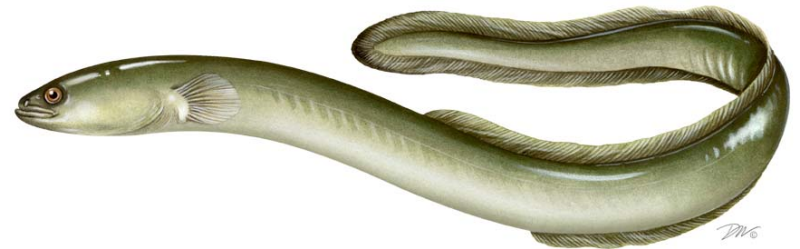




*Working towards healthy, self-sustaining populations  
for all Atlantic coast fish species or successful  
restoration well in progress by 2015*

## **Draft Addendum III**

American Eel Management Board  
August, 2013





# Current Management

- **Fishery Management Plan adopted in 1999**
- **Recreational Fisheries Management**
  - 50 fish per day bag limit
  - 6 inch size limit





# Current Management

- **Commercial Fisheries Management**
  - State must maintain as conservative or more conservative measures
  - Current glass eel fisheries allowed in ME & SC
  - Significant Yellow Eel fisheries occur in NJ, DE, MD, PRFC, VA, and NC
  - All states except PA and DC





# Stock Assessments

- 2012 Benchmark Stock Assessment
  - Approved by peer review panel and accepted for management use
  - Data poor stock
  - No overfishing/overfished definition possible
  - **Stock Status = Depleted**
    - Habitat loss, passage mortality, disease, potentially shifting oceanographic conditions.





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# Draft Addendum III

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- Initiated in response to the Stock Assessment
- Includes:
  1. Habitat Recommendations
  2. Monitoring Requirements
  3. Commercial Management Measures
  4. Recreational Management Measures





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## Draft Addendum III

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- **Goal is to reduce mortality on ALL life stages**
- **Coastwide Regulations**
- **Options may be implemented in combination**





# Habitat Recommendations

- Focus efforts on **increasing understanding of habitat requirements**
- Engage the relevant regulatory agencies to **increase or improve upstream /downstream eel passage**
- Encouraging **habitat restoration**





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# Monitoring Program

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- **Fisheries Independent Surveys**
  - YOY, Yellow, and Silver Eels (Table 1)
  - Multiple Life Stage Recommended
- **Fisheries Dependent Surveys**
  - Mandatory monthly reporting of catch/effort
  - Increase data on eels harvested for personal use
  - Marine Agencies should work with Inland counterparts to standardize reporting







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# Draft Commercial Management Options

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- Glass Eel Fisheries
- Yellow Eel Fisheries
- Silver Eel Fisheries





# Draft Glass Eel Commercial Management Options

- **Glass Eel Fisheries Measures (ME and SC only)**
  - **Option 1: Status Quo**
  - **Option 2: Closure**
    - Immediate
    - Delayed (5 years or other timeframe specified)





# Draft Glass Eel Commercial Management Options

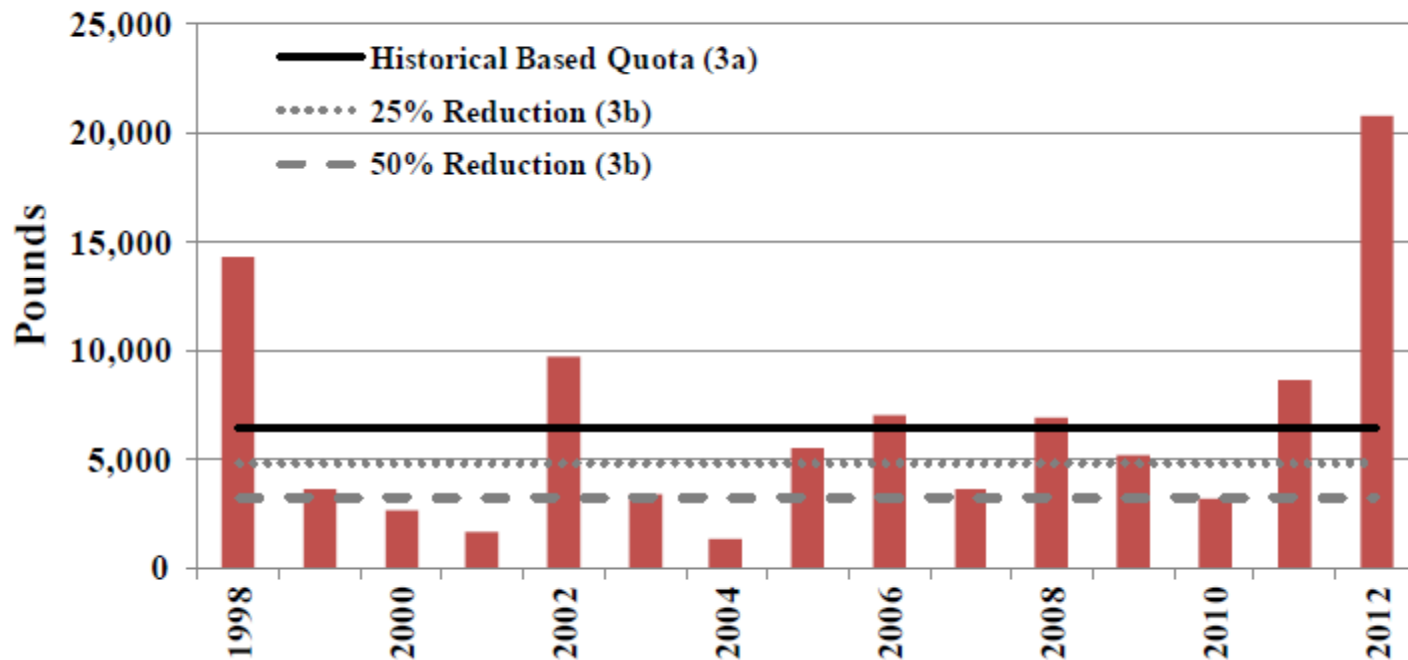
- **Glass Eel Fisheries Measures (ME and SC only)**
  - **Option 3: Quota**
    - Historical Average (1998 – 2012)
    - Harvest Reductions (25% and 50%)





# Draft Glass Eel Commercial Management Options

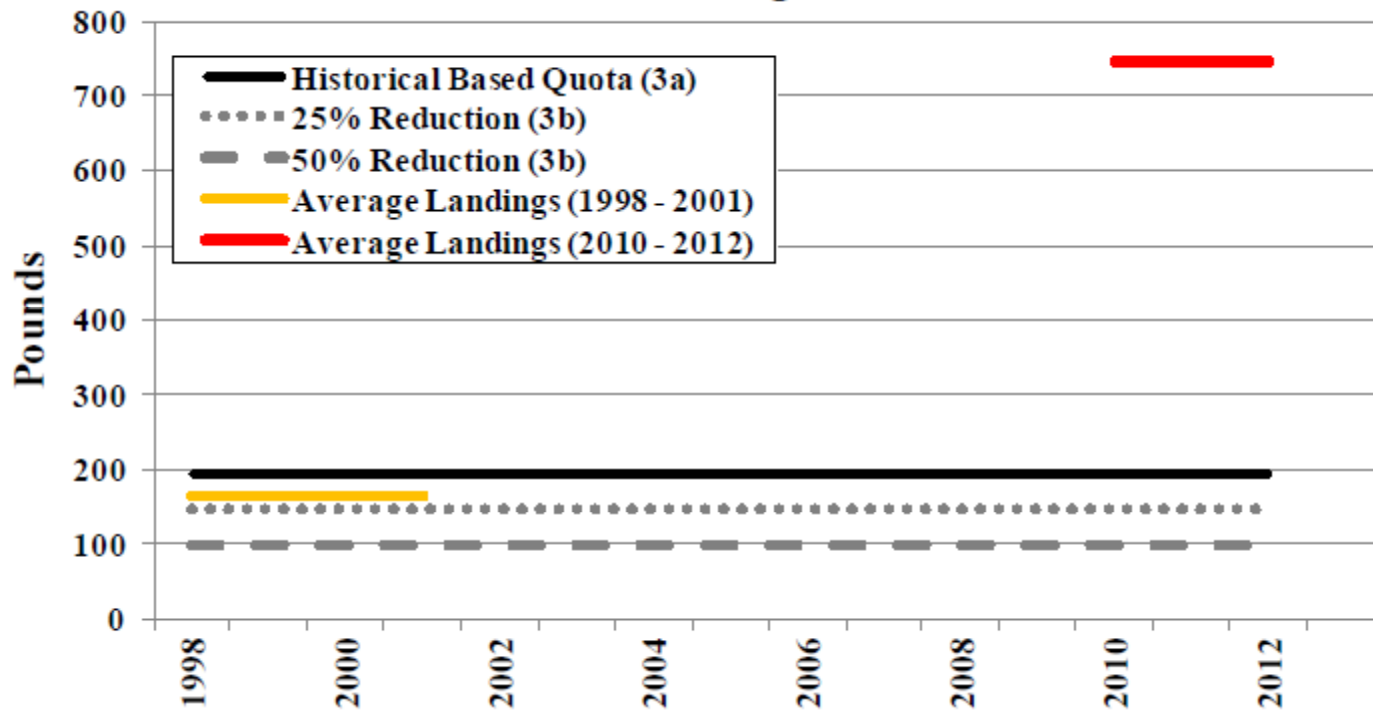
|                       | Allocation | Difference* | Estimated Value |              |              |
|-----------------------|------------|-------------|-----------------|--------------|--------------|
|                       |            |             | \$100/pound     | \$1000/pound | \$2500/pound |
| Sub-Option 3a - Quota | 6,373      | -38%        | \$637,300       | \$6,373,000  | \$15,932,500 |
| Sub-Option 3b - 25%   | 4,780      | -53%        | \$477,975       | \$4,779,750  | \$11,949,375 |
| Sub-Option 3b - 50%   | 3,187      | -69%        | \$318,650       | \$3,186,500  | \$7,966,250  |





