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|  | **GOODS AND SERVICES CONTRACT** |

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| **TITLE:** LCR Chum Integrated Population Model (IPM/ Life Cycle) Development | **WDFW NUMBER:** 24-24529 |
| **CONTRACTOR:** Mount Hood Environmental | **CONTRACT PERIOD:** 04/01/2024 to 06/30/2025 |
| **TYPE:** Payable / Goods and Services / Goods and Services | **CONTRACT VALUE:** $142,000.00 |

1. ***PARTIES TO THIS CONTRACT***

This contract is entered into between the Washington State Department of Fish and Wildlife (WDFW), PO Box 43135, Olympia, WA 98504-3135; and Mount Hood Environmental (Contractor), PO Box 744, Boring, OR 97009; and shall be binding upon the agents and all persons acting by or through the parties.

1. ***PURPOSE OF CONTRACT***

This contract sets out the terms and conditions by which the Contractor shall provide goods and/or services to WDFW.

1. ***DESCRIPTION OF PROJECT***

The Contractor shall perform the project as described in Attachments, which are incorporated herein by this reference: Attachment “A” General Terms and ConditionsAttachment “B” Contract/Project Summary

Attachment “C” Statement of Work

1. ***PERIOD OF PERFORMANCE***

The performance period under this Contract shall commence on 01/01/2024 and terminate on 06/30/2025. No expenditures made before or after this period are eligible for reimbursement unless incorporated by written amendment into this Contract. The Contract may be terminated or the performance period extended pursuant to terms set forth in Attachment "A."

1. ***COMPENSATION / PAYMENT***

The total dollars provided by WDFW for this project shall not exceed $142,000.00**.** The Contractor shall be responsible for all project costs exceeding this amount. Only eligible reimbursement activities that are in direct support of the project deliverables identified in this Contract will be reimbursed. Any additional services provided by the Contractor must have prior written approval of WDFW.Compensation for services rendered shall be payable upon receipt of properly completed invoices, which shall be submitted to the Project Manager by the Contractor not more often than monthly. The invoices shall describe and document to WDFW's satisfaction a description of work performed, activities accomplished, or the progress of the project. The rates shall be in accordance with those herein agreed to.

Payment shall be considered timely if made by WDFW within 30 days after receipt of properly completed invoices. Payment shall be sent to the address designated by the Contractor. WDFW may, in its sole discretion, terminate the contract or withhold payments claimed by the Contractor for the services rendered if the Contractor fails to satisfactorily comply with any term or conditions of this contract.

1. ***RIGHTS AND OBLIGATIONS***All rights and obligations of the parties of this contract are subject to this contract, including the Attachments, which are incorporated herein by this reference. By signing this contract the Contractor acknowledges that they have read, fully understand, and agree to be bound by all terms and conditions set forth in this contract.
2. ***COMPLIANCE WITH APPLICABLE STATUTES, RULES, AND WDFW POLICIES***The Contractor shall comply with, all applicable state, federal, and local laws and regulations, including published WDFW policies, while performing under this contract
3. ***Order of Precedence***In the event of an inconsistency in this contract, unless otherwise provided herein, the inconsistency shall be resolved by giving precedence in the following order:

Applicable Federal and State of Washington statutes and regulations.Special Terms and Conditions as contained in this Contract.

Attachment “A” - General Terms and Conditions.Any other provision, term or material incorporated herein by reference or otherwise incorporated.

1. ***CONTRACT REPRESENTATIVES***

The below named representatives for each of the parties shall be the contact people for all communications and billings regarding the performance of this contract. All written communications regarding this contract shall be sent to the designated representatives at the addresses below unless notified in writing of any change. The Contractor’s employee, Eric Buhle, cannot be substituted.

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| **Contractor's Representative/Project Manager**  Eric Buhle  Mount Hood Environmental (NOAA Affiliate)  NW Fisheries Science Center/NMFS  2725 Montlake Blvd E  Seattle Washington 98112  (206) 302-2448  eric.buhle@noaa.gov | **Contractor’s Contracts/Billing Representative**  Lauren Courter  Mount Hood Environmental  PO Box 744  Boring, OR 97009  (503) 668-0033  Lauren.courter@mthoodenvironmental.com |
| **WDFW's Representative/Project Manager**  Alan (Brad) Garner  Dept. of Fish and Wildlife  5525 South 11th Street  Ridgefield WA 98642  (360) 906-6757  Alan.Garner@dfw.wa.gov |  |

1. ***ENTIRE CONTRACT***

This Contract, along with all attachments and exhibits, constitutes the entire agreement of the parties. No other understandings, verbal or otherwise, regarding this contract shall exist or bind any of the parties.

1. ***APPROVAL***

This contract shall be subject to the written approval of WDFW'S authorized representative and shall not be binding until so approved. This contract may be altered, amended, or waived only by a written amendment executed by both parties per Attachment “A”.  
  
IN WITNESS WHERE, WDFW and the Contractor have signed this contract.

