

**Areal Extent of Degraded Benthic
Communities**

and

Benthic Community Colonization Potential

of

Scuffeltown Creek

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Summary Points

1. Areal extent of degraded benthic bottom
 - 76% in both creek systems

2. Abundance of individuals
 - 16% of the sites received a low score for too little abundance

 - 14% of the sites received a low score for too much abundance

 - 84% of the sites had reference levels of abundance or greater

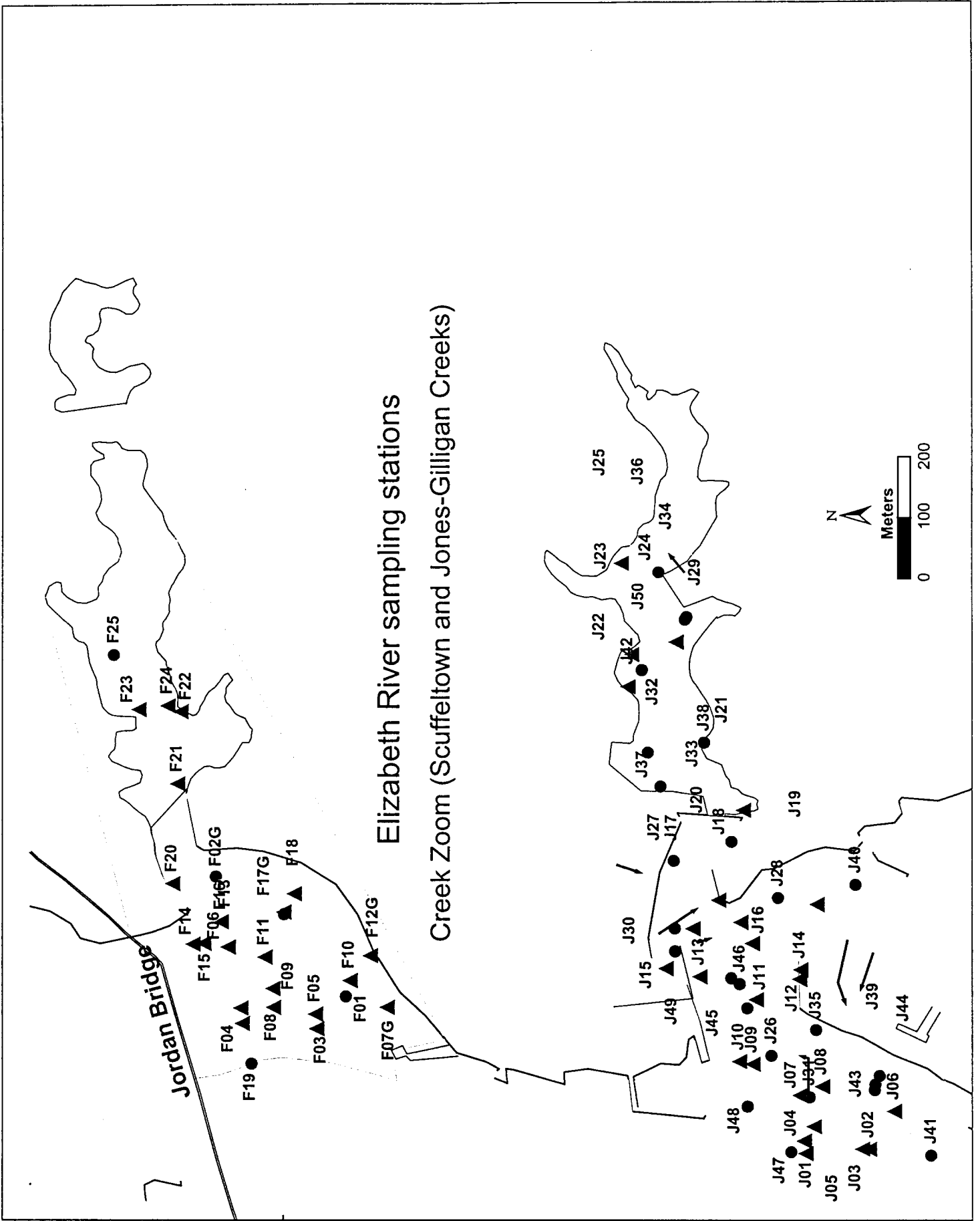
3. Metrics above (or at) the reference level median (n = 50)

1 for Shannon Diversity Index	-	2%
5 for Abundance	-	10%
1 for Biomass	-	2%
4 for Pollution Indicative Taxa	-	8%
2 for Pollution Sensitive Taxa	-	4%
1 for Carnivores/Omnivores	-	2%

