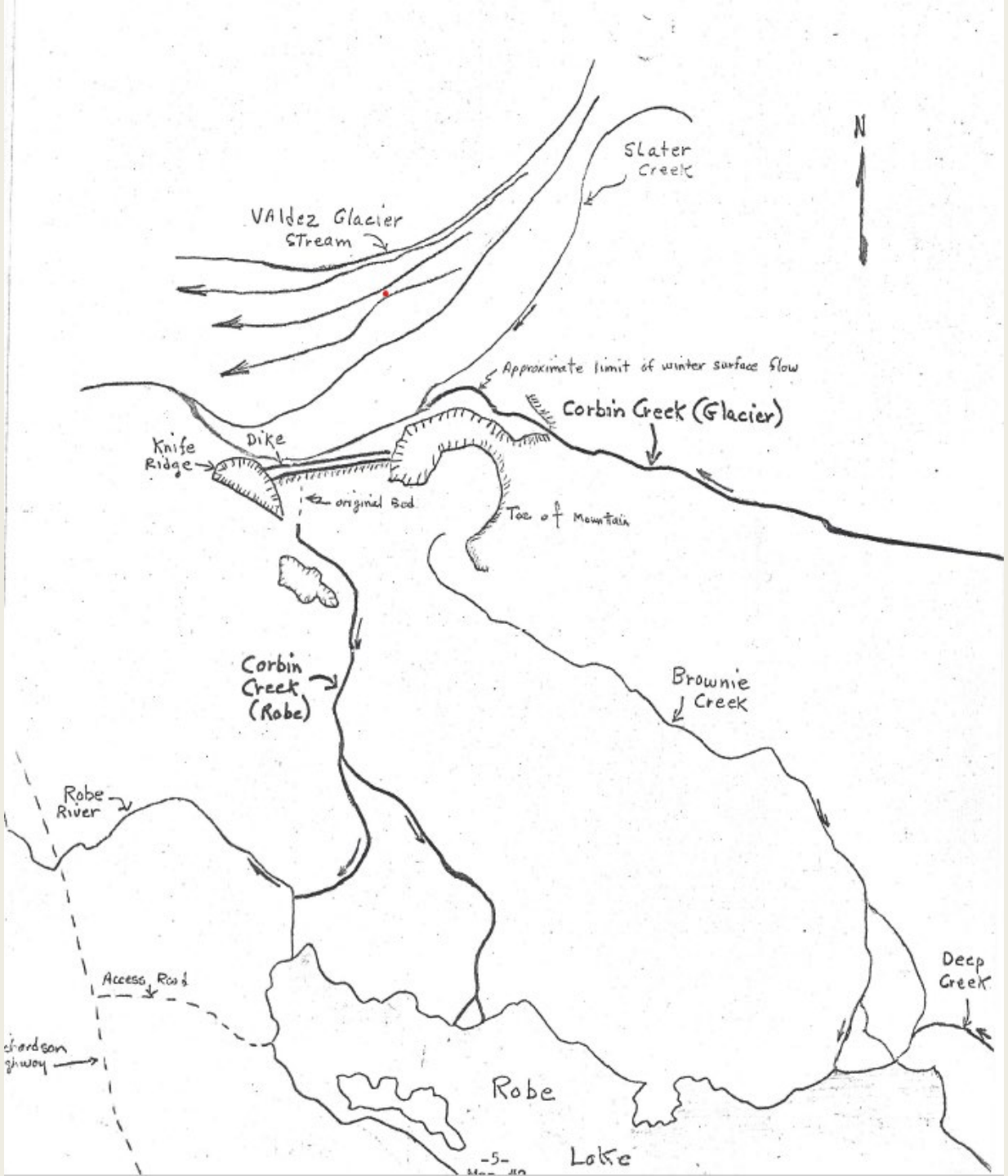
Robe Lake
Salmon Habitat Restoration Project

Revised March 2022


N
Slater Creek
Valdez Glacier Stream
Approximate limit of winter surface flow
Corbin Creek (Glacier)
Knife Ridge
Dike
original Bed
Toe of Mountain
Corbin Creek (Robe)
Brownie Creek
Robe River
Access Road
Deep Creek
Robe
Lake

Robe Lake:

Largest fresh water lake in the Port Valdez — Approx., 682 acres.

Mean depth of 10 ft/3meters — Max depth of 16ft/5meters

Three tributaries - Old Corbin creek
Brownie creek
Deep creek

Single outlet - Robe River

Corbin Creek Coho salmon is the donor stock for VFDA's sport fishery enhancement program.

Sockeye & Coho salmon stocks are important to sport fishery and other customary users.

Popular community recreational area for kayak, SUP, boating and waterfowl hunting.

Float plane landing and mooring.

