

## **O'Toole comments on Gateway Pacific Terminal (GPT) Herring Monitoring Program Objectives for 3/12/08 meeting.**

### **Why are we having this discussion:**

Over concern that the proposed GPT trestle/wharf structure may have an adverse effect on the Cherry Point herring's spawning behavior. The primary cause for concern is the location of the proposed GPT wharf structure in relation to a potential "herring migration corridor/schooling area".

### **What is the location of the potential "herring migration corridor/schooling area":**

It is approximately the area offshore from Cherry Point proper southerly to the seasonal creek mouths on the PIT property. This area is immediately north of the Gulf Road, and encompasses the northwestern "wing" of the proposed GPT wharf structure.

### **How did we learn about this potentially "important" area:**

From monitoring the fishing activity in the herring spawn-on-kelp (SOK) fishery, otherwise we likely would never have discovered that this area might be "important" in regard to the Cherry Point herring spawning stock. The Cherry Point SOK fishery started in 1988 and closed in 1996 (due to low spawning stock size). Starting with the first year of the fishery it became obvious rather quickly that this area contained an unusually large amount of herring schools. WDFW staff noticed that at least 50% of the seine sets and approximately 60-70% of the successful catches (O'Toole estimate) took place in this relatively small area (the area just north of the Gulf road up to Cherry Point proper). The SOK fishers could operate anywhere from Blaine all the way south to Hale Pass (over 25 miles of shoreline), wherever they wanted, but most of the fishing effort and catch was concentrated right in this area. This is very interesting, because the beach inshore of this area does not generally receive more than an average amount of spawning activity. The most utilized spawning beaches are those in the Point Whitehorn area.

### **Brief Cherry Point SOK fishery description:**

Vessels are salmon seine boats using large herring seines, the seine nets are generally 1,600 feet long. The boats roam around and scout for fish schools with side scanning sonar. When a fish school is located, a set is quickly made, and the net is pursed up alongside the boat. If the set is successful and there are herring in the net, a few sample fish are tested for "ripeness" by squeezing or cutting. If fish are "ripe" (ready to spawn very soon - within a day or two), the seine skiff attaches a bridle to the opposite side of the seiner from the pursed net and slowly tows the seine boat sideways over to the net pen (which is why the pens are usually located very close to the fishing ground). The towing is done very slowly to keep the fish from being damaged. The fish are then transferred to the net pen through a web "tunnel". In the net pen, large fronds of *macrocystis* kelp are hung from lines across the pens. The ripe herring generally spawn on the kelp within a day or two. The fish are then released, and the SOK product harvested. The SOK product was very valuable during this fishery, ~\$30/lb for good product, but less valuable nowadays due to lower demand.

**Where were the net pens located:**

Most of the net pens were located immediately south of the aforementioned fishing ground, in front of the Gulf Road. A few pens were occasionally located just north of the fishing ground between Cherry Point proper and the BP (then ARCO) dock. And occasionally there would be a few pens located just north of the BP (then ARCO) dock, or at Point Whitehorn (just inside Birch Bay). The fishers could move their pens around during the season if needed, but it was not commonly done. One interesting and potentially significant observation over the eight years that the SOK fishery operated was that the fishers would never place their pens in the actual aforementioned fishing ground, only north or south of it, probably because the pens would have been in the way of where they were usually making sets.

**Why were the seine fishers more likely to find schools of ripe herring in this area compared to other areas, even those areas like Point Whitehorn with considerably more spawning activity:**

Not certain. But most likely has something to do with this area's location at the inshore end of a bathymetric trench. The trench angles northwest away from shore, and is the deepest water closest to shore in the Cherry Point reach. This area might be a natural "funnel" for ripe fish to transit onshore from their offshore deepwater holding grounds. Or it might be that the herring just prefer the deepest water possible before "hitting the beach" on a spawning run. For whatever reason, the large amount of herring schools consistently found in this relatively small area was remarkable.

