

Memorandum

Date: December 18, 2015

To: Scott Wilson
Regional Manager
Bay Delta Region

From: Sarah Finstad
Environmental Scientist
Bay Delta Region

Subject: Fall Midwater Trawl 2015 Annual Fish Abundance Summary

The California Department of Fish and Wildlife has conducted the Fall Midwater Trawl Survey (FMWT) to index the fall abundance of pelagic fishes nearly annually since 1967. FMWT equipment and methods have remained consistent since the survey's inception, which allows the indices to be compared across time.

The FMWT conducts monthly surveys from September through December. The annual abundance index is the sum of the September through December monthly survey indices. During each monthly survey, one 12-minute oblique midwater trawl tow is conducted at each of 100 index stations used for index calculation and at an additional 22 non-index stations that provide enhanced distribution information (Figure 1).

The 2015 sampling season was completed December 11. Field crews successfully conducted tows at all index and non-index stations during all four survey months.

The following summary contains abundance and distribution information for five pelagic fish species based on 2015 FMWT survey sampling.

Delta Smelt

Six Delta Smelt were collected at index stations. The 2015 abundance index (7) is the lowest in FMWT history (Figure 1).

In September, the only Delta Smelt collected were from index stations in the lower Sacramento River (n=4).

In October, the only Delta Smelt collected came from a non-index station in the Sacramento Deep Water Shipping Channel (SRDWSC) (n=1).

In November, no Delta Smelt were collected.

In December, the only Delta Smelt collected were from index stations in Montezuma Slough (n=1) and in the lower Sacramento River (n=1).

Age-0 Striped Bass

Forty-two age-0 Striped Bass were collected at index stations. The 2015 abundance index (52) is the second lowest in FMWT history (Figure 2).

In September, the only Striped Bass collected were from index stations in Grizzly Bay (n=4) and the lower Sacramento River (n=1).

In October, the only Striped Bass collected were from index stations in Carquinez Strait (n=3) and the Confluence (n=1).

In November, Striped Bass were collected at index stations in Grizzly Bay (n=2), Honker Bay (n=3), the Confluence (n=4), and the South Delta (n=1). At non-index stations, Striped Bass were collected in the SRDWSC (n=2).

In December, the only Striped Bass collected were from index stations in the Carquinez Strait (n=2), Suisun Bay (n=10), Grizzly Bay (n=2), Montezuma Slough (n=1), the Confluence (n=2), the Lower Sacramento River (n=5), and the Lower San Joaquin River (n=1).

Longfin Smelt

Three Longfin Smelt were collected at index stations. The 2015 abundance index (4) is the lowest in FMWT history (Figure 3).

In September, October, and November, no Longfin Smelt were collected.

In December, the only Longfin Smelt collected were from index stations in Carquinez Strait (n=1), Grizzly Bay (n=1), and the Confluence (n=1).

Threadfin Shad

Six hundred forty-four Threadfin Shad were collected at index stations. The 2015 abundance index (806) is the eighth lowest in FMWT history (Figure 4).

In September, Threadfin Shad were collected at index stations in the Confluence (n=1), the Lower Sacramento River (n=159), and the Lower San Joaquin River (n=2). At non-index stations, Threadfin Shad were collected in Cache Slough (n=1) and the SRDWSC (n=220).

In October, Threadfin Shad were collected at index stations in Suisun Bay (n=4), the Confluence (n=14), the Lower Sacramento River (n=45), and the Lower San Joaquin River (n=6). Threadfin Shad were collected at non-index stations in the SRDWSC (n=95).

In November, Threadfin Shad were collected at index stations in Suisun Bay (n=4), Honker Bay (n=1), the Confluence (n=30), the Lower Sacramento River (n=172), and the Lower San Joaquin River (n=1). At non-index stations, Threadfin Shad were collected in the Upper Lower Sacramento River (n=18) and the SRDWSC (n=309).

In December, Threadfin Shad were collected at index stations in San Pablo Bay (n=11), Carquinez Strait (n=2), Suisun Bay (n=16), Grizzly Bay (n=2), Montezuma Slough (n=4), Honker Bay (n=6), the Confluence (n=31), the Lower Sacramento River (n=115), and the Lower San Joaquin River (n=18). At non-index stations, Threadfin

Shad were collected in Steamboat Slough (n=1), Cache Slough (n=10), and the SRDWSC (n=1124).

American Shad

Fifty-nine American Shad were collected at index stations. The 2015 abundance index (79) is the lowest in FMWT history (Figure 5).

In September, the only American Shad collected were from index stations in Montezuma Slough (n=2), the Confluence (n=1), the Lower Sacramento River (n=2), and the Lower San Joaquin River (n=1).

