

Lakes on the edge: Consequences of shoreline urbanization in the Pacific Northwest

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February 14, 2008
The Water Center Annual Review of Research





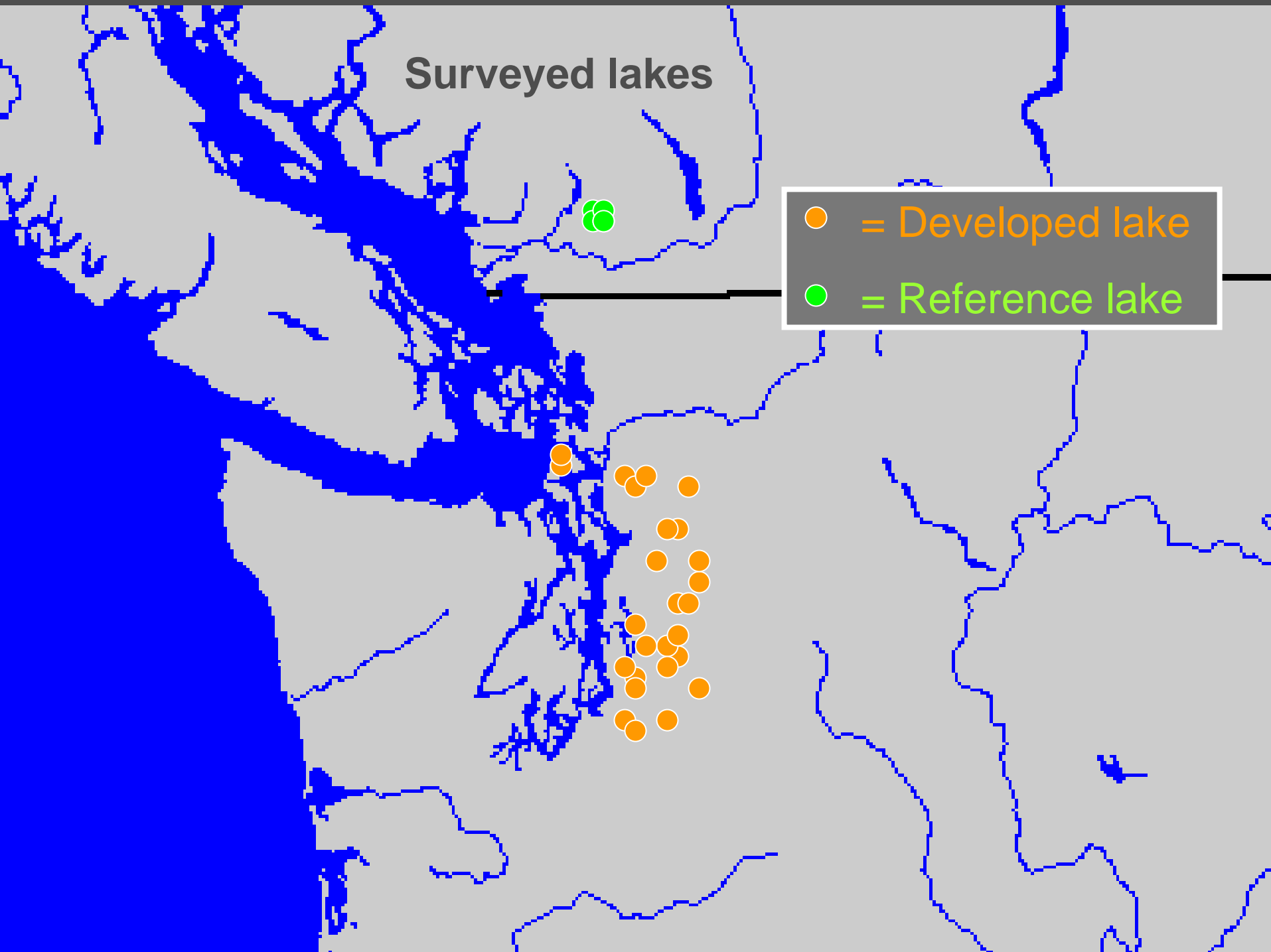
What are the consequences of lakeshore development for aquatic habitats, communities and food webs?

