

**E PLURIBUS HUGO**

“Out of the Many, a Hugo”

# What does E Pluribus Hugo do?

- EPH is a way of tallying nominations that minimizes the effects of slates.

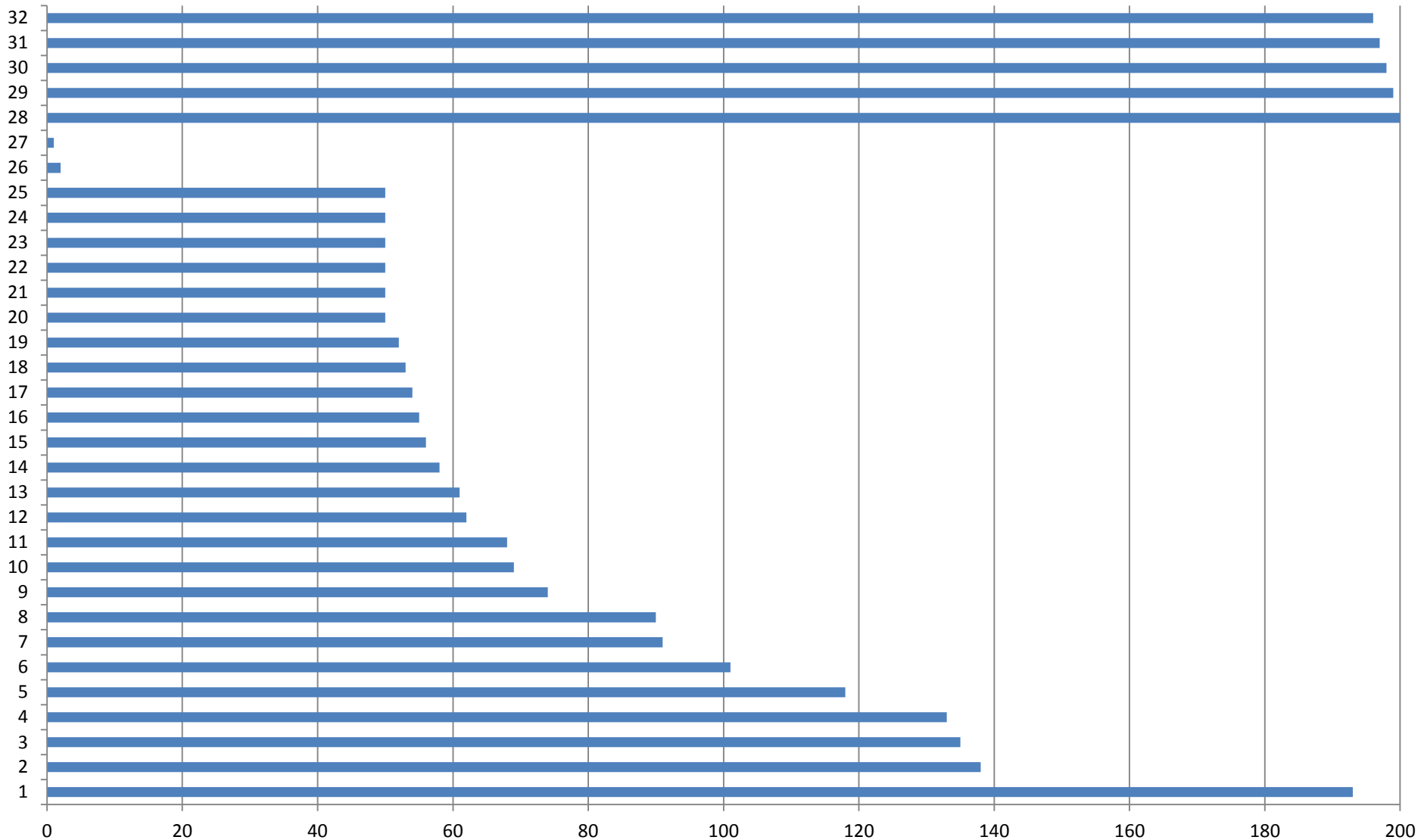
## What *doesn't* E Pluribus Hugo do?

- It doesn't change what you nominate.
- It doesn't change how you nominate.
- It doesn't change how many works you can nominate.

# 2013 Best Novel Data

- We do not have the actual 2013 Hugo ballots, so this dataset was computer-generated to match the statistical distribution of the actual Hugo data
- 1313 nomination ballots total
- 200 slate ballots added manually
- #1-27 are non-slate nominees in order of number of nominations received
- #28-32 are slate nominees in order of number of nominations received
- **Without the slate, EPH gives results identical to the current system: 1,2,3,4,5 is the final ballot.**

# 2013 Best Novel Num. of Nominations



**Under the current system, the slate sweeps the final ballot even though it only has 200 nomination ballots.**

# 2013 Best Novel : Final Ballot (Current System)

- #28
- #29
- #30
- #31
- #32

# Why Is This a Problem?

- The problem is that a small percentage of nominators are preventing all other nominees from having a chance of being considered.
- The main reason for this is that fandom typically nominates a wide variety of works. Because their votes are distributed so widely, none of their nominees individually has enough nominations to compete with a dedicated slate.
- EPH has a very simple answer: **Allow the least-supported nominees to be eliminated, and allow voters to re-direct their support to the remaining works on their nomination ballots.**
- The system uses “points” as a mechanism to automatically re-direct that support. You get one "point" per category, divided among all your nominees. If any of your nominees are eliminated, then each of your remaining choices will get a bigger share of your "point". In this way, fandom’s support gradually becomes concentrated around the eventual finalists.

# How Does E Pluribus Hugo Limit Slates?

- EPH doesn't "detect" slates.
- Any set of nominees that have both the same point total and the same number of nominations will tend to compete against each other.
- Slates tend to meet that condition, so will generally eliminate each other until only one slate nominee is left.

# Summary of EPH

- Each category is run as a separate election (just as is done currently)
- There are three phases to EPH:
  - **Calculation Phase:** Each nomination ballot gets one point divided equally among the nominees listed; the total points from all ballots are added together for each nominee.
  - **Selection Phase:** The nominees with the lowest point totals are selected as candidates for elimination
  - **Elimination Phase:** The selected nominee with the fewest number of nominations is eliminated
- That's it! All the rest is details and handling edge cases.
- **Let's look at how the 2013 Best Novel Hugo Award would look under E Pluribus Hugo.**



# Calculation Phase: Calculate Points

- Each nomination ballot has one point
- The point is divided equally among the surviving nominees on that ballot
  - 5 nominees = each nominee gets  $1/5$  point
  - 4 nominees = each nominee gets  $1/4$  point
  - 3 nominees = each nominee gets  $1/3$  point
  - 2 nominees = each nominee gets  $1/2$  point
  - 1 nominee = nominee gets 1 point
- **IMPORTANT: Points don't cause elimination!**
- **You don't help your candidate (by enough to matter) by only listing one work!**

# Voter #44

- Let's look at a typical nomination ballot...
- Nominations by Voter #44
  - #4
  - #1
  - #23
  - #19
  - #22

