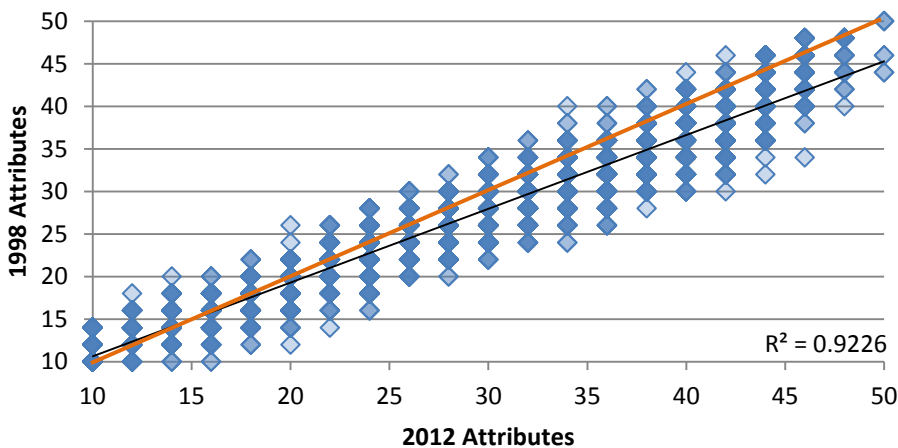**Attribute Comparison and PL BIBI vs Ecology MMI**
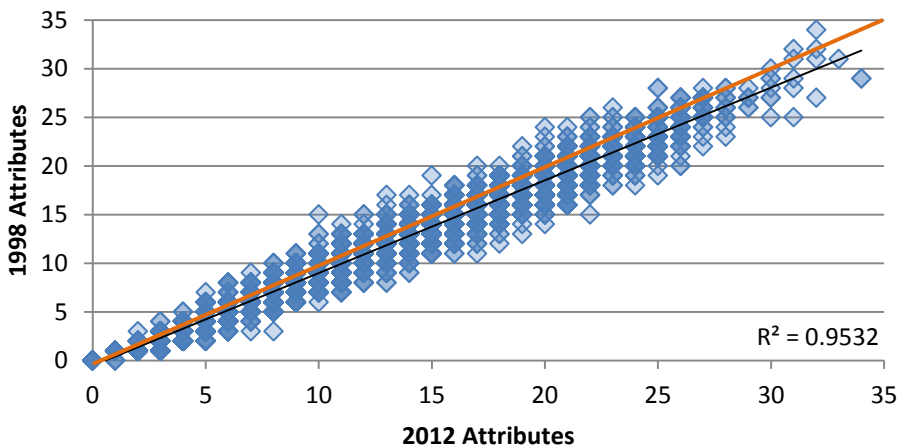**5/31/12 by Jo Wilhelm, King County**

ATTRIBUTES

All are calculated with the following selected from the Puget Sound Stream Benthos (PSSB): Sum reps then calculate (to approximate composite sampling and standardize across replicate methods), then subsampled at visit level to a 500 count. I used all available stream data, therefore the same site can be repeated in different years. For the attribute comparison, chose 'lab's method' for BIBI calculation and then either the 1998 or the 2012 draft 2 attributes – both of these apply the attributes from all 5 categories: clinger, long-lived, predator, intolerance, and tolerance.

