

# Floating Upwelling Nursery Systems (FLUPSY's) in Marinas -The Shelton Experience-



Presented By  
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# How Do Flupsy's work?

- “Seed” purchased and placed in holding bins.
- Bins submerged in circulating water (circulated by pumps).
- Organisms “filter” feed directly through water column. No feed or fertilizers utilized.





# How Do Flupsy's work?

- Organisms screened by hand
- Monitored for growth.
- Like sizes segregated until plantable size (generally 12-14 mm)
- Taken off-site and either sold (to other growers) or planted in commercial (approved) growing beds.



# Benefits

- More farmers operating nurseries allow hatcheries to sell smaller seed which, in turn, allows them to produce more animals (the industry wins as seed continues to be a HUGE limiting factor).
- Very cost effective for farmers.
- Mortality rate of animals is much lower than in the “wild”.
- Flupsy of this size (2 boathouses) can produce about 10 million animals annually equating to approximately 1.5 million dollars (gross) annually.
- Direct full time employment for two workers at the site but also supports larger farming operation.
- Convenient – close to utilities, infrastructure, and boating facilities.
- Keeps farmers out of the weather!
- Can help make marinas more profitable





# Permitting Challenges and Concerns

- City of Shelton Shoreline Master Program (SMP) required a Conditional Use Permit for ALL Aquaculture. Cumbersome.
- No limit on (recreational) boathouse use to (commercial) FLUPSY use considered in SMP. Concern regarding dual priority uses in Shoreline Jurisdiction (recreational / water access vs. aquaculture).
- Water Quality and Pollution impact on off site growing beds. Concern raised regarding potential contamination of off-site planting beds due to uptake of pollutants by filter feeding organisms.
- Concern that increased spat from organisms may negatively impact water intakes and props/rudders on boats through increased organism growth (maintenance issues).
- Concern regarding electrolysis from increased electrical use which may degrade metals in adjacent boats/docks.
- Concern regarding boathouses that nearly ground during low tide (transport of invasive species to off-site beds).
- City of Shelton Shoreline Master Program Update (2013) attempted to address concerns.