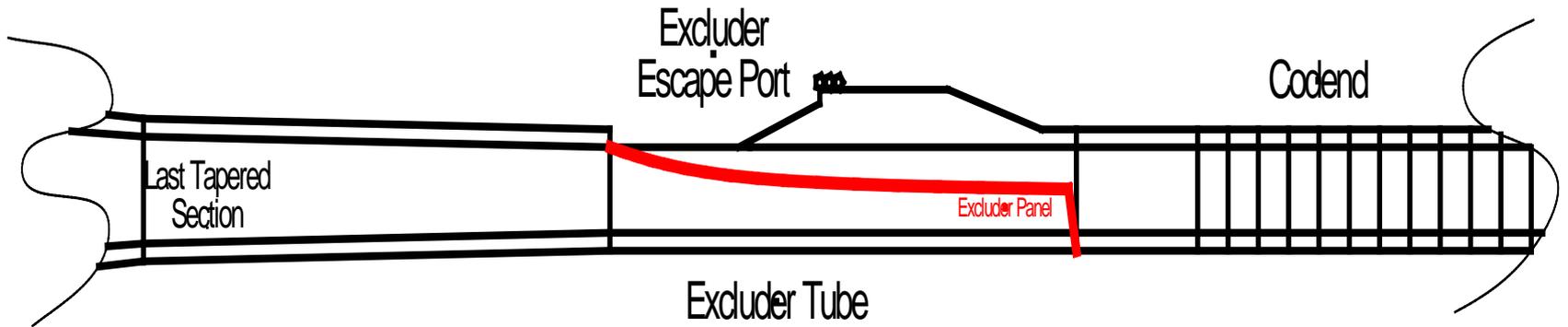


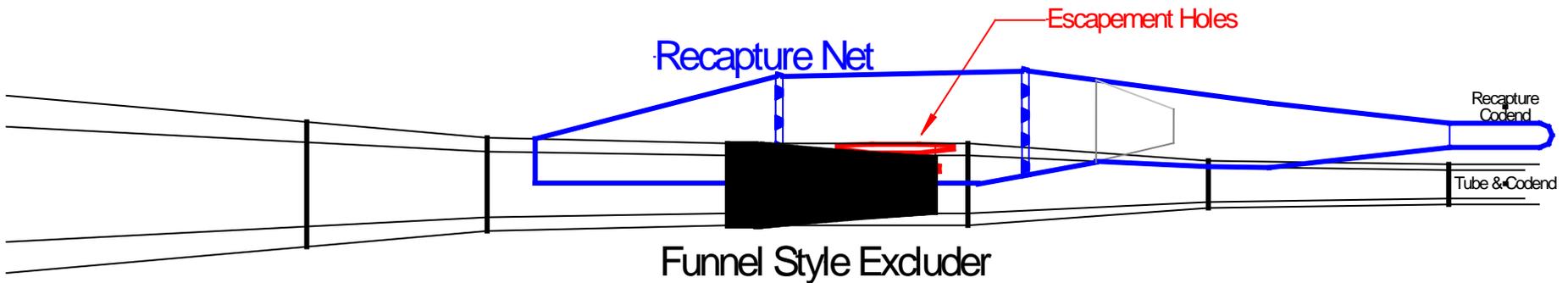
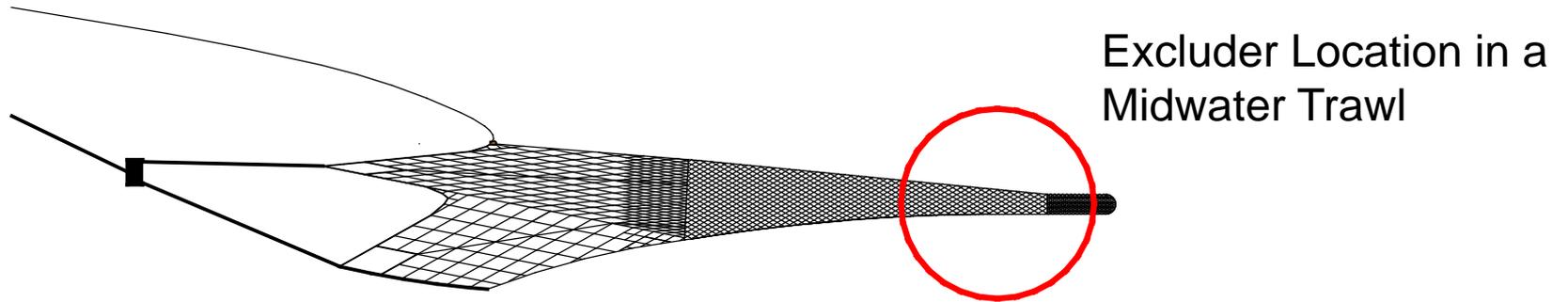
Salmon Excluder Update

