

2016 Sturgeon Fishing Report Card: Preliminary Data Report

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Summary

About 47,614 2016 Sturgeon Fishing Report Cards (Cards) were issued. This report was written 10-Mar-2017 using information from the 15,008 Cards that had been received from anglers (11,036 via the Internet and 3,972 via mail) by that date.

Most catch of sturgeon (both species) was in the Sacramento River from Rio Vista to Chipps Island and in Suisun Bay. Anglers reported the release of 220 Green Sturgeon, retention of 2,528 White Sturgeon, and release of 4,963 White Sturgeon. As has been the case since 2007, roughly 50% of the anglers who fished for sturgeon were not successful and successful anglers retained on average less than half the annual bag limit of three White Sturgeon.

Anglers reported fork length measurements for 102 Green Sturgeon (range 18-71 inches, averaged 33 inches). Of the White Sturgeon retained, anglers reported fork length measurements for 2,516 fish (range 40-60 inches, average 48 inches). Of the White Sturgeon released, anglers reported a length measurement for 2,375 fish (range 12-108 inches, averaged 44 inches).

Introduction

This report summarizes data from the 2016 California Sturgeon Fishing Report Card (Card). The Card is part of a suite of sport fishing regulations that are intended to protect California's year-round White Sturgeon fishery while increasing protections for the federally-threatened Green Sturgeon population and adding resiliency to the conservation-dependent White Sturgeon population.

The 2016 Card was distributed to any angler for a fee of \$8.13 exclusively through the Automated License Data System (ALDS) and was required of every angler — including minors, anglers fishing only from piers, and anglers fishing on 'free fishing' days — to fish for or retain a sturgeon in California.

Cards included fields for contact information, retained White Sturgeon, and released White Sturgeon (Appendix 1). To aid the Department's efforts to reduce illegal commercialization of sturgeon and to enforce the daily and annual bag limits on White Sturgeon, the Cards also included detachable single-use serially-numbered Card-specific tags to be placed on White Sturgeon retained by anglers.

Information on catch of sturgeon from 2016 Cards is complementary to on-going research and monitoring conducted by the Department (including application of disk-tags to wild fish) and others and will be used in planned articles and technical reports.

Card Distribution and Return

About 47,614 2016 Cards were issued to anglers. Anglers began returning Cards (on-line or via mail) almost immediately after distribution. Cards returned after preparation of this report began are not described here (cutoff date 10-Mar-2017, mid PM).

Fifteen thousand eight (15,008) Cards were returned. Of the Cards returned, 6,311 had no data (effort but no catch; 4,468 via the Internet and 1,843 via mail), 5,906 indicated no fishing effort (did not fish; 4,796 via the Internet and 1,110 via mail), and 2,791 (1,772 via the Internet and 1,019 via mail) had data on sturgeon catch.

Angler Data

The Card included fields for general, personal, and contact information (Appendix 1), but those data are not summarized here.

Catch Data

The Card contained three sections for reporting sturgeon catch: (1) Sturgeon Retained, (2) Sturgeon Released (no reward disk present), and (3) Sturgeon Released (reward disk present). See Appendix 1.

Recapture of disk-tagged fish — Seventeen (17) anglers each caught one disk-tagged White Sturgeon or disk-tagged unidentified sturgeon (Table 1). No disk-tagged Green Sturgeon were reported. Two anglers each reported catching and then releasing disk tag HH1001 (not shown in Table 1). Although this tag is a valid CDFW release from 2006, it also appears as the example on the report card. Anglers have previously recorded this tag, and to date the physical tag (HH1001) has not been returned to us.

Table 1. Angler-reported tag recaptures from 2016 Cards with corresponding CDFW tagging data; table sorted by date tagged (oldest to newest)

| Angler-reported Tag Recaptures | | | | | | CDFW Tagging Data | | | |
|--------------------------------|--|---------|----------|----------------------|------------|-------------------|---------|----------------------|---------------|
| Date (2016) | Location | Species | Fate | Fork Length (inches) | Tag Number | Date Tagged | Species | Fork Length (inches) | Days at large |
| 5-Apr | Suisun Bay | White | kept | 58 ^a | ST12288 | 26-Aug-09 | White | 65 ^a | 2,414 |
| 28-Jan | Montezuma Slough | White | kept | 57 | HH1787 | 5-Oct-09 | White | 48 | 2,306 |
| 4-Feb | Sacramento River: Knights Landing to Rio Vista | White | kept | 45 | HH2045 | 1-Sep-11 | White | 36 | 1,617 |
| 3-Feb | San Joaquin River: Stockton to Sherman Lake | White | kept | 52 | HH2074 | 29-Sep-11 | White | 42 | 1,588 |
| 23-Oct | Sacramento River: Rio Vista to Chipps Island | White | kept | 40 | HH2275 | 15-Oct-14 | White | 34 | 739 |
| 12-Apr | Suisun Bay | Unk | released | NA | HF2134 | 17-Aug-15 | White | 39 | 239 |
| 20-Sep | San Joaquin River: Stockton to Sherman Lake | White | kept | 57 | FF2159 | 25-Aug-15 | White | 55 | 392 |
| 22-Mar | Suisun Bay | White | kept | 58 | HF2140 | 26-Aug-15 | White | 56 | 209 |
| 24-Sep | Suisun Bay | White | kept | 44 | HF2165 | 10-Sep-15 | White | 39 | 380 |
| 6-Feb | Grizzly Bay | Unk | released | 46 | FF2182 | 1-Oct-15 | White | 45 | 128 |
| 21-Jan | Grizzly Bay | Unk | released | 56 | HF2189 | 13-Oct-15 | White | 44 | 100 |
| 9-Nov | Sacramento River: Rio Vista to Chipps Island | Unk | released | 36 | FF2177 | 14-Oct-15 | White | 36 | 392 |
| 26-Dec | Suisun Bay | Unk | released | NA | FF2195 | 25-Oct-15 | White | 36 | 428 |
| 4-Dec | Suisun Bay | White | kept | 52 | HF2311 | 19-Oct-16 | White | 52 | 46 |
| 27-Nov | Grizzly Bay | Unk | released | 54 | HH2173 | - | White | - | - |
| 7-May | Suisun Bay | White | kept | 46 | FF2185 | - | White | - | - |
| 17-Apr | Montezuma Slough | White | kept | 51 | 1881 | - | - | - | - |

- = Cannot determine with information supplied

^a verified angler's reporting of 58" fork length and CDFW recording of 65" FL (converted from TL cm and then to inches)

Catch — Anglers reported releasing 220 Green Sturgeon, releasing 4,963 White Sturgeon, and retaining 2,528 White Sturgeon (Table 2). Fifty (50) released sturgeon were not identified to species.

