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Presenter: DePinto, J.V.
Contact E-mail: jdepinto@limno.com

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Authors:
Author 1 Last Name: DePinto (Presenter)
Author 1 Initials: J.V.
Author 1 Institution number: 1

Author 2 Last Name: Verhamme
Author 2 Initials: E.
Author 2 Institution number: 1

Author 3 Last Name: Richards
Author 3 Initials: R.P.
Author 3 Institution number: 2

Author 4 Last Name: Kreis
Author 4 Initials: R.G.
Author 4 Institution number: 3

Abstract Body: Dave Dolan spent much of his career computing and compiling phosphorus loads to the Great Lakes. None of his work in this area has been more valuable than his continued load estimates to Lake Erie, which has allowed us to unambiguously interpret the cyanobacteria blooms and hypoxia development in the lake. To help understand the re-occurrence of cyanobacteria blooms in the Western Basin of Lake Erie, we have examined the phosphorus loading to the Western Basin over the past 15 years. Furthermore, we have examined the relative contributions from various tributaries and the Detroit River. On an annual basis the total phosphorus load has not exhibited a trend, other than being well correlated with flow from major tributaries. However, the dissolved reactive phosphorus (DRP) load has trended upward, returning to levels observed in the mid-1970s. This increase has largely been attributed to the increase in flow-weighted DRP concentration in the Maumee River. Over the period, about half of the phosphorus load comes from the Maumee River with the other half coming from the

Detroit River; other tributaries contribute much small amounts to the load. Seasonal analysis shows the highest percentage of the load occurs in the spring during high flow events. We are very grateful to our friend Dave for making this type of analysis possible.

Affiliations:

Affiliation 1 Address - 1: LimnoTech
Affiliation 1 Address - 2: 501 Avis Drive
Affiliation 1 City: Ann Arbor
Affiliation 1 State/Province: MI
Affiliation 1 Postal Code: 48108
Affiliation 1 Country:

Affiliation 2 Address - 1: National Center for Water Quality Research
Affiliation 2 Address - 2: Heidelberg University
Affiliation 2 City: Tiffin
Affiliation 2 State/Province: OH
Affiliation 2 Postal Code: 48883
Affiliation 2 Country:

Affiliation 3 Address - 1: EPA Large Lakes Research Station
Affiliation 3 Address - 2: 9311 Groh Road
Affiliation 3 City: Grosse Ile
Affiliation 3 State/Province: MI
Affiliation 3 Postal Code: 48138
Affiliation 3 Country: