Introduction
Understanding dietary factors that affect the growth and survivability of marine organisms is an essential step in monitoring and sustaining marine fisheries.

- Pristane is a naturally occurring hydrocarbon generated by copepods in marine ecosystems. Copepod predators do not readily metabolize pristane, causing it to accumulate in marine food webs.
- Pristane may be an appetite suppressant and growth inhibitor in fish. However, those predators ingesting it, do not readily metabolize pristane. Copepod predators do not readily metabolize pristane, causing it to accumulate in marine food webs.
- Factoring in effects of pristane will increase our understanding of marine ecosystem dynamics. If pristane inhibits growth of organisms ingesting it, pristane may govern energy flow in food webs.
- The objective of this study was to emulate the growth inhibition in fish by using pristane-spiked food, causing higher consumption rates. Power analysis indicated a 15% chance of detecting significant differences. Power could have been increased to 80% by having sample sizes of >64 fish or by extending study until difference in instantaneous growth rates diverged.

Approach

- Initial length and mass measured for each individual fish (identified by fin clips).
- Fish fed pristane or control. Unconsumed food removed and weighed daily.
- After 3 weeks of feeding, final mass and length were recorded for each fish.
- Fish tissues were homogenized, pristane extracted from tissue using solvents.
- Concentration of pristane in tissue used to calculate food intake for each fish.
- Growth, assimilation efficiency, and pristane ingestion assessed with T-Test and ANOVA.

Results
Assimilation Efficiencies: Based on Unconsumed Food=Pristane 16.2%, Control 20.5%. No statistical significance. Based on Pristane Concentration in Tissue=Pristane 39.3%.

Average Pristane Ingestion in Tissue: Pristane=5,453.76 ng/g, Control=0 ng/g

Power Analysis: 15% chance of detecting significant differences. Power could have been increased to 80% by having sample sizes of >64 fish or by extending study until difference in instantaneous growth rates was 0.003.

Discussion
- Assimilation efficiency was consistently lower in fish eating pristane-spiked food, causing higher consumption rates (Fig. 2).
- Feeding trends mimicked those observed in a previous study. The pristane group showed decreased consumption, suggesting that pristane may suppress appetite.
- If pristane-fed fish began eating less, their low assimilation efficiency could cause a decrease in instantaneous growth.
- Although all results from this study followed the trends of Luquet et al. (1984), differences were insignificant. The length of the study or dosage of pristane may determine statistical significance of results.

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Background Photo: http://fc3arch.files.wordpress.com/2011/08/big_wave.jpg
Juvenile Pink Salmon Photo: http://imgur.com/490507639-3.jpg
Adult Pink Salmon Photo: Dr. Ron Heintz