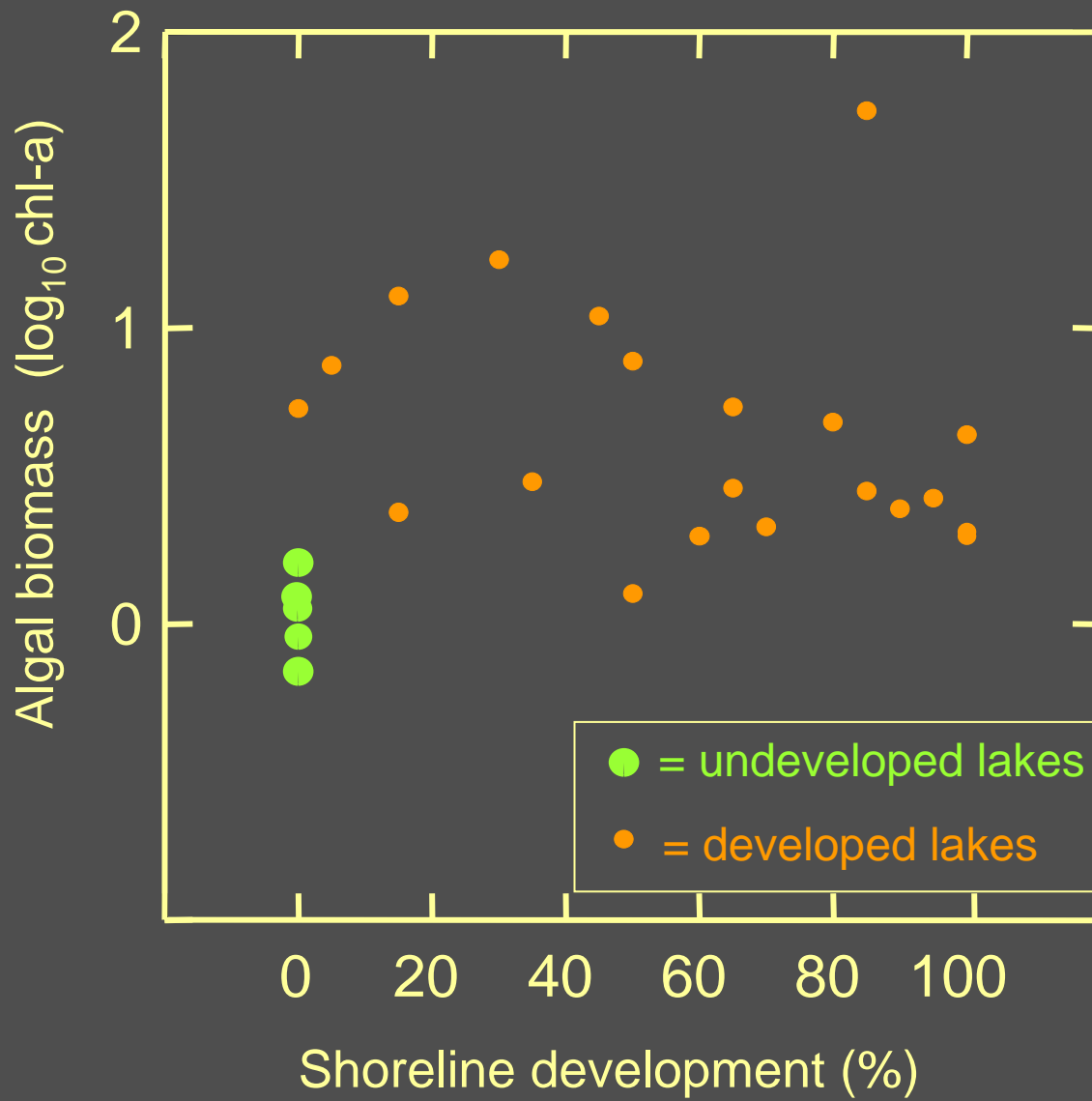


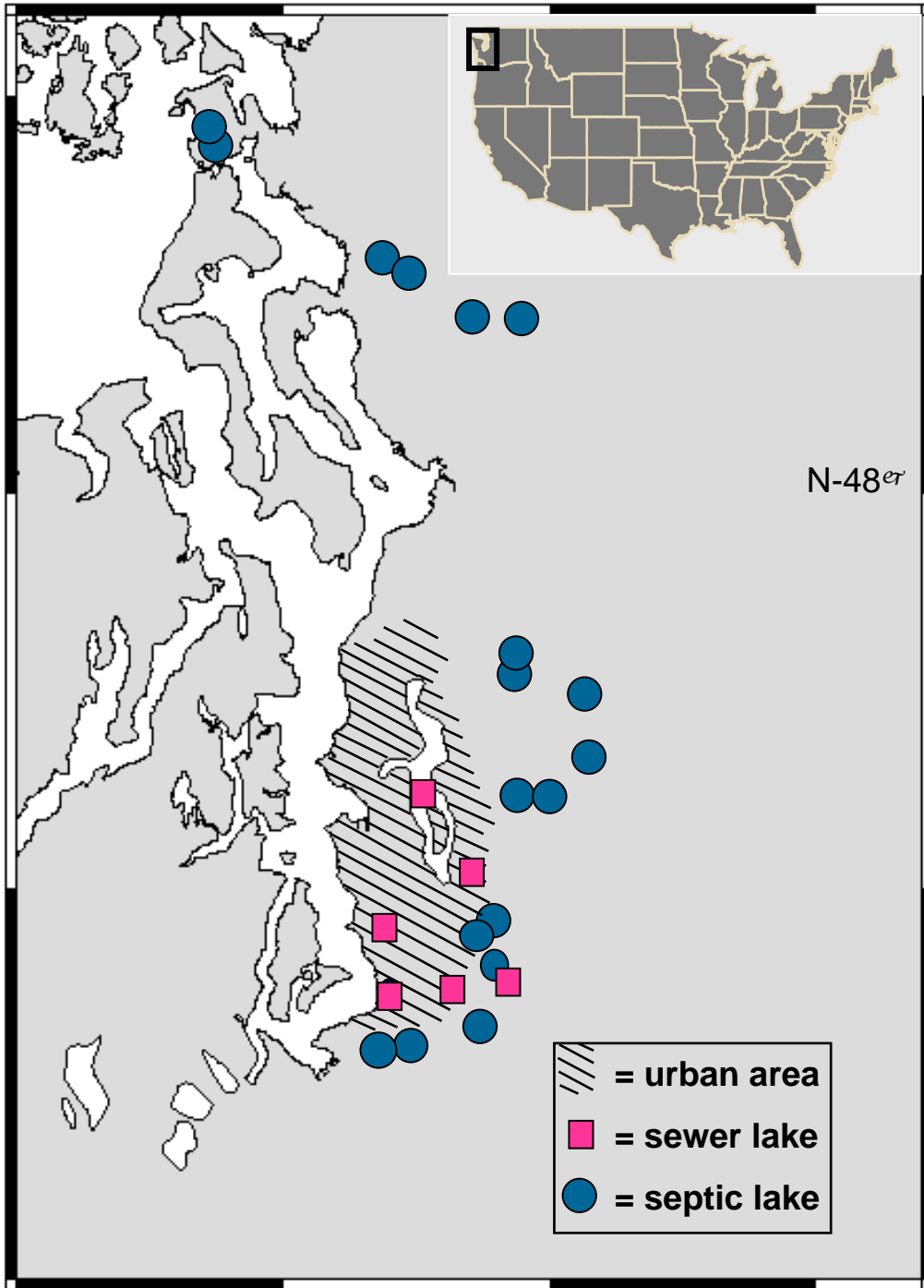
Surveyed lakes

● = Developed lake

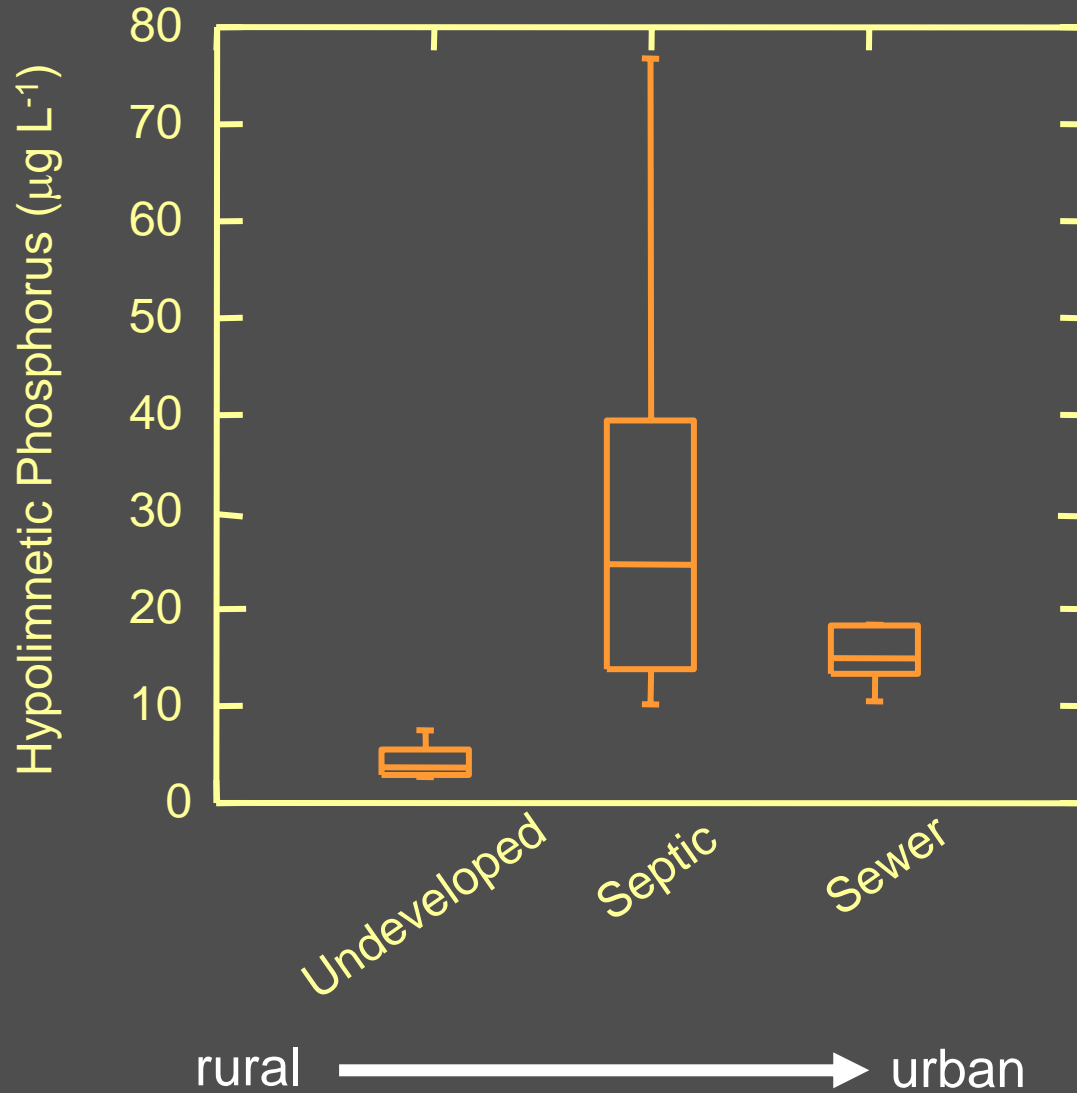