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| **MOUNT HOOD ENVIRONMENTAL** | **WASHINGTON DEPARTMENT OF FISH AND WILDLIFE** |
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| Signature and Date | Signature and Date |
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| Printed Name and Title | Printed Name and Title |

Attachment A -

**GENERAL TERMS AND CONDITIONS**

**Services Contract**

* **Federal Funds**

**DEFINITIONS**As used throughout this contract, the following terms shall have the meaning set forth below:

1. "AGENCY" or “WDFW” shall mean the **Department of Fish and Wildlife** of the State of Washington, any division, section, office, unit or other entity of the AGENCY, or any of the officers or other officials lawfully representing that AGENCY.
2. "AGENT" shall mean the Director, and/or the delegate authorized in writing to act on the Director's behalf.
3. “CFR” shall mean the Code of Federal Regulations of the United States. All references in the contract to CFR titles or sections shall include any successor, amended or replacement regulation.
4. "CONTRACTOR" shall mean that firm, provider, organization, individual or other entity performing service(s) under this contract, and shall include all employees of the CONTRACTOR.
5. “RCW” shall mean the Revised Code of Washington. All references in the contract to RCW chapters or sections shall include any successor, amended or replacement statutes.
6. "SUBCONTRACTOR" shall mean one not in the employment of the CONTRACTOR, who is performing all or part of those services under this contract under a separate contract with the CONTRACTOR. The terms "SUBCONTRACTOR" and "SUBCONTRACTORS" means SUBCONTRACTOR(s) in any tier.
7. “USC” shall mean United States Code. All references in the contract to USC chapters or sections shall include any successor, amended or replacement statutes.

**ACCESS TO DATA**In compliance with RCW 39.26.180, the CONTRACTOR shall provide access to data generated under this contract to AGENCY, the Joint Legislative Audit and Review Committee, and the State Auditor at no additional cost. This includes access to all information that supports the findings, conclusions, and recommendations of the CONTRACTOR’S reports, including computer models and methodology for those models.

**ADVANCE PAYMENTS PROHIBITED**No payments in advance of or in anticipation of goods or services to be provided under this contract shall be made by the AGENCY.

**AMENDMENTS**This contract may be amended by mutual agreement of the parties. Such amendments shall not be binding unless they are in writing and signed by personnel authorized to bind each of the parties.

**AMERICANS WITH DISABILITIES ACT (ADA) OF 1990, PUBLIC LAW 101-336, also referred to as the "ADA" 28 CFR Part 35**The CONTRACTOR must comply with the ADA, which provides comprehensive civil rights protection to individuals with disabilities in the areas of employment, public accommodations, state and local government services, and telecommunications.

**ASSIGNMENT**Neither this contract, nor any claim arising under this contract, shall be transferred or assigned by the CONTRACTOR without prior written consent of the AGENCY.

**ATTORNEYS’ FEES**In the event of litigation or other action brought to enforce contract terms, each party agrees to bear its own attorney fees and costs.

* **Buy American Act**The Contractor shall comply with 41 USC 10a-10c (the “Buy American Act”) by purchasing only American-made equipment and products with contract funds except articles, materials, and supplies — a) for use outside the United States; b) for which the cost would be unreasonable, as determined in accordance with federal regulations; c) for which the AGENCY determines that domestic preference would be inconsistent with the public interest; or d) that are not mined, produced, or manufactured in the United States in sufficient and reasonable available commercial quantities, of a satisfactory quality
* **Central Contractor Registration and Data Universal Numbering System (DUNS)**Unless exempt under 2 CFR 25.110, the Contractor shall comply with 2 CFR 25 and be registered in the federal Central Contractor Registration (CCR) system; maintain an active CCR registration with current information at all times during the period of performance for this contract; and provide its DUNS number to the Agency.

**CONFIDENTIALITY/SAFEGUARDING OF INFORMATION**The CONTRACTOR shall not use or disclose any information concerning the AGENCY, or information that may be classified as confidential, for any purpose not directly connected with the administration of this contract, except with prior written consent of the AGENCY, or as may be required by law.

**CONFLICT OF INTEREST**Notwithstanding any determination by the Executive Ethics Board or other tribunal, the AGENCY may, in its sole discretion, by written notice to the CONTRACTOR terminate this contract if it is found after due notice and examination by the AGENT that there is a violation of the Ethics in Public Service Act, Chapter 42.52 RCW; or any similar statute involving the CONTRACTOR in the procurement of, or performance under this contract. In the event this contract is terminated as provided above, the AGENCY shall be entitled to pursue the same remedies against the CONTRACTOR as it could pursue in the event of a breach of the contract by the CONTRACTOR. The rights and remedies of the AGENCY provided for in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law. The existence of facts upon which the AGENT makes any determination under this clause shall be an issue and may be reviewed as provided in the “Disputes” clause of this contract.

* **Copeland “Anti-Kickback” Act**The Contractor shall comply with the Copeland "Anti-Kickback" Act (18 U.S.C. 874). The Contractor is prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he is otherwise entitled. The Contractor shall report all suspected or reported violations to the AGENCY.
* **COPYRIGHT PROVISIONS**Unless otherwise provided, all materials produced under this contract shall be considered "works for hire" as defined by the U.S. Copyright Act and shall be owned by the AGENCY. The AGENCY shall be considered the author of such materials. In the event the materials are not considered “works for hire” under the U.S. Copyright laws, CONTRACTOR hereby irrevocably assigns all right, title, and interest in materials, including all intellectual property rights, to the AGENCY effective from the moment of creation of such materials.

Materials means all items in any format and includes, but is not limited to, data, reports, documents, pamphlets, advertisements, books, magazines, surveys, studies, computer programs, films, tapes, and/or sound reproductions. Ownership includes the right to copyright, patent, register and the ability to transfer these rights.

