



State of Alaska
Department of Fish and Game
Sportfish Division

Nomination Form
Anadromous Waters Catalog

W/E

Region Southeastern USGS Quad(s) Juneau B-5

Anadromous Waters Catalog Number of Waterway 114-80-10500

Name of Waterway Cabin Creek USGS Name Local Name

Addition Deletion Correction Backup Information

For Office Use

| | | |
|--------------------------------|----------------------------|-----------------|
| Nomination # <u>13-626</u> | <u>[Signature]</u> | <u>10/29/13</u> |
| | Fisheries Scientist | Date |
| Revision Year: <u>2014</u> | <u>[Signature]</u> | <u>10/29/13</u> |
| | Habitat Operations Manager | Date |
| Revision to: Atlas _____ | <u>[Signature]</u> | <u>10/14/13</u> |
| Both <u>X</u> | AWC Project Biologist | Date |
| Revision Code: <u>E-9, D-1</u> | <u>[Signature]</u> | <u>11/26/13</u> |
| | Cartographer | Date |

OBSERVATION INFORMATION

| Species | Date(s) Observed | Spawning | Rearing | Present | Anadromous |
|---------|---------------------------------------|----------|---------|---------|------------|
| | <u>Shoater stream and old barrier</u> | | | | |
| | <u>Change local name</u> | | | | |
| | | | | | |
| | | | | | |

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:
A falls complex with several 30 foot drops exists at the upper reach location denoted above and no fish are present above this barrier. The reach upstream of this point in the AWC should be deleted. The most commonly used local name is Duncan's Creek, not Cabin Creek. Trip report attached.
Coordinates (Lat,Long): Upper(135.41599,-58.38194) Lower(135.42494,-58.38027)
874

Name of Observer (please print): Greg Albrecht
Signature: 146.63.61.200 (Web Nomination) Date: 09/30/2013
Agency: _____
Address: PO Box 110024
Juneau, AK 99811

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 Anadromous Waters Catalog.
Signature of Area Biologist: _____ Date: _____ Revision 02/08
Name of Area Biologist (please print): _____

MEMORANDUM

State of Alaska
Department of Fish and Game
Division of Habitat

TO: Jackie Timothy
Southeast Region Supervisor

DATE: 9/16/2013

THRU:

SUBJECT: Duncan's Creek hydroelectric
Survey Trip Report
7/30/2013

FROM: Greg Albrecht 
Habitat Biologist

PHONE NO: (907) 465-6384

On July 30th I traveled to Doc Warner's Alaska Fishing Lodge with Matt Kern (Habitat Biologist) to survey Duncan's Creek (ADF&G Stream no. 114-80-10500; chum and pink salmon present; also Cabin Creek) where a run of the river hydroelectric facility is proposed. Mark Warner (applicant) picked us up at the cannery in his skiff and brought us to the site. He described his proposal to build a run of the river hydro capable of producing ~960 kW of energy for use at his lodge during the April to September operating season. He said that his facility would only require about 100 kW, but would like to pursue providing an alternative energy source for the Ocean Beauty Seafoods Cannery 2.5 miles to the north. The proposed hydro would have an 8 cubic feet per second (CFS) design flow, use ~16" HDPE penstock to deliver water to three powerhouses and return it to the stream within or above the reach accessible to anadromous fish.

We began our survey at tide water and documented adult pink salmon presence for the first 1000' (Table 1). Stream gradient and the frequency of step falls increased after the first 1000' and again at 2000' creating lower quality spawning habitat and marginal upstream fish passage conditions. A barrier to upstream migration exists about 2900' upstream (Table 1; waypoint 374). We used an electrofisher to document rearing and resident fish presence above the area where pink salmon were present and caught 15 Dolly Varden char 25-110 mm fork length. Due to steep terrain at the base of the barrier falls, we walked through the woods above the canyon and returned to the stream where gradient was <3%. We electrofished 1300' of low gradient habitat above the falls (>400' elevation) and caught zero fish, suggesting that a fish population was never established above the falls prior to Holocene glacial uplift, or that winter flows have not provide sufficient water for them to persist.