**For purposes of this discussion, what is the difference between a "spawning herring" versus a "ripe prespawner herring":**

A "spawning herring" is one actually in the act of spawning. They spawn next to the beach in the upper subtidal and lower intertidal zones, from about -10 to +2 feet in tidal elevation. The eggs are deposited on eelgrass and marine algae. Oftentimes large spawning events can easily be spotted because the water in the area is actually turned white by all the milt. In the SOK fishery, once spawning began, these fish were located in depths too shallow for the seine boats to reach them with their large nets.

A "ripe prespawner herring" is one that is ready to spawn, probably within a day or two, but not involved in the act of actual spawning yet. In the SOK fishery, these fish were the ones generally targeted by the seine boats, and were most often caught in depths ranging from about 30 to 120 feet.

**Do "spawning herring" display skittish behavior:**

No, they are pretty much oblivious to everything outside of their own spawning activity. Although they prefer to spawn on eelgrass and marine algae, if you waded out into the eelgrass while they were spawning, they might spawn on your hip boots. We have occasionally found herring eggs on the backs of live crab, etc., during a large spawning event.

**Do “ripe prespawner herring” display skittish behavior:**

Yes, fishing boats and nets can spook these herring. The schools are often moving targets and seine sets are sometimes unsuccessful, even with side scanning sonar and the huge nets used. When not actually in the spawning act, herring are naturally skittish probably because just about everything around them likes to eat them.

**Why are we making the distinction between “spawning herring” and “ripe prespawner herring”:**

Because we feel that the ripe prespawner herring are more likely to be disturbed by the proposed trestle/wharf structure (and associated shipping and operations activity) than the spawning herring. As mentioned above, eight years of SOK fishing activity monitoring indicates that this area may be a “migration corridor/schooling area” for ripe prespawner herring. Due to the skittish behavior of these fish, the location of the north wing of the proposed GPT wharf structure inside the potential “migration corridor/schooling area” is a cause for concern.

**Do we know for absolutely for sure that these “ripe prespawner herring” are going to be disturbed by the proposed GPT trestle/wharf structure (and associated shipping and operations activity):**

No.

**Was the timing of the closure of the Cherry Point SOK fishery and genesis of the GPT project unfortunate:**

In a way, yes, we first heard about the GPT project in 1996, which was the last year of the fishery. If the SOK fishery had remained open just a few years longer (or conversely if the GPT proposal had come in a few years earlier), we probably could have definitively nailed down and answered the “is there a preferred migration corridor/schooling area at the GPT site” question. The efforts made by the PIT folk’s consultants to answer the question in 1998 and 2004 were worth a try, but in reality (and in hindsight) it is highly unlikely that such a small level of survey effort could ever answer the question. Nothing like having ten or so seine boats with sonar, large nets, and motivated crews (\$\$\$’s) roaming around a herring spawning ground for a month to provide information on fish distribution.

**Is there risk to the Cherry Point herring stock from the GPT project:**

We (WDFW) believe there is some level of risk, how much risk we don’t know, but it is clearly enough to give us concerns about the proposed GPT project.

**At this point, what proposed revisions to the Herring Monitoring Program (Appendix C) document that are listed in PIT’s 2/28/2008 Discussion Draft are we definitely in agreement with:**

We agree that the PIT’s proposals to implement Contingencies 5 and 8 are very good measures.

**Point to note - regarding the development of Herring Monitoring Program (Appendix C) document:**

During development of the document (1997-99) everyone involved was operating under the assumption that there was going to be another trestle/wharf structure (called CPIP) immediately to the south of the GPT trestle/wharf structure. Approximately one year ago we received information that there was only going to be one more trestle/wharf structure allowed in the Cherry Point reach. If this information is correct, it may open up new options to decrease the potential risk to the Cherry Point herring stock from the GPT project.