For materials that are delivered under the contract, but that incorporate pre-existing materials not produced under the contract, CONTRACTOR hereby grants to the AGENCY a nonexclusive, royalty-free, irrevocable license (with rights to sublicense others) in such materials to translate, reproduce, distribute, prepare derivative works, publicly perform, and publicly display. The CONTRACTOR warrants and represents that CONTRACTOR has all rights and permissions, including intellectual property rights, moral rights and rights of publicity, necessary to grant such a license to the AGENCY.

The CONTRACTOR shall exert all reasonable effort to advise the AGENCY, at the time of delivery of materials furnished under this contract, of all known or potential invasions of privacy contained therein and of any portion of such document that was not produced in the performance of this contract.

The AGENCY shall receive prompt written notice of each notice or claim of infringement received by the CONTRACTOR with respect to any data delivered under this contract. The AGENCY shall have the right to modify or remove any restrictive markings placed upon the data by the CONTRACTOR.

**COVENANT AGAINST CONTINGENT FEES**The CONTRACTOR warrants that no person or selling agent has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, excepting bona fide employees or bona fide established agents maintained by the CONTRACTOR for securing business. The AGENCY shall have the right, in the event of breach of this clause by the CONTRACTOR, to annul this contract without liability or, in its discretion, to deduct from the contract price or consideration or recover by other means the full amount of such commission, percentage, brokerage or contingent fee.

* **Davis-Bacon and Related Acts**If the work performed by Contractor employees is subject to the Davis Bacon Act and Davis-Bacon prevailing wage provisions contained in applicable federal laws, the Contractor shall a) pay at least once per week wages to Contractor laborers and mechanics at a rate not less than the minimum wages specified in wage determinations made by the U.S. Department of Labor; and b) provide to the AGENCY each week U.S. Department of Labor Form WH-347 “Payroll (For Contractors Optional Use)” stating the wages paid to Contractor laborers and mechanics engaged in work under this contract. Should wage determinations made by the U.S. Department of Labor conflict with the prevailing wage rates established by the Washington State Department of Labor and Industries, the Contractor shall pay Contractor laborers and mechanics at a rate not less than the higher of the two rates.

**DISALLOWED COSTS**The Contractor is responsible for any audit exceptions or disallowed costs incurred by its own organization or that of its Subcontractors.

**DISPUTES**Except as otherwise provided in this contract, when a dispute arises between the parties and it cannot be resolved by direct negotiation, either party may request a dispute hearing with AGENT.

1. The request for a dispute hearing must:

* Be in writing;
* State the disputed issue(s);
* State the relative positions of the parties;
* State the CONTRACTOR’S name, address, and contract number; and
* Be mailed to the AGENT and the other party’s (respondent’s) contract manager within 3 working calendar days after the parties agree that they cannot resolve the dispute.

1. The respondent shall send a written answer to the requester’s statement to both the agent and the requester within 5 working calendar days.
2. The AGENT shall review the written statements and reply in writing to both parties within 10 working days. The AGENT may extend this period if necessary by notifying the parties.
3. The parties agree that this dispute process shall precede any action in a judicial or quasi-judicial tribunal.

Nothing in this contract shall be construed to limit the parties’ choice of a mutually acceptable alternate dispute resolution method in addition to the dispute resolution procedure outlined above.

* **Drug-Free Workplace**The Contractor shall comply with the Drug-Free Workplace Act of 1988, 41 USC 701-707, as amended. Compliance with the Drug-Free Workplace Act includes publishing a drug-free workplace statement and establishing a drug-free awareness program for Contractor employees; and taking actions concerning Contractor employees who are convicted of violating drug statutes in the workplace. The Contractor shall provide written notice of a conviction of a Contractor employee of a drug violation in the workplace to WDFW within seven (7) calendar days after the Contractor learns of the conviction.

**DUPLICATE PAYMENT**The AGENCY shall not pay the CONTRACTOR, if the CONTRACTOR has charged or will charge the State of Washington or any other party under any other contract or agreement, for the same services or expenses.

* **Federal Debarment and Suspension**The Contractor certifies, that neither it nor its “principals” (as defined in 49 CFR 29.105) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency. Further, the Contractor agrees not to enter into any arrangements or other contracts with any party that is on the “List of Parties Excluded from Federal Procurement or Non-procurement Programs" which can be found at <https://www.sam.gov>.

**Filing Requirement**The provisions of Chapter 39.26 RCW may require the agency to file this contract as a sole source contract with the Department of Enterprise Services (DES) for approval. If so filed the effective date of this contract is upon DES approval of the contract, the tenth (10th) working day after it is filed with DES, or as agreed between the parties, whichever is later.

* **Final Invoice**   
  The Contractor shall submit the final invoice not later than 60 calendar days from the end of the contract period.

**GOVERNING LAW**This contract shall be construed and interpreted in accordance with the laws of the State of Washington, and the venue of any action brought hereunder shall be in the Superior Court for Thurston County.

**INDEMNIFICATION**To the fullest extent permitted by law, the CONTRACTOR shall indemnify, defend, and hold harmless State, agencies of State and all officials, agents and employees of State, from and against all claims for injuries or death arising out of or resulting from the performance of the contract. “Claim,” as used in this contract, means any financial loss, claim, suit, action, damage, or expense, including but not limited to attorney’s fees, attributable for bodily injury, sickness, disease, or death, or injury to or destruction of tangible property including loss of use resulting therefrom. The CONTRACTOR’S obligations to indemnify, defend, and hold harmless includes any claim by the CONTRACTORS’ agents, employees, representatives, or any subcontractor or its employees. The CONTRACTOR expressly agrees to indemnify, defend, and hold harmless the State for any claim arising out of or incident to the CONTRACTOR’S or any subcontractor’s performance or failure to perform the contract. The CONTRACTOR’S obligation to indemnify, defend, and hold harmless the State shall not be eliminated or reduced by any actual or alleged concurrent negligence of State or its agents, agencies, employees and officials. The CONTRACTOR waives its immunity under Title 51 RCW to the extent it is required to indemnify, defend and hold harmless State and its agencies, officials, agents or employees.