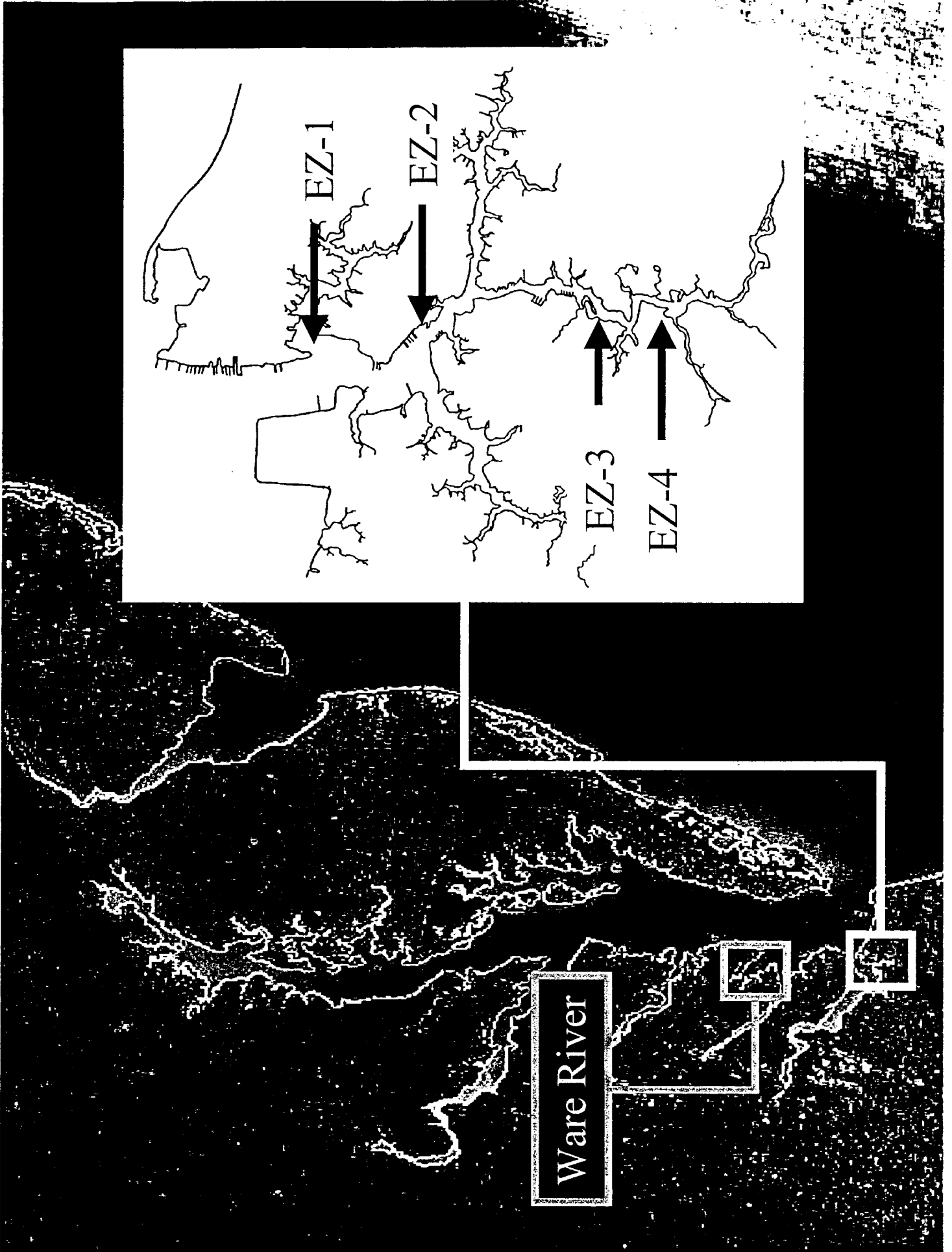
4. Colonization Potential - CBEEC Results
 - First Year - Four locations in Elizabeth River
 - Number and kind of species colonizing
 - Same in Ware River and Elizabeth River
 - Number of individuals colonizing
 - Less in Elizabeth River

 - Second Year - Nine levels of contaminants - Contaminant Effect
 - Expected effect on number species (but not remarkable in magnitude)
 - Unexpected effect on abundance
 - Dominant species - *Polydora cornuta*
 - Expected effect on deep dwelling species

Parameters	Scuffelton Creek	Jones/Giligan Creeks	Reference Median Range for all Habitats
BIBI	2.35	2.29	3.00
Metric			
H' (Shannon Diversity Index)	2.5	2.6	2.0 - 3.0
Abundance	4,333	3,532	1,500 - 5,000
Biomass	1.04	0.99	2.0 - 20.0
Community Composition			
Biomass Pollution Sensitive (%)	4.4%	14.6%	> 25 - 40%
Biomass Pollution Indicative (%)	67.4%	58.3%	< 15 - 30%
Per Cent Degraded Bottom			
	76%	76%	

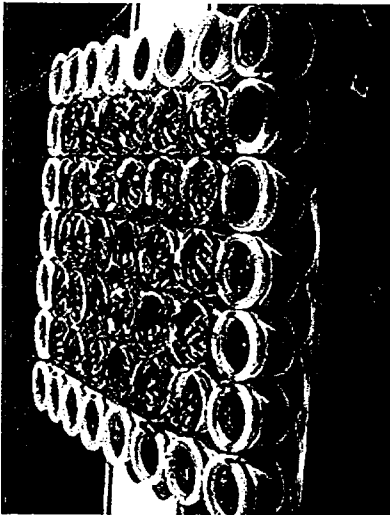


Elizabeth River sampling stations
 Creek Zoom (Scuffeltown and Jones-Gilligan Creeks)



Ware River

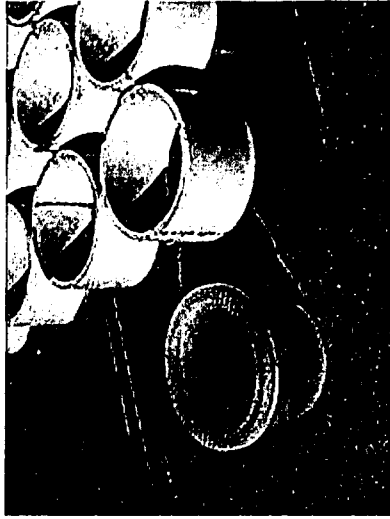
Arrays



Arrays consisted of a 7 X 8 arrangement of sediment containers.

Sediment type assigned randomly to array.

Container was filled with sediment to within 1 cm of the top.