In the figures that follow, the black line is the best fit line with the R^2 displayed. The orange line is approximately the 1:1 line. Darker symbols represent overlapping data points.
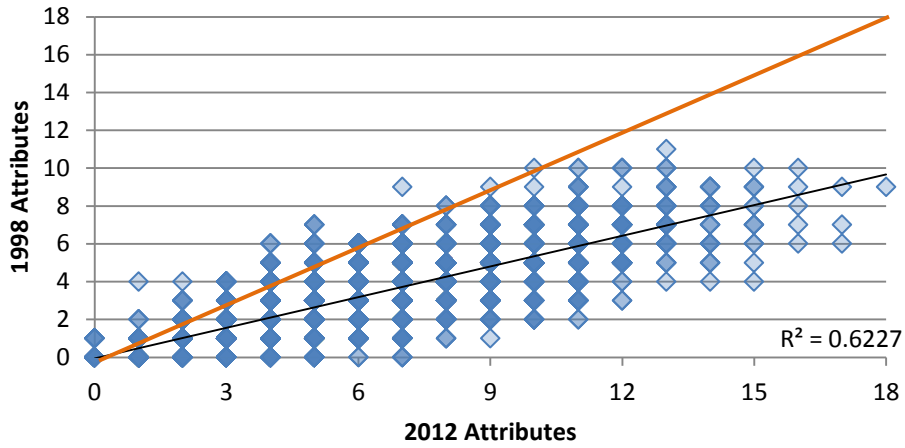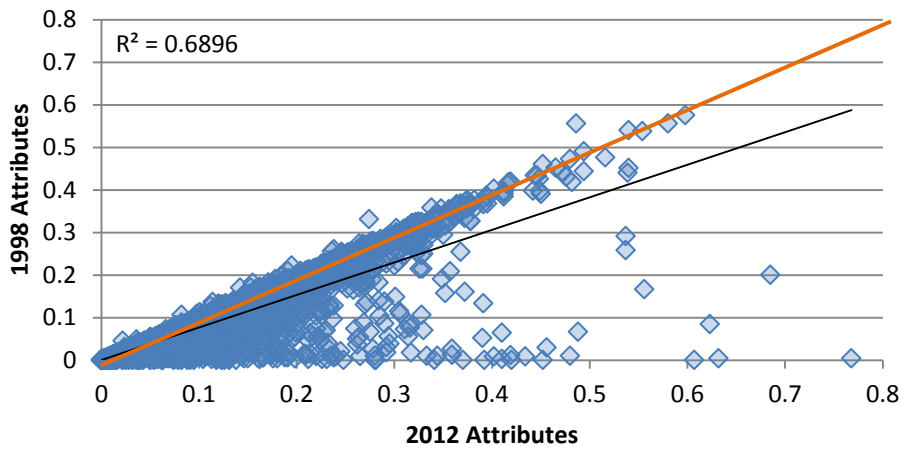
Overall BIBI Score
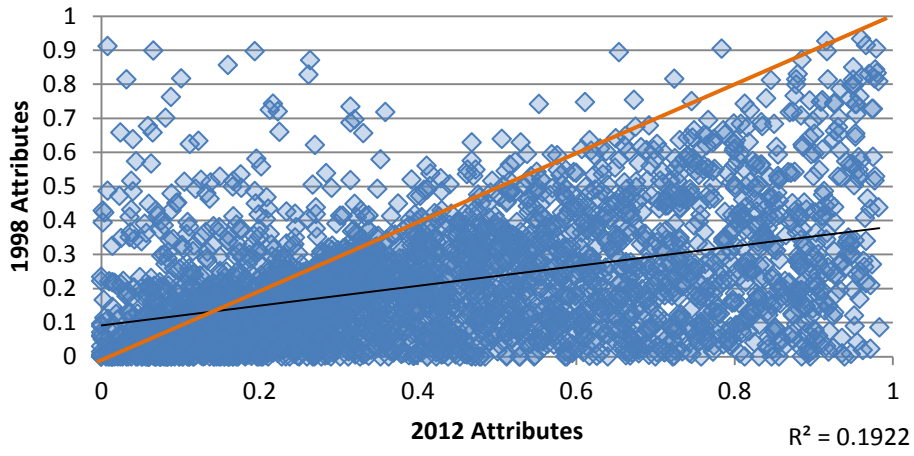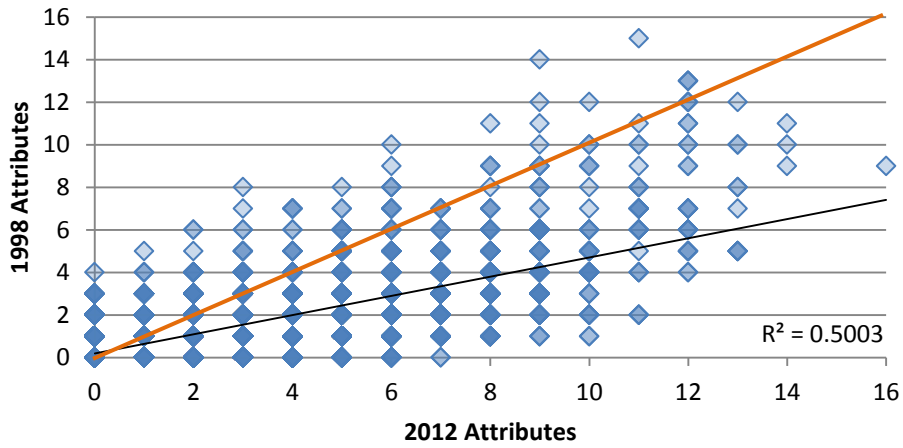

Clinger Richness Metric

Long Lived Richness Metric

Scatter plot with x-axis labeled "2012 Attributes" (range 0 to 18) and y-axis labeled "1998 Attributes" (range 0 to 18).

$R^2 = 0.6227$

% Predator Metric

Scatter plot with x-axis labeled "2012 Attributes" (range 0 to 0.8) and y-axis labeled "1998 Attributes" (range 0 to 0.8).

