**Supplemental information to the Jamestown S’Klallam Tribe’s (Tribe) Letter dated March 18, 2019.**

**Assertion:** “For several decades prior to 2005, Pacific oyster cultivation occurred on the site of our Washington State Department of Natural Resources (DNR) lease and Refuge managers at that time had no objection to the size and scale of our operations.”

**Response:** Given that aquaculture leases generally cover a ten year period and prior leases did not require the same federal, state, and county permits as the current application, opportunities to comment prior to 2005, when the oyster farm was closed due to issues with water quality, have been limited. Since the lease was renewed in 2007, the U.S. Fish and Wildlife Service (Service) has shared concerns regarding aquaculture in this location multiple times throughout the years, including (most recently):

2007: Exhibit B of lease agreement 20-A13012 from 2007 states, based on comments from the Service, that “The Tribe will try to ‘plan work in the Bay from May 15–July 30 when cultivation activities will be least disruptive to the use of the Bay by brant and other waterfowl’.”

2006: A letter from DNR to Minterbrook Oyster, a contractor working for the Tribe, regarding the harvest of oysters that were not harvested by the Tribe prior to the 2005 site closure, states, “After consultation with the U.S. Fish and Wildlife Service” Minterbrook Oyster could harvest the remaining oysters from the Tribe’s lease under contract with the Tribe “as long as (1) oysters were harvested by hand, and (2) harvest would start after May 1 when spring use of the bay by brants is beginning to lessen.”

2006: Notes from a meeting with the Tribe’s staff (re: using the lease for geoduck) record that the Refuge Manager and Biotech from the Refuge expressed concerns about impacts to wildlife, eelgrass, invertebrates, and Refuge purposes. Refuge staff also shared concerns regarding impacts on birds from the timing of planting and harvesting. The Refuge Manager stated that he would rather see no aquaculture in the bay.

1990: A letter from the Refuge Manager to DNR emphasized the importance of the area for wintering and migrating waterfowl. The Refuge Manager requested a provision that the “oyster operation be conducted in such a manner as to minimize interference with waterfowl and public use.”

1983: A letter from Ecological Services Field Supervisor to Clallam County regarding the previous lease held on this location requested “harvest only be allowed May 1–September 30 to avoid the greatest waterfowl concentrations.”

**Assertion:** “Activities associated with oyster cultivation are noticeably absent from the 2013 Dungeness Wildlife Comprehensive Conservation Plan [CCP]…”

**Response:** The CCP was completed in 2013. The Tribe did not begin discussions related to permitting oyster aquaculture until 2015”. The CCP discusses management actions to be taken by the Refuge. Since authorization of oyster aquaculture is not within the jurisdiction of the Refuge and was not actively occurring or proposed, it was not a discussion point for the CCP. Clallam County, U.S. Army Corps of Engineers (ACE) and Washington State Department of Ecology (Ecology) are the permitting agencies for this action. The Refuge has provided comments relating to Refuge impacts during formal comment periods in response to Notices of Application received from the permitting agencies.

**Assertion: “**This exemplifies the poor communication, and hence relationship, that USFWS staff has had with the Tribe on this matter.”

**Response:** In 2015, the Tribe informally stated their desire to DNR to re-establish oyster aquaculture on this site. Since that time, Service staff have led joint eelgrass surveys with the Tribe, attended an on-site visit, and met with the Tribe to discuss this matter on the following occasions:

Meetings, Surveys, and Site Visits

* September 17, 2015: Meeting - Tribal Councilman Grinnell, Tribal Natural Resources Staff (Kelly Toy, Scott Chitwood, Ralph Riccio), R1 Service Staff (Sylvia Pelizza and Nathan Dexter), Refuge Staff (Jennifer Brown-Scott), DNR, and WDFW
* January 12, 2016: Meeting - Tribal Shellfish Biologist Ralph Riccio and Refuge Project Leader Jennifer Brown-Scott
* March 9, 2016: Meeting - Tribal Chairman Ron Allen, Tribal Councilman Kurt Grinnell, Tribal Natural Resources Staff, R1 Service Staff (Kevin Foerster and Sylvia Pelizza), and Refuge Staff (Jennifer Brown-Scott)
* April 1, 2016: Meeting - Tribal Councilman Kurt Grinnell, Tribal Natural Resources Staff, Refuge Staff (Jennifer Brown-Scott, Sue Thomas), Service Ecological Services (Ryan McReynolds), DNR, ACE, Ecology, NOAA, and Clallam County
* July 1, 2016: Survey - Tribal Natural Resources Staff (incl. Ralph Riccio) and Refuge Staff (Jennifer Brown-Scott, Lorenz Sollmann, and Chris Columbus)
* July 19, 2016: Survey - Tribal Natural Resources Staff (incl. Ralph Riccio) and Refuge Staff (Jennifer Brown-Scott, Lorenz Sollmann and, Chris Columbus)
* June 12, 2017: Site Visit - Tribal Natural Resources Staff, Refuge Staff (Lorenz Sollmann), and DNR
* May 24, 2018: Meeting - Tribal Natural Resources Staff (Hansi Hals and Elizabeth Tobin), Tribal Legal Counsel (Diana Bob), and Refuge Staff (Jennifer Brown-Scott and Lorenz Sollmann)
* August 21, 2018: Meeting - Tribal Natural Resources Staff (Hansi Hals and Elizabeth Tobin), and Refuge Staff (Jennifer Brown-Scott and Lorenz Sollmann)
* December 20, 2018: Meeting - Tribal Natural Resources Staff (Hansi Halls and Elizabeth Tobin) and Refuge Staff (Jennifer Brown-Scott and Sue Thomas)