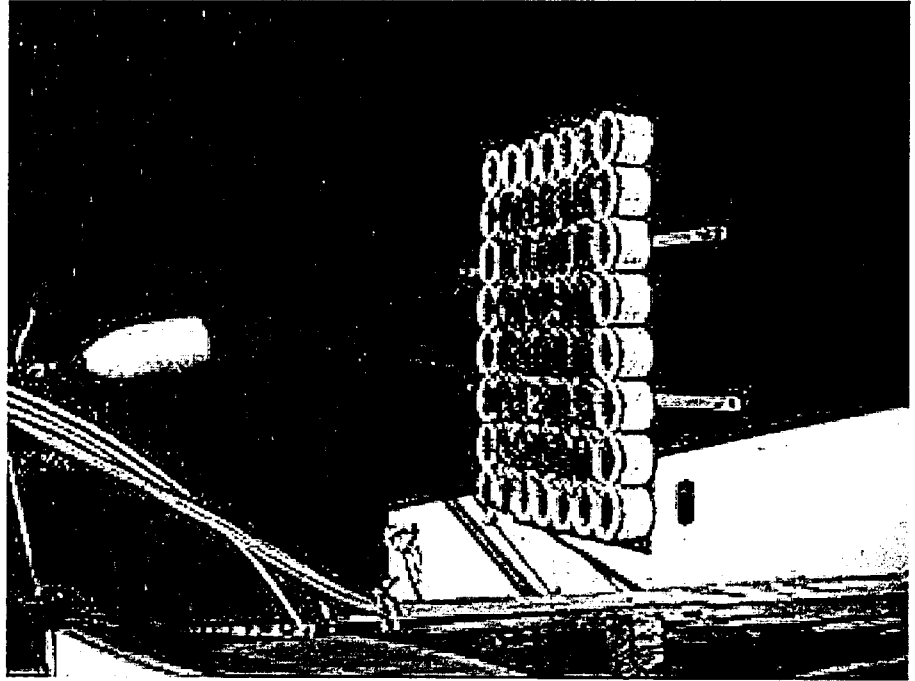


Arrays deployed to four locations in Elizabeth River and one in Ware River.

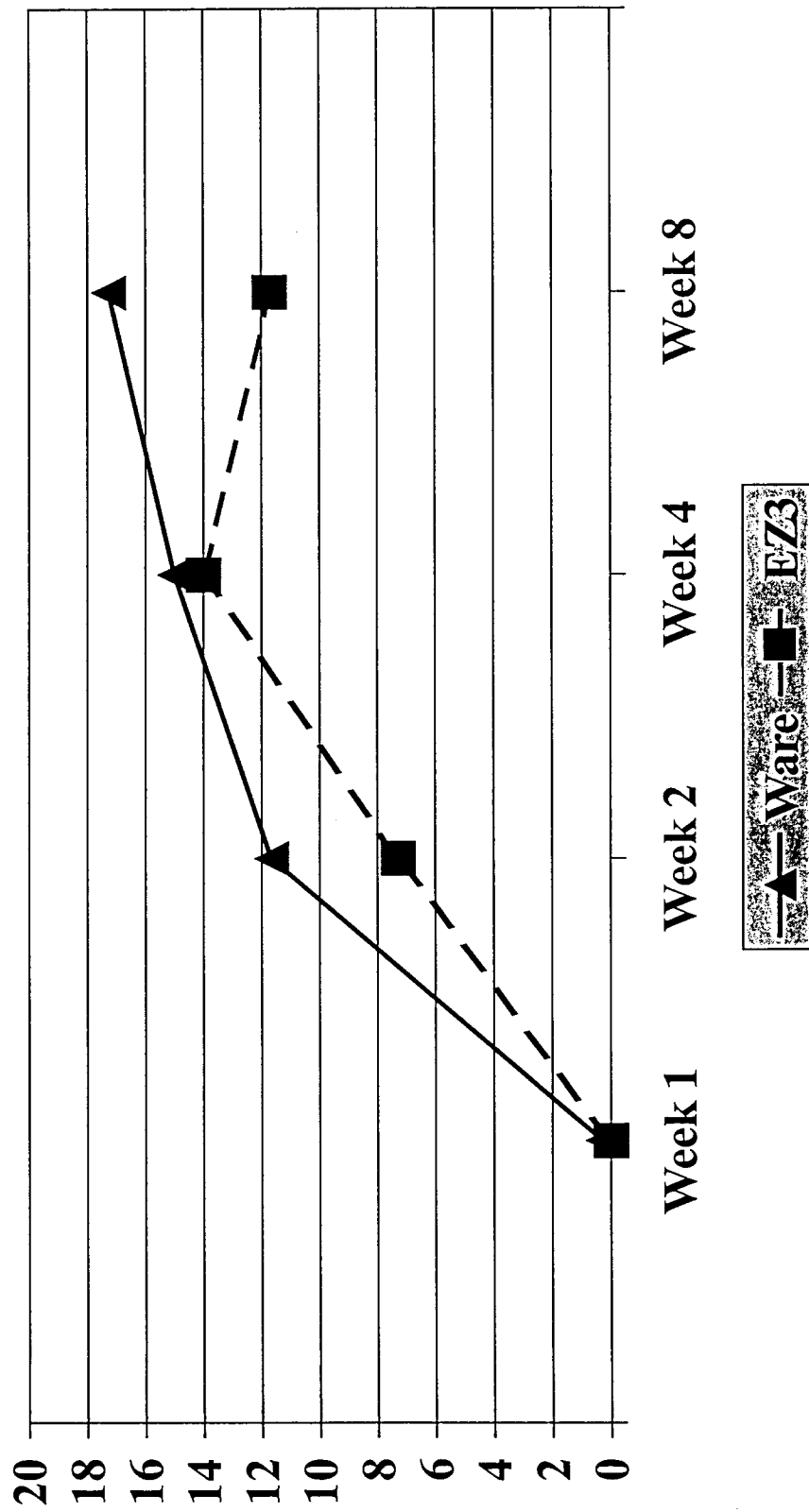
Top diameter = 11 cm

Arrays retrieved at 1, 2, 4, 8, and 16 weeks.