Table 2. White Sturgeon and Green Sturgeon catch reported on 2016 Cards

| | | White Sturgeon | Green Sturgeon | Unidentified Sturgeon | Overall Total |
|----------------------|--------------|----------------|----------------|-----------------------|---------------|
| Retained | Measured | 2,516 | NA | 0 | 2,516 |
| | Not Measured | 12 | NA | 0 | 12 |
| | Total | 2,528 | NA | 0 | 2,528 |
| Released | Measured | 2,375 | 102 | 8 | 2,485 |
| | Not Measured | 2,588 | 118 | 42 | 2,748 |
| | Total | 4,963 | 220 | 50 | 5,233 |
| Overall Total | | 7,491 | 220 | 50 | 7,761 |

One thousand eight hundred fifty-nine (1,859) anglers reported retaining White Sturgeon (Table 3; average of 1.4 sturgeon). One hundred thirty-four (134) anglers retained the limit of three White Sturgeon.

One thousand six hundred thirty-two (1,632) anglers reported releasing White Sturgeon (Table 3). Of those anglers, 110 each released 10-30 fish and two each released > 30 fish.

One hundred seventy-five (175) anglers reported releasing Green Sturgeon (Table 3; average of 1.3 sturgeon). Of those anglers, 29 each released 2-5.

Table 3. Summary statistics for per-angler catch from 2016 Cards with catch data

| | Number of Anglers | Number of Sturgeon | Maximum Number of Sturgeon per Angler | Average Number of Sturgeon per Angler |
|-------------------------|-------------------|--------------------|---------------------------------------|---------------------------------------|
| Retained White Sturgeon | 1,859 | 2,528 | 3 | 1.4 |
| Released White Sturgeon | 1,632 | 4,963 | 39 | 3.0 |
| Green Sturgeon | 175 | 220 | 5 | 1.3 |
| Unidentified Sturgeon | 37 | 50 | 7 | 1.4 |

Far and away most of the successful White Sturgeon anglers caught 1-2 fish (Figure 1). Two hundred ninety-one (291¹) anglers retained and released White Sturgeon on the same day. The number of White Sturgeon voluntarily conserved could not be calculated, because the length of sturgeon released was not a required field on the Card.

¹ Of the 291 anglers, six retained and released White Sturgeon on three separate days, 37 retained and released White Sturgeon on two separate days, and 248 retained and released White Sturgeon on one day.

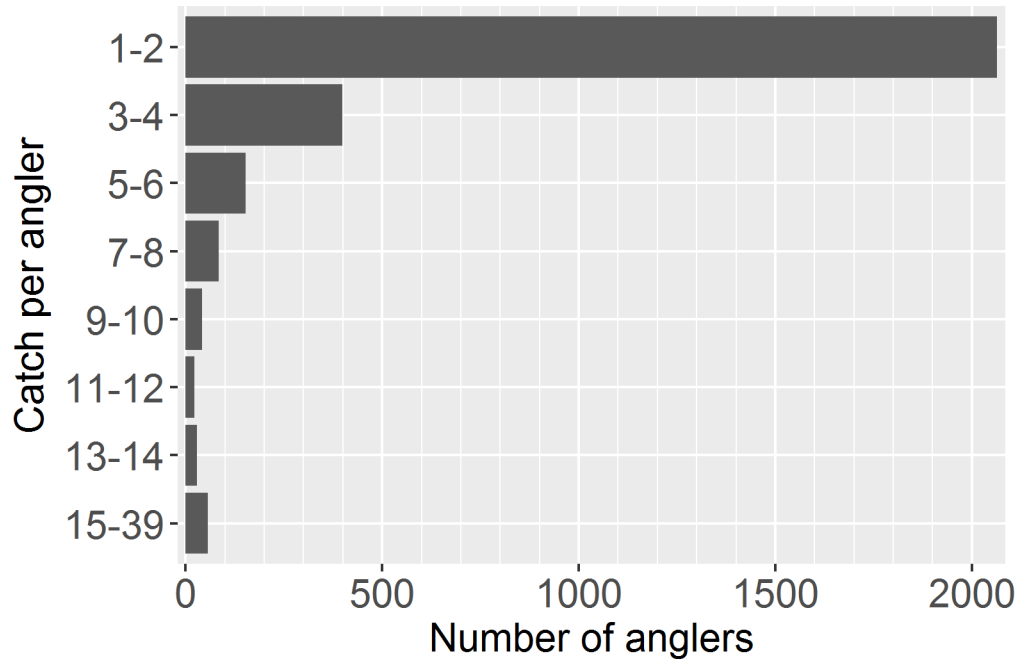


Figure 1. Frequency distribution of White Sturgeon catch per angler as reported on 2016 Cards

Lengths — Green Sturgeon length ranged 18-71 inches and averaged 33 inches (Figure 2). Retained White Sturgeon length ranged 40-60 inches² and averaged 48 inches (Figure 3). For the released White Sturgeon for which a length measurement was reported³ (Figure 4), length ranged 12-108 inches and averaged 44 inches, 544 were within the slot limit, 1,366 were below the slot limit, and 465 were above the slot limit.

² For 12 retained White Sturgeon, length was not recorded, illegible, or reported above or below the legal limit (40-60 inches FL).

³ Length of released fish is not a required field, but many anglers volunteered the information.