● = Reference lake



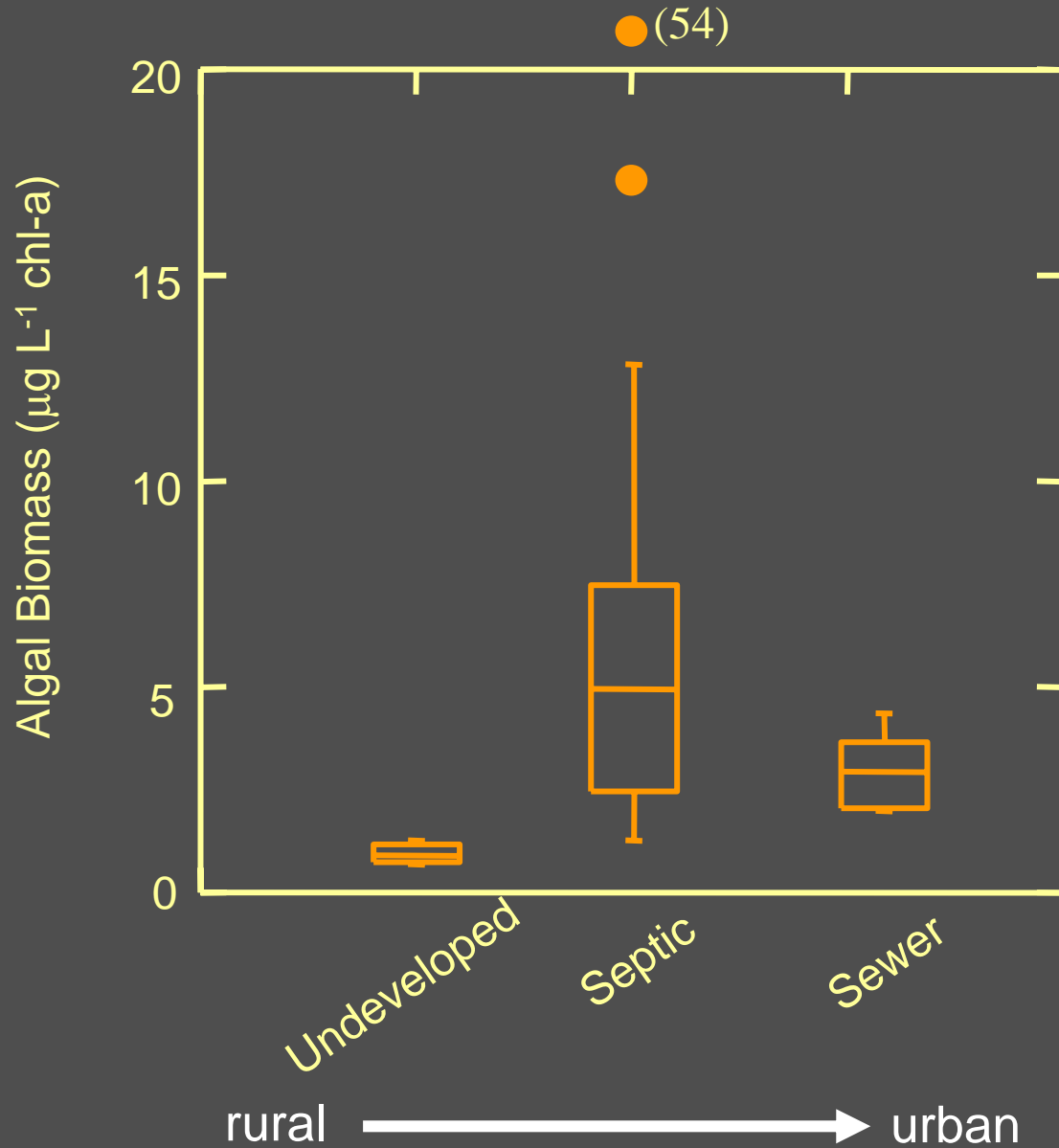




Nutrients in urban lakes



Algae concentration in urban lakes



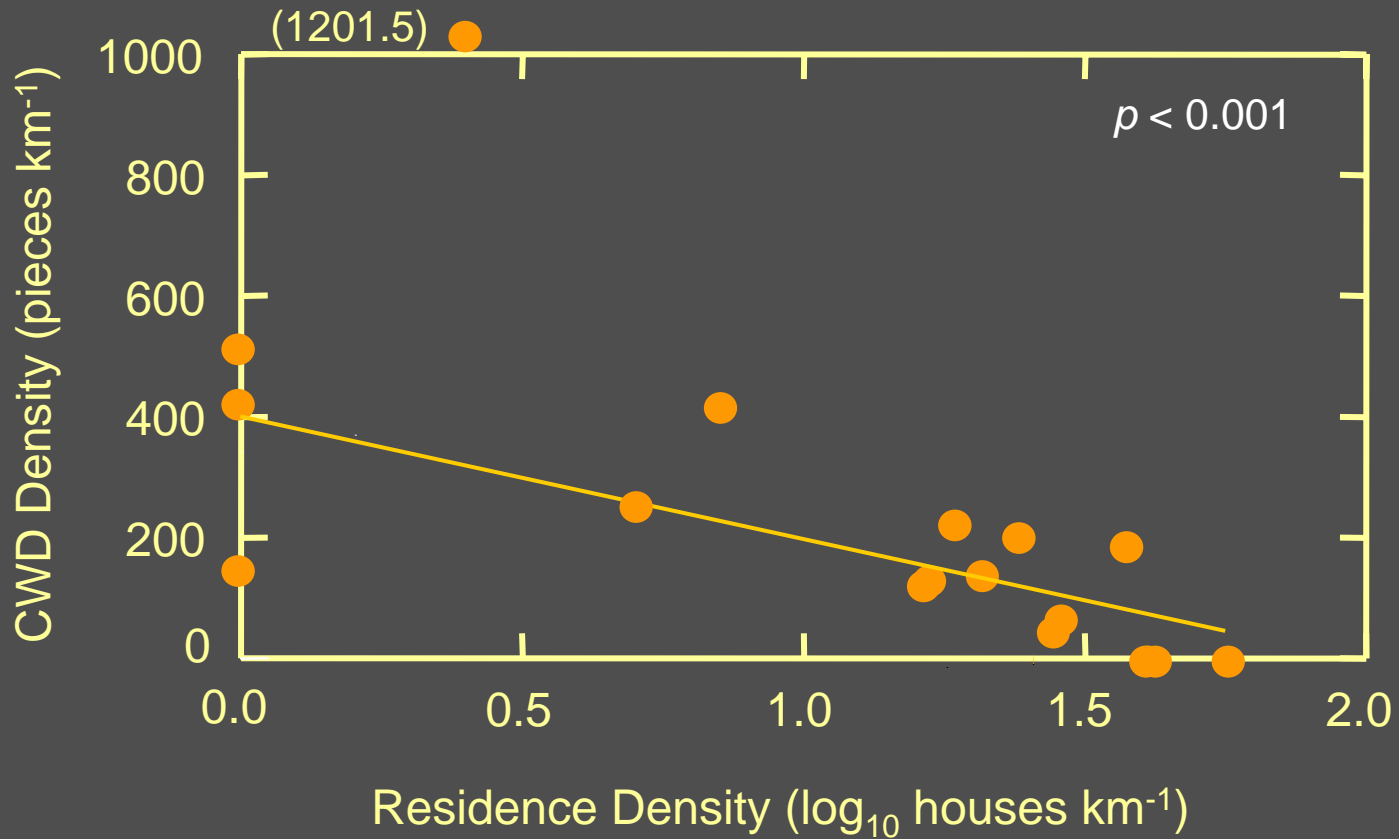


