PORT GAMBLE S'KLALLAM TRIBE | NATURAL RESOURCES

REQUEST FOR QUOTES

Linked Acoustic Startle Device (ASD) System

Hood Canal Bridge, Washington

Issue date: 11/4/2026 | Quotes due: 11/31/2026, 11:59 pm Pacific Time

Requested system delivery: 3/1/2027

Lease windows: Season 1 [2027; 3/1/2027- 7/31/2027] | Season 2 [2028; 3/1/2027- 7/31/2027]

1. Purpose and Project Background

The Port Gamble S'Klallam Tribe (PGST) requests quotes for a minimum of three linked Acoustic Startle Devices (ASDs) to operate as a coordinated system on the Hood Canal Bridge (HCB). The primary request is a two-season lease, with purchase pricing requested as an alternative when available. It is preferred that On-site deployment assistance and field sound-propagation measurements be priced as separate options.

The HCB is a floating bridge that delays migrating juvenile salmonids and increases their vulnerability to harbor seal predation. Studies around the HCB indicated that up to 50% of juvenile steelhead reaching the bridge do not survive beyond it largely attributed to pinniped predation. Past testing of a single ASD on the HCB demonstrated consistent reductions in local (within 35m of the ASD) harbor seal presence; whether this translates into reduced salmonid predation mortality or improved bridge-scale survival remains untested. The proposed linked array will help evaluate whether local deterrence can be maintained over a larger area and support the development of a interim pinniped predation reduction plan.

2. Scope of Supply and Services

System supply. Provide at least three separately deployable ASD units and the control, communication, cabling, and software components needed for linked operation. Identify all required mounting, power-supply, protective-enclosure, and other ancillary equipment; state what is included, separately priced, or proposed to be supplied by PGST.

Planning. Include pre-deployment coordination and placement recommendations to support the proposed array configuration. Identify required site information, assumptions, limitations, and recommended unit spacing and depths.

Documentation and support. Include operating and maintenance manuals, remote setup assistance and training, and technical support for both outmigration seasons. State support hours, response times, maintenance needs, and repair/replacement arrangements. Support from 9:00 a.m.-5:00 p.m. Pacific Time is preferred.

3. System Requirements and Technical Information

Address each item below and identify any exceptions. Provide the proposed configuration, specifications, supporting documentation, and adjustable operating ranges. No specific manufacturer is required; vendors must substantiate the proposed acoustic startle mechanism and performance.

Requirement	Minimum expectation / requested vendor information
Linked array	Provide three separately deployable ASDs integrated into one coordinated system, not simply three independently operating devices. Shared or distributed controllers are acceptable. Describe how sound emissions are coordinated, including synchronization or sequencing, communication method, maximum device separation, and capacity to add units.
Remote operation and muting	Provide remote activation/deactivation, settings adjustment, and status monitoring. Include system-wide muting, plus programmable treatment/control schedules. State shutdown response time, how muted status is confirmed, and behavior following communication loss, power loss, or restart.
Acoustic signal	Specify signal duration, rise time and its definition, frequency range, bandwidth, signal type/purity, and source level. Identify available settings and measurement methods. Clearly distinguish peak and root-mean-square (RMS) levels and state acoustic reference units and reference distance.
Marine deployment	Units must support transducer deployment less than 15 feet below the water surface and repeated, extended use in rough saltwater conditions. Describe corrosion resistance, weather protection, mounting, retrieval, cable protection, and operating limits. Per-device total weight of 35 lb or less is preferred; up to 51 lb is permissible. Report component weights and identify ancillary equipment separately.
Power and interfaces	Specify required voltage, AC frequency or DC requirements, peak/average power use, and power-supply options. Provide battery runtime and servicing needs where applicable. Identify cable lengths, connectors, control/network requirements, and recurring software, data, or communication charges.
Records and verification	Describe time-stamped operating logs, unit identification, settings, activation/muting events, faults, and data-export capabilities. Explain how linked operation and controls will be checked before delivery and verified by PGST. Identify any functions requiring vendor access or additional fees.
Evidence and safeguards	Provide studies or field results supporting harbor seal deterrence, including limitations and habituation concerns. Address hearing-injury risk, effects on salmonids, killer whales and other non-target species, and recommended safeguards. Identify known interference risks for nearby acoustic monitoring equipment.

4. Separately Priced Optional Services

Quote each option independently. Vendors may submit a base-system quote without offering these services, or identify a qualified subcontractor. PGST may select either option, both, or neither. State the scope, staffing, field days, deliverable schedule, and assumptions for each option.