# Draft Glass Eel Commercial Management Options

|                       | Allocation | Difference* | Est. Value  |              |              |
|-----------------------|------------|-------------|-------------|--------------|--------------|
|                       |            |             | \$100/pound | \$1000/pound | \$2500/pound |
| Sub-Option 3a - Quota | 194        | -           | \$19,400    | \$194,000    | \$485,000    |
| Sub-Option 3b - 25%   | 145.5      | -           | \$14,550    | \$145,500    | \$363,750    |
| Sub-Option 3b - 50%   | 97         | -           | \$9,700     | \$97,000     | \$242,500    |





# Draft Glass Eel Commercial Management Options

- **Glass Eel Fisheries Measures (ME and SC only)**
  - **Option 4: Dealer/Harvest Restrictions**
    - trip level ticket system for harvesters and dealers in order to ensure accurate reporting of glass eel harvest.
  - **Option 5: Pigmented Eel Tolerance**
    - Increase in pigmented eel harvest represents development of a new fishery
    - Only a small tolerance (max 25 pigmented eels per pound of glass eel catch) would be allowed.
    - States would have the option to propose restrictions (e.g. mesh size requirements) to meet this requirement





# Draft Yellow Eel Commercial Management Options

- **Yellow Eel Fisheries Measures**
  - **Option 1: Status Quo**
  - **Option 2: Increase Minimum Size (8-12”)**

| Size Limit | NJ | DE  | MD  | NC  |
|------------|----|-----|-----|-----|
| 8”         |    | 0%  | 0%  | 0%  |
| 9”         | 0% | 2%  | 1%  | 0%  |
| 10”        | 1% | 9%  | 3%  | 1%  |
| 11”        | 3% | 24% | 14% | 7%  |
| 12”        | 6% | 44% | 34% | 36% |

| Minimum Size (inches) | % Change Eggs Per Recruit |
|-----------------------|---------------------------|
| 8                     | 0                         |
| 9                     | 0.0113                    |
| 10                    | 0.0113                    |
| 11                    | 0.262                     |
| 12                    | 0.262                     |





# Draft Yellow Eel Commercial Management Options

- **Yellow Eel Fisheries Measures**

- **Option 3: Gear Restrictions**

- Status Quo
    - $\frac{3}{4}$  by  $\frac{1}{2}$  inch minimum mesh size or escape panel
    - 1 by  $\frac{1}{2}$  inch minimum mesh size or escape panel

| Inches       | % of catch no escape panel | % of catch with escape panel | Reduction in eels harvested at the given sizes |
|--------------|----------------------------|------------------------------|--|
| Less than 8  | -                          | 0.03%                        |  |
| Less than 9  | 0.16%                      | 0.11%                        | 31%  |
| Less than 10 | 1.25%                      | 0.71%                        | 43%  |
| Less than 11 | 13%                        | 7%                           | 45%  |
| Less than 12 | 58%                        | 36%                          | 37%  |
| 12 to 31     | 42%                        | 64%                          | -  |





# Draft Yellow Eel Commercial Management Options

- **Yellow Eel Fisheries Measures**
  - **Option 4: Coastwide Quota**
    - Historical Averages (a few options for base years)
    - Harvest Restrictions (20%, 30%, 40%, or 50%)





# Base Years 1980 - 2011

|                | Sub-Option 3a and 3d Proposed Quota Allocations |                       |                       |                       |                       | Recent Harvest<br>(Average 2009-2011) |
|----------------|---|-----------------------|-----------------------|-----------------------|-----------------------|---------------------------------------|
|                | 3a  | 3d - 20%<br>reduction | 3d - 30%<br>reduction | 3d - 40%<br>reduction | 3d - 50%<br>reduction |                                       |
| Maine          | 28,519  | 22,816                | 19,964                | 17,112                | 14,260                | 6,755                                 |
| New Hampshire  | 2,000   | 2,000                 | 2,000                 | 2,000                 | 2,000                 | 99                                    |
| Massachusetts  | 10,257  | 8,206                 | 7,180                 | 6,154                 | 5,129                 | 621                                   |
| Rhode Island   | 6,485   | 5,188                 | 4,539                 | 3,891                 | 3,242                 | 3,673                                 |
| Connecticut    | 9,790   | 7,832                 | 6,853                 | 5,874                 | 4,895                 | 221                                   |
| New York       | 57,034  | 45,627                | 39,924                | 34,220                | 28,517                | 15,761                                |
| New Jersey     | 169,512   | 135,610               | 118,659               | 101,707               | 84,756                | 119,447                               |
| Delaware       | 130,274   | 104,219               | 91,192                | 78,164                | 65,137                | 72,972                                |
| Maryland       | 282,622   | 226,098               | 197,835               | 169,573               | 141,311               | 484,138                               |
| PRFC           | 208,982   | 167,186               | 146,287               | 125,389               | 104,491               | 48,543                                |
| Virginia       | 365,664   | 292,531               | 255,965               | 219,398               | 182,832               | 92,945                                |
| North Carolina | 178,643   | 142,914               | 125,050               | 107,186               | 89,322                | 82,270                                |
| South Carolina | 2,000   | 2,000                 | 2,000                 | 2,000                 | 2,000                 | 18                                    |
| Georgia        | 8,743   | 6,994                 | 6,120                 | 5,246                 | 4,372                 | 103                                   |
| Florida        | 21,010  | 16,808                | 14,707                | 12,606                | 10,505                | 14,571                                |
| Total          | 1,481,529                                       | 1,186,023             | 1,038,270             | 890,517               | 742,765               | 48,543                                |





# Base Years 1990 - 2011

|                | Sub-Option 3b and 3d Proposed Quota Allocations |                        |                       |                       |                       | Recent Harvest<br>(Average landings<br>from 2009-2011) |
|----------------|---|------------------------|-----------------------|-----------------------|-----------------------|--|
|                | 3b  | 3d - 20%<br>reduction* | 3d - 30%<br>reduction | 3d - 40%<br>reduction | 3d - 50%<br>reduction |  |
| Maine          | 24,576  | 19,660                 | 17,203                | 14,745                | 12,288                | 6,755  |
| New Hampshire  | 2,000   | 2,000                  | 2,000                 | 2,000                 | 2,000                 | 99   |
| Massachusetts  | 6,632   | 5,306                  | 4,642                 | 3,979                 | 3,316                 | 621  |
| Rhode Island   | 8,569   | 6,855                  | 5,999                 | 5,142                 | 4,285                 | 3,673  |
| Connecticut    | 5,942   | 4,753                  | 4,159                 | 3,565                 | 2,971                 | 221  |
| New York       | 12,527  | 10,021                 | 8,769                 | 7,516                 | 6,263                 | 15,761   |
| New Jersey     | 133,591   | 106,873                | 93,514                | 80,154                | 66,795                | 119,447  |
| Delaware       | 132,100   | 105,680                | 92,470                | 79,260                | 66,050                | 72,972   |
| Maryland       | 314,432   | 251,546                | 220,102               | 188,659               | 157,216               | 484,138  |
| PRFC           | 155,912   | 124,729                | 109,138               | 93,547                | 77,956                | 48,543   |
| Virginia       | 221,539   | 177,231                | 155,077               | 132,923               | 110,770               | 92,945   |
| North Carolina | 83,357  | 66,686                 | 58,350                | 50,014                | 41,679                | 82,270   |
| South Carolina | 2,000   | 2,000                  | 2,000                 | 2,000                 | 2,000                 | 18   |
| Georgia        | 2,000   | 2,000                  | 2,000                 | 2,000                 | 2,000                 | 103  |
| Florida        | 13,756  | 11,005                 | 9,630                 | 8,254                 | 6,878                 | 14,571   |
| <b>Total</b>   | <b>1,117,734</b>                                | <b>894,987</b>         | <b>783,614</b>        | <b>672,240</b>        | <b>560,867</b>        | <b>48,543</b>  |