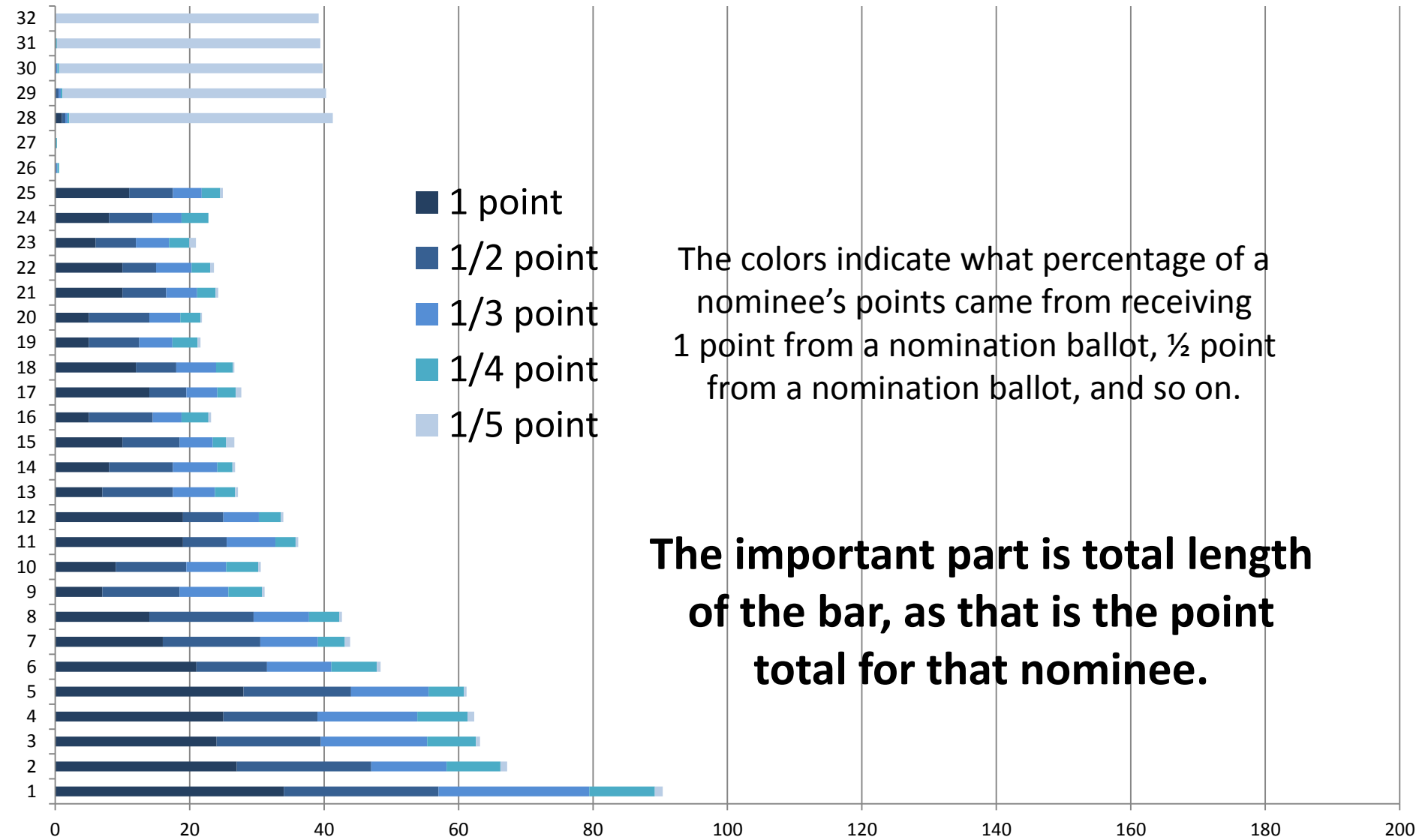
## Voter #44

- There were five nominees on Voter #44's nomination ballot this round.
- Each nominee listed on Voter #44 nomination ballot gets  $1/5$  point from Voter #44.

# Calculation Phase: Calculate Points

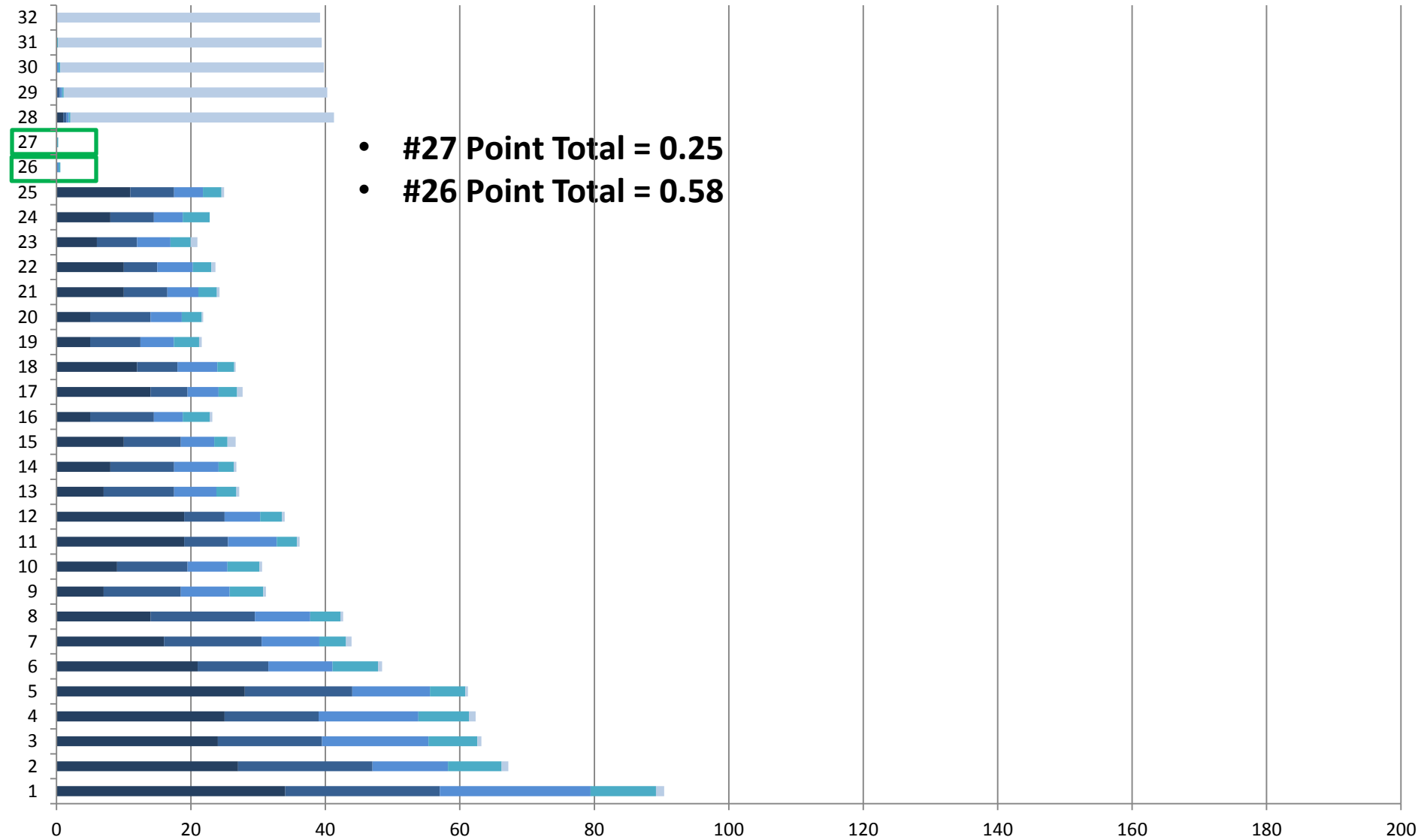
- For each nominee, add up all the points given to it from all the nomination ballots.
- Note that number of nominations never change!
- You can't do anything to increase your favorite's nominations (other than talking it up to your friends!)
- **Reminder: Points don't cause elimination!**
- **Number of Nominations cause elimination!**

# 2013 Best Novel Point Totals – Round 1



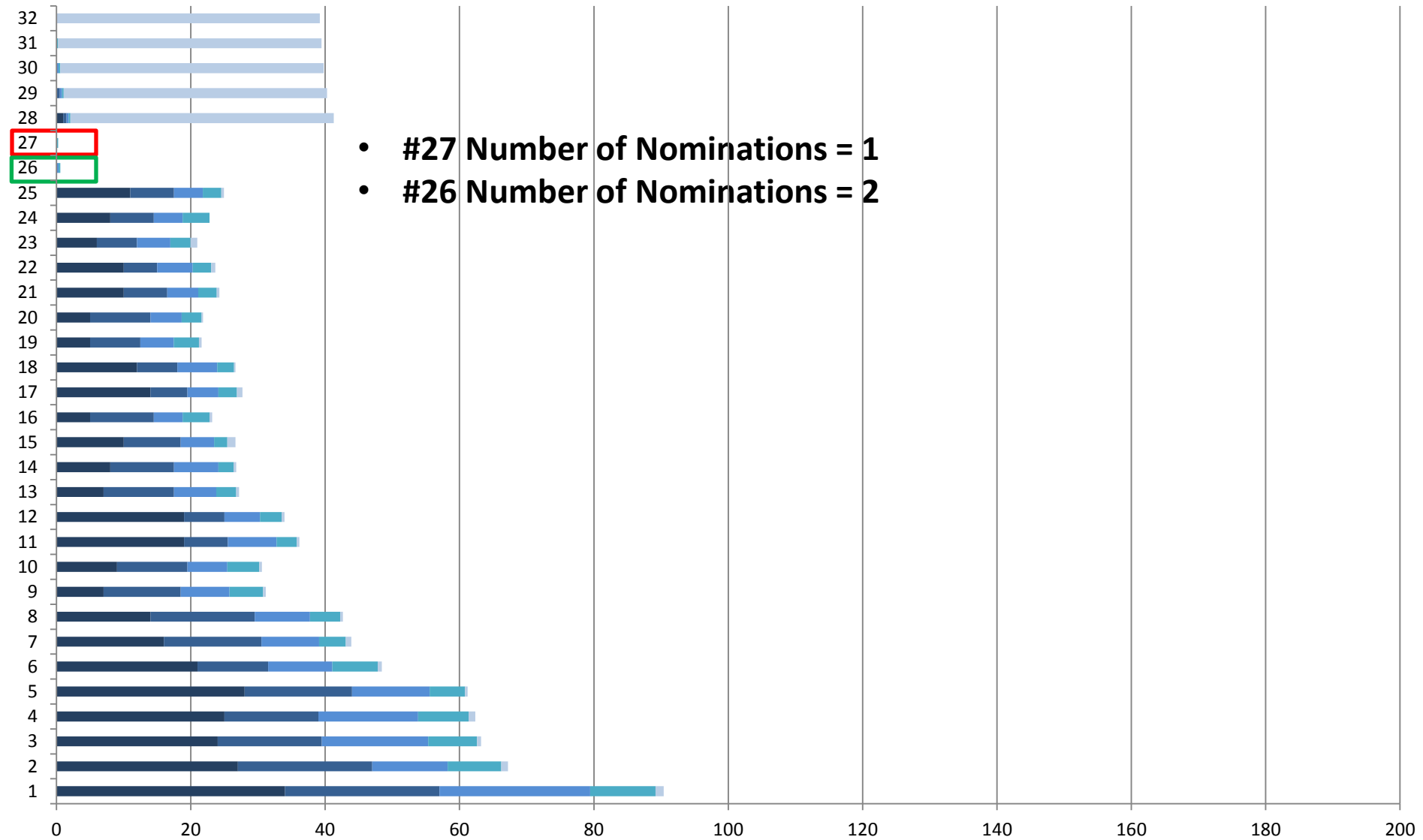
**Incidentally, the 1-point color will get longer as nominees are eliminated from ballots and those ballots' points are redistributed among the remaining nominees.**