After our survey we informed the Warners that, given the high stream gradient and restricted fish abundance, we felt the stream would be a good candidate for a hydroelectric facility and that we will work with them through the design and permitting process to avoid and minimize any potential impacts to fish habitat. Currently, Duncan's creek is cataloged over 2 miles up the drainage to an elevation of 1,900' for pink and chum salmon; therefore, I will submit a correction to the *Catalog of Waters Important for the Spawning, Rearing, or Migration of Anadromous Fishes* showing access only up to the base of the barrier falls documented on this trip.

Table 1 Waypoints, survey notes and figure numbers presented in upstream order, corresponding to figure 1. All Dolly Varden char (DV) captured were between 25 and 110 mm fork length

| Waypoint | Notes | Figure # |
|----------|--|----------|
| 385 | 3 DV ~ 110 mm netted, 2-3' woody debris falls with adult pink salmon present below, no salmon observed above this point | |
| 366 | <2% gradient here, highest quality pink spawning habitat | 2 |
| 367 | 9 DV, transition from highest to lower quality spawning area just downstream of this point. 2% gradient here, marked with two pink flags | 3 |
| 368 | 3' falls with 1' jump pool, 1 DV | 4 |
| 369 | Cascade falls, 1 DV, low density spawning gravel near this point | 5 |
| 384 | Some suitable pink salmon spawning gravel upstream from here | |
| 383 | No spawning gravel from this point up to ~100' downstream of waypoint 371 | 6 |
| 371 | Step falls 2-4 feet with 1-2' jump pools, 2.5% gradient, marginal upstream pink salmon passage | 7 |
| 382 | 3.5% gradient, minimal spawning habitat, 1 DV, ~11 CFS estimated discharge | 8 |
| 373 | Large woody debris falls complex with 2-3' steps | 9 |
| 374 | Base of barrier falls, marked with pink and green flagging. 9% gradient over ~300', first half 6%, second half 12%. 30-40' vertical falls just upstream of this complex | 10 |
| 375 | Continued falls complex visible from this location off the channel | 11 |
| 376 | <3% gradient above falls, begin electrofishing effort, no fish captured upstream of this point, first evidence of surface water tributaries here. Supplemental flow through groundwater below this point | 12 |
| 377 | Tiny tributary ~garden hose, 0 fish | |
| 379 | Increased gradient and >10' falls, 0 fish, | |
| 381 | Top of survey, 0 fish. ~8 CFS discharge estimate, marked with two pink flags | |