# Base Years 2002 - 2011

|                | Sub-Option 3c and 3d Proposed Quota Allocations |                       |                       |                       |                       | Recent Harvest<br>(Average 2009-2011) |
|----------------|---|-----------------------|-----------------------|-----------------------|-----------------------|---------------------------------------|
|                | 3c  | 3d - 20%<br>reduction | 3d - 30%<br>reduction | 3d - 40%<br>reduction | 3d - 50%<br>reduction |                                       |
| Maine          | 14,358  | 11,486                | 10,051                | 8,615                 | 7,179                 | 6,755                                 |
| New Hampshire  | 2,000   | 2,000                 | 2,000                 | 2,000                 | 2,000                 | 99                                    |
| Massachusetts  | 3,073   | 2,458                 | 2,151                 | 2,000                 | 2,000                 | 621                                   |
| Rhode Island   | 2,360   | 2,000                 | 2,000                 | 2,000                 | 2,000                 | 3,673                                 |
| Connecticut    | 2,000   | 2,000                 | 2,000                 | 2,000                 | 2,000                 | 221                                   |
| New York       | 7,001   | 5,601                 | 4,901                 | 4,201                 | 3,501                 | 15,761                                |
| New Jersey     | 125,607   | 100,485               | 87,925                | 75,364                | 62,803                | 119,447                               |
| Delaware       | 104,854   | 83,883                | 73,398                | 62,912                | 52,427                | 72,972                                |
| Maryland       | 335,105   | 268,084               | 234,574               | 201,063               | 167,553               | 484,138                               |
| PRFC           | 87,010  | 69,608                | 60,907                | 52,206                | 43,505                | 48,543                                |
| Virginia       | 87,627  | 70,102                | 61,339                | 52,576                | 43,814                | 92,945                                |
| North Carolina | 74,969  | 59,975                | 52,479                | 44,982                | 37,485                | 82,270                                |
| South Carolina | 2,000   | 2,000                 | 2,000                 | 2,000                 | 2,000                 | 18                                    |
| Georgia        | 2,000   | 2,000                 | 2,000                 | 2,000                 | 2,000                 | 103                                   |
| Florida        | 9,528   | 7,622                 | 6,670                 | 5,717                 | 4,764                 | 14,571                                |
| Total          | 859,309   | 688,647               | 603,316               | 517,985               | 432,654               | 48,543                                |





# Draft Yellow Eel Commercial Management Options

- **Option 5: Reporting Requirements**
  - trip level ticket system for dealer and harvester reporting





# Draft Yellow Eel Commercial Management Options

- **Option 6: Two Week Fall Closure**
  - required to close directed yellow eel **pot/trap fishery** for **2 consecutive** weeks Sept 1st and Oct 31<sup>st</sup>
  - **State may specify** when the closure occurs, must occur after est. start of state's silver eel migration.
  - All eel pots/traps must be removed from the water
  - A limited fall closure will result in a reduction in yellow eel landings as most American eels are landed in the fall





# Table 11 page 25

|                          | September | October | November | Average Harvest from<br>2009 – 2011 for All Gears |
|--------------------------|-----------|---------|----------|---|
| <b>Maine</b>             | 5%        | 0%      | 0%       | 6,755   |
| <b>New<br/>Hampshire</b> | 10%       | 0%      | 0%       | 99  |
| <b>Massachusetts</b>     | 4%        | 3%      | 0%       | 621   |
| <b>Rhode Island</b>      | 19%       | 21%     | 2%       | 3,573   |
| <b>Connecticut</b>       | 24%       | 17%     | 0%       | 221   |
| <b>New York</b>          | 10%       | 17%     | 3%       | 15,761  |
| <b>New Jersey</b>        | 23%       | 27%     | 6%       | 119,447   |
| <b>Delaware</b>          | 21%       | 30%     | 8%       | 72,972  |
| <b>Maryland</b>          | 9%        | 19%     | 8%       | 484,138   |
| <b>Virginia</b>          | 21%       | 30%     | 12%      | 92,945  |
| <b>North Carolina</b>    | 13%       | 38%     | 24%      | 82,270  |
| <b>South Carolina</b>    | 0%        | 0%      | 0%       | 18  |
| <b>Georgia</b>           | 0%        | 0%      | 0%       | 103   |
| <b>Florida</b>           | 0%        | 0%      | 11%      | 14,571  |
| <b>Total</b>             |           |         |          | 893,491   |



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# Draft Commercial Management Options

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- **Silver Eel Fisheries Measures**
  - **Option 1: Status Quo**
  - **Option 2: Gear Restrictions**
    - No take of eels during the fall from any gear type other than baited traps/pots
    - Rec: Sept 1 – Dec 31







# Table 12, page 26

| State | Sep     | Oct | Nov | Dec |
|-------|---------|-----|-----|-----|
| ME    |         |     |     |     |
| NH    |         |     |     |     |
| MA    |         |     |     |     |
| RI    |         |     |     |     |
| CT    |         |     |     |     |
| NY    |         |     |     |     |
| NJ    |         |     |     |     |
| PA    | UNKNOWN |     |     |     |
| DE    |         |     |     |     |
| MD    |         |     |     |     |
| DC    |         |     |     |     |
| PRFC  |         |     |     |     |
| VA    |         |     |     |     |
| NC    | UNKNOWN |     |     |     |
| SC    | UNKNOWN |     |     |     |
| GA    | UNKNOWN |     |     |     |
| FL    | UNKNOWN |     |     |     |



# Table 13 page 27

|                | September | October | November | December | Average Harvest from<br>2009 – 2011 for All Gears |
|----------------|-----------|---------|----------|----------|---|
| Maine          | 0.00%     | 0.00%   | 0.00%    | 0.00%    | 6,755   |
| New Hampshire  | 0.00%     | 0.00%   | 0.00%    | 0.00%    | 99  |
| Massachusetts  | 0.00%     | 0.00%   | 7.73%    | 0.00%    | 621   |
| Rhode Island   | 0.00%     | 0.07%   | 14.47%   | 0.00%    | 3,573   |
| Connecticut    | 0.00%     | 0.00%   | 0.00%    | 0.00%    | 221   |
| New York       | 1.33%     | 0.83%   | 3.66%    | 0.17%    | 15,761  |
| New Jersey     | 0.12%     | 0.65%   | 0.27%    | 0.05%    | 119,447   |
| Delaware       | 0.00%     | 0.00%   | 0.00%    | 0.00%    | 72,972  |
| Maryland       | 0.00%     | 0.01%   | 0.17%    | 0.00%    | 484,138   |
| Virginia       | 0.07%     | 0.28%   | 0.10%    | 0.16%    | 92,945  |
| North Carolina | 0.00%     | 0.02%   | 0.00%    | 0.00%    | 82,270  |
| South Carolina | 0.00%     | 0.00%   | 0.00%    | 0.00%    | 18  |
| Georgia        | 0.00%     | 0.00%   | 0.00%    | 0.00%    | 103   |
| Florida        | 0.00%     | 0.00%   | 0.00%    | 0.00%    | 14,571  |
| <b>Total</b>   |           |         |          |          | 893,491   |



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# Draft Recreational Management Options

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- **Option 1:** Status Quo
- **Option 2:** Reduce recreational bag limits
  - 25 fish per day bag limit
- **Option 3:** Party/Charter Boat Exemption
  - If Option 2 is chosen, the Board may consider
  - Maintains current 50 fish/day limit





*Working towards healthy, self-sustaining populations  
for all Atlantic coast fish species or successful  
restoration well in progress by 2015*

# **Stock Assessment Committee Recommendations**

American Eel Management Board  
August 2013





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# Background

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- The American Eel SAS met multiple in June and July to respond to requests from the Working Group.





# Background

- The SAS continually re-iterated the findings of the 2012 Benchmark Stock Assessment:

*Although fishery landings and effort in recent times have declined in most regions (with the possible exception of the glass eel fishery), current levels of fishing effort may still be too high given the additional stressors affecting the stock such as habitat loss, passage mortality, climate change, and disease. Management efforts to reduce mortality on American eels in the U.S. are warranted*





# General Recommendations

- The SAS makes the following general recommendations for the Board's consideration in the discussion on DAIII:
  1. The status quo is not recommended.
  2. The objective of the addendum is to reduce mortality at all life stages with the goal of allowing more silver eels to escape and spawn. If mortality is to be reduced, then fewer eels need to be harvested. All fisheries and regions should contribute to the reduction.





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# General Recommendations

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3. Opening up new fisheries on any life stage would be inconsistent with the recommendations of the benchmark stock assessment and peer review panel.
4. Starting multi-stage surveys after a glass eel fishery is opened will not be adequate. To follow the precautionary approach, a state should have to implement multi-stage surveys monitoring programs at least 3 to 7 years before being allowed a glass eel fishery in order to verify that further harm to the stock will not occur.







# General Recommendations

5. The only way to guarantee a reduction in mortality is through the use of quotas, with specific allocations and payback provisions. States should not be allowed to increase landings from current levels.
  - Both glass and yellow eel quotas should be based on landings data used for the benchmark stock assessment ending in 2010.





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# General Recommendations

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- For the yellow eel fishery, a quota should not be based on landings from the 1980's as this represents a time of intense fishing pressure. A quota should also not be based on landings from years after 2010 which was the last year included in the benchmark stock assessment when the recommendation was made by the SAS to reduce mortality. Landings have further increased since 2010.





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# General Recommendations

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- For the glass eel, a quota based on landings should not include harvest data from 2012 as market conditions changed the fishery dramatically with higher effort and landings, including poorly documented illegal harvest.





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# General Recommendations

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- Setting catch limits based on recent average catches leads to a high probability of overfishing and depleted populations especially when populations are already at low levels





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# General Recommendations

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6. Changes in mesh sizes and minimum sizes alone may not achieve the reduction in mortality necessary to rebuild the stock as it is uncertain how adult eel escapement will respond to this action.





