

From: [BrownScott, Jennifer](#)
To: [Thomas, Sue](#)
Subject: FYI: [EXTERNAL] Aquaculture Compatibility Determination Comments
Date: Tuesday, September 21, 2021 8:39:50 AM
Attachments: [CompatibilityUSFWS09102021.pdf](#)

FYI: We received these comments from the Friends of Dungeness NWR.

Jennifer Brown-Scott
Project Leader
Washington Maritime National Wildlife Refuge Complex
715 Holgerson Road
Sequim, WA 98382
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~~[Dungeness NWR](#)~[Protection Island NWR](#)~[San Juan Islands NWR](#)~[Copalis NWR](#)~[Flattery Rocks NWR](#)~[Quillayute Needles NWR](#)~~

From: Friends DNWR <fodnwr@gmail.com>
Sent: Friday, September 10, 2021 6:21 PM
To: BrownScott, Jennifer <jennifer_brownScott@fws.gov>
Subject: [EXTERNAL] Aquaculture Compatibility Determination Comments

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Jennifer,

Please see attached PDF letter with comments from Friends of Dungeness NWR.

Thanks,
FODNWR



FRIENDS OF DUNGENESS NATIONAL WILDLIFE REFUGE
715 HOLGERSON ROAD SEQUIM, WA 98382

September 10, 2021

Jennifer Brown-Scott
Project Leader
US Fish and Wildlife Service
715 Holgerson Rd.
Sequim, WA 9838

RE: Aquaculture Compatibility Determination

Dear Jennifer,

Friends of Dungeness National Wildlife Refuge would like to express our concern over proposed special authorized access, currently under consideration for the Jamestown S'Klallam Tribe NWS-2007-1213, application for commercial oyster farm within the Dungeness National Wildlife Refuge in Sequim, Washington.

Access to the refuge by boat is not allowed from September 30 to May 15, a regulation that protects the vulnerable wildlife who use this refuge in winter. Disturbance, including lights, noise, human presence, boats and substrate disturbance can be anticipated from a commercial shellfish aquaculture operation, and these activities are in conflict with the purpose of the refuge.

Dungeness Bay has some of the largest eelgrass beds in the Northwest. The eelgrass and associated fauna support regionally significant populations of Brant, diving ducks, seabirds, loons, grebes, and other diving birds. This increasingly rare habitat of Dungeness Bay is especially important to Pacific Black Brant (*Branta bernicla*), a sea goose of the Pacific Flyway, which nests in the Arctic and uses Dungeness Bay for wintering and migration staging. The Pacific Flyway Management Plan for Brant protects critical habitat, including pursuing mitigation (avoidance, minimization, and compensatory mitigation) for loss or degradation of eelgrass beds, grit sites, and loafing sites. This international management plan for the pacific population of Brant includes Russia, Mexico, Japan, the US Fish and Wildlife Service, and the Canadian Wildlife Service. (<https://catalog.data.gov/dataset/pacific-flyway-management-plan-for-pacific-brant>)

The number of Brant in Dungeness Bay has been correlated to eelgrass area in a 7-year study (1986-1993) (Wilson and Atkinson, 1995). Eelgrass surveyed in 2018 in Dungeness Bay shows large eelgrass beds in the southwest corner contiguous to the proposed commercial aquaculture area. Eelgrass is also present in the 16 of the 50 acres of the area, so it would be expected to also find foraging Brant in these areas. Brant have not been found to avoid aquaculture plots, but are less common at low tides with exposed gear (Harvey, 2018). Brant forage and roost in Dungeness Bay, and also consume grit at shoreline to aid in digestion. An average of 1,500 Brant winter in Dungeness Bay from October to February, with 1,596 reported in winter 2018 (USFWS 2018), (Wilson and Atkinson, 1995). Numbers increase during March with annual peak during April migration of 4,000 (Wilson and Atkinson 1995). Eelgrass is the mainstay of their highly

specialized diet (Ward et al, 2005). Due to their short necks and foraging style, eelgrass is not available to them during high tide, when they have been observed waiting over favored eel grass beds (Moore and Black, 2006).

