Supporting information Table 1. Before-after-removal studies and the biophysical parameters measured in each study indicated with grey shading.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Citation | Dam name | State | Grain size | Turbidity | Suspended sediment concentration | Phosphorus concentration | Nitrate concentration | Temperature | Dissolved oxygen | Aquatic invertebrates | Fish single species | Fish community |
| Katapodis and Aadland [1] | Appleton | MN |  |  |  |  |  |  |  |  |  |  |
| Kornis et al. [2] | Big Spring | WI |  |  |  |  |  |  |  |  |  |  |
| Orr et al. [3] | Boulder Creek | WI |  |  |  |  |  |  |  |  |  |  |
| Orr et al. [4] | Boulder Creek | WI |  |  |  |  |  |  |  |  |  |  |
| Rogers [5] | Boulder Creek | WI |  |  |  |  |  |  |  |  |  |  |
| Stanley et al. [6] | Boulder Creek | WI |  |  |  |  |  |  |  |  |  |  |
| Kosky et al. [7] | Brewster | IL |  |  |  |  |  |  |  |  |  |  |
| Straub [8] | Brewster | IL |  |  |  |  |  |  |  |  |  |  |
| Tullos et al. [9] | Brownsville | OR |  |  |  |  |  |  |  |  |  |  |
| Zunka [10] | Brownsville | OR |  |  |  |  |  |  |  |  |  |  |
| Kibler et al. [11] | Brownsville | OR |  |  |  |  |  |  |  |  |  |  |
| Heise et al. [12] | Carbonton | NC |  |  |  |  |  |  |  |  |  |  |
| Howard et al. [13] | Carbonton | NC |  |  |  |  |  |  |  |  |  |  |
| DeShon [14] | Central Ave | OH |  |  |  |  |  |  |  |  |  |  |
| Martin et al. [15] | Chiloquin | OR |  |  |  |  |  |  |  |  |  |  |
| Colaiacomo [16] | Condit | WA |  |  |  |  |  |  |  |  |  |  |
| Engle et al. [17] | Condit | WA |  |  |  |  |  |  |  |  |  |  |
| Hatten et al. [18] | Condit | WA |  |  |  |  |  |  |  |  |  |  |
| Jolley et al. [19] | Condit | WA |  |  |  |  |  |  |  |  |  |  |
| Wilcox et al. [20] | Condit | WA |  |  |  |  |  |  |  |  |  |  |
| Hill et al. [21] | Dead Lake  | FL |  |  |  |  |  |  |  |  |  |  |
| Knittel [22] | Dexter | MI |  |  |  |  |  |  |  |  |  |  |
| Stewart [23] | Dinner Creek | OR |  |  |  |  |  |  |  |  |  |  |
| Casper et al. [24] | Edwards | ME |  |  |  |  |  |  |  |  |  |  |
| East et al. [25] | Elwha | WA |  |  |  |  |  |  |  |  |  |  |
| Hitt et al. [26] | Embrey | VA |  |  |  |  |  |  |  |  |  |  |
| Dorobek et al. [27] | Fifth Ave. | OH |  |  |  |  |  |  |  |  |  |  |
| Cooper [28] | Fort Covington | NY |  |  |  |  |  |  |  |  |  |  |
| Cooper [29] | Fort Covington | NY |  |  |  |  |  |  |  |  |  |  |
| Compson et al. [30] | Fossil Creek | AZ |  |  |  |  |  |  |  |  |  |  |
| Dinger [31] | Fossil Creek | AZ |  |  |  |  |  |  |  |  |  |  |
| Marks et al. [32] | Fossil Creek | AZ |  |  |  |  |  |  |  |  |  |  |
| Muehlbauer et al. [33] | Fossil Creek | AZ |  |  |  |  |  |  |  |  |  |  |
| Hutchison [34] | Franklin Mills | PA |  |  |  |  |  |  |  |  |  |  |
| Stephens [35] | Gold Ray Dam | OR |  |  |  |  |  |  |  |  |  |  |
| Chaplin et al. [36] | Good Hope | PA |  |  |  |  |  |  |  |  |  |  |
| Hutchison [34] | Hellberg | PA |  |  |  |  |  |  |  |  |  |  |
| Claeson & Coffin [37] | Hemlock | WA |  |  |  |  |  |  |  |  |  |  |
| Hutchison [34] | Hinkletown | PA |  |  |  |  |  |  |  |  |  |  |
| Gartner et al. [38] | Homestead | NH |  |  |  |  |  |  |  |  |  |  |
| Catalano [39] | LaValle | WI |  |  |  |  |  |  |  |  |  |  |
| Catalano et al. [40] | LaValle | WI |  |  |  |  |  |  |  |  |  |  |
| Doyle et al. [41] | LaValle | WI |  |  |  |  |  |  |  |  |  |  |
| Riggsbee et al. [42] | Lowell | NC |  |  |  |  |  |  |  |  |  |  |
| Sherman [43] | Lowell | NC |  |  |  |  |  |  |  |  |  |  |
| Dorobek et al. [27] | Main St. | OH |  |  |  |  |  |  |  |  |  |  |
| Bushaw‐Newton et al. [44] | Manatawny | PA |  |  |  |  |  |  |  |  |  |  |
| Thomson et al. [45] | Manatawny | PA |  |  |  |  |  |  |  |  |  |  |
| Velinsky et al. [46] | Manatawny | PA |  |  |  |  |  |  |  |  |  |  |