Undeveloped shoreline

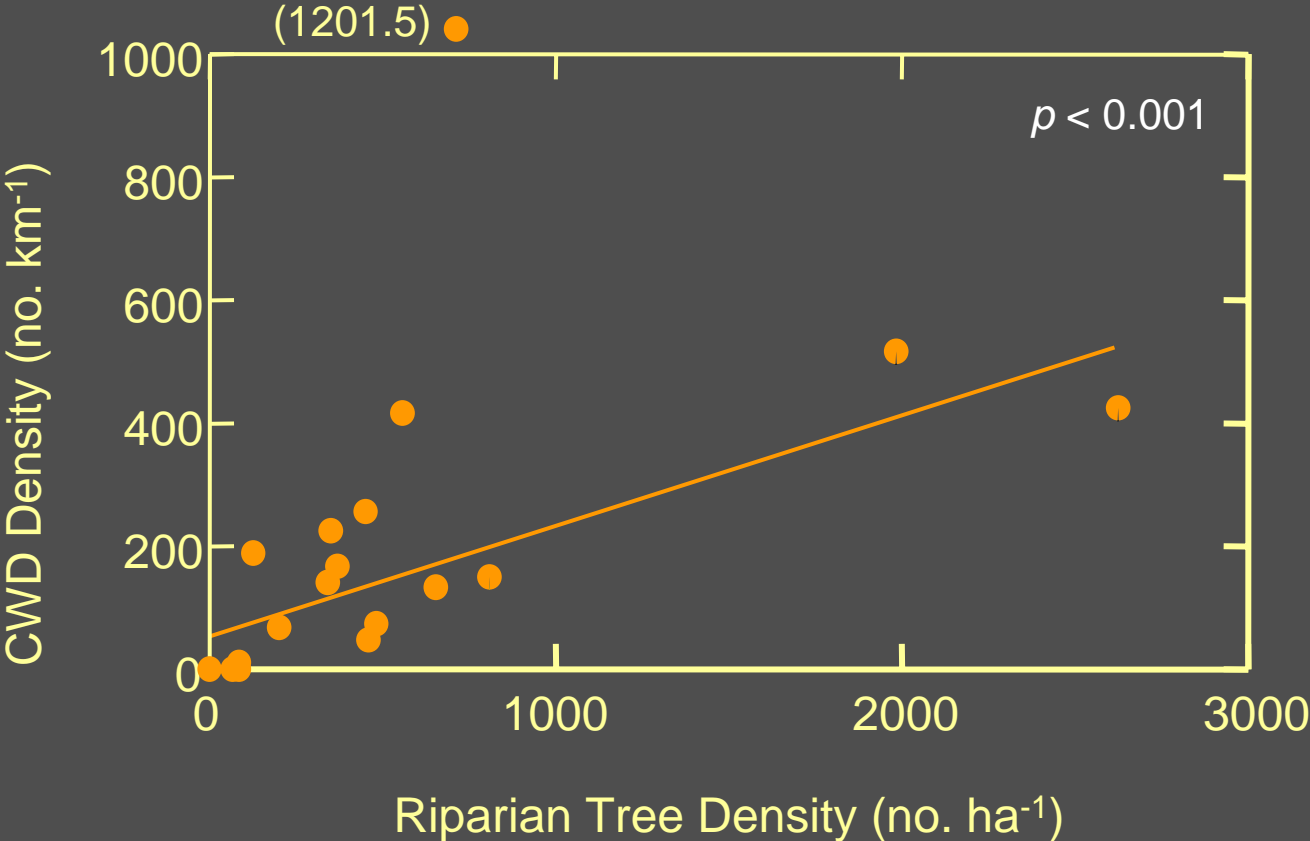
Developed shoreline



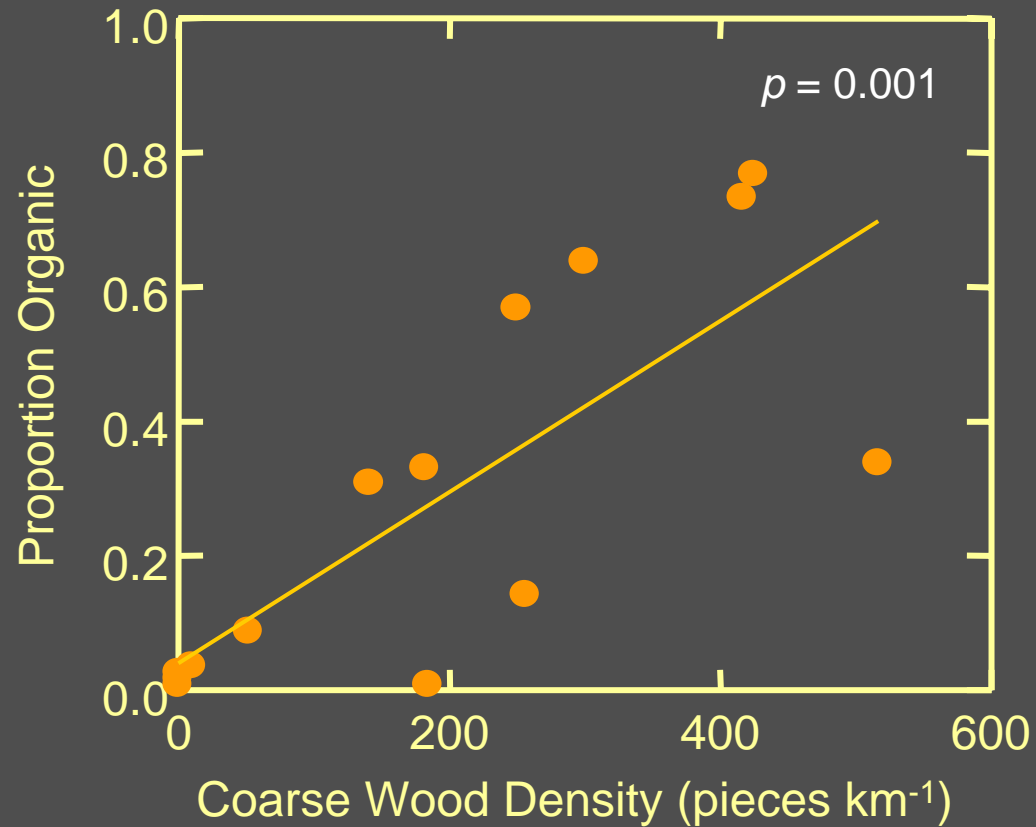
Reduction of woody debris