**INDEPENDENT CAPACITY OF THE CONTRACTOR**The parties intend that an independent contractor relationship will be created by this contract. The CONTRACTOR and his or her employees or agents performing under this contract are not employees or agents of the AGENCY. The CONTRACTOR will not hold himself/herself out as or claim to be an officer or employee of the AGENCY or of the State of Washington by reason hereof, nor will the CONTRACTOR make any claim of right, privilege or benefit that would accrue to such employee under law. Conduct and control of the work will be solely with the CONTRACTOR.

**INDUSTRIAL INSURANCE COVERAGE**The CONTRACTOR shall comply with the provisions of Title 51 RCW, Industrial Insurance. If the CONTRACTOR fails to provide industrial insurance coverage or fails to pay premiums or penalties on behalf of its employees, as may be required by law, AGENCY may collect from the CONTRACTOR the full amount payable to the Industrial Insurance accident fund. The AGENCY may deduct the amount owed by the CONTRACTOR to the accident fund from the amount payable to the CONTRACTOR by the AGENCY under this contract, and transmit the deducted amount to the Department of Labor and Industries, (L&I) Division of Insurance Services. This provision does not waive any of L&I’s rights to collect from the CONTRACTOR.

**INSURANCE**The CONTRACTOR shall provide insurance coverage as set out in this section. The intent of the required insurance is to protect the state should there be any claims, suits, actions, costs, damages or expenses arising from any negligent or intentional act or omission of the CONTRACTOR or subcontractor, or agents of either, while performing under the terms of this contract.

The CONTRACTOR shall provide insurance coverage, which shall be maintained in full force and effect during the term of this contract, as follows:

1. Commercial General Liability Insurance Policy. Provide a Commercial General Liability Insurance Policy, including contractual liability, in adequate quantity to protect against legal liability arising out of contract activity but no less than $1,000,000 per occurrence. Additionally, the CONTRACTOR is responsible for ensuring that any subcontractors provide adequate insurance coverage for the activities arising out of subcontracts.
2. Automobile Liability. In the event that services delivered pursuant to this contract involve the use of vehicles, either owned or unowned by the CONTRACTOR, automobile liability insurance shall be required. The minimum limit for automobile liability is $1,000,000 per occurrence, using a Combined Single Limit for bodily injury and property damage.
3. Marine Insurance. If the CONTRACTOR will be using a vessel or boat in the performance of this contract, the CONTRACTOR shall maintain a Commercial Marine Protection and Indemnity (P&I) Policy with P&I limit of not less than $1,000,000 per occurrence and with a deductible not to exceed $25,000 (to include diving operations if diving is a part of the contracted service for any liability which includes coverage for injury to the crew and passengers).
4. The insurance required shall be issued by an insurance company/ies authorized to do business within the state of Washington, and shall name the state of Washington, its agents and employees as additional insureds under the insurance policy/ies. All policies shall be primary to any other valid and collectable insurance. CONTRACTOR shall instruct the insurers to give AGENCY thirty (30) calendar days advance notice of any insurance cancellation.

The CONTRACTOR shall submit to AGENCY within fifteen (15) calendar days of the contract effective date, a certificate of insurance that outlines the coverage and limits defined in this section. The CONTRACTOR shall submit renewal certificates as appropriate during the term of the contract; the failure of the AGENCY to enforce this term in no way reduces the CONTRACTOR’s responsibilities under this section.

**LICENSING, ACCREDITATION AND REGISTRATION**The CONTRACTOR shall comply with all applicable local, state, and federal licensing, accreditation and registration requirements/standards, necessary for the performance of this contract.

**LIMITATION OF AUTHORITY**Only the AGENT or AGENT’S delegate by writing (delegation to be made prior to action) shall have the express, implied, or apparent authority to alter, amend, modify, or waive any clause or condition of this contract. Furthermore, any alteration, amendment, modification, or waiver or any clause or condition of this contract is not effective or binding unless made in writing and signed by the AGENT.

**Minority, Women and Veteran-Owned Businesses**   
The AGENCY encourages participation by minority and women-owned business enterprises certified by the Office of Minority and Women’s Business Enterprises (OMWBE); and veteran-owned businesses certified by the Department of Veteran’s Affairs (DVA). If any part of this contract is subcontracted to an OMWBE or DVA-certified firm the Contractor shall submit a statement of participation indicating what OMWBE or DVA certified firm was used and the dollar amount of their subcontracts.

**NONCOMPLIANCE WITH NONDISCRIMINATION LAWS**In the event of the CONTRACTOR'S non-compliance or refusal to comply with any nondiscrimination law, regulation, or policy, this contract may be rescinded, canceled or terminated in whole or in part, and the CONTRACTOR may be declared ineligible for further contracts with the AGENCY. The CONTRACTOR shall, however, be given a reasonable time in which to cure this noncompliance. Any dispute may be resolved in accordance with the "Disputes" procedure set forth herein.