Flushing behavior in Brant is associated with exposure to boats, noise and proximal human activity. Extensive research has been performed to study Brant response to disturbance in Humboldt Bay, a similar ecosystem to Dungeness Bay with eelgrass used by wintering and migrating Brant, with a National Wildlife Refuge protecting a significant portion of the bay. High levels of disturbance were noted to Brant from clamming activity (Henry, 1980). The majority of Brant disturbances were from boats: small boats under 23 feet (27%), people (22%), and large boats (21%) (Schmidt 1999).

Routine disturbance will force individuals to move their foraging efforts to more marginal feeding areas (e.g., less healthy eelgrass beds, areas where they may be more susceptible to predation, or in regions where water depth gives less time to feed in waters shallow enough for them to feed.) The mosaic of habitat is critical in Dungeness Bay. How far will disturbed birds go and when (at what human activity threshold) will they simply leave for another area, one that is likely to be less optimal than Dungeness Bay? Disturbance and flushing behavior in Brant decrease their foraging, resting and gritting time. Reduced foraging time and increased flight time deplete energy reserves of Brant (Ward et al, 1994), especially in the spring when it impacts their migratory and breeding success (Henry, 1980, Lewis et al 2013, Ward et al 2005). Brant increase their eelgrass intake in spring to build up important energy reserves for migration and breeding success in the summer (Wilson and Atkinson, 1995). Longer migratory stopover duration and slower mass gain may occur with even relatively small levels (10%) of disturbance (Stillman, 2015).

Human activity may (1) damage the habitat and (2) disrupt the birds' ability to survive in the area. Human disturbance may be produced by activities associated with aquaculture; such as boats, noise and human activity. The Dungeness Bay commercial aquaculture project proposes to use boats up to 30 feet in length, with hydraulic lifts, using 150-hp horsepower 4-stroke outboard motor, for 50-90 round trips (1-2 per week), lasting for up to 8 hours. The boats will need to traverse Dungeness Bay from public dock sites to the aquaculture site. In Dungeness Bay, low tides consistent with aquaculture work occur at night in the winter, and lights will be needed both by the boats and the estimated 4-15 workers.

The proposed commercial cultivation methods include 29 acres of on-bottom oyster aquaculture in Phase 1, in addition to 5 acres of bagged oysters and beach harvest of mature oysters. The decision to limit the oyster aquaculture project initially to 5 acres of on-bottom bags was made due to likely negative environmental impact findings. From the Mitigated Determination of Non-Significance issued 10/31/19: "The proposal is located within the Dungeness National Wildlife Refuge, which is an important area utilized by migratory birds, waterfowl geese and shorebirds. The following impact could still result in a probable significant adverse impact if not mitigated 1) Potential impact to marine plants and animals from the operation 2) Potential impacts to the Dungeness National Wildlife Refuge. A Mitigation and Monitoring Plan (Exhibit 89 B1.8) was submitted by the proponents. The rationale for the plan states "the most pressing concerns are to Refuge wildlife, particularly migratory birds, and the surrounding habitat as follows: 1) Potential disturbance to the Brant foraging and lofting (sic) habitat 2) Potential disturbance to shorebirds – namely Dunlin 3) Potential impact to eelgrass habitat 4) Potential impact to forage fish spawning habitat 5) Plastic debris from farming activities."

Careful scientific monitoring of the proposed 5 acre bagged oyster project would be necessary, since this method of aquaculture is new to the Dungeness Bay. Bagged oysters require human intervention to avoid sedimentation. They must be flipped routinely. This adds an element of human disturbance to the Refuge that was not seen in previous on-substrate oyster cultivation.

The frequency of oyster bag flipping will depend on sedimentation rate, but with an eventual plan of 80,000 bags of oysters, this presence could be calamitous.

During spring migration alone, Warnock and Bishop (1998) estimate 15,000-20,000 shorebirds use the Dungeness National Wildlife Refuge. Dungeness Bay is recognized as an area of Western Hemisphere Shorebird Reserve Network site of Regional Importance by the North Pacific Coast Regional Shorebird Management Plan (Drut and Buchanan, 2000).