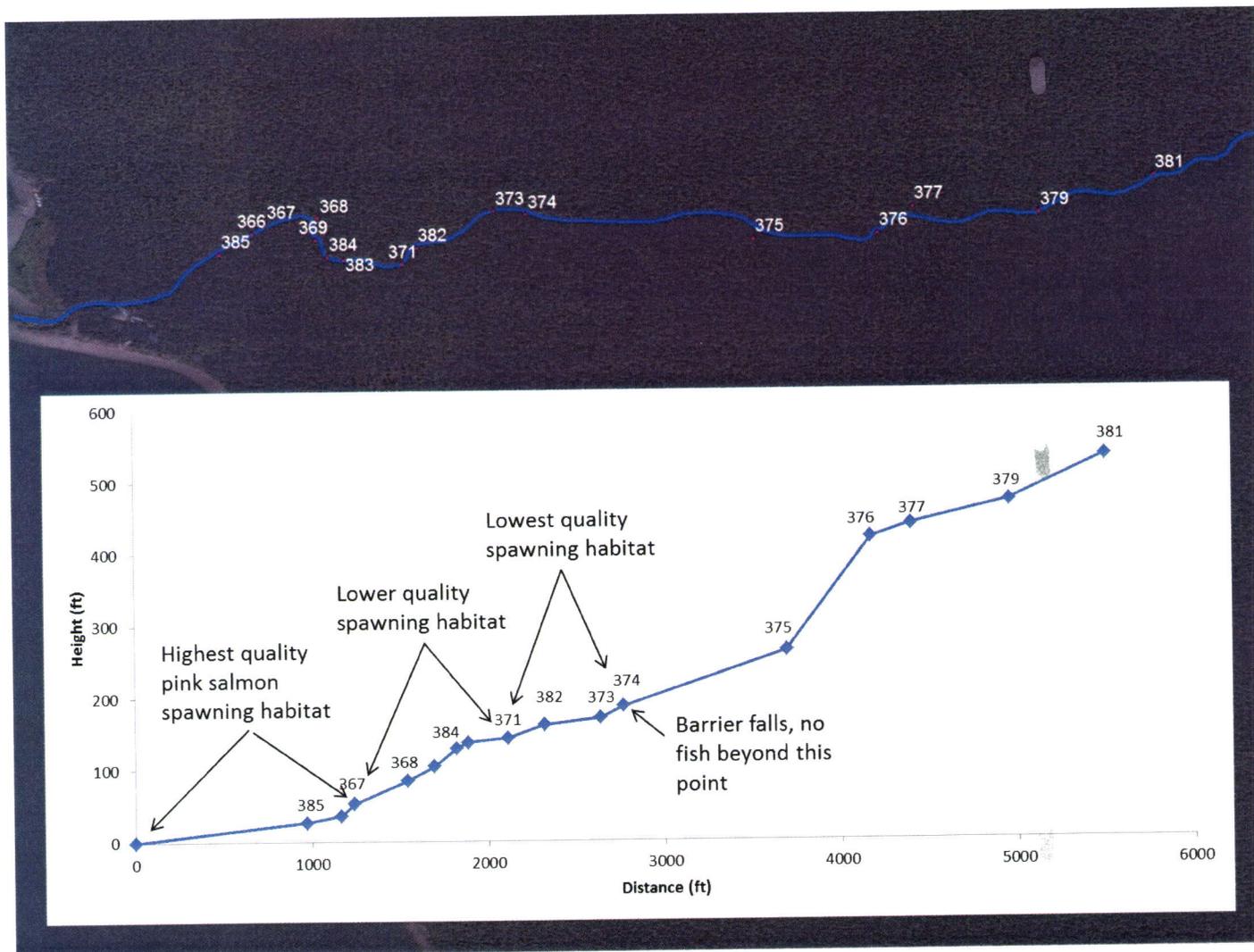


Figure 1 Area map with waypoints and elevations from GPS (accuracy +/-30').

