Alaska Geoduck Nursery Conditions Checklist
3-25-26 Living Draft

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Flow Rate: 6 gpm. Laminar flow from one end to another. Can use food dye to adjust delivery so most geoduck receive food. Adjusting flow direction and velocity as needed.[1]

Header Tank and Recirculation: Most hatcheries use large header tanks to recirculate the water and add food/phytoplankton in. Tanks are emptied halfway every 2 days and completely refilled every 4 -7 days. Food is added to these tanks.

Food: Larger food for seed, such as: TISO, Thalassiosira

Food Rate: Deliver food after geoduck have settled into the sand. Food needs increase greatly as the geoduck get larger. The geoduck from Seward will need all the food you can provide since they are large.[2] One rule of thumb is to make the header tank water the color of Mt Dew.

Number per tray: 500-700

Water Temps: Try 7C-10C at nursery to see how well they dig in. Alaska geoduck may be ok/active in cooler water. Alutiiq pride is reportedly raising them in 7C, and growing… If outside water temps get warmer, adjust to match those temperatures.

Dissolved oxygen: 8mg/l or 80% or higher

Salinities: Pull water below freshwater lens, at a minimum the PSU/ppt should be in upper 20's.

Sand depth: Near top of tray

Lighting: Keep in dark place or use shade cloth

Prior to Ketchikan arrival:

- Sand trays full and “burped” to release air pockets
- Raceways and header tank at temperature
- Food ready

When at Ketchikan:

- Evenly distribute into sand trays, butt down.
- Document digging rate.
- If more than 30% are not digging in (lethargic, laying on their side) after 24 hrs, step increase temperature by 1 degree. Reassess. Repeat after 24 hours as necessary, stopping at 11C.
- Sprinkling sand on stubborn ones may encourage digging.
- Immediately remove mortalities

Daily and Logbook:

- Daily Temperature, DO, pH and Salinity inside nursery tanks.
- Behavior Indicators: Visual of geoduck siphons (just above surface, extended far out?). Extended far indicates there isn’t enough food.
- Rotate trays inside the raceways as needed, to even out access to food. A food grade dye can help assess food distribution.

Outplant:

- Outside temps to outplant: 50*F or 10*C (this may be lower for AK geoduck)
- Ketchikan historical water temperatures:

Month	C	F
Jan	6.5	43.6
Feb	6.1	43.0
Mar	6.1	43.0
Apr	7.1	44.7
May	9.4	48.9
Jun	12.2	54.0
Jul	14.2	57.5
Aug	14.2	57.5
Sep	12.5	54.6
Oct	10.5	50.8
Nov	8.2	46.8
Dec	6.8	44.2

Figure 1. Current nursery setup at Oceans Alaska.

[1]: Some nurseries deliver the water via drip piping (¾ ‘ pvc with holes drilled) over the tank but this isn't necessary and may become an issue with fouling/bacterial growth.

[2]: Most hatcheries struggle with this, that's why they want the seed to leave after a certain size (5mm).