**NONDISCRIMINATION**During the performance of this contract, the CONTRACTOR shall comply with all federal and state nondiscrimination laws, regulations and policies.

**Prevailing Wage**If work performed by Contractor employees is subject to Chapter 39.12 of the Revised Code of Washington, the Contractor shall pay the prevailing rate of wages to all Contractor workers, laborers or mechanics in the performance of any part of the work described in the contract in accordance with state law and Department of Labor and Industries rules and regulations. The Contractor shall comply with the filing requirements required by this statute, including Statement of Intent to Pay Prevailing Wage, and Affidavit of Wages Paid.

**PRIVACY**Personal information including, but not limited to, “Protected Health Information,” collected, used, or acquired in connection with this contract shall be protected against unauthorized use, disclosure, modification or loss. CONTRACTOR shall ensure its directors, officers, employees, subcontractors or agents use personal information solely for the purposes of accomplishing the services set forth herein. CONTRACTOR and its subcontractors agree not to release, divulge, publish, transfer, sell or otherwise make known to unauthorized persons personal information without the express written consent of the agency or as otherwise required by law.

Any breach of this provision may result in termination of the contract and the demand for return of all personal information. The CONTRACTOR agrees to indemnify and hold harmless the AGENCY for any damages related to the CONTRACTOR’S unauthorized use of personal information.

**PUBLICITY**The CONTRACTOR agrees to submit to the AGENCY all advertising and publicity matters relating to this contract wherein the AGENCY’S name is mentioned or language used from which the connection of the AGENCY’S name may, in the AGENCY’S judgment, be inferred or implied. The CONTRACTOR agrees not to publish or use such advertising and publicity matters without the prior written consent of the AGENCY.

**RECORDS MAINTENANCE**The CONTRACTOR shall maintain books, records, documents, data and other evidence relating to this contract and performance of the services described herein, including but not limited to accounting procedures and practices that sufficiently and properly reflect all direct and indirect costs of any nature expended in the performance of this contract. The CONTRACTOR shall retain such records for a period of six years following the date of final payment. At no additional cost, these records, including materials generated under the contract, shall be subject at all reasonable times to inspection, review or audit by the AGENCY, personnel duly authorized by the AGENCY, the Office of the State Auditor, and federal and state officials so authorized by law, regulation or agreement. If any litigation, claim or audit is started before the expiration of the six (6) year period, the records shall be retained until all litigation, claims, or audit findings involving the records have been resolved.

**REGISTRATION WITH DEPARTMENT OF REVENUE**The CONTRACTOR shall complete registration with the Washington State Department of Revenue and be responsible for payment of all taxes due on payments made under this contract.

* **Restrictions on Lobbying**The Contractor certifies that under the requirements of Lobbying Disclosure Act, 2 USC, Section 1601 et seq., no Federal appropriated funds have been paid or will be paid, by or on behalf of the Contractor, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

**RIGHT OF INSPECTION**The CONTRACTOR shall provide right of access to its facilities to the AGENCY, or any of its officers, or to any other authorized agent or official of the state of Washington or the federal government, at all reasonable times, in order to monitor and evaluate performance, compliance, and/or quality assurance under this contract.

**SAVINGS**In the event funding from state, federal, or other sources is withdrawn, reduced, or limited in any way after the effective date of this contract and prior to normal completion, the AGENCY may terminate the contract under the "Termination for Convenience" clause, without the ten-day notice requirement, subject to renegotiation at the AGENCY’S discretion under those new funding limitations and conditions.

**SEVERABILITY**The provisions of this contract are intended to be severable. If any term or provision is illegal or invalid for any reason whatsoever, such illegality or invalidity shall not affect the validity of the remainder of the contract.

**SITE SECURITY**While on AGENCY premises, CONTRACTOR, its agents, employees, or subcontractors shall conform in all respects with physical, fire or other security policies or regulations.

**Statewide Vendor Payment Registration**The Contractor is required to be registered in the Statewide Vendor Payment System prior to submitting a request for payment under this contract. The Washington State Office of Financial Management (OFM) maintains the Statewide Vendor Payment System; to obtain registration materials contact the Statewide Payee Desk at (360) 407-8180; or go to: https://ofm.wa.gov/it-systems/statewide-vendorpayee-services.

**SUBCONTRACTING**Neither the CONTRACTOR nor any SUBCONTRACTOR shall enter into subcontracts for any of the work contemplated under this contract without obtaining prior written approval of the AGENCY. In no event shall the existence of the subcontract operate to release or reduce the liability of the contractor to the Department for any breach in the performance of the contractor’s duties. This clause does not include contracts of employment between the contractor and personnel assigned to work under this contract.

Additionally, the CONTRACTOR is responsible for ensuring that all terms, conditions, assurances and certifications set forth in this agreement are carried forward to any subcontracts. CONTRACTOR and its subcontractors agree not to release, divulge, publish, transfer, sell or otherwise make known to unauthorized persons personal information without the express written consent of the agency or as provided by law.

**TAXES**All payments accrued because of payroll taxes, unemployment contributions, any other taxes, insurance or other expenses for the CONTRACTOR or its staff shall be the sole responsibility of the CONTRACTOR.

**TERMINATION FOR CAUSE**In the event the AGENCY determines the CONTRACTOR has failed to comply with the conditions of this contract in a timely manner, the AGENCY has the right to suspend or terminate this contract. Before suspending or terminating the contract, the AGENCY shall notify the CONTRACTOR in writing of the need to take corrective action. If corrective action is not taken within 30 calendar days, the contract may be terminated or suspended.

