State of Alaska
Department of Fish and Game
Habitat and Restoration Division

Nomination for Waters
Important to Anadromous Fish

Region: Int

USGS Quad: Iditarod C-2

Anadromous Water Catalog Number of Waterway: 335-30-16600-2255-3098-4040

Name of Waterway: Lincoln Creek

☑ USGS Name ☐ Local Name

☑ Addition ☐ Deletion ☐ Correction ☐ Backup Information

For Office Use

Nomination #	01 002	GCLLT	6/21/01
Revision Year:	2001	Regional Supervisor	Date
Revision to: Atlas ____ Catalog ____			6/6/01
Both X		AWC Project Biologist	Date
Revision Code:	A-2 A-5		7/26/01
		Drafted	Date

Arc# = 1362

OBSERVATION INFORMATION

Species	Date(s) Observed	Spawning	Rearing	Present	Anadromous
Coho Salmon	9/17/00			✓	☑
					☐
					☐
					☐
					☐

IMPORTANT: Provide all supporting documentation that this water body is important for the spawning, rearing or migration of anadromous fish, including: number of fish and life stages observed; sampling methods, sampling duration and area sampled; copies of field notes; etc. Attach a copy of a map showing location of mouth and observed upper extent of each species, as well as other information such as: specific stream reaches observed as spawning or rearing habitat; locations, types, and heights of any barriers; etc.

Comments: Aerial Survey, 9/17/00, 57 adult coho salmon observed (all in lower 2 mile stretch).

ALASKA DEPT. OF FISH & GAME
JAN 23 2001
REGION II
HABITAT AND RESTORATION DIVISION

Name of Observer (please print): Corey Schwanke

Signature: Corey Schwanke

Date: ~~9/3/00~~ 12/26/00

Address: 17428 Toakoana Way
Eagle River, AK 99577

This certifies that in my best professional judgment and belief the above information is evidence that this waterbody should be included in or deleted from the Catalog of Waters Important for Spawning, Rearing or Migration of Anadromous Fishes per AS 16.05.870.

Signature of Area Biologist: Douglas B Molyneaux

Revision 3/97

Appendix ?. Aerial survey notes

Aerial Survey Notes

Chum and Chinook

Corey Schwanke (ADF&G)-observer
Larry Nicholson (Gull Cape Air)-pilot
PA-18 Piper Super Cub

July 25. We left Takotna at 10:30 am with partly cloudy skies. We flew straight to the headwaters of Big Waldren Fork (62° 23 N, 156° 35 W) and flew down to the confluence with the Takotna River (63° 30 N, 156° 35 W). The water was brownish in color and difficult to see in. Spawning habitat was present throughout this section but little was concluded on the presence of salmon due to unfavorable water conditions. None were seen from the air.

Next we flew to the headwaters of Moore Creek, an upper tributary of the Takotna River. There was old mining activity in the headwaters of Moore Creek that changed the anatomy of the upper river (airstrip at mine-62° 36.21 N, 157° 08.35)(17 nautical miles from mouth)). For about a two mile stretch the river was basically a series man made gravel pits. Immediately below the mining activity spawning habitat seemed abundant and looked good throughout the tributary. The water was clear and survey conditions were rated as good but no fish were observed. Flew all the way to the mouth (62° 32.30 N, 156° 47.50 W). It is our opinion that if fish were present, some would have been seen.

We then flew the Little Waldren Fork from its headwaters to the end at the confluence with Big Waldren Fork (62° 32.30 N, 156° 47.50 N). This fork also had good salmon spawning habitat in it. The water had a slight brown stain to it but the bottom was visible in most stretches. No fish were seen and it is our opinion that if they were present, a few would have been spotted.

We then continued on down the mainstem of the Takotna to Minnie Creek. This stretch was marginal for spotting fish and none were seen, although there was plenty of spawning habitat. Minnie Creek was too small to survey (62° 41.25 N, 156° 32.00 W). It was not wide and had tall trees obscuring the bottom. We then flew to Bonnie Creek (62° 42.50 N, 156° 31.00 W). This creek was slightly larger but visibility was limited to glimpses. No fish were seen in it.