**What is an example of an option that would likely decrease the level of risk:**

In my opinion, probably the single most important thing that could be done to minimize the level of risk would be to slide the proposed GPT wharf structure as far south as possible, basically have the “long” part of the wharf structure extend south, with little or none of the wharf structure extending northwest of the trestle. The trestle structure could remain where it is currently proposed. In order to maintain the correct depth contour, the “east-west” angle of the proposed wharf structure would have to be adjusted to more “north-south”, with the south end of the wharf structure angled further offshore than is now proposed. This option would get the wharf structure as far away from the primary area of concern (the potential “herring migration corridor/schooling area”) as possible. Clearly, this was not an option during development of the Herring Monitoring Program document, as it would have placed the south end of the GTP wharf structure on top of the north end of the proposed CPIP wharf structure.

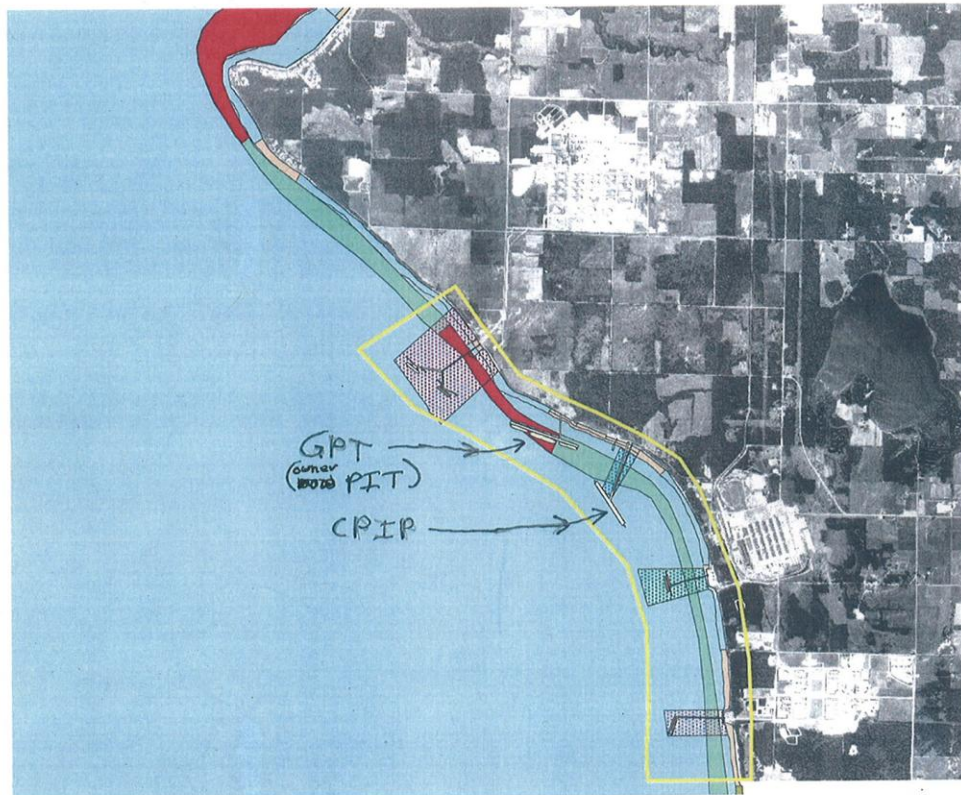
**FYI -**

**Herring Monitoring Program (Appendix C) Objective Questions:**

- 1. Nearshore migration corridors/schooling areas:**
  - 1.1 Are there preferred nearshore migration corridors/schooling areas at or near the GPT project site?**
  - 1.2 Does the ship activity at the GPT site disrupt the use of a preferred nearshore migration corridor/schooling area?**
- 2. Nearshore lateral migration: Does the trestle/wharf structure, ship activity, and bulk terminal operations at the GPT site disrupt the nearshore lateral migration and concentration of the herring?**
- 3. Spawning behavior: Does the trestle and ship activity at the GPT site displace the herring from using the spawning habitat in the immediate vicinity of the trestle?**

Proposed locations of GPT wharf/trestle structure and CPIP wharf/trestle structure.