# Selection Phase: Lowest Point Totals



**#26 and #27 have the lowest point totals,  
so are eligible for elimination!**

# Elimination Phase: Fewest Nominations



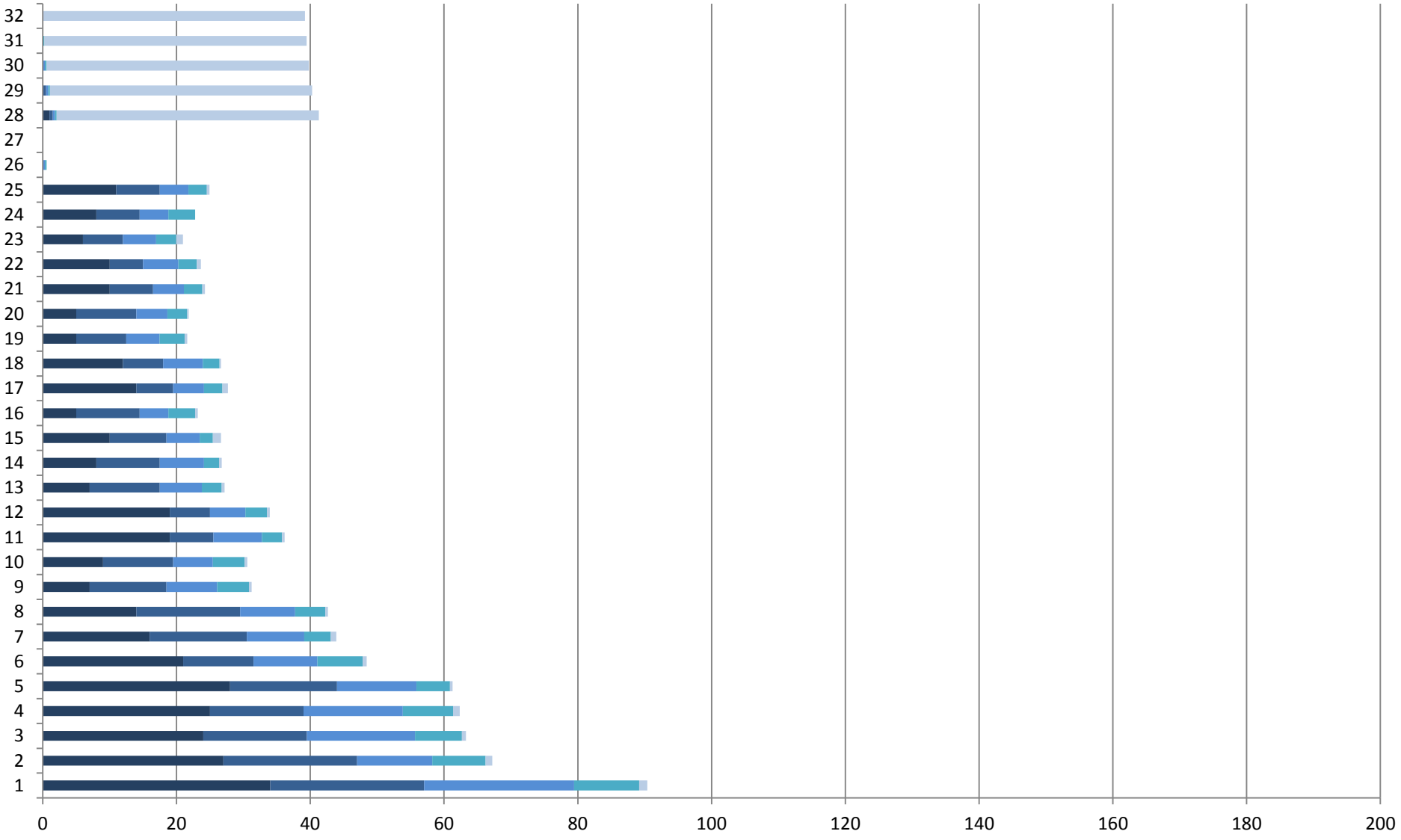
**#27 has fewer nominations, so is eliminated!**

## Voter #44

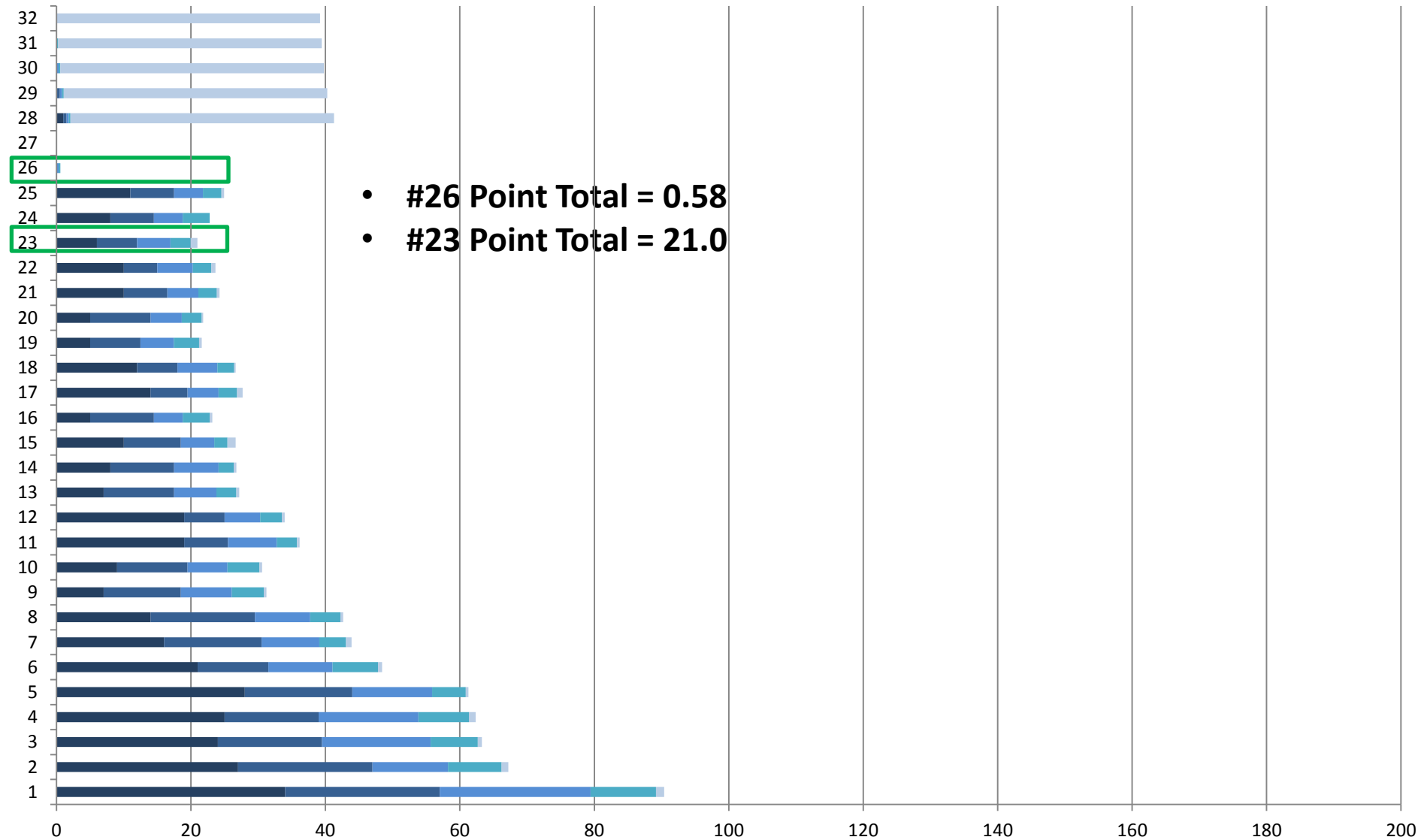
- None of Voter #44's nominees have been eliminated yet.
- Each nominee listed on Voter #44 nomination ballot still gets  $1/5$  point from Voter #44.