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# General Recommendations

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7. Increasing survival of silver eels is crucial in ensuring the highest contribution to the spawning stock.
8. The SAS strongly supports the collection of additional fisheries dependent and independent data to aid in the development of management programs and for use in future stock assessments.





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# Quota Management

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- Specific to quota management, the WG requested input from the SAS on harvest levels and their associated stock effects.
- The SAS used the DBSRA model to examine the effects of different quota levels on future stock biomass.





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# Quota Management

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- It should be stressed that the peer review did not approve the DBSRA model for management; therefore, these projections are for visualization purposes only, and some results may not represent credible estimates of biomass over time.





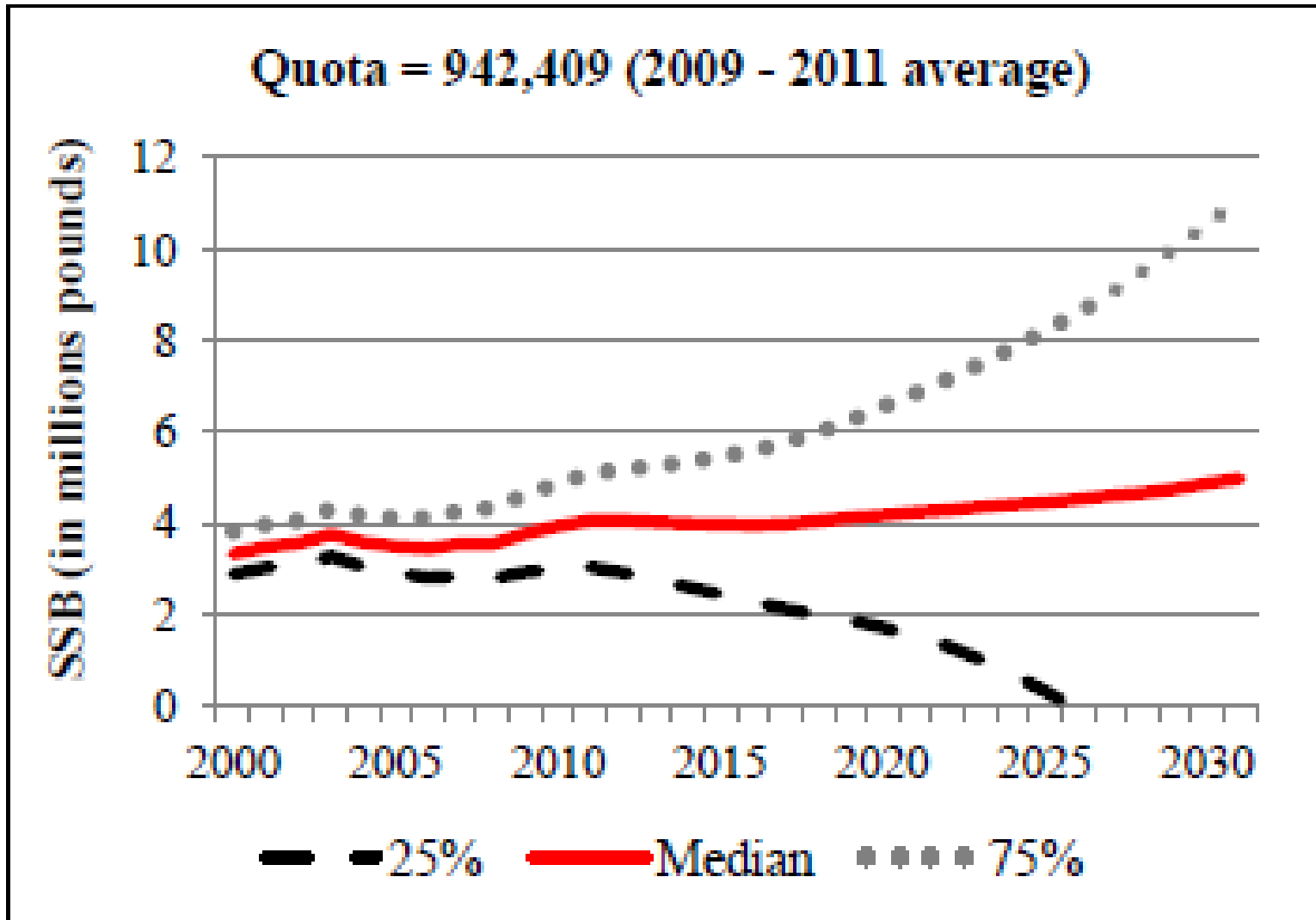


| <b>Time Period</b> | <b>Average Harvest</b> | <b>10% Reduction</b> | <b>25% Reduction</b> | <b>50% Reduction</b> |
|--------------------|------------------------|----------------------|----------------------|----------------------|
| <b>2009 - 2011</b> | 942,409                | 848,168              | 706,807              | 471,204              |
| <b>2007 - 2011</b> | 896,531                | 806,878              | 672,398              | 448,265              |
| <b>2007 - 2010</b> | 796,419                | 716,788              | 597,320              | 398,221              |