4A. On-Site System Deployment Assistance

Provide an option for on-site assistance at the HCB with final placement, mounting/rigging, installation, system configuration, functional testing, and staff training. Describe proposed deployment and retrieval methods from the bridge platform, required tools and equipment, and the personnel, vessel support, access, and facilities expected from PGST or project partners.

Include checks of linked emissions, remote control, individual-unit control, system-wide muting, and available operating logs. Provide a brief commissioning record documenting unit locations and depths, settings, completed checks, and unresolved issues. Identify whether mount fabrication, installation hardware, return visits, and end-of-season removal are included or separately priced.

4B. System Sound-Propagation Field Measurements

Provide an option to measure the actual underwater sound field of the deployed system. The proposed work must address individual ASDs and the coordinated array under the intended operating settings.

Measurement plan. Submit a proposed plan for PGST review before fieldwork. Describe sampling locations, distances, directions, depths, operating scenarios, background-noise measurements with ASDs off, and representative environmental conditions. Include near-bridge areas, overlap between units, and locations beyond the intended deterrence area. State the proposed effort and limitations.

Methods and analysis. Use a calibrated measurement system suited to the proposed signals, documenting hydrophone/recorder specifications, calibration, bandwidth, and recording settings. Measure received sound levels and characterize pulse timing and duration for individual units and the array. Report peak and RMS sound-pressure levels and appropriate sound-exposure metrics, clearly defining reference units, analysis windows, and methods.

Interpretation. Evaluate attenuation, overlapping sound fields, and relevant bridge-related reflection or shadowing. Document measurement uncertainty and limitations, including near-field limitations where relevant. Compare observations with the base-scope modeling and recommend any changes to device placement or operating settings.

Deliverables. Provide raw acoustic recordings, calibration information, locations/depths/timestamps, unit settings and operating-state records, processed measurement tables, sound-field maps or plots, and a brief methods/results report. Identify file formats and any restrictions on PGST's access to or use of the delivered data.

5. Pricing and Commercial Terms

Provide itemized pricing in U.S. dollars. State quantities, unit rates, and totals; mark bundled items as included to avoid double counting. Show each season's lease cost and the total cost for both seasons, including any off-season charges.

Cost category	Required pricing detail
Base system lease	At least three linked ASDs; identify equipment models and quantities.
Controls and connectivity	Controllers, linking hardware, cables, software, and recurring fees.
Technical support	Remote setup/training, maintenance support, and service coverage.
Sound-propagation modeling	Pre-deployment modeling and array-placement recommendations.
Ancillary equipment	Required mounts, power equipment, enclosures, and other accessories; identify any assumed PGST-supplied items.
Delivery and other charges	Outbound/return freight, taxes, duties/tariffs, insurance, and other fees; identify exclusions.
Option 4A / Option 4B	Separate totals for deployment assistance and field sound measurements; combined-service price, if different.

Provide a complete base total and totals with each optional service. Specify lease duration, billing/payment terms, deposits, quote validity, delivery lead time, warranty, insurance responsibilities, and liability terms for damaged or lost equipment. Explain equipment retention or return between seasons, storage/servicing, renewal terms, and repair or replacement turnaround.

6. Quote Submission

Submit a concise written quote and relevant technical documentation by the deadline above. Include vendor contact information, the proposed system, responses to Section 3, relevant experience and supporting studies, optional-service qualifications, pricing, availability, and any exceptions or exclusions. Existing product sheets may be used; no lengthy proposal or special response form is required.

Submit to: Hans Daubenberger, Senior Research Scientist
Port Gamble S'Klallam Tribe, Natural Resources Department
Email: hans@pgst.nsn.us | Phone: (360) 689-5169
31912 Little Boston Road NE, Kingston, WA 98348
Email subject: RFQ Linked ASD System [Vendor Name]

Interested vendors may contact Hans to request a meeting, discuss site conditions, or obtain additional project information before submitting a quote.

7. Evaluation and Award

PGST intends to evaluate technical suitability and linked-system functionality; evidence of deterrence performance and non-target safeguards; marine reliability and deployment practicality; technical support; delivery schedule; and total cost. Optional-service qualifications will be considered separately. Price will not be the sole consideration. Any award and final scope are subject to available funding, Tribal review and approval, and mutually agreed terms. This RFQ does not commit PGST to purchase or lease equipment or services.