# 2013 Best Novel Point Totals – Round 2



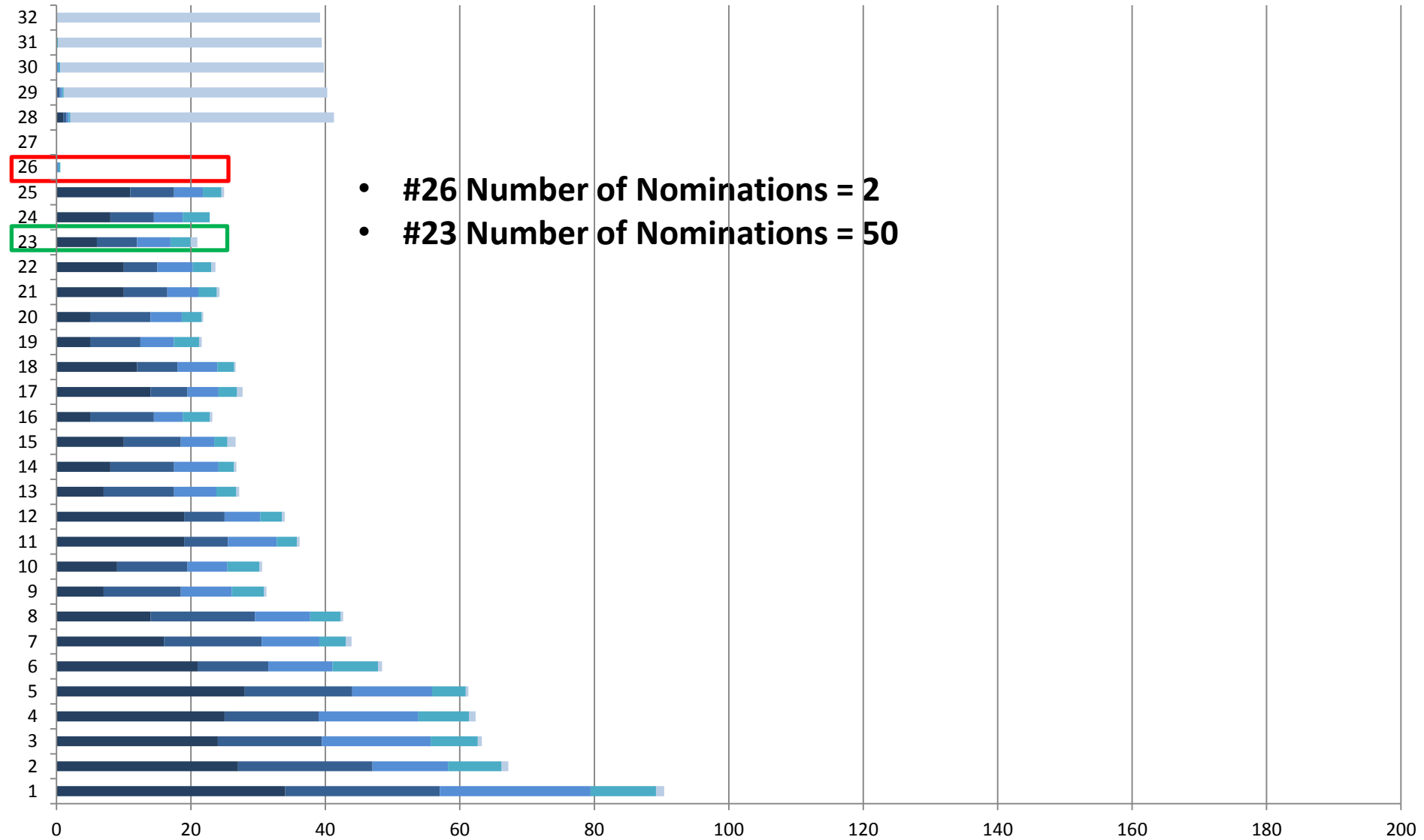
# Selection Phase: Lowest Point Totals



- #26 Point Total = 0.58
- #23 Point Total = 21.0

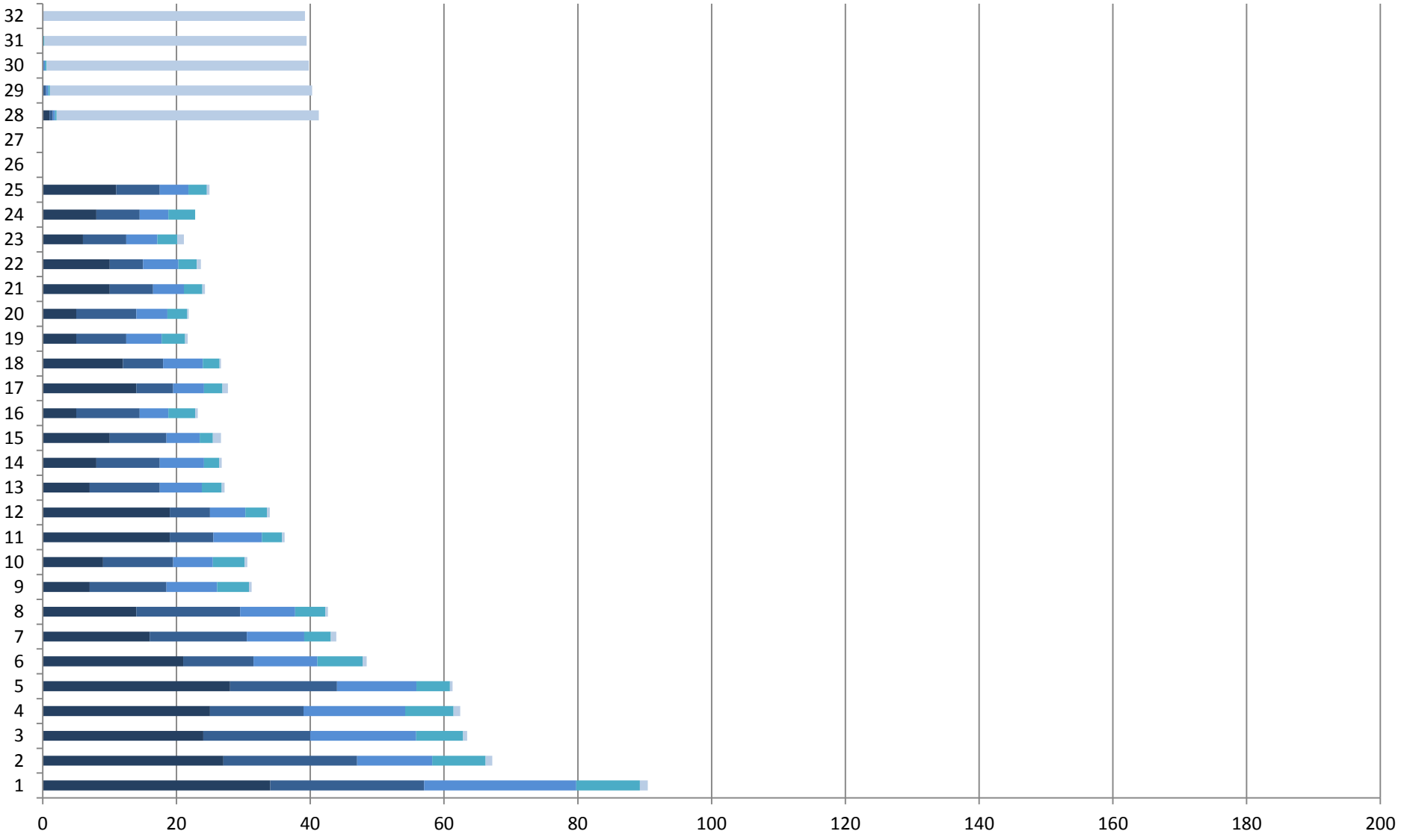
**#23 and #26 have the lowest point totals,  
so are eligible for elimination**