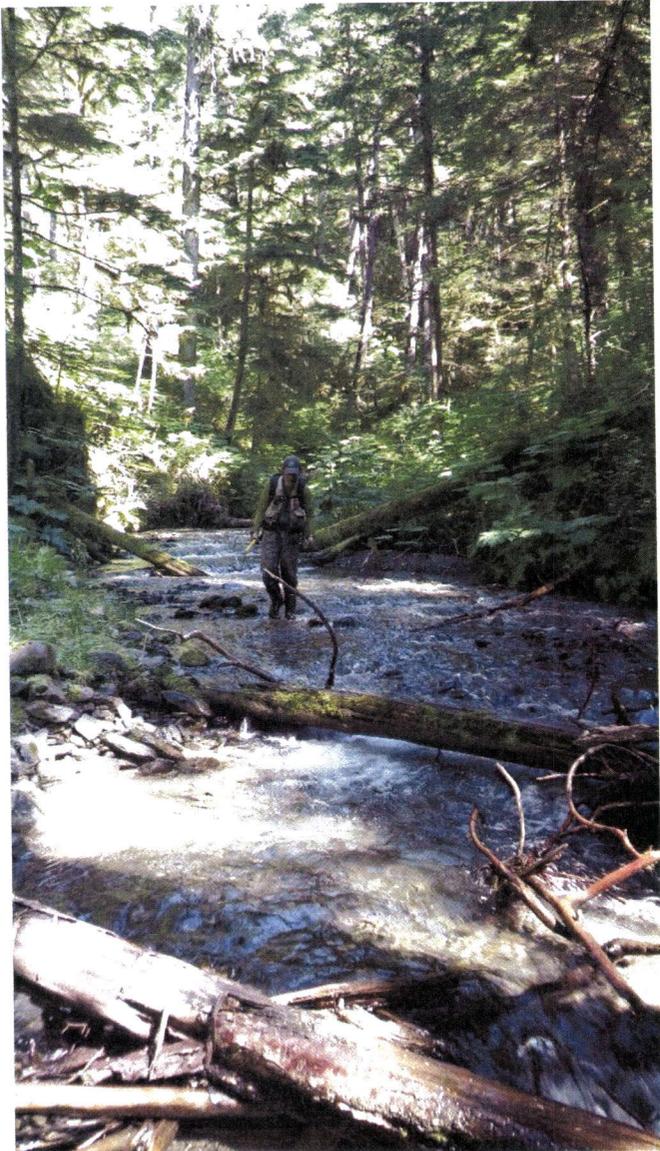


Figure 2 High quality pink salmon spawning habitat



Figure 3 Transition to higher gradient and lower quality spawning habitat



Figure 4 Several 3' falls with 1' deep jump pools

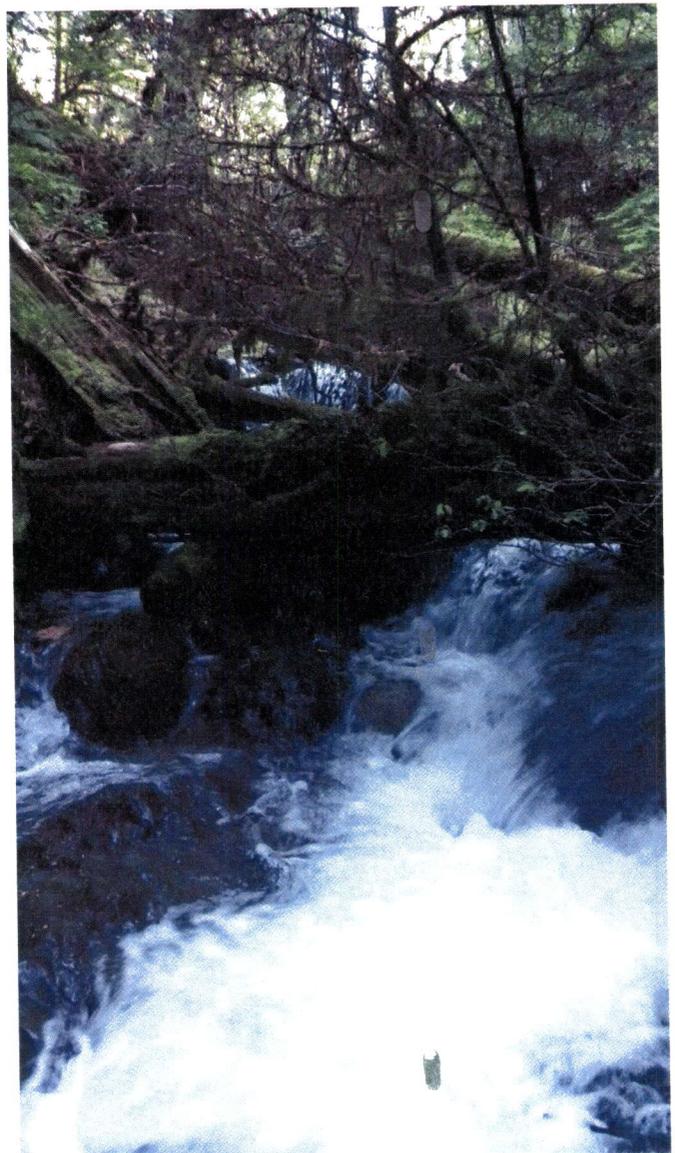