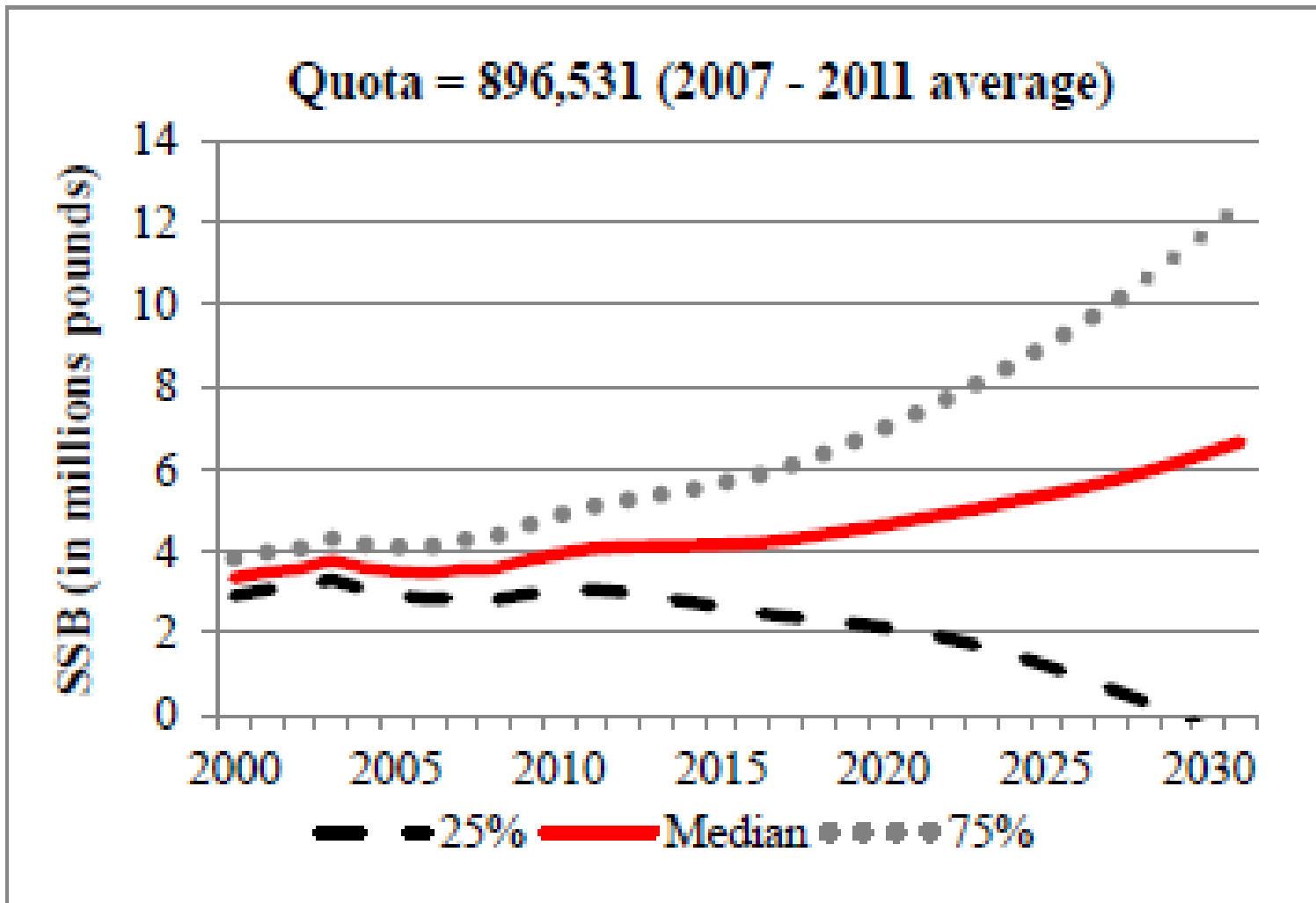


# Quota = 942,409



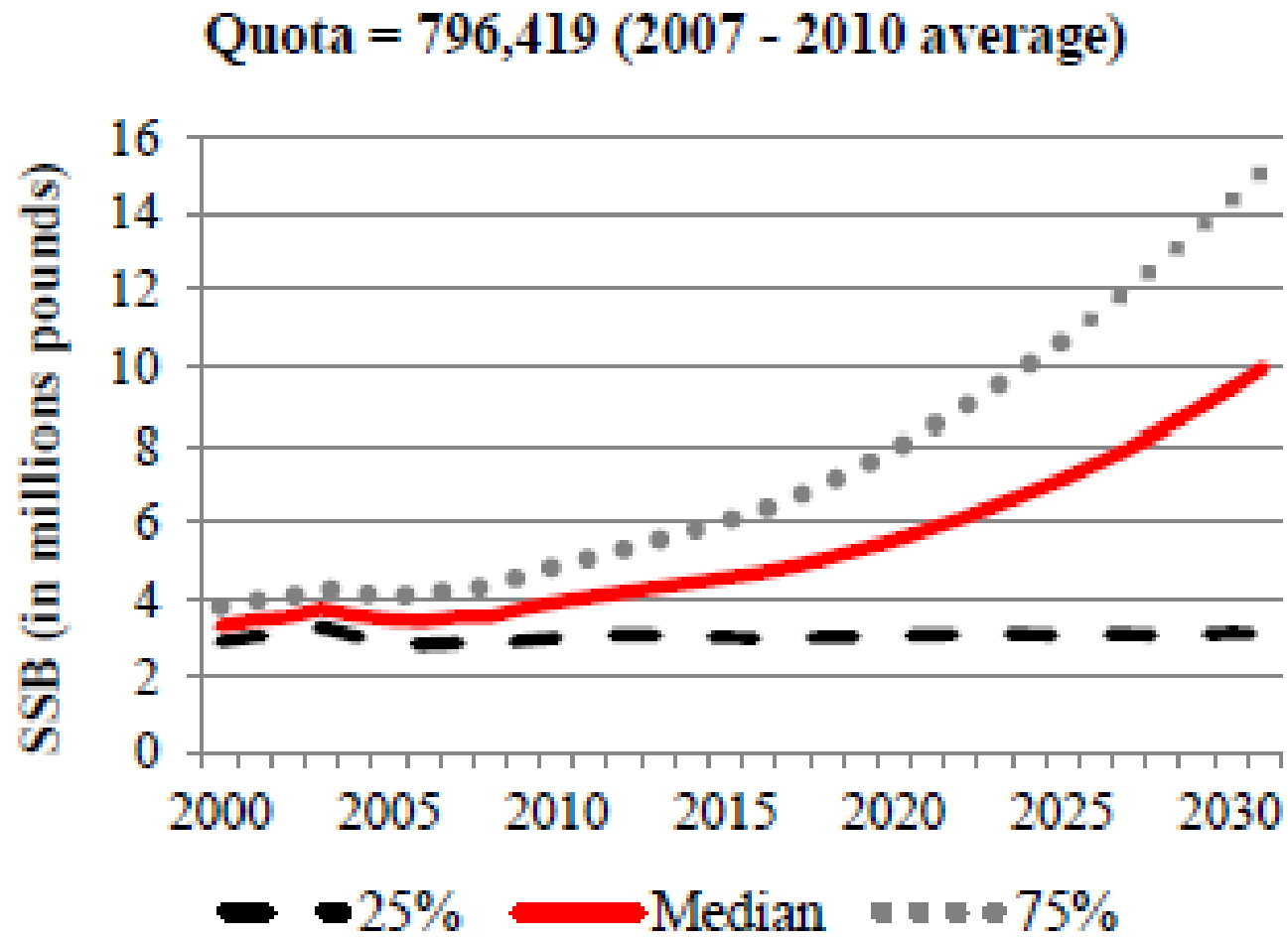


# Quota = 896,531



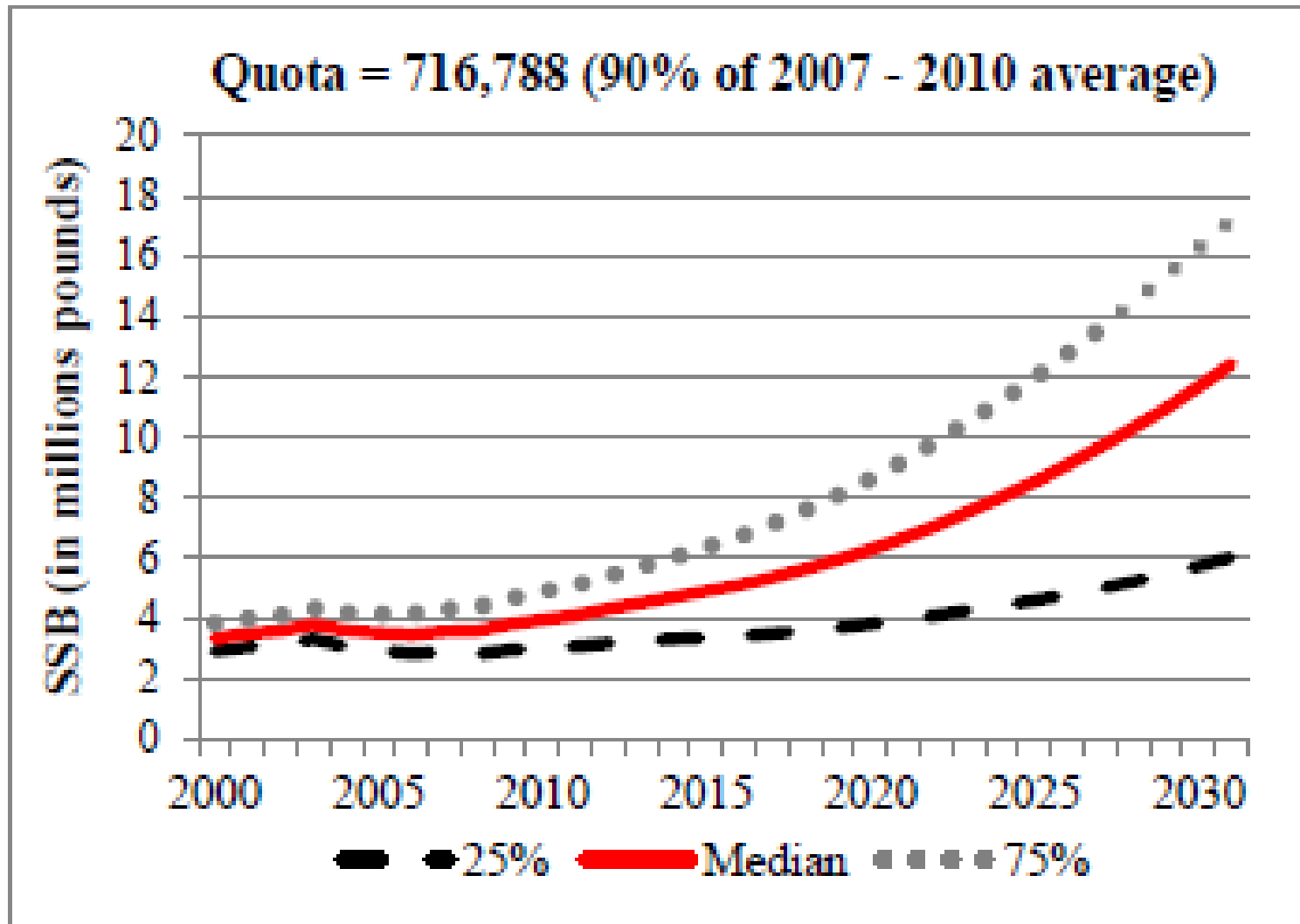


# Quota = 796,419



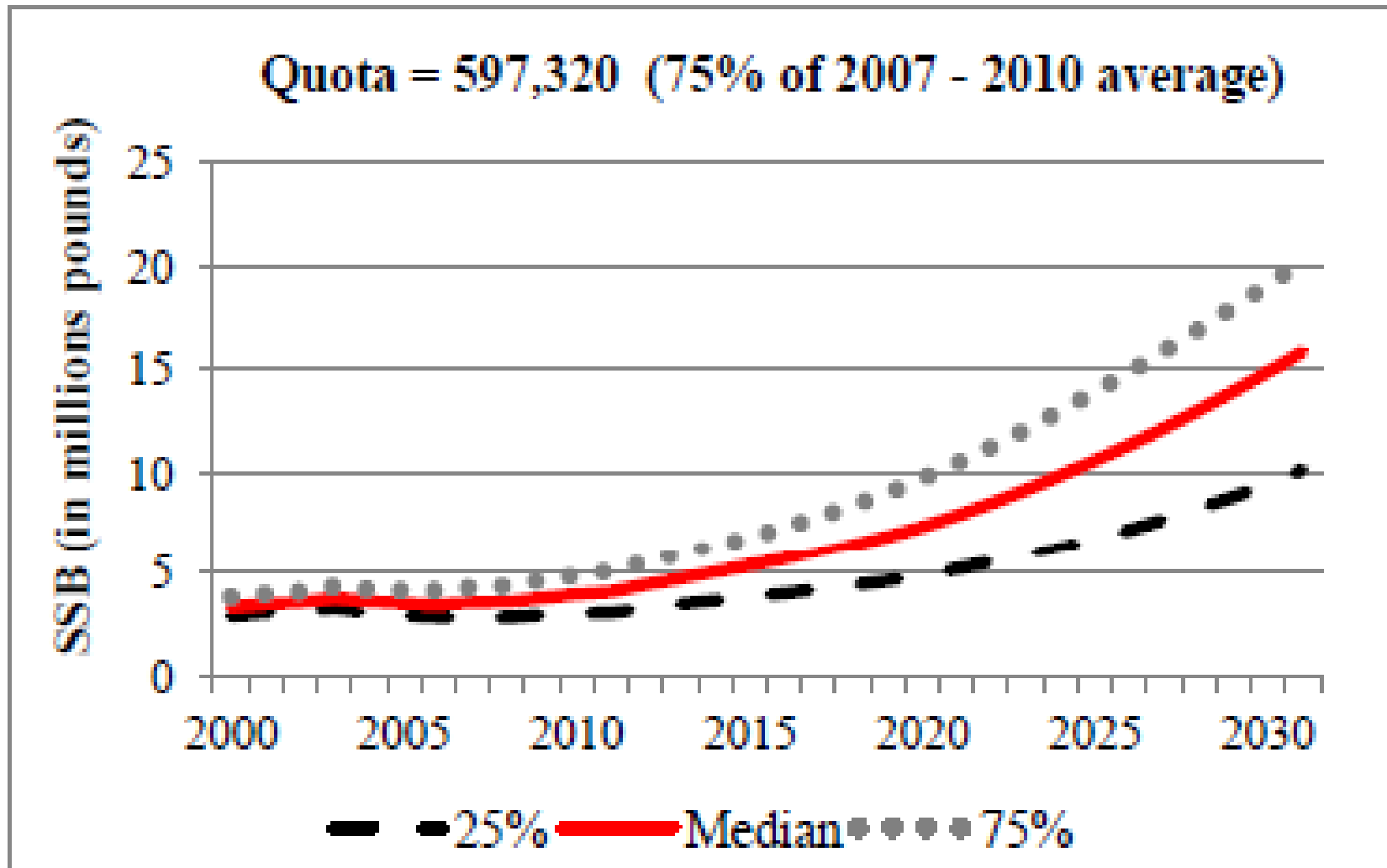


# Quota = 716,788



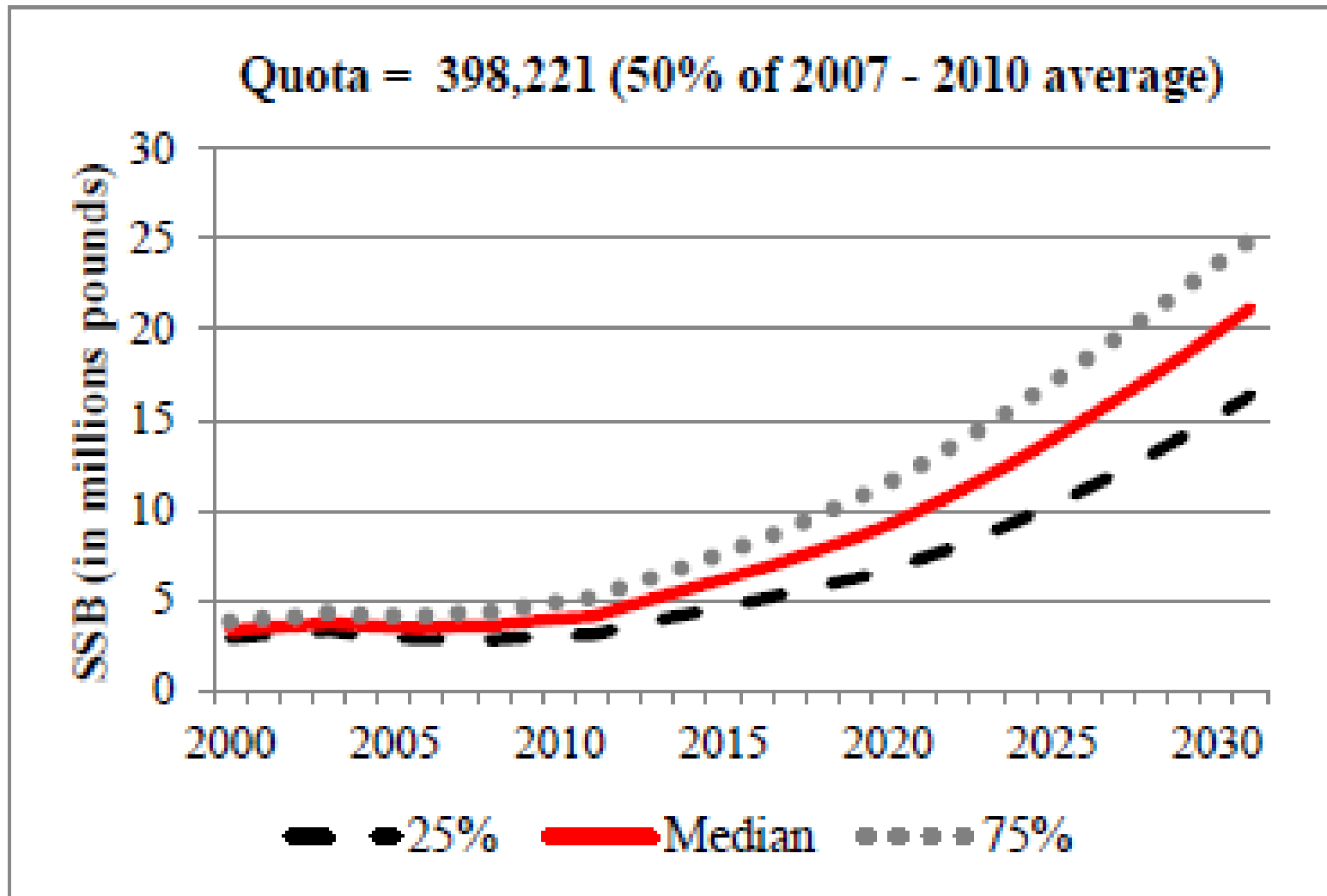


# Quota = 597,320



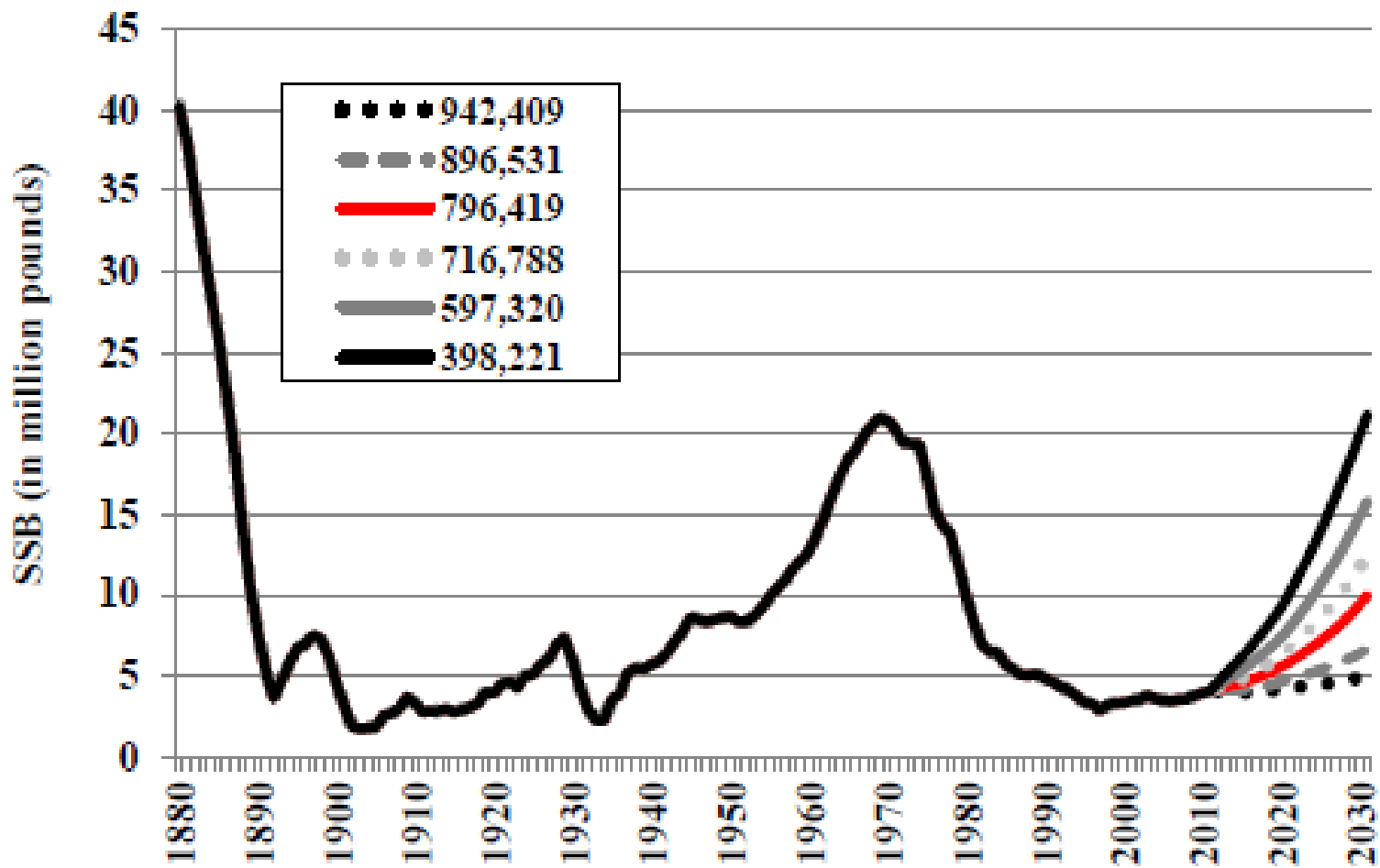


# Quota = 398,221





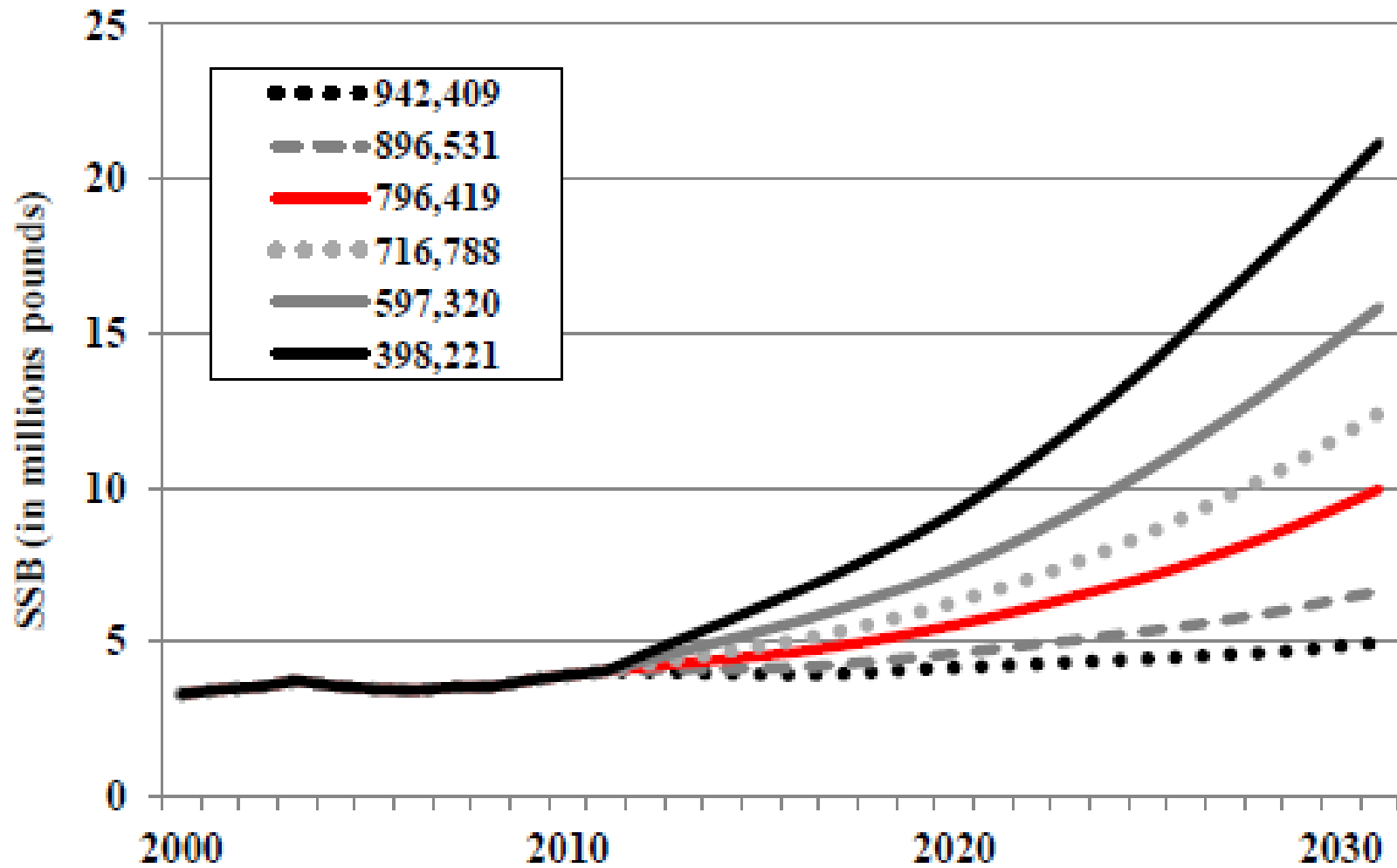
# Median Quotas







# Median Quotas





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# Life Stage Quota Transfers

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- The Working Group requested the SAS analyze the ability to transfer yellow eel quota to glass eel quota. Given this task, the SAS makes the following recommendations:
  1. While it may be possible to conduct conservation equivalency analysis on the life stages of American eel, this analysis would be based on a multitude of assumptions and have a high degree of uncertainty.





# Life Stage Quota Transfers

2. States and jurisdictions do not currently collect adequate data to support this type of management program. Given the spatial heterogeneity in eel life history, the SAS could only produce estimates for geographic sub-regions where there are data to support the analysis. Furthermore, this type of analysis could result in different management methods applied along the coast.





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# Life Stage Quota Transfers

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3. The SAS unanimously and firmly does not support a 1:1 transfer (in pounds) of current yellow eel harvest to potential glass eel harvest.





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# Life Stage Quota Transfers

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4. If a conservational equivalency program were to be developed, the SAS recommends the use of conservative transfer rate until there is sufficient data to consider expansion, with harvest capped at a certain amount.





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# Life Stage Quota Transfer

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- One possible approach could be to evaluate the complete transfer of yellow eel quota to a glass eel fishery after three years of the development of a new glass eel fishery, provided the required monitoring continues and the fisheries on all other life stages are prohibited within the jurisdiction's waters.





*Working towards healthy, self-sustaining populations  