# Elimination Phase: Fewest Nominations

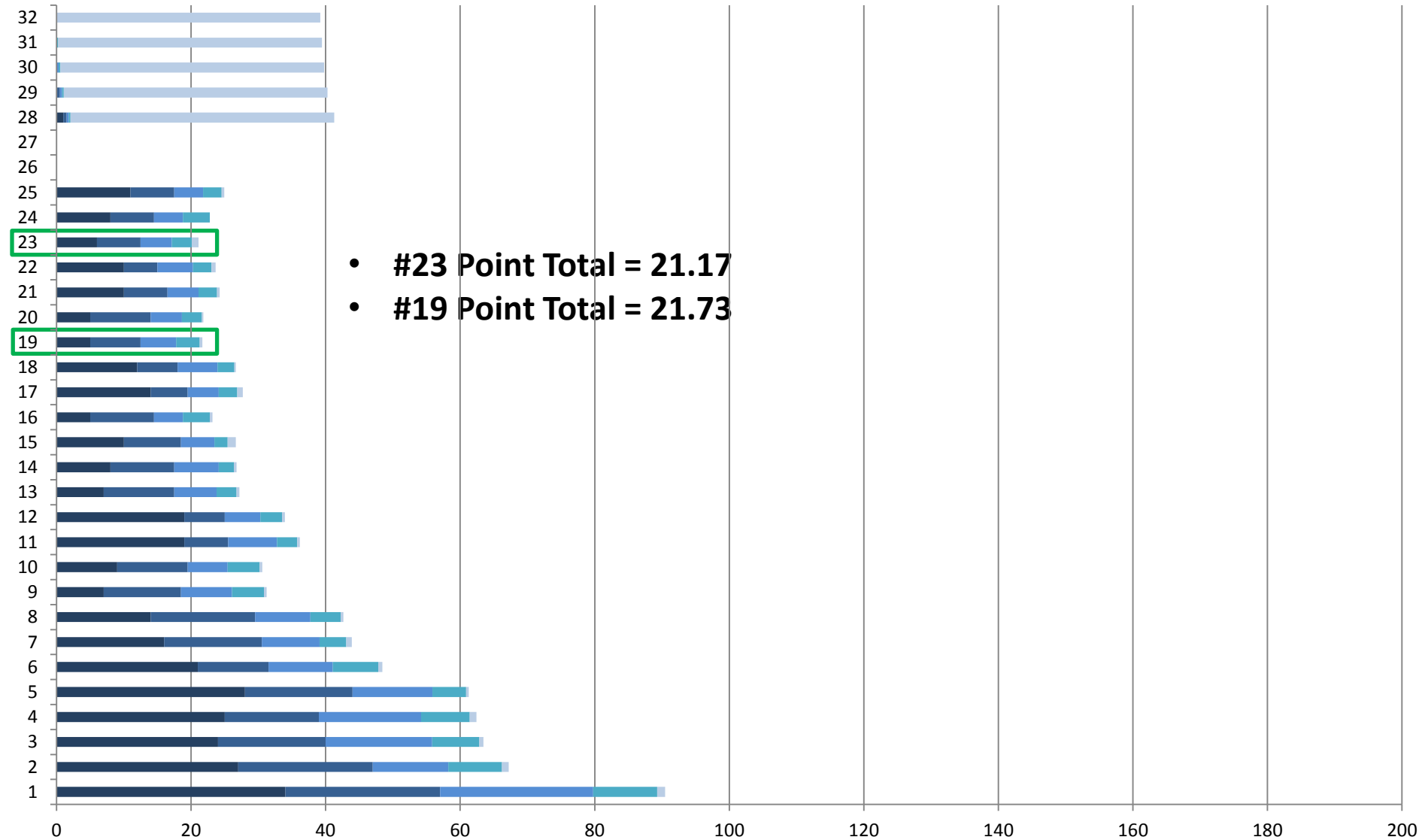


**#26 has fewer nominations, so is eliminated**

# 2013 Best Novel Point Totals – Round 3

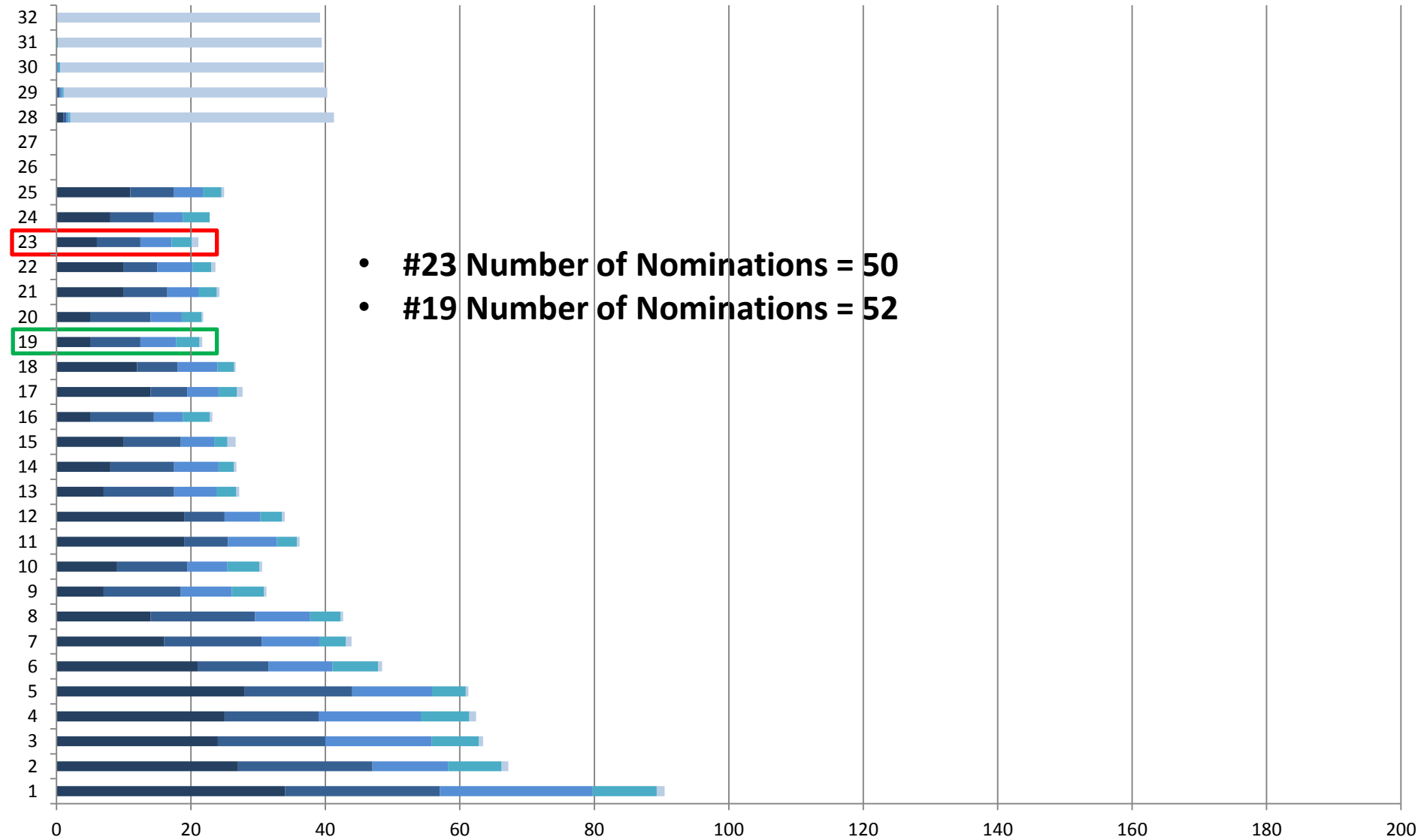


# Selection Phase: Lowest Point Totals



**#19 and #23 have the lowest point totals,  
so are eligible for elimination**

# Elimination Phase: Fewest Nominations



**#23 has fewer nominations, so is eliminated**

## Voter #44

- #23 was on Voter #44's nomination ballot.
- It is now removed from all nomination ballots (including Voter #44's) as though it had never been nominated.
- There are now only four nominees on Voter #44's nomination ballot.
- Each nominee listed on Voter #44 nomination ballot now gets  $1/4$  point from Voter #44
- **As a result, all four nominees mentioned on Voter #44's ballot have more points than they did last round!**

# Voter #44

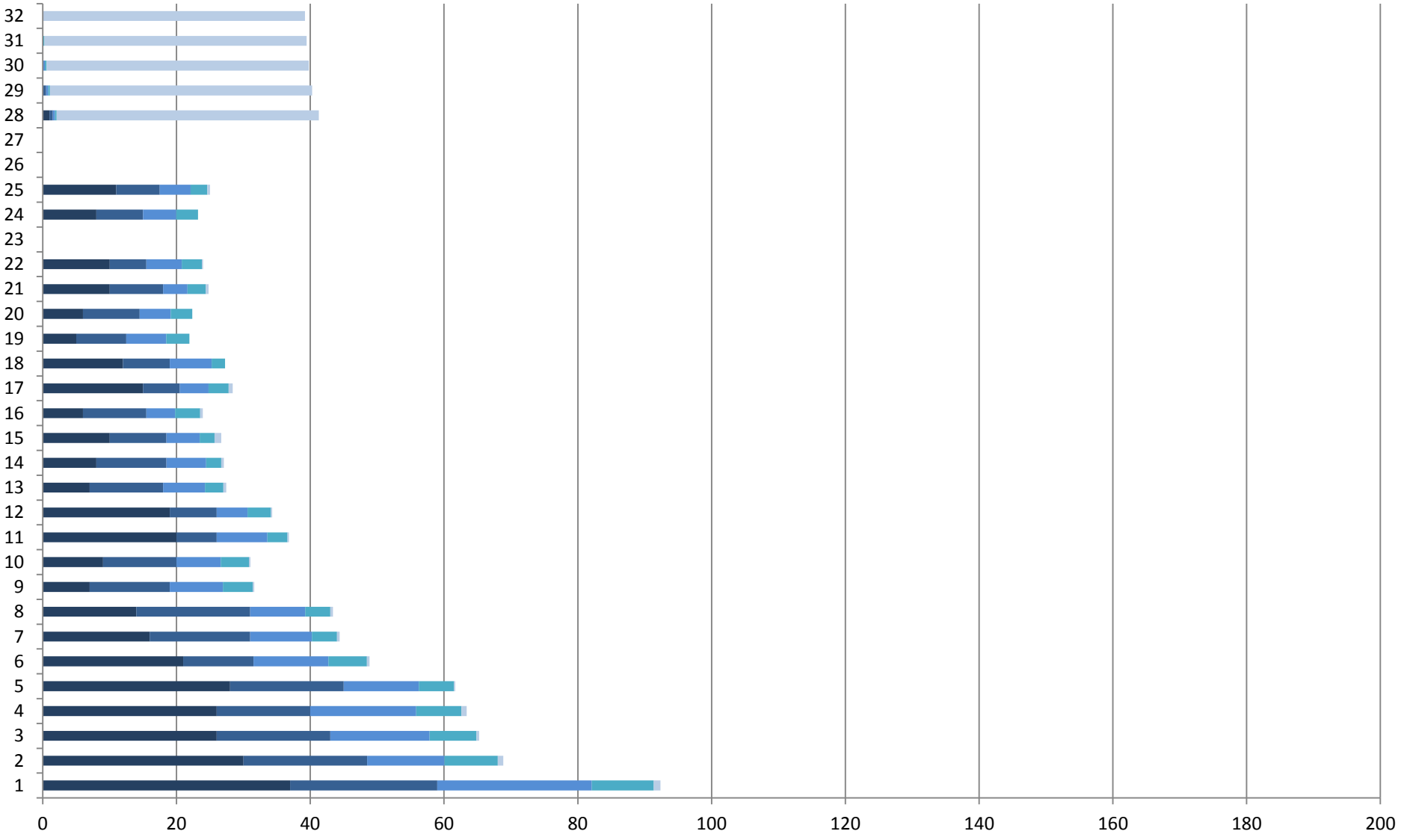
- Voter #44's current nomination ballot looks like this:
  - #4
  - #1
  - #19
  - #22