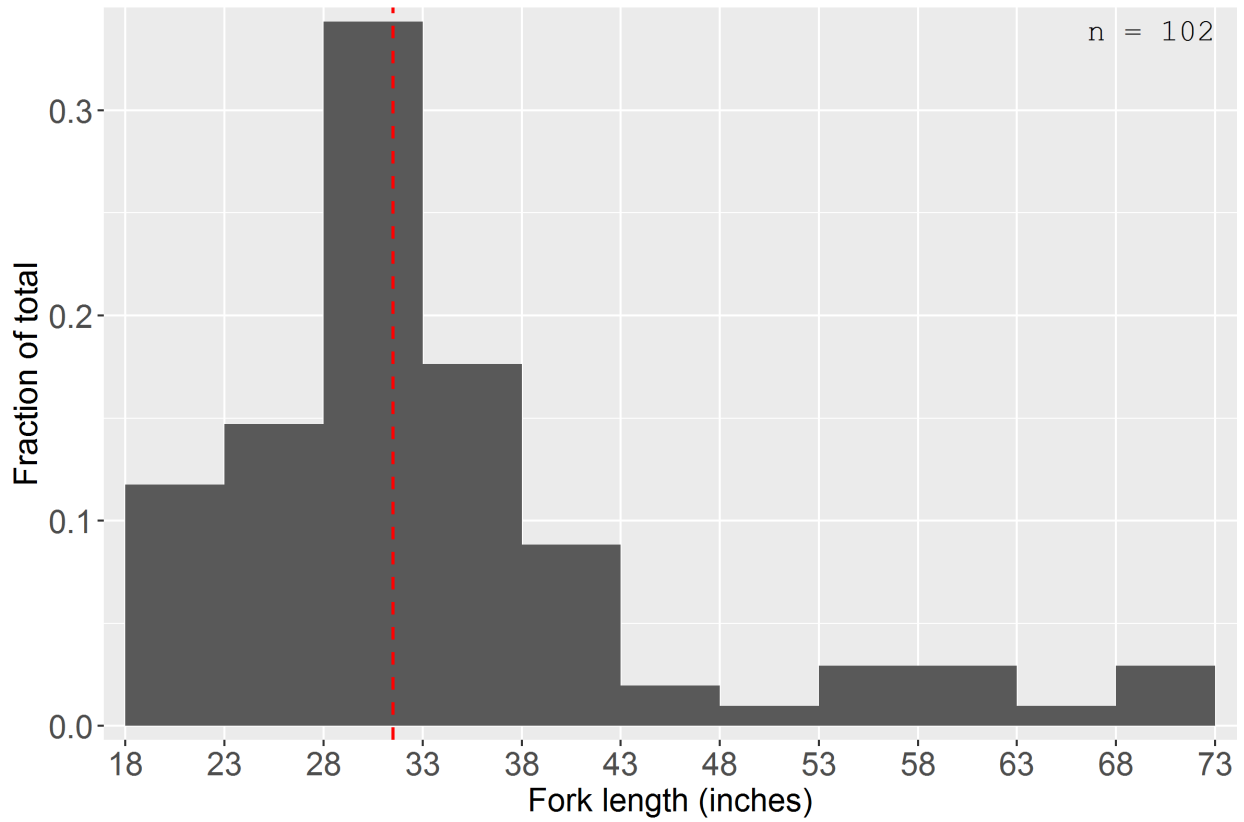


Figure 2. Length frequency distribution of Green Sturgeon released as reported on 2016 Cards; number measured included upper-right; dashed red line indicates median; bins by 5 inches

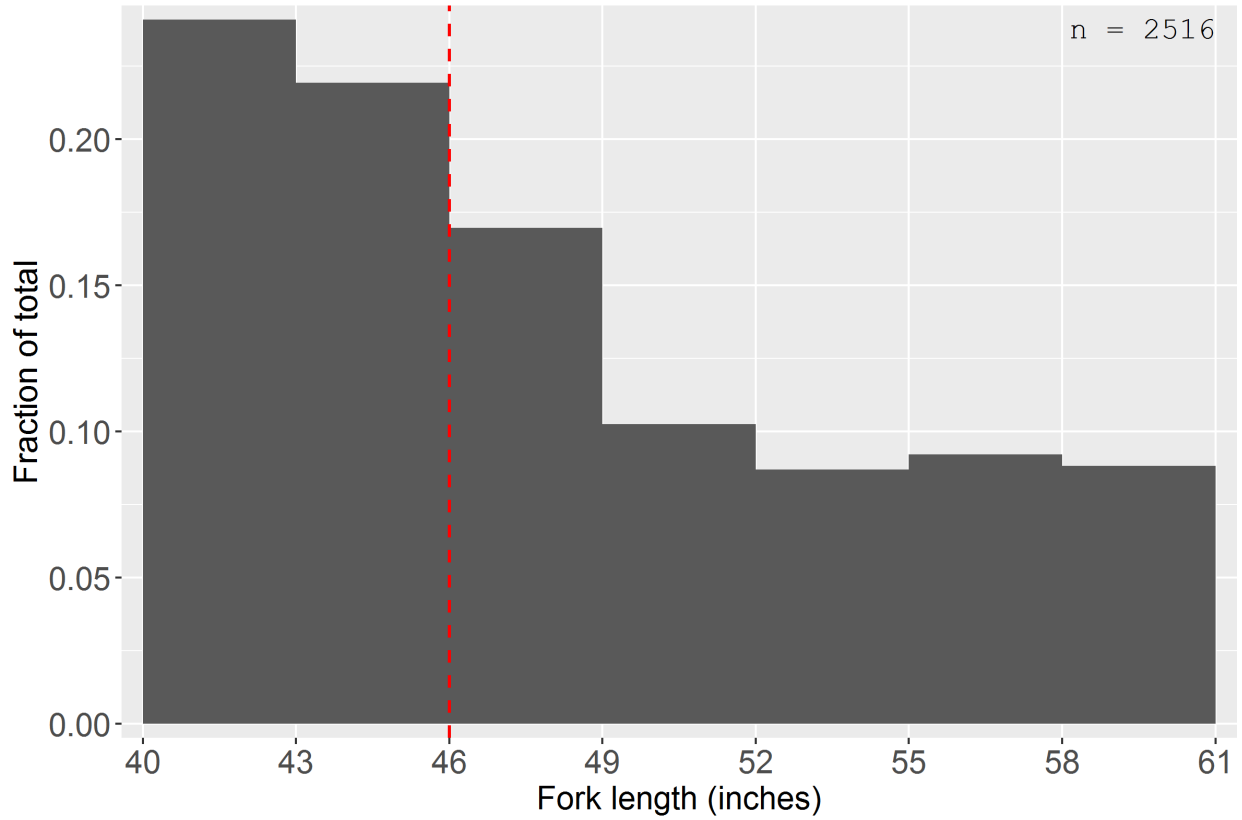


Figure 3. Length frequency distribution of White Sturgeon retained as reported on 2016 Cards; number measured included upper-right; dashed red line indicates median; bins by 3 inches

