

YUKON WATER BOARD

Pursuant to the *Waters Act* and *Waters Regulation*, the Yukon Water Board hereby grants a Type B water licence for a miscellaneous undertaking to:

Northern Research Institute
Box 2799
Whitehorse, YT Y1A 5K4

LICENCE NUMBER: MS08-273

LICENCE TYPE: B **UNDERTAKING:** MISCELLANEOUS

WATER MANAGEMENT AREA: 02 Yukon

LOCATION: Unnamed groundwater channel, trib. of McIntyre Creek

MAP CO-ORDINATES: Latitude: 60° 44' N Longitude: 135° 04' W

PURPOSE: Salmon Incubation and Rearing Facility

EFFECTIVE DATE: The effective date of this licence shall be the date on which the signature of the Chairperson of the Yukon Water Board is affixed.

EXPIRY DATE: March 2, 2035

This licence shall be subject to the restrictions and conditions contained herein and to the restrictions and conditions contained in the *Waters Act* and the *Waters Regulation* made thereunder.

Dated this 17 day of

Approved by:

March, 2010.

SBoudal

Witness

[Signature]

Chairperson
YUKON WATER BOARD

PART A - DEFINITIONS

“Act” means *Waters Act* and any amendments thereto.

“Application” means Water Use Application MS08-273, including any additional submissions and/or revisions submitted to the Yukon Water Board by the Licensee, up to the date of the Board’s decision.

“Board” means the Yukon Water Board.

“Inspector” means any person designated as an Inspector under the Act.

“Natural Boundary” means the visible high water mark of any lake, river, stream or other body of water where the presence and action of water is so common and usual and so long continued as to mark upon the soil of the bed of the lake, river, stream or other body of water a character distinct from that of the banks thereof, both in respect to vegetation and in respect to the nature of the soil itself. In addition, the best estimates of the edge of dormant or old side channels and marsh areas are considered to be Natural Boundaries.

“Regulation” means the *Waters Regulation* made under the Act.

“Waste” means any substance as defined in the Act.

“Watercourse” means any stream, lake, pond, river, creek, spring, ravine or swamp whether ordinarily containing water or not.

“Wetted Perimeter” means the horizontal extent of the present water level while the work is taking place.

PART B - GENERAL CONDITIONS

Other Laws

1. No condition of this licence limits the application of any other federal, territorial, first nation or municipal legislation.
2. The operation of works authorized by this licence shall occur on property that the Licensee has the right to enter upon and use for that purpose.

Correspondence

3. Where any direction, notice, order or report under this licence is required to be in writing, it shall be given:
 - a) To the Licensee, if delivered, faxed or mailed by registered mail to the following address:

Northern Research Institute
Box 2799
Whitehorse, YT Y1A 5K4
Fax: (867) 668-8805

and shall be deemed to have been given to the Licensee on the day it was delivered or faxed, or 7 days after the day it was mailed, as the case may be.

- b) To the Board, if delivered, faxed or mailed by registered mail to the following address:

Yukon Water Board
Suite 106, 419 Range Road
Whitehorse, YT Y1A 3V1
Fax: (867) 456-3890

and shall be deemed to have been given to the Board on the day it was delivered or faxed, or 7 days after the day it was mailed, as the case may be.

- c) The Board or the Licensee may, by notice in writing, change its address for delivery.

Non-Compliance

4. In the event that the Licensee fails to comply with any provision or condition of this licence, the Board may, subject to the Act, cancel the licence.

Annual Reports

5. On or before the anniversary of the date of issuance of this licence, and for each year during which this licence is in effect, the Licensee shall submit an annual report to the Board. The report shall include the information required by the Regulation including, but not necessarily limited to:
- a) a description of the water use operations carried out during the year reported; and
 - b) an explanation of any difference between what was proposed in the Application and what was done during the year reported; and
 - c) a record of observations of algal growth formation, sludge build-up, and any other changes in the McIntyre Creek tributary, downstream of the fish hatchery; and
 - d) the number, by species, of eggs placed in the hatchery; and
 - e) the number of fry ponded; and
 - f) the weight of food used per day during rearing; and
 - g) the maximum biomass of fish achieved; and
 - h) the number of fry, by species, that are released; and

- i) a description of the use, including the amount used, of any substance used as a drug, antibiotic or disinfectant within the hatchery; and
- j) the results of any sampling conducted in accordance with Part D of this licence.