We then took a lunch break and flew to the mouth of Fourth-of-July Creek (62° 49.71 N, 156° 19.88 W). This river had clear water but had marginal visibility due to all the meanders and bank cover. From the mouth up to GPS coordinates 62° 43.81 N and 156° 44.97 W, 29 chinook salmon and 12 chum salmon were observed. It is believed this was only a small percentage of what was actually in the river, especially with chums that were

difficult to spot. Most of these fish appeared to be actively spawning. We did survey approximately five miles above where we saw the last fish and no more were observed. Most fish were seen in the middle stretch of the river. Lincoln Creek (62° 44.97 N, 156° 49.20W), a small tributary of Fourth-of-July Creek, was also surveyed but no fish were seen despite good visibility.

Last, we flew Big Creek (62° 50.72 N, 156° 19.74 W). This creek was small and difficult to see in. The water was clear but bank cover was unfavorable. No fish were seen. It is our opinion that if there were fish here in small numbers, we would not of been able to see them.

July 26. We departed Takotna at 11:20 am headed for the Nixon Fork drainage. The sky was cloudy and winds were calm. We flew straight to the mouth of the Nixon Fork (63° 02 N, 155° 40 W). The water was too dark and deep to see in so we flew a straight line upriver to the west bank tributary of John Reek Creek (63° 08 N, 155° 46 W). This river was about 10 miles long. The lower five miles had a muddy bottom with high banks and a lot of trees obscuring our view. About half way up the river conditions improved and a little gravel became visible. The upper third of the river had fair spawning habitat and was fair to survey. No fish were seen.

We then flew to the tributary Broken Snowshoe Creek next (63° 11.56 N, 155° 35.76 W). The anatomy of this creek was similar to that of John Reek Creek and once again, no fish were observed.

The mainstem of the Nixon Fork was still had unfavorable survey conditions at this point so we headed for the West Fork (63° 15 N, 155° 22 W). We arrived at the West Fork at 12:00 pm. Conditions for surveying started out poor at the mouth but improved to good as the water cleared up. We surveyed nine nautical miles of river. Spawning habitat was abundant throughout the river. One chum salmon was observed about ¼ of the way up. The chum salmon was observed swimming near the surface. Chum salmon were virtually impossible to observe giving the water conditions. It is our opinion that if there were many chinook salmon in the fork, some would have been observed.

Wabash and Washington Creek were flown over next. Both of these were not surveyed due to a dark stain in the water. Beaver activity was present in both of these rivers.

Next, we flew to the headwaters of the Nixon Fork. We started at GPS coordinates 63° 26 N and 154° 30 W. We flew from this point down 15 nautical miles till survey conditions deteriorated. This stretch of river was clear and had good to excellent survey conditions. Lots of gravel riffles were present and it looked like good spawning habitat. The tributary Cottonwood Creek (63° 23.24 N, 154° 37.22 W) also had good survey conditions and spawning habitat present. The observer believes if chinook and chum salmon were present in this stretch, they would have been observed. No salmon were observed.

We then flew to McGrath to refuel. We arrived there at 2:10 pm and departed at 3:10 pm headed for the Pitka Fork of the Middle Fork Kuskokwim River. The Salmon River of the Pitka Fork (62° 53.30 N, 154° 34.20 W) is the only river indexed in the Kuskokwim Aerial Stream Observation Catalog so it was flown concentrating on total escapement counts. River conditions were excellent for surveying. Most fish were on or around redds but some were still schooled up. The biggest school had 35 chinook in it and the next largest was 26 fish. A total of 374 chinook salmon were observed.
After flying the Salmon River we decided to fly up the Pitka Fork. We flew a straight line to a point 12 nautical miles above the confluence. We then surveyed the river down to the confluence. Spawning habitat was abundant all the way down to a point three nautical miles from the mouth. We observed 151 chinook salmon in this stretch, some of which may have been in Sullivan Creek. The survey ended at 4:45 pm.