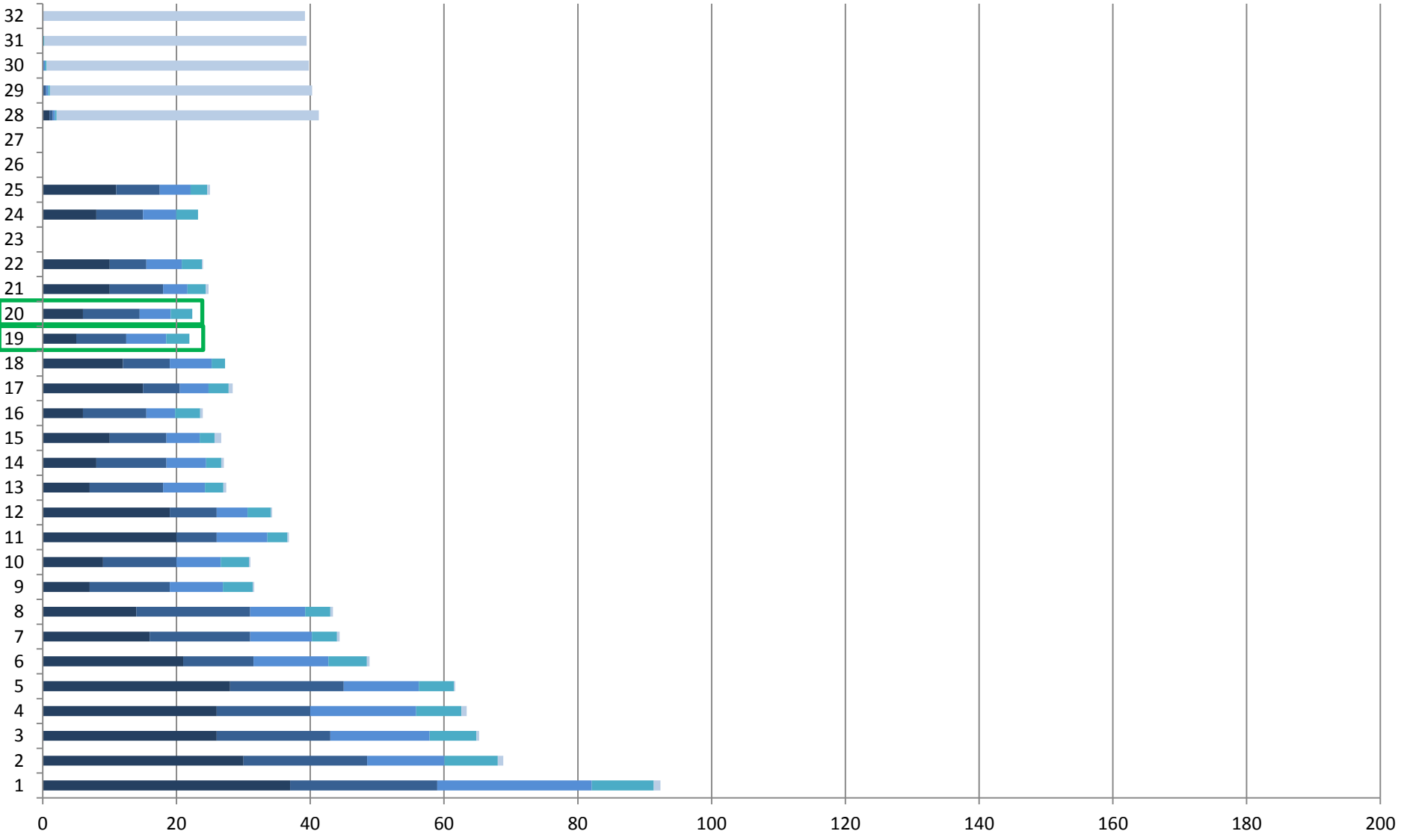
# Points vs. Nominations

- So far, the nominee with the lowest point total also had the fewest number of nominations.
- You may think that the nominee with the lowest point total will always be eliminated.
- **Not so!**
- **Let's fast-forward to Round #5...**

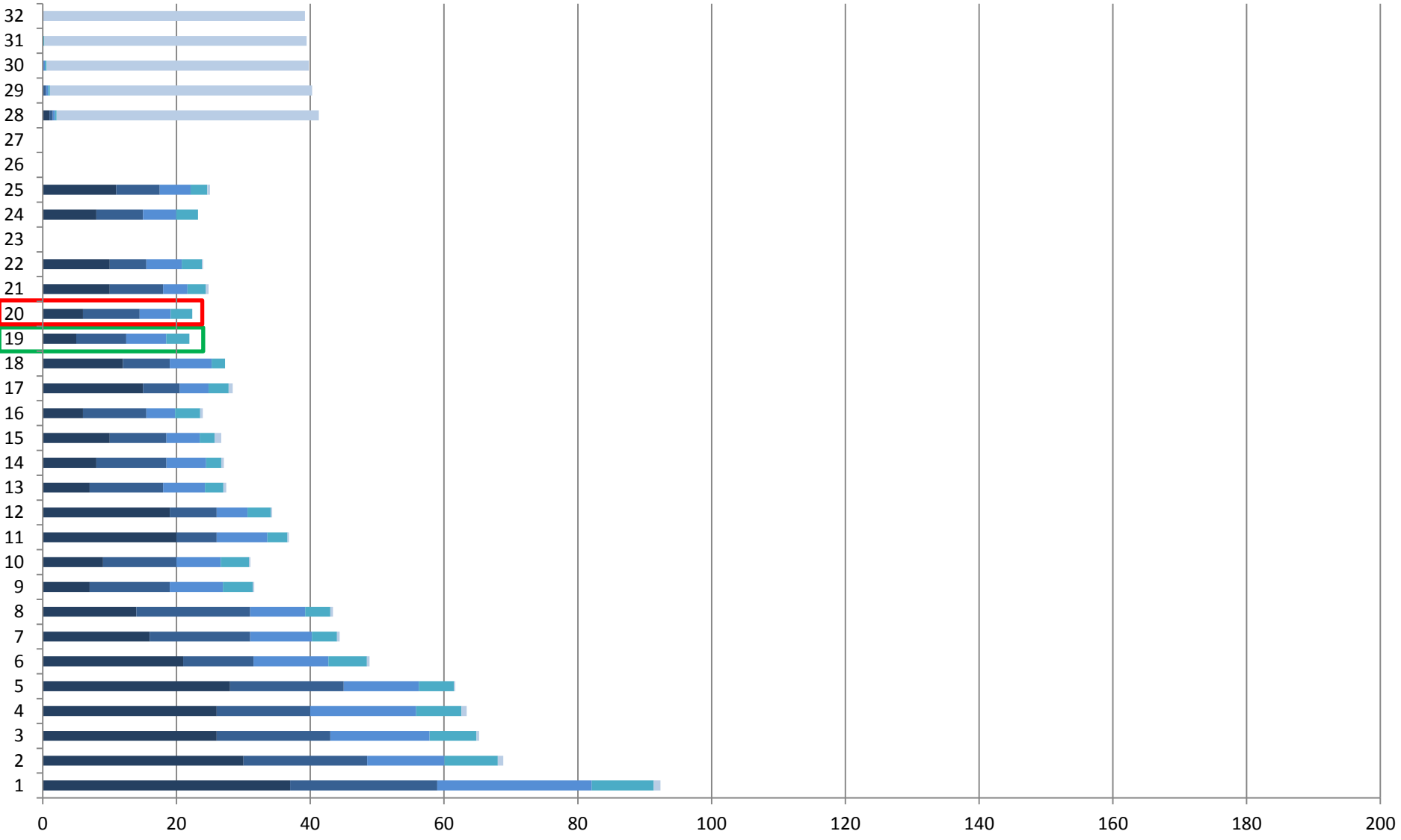
# 2013 Best Novel Point Totals – Round 4