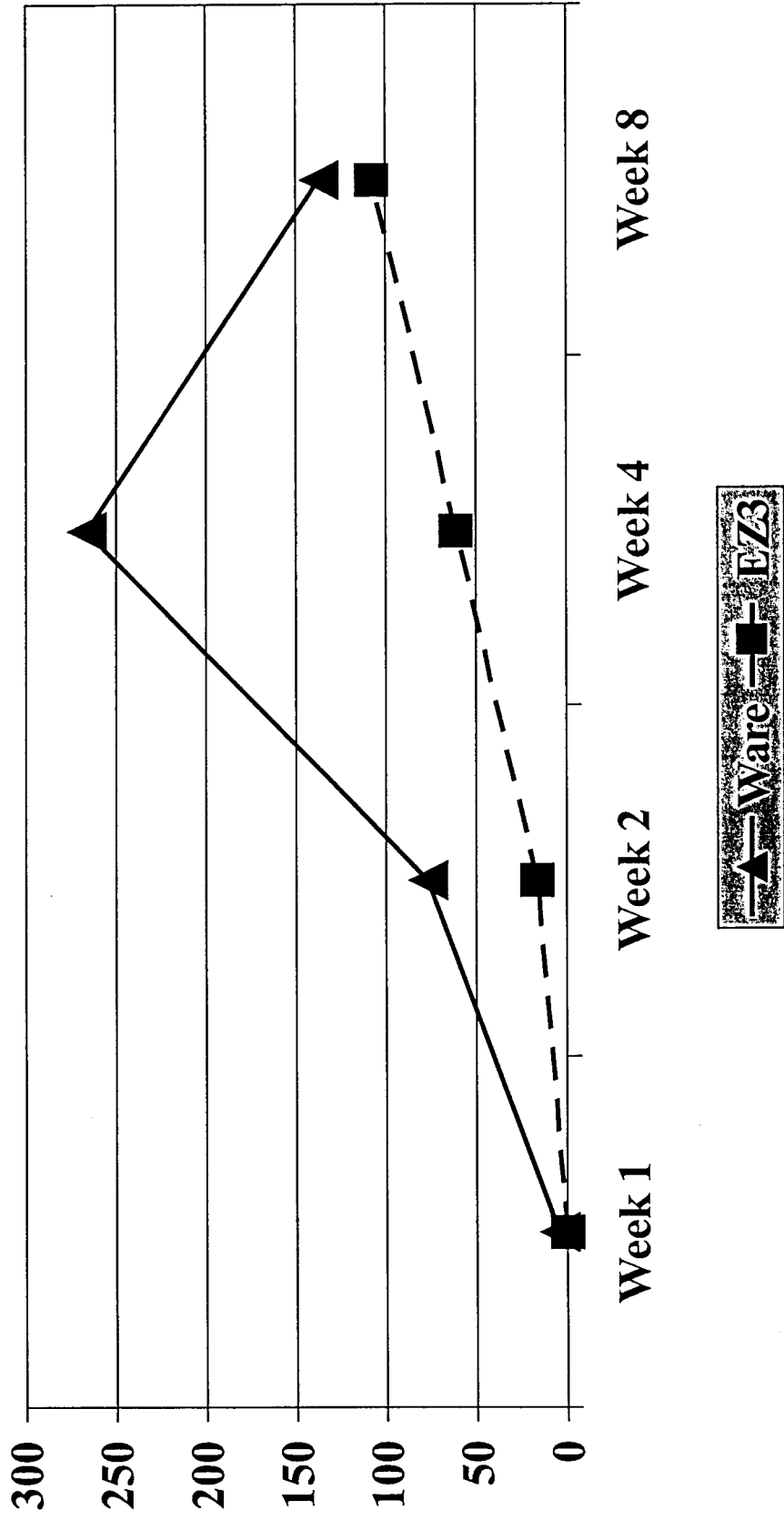
Samples sieved at 500 and 250 microns.