July 27. Today the skies were partly cloudy and the wind was from the east at 5 mph. We decided to fly to Telida and then survey Highpower Creek (63° 24 N, 153° 12W). We arrived in Telida around 11:30 am and were met by Steve Aluska. He and his parents were the only residents of Telida. We asked him for any information on salmon in the area. He pretty much said they do not fish up there because the fish were so few. We departed Telida with the intention of seeing if salmon were present in Highpower Creek and if the lower river was suitable for a weir. We flew straight to the mouth and surveyed it up. The water was muddy and so was the bottom. There was a giant logjam (63° 27 N, 153° 08 W) that was approximately 50 yards long and consisted of hundreds of trees. Water was being diverted around the jam through the trees. Under low water conditions this may be impassable by fish. We continued on up Highpower Creek and found two smaller logjams above the first. We continued on to the east bank tributary of Fish Creek (63° 55.00 N, 153° 40.25 W). We flew 12 nautical miles up this creek to its headwaters. Visibility was good and the water was clear in the headwaters. Conditions changed as we descended the river but remained good for the majority of the river. Gravel was abundant and spawning habitat looked good. No fish were seen.

We checked out Deep Creek (63° 28.90 N, 152° 50.25 W) next. It was not surveyed due to its small size and bank cover. Lonestar Creek (63° 29.50 N, 152° 47.25 W) had the same conditions and was not surveyed. Conditions in the mainstem improved as gravel started showing up about five miles above Lonestar Creek. There were three logjams within a five-mile stretch above Lonestar Creek. All may have impeded the travel of fish but no fish were observed behind them. From a point 7 to 17 miles above Lonestar Creek stream conditions became excellent to survey. Clear water with lots of light colored gravel made visibility good. Some stretches had discontinuous gravel and mud with fair survey conditions but most of it was excellent to see in. No fish were observed. We ended the survey at 1:40 pm. From our highest point on Highpower Creek we were 105 nautical miles from McGrath.

We flew back to Telida and put in the 10 extra gallons. We left Telida at 2:45 and headed for Telidaside Creek, a tributary of the Slow Fork (63° 16.80 N, 153° 25.70 W). This creek was small, had dark water and high trees obscuring the view, virtually impossible to survey.

We then flew over the Slow Fork by Grayling Hill. This creek had a brown stain to it but it was our opinion some fish would be visible (if any present) when we flew it. We flew it from Grayling Hill to a point 17 nautical miles above the mouth (63° 17.75 N, 153° 34.00 W). There was gravel present and the habitat for rearing and spawning looked good. The survey ended at 3:11 pm and no fish were seen. We started to smell exhaust in the fuselage so we decided to fly to Takotna and see what was wrong.

July 28. Had to have an exhaust leak welded on the plane's manifold. Left Takotna at 2:00 pm under a broken ceiling at 1,500 ft and a continuous ceiling at 4,000 feet. Today was primarily a clean up day with the plan of surveying a few creeks that were missed earlier in the week. We flew straight for Sheep Creek, a tributary of the Pitka Fork that was missed earlier in the week. The mouth coordinates were 62° 45.50 N and 154° 22.00 W. Nice little tributary with good visibility and habitat. No fish were observed.

We then flew to the Big Salmon Fork, a tributary of the Tonzona. This river was extremely turbid and was impossible to survey. While flying to this creek I noticed a nice clear little tributary that flows into the lower end of the Little Tonzona (62° 57.74 N and 154° 06.60) and parallels the South Fork. We flew this river about seven nautical miles and observed 14 spawning chinook salmon in it. It is the observer's belief that this is a fairly accurate count of the population since the creek was crystal clear and excellent to see in.

We then flew to Clear Creek (62° 57.10 N and 153° 58.10 W), a tributary of the Tonzona. This was just a small creek, too small to observe fish in and probably too small for salmon to spawn in.

We then flew over to the mouth of Jones Creek. Jones Creek flows into the mouth of the East Fork Kuskokwim at 63° 04.25 N and 154° 03.50 W. This river had moderate spawning habitat and was marginal for surveying. The tributary forked by Moose Hill. We surveyed an eight nautical mile stretch of the northern fork. There were discontinuous gravel stretches separated by long stretches of muddy bottom. The water was stained brown which may have been from recent rains. No fish were observed and it is our opinion that if salmon were present, a proportion of them would have been observed. The southern fork was unsurveyable due to its small size and bank cover. We ended the survey at 4:00 pm. We landed in Nikolai to stretch and met Nick Alexia (advisory committee member) and Roger Jenkins (town Mayor). They were interested in our results. They told us that the clear water stream that flows into the Little Tonzona is simply called the Little Tonzona. They were of little help in pointing us towards fish. Left Nikolai at 5:25 pm headed for McGrath to buy fuel.