September 2010

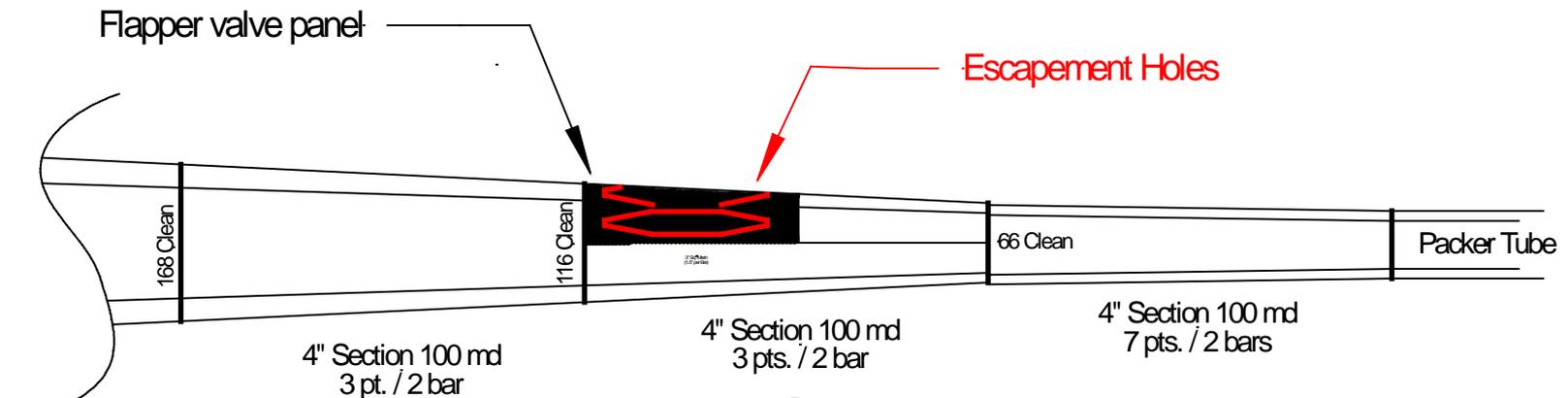
Excluder Concept



Salmon Excluder

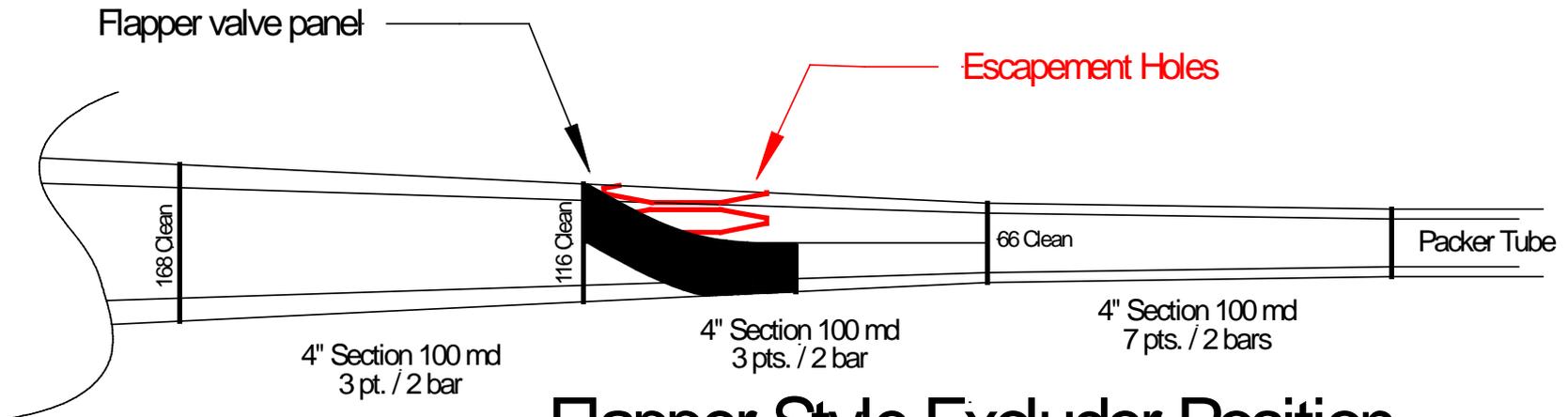


Earlier concept of flapper excluder designed to work with slowdowns alone



Flapper Style Excluder Position While Towing - note that Flapper Panel held against the inside walls of the trawl intermediate by water flow.