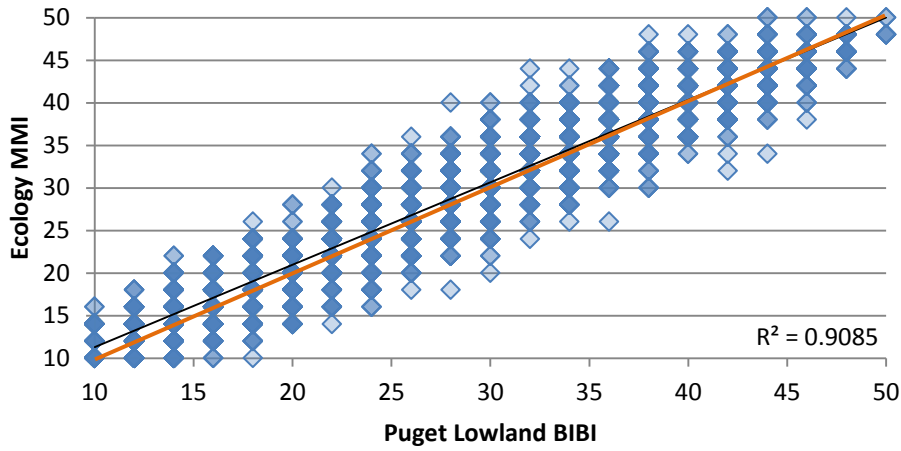$R^2 = 0.6896$

% Tolerant Metric
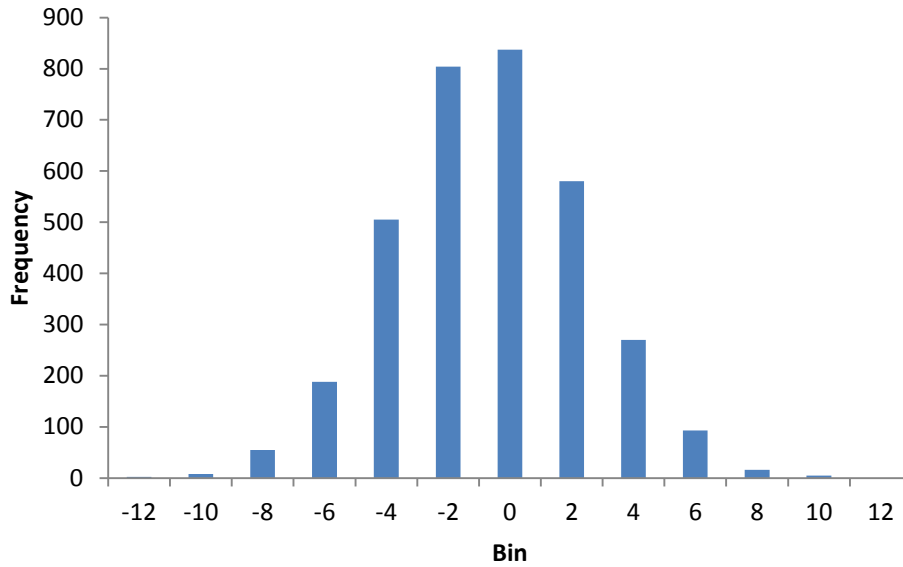

R² = 0.1922

Intolerant Richness Metric

R² = 0.5003

BIBI COMPARISON:
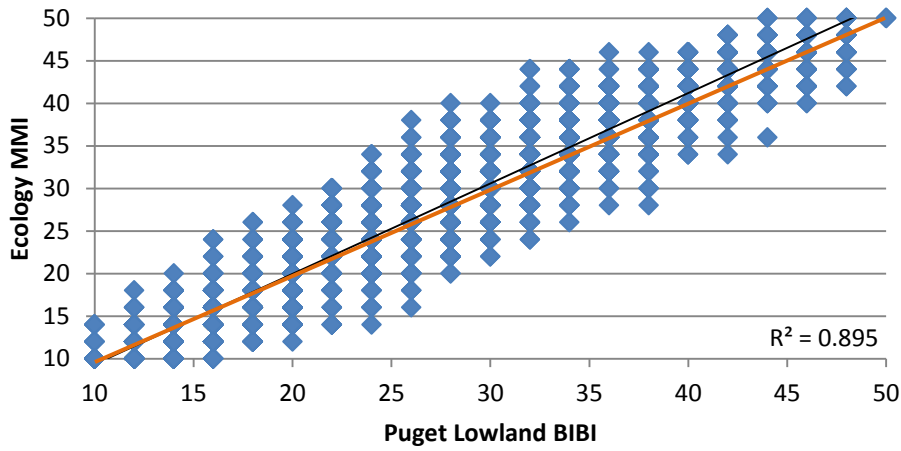**Puget Lowland Benthic Index of Biotic Integrity (PL-BIBI) versus Ecology's Multimetric Index (MMI)**

2012 Attributes

R² = 0.9085

Ecology MMI (y-axis)
Puget Lowland BIBI (x-axis)

2012 MMI vs PL residuals

Frequency (y-axis)
Bin (x-axis)

1998 Attributes

Chart: Ecology MMI (y-axis, 10 to 50) vs Puget Lowland BIBI (x-axis, 10 to 50). R² = 0.895

1998 MMI vs PL residuals

Chart: Frequency (y-axis, 0 to 900) vs Bin (x-axis, -12 to 12)