Figure 5 Cascade falls

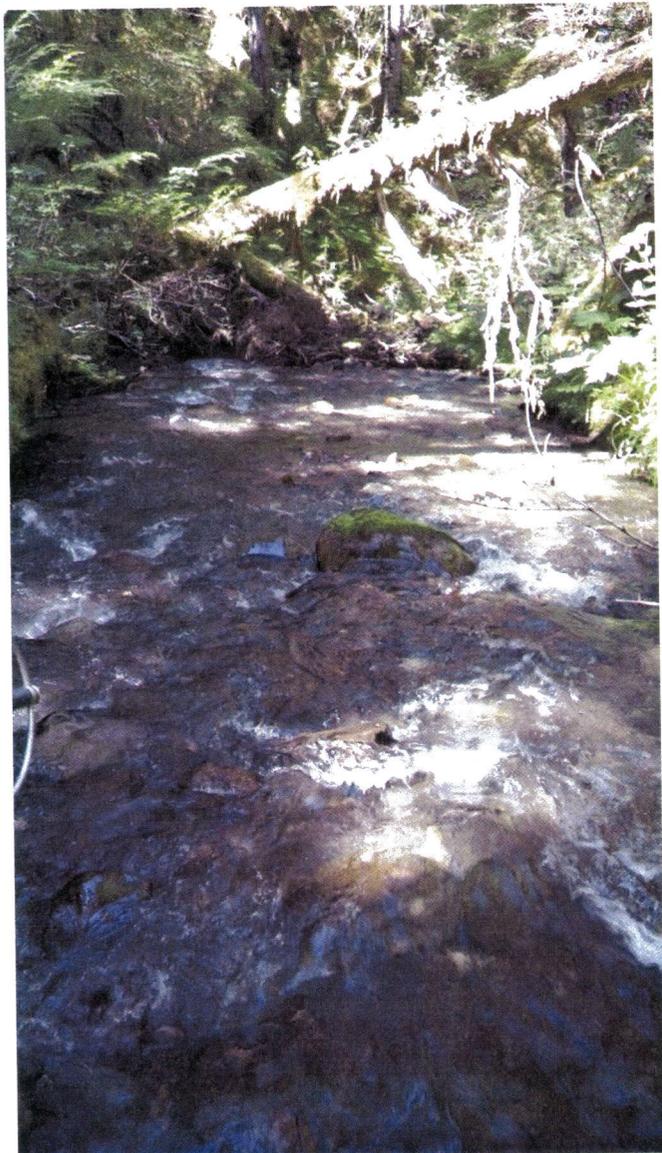


Figure 6 Cobble substrate

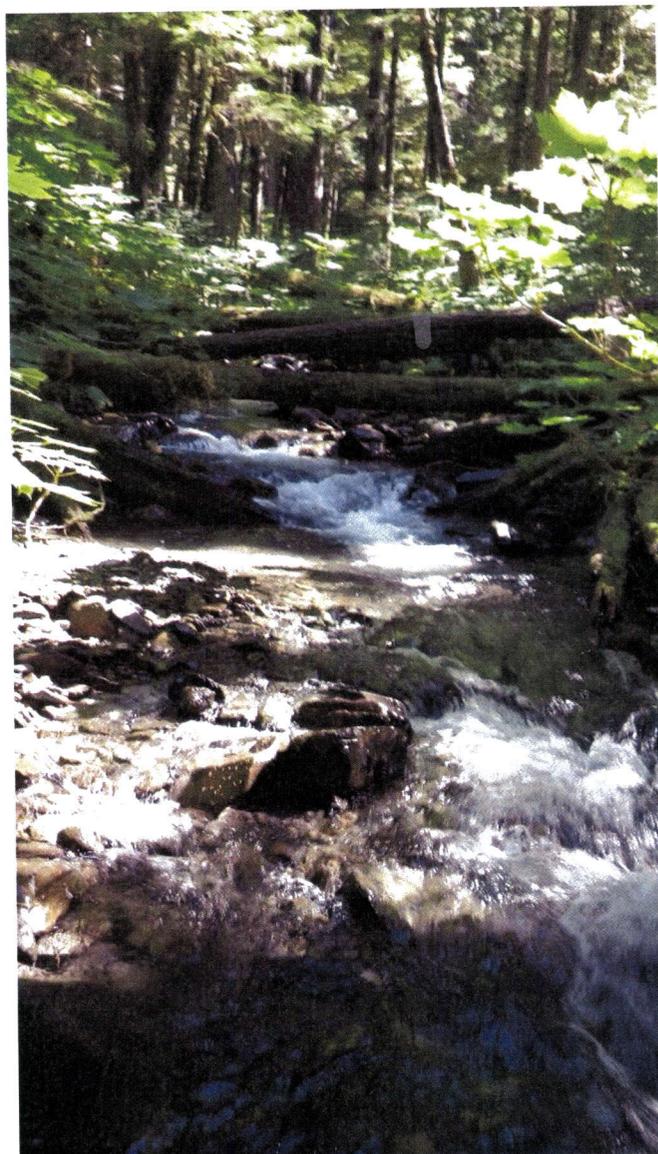


Figure 8 high gradient, lowest quality spawning habitat



Figure 7 2-4' step falls complex

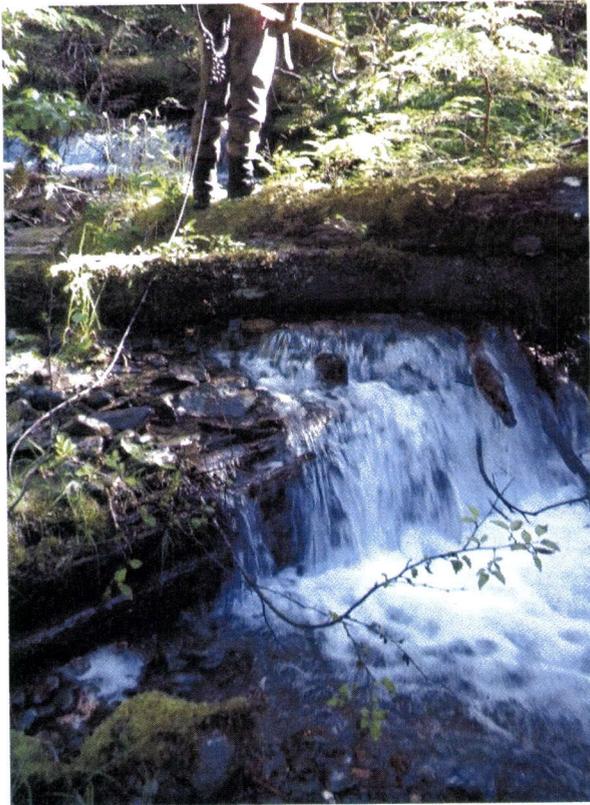


