

MEMORANDUM**State of Alaska**

TO: Art Schmidt
Sport Fish
Sitka

DATE : June 15, 1973

FROM:

Robert T. Baade *RTB*
Sport Fish
Ketchikan

SUBJECT: Major Prince of Wales
Drainages

Some of the vital statistics and history of the five largest drainages on Prince of Wales Island are hereby listed including what past history is known to me. The proliferation of roads on Prince of Wales Island and the effects of the logging which brought the roads and access to several of the pristine drainages has been and is calamitous. The mismanagement of the fisheries has also contributed to the degradation of these watersheds. At present all are in need of environmental rehabilitation for which no plan has been formulated nor is any factor except stumpage considered in present wood harvest.

✓ Harris River

This stream discharges into 12 Mile Arm of Kasaan Bay near Hollis at N. Lat. 57°27'48" and W. Long. 132°41'54". The reference map - Craig (B-3). It drains 27.5 sq. mi. with a mean discharge of 250 c.f.s. and a nominal flow of 40 c.f.s. Flood flow may exceed 10,000 c.f.s. Presently the logging road has been upgraded for public use and leaves the drainage to go into the Klawak Lake watershed and on to Klawak and Craig. A further extension now extends to Thorne Bay, Staney Creek and northward. The whole drainage is in the Tongass National Forest. The lower 5 miles of the river has an average grade of 50 ft/mile. It is gravel bottomed throughout its length. There is good pool-riffle frequency through most of its length (10 miles). Velocity barriers exist in the headwaters and temporary jams of debris occur at the whims of high flow. Spawning area is good up to the velocity blocks in the extreme reaches. There is presently slowly recovering bank cover from complete removal by logging about 20 years ago. The watershed is typical of Southeast Alaska Island terrain being "glacial" valley and steep slopes on both sides. Fish using the system include pink, chum and silver salmon and cutthroat, steelhead, Dolly Varden and rainbow trout, stickleback and cottoids. Little fishing pressure was known on this stream before logging. The loggers and now the people of Craig and Klawak also drive to the stream. The pressure is now heavier than ever before but

*Cross-referenced
in individual streams*

still light compared to accessible waters near Anchorage. The invertebrate population suffered with logging which altered the hydrology and removed the stream cover. There has never been a heavy growth of aquatic vegetation in this stream. There is no water diversion in the system. There is no domestic pollution either but sedimentation and alluvial instability has been increased with the logging.

This stream has not benefited by the loss of ground cover, stream shelter or the road building seen there now. The clear-cut logged areas are only slowly re-vegetating and the hydrology of the river has not returned to its pristine state. Increased flood flows removed the artificial spawning channel designed to mitigate the losses caused by logging and the idea was dropped. By its proximity to the road, this stream will get a great increase in fishing pressure particularly after the ferry system starts service to Hollis.

Karta River

This stream discharges into Karta Bay which is the northern extremity of Kasaan Bay on Prince of Wales Island. The fix on the mouth is N. Lat. 55°33'30", W. Long. 132°34'18". It may be seen on Maps U.S.G.S. Craig (C-2) and (C-3). The drainage area is 49.5 sq. mi. and contains 2 major lakes, Salmon Lake 1384 acres and Karta Lake of 282 acres. They lie at elevations of 108 and 104 feet respectively. The discharge from the system ranges from over 5,000 c.f.s. in flood to 25 c.f.s. nominal low with an average of 117 c.f.s. The river will rise about 4 feet above normal flow when in flood. There is no road access into this system although the watershed is scheduled for logging in the K.P.C. sale via an access from Big Salt Lagoon near Klawak. The whole system lies within the Tongass National Forest. The stream bottom is largely new angular rock of moderate grade from the falls to salt water (8 ft/mile). Pool-riffle frequency is good. A partial barrier lies about 2 1/2 miles above the tide and denies pink and chum salmon access to the lakes. Spawning area is good, the stream hosting excellent runs of pink, chum, coho and sockeye salmon which are now much depleted. Excellent populations of the indigenous trout also use the system. Bank cover is pristine spruce-hemlock forest. The watershed is of glacial origin being mostly gentle in the bottom and steep sided to 3,000 feet at the summits. There is considerable area of cedar cover and open muskeg. The system once supported a grand sockeye run which is now much depleted. A sport fishery on the steelhead and other trout has been steadily increasing over the past 20 years and it is not unusual to find up to 15 anglers on the river of a weekend.

The system seems to be more fertile than most resulting in noticeably greater invertebrate populations including scuds. The lakes have good beds of nuphar in the shallow areas and there is enough Ceratophyllum and Vallisnaria to host a wintering trumpeter swan. There is no industrial use of the water at present or pollution as yet.

The Karta River watershed is in the K.P.C. timber sale. To log it would inflict extreme damage on the environmental balances now present and aggravate the depleted salmonid fish populations. Sport fishing is increasing which logging will not benefit.