for all Atlantic coast fish species or successful  
restoration well in progress by 2015*

# American Eel Working Group Recommendations

American Eel Management Board  
August 2013





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# Background

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- Draft Addendum III was initiated in August 2012 in response to the findings of the 2012 American Eel Benchmark Stock Assessment which found the status of the coastwide stock to be depleted.
- The Board reviewed a draft of the addendum document in October 2012, provided additional guidance to the PRT, and then approved the public comment document in February 2013.







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# Background

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- The Draft Addendum was out for public comment in April and May 2013.
- The Board reviewed the public comment at the May meeting, at which time the Board appointed a working group of Commissioners, AP members and TC members to develop potential recommendations on moving forward with the finalization of Addendum III.





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# Background

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- The working group met multiple times in June and July to review Draft Addendum III and provides the following recommendations to the Board.





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# Monitoring and Habitat

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- The WG supports the monitoring requirements and habitat recommendations contained in Draft Addendum III.





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# Commercial & Recreational

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- **The WG unanimously does not support Option1 (Status Quo) for both Sections 4.1 (Commercial Fishery Management Options) and 4.2 (Recreational Fishery Management Options).**





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# Comm. Glass Eel Measures

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- *Closure (Option 2)*
  - The WG does not support this option as the stock assessment found no stock recruitment relationship and recognizes the economic importance of the fishery in those states that currently allow harvest.





# Comm. Glass Eel Measures

- *Quota (Option 3)*
  - The WG does not support any of the quota options that were included in the draft Addendum.