Temporal Pattern - Taxa - Clean - 1998

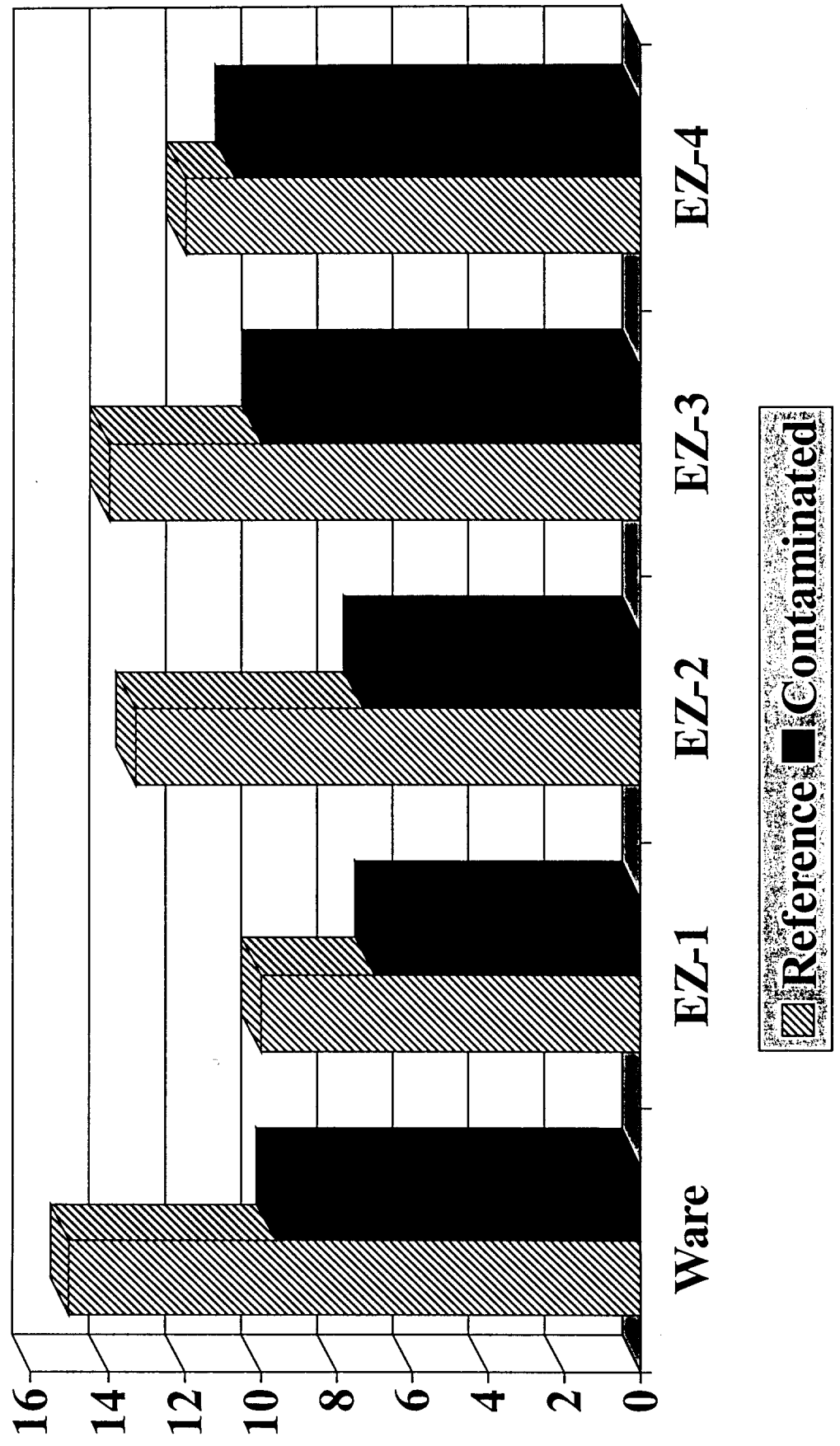


Temporal Pattern - Abundance - Clean-1998



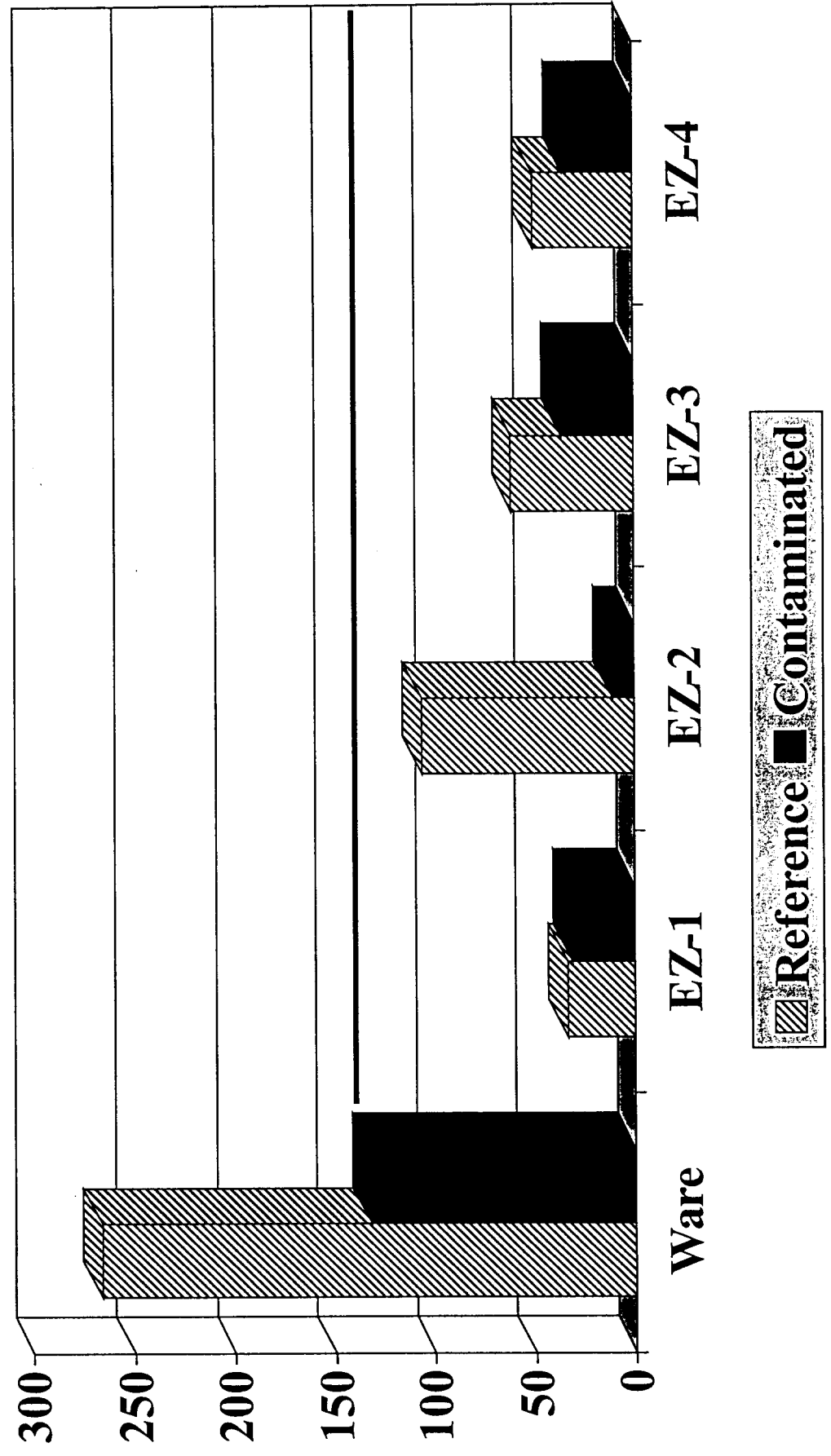
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Taxa per sample

