

Next Steps for Mesohaline Benthic Indices

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April 22nd 2010, Oakland, California



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Mesohaline Index Work

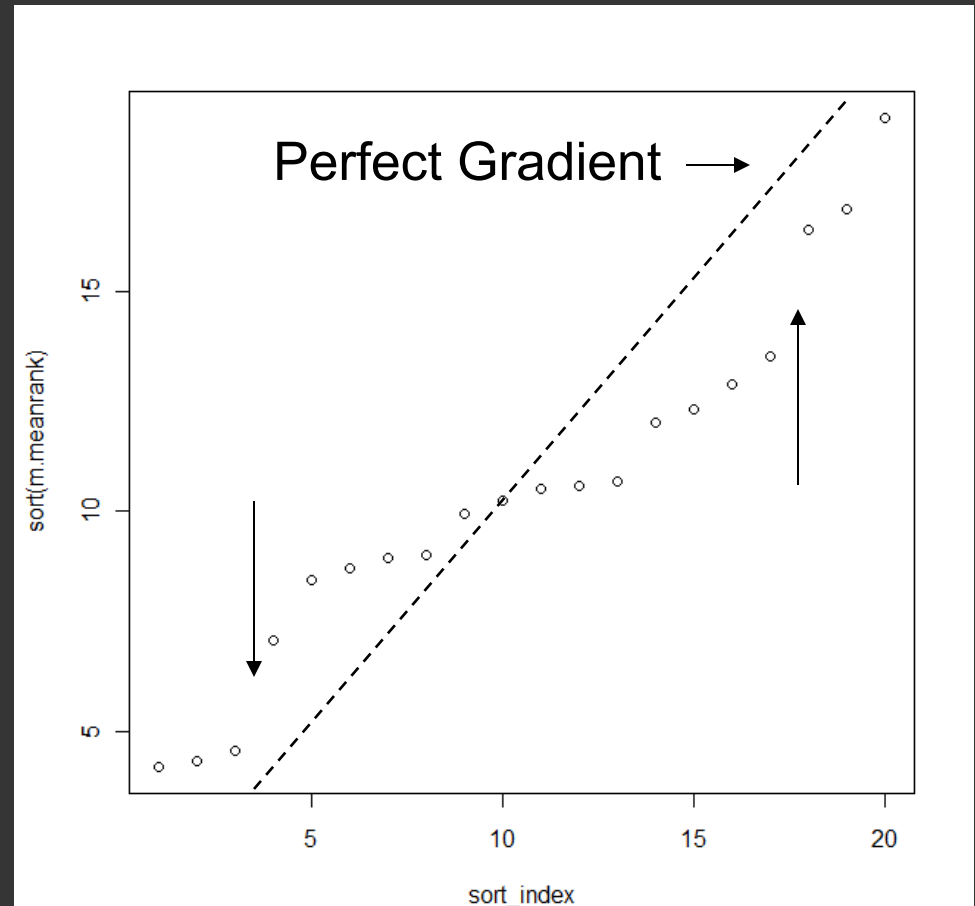
- Gradient in response
 - Assemble assemblage information
 - Employ BPJ to identify gradient
- Calibration dataset
 - BPJ gradient
 - Test existing indices
 - AND/OR examine metrics for new index
- Validation dataset
 - Samples not included in BPJ

2009

2010

Are results good enough for indices?

- Is the BPG gradient sufficiently robust to refine / develop mesohaline benthic indices?
- Majority of experts correlated to mean rank
- Average Correlation = 0.67
- Correlation to Total Taxa = -0.74



Optimization

- Can the BPJ response gradient be improved?
- Optimization of gradient
 - Re-evaluation of samples by experts
 - Remove troublesome samples
 - Phase I SQO used 11 samples for polyhaline gradient
 - Remove outlier experts
 - One expert evaluated both assemblages and results differed from others

Index Calibration

- Correlation to existing mesohaline indices
 - Index Biotic Integrity (Thompson and Lowe, 2003)
 - Relative Benthic Index (Hunt et al, 2001)
- Refine indices
 - IBI / RBI : sensitive / tolerance indicators
 - RBI : scaling (determine new maxima)
- Correlation to suite of indicators
 - Proportion of sensitive: tolerant taxa was used by all but one expert
 - Community metrics, e.g., total taxa / mollusca / crustacea

New Validated Index

IF DEVELOPING A NEW INDEX – NEED INDEPENDENT VALIDATION

- Use data used in assemblage classification that were not included in the BPJ to validate the proposed indices
- Use 2008 RMP benthic data to validate the index with a new, independent dataset

Future Planning for RMP Benthic Studies

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2011 and Beyond

2011 Benthic Workgroup Meetings

- Is the BWG willing to meet on a regular basis?
- Provide guidance and expert opinion on future RMP benthic studies

2012 – 2015 Benthic study concepts include:

- Targeted studies to test benthic indices, e.g. along gradients on the margins of the Bay
- Methods to investigate causes of benthic impact