Chronology of Lake Change

Prior to 1956

Valdez Glacier Stream overflow deposited into the lake via Corbin creek

Cold glacial water deposited silt preventing light from penetrating shallow depths

Aquatic vegetation kept in check

1956

City of Valdez diked main Corbin Creek flow to protect Richardson Hwy

1966

Changing lake dynamics allowed water to warm increasing growth of aquatics veg

1970

City of Valdez received EPA Clean Lakes Program grant to establish baseline data and identify methods to restore the lake

1981 to date

VFDA, ADF&G, COV conducted studies assess lake change, map stream flows and determine methods to control veg and maintain salmon habitat

Purchased a mechanical weed harvester

Manual stream restoration in 1988 to improve spawning habitat

Annual weed removal funded by COV grant

Results are diminishing

Robe Lake Project Goals

Increase water flow to Old Corbin Creek to reduce weed growth naturally

Mechanically improve existing stream channels in Old Corbin and Brownie Creek to support existing spawning and rearing habitat

Increase lake size where feasible through mechanical vegetation removal.

Current Robe Lake Efforts

Mechanical Aquatic Vegetation Removal

- Cooperative annual effort funded by VFDA and the City of Valdez
- Removing approximately 400-500 cubic yards annually
- City of Valdez funded new harvester in 2022

Habitat Analysis of Robe Lake – Completed October 2021

- Study funded by a City of Valdez Grant
- Evaluate and provide a current status update
  - Survey contemporary lake area
  - Map existing stream channels for Brownie and Corbin creeks
  - Determine annual tributary and outlet flows
  - Identify opportunities for improvement including non mechanical, cost, permitting and funding sources

Results? Options may be available to reduce vegetation by increasing turbidity, but effects on lake productivity will need to be assessed.

A Long Term Solution?

Develop a non-mechanical solution to control vegetative growth through improved lake flushing.

U.S. Army Corp of Engineers CAP 206 Aquatic Environment Restoration Program.

- VFDA petitioned the USACE in 2018 to evaluate Robe Lake and propose a long term solution
- VFDA, City of Valdez and Native Village of Tatitlek/Corporation have agreed to co sponsor the project.
- The USACE has conducted and approved a Federal Interest Determination (FID) for a project
  - Is first step in assessing viability of a project and identifying co-sponsors. USACE has spent up to $100,000 on the FID
  - Approved by USACE in November 2021

- Project now moves to a Feasibility Cost Sharing Agreement (FCSA) to conduct a planning study √We are here
  - Requires a 50% non federal match
  - Study receives a cost waiver of $530,000 because the Native Village of Tatitlek is a federally recognized tribe.
  - FCSA will conduct NEPA assessment, benefit of the project and recommend solution, or project.

- If project is recommended, USACE and co sponsors move to Project Partnership Agreement
  - Study receives a cost waiver of $530,000 because the Native Village of Tatitlek is federally recognized tribe.
  - Requires a 35% non federal match
  - May be able to seek grant funding to offset project costs

Benefits of Co-Sponsorship

- Project is within the community of Valdez
- Robe Lake is a popular community recreational site and provides an important salmon resource for subsistence, sport and commercial harvests to the broader residents of Alaska
- Co-sponsors would have a seat at the table to evaluate the project and address areas of public concern and impacts of the proposed solution to land use and surrounding developments and improvements that may be proposed on city lands.

Cost of Co-Sponsorship

Updated March 2022

- Feasibility Cost Shared Agreement (FCSA)– 50% Federal/ 50% Non Federal

Current estimated cost of the FCSA	$ 1,260,000
Cost Waiver by Native Village of Tatitlek	- $ 530,000
Estimated Shared Cost	$ 730,000
Federal Share is 50%	$ 365,000
Non Federal Share is 50%	$ 365,000

75% - City of Valdez ($273,750)

25% - VFDA ($91,250) Approved

- Project Design and Construction – 65% Federal/ 35% Non Federal

Estimated hypothetical cost of project design and construction	$ 2,897,000
Cost Waiver by Native Village of Tatitlek	- $ 530,000
Estimated Shared Cost	$ 2,367,000
Federal Share is 65%	$ 1,538,550
Non Federal Share is 35%	$ 828,450

75% - City of Valdez ($621,337)

25% - VFDA ($201,113)

- Land acquisition (in kind credit to project), maintenance, monitoring – 100% Non Federal

Long Term Benefits of Project

- If a project is to be feasible, it will need to show a net environmental benefit great enough to justify a project
- Improve general ecological function and productivity of the lake
- Improve or maintain rearing habitat quality for juvenile salmon and potential to add salmon spawning habitat for Coho and Sockeye salmon

Long Term Benefit:

- Improved salmon production brings economic value to community through increased fishing and harvest opportunity, particularly in the sport fishery and subsistence harvests
- Overall improved ecological function to all species
- Improved recreational experience
- May help to reduce or eliminate future costs of mechanical mitigation by reducing or eliminating unwanted vegetative growth
- Opportunity to correct a negative man-made environmental condition