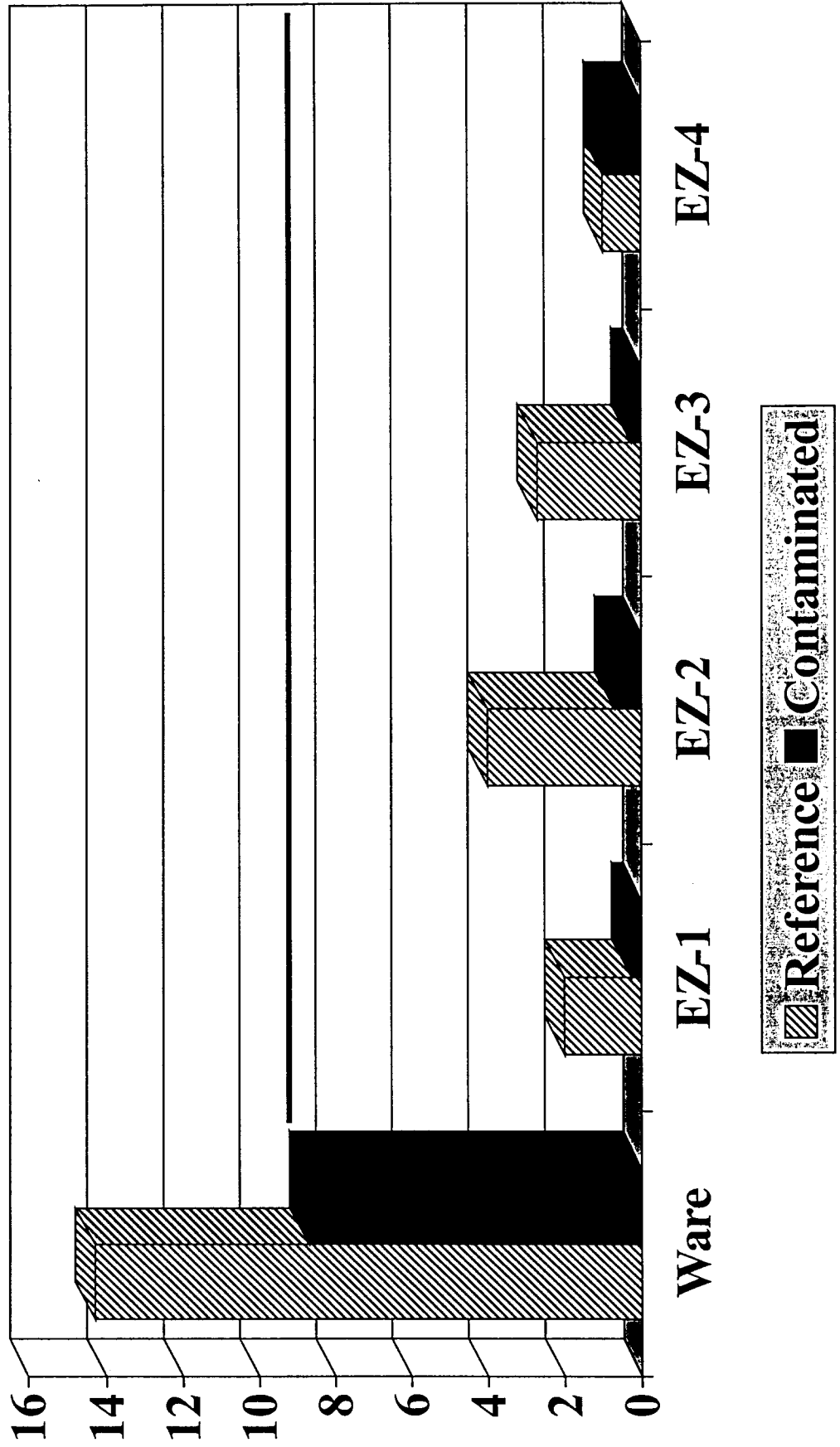


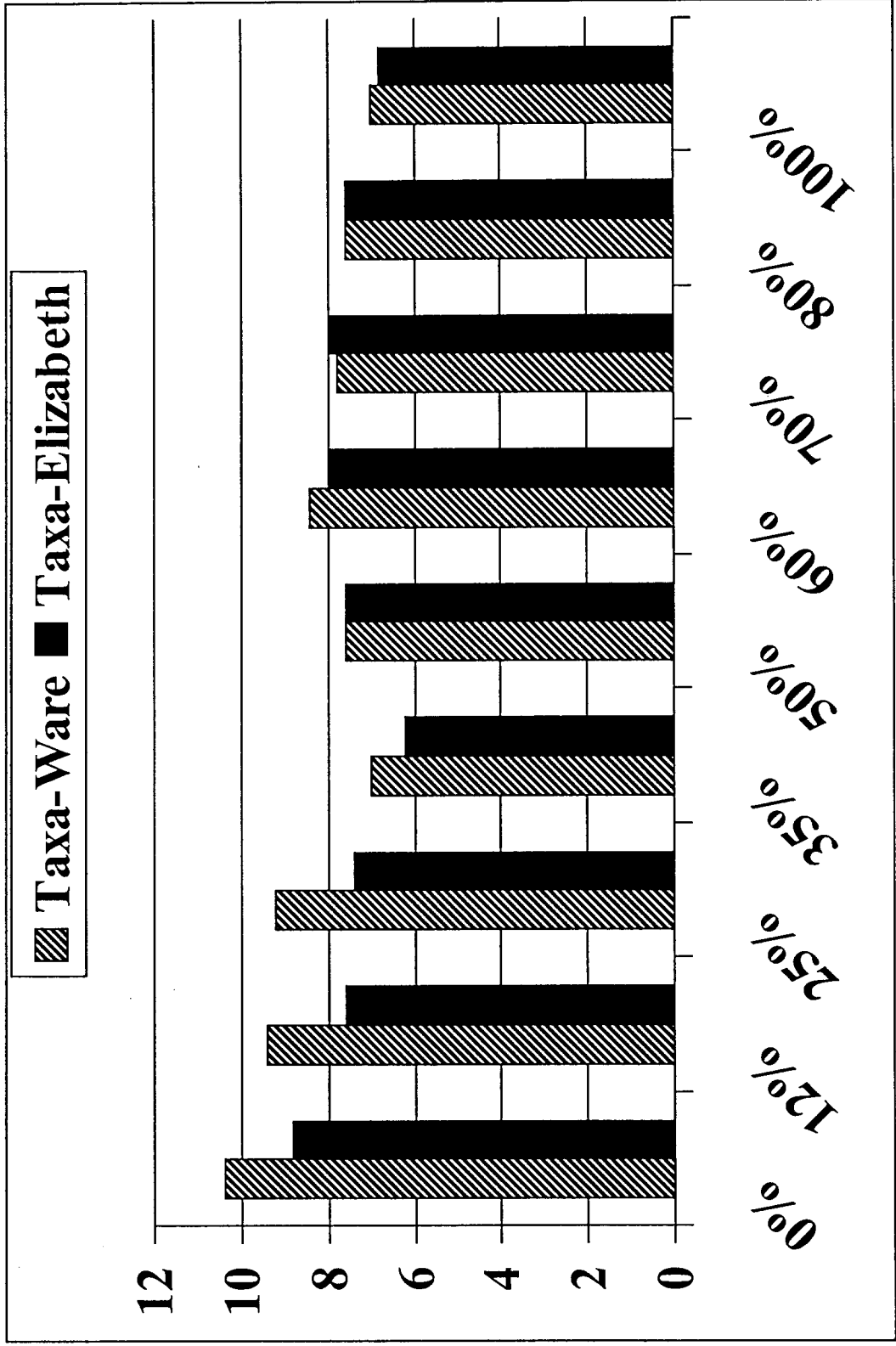
6.2.1.4

Community Abundance

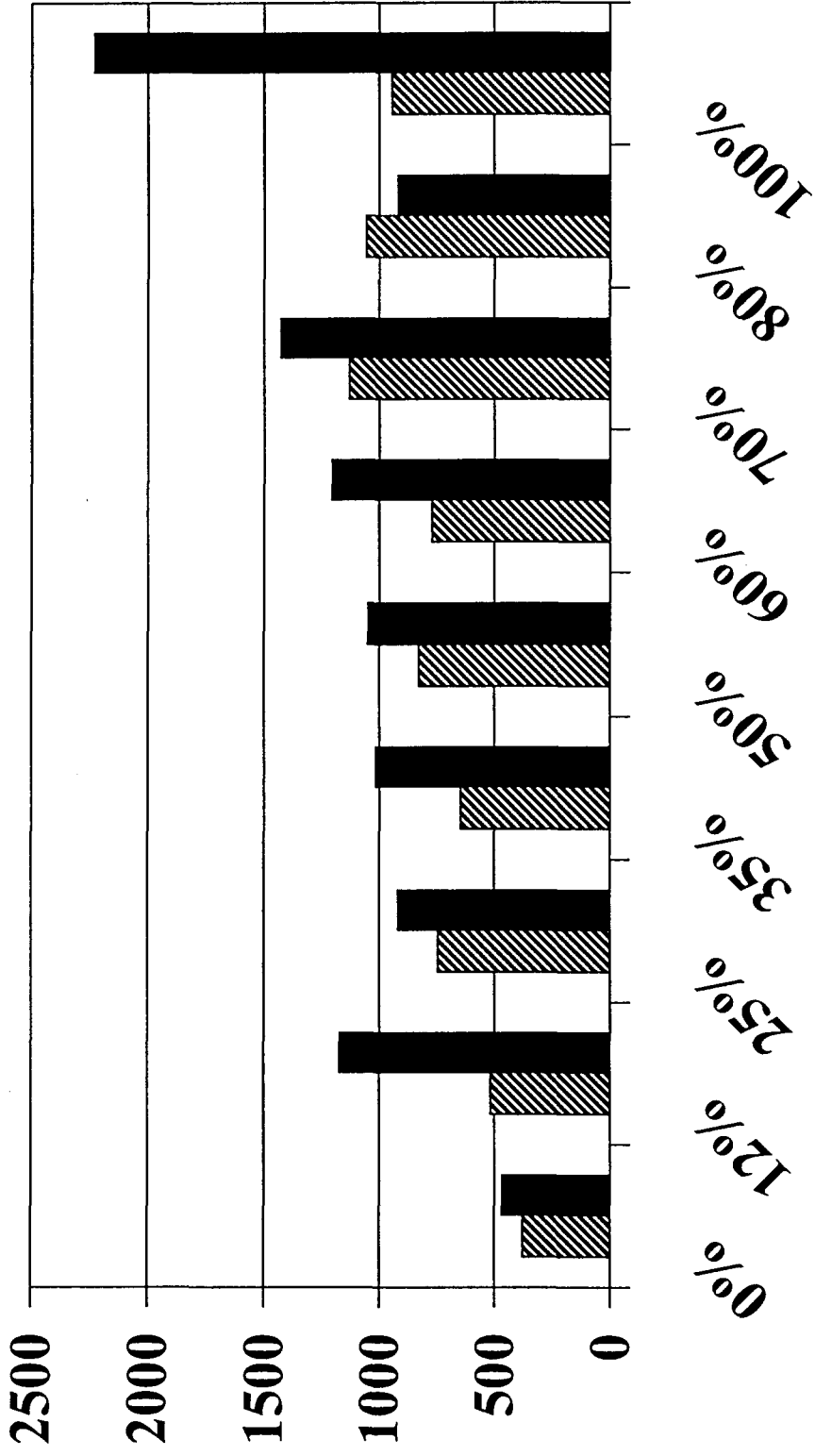