Dungeness Bay is so noteworthy that it has received the Audubon designation "Important Bird Area," identified as being significant habitat for the conservation of bird populations. Located on the north shore of the Olympic Peninsula, this site includes intertidal and subtidal waters of Dungeness Bay, Dungeness Spit, the Dungeness River estuary, and adjacent wetlands. It comprises extensive sandflats and mudflats; some of the largest eelgrass beds in the Northwest; and a network of spits, sandbars, and small islands. Adjacent coastal wetlands contain fresh water and estuarine marshes and ponds maintained by a seasonally high-water table. Dungeness Spit and adjacent intertidal areas lie within the Dungeness National Wildlife Refuge. Dungeness Bay, one of the premier estuaries in the Pacific Northwest, is used by tens of thousands of shorebirds, gulls, and waterfowl during migration and winter. Its sandflats and mudflats provide extensive feeding areas for shorebirds. Over 40 species of shorebirds have been recorded in and around Dungeness Bay, and two nest there: Killdeer, and Black Oystercatcher. Some of the most abundant migrant shorebird species -- Black-bellied Plover, Dunlin, and Sanderling -- also remain in Dungeness Bay through the winter. Subtidal eelgrass beds and associated fauna support significant populations of Brant, diving ducks, seabirds, loons, grebes, and other diving birds. <https://www.audubon.org/important-bird-areas/dungeness-bay>

We feel the proposed economic use is not beneficial to the refuge, its wildlife, and those visiting the refuge. We are concerned that granting special access for a commercial operation within a closed area may have significant harmful impacts. Therefore we ask the Service not to authorize the special access under consideration.

Sincerely,

Friends of Dungeness National Wildlife Refuge
Sequim, WA

References

Audubon <https://www.audubon.org/important-bird-areas/dungeness-bay>

Drut M and Buchanan JB. 2000. US Shorebird conservation plan: Northern Pacific Coast regional shorebird management plan. US Fish and Wildlife Service, Portland OR. 31 pages.

Harvey HT and Associates (HTHH). 2018. Draft black brant monitoring plan :baseline assessment annual report 2018. Prepared for the California Coastal Commission October 6, 2018.

Henry WG. 1980. Populations and Behavior of Black Brant at Humbolt Bay, California. Thesis, Humbolt State University, Arcata, California.

Lewis TL et al. Brant (Brants Bernicia), version 2.0 in The Birds Of North America (A.F. Poole, Editor) Cornell Lab of Ornithology, Ithaca NY, USA <https://doi.org/10.2173/bna.337>

Moore JE and Black JM. 2006. Slave to the tides: Spatiotemporal foraging dynamics of spring staging black brant. *Condor* 108:661-677.

Pacific Flyway Management Plan for the Pacific Population of Brant, updated October 11, 2019 <https://catalog.data.gov/dataset/pacific-flyway-management-plan-for-pacific-brant>

Schmidt, PE. 1999. Population counts, time budgets, and disturbance factors of black brant at Humbolt Bay, California. Thesis. Humbolt State University, Arcata, California.

Stillman RA et al. 2015. Predicting effects of environmental change. On a migratory herbivore. *Ecosphere* 6(7):1-19.

USFWS Maritime National Wildlife Refuge Complex. 2018. Letter and attachments from Jennifer Brown-Scott to Steve Gray providing comments on SEP 2017-00027 dated April 4, 2018.

Ward DH et al. 1994. Response of staging brant to disturbance at the Izembek Lagoon, Alaska. *Wildlife Society Bulletin* 22:220-228.

Ward DH, et al. 2005. North American brant: Effects of changes in habitat and climate on population dynamics. *Global Change Biology* 11(6), 869-880.

Warnock ND and Bishop MA. 1998. Spring stopover ecology of migrant western sandpipers. *Condor* 100:456-467.

Wilson UW and Atkinson JR. 1995. Black brant and spring-staging use at two Washington coastal areas in relation to eelgrass abundance, *Condor* 97:91-98.