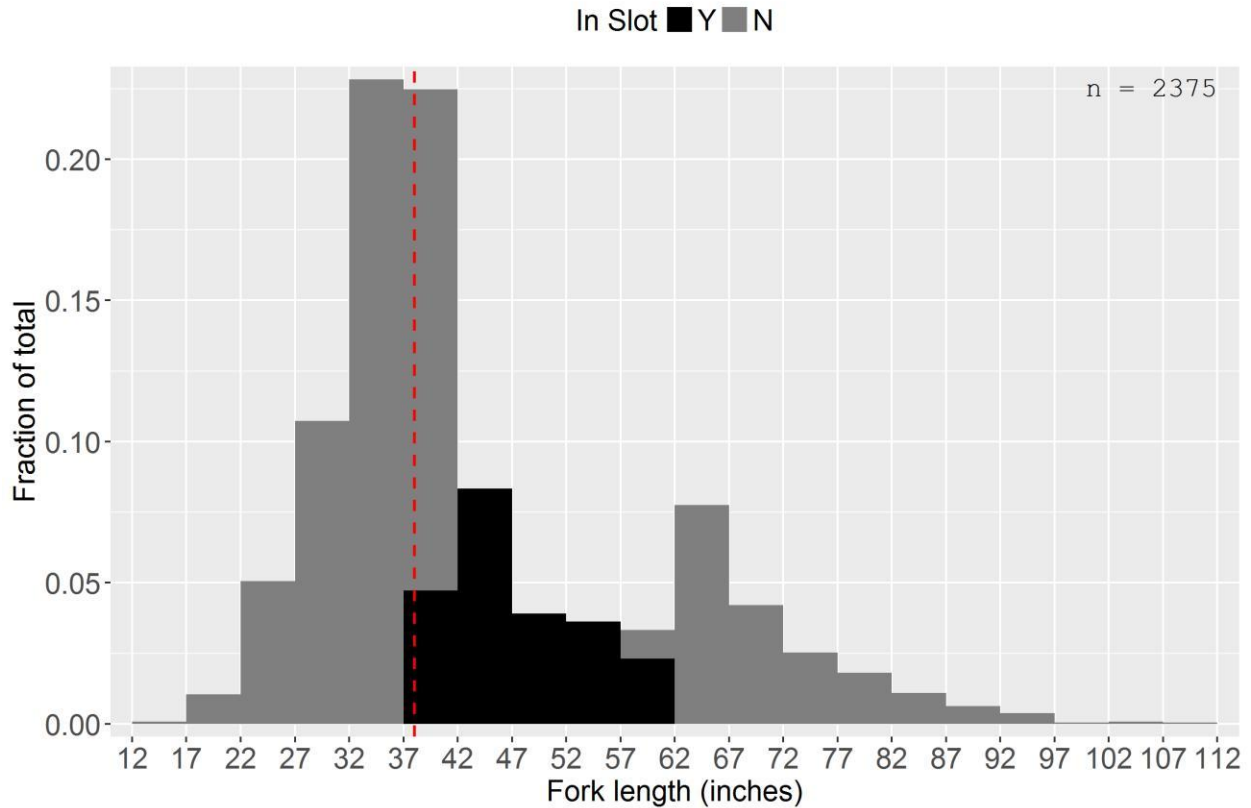


Figure 4. Length frequency distribution of White Sturgeon released as reported on 2016 Cards (dark bars denote slot limit of 40–60 inches FL); number measured included upper-right; dashed red line indicates median; bins by 5 inches. Because these data are not collected randomly or systematically (e.g., many slot-sized fish are not released) and it is illegal to remove certain oversized White Sturgeon from the water (e.g., for measurement), this is not the population’s actual distribution and is likely biased towards relatively small fish.

Seasonality — Catch per month ranged from approximately 1-18%, with the smallest proportions during summer months and early fall (Table 4).

Table 4. White Sturgeon and Green Sturgeon catch per month for 2016

| Month | White Sturgeon | Green Sturgeon | Unknown Sturgeon | Catch Total | Percent of Total |
|------------------|----------------|----------------|------------------|-------------|------------------|
| <i>Not given</i> | 8 | 0 | 0 | 8 | 0.10 |
| Jan | 947 | 19 | 6 | 972 | 12.52 |
| Feb | 1,372 | 32 | 5 | 1,409 | 18.15 |
| Mar | 930 | 12 | 5 | 947 | 12.20 |
| Apr | 763 | 16 | 4 | 783 | 10.09 |
| May | 263 | 5 | 4 | 272 | 3.50 |
| Jun | 102 | 3 | 0 | 105 | 1.35 |
| Jul | 71 | 3 | 0 | 74 | 0.95 |
| Aug | 63 | 3 | 0 | 66 | 0.85 |
| Sep | 236 | 4 | 5 | 245 | 3.16 |
| Oct | 626 | 32 | 7 | 665 | 8.57 |
| Nov | 1,202 | 46 | 8 | 1,256 | 16.18 |
| Dec | 908 | 45 | 6 | 959 | 12.36 |
| Totals | 7,491 | 220 | 50 | 7,761 | |

Locations — Sturgeon were reported caught in 25 of the 28 locations listed on the Card (Figure 5). For the present purposes, locations where 1-50 sturgeon were collected were grouped as 'All Other Locations' (AOL, N = 13). Location were either not specified or were illegible (grouped as 'Unknown') for 34 retained White Sturgeon, 23 released White Sturgeon, one Green Sturgeon, and four unidentified sturgeon.

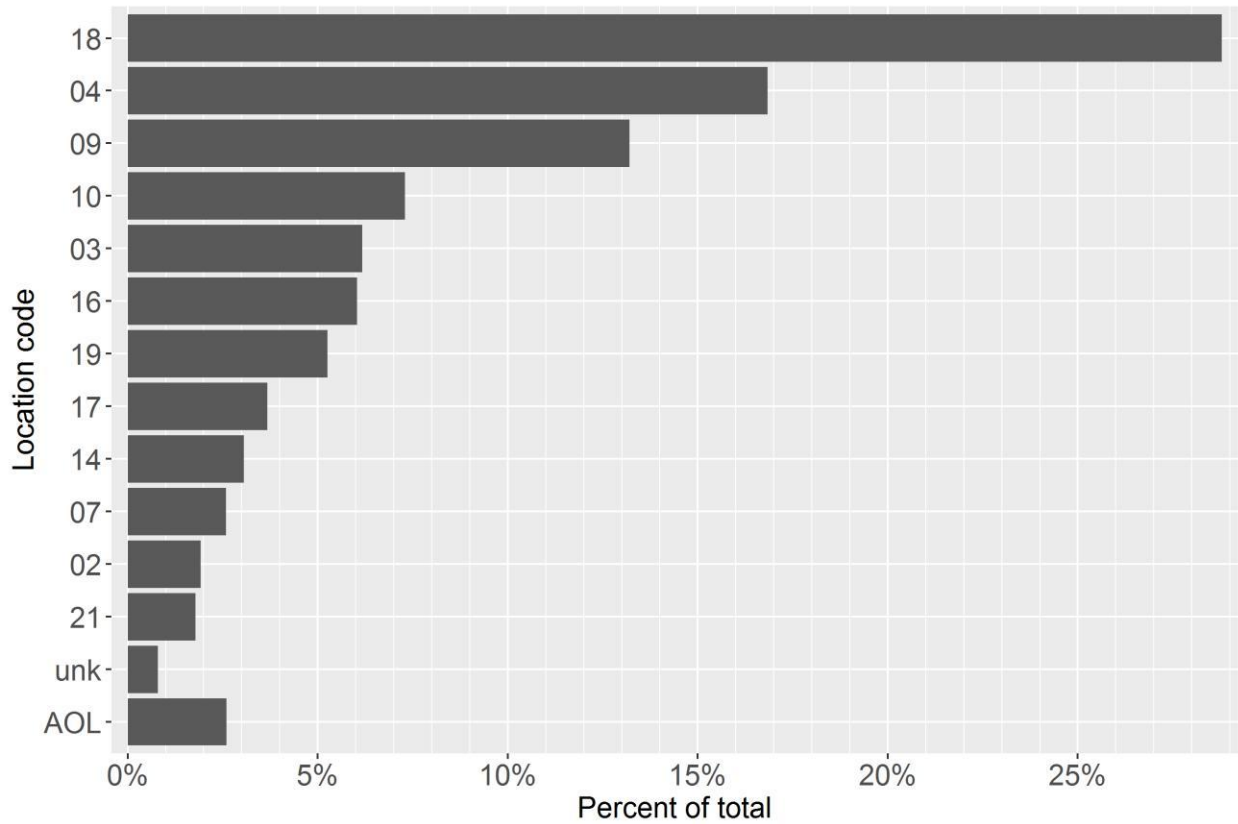


Figure 5. Percent of total catch of all sturgeon by location as reported on 2016 Cards; to conserve space location codes — rather than names — are given, see any of tables 5-7 for location names

