

One Fish, Two Fish, Red Fish, Blue Fish: Assessing the Lake Erie Fish Community.

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The fisheries resources of Lake Erie are intensively managed for sport and commercial exploitation yielding over one billion dollars annually to local economies. Through the combined effects of this exploitation, habitat alteration, and the invasion by exotic species, the fish community of Lake Erie is in a continual state of flux. Local fish communities are in turn modified by the distinct physical, chemical and trophic environment of the three lake basins, making generalizations about the fish community challenging. Lakewide harvest of all species has averaged over 21000 tonnes/year for most of the century, although species sought and characteristics of the fishery have changed through time. Percids continue to dominate the fish community, although the species complex has shifted from blue pike and sauger, to walleye and yellow perch. In recent years, benthivorous fish biomass has increased at the expense of pelagic species. A number of native species are now considered extinct (blue pike, lake herring) while others are showing signs of recovery (lake sturgeon, burbot). Invasions and introductions by non-native species have occurred for over 100 years. Some fishes are now integral parts of the food web (rainbow smelt, alewife, round gobies), while others have been controlled (sea lamprey) or declined (white perch). The Lake Erie fish community will continue to change well into the new Millennium, but the tremendous socioeconomic benefits realized in the past can continue through sound resource management.