In October, American Shad were collected at index stations in the Confluence (n=6) and the lower Sacramento River (n=4). At non-index stations, an American Shad was collected on the Sacramento River north of Courtland (n=1).

In November, American Shad were collected at index stations in Carquinez Strait (n=3), Suisun Bay (n=2), Grizzly Bay (n=1), the Confluence (n=7), and the Lower Sacramento River (n=3). At non-index stations, American Shad were collected in the SRDWSC (n=5).

In December, American Shad were collected at index stations in San Pablo Bay (n=4), Carquinez Strait (n=2), Suisun Bay (n=3), Grizzly Bay (n=4), Honker Bay (n=2), the Confluence (n=4), the Lower Sacramento River (n=3), and the Lower San Joaquin River (n=5). At non-index stations, American Shad were collected at Cache Slough (n=2) and the SRDWSC (n=5).

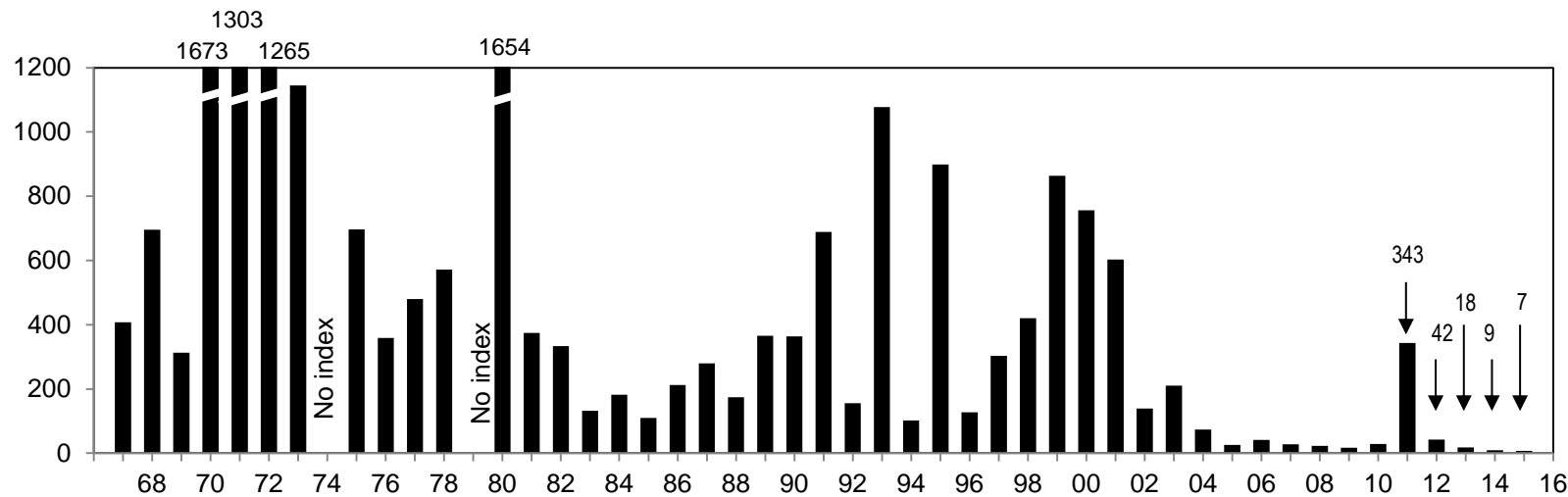


Figure 1. FMWT Delta Smelt annual abundance indices, 1967-2015.