The Refuge has responded in a positive and timely manner to all requests for face-to-face meetings, information, and discussion. Additionally, the Refuge edited and re-submitted its most recent comment to ACE after receiving feedback from Tribal Staff.

**Assertion:** “USFWS comment letters have been submitted to local and federal permitting authorities recommending new restrictions and establishing new concerns that had never been discussed with Tribal staff prior.”

**Response**: Beginning in April 2016, the Refuge and Tribal Natural Resources Staff discussed the need for specificity regarding access, so that potential disturbance could be assessed. The specific information on access requested by the Service of the Tribe has not been provided in any of the publicly available application materials related to this operation. The confusing, changing, and wide-ranging information from the Tribe regarding frequency of access, the number of individuals needed to manage all aspects of the aquaculture operation, and the assignment of a boat access area (see timetable below) led to a re-evaluation of the potential for disturbance and adjustment of the recommended work windows. The combination of shorebird and waterfowl migration and wintering seasons lasts from August through mid-May. As a result, it is necessary to restrict activities within the site during these sensitive seasons.

Timeline of Application Changes (re: access) and Comments

* December 2017 Clallam County Shoreline Permit Application:
  + 4–15 people up to 90 days /year working on the farm site during low tides.
* March 2018 Refuge Comment Submitted to County
* April 2018 Clallam County Hearing Examiner Public Meeting

Tribal Staff presented the following table during a public presentation.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Dates (approx. range mo/yr) | Duration of site visit (#hrs/day, # days/mo) | # People on site/day | Tidal Range for site visit | Chemical treatments of shellfish or habitat? Substance, dose,  frequency, etc.) |
| Set up | Year Round | 4-6 hours/4-12 days | 15 | +1 to -2.5 | None |
| Maintenance | Year Round | 4-6 hours/4-12days | 4 | +1 to -2.5 | None |
| Harvest | Year Round | 4-6 hours/4-12 days | 15 | +1 to -2.5 | None |

If these activities overlap entirely, this table identifies the potential for 34 people to enter the site up to 12 days/month, year-round (144 days/yr). If the activities do not overlap at all, then 4 people would be on-site up to 12 days per month (144 days/yr) and 15 people on an additional 24 days per month (288 days/yr), year-round.

* July 2018 ACE JARPA
  + No specifics regarding the amount of access requested was provided.
  + A boat access area was defined on the end of the site closest to the high-use wildlife area.
* December 2018 Clallam County Permit Application
  + 4–15 people up to 90 days per year for maintenance and harvest. There is no mention of setup or what activities are included in maintenance (e.g., outplanting of on-beach oysters, adding additional bags).
  + A boat access area was defined on the end of the site closest to the high-use wildlife area.
* January 31, 2019, Jamestown S’Klallam Public Forum Presentation
  + 3–6 people, once a week
  + Unidentified number of workers 1–2 times/mo to flip bags
* February 28, 2019, Refuge Comment Submitted to ACE & Ecology
* March 5, 2019, Refuge Comment Submitted to Clallam County

**Assertion:** “…the scientific-basis of the USFWS determination regarding impacts from human disturbance and farm activities associated with the Tribe’s project remains unclear.” “We firmly believe thatlocal positions are not scientifically-based but are political and even personal based.”

**Response:** Appendix A of the comment letter provided to Clallam County in April 2018 (and referenced in our most recent comments) addressed impacts to Refuge wildlife and habitats from disturbance. These cited Refuge-specific data (provided to the Tribe by request in June 2018) and scientific references regarding the impacts of aquaculture and species-specific life history needs. Additional references were used to assess the validity of the conclusions regarding shellfish aquaculture and bird interactions stated in the most recent permit applications (see below), as well as effects associated with new information on the primary access point and human disturbance.

The Tribe’s most recent permit submittals include a report regarding shellfish aquaculture and bird interactions (Confluence report) which concludes that “the scientific record does not support a conclusion that shellfish farming negatively impacts bird use of estuaries,” and that “there may be a net benefit or neutral effect to birds that use Dungeness Bay.” This conclusion relies on outdated information (instead of Refuge-specific wildlife use data), invalid comparisons, mischaracterizations, and factual errors, and does not adequately address non-boat-based human disturbance.

