

SALISH SEA BIOLOGICAL

MEMO

DATE: January 20, 2013

TO: Gateway Pacific Terminal EIS co-Lead Agencies

FROM: Dan Penttila, Anacortes, WA

RE: Comments on Scoping of GPT EIS

I submit these scoping comments for the GPT EIS as a concerned private citizen and a life-long resident of the northern Puget Sound basin, residing in the vicinity of the proposed Cherry Point coal port and the zone of its environmental and transportation-related impacts. I also contribute these comments as a (retired) fish habitat biologist with a 39-year career with the Washington Departments of Fisheries/ Fish and Wildlife, all involved with marine forage fish (herring, surf smelt, Pacific sand lance, northern anchovy) investigations in the Puget Sound basin, including hundreds of field data-collection days spent in both the immediate area of Cherry Point, Whatcom County, WA, and within adjoining Skagit and San Juan Counties. I am presently operating as a licensed biological consultant, "Salish Sea Biological" out of Anacortes, WA, serving the public, resource agencies, shoreline stewardship organizations, and Indian tribes with forage fish spawning habitat information, and contracted assistance in forage fish-related projects throughout Washington State and the province of British Columbia.

I will organize my comments around the major subjects outlined below.

Cherry Point Herring Spawning Ecology:

In my view and within my area of professional expertise, the primary concern regarding any expansion of industrial facilities in the Cherry Point area is the impact of such expansions on the status of the currently-depressed Cherry Point "late-run" herring population. In the early 1970s, during the advent of specifically-targeted WDF herring investigations at Cherry Point, that stock was the largest known in Washington State, with an estimated annual spawning escapement biomass equaling or exceeding the cumulative size of the rest of the 20 or so other Puget Sound herring stocks combined. The Cherry Point herring stock is now less than one-tenth of its size in the early 1970s, as gauged by annual WDF/WDFW herring spawn survey assessments. The reasons for this drastic decline are not currently known, but it cannot be said that this marked decline is a sign that the Cherry Point herring stock is surviving in a normal condition in spite of the industrialization of its key spawning grounds, as a project proponent's

report recently suggested. Such a contention is absurd on its very face. Quite the opposite might be true, if the stock is finally failing due to the additive effects of multiple industrial impacts to its spawning and larval nursery habitats.

One element of herring spawning habitat quality of overriding importance is the conservation and protection of marine vegetation beds, upon which the spawning fish attach their eggs. The herring spawning activity in the area of the GTP site utilizes a mosaic of shallow subtidal and intertidal beds of both diverse marine algae and the native eelgrass, *Zostera marina*. Documented herring spawning grounds and their marine vegetation beds are currently protected from net-loss by a number of local, state, and federal environmental statutes.

The original dock permit for the site alleged that the pier could be placed through a corridor free of fixed marine vegetation beds, amidst the otherwise virtually continuous vegetation beds to be found along the Cherry Point shoreline. With the passage of many years since that permitting process, the route of the GTP dock over the intertidal and shallow subtidal zones should be re-assessed in relation to currently-existing marine vegetation beds. The shading and therefore eventual destruction of marine vegetation by the over-water dock should not be allowed. Any new dock should be re-designed or re-positioned to avoid the degradation of the nearshore marine vegetation on the site. Any mitigation measures considered for the project's vegetational impacts must be demonstrated to be successful in-place before the project can proceed. Otherwise, the proposal is an inappropriate action for that sensitive reach of shoreline.

Needless to say, the many herring-impact-related studies called for in the late 1990s, during the initial permitting of a bulk commodity shipping facility at the present GPT site, need to be successfully undertaken and assessed by peer-review authorities, before the facility's permit can otherwise be considered.