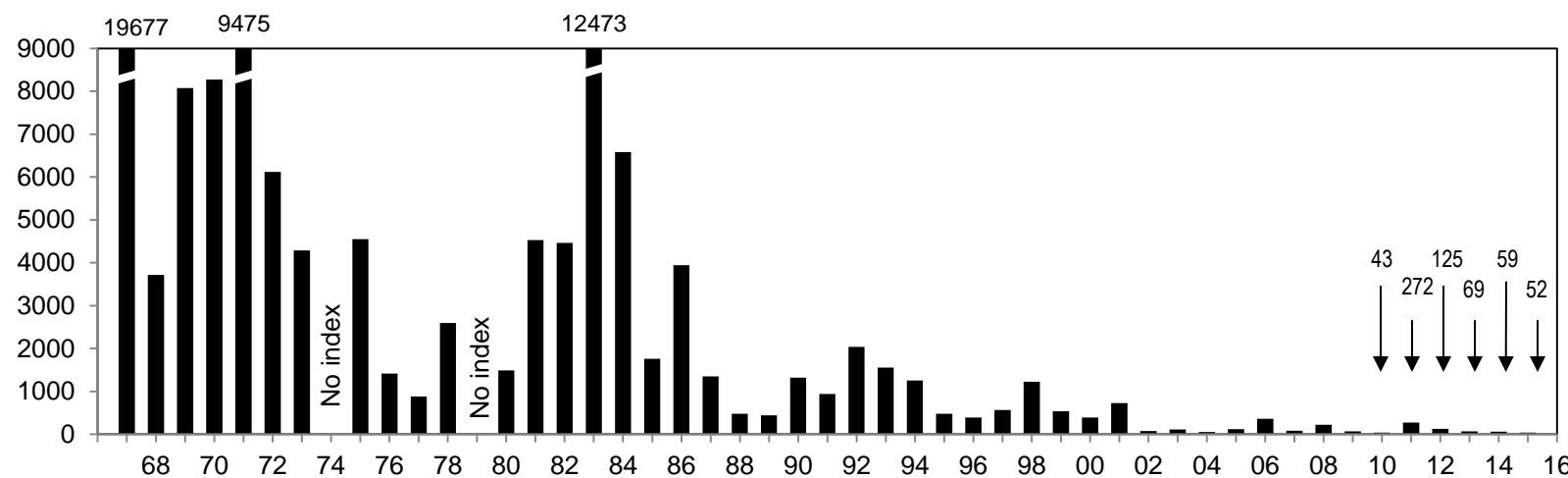


Figure 2. FMWT Age-0 Striped Bass annual abundance indices, 1967-2015.

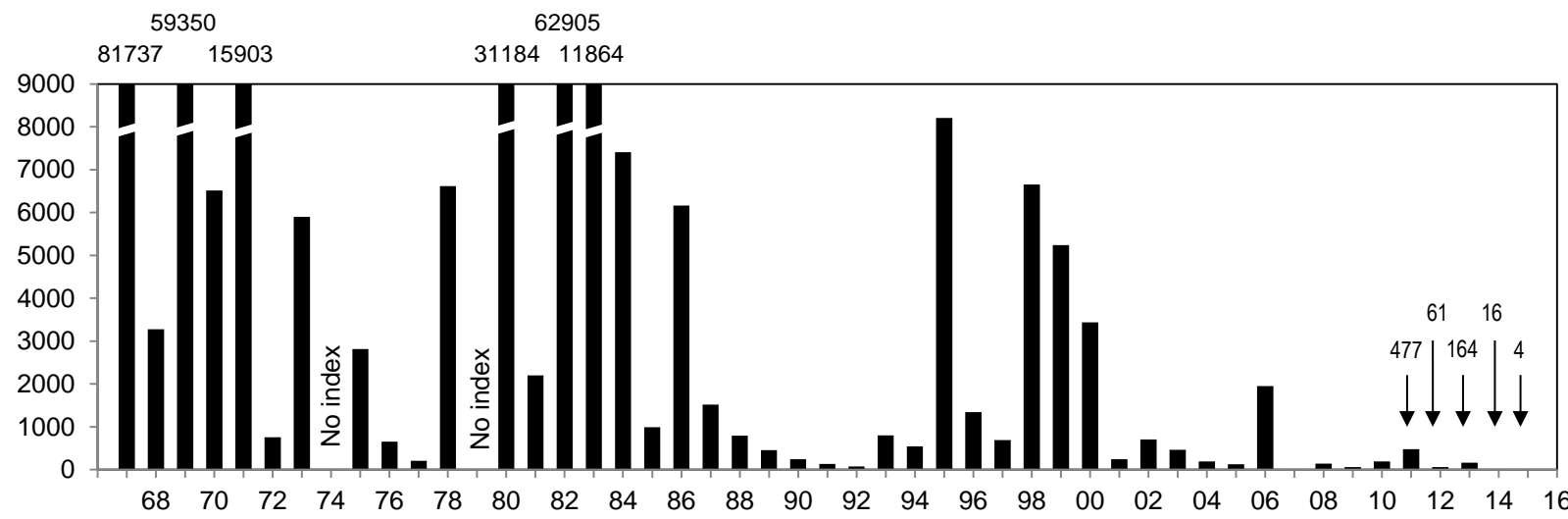


Figure 3. FMWT Longfin Smelt annual abundance indices, 1967-2015.