In the event of termination or suspension, the CONTRACTOR shall be liable for damages as authorized by law including, but not limited to, any cost difference between the original contract and the replacement or cover contract and all administrative costs directly related to the replacement contract, e.g., cost of the competitive bidding, mailing, advertising and staff time.

The AGENCY reserves the right to suspend all or part of the contract, withhold further payments, or prohibit the CONTRACTOR from incurring additional obligations of funds during investigation of the alleged compliance breach and pending corrective action by the CONTRACTOR or a decision by the AGENCY to terminate the contract. A termination shall be deemed a “Termination for Convenience” if it is determined that the CONTRACTOR: (1) was not in default; or (2) failure to perform was outside of his or her control, fault or negligence.

The rights and remedies of the AGENCY provided in this contract are not exclusive and are, in addition to any other rights and remedies, provided by law.

**TERMINATION FOR CONVENIENCE**Except as otherwise provided in this contract, the AGENCY may, by 10 calendar days written notice, beginning on the second day after the mailing, terminate this contract, in whole or in part. If this contract is so terminated, the AGENCY shall be liable only for payment required under the terms of this contract for services rendered or goods delivered prior to the effective date of termination.

**TERMINATION PROCEDURES**Upon termination of this contract, the AGENCY, in addition to any other rights provided in this contract, may require the CONTRACTOR to deliver to the AGENCY any property specifically produced or acquired for the performance of such part of this contract as has been terminated. The provisions of the "Treatment of Assets" clause shall apply in such property transfer.

The AGENCY shall pay to the CONTRACTOR the agreed upon price, if separately stated, for completed work and services accepted by the AGENCY, and the amount agreed upon by the CONTRACTOR and the AGENCY for (i) completed work and services for which no separate price is stated, (ii) partially completed work and services, (iii) other property or services that are accepted by the AGENCY, and (iv) the protection and preservation of property, unless the termination is for default, in which case the AGENT shall determine the extent of the liability of the AGENCY. Failure to agree with such determination shall be a dispute within the meaning of the "Disputes" clause of this contract. The AGENCY may withhold from any amounts due the CONTRACTOR such sum as the AGENT determines to be necessary to protect the AGENCY against potential loss or liability.

The rights and remedies of the AGENCY provided in this section shall not be exclusive and are in addition to any other rights and remedies provided by law or under this contract.

After receipt of a notice of termination, and except as otherwise directed by the AGENT, the CONTRACTOR shall:

1. Stop work under the contract on the date, and to the extent specified, in the notice;
2. Place no further orders or subcontracts for materials, services, or facilities except as may be necessary for completion of such portion of the work under the contract that is not terminated;
3. Assign to the AGENCY, in the manner, at the times, and to the extent directed by the AGENT, all of the rights, title, and interest of the CONTRACTOR under the orders and subcontracts so terminated, in which case the AGENCY has the right, at its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts;
4. Settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, with the approval or ratification of the AGENT to the extent AGENT may require, which approval or ratification shall be final for all the purposes of this clause;
5. Transfer title to the AGENCY and deliver in the manner, at the times, and to the extent directed by the AGENT any property which, if the contract had been completed, would have been required to be furnished to the AGENCY;
6. Complete performance of such part of the work as shall not have been terminated by the AGENT; and
7. Take such action as may be necessary, or as the AGENT may direct, for the protection and preservation of the property related to this contract, which is in the possession of the CONTRACTOR and in which the AGENCY has or may acquire an interest.

* **Trafficking Victims Protection Act**As described in 2 CFR Part 175 the AGENCY may terminate this contract, without penalty, if the Contractor is found to be in violation of the Trafficking Victims Protection Act of 2000
* **TREATMENT OF ASSETS**

1. Title to all property furnished by the AGENCY shall remain in the AGENCY. Title to all property furnished by the CONTRACTOR, for the cost of which the CONTRACTOR is entitled to be reimbursed as a direct item of cost under this contract, shall pass to and vest in the AGENCY upon delivery of such property by the CONTRACTOR. Title to other property, the cost of which is reimbursable to the CONTRACTOR under this contract, shall pass to and vest in the AGENCY upon (i) issuance for use of such property in the performance of this contract, or (ii) commencement of use of such property in the performance of this contract, or (iii) reimbursement of the cost thereof by the AGENCY in whole or in part, whichever first occurs.
2. Any property of the AGENCY furnished to the CONTRACTOR shall, unless otherwise provided herein or approved by the AGENCY, be used only for the performance of this contract.
3. The CONTRACTOR shall be responsible for any loss or damage to property of the AGENCY that results from the negligence of the CONTRACTOR or which results from the failure on the part of the CONTRACTOR to maintain and administer that property in accordance with sound management practices.
4. If any AGENCY property is lost, destroyed or damaged, the CONTRACTOR shall immediately notify the AGENCY and shall take all reasonable steps to protect the property from further damage.
5. The CONTRACTOR shall surrender to the AGENCY all property of the AGENCY prior to settlement upon completion, termination or cancellation of this contract
6. All reference to the CONTRACTOR under this clause shall also include CONTRACTOR'S employees, agents or SUBCONTRACTORS.