July 29. Overcast, ceiling at 4,000 ft, winds calm. Left Takotna at 10:22 am headed for Lime Village (100 nautical miles). We landed in Lime Village at 11:55 am and put in 10 gallons of gas and departed for the mouth of Stink Creek. We arrived at the mouth of Stink Creek around 12:30 pm (61° 30.30 N, 156° 07.50 W). The water was dark brown at the mouth so we decided to fly a straight line up it to see if the water cleared up. We

flew all the way to a lake at the headwaters and it never cleared up well enough to see in. We ended survey at 12:55 pm.

We headed for Can Creek next. Arrived at the mouth (61° 16.00 N, 155° 01.00 W) and immediately saw some chum salmon. The water had a slight brownish stain to it. Bank cover was moderate. From the mouth to a point eight nautical miles up the creek, 307 chum salmon and nine chinook salmon were observed. It is our opinion that these counts were close to what was actually in the river. All fish were in the lower third of the river. Ended survey at 1:46 and headed for Telaquana Lake. Telaquana Lake was in a rainstorm so we decided to wait till tomorrow and hope for better conditions. Flew on to Port Alsworth to buy fuel.

July 30. We departed Lake Clark at 10:16 heading for Telaquana Lake. We had talked to a resident of Lake Clark who had flown the entire shore of Lake Telaquana five days earlier and seen no fish. We arrived at the lake at 10:45 pm and immediately saw a mass of sockeye salmon at the outlet. We bypassed these fish and started around the lake. Few fish had entered the lake. A total of 80 sockeye were seen in the lake (all by inlet and outlet). We estimated 5,500 to be in the river at the outlet. We flew a five nautical mile stretch of the river below the lake and counted 10 chinook salmon and a school of five sockeye salmon. We ended the survey around 12:30 pm and headed back to Takotna.

Notes: Larry Nicholson was an excellent aerial survey pilot. Larry had hundreds of hours of previous aerial survey time and his knowledge was very insightful. He helped out the observer in many ways beyond positioning the plane to view fish.

Coho and Late Spawning Chum

Corey Schwanke (ADF&G)-observer
Jim Ellis (Enterprise Flying)-pilot
PA-18 Piper Super Cub

September 17. Left Takotna at 10:25 am under clear skies with an east wind at 5 mph. Arrived at the confluence of Big Waldren Fork at 10:50 am. We decided to fly a straight line to the headwaters and survey down. Water conditions were poor and no fish were seen. The water was just too dark to see in, especially in the middle to lower stretches. We ended survey at 11:05 am.

We then flew to the headwaters of Moore Creek. We landed at the airstrip for a short break and departed at 11:35 am. Conditions were good with lots of spawning and rearing habitat and water visibility was good. No fish were observed.

We surveyed the Little Waldren Fork next. With poor to good visibility no fish were observed. We then continued on down the mainstem to a point about five miles above Big Waldren Fork where visibility became poor. No fish were seen in this stretch.

Ended this part of the survey at 12:30 pm. We then flew to Minnie Creek which was too small to survey.

We flew to Bonnie Creek next and decided to survey it. We flew about a six-mile stretch but could only see in about 10% of the river due to bank cover, water clarity and meanders. No fish were seen.

Headed for Fourth-of-July Creek next. Started survey at 12:53 pm with clear water conditions. The pilot had problems flying all the bends and circling back was too time consumptive so some of the river (<20%) was missed. In the mainstem, 215 coho salmon were observed and in the tributary Lincoln Creek another 57 were seen. Most of the fish seen in the mainstem were in a five-mile stretch below Lincoln Creek. Conditions were tough (meanders and bank cover) and these numbers were probably not representative of what was actually in the river. A couple large schools were seen (as big as 50) but most fish were seen in groups of less than ten. Ended survey at 2:00 pm.