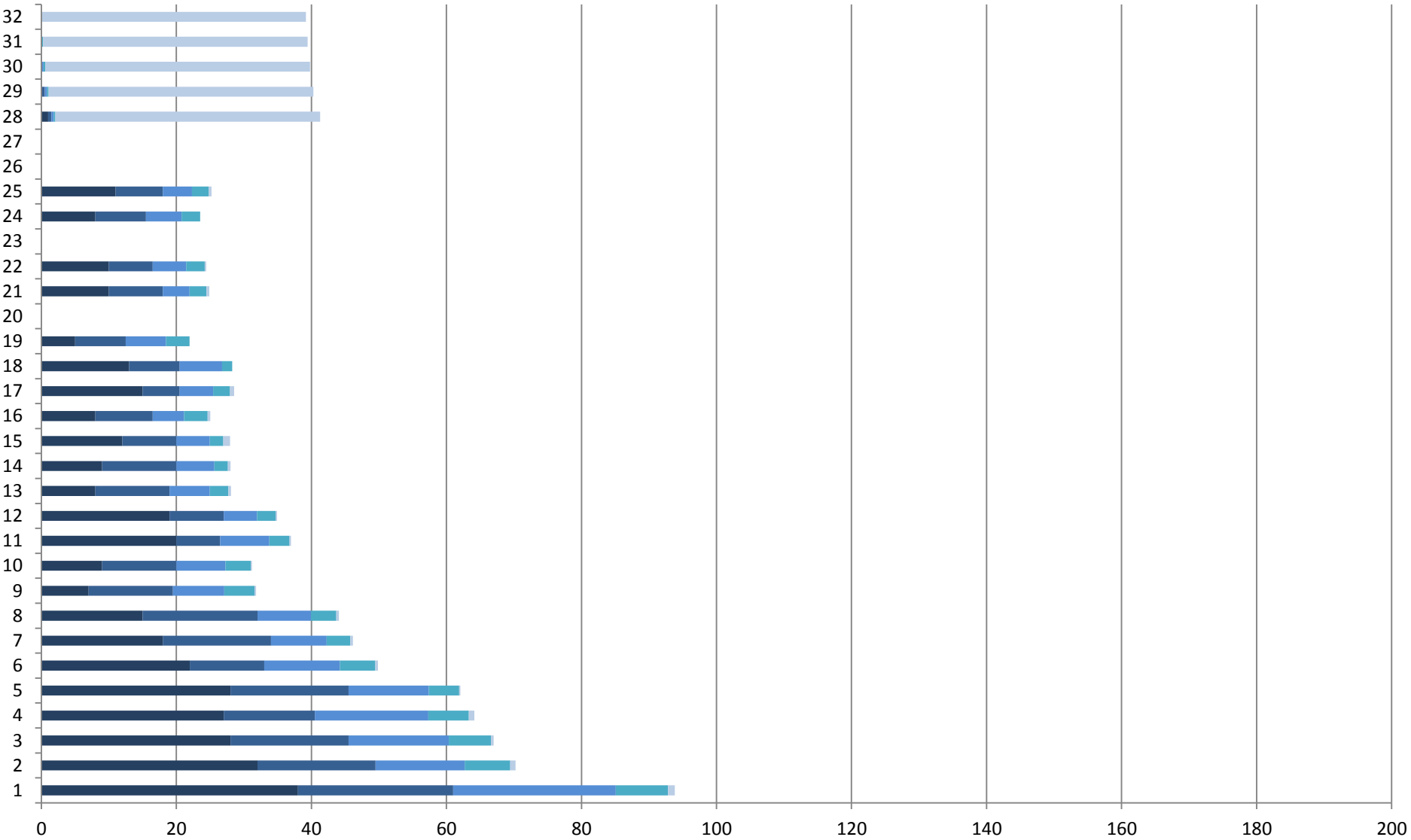
# 2013 Best Novel Point Totals – Round 4



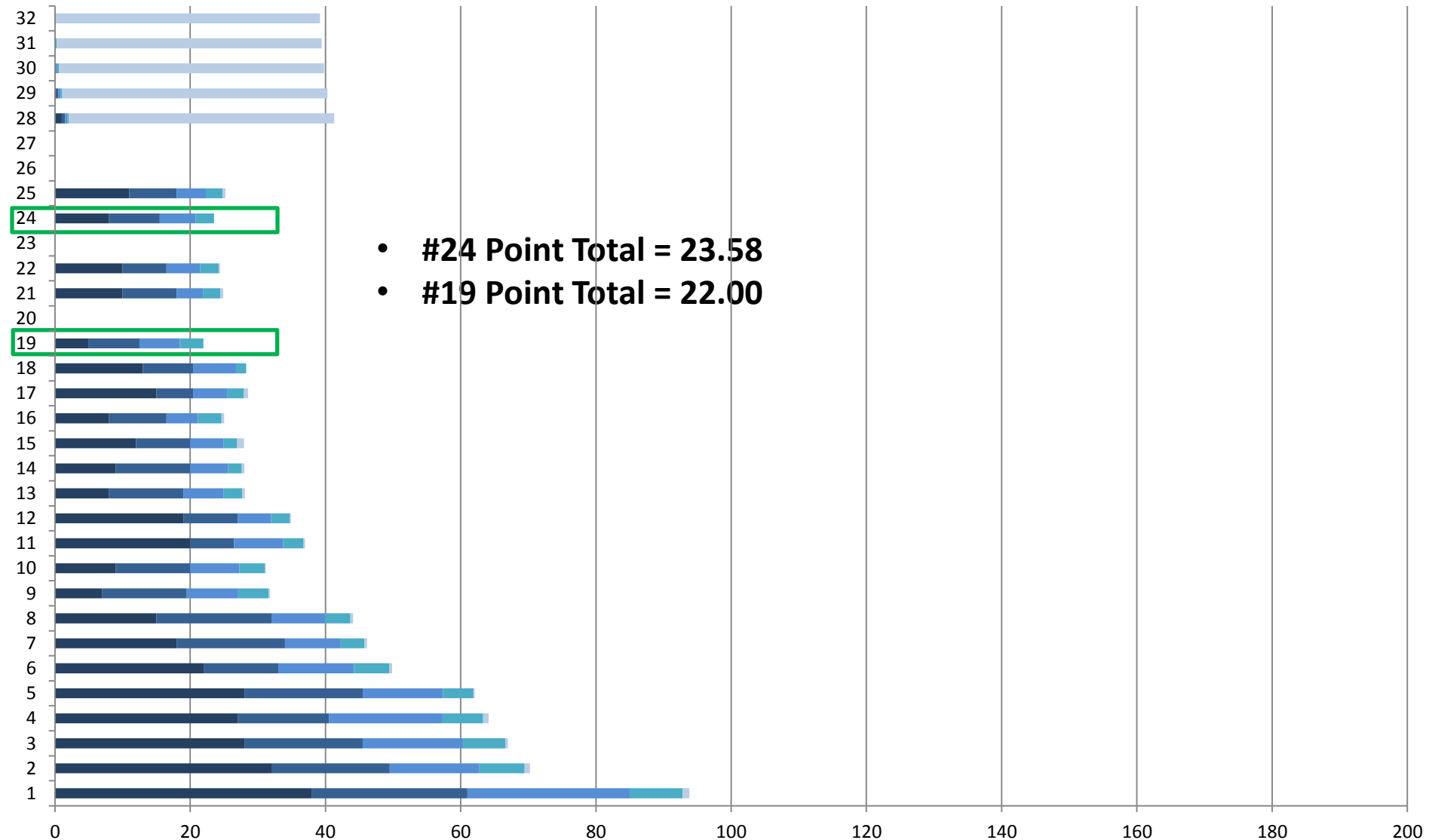
# 2013 Best Novel Point Totals – Round 4