Potential Impacts to herring commercial fisheries:

During the late 1970s, when the Cherry Point herring stock was at its largest, the area between the existing Cherry Point oil refinery dock and the INTACO aluminum plant dock to the south was the primary herring spawning site for the Cherry Point late-run herring. As such, it was the focus of herring "sac-roe" commercial fisheries by both Indian and non-Indian commercial fishing fleets for a number of years. Puget Sound herring, like the region's salmon, are considered to be a "Boldt-Decision fish", for which certain Indian Tribes have treaty fishing rights. I participated in the WDF team that assisted in fighting-off proposals by a parade of industrial developers: Snelson –Anvil, Kiewit, and finally Chicago Bridge and Iron, to destroy a sector of the intertidal and adjacent uplands just south of the GPT property to establish an oil-drill-rig manufacturing facility, largely based on the shoreline's already-demonstrated importance to herring spawning and the associated herring commercial fishing activity then being undertaken seasonally in the area.

In a future time when the Cherry Point herring regain their former abundance, due to any number of factors such as several consecutive years of high larval recruitment, The GTP site and its vicinity will likely regain its former importance for herring spawning and fishing activity. The presence of the GTP pier and its operations will surely hinder that activity. The ecological and economic value of the shoreline in the vicinity of the GTP dock and its sphere of influence of vessel activities should not be down-graded due to the current low-level usage of the site during the herring's current low stock size. Current conditions may be viewed as a classic case of providing only a "degraded baseline", not relevant to either long-term average conditions or the hope of a restored Puget Sound ecosystem in the future.

Potential Impacts to Other Forage Fish Species:

The Cherry Point area is host to a number of other forage fish species beside Pacific herring, all of them together forming critical central links in the local marine food web.

The surf smelt, *Hypomesus pretiosus*, is known to utilize upper intertidal sandy-gravel beaches both north and south of the existing oil refinery dock at Cherry Point for spawning purposes. They generally come into the upper intertidal beaches during summer high tides to deposit their adhesive eggs on the beach surface material. The eggs would hatch in about two weeks, with the yolk-sac larvae then escaping into the nearshore plankton.

Two potential-impact issues are of concern regarding surf smelt: #1: the maintenance of existing fine sandy-gravel substrates in the face of potential alterations to the intertidal sediment processes in the Cherry Point area, potentially impacted by the intrusion of yet another industrial dock footing into the intertidal zone, blocking the normal "long-shore drift" of sediments.

Issue #2 would be the fate and behavior of coal particles escaping from the GTP dock operations over time and the accumulation of this black material in the sediments of the upper intertidal surf smelt spawning beaches down-drift, causing an increase in in-situ sediment temperatures in the summer months, and thus an increase in in-situ surf smelt egg-mortalities due to thermal shock during the summer months on these beaches, not otherwise protected from sunlight effects by overhanging shading vegetation.

The other shore-spawning forage fish common to the Salish Sea, the Pacific sand lance, *Ammodytes hexapterus*, also uses upper intertidal sand-gravel beaches to deposit and incubate its eggs. Its eggs have not yet been found in the immediate area of the GTP dock site. However, sand lance spawning habitat surveys, necessarily conducted in the late fall-winter months when the fish is spawning region-wide, have not been undertaken in sufficient detail to properly document the distribution of its spawning habitats in the Cherry Point area. A proper scoping of this project should include a closure of this data-gap for both surf smelt and sand lance spawning habitat distribution in the project area. Effective forage fish spawning habitat survey protocols are currently in place and in use in the Puget Sound region by which this might be done.

The northern anchovy, *Engraulis mordax*, is also known to inhabit the immediate area of Cherry Point. Its planktonic eggs are shed into the waters of Whatcom County during the May-August period, and can be found in plankton-net samples in the immediate vicinity of Cherry Point during that period.

Potential Impacts of coal dust on the marine food web:

An issue that must be included within the scoping of the EIS for the GTP project is the fate and impacts of volumes of coal dust on the near-shore marine food web in Puget Sound, both in the immediate vicinity of the Cherry Point dock, and elsewhere along those reaches of Puget Sound shoreline along which the coal trains will travel. This concern might even need to be expanded to include riverine aquatic food webs elsewhere along the coal train routes where coal dust might be escaping from the rail cars.