We headed to Big Creek next. This river was even more difficult to fly and see in than Fourth-of July-Creek. Seven coho were spotted and many more were probably present. We then flew to Takotna for a lunch break.

We departed Takotna at 3:00 pm headed for the Nixon Fork of the Takotna River. We flew straight to John Reek Creek and arrived there at 3:15 pm. River conditions were the same as they were during the chinook survey and no fish were seen. The same held true for Ivy Creek, which we flew next.

We flew the West Fork Nixon Fork next. We flew this from the mouth up to the Sunshine Mountains where the creek originates. A total of 35 coho salmon were observed under fair to good survey conditions. Most were seen in the middle to upper third of the river. We ended this survey at 4:17 pm and headed for the headwaters of the Nixon Fork.

We surveyed the Nixon Fork from a point at its headwaters down to 63° 15.95 N and 154° 55.53 W (conditions deterioated). This stretch was about 10 nautical miles long and had good survey conditions. The water was clear, the gravel was light colored and bank cover was minimal. Twelve coho were observed in this stretch (middle) and one coho was observed in the tributary Cottonwood Creek. We ended the survey at 5:40 pm and headed back to McGrath and then to Takotna.

Notes: Jim Ellis had limited aerial survey experience and it showed. The plane had full fuel tanks that limited maneuverability for the first half of the day. His flying became better the second half of the day due to him becoming familiar with what it takes to survey a river and the fuel tanks becoming lighter.

Corey Schwanke (ADF&G)-observer
Paul Ladegard (United States Fish and Wildlife Service)-pilot
Cessna 185-floats

September 29. Took off from McGrath at 11:30 am headed for the South Fork Kuskokwim. Skies were overcast with winds from the east at 5 mph. We intersected the South Fork at Farewell and decided to fly the east bank up and come back down on the west bank. While flying up the east bank, salmon were observed in several places. The first place was at 62° 27.55 N and 153° 28.44 W (12 coho). Upriver about a mile at 62° 26.70 N and 153° 29.08 another 15 coho were spotted. At 62° 20.58 N and 153° 25.69 W ten more coho were spotted. In another side slough at 62° 18.70 N and 153° 22.58 W, 50 chum and 10 coho were observed. All of these fish were observed in clear side sloughs of the South Fork of the Kuskokwim. We continued on to Rohn (in hindsight we should of went further upriver looking for more fish) and turned around to fly the west bank back. There was a nice long (couple of miles) clear side slough at 62° 30.43 N and 153° 31.93 W. We observed approximately 100 coho salmon in it. Also on the west bank at 62° 30.62 N and 153° 32.55 W we observed about 50 coho salmon.

We then flew up Jones Creek (62° 34.15 N/153° 33.30W). Survey conditions were good and 34 coho salmon were observed in it. The water had a greenish hue to it but the fish were easily seen. Only a four-mile stretch was surveyed because the river became steep and full of boulders (not good for salmon or surveying). Just below Jones Creek at 62° 37.32 N and 153° 41.17 W, five coho were spotted in a small east bank side slough. From this point on down we flew the center of the South Fork looking for clear adjacent sloughs/side channels to survey. At 62° 53 N and 154° 04 W about 300 coho and 50 chum were observed. These were in a three-mile long crystal clear side slough on the west bank. We actually flew this twice double-checking the identification and it was accurate the first time.

We continued on down the South Fork till we hit the mouth of the Little Tonzona. From there we flew to the mouth of the unnamed tributary at the coordinates 62 58.01 N and 154 07.70 (same one surveyed for chinook salmon). We surveyed this up to 62° 53.75 N to 153° 56.54 W. This river was excellent to survey and 900 coho salmon were observed. Most fish were still aggregated in schools approaching 100 fish in the deeper pools. A few were actively spawning. We then flew to a smaller, similar in appearance, clear water tributary off of the mainstem of the South Fork located at 62° 57.83 N and 154° 11.95 W. No fish were observed in it.

We then flew on down the South Fork of the Kuskokwim till we hit Nikolai. We then ended the survey and headed back to McGrath.