Catch of Green Sturgeon was greatest in the Sacramento River from Rio Vista to Chipps Island and in Suisun Bay (Table 5). Catch of White Sturgeon was greatest in Suisun Bay, Montezuma Slough, and in the Sacramento River from Rio Vista to Chipps Island (Tables 6 and 7).

Table 5. Green Sturgeon catch and length statistics by location and season as provided on 2016 Cards. The five locations where total catch was highest were ranked. Seasons were defined as follows: Winter=December-February, Spring=March-May, Summer=June-August, Fall=September-November.

| Location Code | Location Name | Rank of Catch | Number of Anglers | No Month of Capture | Winter Catch | Spring Catch | Summer Catch | Fall Catch | Total Catch | Number Measured | Minimum Length (inches) | Maximum Length (inches) | Average Length (inches) |
|---------------|--|---------------|-------------------|---------------------|--------------|--------------|--------------|------------|-------------|-----------------|-------------------------|-------------------------|-------------------------|
| 01A | Sacramento River: Upstream of Red Bluff | | - | - | - | - | - | - | - | - | - | - | - |
| 01B | Sacramento River: Red Bluff to Hwy 32 bridge | | 2 | - | - | - | 1 | 1 | 2 | 1 | 32 | 32 | 32.0 |
| 01C | Sacramento River: Hwy 32 bridge to Colusa | | 2 | - | 1 | 3 | - | - | 4 | 1 | 62 | 62 | 62.0 |
| 2 | Sacramento River: Colusa to Knights Landing | | 3 | - | - | 2 | - | 1 | 3 | 1 | 32 | 32 | 32.0 |
| 3 | Sacramento River: Knights Landing to Rio Vista | | 8 | - | 3 | 2 | - | 3 | 8 | 3 | 25 | 59 | 46.0 |
| 4 | Sacramento River: Rio Vista to Chipps Island | 1 | 53 | - | 27 | 3 | 1 | 37 | 68 | 34 | 18 | 71 | 29.9 |
| 5 | Feather River | | 2 | - | 1 | - | - | 1 | 2 | - | - | - | - |
| 6 | American River | | - | - | - | - | - | - | - | - | - | - | - |
| 7 | Sacramento Deepwater Ship Channel | | 9 | - | 3 | 1 | - | 5 | 9 | 3 | 18 | 37 | 26.3 |
| 8 | Yolo Bypass | | - | - | - | - | - | - | - | - | - | - | - |
| 9 | Montezuma Slough | 3 | 17 | - | 8 | 6 | 2 | 3 | 19 | 12 | 24 | 66 | 34.2 |
| 10 | Napa River | | 7 | - | 6 | 3 | - | - | 9 | 6 | 21 | 55 | 36.7 |
| 11 | Petaluma River | | 2 | - | 3 | - | - | - | 3 | 2 | 18 | 39 | 28.5 |
| 12 | San Joaquin River: Upstream of HWY 140 bridge | | 1 | - | - | - | - | 1 | 1 | - | - | - | - |
| 13 | San Joaquin River:HWY 140 bridge to Stockton | | - | - | - | - | - | - | - | - | - | - | - |
| 14 | San Joaquin River: Stockton to Sherman Lake | 4 | 13 | - | 6 | 3 | - | 8 | 17 | 10 | 27 | 68 | 35.0 |
| 15 | Old River | | - | - | - | - | - | - | - | - | - | - | - |
| 16 | San Pablo Bay | 5 | 12 | - | 9 | 2 | - | 1 | 12 | 5 | 19 | 32 | 26.0 |
| 17 | Carquinez Strait | | 7 | - | 3 | 3 | 1 | - | 7 | 3 | 32 | 57 | 42.0 |
| 18 | Suisun Bay | 2 | 33 | - | 19 | 4 | 2 | 17 | 42 | 17 | 20 | 68 | 34.3 |
| 19 | Grizzly Bay | | 4 | - | 6 | - | - | 3 | 9 | 1 | 45 | 45 | 45.0 |
| 20 | San Francisco Bay: North of HWY 80 | | - | - | - | - | - | - | - | - | - | - | - |
| 21 | San Francisco Bay: South of HWY 80 | | 3 | - | 1 | - | 1 | 1 | 3 | 2 | 38 | 39 | 38.5 |
| 22 | Pacific Ocean: North of Golden Gate Bridge | | 1 | - | - | - | 1 | - | 1 | - | - | - | - |
| 23 | Pacific Ocean: Golden Gate Bridge to Point Sur | | - | - | - | - | - | - | - | - | - | - | - |
| 24 | Pacific Ocean: Point Sur to San Diego | | - | - | - | - | - | - | - | - | - | - | - |
| 25 | Any reservoir or lake | | - | - | - | - | - | - | - | - | - | - | - |
| 26 | Klamath River | | - | - | - | - | - | - | - | - | - | - | - |
| unk | | | 1 | - | - | 1 | - | - | 1 | 1 | 35 | 35 | 35.0 |
| Totals | | | 180 | - | 96 | 33 | 9 | 82 | 220 | 102 | | | |

- = no reported angler catch

Notes: (1) some anglers fished more than one location; (2) any lengths reported as single-digits not included in descriptive stats (n, min, max, avg)

Table 6. Retained White Sturgeon catch and length statistics by location and season as provided on 2016 Cards. The five locations where total catch was highest were ranked. Seasons were defined as follows: Winter=December-February, Spring=March-May, Summer=June-August, Fall=September-November.

