A limnological study of McNary Reservoir was undertaken by the Bureau of Commercial Fisheries in 1965-66, but a comprehensive report at this time would be premature. This paper summarizes briefly the methods and findings of the work in relation to the Cladocera and Copepoda.

Study Area and Methods

McNary Reservoir is in Oregon and Washington on the main stem of the Columbia River, 292 miles above the river mouth (U.S. Army Corps of Engineers, 1946, 1952). It was formed in 1957 at the completion of McNary Dam, which is operated by the U.S. Army Corps of Engineers. The reservoir lies in a semi-arid region used primarily for grazing and cultivation; flowing through the area are three major tributaries, the Walla Walla, Snake, and Yakima rivers.

The basic physical features of McNary Reservoir are:

- Normal pool elevation (m.s.l.) 340 feet
- Normal pool length 59 miles
- Normal pool area 37,900 acres
- Shoreline 242 miles
- Maximum width 9500 feet
- Maximum depth 120 feet
- Average depth 65 feet
- Volume 1,345,000 acre feet

Sampling, conducted from August 1965 through September 1966, was at one- or two-week intervals during the summer but was irregular during the other seasons. Plankton collections were made at 24 sampling stations, at which water depth ranged from about 20 to 85 feet. The entire water column was sampled by a vertical haul at each station.

A half-meter Nansen-type net, constructed of No. 10 monofilament nylon bolting cloth, was used; the samples were preserved in 5 per cent formalin, identified, and enumerated in terms of organisms per cubic meter.

Species and Relative Abundance

Twenty-four species of Cladocera and Copepoda were collected, which represented 13 and 6 genera, respectively (Ward and Whipple, 1963). More species of Cladocera (17)
than Copepoda (7) were found, but as a group the cladocerans were usually outnum-
bered by the copepods. The species taken in McNary Reservoir were:

I. Order Cladocera
   1. Family Leptodoridae
      *Leptodora kindtii* (Focke) 1844
   2. Family Sidae
      *Sida crystallina* (O. F. Müller) 1875
      *Diaphanosoma brachyurum* (Liéven) 1848
   3. Family Daphnidae
      *Daphnia galeata* Sars 1864
      *Scapholeberis kingi* Sars 1903
      *Ceriodaphnia pulchella* Sars 1862
   4. Family Bosminidae
      *Bosmina longirostris* (O. F. Müller) 1785
   5. Family Macrothricidae
      *Hycroptus sordidus* (Liéven) 1848
      *Macrothrix laticornis* (Jurine) 1820
   6. Family Chydoridae
      *Monospilus dispar* Sars 1861
      *Leydigia quadrangularis* (Leydig) 1860
      *Alona quadrangula* (O. F. Müller) 1785
      *Alona costata* Sars 1862
      *Pleuroxus denticulatus* Birge 1878
      *Pleuroxus trigonellus* (O. F. Müller) 1785
      *Pleuroxus aduncus* (Jurine) 1820
      *Chydorus sphaericus* (O. F. Muller) 1785

II. Order Copepoda
   A. Suborder Calanoida
      1. Family Temoridae
         *Epischura nevadensis* Lilljeborg 1889
      2. Family Diaptomidae
         *Diaptomus ahlbladii* Marsh 1893
   B. Suborder Cyclopoida
      1. Family Cyclopidae
         *Cyclops venndii* Fishcher 1853
         *Cyclops bicuspidatus* Claus 1857 var. thomai
      C. Suborder Harpacticoida
         1. Family Canthocamptidae
            *Mesochra alarkana* M. S. Wilson 1958
            *Canthocamptus staphylinoides* Pearse 1905
            *Bryocamptus zschokkei* (Schmeil) 1893

Cyclopooids\(^1\) ranked first in abundance. Numbers increased gradually in the spring,
peaked in late August and early September, declined slightly later in September, and then
increased to a less pronounced peak in October. The population dropped off rapidly in
late fall and remained relatively low throughout the winter and early spring.

Seasonal variation of *Bosmina*, second in abundance, was almost identical to that
of the cyclopooids, except that the spring increase occurred more rapidly and the popu-
lation peak was reached slightly earlier—in July and early August. The seasonal vari-
ation of *Daphnia*, third in abundance, was not significantly different from the cyclopooids
or *Bosmina*. The calanoids ranked fourth; numbers remained consistently high through-
out the spring and summer and then decreased markedly in the fall. Although sampling
data were limited in the winter, population levels appeared to be similar to those in the
spring and summer.

*Alona*, *Sida*, *Ceriodaphnia*, and *Pleuroxus* followed typical patterns of seasonal change,
generally building up in the spring, peaking in the summer, and decreasing in the fall.

\(^1\)In enumeration, the Copepoda were identified to suborder and the Cladocera to genera.
A notable exception was *Illyocryptus*; its population was low in the winter and summer and high in the spring and fall. *Chydorus* remained stable throughout the year. *Leptodora*, the largest of the cladocerans, appeared sporadically in the summer and fall.

The relative abundance of organisms by percentage showed that in the spring, summer, and fall, cyclopoids and *Bosmina* constituted the major portion of the population. Calanoids constituted the largest segment of the population in the winter.

The numbers of the remaining Cladocera and Copepoda collected were small and constituted only a minor portion of the total population. All Cladocera with the exception of *Monospilus dispar* have been reported in the state of Washington.²

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**Literature Cited**


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