Notes: The 185 is a marginal plane for flying surveys in the upper Kuskokwim. It was sufficient for flying the side sloughs of the South Fork. In the future, I would not recommend it for flying meandering tributaries.

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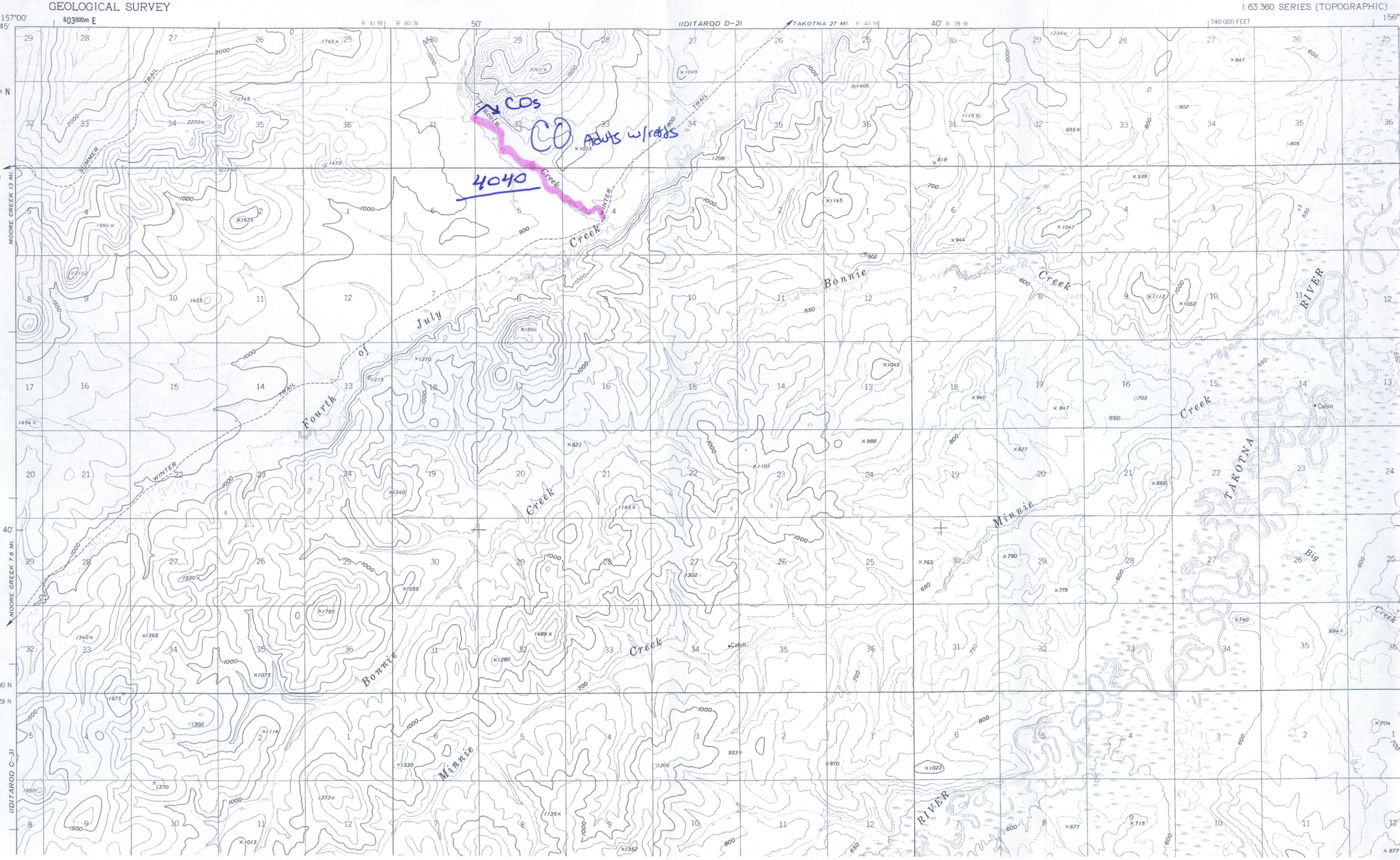
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