**WAGE LAWS COMPLIANCE**

By signing this contract the CONTRACTOR warrants that the CONTRACTOR has NOT been determined by a final and binding citation and notice of assessment issued by the Washington Department of Labor and Industries or through a civil judgment entered by a court of limited or general jurisdiction to have willfully violated, as defined in RCW 49.48.082, any provision of RCW chapters 49.46, 49.48, or 49.52 within three (3) years prior to the start date of this contract. The CONTRACTOR further warrants that it will remain in compliance with these requirements during the performance period of this contract. The Contractor will immediately notify the Agency of any finding of a willful violation entered by the Washington Department of Labor and Industries or through a civil judgment entered by a court of limited or general jurisdiction entered during the performance period of this contract.

**WAIVER**Waiver of any default or breach shall not be deemed a waiver of any subsequent default or breach. Any waiver shall not be construed to be a modification of the terms of this contract unless stated to be such in writing and signed by authorized representative of the AGENCY.

* **WHISTLEBLOWER PROTECTION**If this contract exceeds the federal simplified acquisition threshold of $100,000 the contract and all employees working on the contract are subject to the whistleblower protections established at 41 USC 4712 by section 828 of the National Defense Authorization Act for Fiscal Year 2013. If subject to this statute the CONTRACTOR shall inform their employees in writing, in the predominant language of the workforce, of the employee whistleblower rights and protections under 41 USC 4712. This section is applicable to all subcontractors and subawardees related to this contract that exceed the federal simplified acquisition threshold of $100,000, and the CONTRACTOR shall include this section in all such subcontracts and/or subawards.
* **Approved as to Form by the Office of the Attorney General 5/15/2017**

**Attachment B -**

**CONTRACT/PROJECT SUMMARY**

|  |  |  |  |
| --- | --- | --- | --- |
| **TITLE:** LCR Chum Integrated Population Model (IPM/ Life Cycle) Development | | **WDFW CONTRACT NUMBER: 22-21174** | |
| **PERIOD:** 01/01/2024to 06/30/2025  **CONTRACTOR:** Mount Hood Environmenal  **CONTRACTOR CONTACT:** Eric Buhle  (206) 302-2448  **CONTRACT TYPE:** Payable / Goods and Services / Goods and Services | | **WDFW MANAGER:** Alan Garner  (360) 906-6757 | |
| **SUMMARY CONTRACT DESCRIPTION:**  LCR Chum Integrated Population Model (IPM/ Life Cycle) development, Eric Buhle. | | | |
| **Master Index Number(s):** 54510 | | | |
| **CFDA Number** | **Award Year** | **Award Number** | **Research & Development?** |
| N/A – State Funded |  |  |  |

**Attachment C –**

**STATEMENT OF WORK**

**Project Title: Continue Development of LCR Chum Salmon Integrated Population Model**

**(04/01/24 to 6/30/25)**

**Background**

In 2019, we (WDFW) proposed adding the development of an integrated population model (IPM) for Columbia River (CR) chum salmon to our existing BPA project (contract 2008-710-00). At that point, we had been implementing a three-pronged CR chum recovery strategy centered around hatchery supplementation, habitat restoration, and monitoring and evaluation (M&E) for nearly two decades. While monitoring data had been used to evaluate the status of key populations and the performance of some management actions, these evaluations were always completed using an ad hoc, piecemeal approach that had numerous limitations. By building an IPM, we could leverage all monitoring data within a unified statistical framework that would not only improve existing estimates but would also create an analytical platform that could ultimately be the cornerstone for population assessment, adaptative management, and restoration planning for CR chum.

Since FFY2019-20, we have been iteratively building a customized IPM for CR chum salmon. To increase capacity and accelerate progress, we have established an ongoing partnership with Eric Buhle, a leading expert on IPMs, through a sub-contract with his employer. By partnering with Eric, we were able to easily and efficiently build upon an existing IPM framework and R package salmonIPM developed by NOAA and Biomark (Buhle et al. 2018). In the first year, we compiled nearly two decades of monitoring data for CR chum salmon, expanded the standard models included in salmonIPM to develop a customized model for these populations and data sets, and performed initial model fitting. Since then, our strategy has been to sequentially add important elements that make the model a more realistic description of the CR chum metapopulation and a better fit to the available monitoring data. In year two (FFY2020-21), the model was updated to better reflect CR chum characteristics (e.g., sex structure, freshwater density dependence) and operational activities (e.g., translocation of adults into spawning channels, reduced fecundity of partially spawned females). In year three (FFY2021-22), we began refining elements of the model to more accurately reflect hatchery chum populations (e.g., explicitly model hatchery smolt-to-adult survival along with straying and spatial connectively) and updated the model output to include most management reference points required for annual reporting. In year four (FFY2022-23), we focused on adding components to the model to facilitate the evaluation of hatchery supplementation, which included continuing to model hatchery smolt-to-adult survival and straying and completing an initial scenario analysis of hatchery supplementation.

