Aug 29<sup>th</sup> 2:25 pm
- Downstream of Lewes Dam
  - Aug 30<sup>th</sup> 2:05 am
- Upstream of Lewes Dam
  - Aug 30<sup>th</sup> 2:25 am
- Mouth of the M'Clintock River
  - Aug 30<sup>th</sup> 8:15 am-8:20 am
- M'Clintock River downstream of Michie Creek
  - Aug 30<sup>th</sup> 10:20 pm