It cannot be presumed that this material will have no impact. The marine near-shore zone into which this material might be introduced, either during “normal” operations or in massive quantities during accidents is continually full of planktivorous life stages of many economically and ecologically important marine species: all the salmon species (especially out-migrating juveniles), all the forage fish species (from larvae to adults), etc. I foresee the need for lab studies of various designs to determine the reaction of these vulnerable life stages to the presence of coal dust in their planktonic realm. Generally feeding by sight on tiny organisms, to what degree will they ingest these particles during their feeding activities, and what will be the impacts of ingestion of this non-nutritive material on their health at a sensitive and critical time of their lives. Sight-feeding planktivores elsewhere are known to ingest inert materials such as micro-plastic particles, having evolved over millions of years to react to any smaller object within their optic field as a food item, so as to ensure their short-term survival in their highly competitive food webs.

Another marine species of economic importance that occurs in abundance in the immediate area of the GTP proposal is the Dungeness crab, *Cancer magister*, supporting large commercial and recreational harvest fisheries in the general area of Cherry Point. It has been reported that the Cherry Point area is a significant molting/mating area for this species. The potential impacts of chronic subtidal deposition of deposits of coal dust on this species should be addressed in the scoping document.

It would seem straightforward to require available research facilities in the Puget Sound region to investigate this matter prior to allowing the massive transport of coal dust along the shores of the Columbia River and Puget Sound. In retrospect, there should have been intensive and wide-ranging studies of the environmental impacts of coal dust on the marine environment undertaken prior to the establishment of the massive coal port on the Fraser River delta in adjacent British Columbia. A similar suite of marine species and habitats would have been chronically exposed to escaped coal dust. Whether data relevant to GTP concerns exist is not known by this writer.

The “MESA Studies” of the mid 1970s, a several-year biological survey by a number of regional research universities of the Cherry Point oil transshipment corridor now proposed to be used by GPT-bound vessels, would provide much data on the nearshore-dwelling marine resources in the target region.

Potential Impacts of Increased Large-Vessel Traffic in the Project Region:

Over the course of the last 20 years, I’ve spent hundreds of days in the southern Rosario Strait region boating, both professionally and recreationally. Counter to recent media comments by project proponents that the navigational waterways leading to and from the GPY project site are “wide”, I would suggest that they certainly are NOT. The twenty-mile stretch between Point Colville on the southeast corner of Lopez Island, at the south end of Rosario Strait, and the GPT site at the north end of Rosario Strait, is a narrow, current-swept, rock-bound channel with numerous choke-points where the east-west channel width measures 2 or less nautical miles. A minimal cross-channel distance between South Peapod Rock and Buckeye Shoal measures about 1.2 nautical miles. Much of Rosario Strait’s shoreline is comprised of steep rock cliffs, above and below the waterline. It would appear likely that an out-of-control vessel would strike the water-bordering cliffs in many areas before it’s bottom had a chance to plow into softer subtidal sediments that might cushion the impact. Foggy conditions are also common in the Rosario Strait area.

GPT-bound vessels would also share Rosario Strait navigation lanes with oil tankers and aluminum-ore ships bound for the other Cherry Point facilities, and tug-barge traffic bound for Alaska. Escape routes to avoid impending collisions would appear to be minimal within the approach corridor and channel. In the southern sector of Rosario Strait, GPT-bound vessels would have to share the navigation lanes with oil tankers bound for the Anacortes refineries, and cross-lane traffic from the Washington State ferries serving the San Juan Islands, and nearly-constant recreational boat traffic of all sizes most of the year.

Scoping for the GTP EIS must include a detailed analysis of hypothetical vessel operations under various emergency scenarios that might conceivably be encountered in Rosario Strait, given the maneuverability if the GPT-bound vessels and other vessels that might come opposed to them, considering needed stopping distances at operational speeds expected in the Rosario Strait sector.