Klawak Creek

Klawak Creek discharges into the inlet of the same name on the west side of Prince of Wales Island. The location fix of the mouth is N. Lat. 55°32'54" and W. Long. 133°2'30". The map reference is U.S.G.S. Craig (C-4) (C-3) (B-4) and (B-3). The stream originates as the outlet of Klawak Lake which spills at elevation 30 ft. and is of even grade to the tide one mile away. The cascade at the lake spill is 12 ft. high and passable to fish at all but extreme low water flows. The drainage area is 18 sq. mi. and the lake surface is 2750 acres. Flow is 30 c.f.s. nominal, 175 c.f.s. average and in excess of 10,000 in heavy runoff. The outlet stream may raise as much as 4 ft. The stream is paralleled by the road to Hollis and lies wholly within the Tongass National Forest. Stream bottom is gravel some of which is quite coarse with a scattering of boulders. There are 3 pools between the lake spill and tidewater but the connecting stretches are deep enough to harbor fish at all times. There is no barrier to migratory fish except that fish have trouble ascending the falls at the lake spill during extremely low water. Spawning area in the stream is excellent. The bank cover is spruce-hemlock forest and pristine. The watershed is typical Southeast Alaska of glacial origin and steep sided. Timber and muskeg areas end in alpine cover at 1800 ft. to the summit at over 3,000 ft. Fish using the system include pink, chum, silver and sockeye salmon, cutthroat, Dolly Varden, rainbow and steelhead trout, stickleback and cottoids. The system has supported a salmon cannery since early in the century. This has depleted the runs to a pittance of what it was in the beginning. There is some anachris and vallisnaria in the stream which winters a few trumpeter swan. There is no use of the water and no pollution except cannery and domestic in the intertidal zone.

The runs of fish in this system are greatly depleted by overfishing the salmon. A wier in the early 1930's operated by the F & W S recorded 1.5 million fish through. The count in 1969 was 67,000. The sockeye counts were 300,000 and 1,800 respectively. The system is probably one of the outstanding examples of nutrient mismanagement in Alaska.

Thorne River

Thorne River is probably the largest drainage on Prince of Wales Island and of approximately 150 sq. mi. It discharges into Thorne Bay and the fix on the mouth is N. Lat. $55^{\circ}40'50''$ and W. Long. $132^{\circ}30'45''$. The drainage is north of this fix toward the east side of Prince of Wales Island. The river is approximately 25 miles from source to mouth. Flow is 150 c.f.s. nominal, 900 c.f.s. average and in excess of 25,000 in flood. The river is paralleled by the main logging road from Thorne Bay for about 5 miles. The entire watershed lies within the Tongass National Forest. There are a number of lakes in the drainage. The gradient is mostly gradual and the stream bottom is largely gravel except where crossed by bedrock dikes. Grade is approximately 10 ft/mile. Pool-riffle distribution is excellent. Barriers to migratory fish exist only near the headwaters where grade steepens. There is excellent spawning gravel all through the system. Bank cover is largely pristine spruce-hemlock forest. The watershed is of glacial origin and steep sided. Fish hosted by the system include pink, chum, sockeye and coho salmon, cutthroat, Dolly Varden, rainbow and steelhead trout, stickleback and cottoids. This stream formerly hosted remarkable runs of salmon which have been overfished. The stream has always been known for its excellent trout fishing. Most of the sport fishing pressure exerted now is by the logging community and the Forest Service. The stream hosts all the invertebrates the nutrients will support. In the slower sections of the stream and in the lakes there is considerable nuphar, potamogeton, vallisneria and ceratophyllum. There is no use made of the water nor is there appreciable industrial or domestic pollution.

Thorne River formerly hosted great runs of salmon and trout. However, at one time there were fish traps right up to the river mouth and the leads overlapped in Thorne Bay. The river has never recovered. There was an anglers camp, the Thorne River Club, near the river mouth which was abandoned with the advent of the clear-cut logging. Presently there are many millions of board-feet of logs rafted at the river mouth and the largest logging camp in the world is discharging its raw sewage into the head of the bay.

Staney Creek

Staney Creek is probably the largest drainage on Prince of Wales Island with no extensive lake system. The mouth lies on Tuxekan Passage at N. Lat. $55^{\circ}48'20''$, W. Long. $132^{\circ}9'0''$ and it is approximately 10 miles airline from the mouth to the most distant source.

Refernce maps are U.S.G.S. Craig (C-3), (C-4), (D-3), (D-4). The watershed measures approximately 50 sq. mi. Flow is 50 c.f.s. nominal, 350 c.f.s. average and over 10,000 c.f.s. in flood. The stream may raise 5 ft. in flood. Access is now by logging road from Thorne Bay. The entire watershed lies within the Tongass National Forest. The stream bottom is mostly gravel with some areas of exposed bedrock. Gradient is 15 ft. per mile for the lower 6 miles. Pool riffle distribution is good with many pools formed behind undercut trees in the stream. There are no barriers in the mainstem until gradients steepen toward the headwaters. Spawning areas are excellent and quite extensive. Bank cover is as the loggers left it and now largely consists of broadleaf vegetation. The watershed is typical Southeast Alaska Island topography with extensive muskegs in the flatter areas and timbered steep slopes in the drainage periphery. Fish using the stream are pink, chum and coho salmon, cutthroat, Dolly Varden, steelhead and rainbow trout, stickleback and cottoids. The stream has a long history of supporting large pink, chum and coho runs as well as large trout populations. Only with the road access has the stream been heavily fished for sport and that mostly for steelhead and coho. The invertebrate population is influenced by the low flows and is not much bolstered by plankters that normally inhabit lakes. Aquatic vegetation is sparse due to fairly brisk water movement and gravel substrates. No industrial or domestic use is made of the water and pollution is minimal.

Staney Creek has long been known as a pink, chum and coho producer of considerable importance. With the advent of the logging and road access, the logging community has sport fish pressured the stream heavier than ever before with reports of large easy takes of fish. The watershed has been clear-cut very extensively and the hydrology of the system has changed.