  - The WG discussed the option of a quota based on more recent landings as well as the transfer of quota from the yellow eel fishery to the glass eel fishery.
  - The WG was interested in some modifications to the options originally contained in the Public Comment document.





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# Comm. Glass Eel Measures

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- *Increased Reporting (Option 4)*
  - The WG supports increased commercial fishery monitoring if a quota based management program was implemented.
  - The WG supports monthly reporting following ACCSP standards.





# Comm. Glass Eel Measures

- *Pigmented Eel Tolerance (Option 5)*
  - The WG supports the pigmented eel tolerance and any restrictions on harvest on this life stage.
  - This would be applied to any state that has a glass eel fishery, current or future.
  - This could be accomplished through the use of a 1/8 inch non-stretchable mesh.
  - The AP would also recommend a 1% tolerance by count to this requirement







# Comm. Yellow Eel Measures

- *Increase Minimum Size (Option 2)*
  - The WG supports a min size limit of 9 inches.
  - The WG supports the recommendation of the LEC that it would be difficult to enforce min size regulations w/o the use of complementary gear restrictions.
  - Therefore the WG recommends the use of a minimum size restriction in conjunction with gear restrictions





# Comm. Yellow Eel Measures

- *Gear Restrictions (Option 3)*
  - The WG discussed the proposed gear restrictions, including an option for  $\frac{1}{2}$  by  $\frac{1}{2}$  inch mesh requirements or escape panel.
  - Currently several states have at least  $\frac{1}{2}$  by  $\frac{1}{2}$  inch mesh requirements in place, with the exception of NH, MA, RI, CT, DE, and NJ.
  - A  $\frac{1}{2}$  by  $\frac{1}{2}$  inch mesh requirement would cull eels less than 8.75 inches





# Comm. Yellow Eel Measures

- The WG recommends a  $\frac{1}{2}$  by  $\frac{1}{2}$  mesh requirement through the use of an escape panel for a specified time frame (e.g. 3 years), after which the gear must be phased out.
- States or jurisdictions that are more conservative are recommended to maintain their gear mesh restrictions.
- This option was also supported by the AP.
- If a  $\frac{1}{2}$  by  $\frac{1}{2}$  mesh restriction is implemented with a 9 inch min size limit the Board may have to consider a tolerance for undersized eels.
- The Board should also consider point of enforcement (e.g. at harvest or through the dealer).