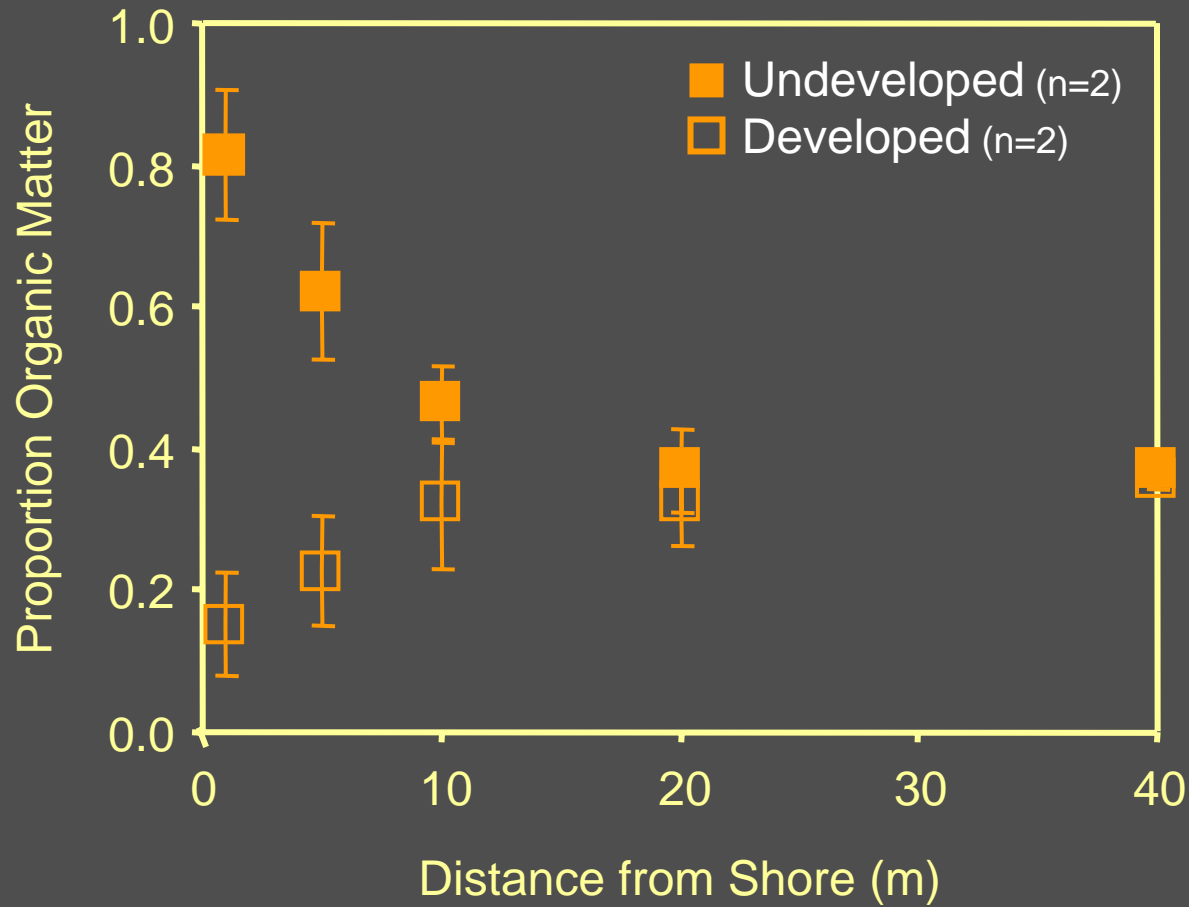
Depletion of riparian forest on urban lakes



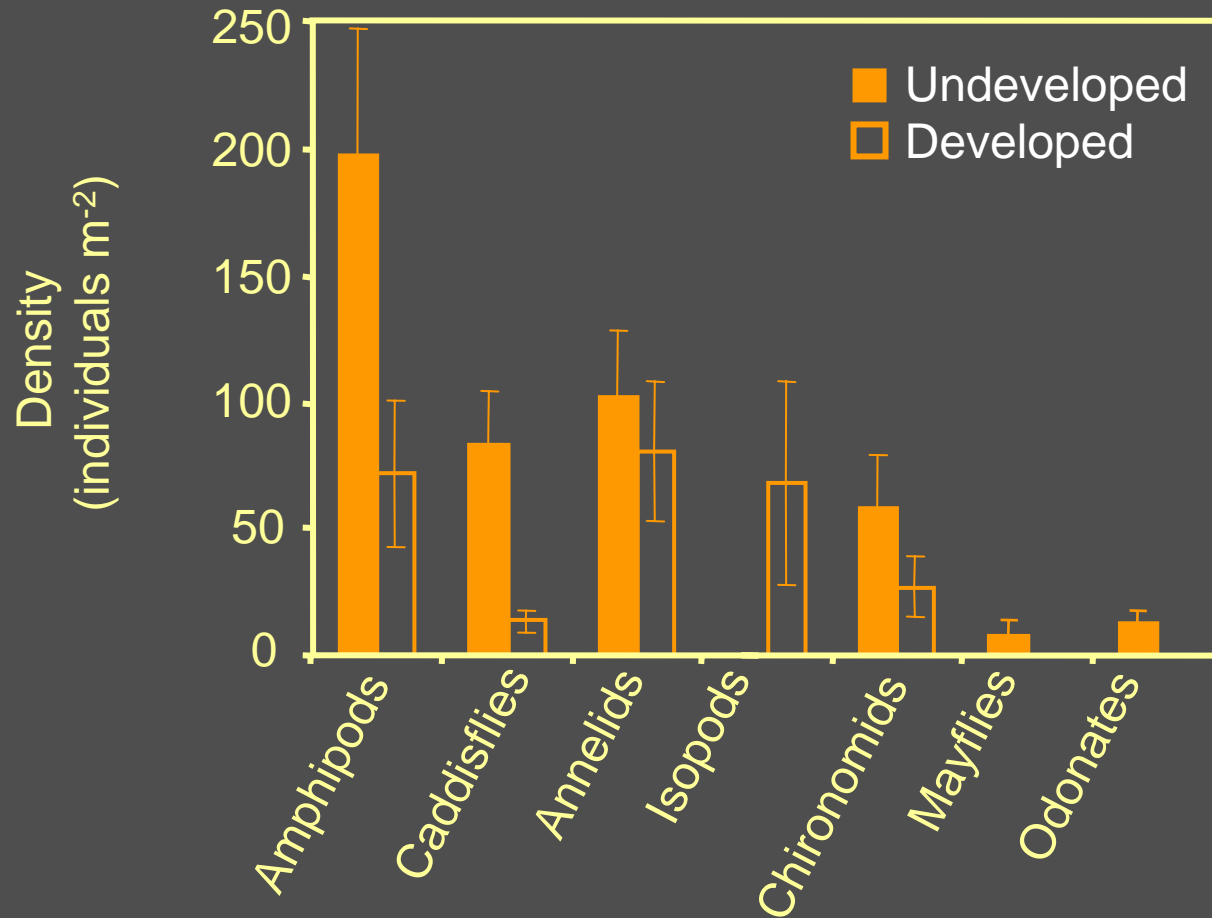
Sediment organic matter is associated with CWD