Figure 9 2-3' woody debris falls complex

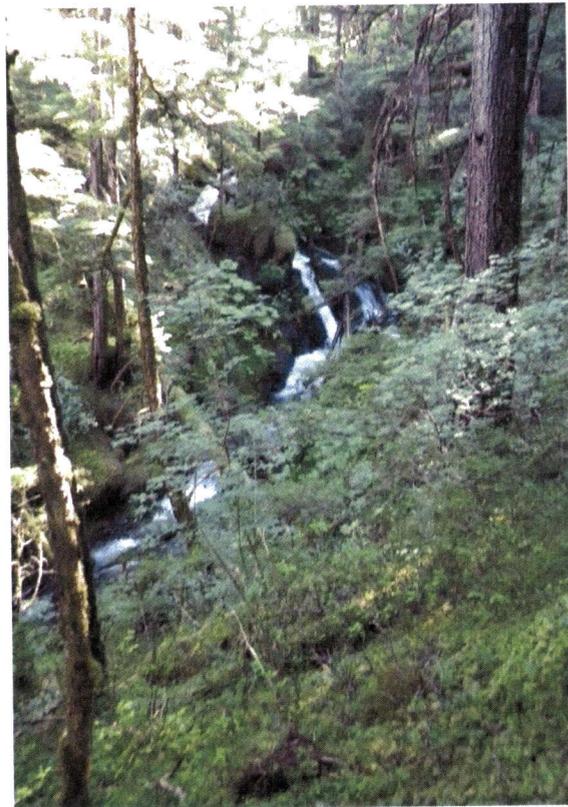


Figure 11 Barrier falls complex

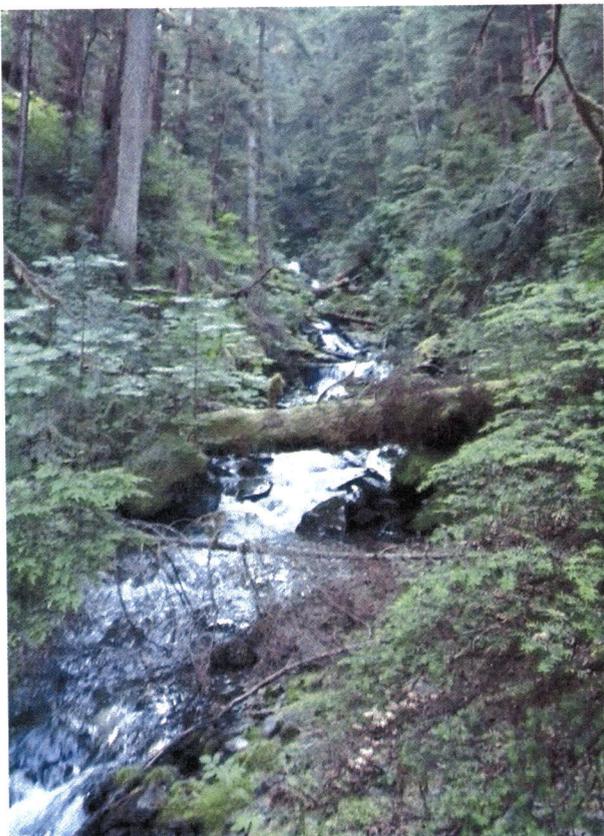


Figure 10 Base of barrier falls and anadromous fish reach

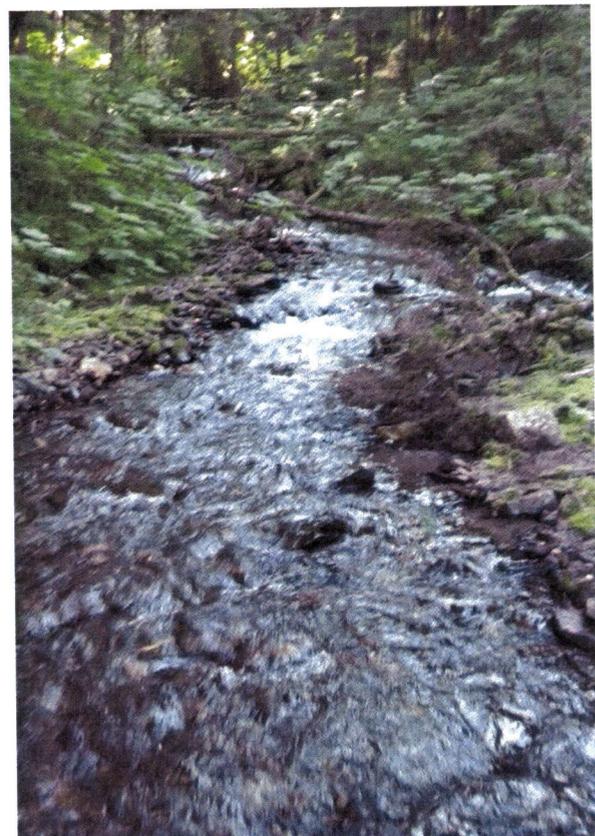