| Location Code | Location Name | Rank of Catch | Number of Anglers | No Month of Capture | Winter Catch | Spring Catch | Summer Catch | Fall Catch | Total Catch | Number Measured | Minimum Length (inches) | Maximum Length (inches) | Average Length (inches) |
|---------------|--|---------------|-------------------|---------------------|--------------|--------------|--------------|------------|--------------|-----------------|-------------------------|-------------------------|-------------------------|
| 01A | Sacramento River: Upstream of Red Bluff | | 4 | - | 2 | 1 | - | 1 | 4 | 4 | 40 | 56 | 47.8 |
| 01B | Sacramento River: Red Bluff to Hwy 32 bridge | | - | - | - | - | - | - | - | - | - | - | - |
| 01C | Sacramento River: Hwy 32 bridge to Colusa | | 28 | - | 16 | 16 | - | 1 | 33 | 33 | 42 | 59 | 54.4 |
| 2 | Sacramento River: Colusa to Knights Landing | | 56 | - | 40 | 25 | 1 | 1 | 67 | 67 | 40 | 60 | 53.2 |
| 3 | Sacramento River: Knights Landing to Rio Vista | 4 | 179 | - | 111 | 54 | - | 48 | 213 | 210 | 40 | 60 | 49.8 |
| 4 | Sacramento River: Rio Vista to Chipps Island | 2 | 384 | 1 | 194 | 68 | 9 | 228 | 500 | 499 | 40 | 60 | 46.3 |
| 5 | Feather River | | 6 | - | - | 8 | - | - | 8 | 8 | 43 | 59 | 53.0 |
| 6 | American River | | 1 | - | - | - | - | 1 | 1 | 1 | 45 | 45 | 45.0 |
| 7 | Sacramento Deepwater Ship Channel | | 63 | - | 37 | 9 | - | 30 | 76 | 76 | 40 | 60 | 46.5 |
| 8 | Yolo Bypass | | 2 | - | 2 | 1 | - | - | 3 | 3 | 43 | 44 | 43.7 |
| 9 | Montezuma Slough | 3 | 185 | - | 69 | 91 | 4 | 65 | 229 | 227 | 40 | 60 | 48.3 |
| 10 | Napa River | 5 | 134 | 1 | 80 | 69 | 7 | 13 | 170 | 169 | 40 | 60 | 47.1 |
| 11 | Petaluma River | | 12 | - | 8 | 3 | - | 1 | 12 | 12 | 40 | 58 | 48.6 |
| 12 | San Joaquin River: Upstream of HWY 140 bridge | | 14 | - | 5 | 6 | - | 7 | 18 | 18 | 41 | 52 | 46.7 |
| 13 | San Joaquin River:HWY 140 bridge to Stockton | | 7 | - | 2 | - | - | 6 | 8 | 8 | 41 | 48 | 44.9 |
| 14 | San Joaquin River: Stockton to Sherman Lake | | 73 | - | 33 | 16 | - | 40 | 89 | 89 | 41 | 60 | 47.5 |
| 15 | Old River | | 3 | - | - | - | - | 3 | 3 | 3 | 43 | 47 | 45.0 |
| 16 | San Pablo Bay | | 116 | - | 88 | 34 | - | 10 | 132 | 132 | 40 | 59 | 49.2 |
| 17 | Carquinez Strait | | 70 | - | 37 | 19 | 13 | 14 | 83 | 82 | 40 | 60 | 47.8 |
| 18 | Suisun Bay | 1 | 516 | - | 260 | 153 | 21 | 236 | 670 | 670 | 40 | 60 | 46.5 |
| 19 | Grizzly Bay | | 93 | - | 53 | 16 | 2 | 39 | 110 | 110 | 40 | 59 | 47.7 |
| 20 | San Francisco Bay: North of HWY 80 | | 3 | - | 3 | 1 | - | - | 4 | 4 | 45 | 52 | 48.5 |
| 21 | San Francisco Bay: South of HWY 80 | | 51 | - | 43 | 9 | - | 8 | 60 | 60 | 41 | 60 | 50.5 |
| 22 | Pacific Ocean: North of Golden Gate Bridge | | - | - | - | - | - | - | - | - | - | - | - |
| 23 | Pacific Ocean: Golden Gate Bridge to Point Sur | | - | - | - | - | - | - | - | - | - | - | - |
| 24 | Pacific Ocean: Point Sur to San Diego | | - | - | - | - | - | - | - | - | - | - | - |
| 25 | Any reservoir or lake | | 1 | - | 1 | - | - | - | 1 | 1 | 40 | 40 | 40.0 |
| 26 | Klamath River | | - | - | - | - | - | - | - | - | - | - | - |
| unk | | | 28 | 1 | 7 | 3 | 3 | 20 | 34 | 30 | 40 | 58 | 46.3 |
| Totals | | | 2,029 | 3 | 1,091 | 602 | 60 | 772 | 2,528 | 2,516 | | | |

- = no reported angler catch

Notes: (1) some anglers fished more than one location; (2) any lengths reported as single-digits not included in descriptive stats (n, min, max, avg)

Table 7. Released White Sturgeon catch and length statistics by location and season as provided on 2016 Cards. The five locations where total catch was highest were ranked. Seasons were defined as follows: Winter=December-February, Spring=March-May, Summer=June-August, Fall=September-November