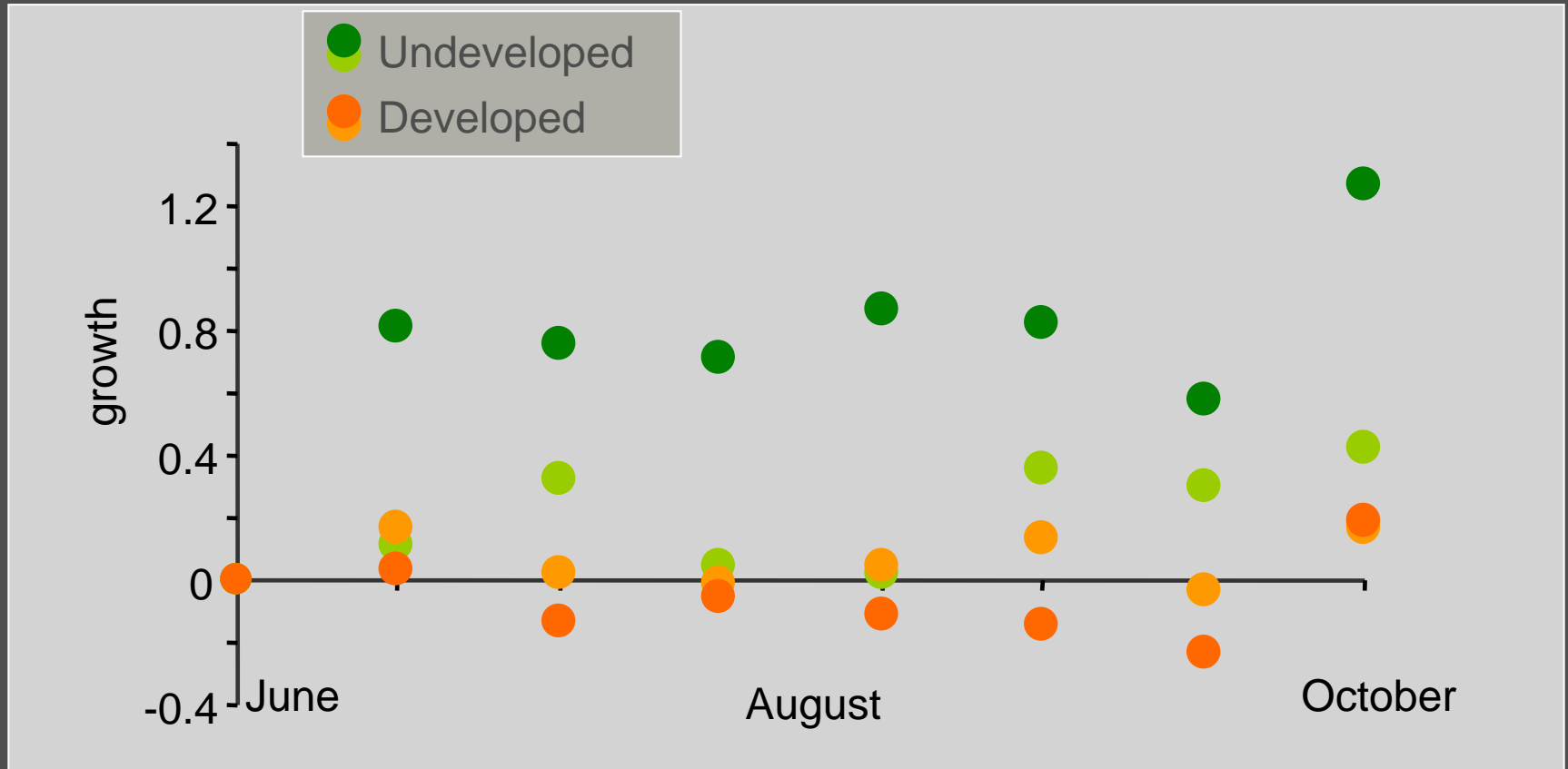
Sediment organic matter distribution



Invertebrate community shifts on urban lakes

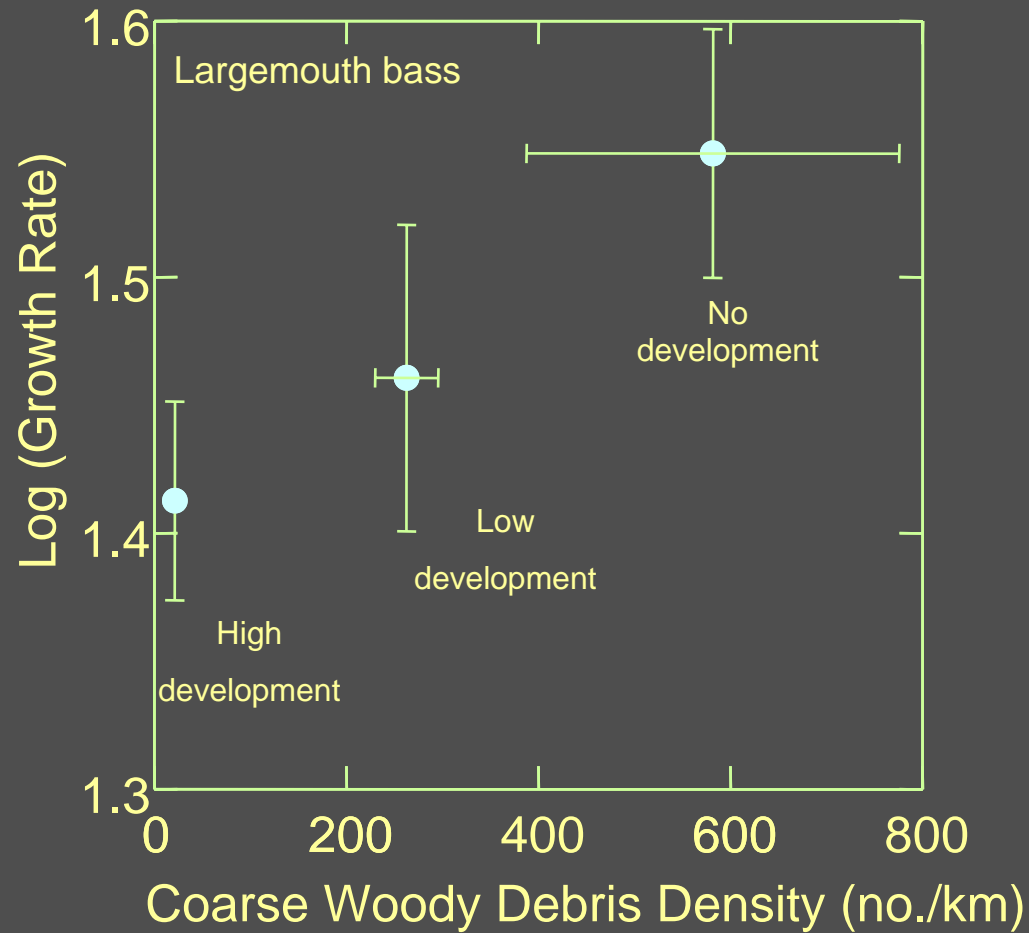


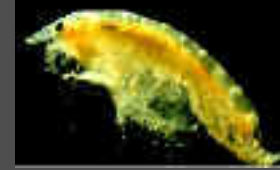
Amphipod survey



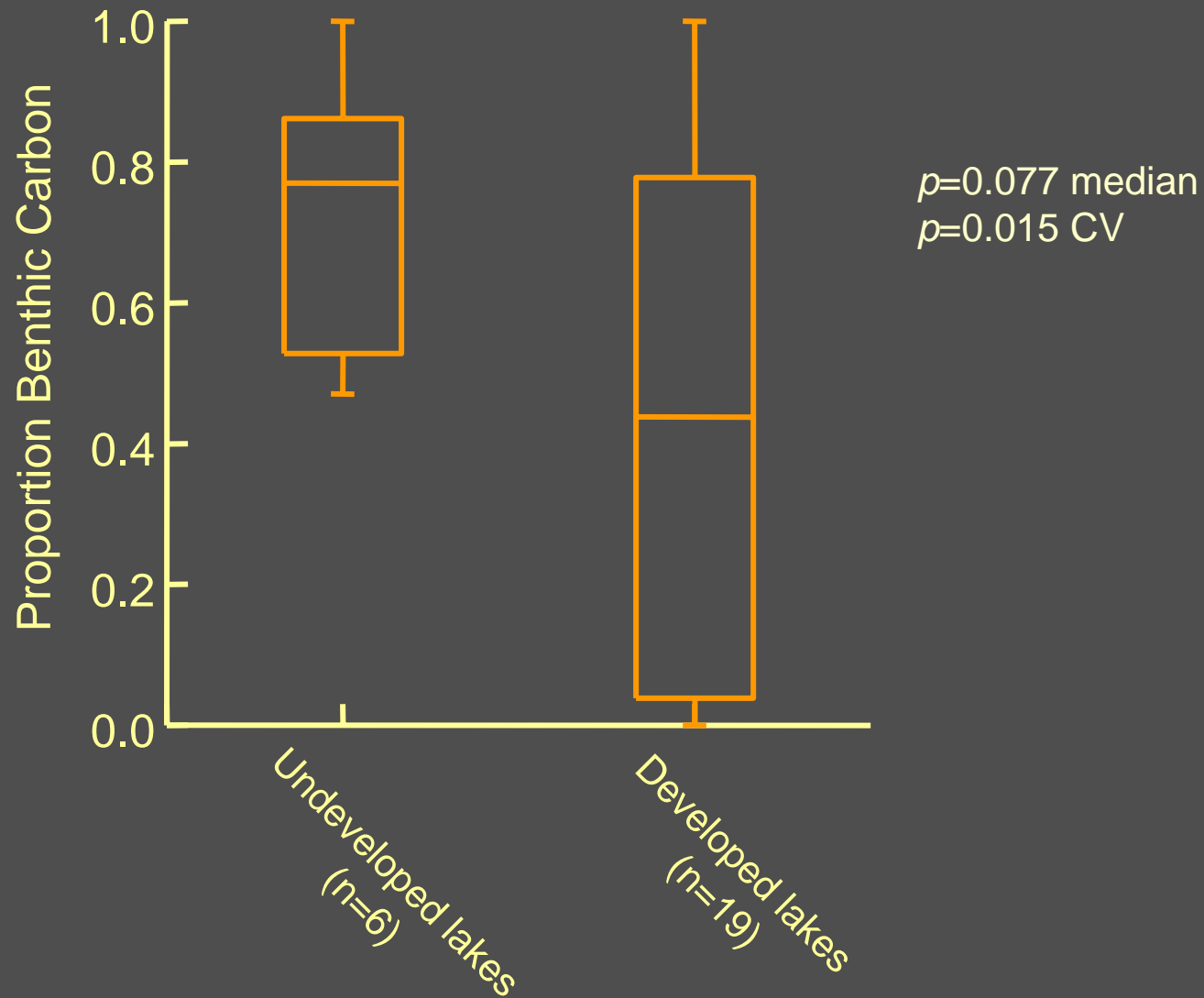
Faster growth in undeveloped lakes

Fish growth is positively correlated with shoreline complexity