| Zunka [10] | Marmot | OR |  |  |  |  |  |  |  |  |  |  |
| Cui et al. [47] | Marmot | OR |  |  |  |  |  |  |  |  |  |  |
| Keith [48] | Marmot | OR |  |  |  |  |  |  |  |  |  |  |
| Podolak [49] | Marmot | OR |  |  |  |  |  |  |  |  |  |  |
| Ferry & Miller [50] | McCormick-Saeltzer | CA |  |  |  |  |  |  |  |  |  |  |
| Greenwald et al. [51] | McCormick-Saeltzer | CA |  |  |  |  |  |  |  |  |  |  |
| Simons et al. [52] | McCormick-Saeltzer | CA |  |  |  |  |  |  |  |  |  |  |
| Conlon [53] | Merrimack Village | NH |  |  |  |  |  |  |  |  |  |  |
| Pearson et al. [54] | Merrimack Village | NH |  |  |  |  |  |  |  |  |  |  |
| Hogg et al. [55] | Mill | ME |  |  |  |  |  |  |  |  |  |  |
| Lambing & Sando [56] | Milltown | MT |  |  |  |  |  |  |  |  |  |  |
| Sando & Lambing [57] | Milltown | MT |  |  |  |  |  |  |  |  |  |  |
| Peck & Kasper [58] | Munroe Falls | OH |  |  |  |  |  |  |  |  |  |  |
| Rumschlag & Peck [59] | Munroe Falls | OH |  |  |  |  |  |  |  |  |  |  |
| Ahearn & Dahlgren [60] | Murphy Creek | CA |  |  |  |  |  |  |  |  |  |  |
| Schmitz et al. [61] | Mystic  | MT |  |  |  |  |  |  |  |  |  |  |
| Gibson et al. [62] | Nashville | MI |  |  |  |  |  |  |  |  |  |  |
| Hirethota et al. [63] | North Avenue | WI |  |  |  |  |  |  |  |  |  |  |
| Catalano et al. [40] | Oak | WI |  |  |  |  |  |  |  |  |  |  |
| Orr & Koenig [4] | Oak | WI |  |  |  |  |  |  |  |  |  |  |
| Stanley et al. [64] | Oak | WI |  |  |  |  |  |  |  |  |  |  |
| Conlon [65] | Off Billington St. | MA |  |  |  |  |  |  |  |  |  |  |
| Cantwell et al. [66] | Pawtuxet Falls | RI |  |  |  |  |  |  |  |  |  |  |
| Magilligan et al. [67] | Pelham | MA |  |  |  |  |  |  |  |  |  |  |
| Bowman [68] | Quaker Neck | NC |  |  |  |  |  |  |  |  |  |  |
| Burdick & Hightower [69] | Quaker Neck | NC |  |  |  |  |  |  |  |  |  |  |
| DeShon [14] | River St | OH |  |  |  |  |  |  |  |  |  |  |
| Doyle et al. [41] | Rockdale | WI |  |  |  |  |  |  |  |  |  |  |
| Katopodis et al. [1] | Sandstone | MN |  |  |  |  |  |  |  |  |  |  |
| Tullos et al. [9] | Savage Rapids | OR |  |  |  |  |  |  |  |  |  |  |
| Evans et al. [70] | Secor | OH |  |  |  |  |  |  |  |  |  |  |
| Gottgens [71] | Secor | OH |  |  |  |  |  |  |  |  |  |  |
| Harris [72] | Secor | OH |  |  |  |  |  |  |  |  |  |  |
| Tullos et al. [73] | Shearer | OR |  |  |  |  |  |  |  |  |  |  |
| Pollard & Reed [74] | Shopiere | WI |  |  |  |  |  |  |  |  |  |  |
| Harbold et al. [75] | Simkins | MD |  |  |  |  |  |  |  |  |  |  |
| Tullos et al. [73] | Sodom | OR |  |  |  |  |  |  |  |  |  |  |
| Maloney et al. [76] | South Batavia | IL |  |  |  |  |  |  |  |  |  |  |
| Cheng & Granata [77] | St. John | OH |  |  |  |  |  |  |  |  |  |  |
| Granata et al. [78] | St. John | OH |  |  |  |  |  |  |  |  |  |  |
| Krieger & Stearns [79] | St. John | OH |  |  |  |  |  |  |  |  |  |  |
| Nechvatal [80] | St. John | OH |  |  |  |  |  |  |  |  |  |  |
| Burroughs [81] | Stronach | MI |  |  |  |  |  |  |  |  |  |  |
| Burroughs [82] | Stronach | MI |  |  |  |  |  |  |  |  |  |  |
| Burroughs et al. [83] | Stronach | MI |  |  |  |  |  |  |  |  |  |  |
| Mistak [84] | Stronach | MI |  |  |  |  |  |  |  |  |  |  |
| Catalano [39] | Waterworks | WI |  |  |  |  |  |  |  |  |  |  |
| Catalano et al. [40] | Waterworks | WI |  |  |  |  |  |  |  |  |  |  |
| Stanley et al. [85] | Waterworks | WI |  |  |  |  |  |  |  |  |  |  |
| Bulak et al. [86] | Woodside | SC |  |  |  |  |  |  |  |  |  |  |
| Marion [87] | Woodside | SC |  |  |  |  |  |  |  |  |  |  |
| Whitener [88] | Woodside | SC |  |  |  |  |  |  |  |  |  |  |
| Doucette [89] | Woolen Mills | VA |  |  |  |  |  |  |  |  |  |  |
| Kanehl et al. [90] | Woolen Mills | WI |  |  |  |  |  |  |  |  |  |  |
| Poulos et al. [91] | Zemko | CT |  |  |  |  |  |  |  |  |  |  |

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