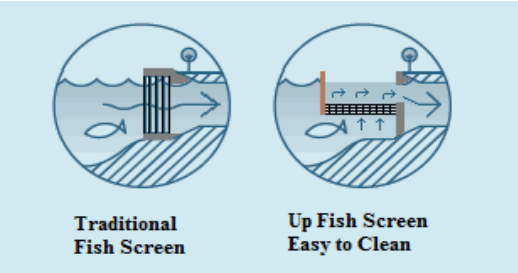
Fish Death Trap
Clifton Court Forebay

- **Fish screen replacing levee to keep Fish in Delta (West Canal) and out of the Clifton Court Forebay (CCF).**
- **Re-route Central Valley Project intake to receive all it's water from Clifton Court Forebay.**
- **Retire both fish capture and relocation facilities (no longer needed) permanently to save $$$.**



Handy Conversions			
CFS	**AF / Day**	**AF / Year**	**MAF**
3,000	5,948	2,171,121	2.2
9,000	17,845	6,513,362	6.5
12,000	23,793	8,684,483	8.7

CCF holds 29,000 Acre Feet (AF)

1.5 Mile long new fish Screen for CCF

1.5 Million Square Feet of Screen area.

Flows slowed to 0.02 CFS at 12,000 CFS with screen size 0.0375 x 0.0464

Req. = flow > .2 CFS with screen 0.156 x 0.0938

Operationally:

- Clifton Court Forebay – Originally was an island but converted to water storage for SWP to allow pumping at night (when fish are sleeping and power is cheaper) and holds 29,000 Acre Feet (AF).
- **UP Fish Screen** at CCF intake – As pictured above the fish can swim under the screen and the screen is between the surface and bed of the water with a boom like floating stopping any floating debris from clogging screens.
- ***FLOWS*** – Pump all day while filling CCF only at night allows the natural flow of (Delta) all day long to flush out any fish that were drawn to the Clifton Court Forebay intake screen area.
- CVP pumps would change it's intake to getting water from CCF instead of river.
- Closing the (no longer needed) Tracy (CVP) and Skinner (SWP) Fish Screen Facilities will eliminate the death of fish and save the cost of operating and trucking the fish to other parts of the Delta.
- Automated water sprayers would periodically clean the new filters as needed.
- With ZERO fish deaths, restriction on pumping will be harder. The improved Delta flows will also help ease restrictions. Win for fish, Delta, environment and export water!!!

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Salinity Control - 3D Delta Modeling needed to convince DWR

4 related 3-dimensional hydrodynamic water quality models need funding:

- **Keep ¾ of the strait un-blocked** with **¼** blocked with a shipping lock and tidally controlled louvers
- **Keep ½ of the strait un-blocked** with **½** blocked with a shipping lock and tidally controlled louvers
- **Keep ¼ of the strait un-blocked** with **¾** blocked with a shipping lock and tidally controlled louvers
- **Keep 1/12 of the strait un-blocked** with **11/12** blocked with a shipping lock and tidally controlled louvers

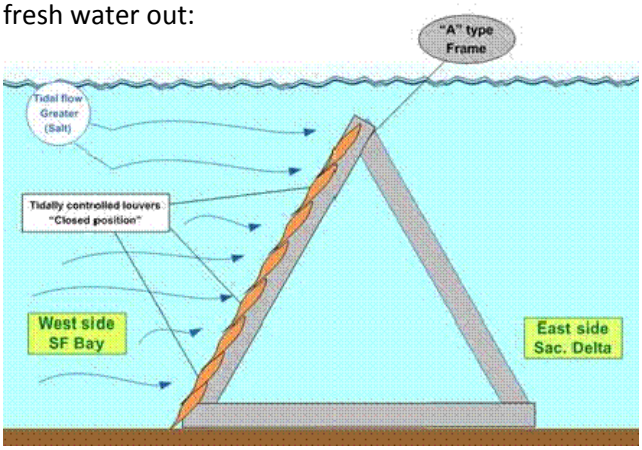
NOT a DAM, Sill or Barrier as previously studied!!

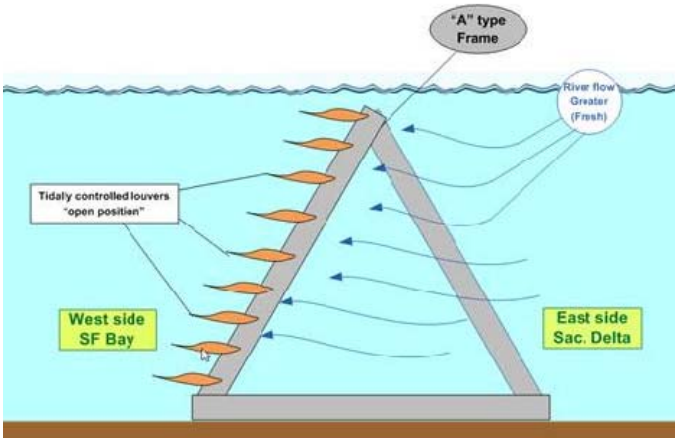
One section always left open (un-obstructed in any way) for fish and small water craft.

With **¼** of strait blocked (south side with shipping channel and tidally controlled louvers):

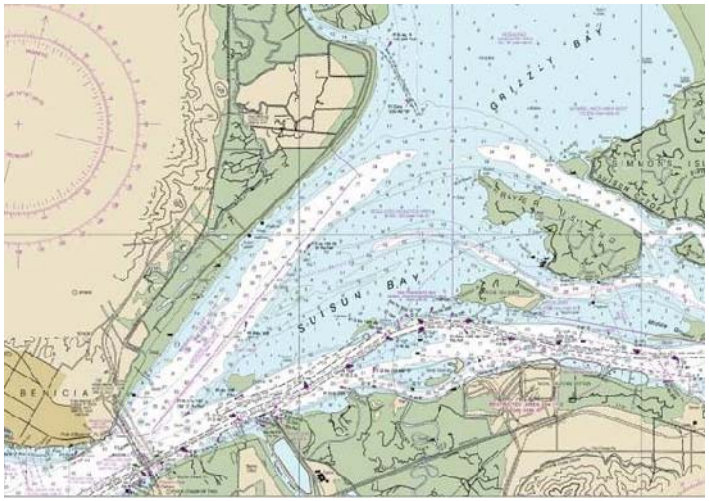
- 30% to 65% reduction of the salt water intrusion into Sac. Delta area?
- Redirect salt water push into Grizzle Bay? Not into Sac. Delta?
- Reduced salt water flow into Delta due to reduced opening across the straits
- Maintains fresh water flow out to the SF bay.
- Lock would make the ship passage by the 3 Benicia bridges safer. (ie.. Cosco Busan hit Bay Bridge)
- PPIC reported that 71% of water released from reservoirs to the North is for salinity control for water exports, 18% for fish. (30% of 71% = 21% in Dry year 12 MAF x 21% = ***2.5 MAF*** or WET 48 MAF x 21% = ***10 MAF***)
- **More Fresh water to export while keeping more water in our Northern reservoirs.**
- **More of a fresh water Delta will add wildlife and help the environment grow and thrive.**

The following is what the tidally controlled louvers would look like, stopping the salt water intrusion while allowing the fresh water out:





NOAA Chart of the Benicia area is great to see how reducing and redirecting the tidal flow to Grizzly Bay by blocking the shipping channel and adding tidally controlled louvers which will have a dramatic effect on salinity control when you keep in mind that salt water is heavier than fresh water.
http://www.charts.noaa.gov/OnLineViewer/18656.shtml



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