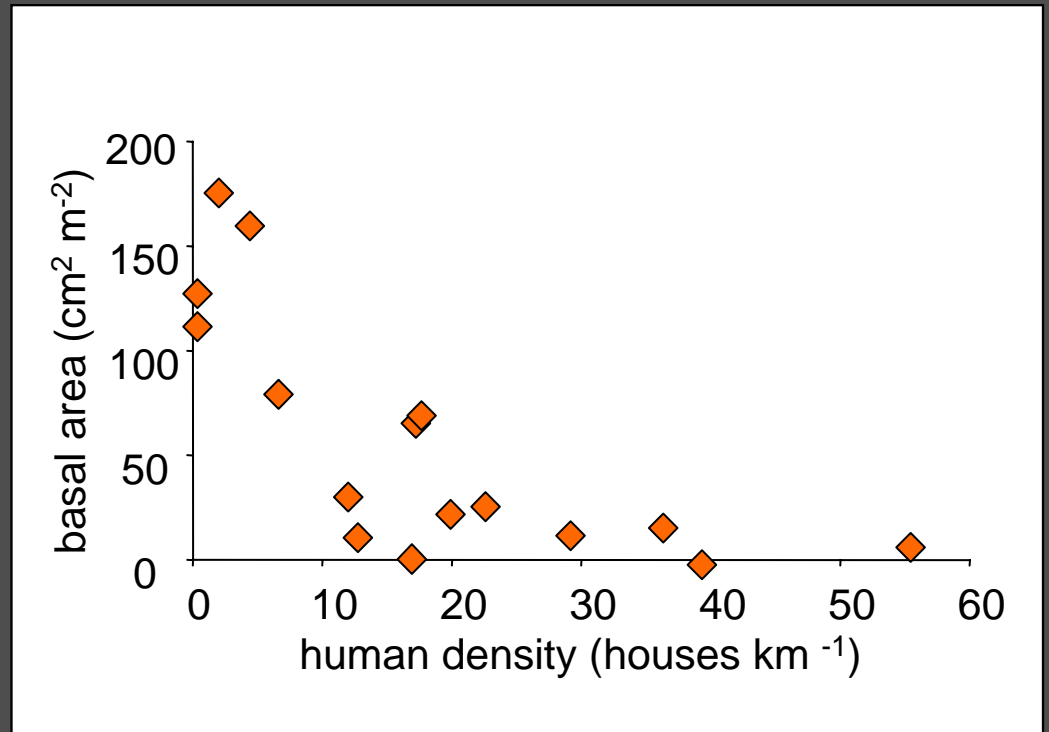




Resource base for top predators in Pacific NW lakes



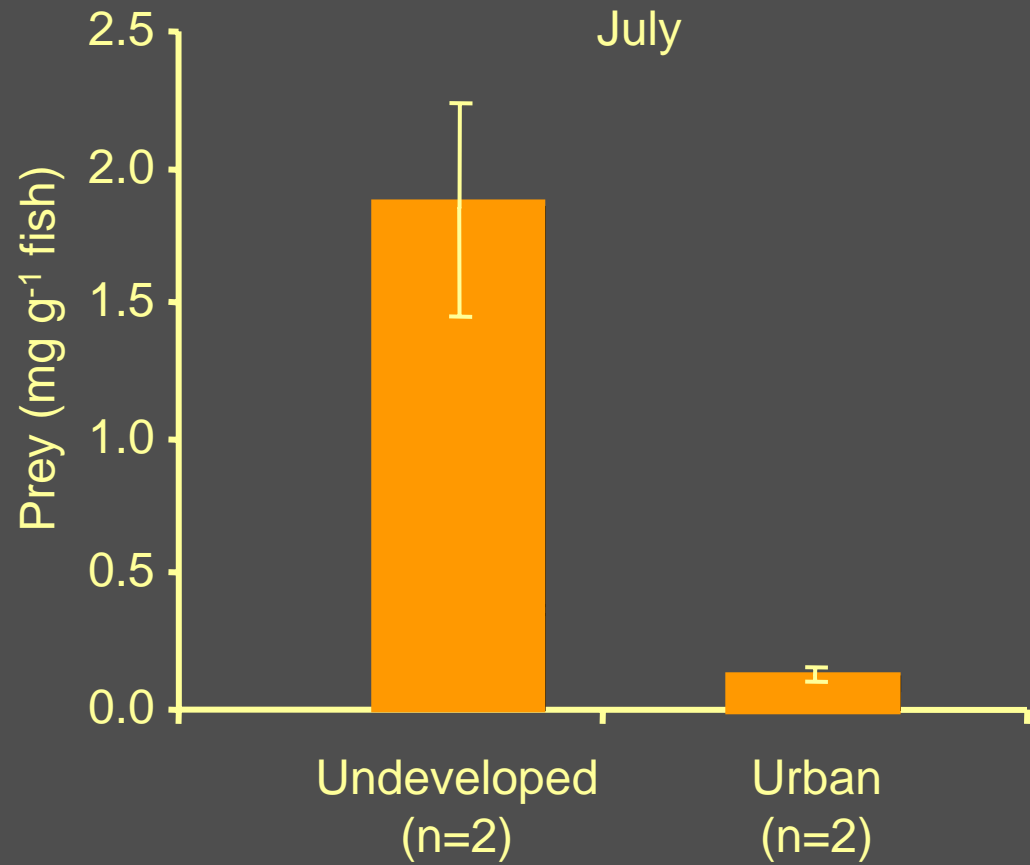
Riparian habitat loss



Fish diet comparison



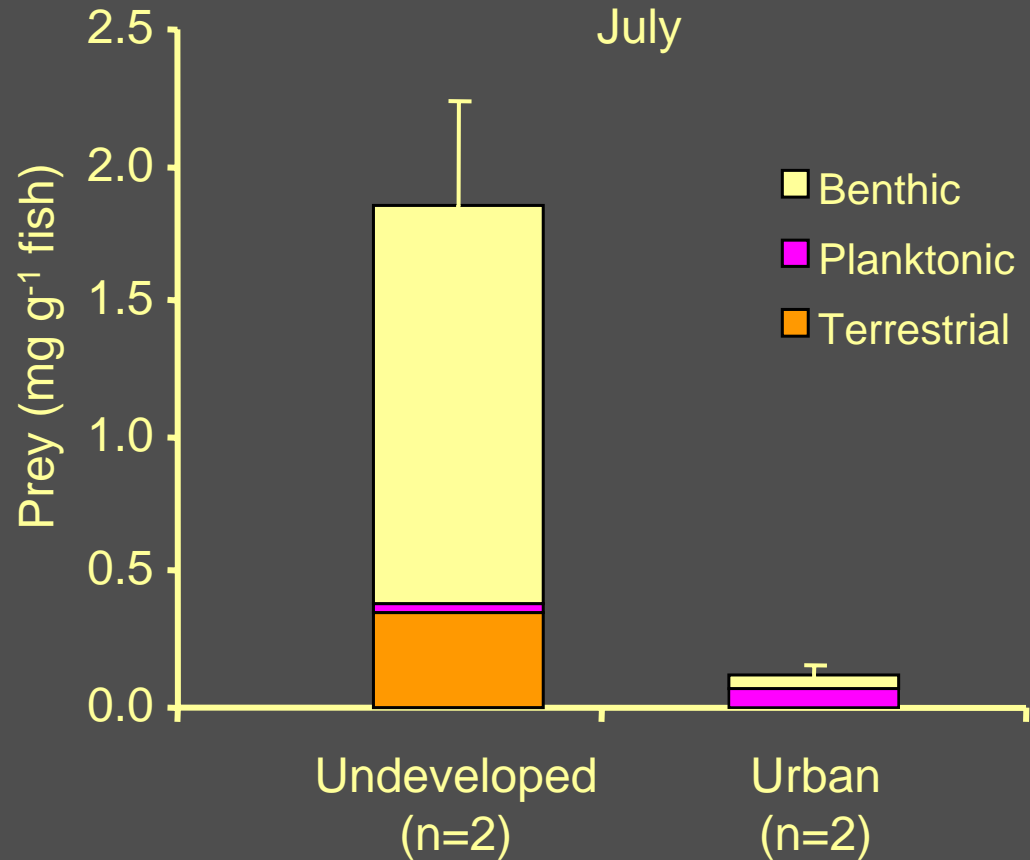
➤ 3-15x greater total ration in undeveloped lakes



Fish diet composition



➤ Terrestrial subsidy represents 7-30% of total energy intake



Lake Meridian, Kent, Washington



Lake Meridian, Kent, Washington



Acknowledgements

**Chris Boatright
Justin Fox
Peter Lisi
Jonathan Moore
Matthew Pederson**

**Elizabeth Rosenberger
Casey Ruff
Mark Scheuerell**

**EPA STAR Fellowship
NSF Pre-Doctoral Fellowship
NSF IGERT Fellowship**