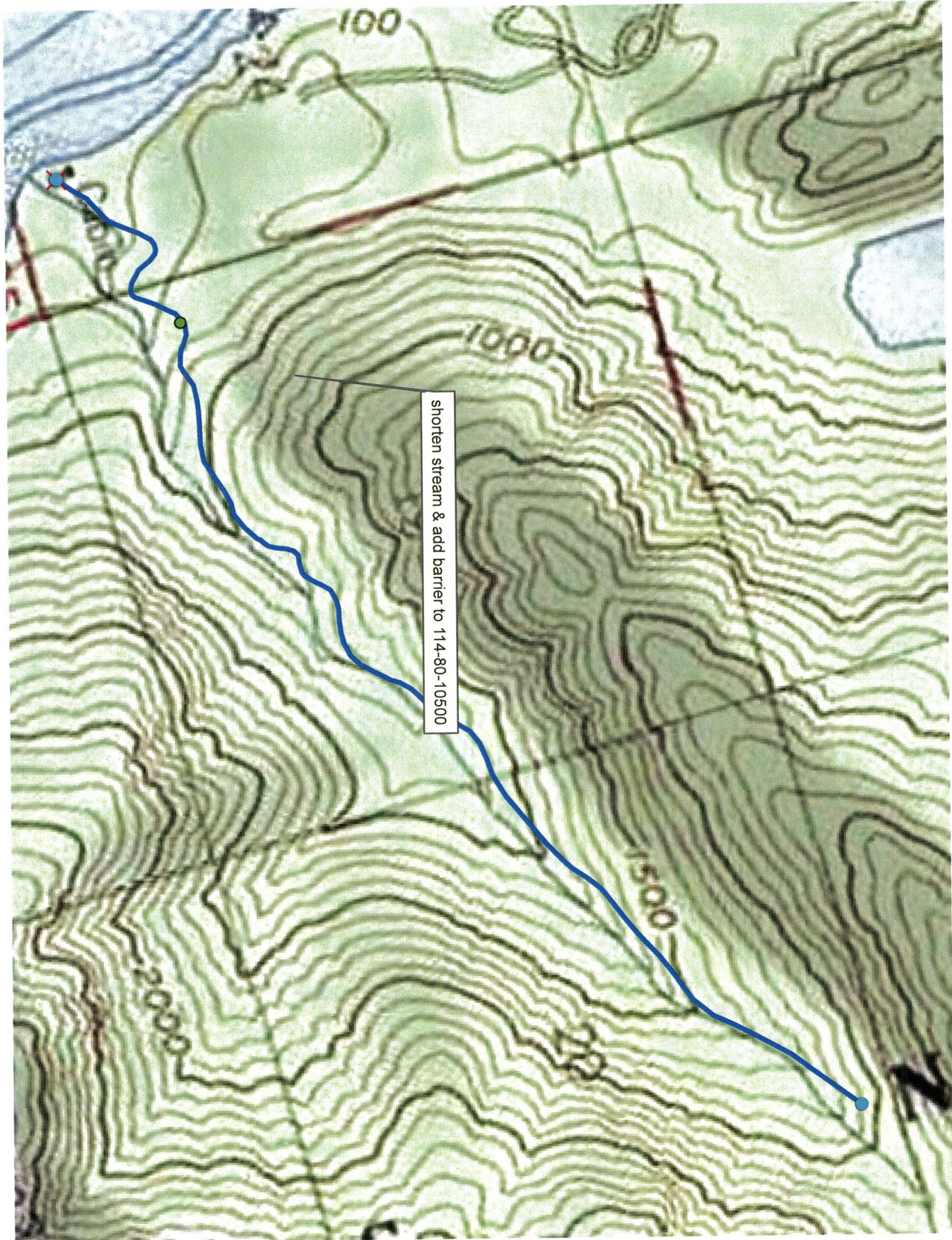


Figure 12 Lower gradient habitat with no resident fish

Duncan's Creek Hydro Survey TR
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cc:

Al Ott, ADF&G Habitat, Fairbanks
Habitat Staff, Juneau
Dan Teske, ADF&G/SF, Juneau
David Harris, ADF&G/CF, Juneau
Ryan Scott, ADF&G/WC, Juneau
Scott Ayers, ADF&G/SF, Anchorage
Steve Brockmann, USFWS, Juneau
Randy Vigil, USACE, Juneau
Clint Gundelfinger, ADNR/MLW, Juneau
Mark Warner, Excursion Inlet



shorten stream & add barrier to 114-80-10500