Invalid comparisons and mischaracterizations provided in the Confluence report include:

* A statement implying that “waterfowl in the bay are somewhat habituated to the current level of human disturbance” and that any energetic costs associated with proposed project “are less than significant.” The project area is managed with a public use closure for nine months during the highest use period for wildlife. Access associated with this project would represent a very different level of disturbance than the current closure provides.
* The characterization of results from the Kelly et al (1996) study are misleading. This paper showed that Western sandpiper and dunlin significantly avoid aquaculture plots. These two species are the most abundant shorebirds on the Refuge. Avoidance of high use areas will impact Refuge purposes.
* The Confluence report states that “Stillman et al’s (2015) observations in Humboldt Bay suggest that even 300+ acres of aquaculture activity may be having minimal or no impact on Brant” which is misleading since Stillman et al did not address aquaculture in Humboldt Bay; his focus was brant, eelgrass, and environmental change. In Humboldt Bay, the majority of brant and eelgrass are located in the South Bay (Moore et al 2004), while all aquaculture is located in the North Bay.
* The comparison of brant use and conditions in Humboldt Bay, Willapa Bay, and/or Samish/Padilla/Fidalgo Bay Complex vs Dungeness Bay is inaccurate. Many studies have shown that brant abundance is limited by the amount of eelgrass available since they forage almost exclusively on eelgrass. These areas provide at least 2–4 times the amount of eelgrass as Dungeness Bay (Scripps 2012, Wilson and Atkinson 1995), providing more opportunity for brant to find alternate locations to feed when disturbed.
* Current brant use is 2,700 brant/day, not 600–1,700 brant/day from the 90’s.
* Surveys in 1987, 2016, and 2018 revealed that a low abundance of eelgrass does exist in the revised active portion of the project area and therefore cannot be “naturally absent.”
* A study specific to large-bodied birds (e.g., gull, cormorant, and goose species; Rensel 2003) is incorrectly used to describe distribution and abundance of shorebird use in the bay.
* Assessment of impacts to shorebird prey resources is insufficient since it does not include their main prey source (copopods), but does include species that Dungeness shorebirds do not consume (sea urchins and crabs) or rarely consume (bivalves).
* Inaccurately identifies use of a non-native eelgrass (Zostera japonica) in Dungeness Bay. There are no known instances of this invasive plant in Dungeness Bay.

A valid assessment of shellfish and wildlife interactions must include the impact of human disturbance caused by at least 4–15 people accessing the site up to 90 days/yr, not simply boat-based disturbance as addressed by the report. Flushing distance is much greater in response to humans on the ground (up to 2,400 feet after repeated approaches of humans to brant foraging on nearby eelgrass; Owens 1977) than boat-based approach (630–1100 feet; Smit and Visser 1993). The eastern half of the project area is adjacent to the highest use area for shorebirds and within the highest use area for waterfowl on the Refuge. The newly designated boat access will be a hub of activity, and is also within the highest use area for waterfowl. Both areas are within flushing distance of important forage resources for brant. Many studies have shown that reoccurring, severe, or cumulative disturbance further increases energetic costs to shorebirds and waterfowl and can lead to reduced fitness, decreased productivity, or increased mortality rates, particularly during the spring and fall migration (Cayford 1993, Davidson and Rothwell 1993, Buchanan 2006). In addition, studies have shown that if disturbance is severe or regular enough, brant will completely abandon preferred sites (Tuite et al 1983, Cayford 1993).

**Assertion:** “…we have yet to be provided with any data or evaluation associated with past aquaculture activities that support the conclusions made in the most recent correspondence.”

**Response**: No request for a site-specific evaluation of historic aquaculture operations has been received. An assessment of historic operations would require site-specific, contemporaneous data on aquaculture practices (e.g., types of aquaculture, number of people on-site, date and time of site visits) that may not exist. Distribution and abundance of wildlife during and following active farming as well as other factors that affect wildlife use such as weather, habitat conditions, presence and activity of top predators, and the additional levels of human disturbance in the area are also necessary for such an assessment. Without these data, post analysis is unfeasible.

There are, however, scientific studies that are specific to species that utilize the Refuge tidelands. They show that human disturbance, especially during the migration and wintering seasons, is detrimental to the health and survival of shorebirds and waterfowl (Cayford 1993, Davidson and Rothwell 1993, Owens 1977) and to their continued use of the disturbed area (Fox 1993, Tuite et al 1983, Smit and Visser 1993). Kelly et al (1996) also shows that two of the Refuge’s most abundant species (Western sandpiper and dunlin) significantly avoid aquaculture plots. Papers showing the sensitivity of shorebirds and waterfowl to human disturbance and the impacts of cumulative and repeat disturbance are also available but were not used in the Confluence report (Mori et al. 2001, Davidson and Rothwell 1993, Smit and Visser 1993, Owens 1977).