| Location Code | Location Name | Rank of Catch | Number of Anglers | No Month of Capture | Winter Catch | Spring Catch | Summer Catch | Fall Catch | Total Catch | Number Measured | Minimum Length (inches) | Maximum Length (inches) | Average Length (inches) |
|---------------|--|---------------|-------------------|---------------------|--------------|--------------|--------------|--------------|--------------|-----------------|-------------------------|-------------------------|-------------------------|
| 01A | Sacramento River: Upstream of Red Bluff | | - | - | - | - | - | - | - | - | - | - | - |
| 01B | Sacramento River: Red Bluff to Hwy 32 bridge | | 1 | - | 1 | - | - | - | 1 | - | - | - | - |
| 01C | Sacramento River: Hwy 32 bridge to Colusa | | 7 | - | 3 | 8 | - | - | 11 | 3 | 66 | 74 | 70.7 |
| 2 | Sacramento River: Colusa to Knights Landing | | 39 | - | 30 | 35 | 3 | 11 | 79 | 23 | 30 | 88 | 58.0 |
| 3 | Sacramento River: Knights Landing to Rio Vista | | 146 | - | 104 | 72 | 3 | 76 | 255 | 110 | 20 | 93 | 50.6 |
| 4 | Sacramento River: Rio Vista to Chipps Island | 3 | 295 | 1 | 270 | 121 | 29 | 311 | 732 | 334 | 18 | 92 | 40.2 |
| 5 | Feather River | | 6 | - | - | 16 | - | - | 16 | 2 | 50 | 70 | 60.0 |
| 6 | American River | | 1 | - | 1 | - | - | - | 1 | 1 | 25 | 25 | 25.0 |
| 7 | Sacramento Deepwater Ship Channel | | 57 | - | 44 | 22 | 2 | 44 | 112 | 38 | 24 | 75 | 40.2 |
| 8 | Yolo Bypass | | 6 | - | 1 | 6 | - | 6 | 13 | 8 | 36 | 58 | 44.6 |
| 9 | Montezuma Slough | 2 | 286 | - | 261 | 351 | 21 | 136 | 769 | 427 | 20 | 100 | 47.7 |
| 10 | Napa River | 4 | 160 | 1 | 190 | 138 | 18 | 38 | 385 | 151 | 22 | 102 | 48.2 |
| 11 | Petaluma River | | 20 | - | 12 | 6 | 4 | 1 | 23 | 13 | 12 | 75 | 33.6 |
| 12 | San Joaquin River: Upstream of HWY 140 bridge | | 11 | - | 4 | 6 | 1 | 3 | 14 | 3 | 32 | 39 | 36.0 |
| 13 | San Joaquin River:HWY 140 bridge to Stockton | | 2 | - | - | 1 | - | 1 | 2 | 1 | 36 | 36 | 36.0 |
| 14 | San Joaquin River: Stockton to Sherman Lake | | 66 | - | 50 | 40 | 10 | 30 | 130 | 71 | 22 | 84 | 41.5 |
| 15 | Old River | | 2 | - | - | - | 2 | 3 | 5 | 2 | 33 | 39 | 36.0 |
| 16 | San Pablo Bay | 5 | 142 | - | 230 | 69 | 3 | 21 | 323 | 166 | 17 | 80 | 41.4 |
| 17 | Carquinez Strait | | 90 | - | 95 | 31 | 17 | 51 | 194 | 103 | 18 | 90 | 40.8 |
| 18 | Suisun Bay | 1 | 488 | 1 | 622 | 367 | 50 | 470 | 1,510 | 748 | 13 | 108 | 41.5 |
| 19 | Grizzly Bay | | 115 | - | 150 | 47 | 10 | 77 | 284 | 135 | 22 | 104 | 44.3 |
| 20 | San Francisco Bay: North of HWY 80 | | 4 | - | 2 | 1 | - | 1 | 4 | 2 | 36 | 39 | 37.5 |
| 21 | San Francisco Bay: South of HWY 80 | | 46 | - | 57 | 12 | 1 | 5 | 75 | 28 | 36 | 87 | 59.8 |
| 22 | Pacific Ocean: North of Golden Gate Bridge | | 1 | - | - | - | 1 | - | 1 | - | - | - | - |
| 23 | Pacific Ocean: Golden Gate Bridge to Point Sur | | - | - | - | - | - | - | - | - | - | - | - |
| 24 | Pacific Ocean: Point Sur to San Diego | | - | - | - | - | - | - | - | - | - | - | - |
| 25 | Any reservoir or lake | | 1 | - | 1 | - | - | - | 1 | - | - | - | - |
| 26 | Klamath River | | - | - | - | - | - | - | - | - | - | - | - |
| unk | | | 15 | 2 | 8 | 5 | 1 | 7 | 23 | 6 | 30 | 65 | 46.8 |
| Totals | | | 2,007 | 5 | 2,136 | 1,354 | 176 | 1,292 | 4,963 | 2,375 | | | |

- = no reported angler catch

Notes: (1) some anglers fished more than one location; (2) any lengths reported as single-digits not included in descriptive stats (n, min, max, avg)

Discussion

Information from and about 2016 Cards includes the following highlights:

- (1) Approximately 32% of sturgeon anglers submitted their Cards or data, which is slightly greater than for 2015 Cards, moderately greater than 2013-2014, but substantially greater than for 2007-2012 Cards.
- (2) Almost 75% of reported Cards were done so via the Internet and about 64% of Cards with catch were reported on-line. Both are marked increases when compared to past years and suggests that anglers are becoming more familiar (or comfortable) with on-line reporting.
- (3) Some anglers (n = 14) reported single-digit sturgeon lengths and some anglers (n = 4) reported harvesting White Sturgeon in a closed reach of the Sacramento River (Location 01A). For those data submitted to us by way of mail, we verified that we entered the data accurately. We may attempt to clarify these reports by contacting the anglers.
- (4) As has been the case since 2007, roughly 50% of the anglers who fished for sturgeon were not successful and successful anglers retained on average less than half the annual bag limit of three White Sturgeon.
- (5) Information on the reported capture of 16 disk-tagged White Sturgeon will augment the Department's sturgeon population study, and thus is important for the precision and/or accuracy of estimated abundance, harvest rate, and survival rate.
- (6) The mode in Green Sturgeon lengths is likely a sign that the 2011 brood year was exceptionally good, which — though we have essentially no data on the relationship between Green Sturgeon brood year strength and Sacramento River outflow — is what we expect from the strong relationship between White Sturgeon brood year strength and Sacramento River outflow.

Literature Cited and Relevant References

DFW-Region 3-Sport Fish Unit. 2017. Table: Sturgeon Fishing Report Card Summary Statistics, California Department of Fish and Wildlife
<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentId=94336>

DFW-Region 3-Sport Fish Unit. 2016. Figure: Length Frequencies of White Sturgeon From Card Data, California Department of Fish and Wildlife
<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentId=84549>

DFW-Region 3-Sport Fish Unit. 2016. Figure: Annual Abundance of San Francisco Estuary White Sturgeon by Size Category (sublegal, legal, oversized), California Department of Fish and Wildlife
<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentId=84812>

Gingras, M. and J. DuBois. 2015. Estimating Annual Abundance of White Sturgeon 85-116 and >= 169 Centimeters Total Length, IEP Newsletter Volume 28, Number 2. Interagency Ecological Program for the San Francisco Estuary
<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentId=114809>

Harris, M. D. 2016. Memorandum: Results of Nov 19–Dec 21 (2015) Pilot Sturgeon Angler Phone Survey. California Department of Fish and Wildlife.
<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentId=115526>

Harris, M. D. 2016. Memorandum: Results of Jun 21-Aug 5 (2016) Pilot Sturgeon Angler Phone Survey, California Department of Fish and Wildlife
<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentId=129286>

Harris, M.D. and J. DuBois. 2017. Memorandum: Results of 21-Dec-2016 to 30-Jan-2017 Pilot Sturgeon Angler Phone Survey, California Department of Fish and Wildlife
<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentId=138277>

For more, click on [additional bibliography](#).

Acknowledgements

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Appendix 1. Scan of 2016 ALDS California Sturgeon Fishing Report Card (color = blue-ish grey or green); note: Card prints as continuous document – segmented here to fit on page; personal information redacted

16 STR

STATE OF CALIFORNIA
DEPARTMENT OF FISH AND WILDLIFE
INSTRUCTIONS FOR STURGEON FISHING ANGLERS

Title 14, Section 1.74, 5.79 and 27.92 of the California Code of Regulations require that this card be in your possession while fishing for sturgeon in California and that you record your catch and tag each sturgeon taken in accordance with these instructions. Use tags in sequential order. Do not remove sturgeon tags from the report card until immediately prior to affixing to a sturgeon. Use a ball point pen with indelible ink to make a new entry for each sturgeon retained or released.