**Goals for FY2024-25**

Relative to our broader model development goals and objectives outlined in the Three-Step Review of the Grays River and Duncan Creek Chum Salmon Hatchery Programs (Bentley et al. 2021), we propose the following tasks/deliverables to be completed between the contract approval date and June 30, 2025:

1. *Update data files and refit model for annual reporting* – Update raw data files with the most recently available estimates of abundance and compositional data. Refit the IPM and update RMarkdown document.
2. *Complete model of hatchery/translocation life cycle* – Update IPM to explicitly account for adult broodstock transfer into hatcheries and translocation into spawning channels. These features will allow us to make progress on three other tasks: (i) estimate and compare egg-to-smolt survival and adult-to-adult productivity of naturally reproducing, translocated, and hatchery-spawned chum salmon; (ii) generate model-based estimates of the proportion of natural broodstock (*p*NOB) and proportion natural influence (*p*NI), which are needed for annual reporting requirements; (iii) finalize the hatchery supplementation scenario analysis and begin evaluating the effectiveness of adult translocation as a restoration strategy.
3. *Draft an annual reporting metrics framework* – Develop a draft framework/workflow that will be used for all chum-related annual reporting requirements. This workflow will compile model-based estimates of population states (e.g., adult and juvenile abundance, SAR, *p*HOS, *p*NI, broodstock mining rates) into the necessary formats with accompanying text for various reporting portals (e.g., SaSI, SCoRE, CA) and funding-related reports (e.g., annual BPA report).
4. *Scenario analysis of hatchery supplementation* – Using the hatchery life cycle component of the IPM, we will update and finalize our evaluation of hatchery supplementation as a recovery strategy. Specifically, we will simulate future population trajectories in which hatchery smolt releases are held at levels similar to the recent past, reduced, or increased. Outcomes will be assessed relative to reference points such as abundance, productivity, *p*HOS, quasi-extinction risk, and recovery probability. The Hatchery Scenario Analysis sub-section of the RMarkdown document will be updated, which will facilitate discussion with managers regarding hatchery operations decisions for the fall of 2024.
5. *Expand the IPM data set* – Once estimates and biological data are generated by WDFW, the IPM data set will be expanded to include the currently unmodeled designated recovery populations of Columbia River chum salmon within Washington State. These missing data sets comprise populations that have historically been less intensively monitored. Incorporating these populations into the model would more fully represent the ESU and improve the estimates of parameters governing shared processes such as smolt production, smolt-to-adult survival, and straying of hatchery-origin fish. The inclusion of these data would also enable scenario analyses of recovery strategies for currently intermittent or lower-abundance populations.
6. *Draft manuscript for peer-reviewed publication* – Assist with drafting a manuscript describing our development and application of the IPM, with emphasis on hatchery supplementation evaluation, for peer-review publication.
7. *Include habitat and environmental drivers* – Once appropriate covariates are developed in collaboration with WDFW, they can be incorporated into the IPM to estimate environmental effects on stage-specific productivity, capacity, and/or survival and identify potential limiting factors. For example, exploratory analysis suggests winter flow may drive variation in egg-to-fry survival. Such relationships could be used to examine population viability under future climate change scenarios. Likewise, predictors of marine survival could reduce the unexplained process noise associated with SAR and improve the precision and accuracy of short-term forecasts.
8. *Outline an approach to evaluate other recovery strategies* – The IPM development related to hatchery supplementation (task #2) will also enable us to simulate other management interventions such as adult translocation and habitat restoration. For example, habitat-related simulations could take two forms. First, we could explore future ranges of empirically fitted environmental drivers (e.g., winter flows under climate change). Second, we could simulate freshwater habitat restoration or enhancement strategies such as the construction of artificial channels, in a simplistic way, by increasing egg-to-fry productivity or capacity in specific populations. In all of these scenario analyses, outcomes could be evaluated based on metrics such as abundance, productivity, *p*HOS, *p*NOB, quasi-extinction risk and recovery probability. Furthermore, we could examine the time needed to reach management reference points. For instance, following habitat restoration, does hatchery supplementation or adult translocation significantly reduce the time it takes a population to achieve an abundance target with a given probability, relative to natural recovery?

**Citations**

Bentley, K., T. Hillson, and D. Rawding. 2021. Three-Step Review of the Grays River and Duncan Creek Chum Salmon Hatchery Programs. Washington Department of Fish and Wildlife, Ridgefield, WA. <https://www.nwcouncil.org/reports/isrp-step-review-grays-river-and-duncan-creek-chum-salmon-hatchery-programs/>

Buhle, E.R., M.D. Scheuerell, T.D. Cooney, M.J. Ford, R.W. Zabel, and J.T. Thorson. 2018. Using Integrated Population Models to Evaluate Fishery and Environmental Impacts on Pacific Salmon Viability. NOAA Technical Memorandum NMFS-NWFSC-140. <https://repository.library.noaa.gov/view/noaa/17731>

**Tasks/Deliverables Schedule/Reimbursement**

|  |  |  |  |
| --- | --- | --- | --- |
| **Item** | **Task/Deliverable** | **Target Date\*** | **Cost** |
| 1 | Update data files and refit model for annual reporting | 30-Jun-24 | Hourly Reimbursement Rate  $130/hour  (estimate of  1,092 hours) |
| 2 | Complete the hatchery/translocation life cycle | 31-Jul-24 |
| 3 | Draft annual reporting metrics document | 31-Jul-24 |
| 4 | Scenario analysis of hatchery supplementation | 15-Aug-24 |
| 5 | Expand the IPM data set | 31-Mar-25 |
| 6 | Draft manuscript of chum IPM | 30-Apr-25 |
| 7 | Explore habitat and environmental drivers | 30-Jun-25 |
| 8 | Outline an approach to evaluate other recovery strategies | 30-Jun-25 |
| 9 | Update data files and refit model for annual reporting | 30-Jun-25 |
| ***Total Not to Exceed*** | | | **$142,000** |

*\*Target/Due dates are estimated and may be adjusted upon agreement of WDFW and Contractor’s Project Managers and as long as all tasks/deliverables are completed by June 30, 2025. All reports and invoices are to be sent directly to the WDFW Project Manager identified herein.*