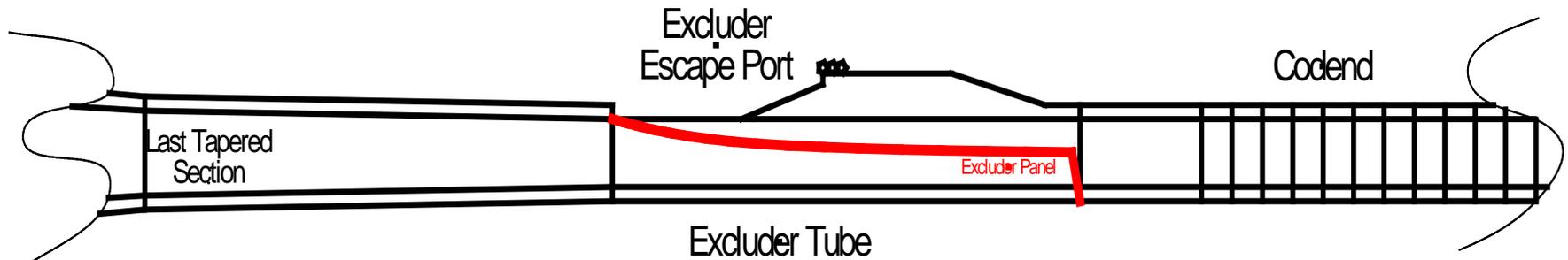
Flapper in “down” position during slowdown



**Flapper Style Excluder Position
During Haulback Slowdown** - note that Flapper Panel has dropped due to the reduced water flow and has collapsed forming a "ramp" that guides salmon swimming forward up and out the escapement holes.

Excluder Tested in 2010 A Season

1. Located Closer to Codend.
2. Excluder Panel (flapper) positioned by weight placement.
3. Raised Top Panel for increased escapement clearances
4. Reduced or eliminated the need for slow downs.



Model of Current EFP Excluder in Flume Tank



Results of current flapper excluder testing- Chinook Escapement

| Test /date | Vessel | Codend salmon # | Recap salmon # | Salmon escape % |
|---------------------|------------|-----------------|----------------|-----------------|
| Winter 2009 P1 | Pac Prince | 726 | 91 | 11.1% |
| Winter 2009 P2 | Pac Prince | 1079 | 209 | 16.2% |
| Winter 2009 | Starbound | 720 | 70 | 8.9% |
| Fall 2009 P1 (chum) | Starbound | 196 | 5 | 2.5% |
| Fall 2009 P2 (chum) | Starbound | 643 | 34 | 5.0% |
| Winter 2010 P1 | Pac Prince | 122 | 62 | 33.7% |
| Winter 2010 P2 | Pac Prince | 37 | 25 | 40.3% |
| Winter 2010 P1 | Starbound | 150 | 49 | 24.6% |
| Winter 2010 P2 | Starbound | 38 | 21 | 35.6% |

Results of current flapper excluder testing – Groundfish Escapement

| | Test /date | Vessel | Codend groundfish | Recap groundfish | Groundfish % |
|--|---------------------|------------|----------------------|---------------------|--------------|
| | Winter 2009 P1 | Pac Prince | 445 | 18.6 | 4.0% |
| | Winter 2009 P2 | Pac Prince | 806 | 27.9 | 3.3% |
| | Winter 2009 | Starbound | 1482 | 7.1 | 0.5% |
| | Fall 2009 P1 (chum) | Starbound | 814 | 22.6 | 2.7% |
| | Fall 2009 P2 (chum) | Starbound | 574 | 14.1 | 2.4% |
| | Winter 2010 P1 | Pac Prince | 849 | 14.2 | 1.6% |
| | Winter 2010 P2 | Pac Prince | 396 | 6.8 | 1.7% |
| | Winter 2010 P1 | Starbound | 689 | 2.8 | 0.4% |
| | Winter 2010 P2 | Starbound | 433 | 2.1 | 0.5% |

2010 EFP Excluder

Tube Excluder Section
100 Meshes Long by 46 Points Wide