Reports

6. All reports required to be submitted to the Board will be unbound and reproducible by standard photocopier, accompanied by one electronic copy on a CD/DVD.
7. The Licensee shall provide to the Board 5 additional copies of all reports. The additional copies may be either 5 bound paper copies or 5 electronic copies on individual CDs/DVDs.
8. Electronic copies shall be IBM compatible in one of the following formats: Word 97 - 2003, Excel 97 - 2003 workbooks, or Adobe .pdf format. Water quality results must be presented in Excel 97-2003 .xls format.

Term of Licence

9. The term of this licence is for the period from the effective date to March 2, 2035.

PART C - OPERATING CONDITIONS

Description of Water Use and Waste Deposit

10. The Licensee is hereby authorized to:
 - a) divert and obtain a maximum of 1,200 cubic metres of water per day from the unnamed groundwater channel, tributary of McIntyre Creek; and
 - b) impound up to a maximum of 4.5 cubic metres of water above the incubation boxes and within the rearing troughs; and
 - c) use the impounded water for incubating and rearing Pacific Salmon fry; and
 - d) return a flow of water to the unnamed groundwater channel; and
 - e) deposit a Waste, in the form of fish food, fish feces, disinfectants and neutralized iodine into the unnamed groundwater channel,

as described in the Application, and subject to the conditions of this licence. Where there is a discrepancy between the Application and this licence, the conditions of this licence shall prevail.

11. Notification, including the name and phone number of the seasonal field supervisor, shall be provided to the Board, in writing, 10 days prior to the start of seasonal operation.
12. All works associated with the undertaking shall be maintained in good repair.

13. Waste substances shall be used, transported, stored or disposed of in such a manner that they are not deposited, or allowed to be deposited, into any Watercourse or on any surrounding land.
14. Maintenance equipment shall be mechanically sound and free of leaks.
15. The tracks and/or wheels of heavy equipment are prohibited from entering the Wetted Perimeter of the unnamed groundwater channel or McIntyre Creek.
16. All disturbed ground surfaces shall be stabilized in such a manner so as to prevent erosion and surface runoff from carrying sediment into any Watercourse.

Use of Fish Food

17. A maximum of 6 kilograms of fish food may be deposited into the rearing troughs on a daily basis.

Screen/Barrier

18. A screen/barrier shall be installed and maintained at the outlet of the incubation facility to prevent the escapement of salmon fry, into the unnamed groundwater channel, tributary of McIntyre Creek as follows:
 - a) The screen/barrier shall have a minimum of 3.5 openings per centimetre and openings no greater than 3.2 millimetres along any given side; and
 - b) The screen/barrier required by this licence shall be maintained in a serviceable and clean condition at all times.

Use of Iodine

19. Iodine may be used a maximum of twice annually for the disinfection of the incubation boxes and rearing troughs.
20. The iodine shall be neutralized prior to discharge into McIntyre Creek. A maximum of 0.1 mg/L of iodine may be contained in the discharge.

PART D – MONITORING AND SURVEILLANCE

21. All monitoring shall be conducted on a monthly basis during operation and a quarterly basis thereafter, unless otherwise required by this licence.
22. One grab sample shall be taken from McIntyre Creek, upstream of the confluence with the unnamed groundwater channel and analyzed for Total Phosphorus.

23. Daily and yearly water use volumes shall be monitored and recorded by the Licensee. The data collected shall be submitted as part of the annual report.
24. Prior to any discharge from the interceptor ditch, a grab sample shall be taken at the discharge point of the interceptor ditch in the unnamed groundwater channel. The grab sample shall be analyzed for Total Phosphorus and Iodine.
25. Monitoring shall be conducted for algal growth and sludge build-up within the interceptor ditch. The results of the monitoring shall be submitted as part of the annual report.

PART E - SITE DECOMMISSIONING AND RESTORATION

Temporary Abandonment

26. During temporary abandonment, water control structures shall be removed from the unnamed groundwater channel.

Site Decommissioning

27. The Licensee shall notify the Board, in writing, a minimum of 30 days prior to the commencement of final site decommissioning.
 28. Upon commencement of site decommissioning, the Licensee shall remove all facility structures, materials, equipment, fencing and debris from the site and from the bed and banks of the unnamed groundwater channel.
 29. All disturbed ground surfaces shall be regraded in a manner which is consistent with the topography of the site and which prevents erosion and surface runoff from carrying sediment into any Watercourse. Where soil conditions permit, disturbed areas shall be re-vegetated with appropriate reclamation seeds and/or plant species that are native in Yukon.
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