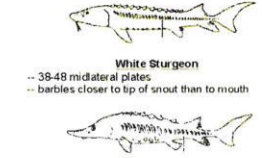
1. Record the month, day and location code in the appropriate row to indicate if the fish is retained or released and if a reward disk is present.
2. If a sturgeon is retained, record the length of the sturgeon in inches. Fill out a sturgeon tag and punch the corresponding month and day circle on the tag using a pen. Using scissors completely detach a tag from the card and run a 'zip tie', string or line through the tag and attach it to the sturgeon.
3. If the sturgeon is released, indicate the species of sturgeon released by marking an 'X' in the WHITE or GREEN column.
4. If the sturgeon has a CDFW-affixed reward disk, write the reward disk number in the space provided.

EXAMPLE
You catch two white sturgeon while fishing the Sacramento River (Rio Vista to Chippis Island) on December 7th. The one you retained was 52" fork length. The one you released had a CDFW-affixed reward disk numbered HH1001. You would complete one tag and attach it to the sturgeon you retained. You would record information on the Card as follows:

| STURGEON RETAINED (Only white sturgeon may be retained) | | | | |
|---|-----|---------------|--------|----------------------------|
| MONTH | DAY | LOCATION CODE | LENGTH | REWARD DISK # (if present) |
| 12 | 7 | 4 | 52" | |

| STURGEON RELEASED - REWARD DISK PRESENT | | | | |
|---|-----|---------------|-------|-------|
| MONTH | DAY | LOCATION CODE | WHITE | GREEN |
| 12 | 7 | 4 | X | |

- | | |
|--|---|
| Code Location 01A. Sacramento River Upstream of Red Bluff 01B. Sacramento River, Red Bluff to Hwy 32 bridge 01C. Sacramento River, Hwy 32 bridge to Colusa 02. Sacramento River, Colusa to Knights Landing 03. Sacramento River, Knights Landing to Rio Vista 04. Sacramento River, Rio Vista to Chippis Island 05. American River 07. Sacramento Deepwater Ship Channel 08. Yolo Bypass 09. Montezuma Slough 10. Napa River 11. Petaluma River 12. San Joaquin River Upstream of HWY 140 bridge | Code Location 13. San Joaquin River HWY 140 bridge to Stockton 14. San Joaquin River, Stockton to Sherman Lake 15. Old River 16. San Pablo Bay 17. Carquinez Strait 18. Suisun Bay 19. Grizzly Bay 20. San Francisco Bay, North of HWY 80 21. San Francisco Bay, South of HWY 80 22. Pacific Ocean, Mouth of Golden Gate Bridge 23. Pacific Ocean, Golden Gate Bridge to Point Sur 24. Pacific Ocean, Point Sur to San Diego 25. Any reservoir or lake 26. Klamath River |
|--|---|



CUT ALONG LINE TO SEPARATE FROM REPORT CARD

16 STR

STATE OF CALIFORNIA
DEPARTMENT OF FISH AND WILDLIFE
STURGEON FISHING REPORT CARD
Valid 02/04/2016 to 12/31/2016

GO ID: _____
STATE ID: _____

SEX: _____ HAIR: _____ EYES: _____
HT: _____ WT: _____ DOB: _____

Doc No: _____
Trans: _____

| | |
|------------------------------|--------|
| Item | Fee* |
| Sturgeon Fishing Report Card | \$8.13 |
| Total: \$8.13 | |

*Includes any applicable application fees, agent handling fees and license buyer surcharge.
Must have a valid sport fishing license unless under 16 years of age or fishing from a public pier in ocean waters.

STURGEON FISHING REPORT CARD

| STURGEON RETAINED (Only white sturgeon 40-60 inches in fork length may be retained) | | | | |
|---|-----|---------------|--------|----------------------------|
| MONTH | DAY | LOCATION CODE | LENGTH | REWARD DISK # (if present) |
| | | | | |
| | | | | |
| | | | | |

| STURGEON RELEASED - NO REWARD DISK PRESENT | | | | |
|--|-----|---------------|-------|-------|
| MONTH | DAY | LOCATION CODE | WHITE | GREEN |
| | | | | |
| | | | | |
| | | | | |

| STURGEON RELEASED - REWARD DISK PRESENT | | | | |
|---|-----|---------------|-------|-------|
| MONTH | DAY | LOCATION CODE | WHITE | GREEN |
| | | | | |
| | | | | |
| | | | | |

CHECK HERE IF YOU DID NOT FISH FOR STURGEON
REFER TO THE SPORT FISHING REGULATIONS FOR SIZE LIMITS. ONLY ONE STURGEON FISHING REPORT CARD MAY BE ISSUED PER LICENSE YEAR. CARD CAN NOT BE TRANSFERRED TO ANOTHER PERSON

HARVEST REPORT SUBMISSION: Title 14, Section 1.74 of the California Code of Regulations, requires you to report this data online or return this card to CDFW by January 31, 2017 (whether you fished for sturgeon or not).
ONLINE: wildlife.ca.gov/FishingHarvest
Online reporting is available Jan 1, 2017 to Jan 31, 2017
Licensees reporting online must write the confirmation number on their card, retain the card until April 30, 2017 and submit to CDFW only if requested
BY MAIL:
California DFW Fisheries Branch
Sturgeon Fishing Report Card
P.O. Box 944295
Sacramento, CA 94244-2090

16 STR # _____

| MONTH | DAY | LOCATION CODE | LENGTH |
|-------|-----|---------------|--------|
| | | | |

Jan Feb Mar Apr May Jun
 Jul Aug Sep Oct Nov Dec
 1 2 3 4 5 6 7 8 9 10
 11 12 13 14 15 16 17 18 19 20
 21 22 23 24 25 26 27 28 29 30 31
 DATE: _____ TIME: _____ AM PM

 16 STR

| MONTH | DAY | LOCATION CODE | LENGTH |
|-------|-----|---------------|--------|
| | | | |

Jan Feb Mar Apr May Jun
 Jul Aug Sep Oct Nov Dec
 1 2 3 4 5 6 7 8 9 10
 11 12 13 14 15 16 17 18 19 20
 21 22 23 24 25 26 27 28 29 30 31
 DATE: _____ TIME: _____ AM PM

 16 STR

| MONTH | DAY | LOCATION CODE | LENGTH |
|-------|-----|---------------|--------|
| | | | |

Jan Feb Mar Apr May Jun
 Jul Aug Sep Oct Nov Dec
 1 2 3 4 5 6 7 8 9 10
 11 12 13 14 15 16 17 18 19 20
 21 22 23 24 25 26 27 28 29 30 31
 DATE: _____ TIME: _____ AM PM
 ----- End of Document