# Comm. Yellow Eel Measures

- *Coastwide Quota (Option 4)*
  - The WG was supportive of quota management for the fishery based on recent landings.
  - This aligns with the recs of the SAS as it was considered the most effective way to ensure a reduction in mortality.
  - The WG was not supportive of the base years presented in the Public Comment document or the method for allocating quota to the states and was interested in some modifications to the options originally contained in the Public Comment document.





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# Comm. Yellow Eel Measures

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- *Increased Reporting (Option 5)*
  - Consistent with the WG recommendations for the glass eel fishery, the WG supports increased commercial fishery monitoring if a quota based management program was implemented.
  - The WG supported monthly reporting following ACCSP standards.





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# Comm. Yellow Eel Measures

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- *Two Week Fall Closure (Option 6)*
  - The WG does not support this option.





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# Comm. Silver Eel Measures

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- The WG unanimously supported Option 2 with some modification.
- The WG noted the cultural value and economic support to the community provided by the silver eel fishery along the Delaware R.
- However, the goal of the addendum is to reduce mortality on all life stages and increasing survival of silver eels provides the greatest chance for increasing spawning success.





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# Comm. Silver Eel Measures

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- The WG recommends prohibiting the harvest of American eels from gears other than pots, traps, and spears from September 1 to December 31, with the exception of New York commercially licensed weir fishermen in the Delaware River and tributaries from Sept 1 – Dec 31.







# Comm. Silver Eel Measures

- NY must reduce active effort (i.e. not including latent effort removal) by an amount specified by the Board. An effort reduction plan must be submitted to TC for review and approved by the Board no later than a date specified by the Board.
- The goal would be to have the fishery phased out w/in 10 years or some time frame specified by the Board.
- Additionally, the Board may want to consider silver eel monitoring requirements, similar to the requirements for the potential allowance of glass eel fisheries





## Rec Eel Measures

- The WG unanimously supported Option 2 (25 fish per day bag limit) and Option 3 (party/charter boat exemption).
- The WG was supportive of having the same minimum size for both commercial and recreational fisheries.





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# Management Recommendations

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- The WG recommends finalization of AddIII as recommended to allow for the potential implementation of management measures prior to the start of the 2014 fishing season.
- The WG recommends the immediate imitation of Draft Addendum IV which would include measures from DAIII that have been further refined based on public and Board input as well as new measures developed by the WG and SAS.





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# Proposed Draft Add IV

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- The goal of Draft Addendum IV would be to reduce overall mortality on American eels.
- This document could be made available for the Board's review in October with final approval at the February 2014 meeting.
- Draft Addendum IV may include, but may not be limited to, the following measures:





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# Proposed DAIV Comm. Glass Eel Measures

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- The WG discussed the possibility of allowing the development of glass eel fisheries in states where harvest is currently prohibited.
- The WG recognizes that the SAS emphatically does not support the development of additional glass eel fisheries due to uncertainty in the stock recruitment relationship and natural mortality estimates, as well as the concern that poaching could have on the health of the stock.





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# Proposed DAIV Comm. Glass Eel Measures

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- However, the WG discussed that, if two states are allowed to continue to operate a glass eel fishery, the remainder of states/jurisdictions should be given the opportunity for a glass eel fishery, provided certain restrictions and requirements are met.
- Inherent in this is that there will be a reduction in overall mortality on eels even if there is an increase in the number of states participating in the fishery.
- Additionally, the associated survey requirements may provide much needed data on the stock for use in future assessments.





# Glass Eel Fishery Requirements

- Reduction in mortality in yellow eel fishery, through transfer yellow eel landings into a **glass eel quota**
  - **Limited glass eel fishery w/landings not to exceed a specified amount for states with no landings** (with a requirement to reduce mortality /increase survival on other life stages).
- **Completion of full life cycle survey in 1 watershed for > 3 years**, implemented prior to/during the start of first open fishing season,
- **Allocation could be re-visited in 3 years**, or at another time frame
- **Adequate penalties** to discourage poaching, **adequate enforcement** to monitor poaching, **timely commercial** so quota is not exceeded, **ability to close the fishery** when landings reach a specified threshold, and **pigmented eel restrictions**.
- Implementation program is **subject to TC, LEC, and/or AP review**.





# Glass Eel Fishery Requirements

- Quota allocation could be based on the average landings from the following periods:
  - 1998 to 2012 , 1998 to 2010 , 2010 to 2012, or 2007 to 2012
  - A percent reduction from one of the above amounts or another amount specified by the Board.
- **Completion of full life cycle survey in 1 watershed for > 3 years**, implemented prior to/during the start of first open fishing season,
- **Allocation could be re-visited in 3 years**, or at another time frame
- **Adequate penalties** to discourage poaching, **adequate enforcement** to monitor poaching, **timely commercial** so quota is not exceeded, **ability to close the fishery** when landings reach a specified threshold, and **pigmented eel restrictions**
- Implementation program **subject to TC, LEC, and/or AP review.**







# Proposed DAIV Comm. Yellow Eel Measures

- The WG was supportive of quota management, but recommended the use of a new approach in determining allocation and in setting the total quota.
- Specifically, the WG recommends that allocation be based on the average of the three highest landing values from 2002-2012 and that the total coastwide quota would be based on:
  - Average landings from the following periods: 1998 to 2012 , 1998 to 2010 , 2010 to 2012, or 2007 to 2012
  - A percent reduction from one of the above amounts or another amount specified by the Board.





# Proposed Quota Allocation

| State          | Percent Allocation | Quota (in pounds) based on landings from the following years: |                |                  |                |
|----------------|--------------------|---|----------------|------------------|----------------|
|                |                    | 1998 - 2012   | 1998 - 2010    | 2010 - 2012      | 2007-2012      |
| Maine          | 2.2%               | 19,413  | 18,606         | 22,476           | 19,636         |
| New Hampshire  | 0.0%               | 2,000   | 2,000          | 2,000            | 2,000          |
| Massachusetts  | 0.4%               | 3,666   | 3,514          | 4,244            | 3,708          |
| Rhode Island   | 0.4%               | 3,493   | 3,348          | 4,044            | 3,533          |
| Connecticut    | 0.3%               | 3,138   | 3,007          | 3,633            | 3,174          |
| New York       | 1.3%               | 11,908  | 11,413         | 13,787           | 12,045         |
| New Jersey     | 12.4%              | 112,065   | 107,407        | 129,746          | 113,353        |
| Delaware       | 11.3%              | 101,831   | 97,598         | 117,897          | 103,001        |
| Maryland       | 39.4%              | 355,089   | 340,329        | 411,113          | 359,170        |
| PRFC           | 9.7%               | 87,534  | 83,895         | 101,344          | 88,540         |
| Virginia       | 9.9%               | 88,837  | 85,144         | 102,853          | 89,858         |
| North Carolina | 11.2%              | 100,570   | 96,389         | 116,437          | 101,725        |
| South Carolina | 0.0%               | 2,000   | 2,000          | 2,000            | 2,000          |
| Georgia        | 0.0%               | 2,000   | 2,000          | 2,000            | 2,000          |
| Florida        | 1.4%               | 12,484  | 11,965         | 14,453           | 12,627         |
| <b>Total</b>   | <b>100%</b>        | <b>900,229</b>  | <b>862,808</b> | <b>1,042,262</b> | <b>910,574</b> |



# Proposed Yellow Eel Quota

- Quota allocation could be re-visited after 3 years or another time.
- The WG recommends a minimum of 2,000 pounds. This quota allocation cannot be used for glass eel conversion.
- If a state exceeded its allocation, and the total coastwide quota was also exceeded, the state could be required to implement management changes in the following year to reduce harvest





# Proposed Yellow Eel Quota

- If the total coastwide quota was exceeded then those states or jurisdictions that exceeded their allocation would be required to pay back quota the following year in one of the following ways:
  - A state/jurisdictions quota would be deducted equal to the amount of the overage that occurred in the state or jurisdiction the following year
  - Those states/jurisdictions that exceeded the quota would have their quota deducted in the following year in proportion to the quota overage (i.e. similar to black sea bass).
  - Another method as specified by the Board.





|       | 2013 Allocation | 2013 Landings | Overage Amount | % Contribution to Total Overage | Deduction to 2014 Quota | 2014 Quota |
|-------|-----------------|---------------|----------------|---------------------------------|-------------------------|------------|
| ME    | 100             | 120           | -20            | 20%                             | 8                       | 92         |
| NH    | 100             | 80            | -              | -                               | -                       | 100        |
| MA    | 100             | 60            | -              | -                               | -                       | 100        |
| RI    | 100             | 150           | -50            | 50%                             | 20                      | 80         |
| CT    | 100             | 130           | -30            | 30%                             | 12                      | 88         |
| Total | 500             | 540           | -40            | 100%                            | 40                      | 460        |






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# Proposed Yellow Eel Quota

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- If during the fishing year a state/ jurisdiction exceeded its allocation, that state would be required to implement measures to close its yellow eel fishery for the remainder of the year when landings reach a specified threshold.
  - If a state chooses to allow glass eel harvest, the state would have its yellow eel quota reduced by the required amount
  - Implementation of the quota system within a state waters would be determined by the state.
  - Quota allocation could be revisited after a time specified by the Board.
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# Limited Entry

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- The WG discussed the implementation of limited entry in the yellow eel fishery but thought it would not be necessary if quota management was implemented. However, it could be an option for the public and Board to consider if a new public comment document was released. Under this option states would be required to reduce latency and limit entry into the fishery.

