Southern California Association of
Marine Invertebrate Taxonomists

3720 Stephen White Drive
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NEXT MEETING: Common Anemones and Sea Pens on Shelf Depth Soft Bottoms of Southern California

GUEST SPEAKER: John Ljubenkov, MEC Analytical Systems Inc.

DATE: Monday, April 10, 1989, 9:30 AM

LOCATION: Cabrillo Marine Museum
3720 Stephen White Drive
San Pedro, CA 90731

MINUTES FROM MEETING ON MARCH 29, 1989

SCAMIT and the Orange County Sanitation Districts hosted a discussion of the Infaunal Trophic Index. Jack Word, Battelle Pacific Northwest Laboratories, and Dave Montagne, Sanitation Districts of Los Angeles County, hosted a discussion on the most recent changes to this index. Several organizations were represented at this meeting, and each representative was given an opportunity to explain how he interpreted and calculated this index. In the morning session, interpretations of the infaunal trophic groups including the constituent taxa were presented. In the afternoon, the ITI's potential ecological and regulatory roles were discussed.

In 1978, the first distributed ITI version was presented in the SCCWRP Annual Report; initially it was to be used to assess benthic regions and community patterns for possible pollution affects (primarily organic enrichment) by comparing feeding types of dominant benthic taxa. Originally the taxa list included only the 60 m benthic organisms, but later in 1980 the index was expanded to include the area extending inshore to the 20 m isobath and offshore to the 80 m isobath, thereby increasing the number of taxa examined. An attempt for more representative assignments of the taxa to their respective sediment feeding types also was made. During this period an attempt was made to define "degraded, changed, and unchanged" benthic communities using the ITI. The Environmental Protection

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Agency utilizes the ITI and relies upon it to make regulatory decisions under the Clean Water Act.

It has become apparent that different values of the ITI can be calculated if different versions (1978 vs. 1980) of the taxa list were used. Also the degree of literalism used in assigning taxa to the trophic group was a source of variation in ITI values. Taxonomic revisions, new species, variations in sample screening and sorting, and absence of numerically dominant species can modify the value of the ITI.

As an example of how 1978 and 1980 versions can impact ITI values, one agency reported that the 1978 version contained only 7% of its benthic taxa, while the 1980 list contained nearly 30% of its taxa list. Taxonomic revisions of groups into newly created genera may modify the 1978 version. For example, the Group I amphipod genus, Paraphoxus, was split into several genera after 1978. Calculations of the index that do not incorporate the new nomenclature result in values that are lower than those correcting for taxonomic changes.

Jack Word presented a new 1989 ITI version which contains over 220 taxa, changes the trophic group assignment for terebellids and maldanids, and modifies the coefficient for each trophic group. This new version uses four tiered feeding groups based on food particle characteristics, food location, feeding strategy, and habitat. It may be more useful as a screening and recognition tool for monitoring pollution effects. He emphasized that ITI users must stay current with taxonomic changes. Also he cautioned that poor sieving techniques in the field will result in the retention of smaller organisms from groups III and IV resulting in an artificial depression of the ITI value for those samples.

To rectify many of the problems with ITI values and their use, several participants suggested that regulatory agencies make an attempt to update the taxonomic nomenclature of their ITI list; use the more comprehensive 1980 version, and employ the literal interpretations in assessing which taxa belong in each trophic group.

Several suggestions were made at this meeting: 1) the use of the environmental categories "degraded, changed, and unchanged"should be discontinued; 2) when ITI values drop in samples in which species diversity rises, the ITI usefulness should be discounted; 3) ITI values for habitats without numerically dominant species should be used with caution since they may not reflect the existing ecological pattern. When species fluctuate wildly in abundance, particularly in trophic group IV, then ITI values also swing dramatically. Careful attention to ITI values from depths other than 60 meters should be made to avoid overextending the interpretation of ITI values.

In conclusion, several specific techniques for calculating and applying the ITI values are commonly used by different agencies and researchers. The changes in the index that Jack Word has proposed will influence results. To better address the above issues, SCAMIT has decided to form an ad hoc committee. The committee will begin to detail areas of concern with the ITI and will produce a series of recommendations on ITI use. Participation in the committee will be limited, but each interested party will be given the opportunity to submit and discuss its particular point of view.

Locations..locations...locations..

On 27 February after 15 years of toil
I moved to L.A.C.S.D. just upstairs from the OIL*
The job is new, the people too, as is my area code
So should you write,
The names the same,
But use my new abode:

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