Carnivores and Omnivores

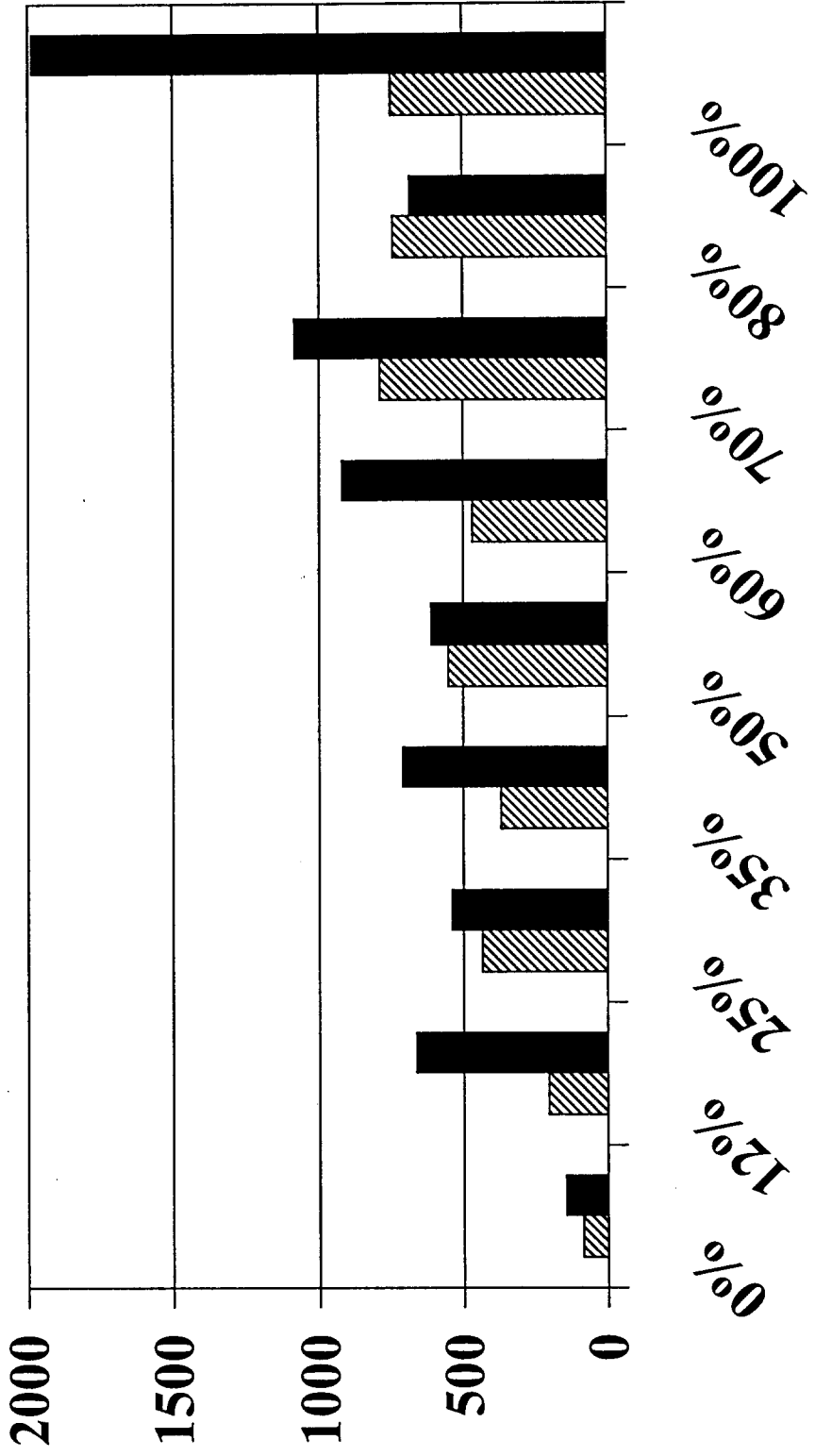




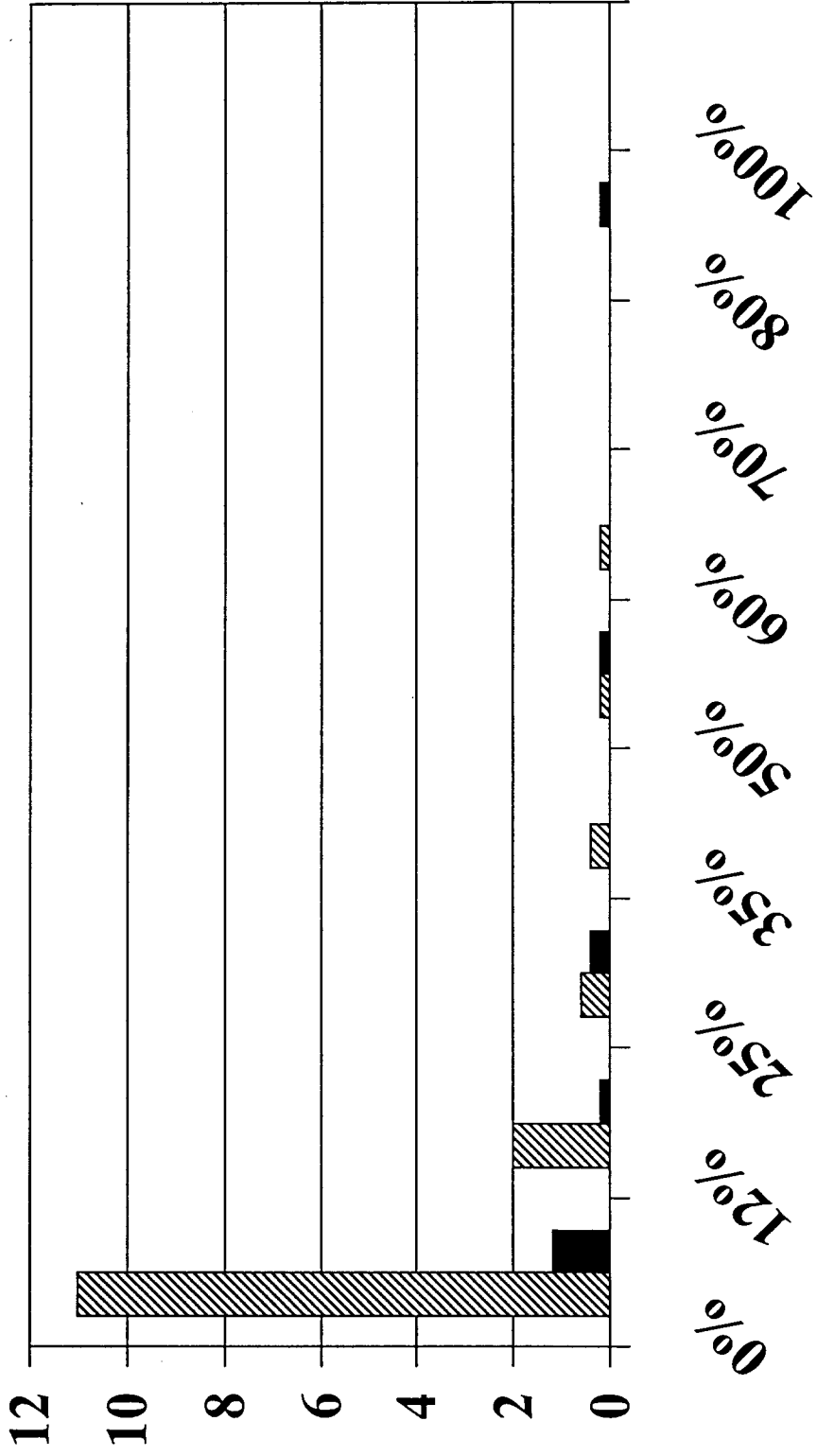
▨ Total Abundance - Ware ■ Total Abundance - Eliza



▨ Polydora - Ware ■ Polydora- Eliza



Deep-dwelling Ware
 Deep-dwelling Eliza



■ Deep-dwelling Eliza