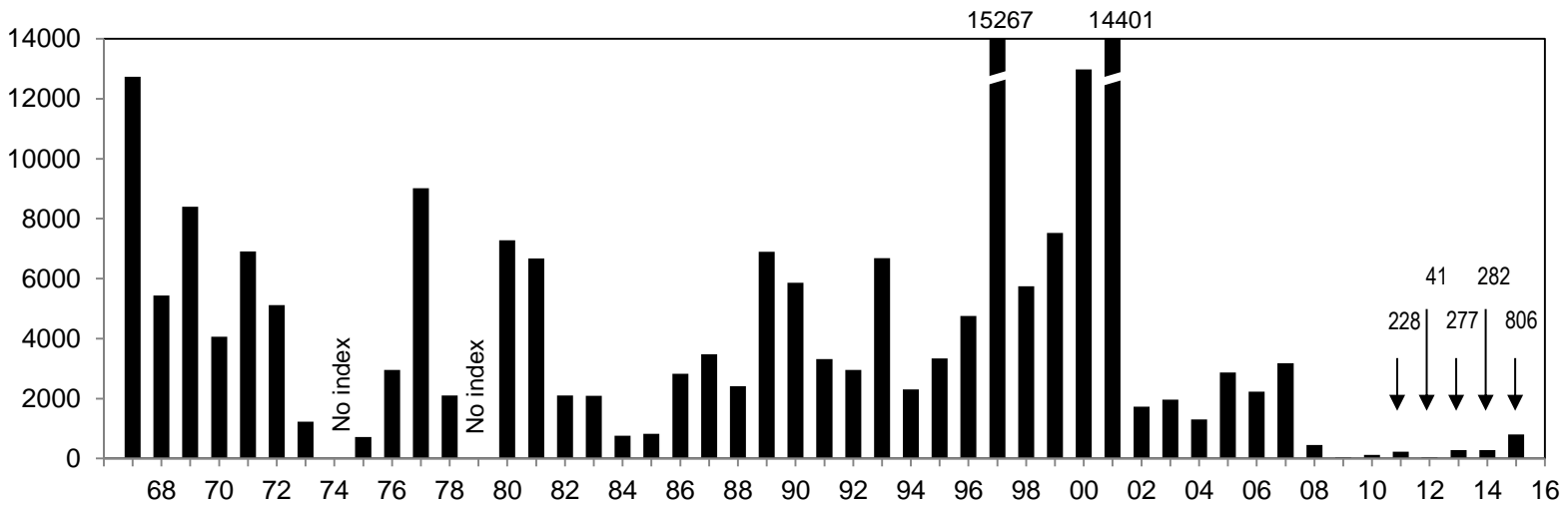


Figure 4. FMWT Threadfin Shad annual abundance indices, 1967-2015.

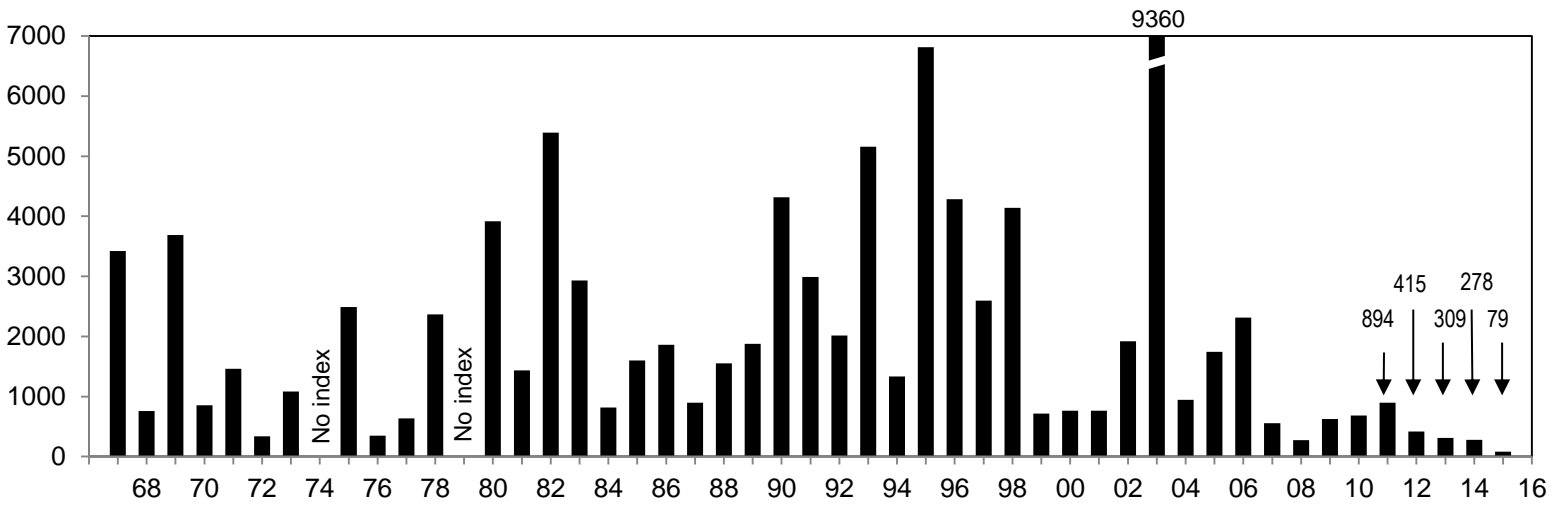


Figure 5. FMWT American Shad annual abundance indices, 1967-2015.