Given that the GPT vessel traffic is going to be superimposed on an already busy oil transshipment corridor, the scoping document must outline solid commitments for the enhancement and finance of oil/fuel-spill response equipment and its tactical placement, spill-response vessel availability, rescue-tugboat response and availability, conduction of spill-response drills and responder training, and enhanced planning for the prioritization, within immediate post-spill actions, for the protection and recovery of the many sensitive marine habitats within the likely spill-impact area surrounding the GPT shipping corridor.

It should be required that the sponsors and operators of the GPT facility be willing to stockpile funds for compensation those spill-event damages found to be due to the operation of the facility, given that its existence heightens the likelihood that such catastrophic events will now be even more likely to occur.

Potential Impacts of Vessel Operations on Invasive Species Introductions:

The operation of the GPT facility will increase the chances for inadvertent introductions of ecologically-harmful “invasive” marine species into the already heavily-impacted Salish Sea ecosystem. From discussions with state agency staff involved with the control of invasive species introductions, it seems obvious that commercial trans-oceanic vessel operators routinely attempt to avoid proper treatment and offshore exchanges of ballast water as an unacceptable operating expense to them, resulting in documentation of living specimens of “exotic” marine species persisting in ballast tanks of ships already within the Salish Sea inshore waters. This lack of proper vessel operations is unacceptable. Trends in exotic species documentations in incoming vessels’ ballast tanks in recent years at Salish Sea ports should be detailed in the GPT EIS, along with details of measures by which these types of occurrences will be prevented during the operation of the GPT facility.

Another vector for the whole-sale introduction of potentially invasive marine species into the waters of the Salish Sea would be the local cleaning of vessel hulls, in those instances where the vessel operators consider the hulls too fouled to allow efficient operation and fuel economy. Under no circumstances should hull-fouled vessels associated with the operation of the GPT facility be allowed to have hulls cleaned while berthed at Salish Sea ports. Records of non-native marine biota allowed to be freed alive into Salish Sea waters by commercial vessel hull-cleaning operations in recent years should be detailed in the GPT EIS.

Potential Impacts to Regional Air Quality by GPT Facilities and Vessel Operations:

In past years, the Cherry Point industrial zone has been reported to be a “hot-spot” for degraded air quality, likely the result of a combination of inputs from the on-land facility operations and the operations of the vessels serving those facilities. The GPT EIS must detail demonstrably-successful measures to be taken in the operation of the GPT facility and both the vessels and railroad operations serving it to control negative air quality impacts.

Other Issues of Negative Impact:

I will not delve in detail into the many other regional quality-of-life issues relating to the establishment and operation of the GPT facility. Suffice it to say that my voice should be added to the thousands of public responses that will be received that consider the GPT facility as proposed in its present location, with massive rail transport of coal through the Puget Sound basin to be a bad idea. As a resident of Anacortes and western Skagit County, WA, I will be exposed to all the transportation interruption issues and terrestrial habitat degradation issues that the operation of GPT will create.

Closing Remarks:

My voice must also be added to the multitudes that abhor the very idea of degrading our regional ecosystem and quality of life for the promotion of even more rampant industrial burning of coal in China, a country already being heavily impacted by coal burning as a contributor to their horrendous episodes of health-threatening degraded air quality. Rather than making it easier for China to burn coal for industrial purposes, the US should be making it more difficult for them to do so, so as to provide a clear impetus for them to adopt more efficient and clean energy sources, for the betterment of the environmental quality through the entire North Pacific Ocean Basin, not its continued degradation. The continued promotion of coal-burning of a scale such as China's flies in the face of on-going efforts to reduce world-wide carbon emissions and curtail the effects of overly-rapid climate change.

Our species, in its present state of evolution, apparently accepts no limits to its consumptive appetites. The Biosphere and our regional ecosystem does not owe Peabody Coal stockholders their expected profits, nor does it owe the few thousand GPT workers a living. The very concepts of ever-growing profits and ever-expanding economic infrastructure forever are patently absurd. Our species must soon confront very real limits to growth, and disallowing the GPT facility would be a real step in that direction. Leave the coal in the ground until such time, perhaps centuries down the road, when we discover a critical need for it.

Thank you for this opportunity to comment.

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