## Existing and Proposed Facilities Around Cherry Point

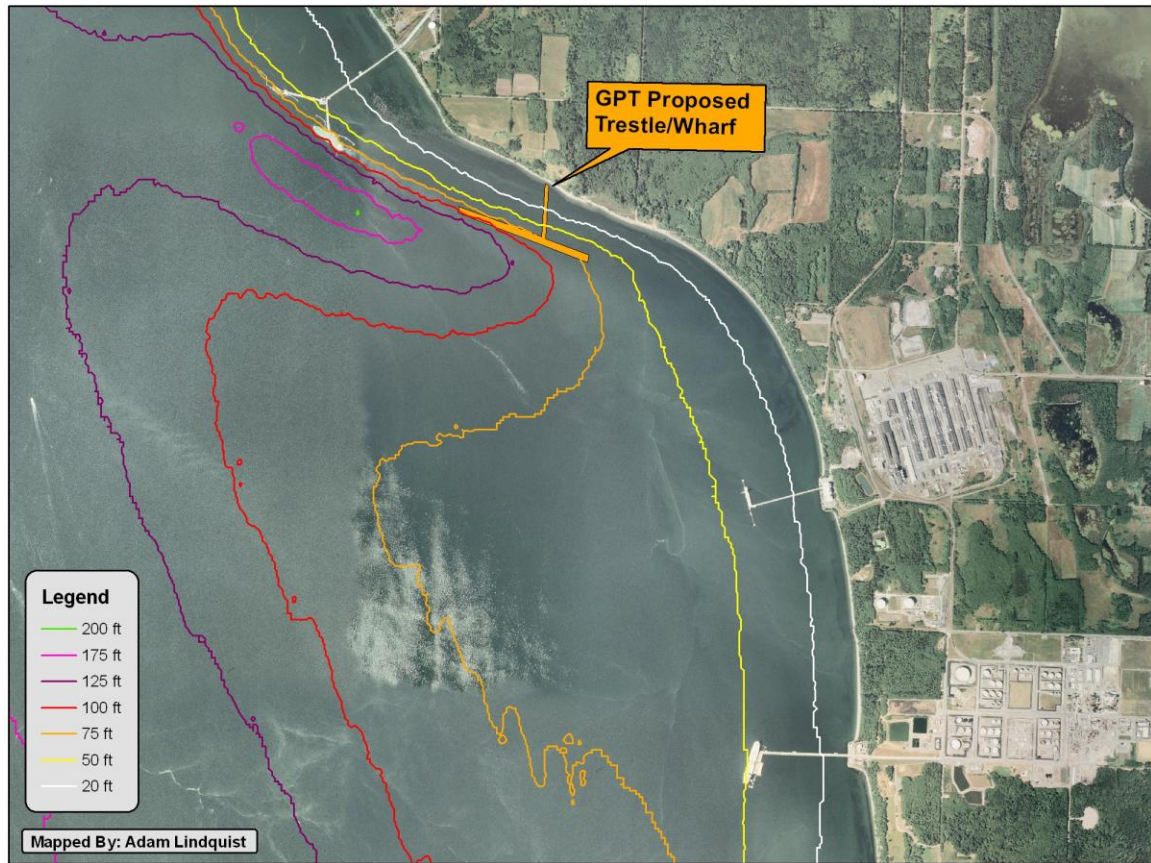


0 2 Miles

- Habitat Focus Area
- Facilities**
- Existing Structures
- Proposed Structures
- Chicago Bridge and Iron Lease
- ARCO Lease
- INTALCO Lease
- Bellingham Sand & Gravel Lease
- TOSCO Lease
- Herring Spawn Habitat**
- 1997 Habitat Used
- Historic Habitat
- Ownership of Land**
- Private
- Public
- Tribal Reservation



Produced by DNR Aquatic Resources using DNR ownership information and WDFW herring stock assessment information. November 4, 1997.



Note – GPT Proposed Trestle/Wharf structure pictured above may not be drawn exactly to scale.