# 2013 Best Novel Point Totals – Round 5

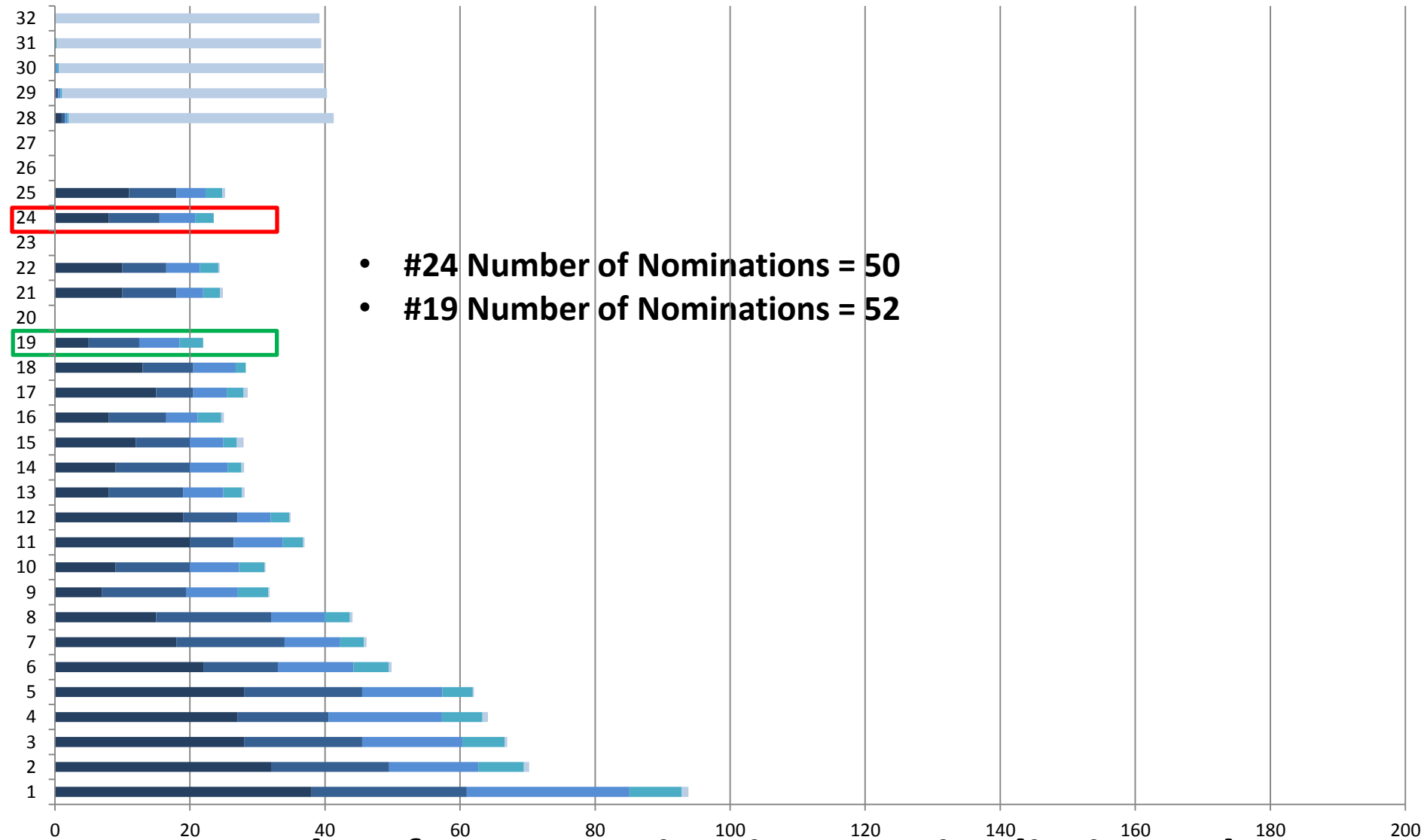


# Selection Phase: Lowest Point Totals



**#19 and #24 are eligible for elimination,  
but notice that #24 has more points than #19**

# Elimination Phase: Fewest Nominations



- #24 Number of Nominations = 50
- #19 Number of Nominations = 52

**#24 has fewer nominations, so is eliminated  
-- even though it had more points than #19!**

# Points vs. Nominations

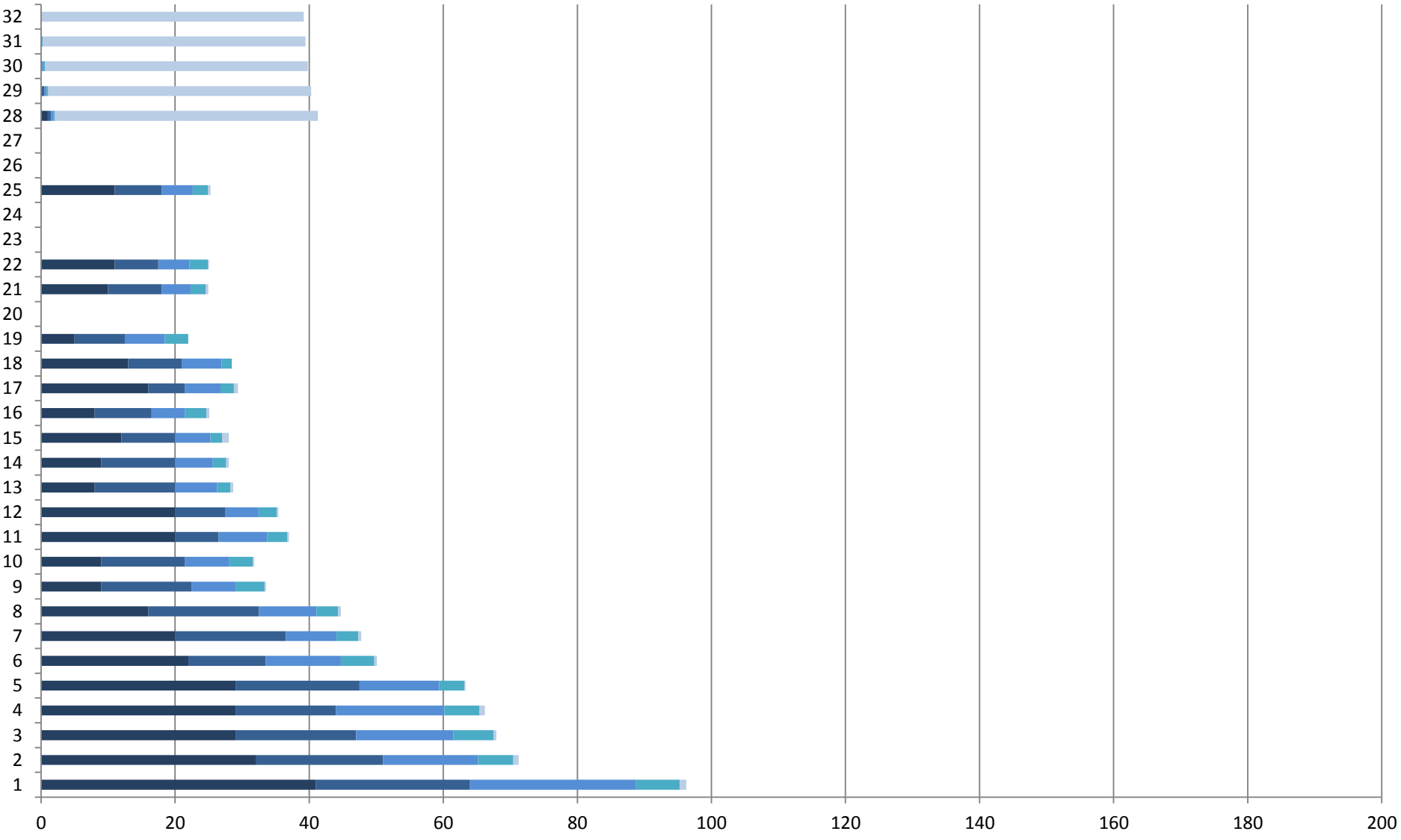
- So, the bottom line is that a low point total isn't what causes a nominee to be eliminated. Not having enough nominations is what eliminates a nominee – exactly as it is under the current system.
- There is no way that you (alone) can increase the number of nominations your favorite nominee gets – not even by only listing that one nominee.
- If you only list one nominee, you can give it at most an extra  $4/5$  of a point (but more reasonably around  $1/3$  of a point on average, because you weren't likely to pick all five finalists in any event).
- Listing only one nominee would have to give your favorite enough points to put it all the way into **fourth place**, so that its nominations are never compared for elimination.
- Because finalists may have well over 100 points, the odds of making this much difference with this strategy are very, very small – and the price you pay is that you don't get to nominate any of your other favorites.
- **The best strategy is to nominate ANYTHING and EVERYTHING you think is Hugo-worthy!**



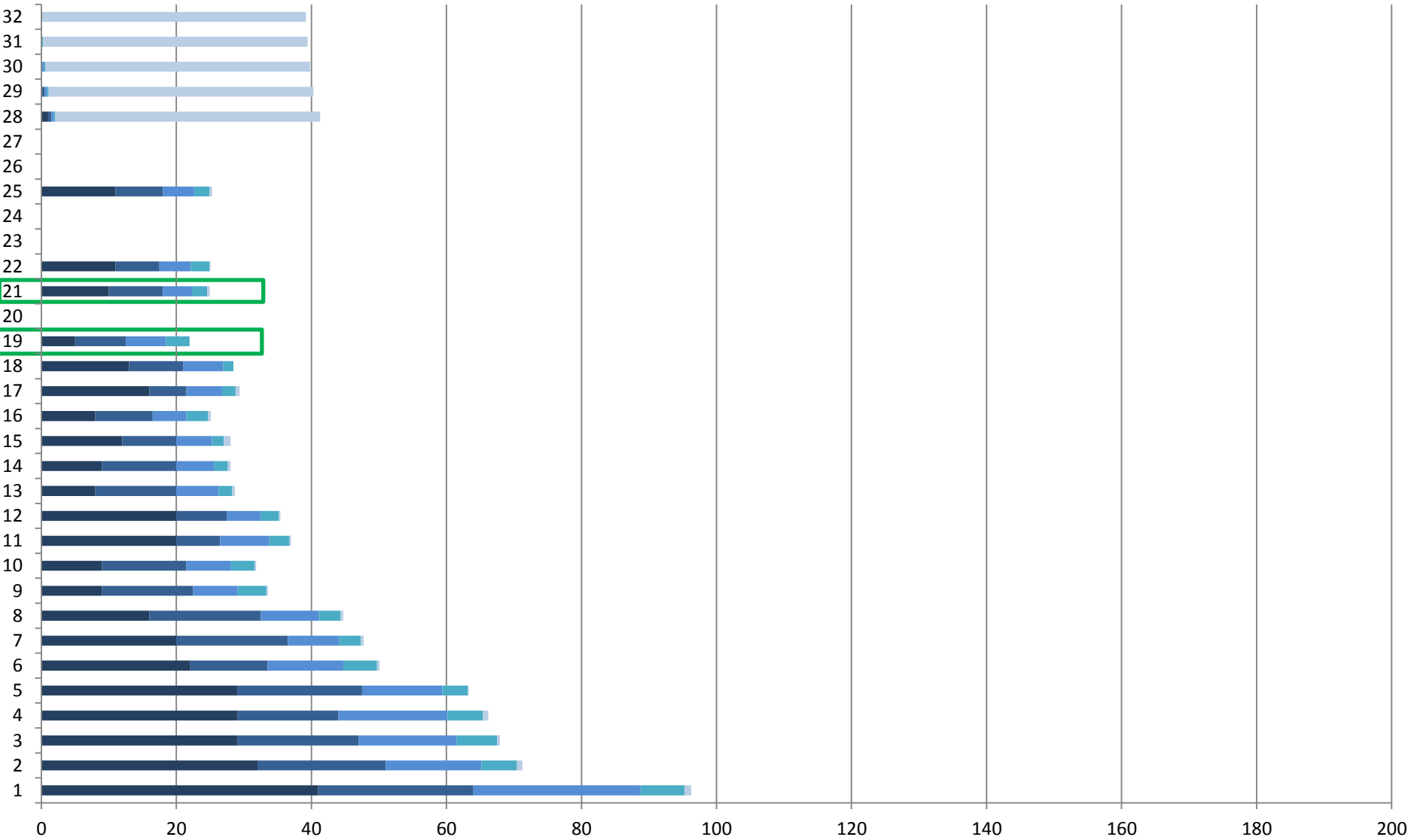
## Voter #44

- So far, all of Voter #44's remaining four nominees have survived.
- **Let's fast-forward to Round #7...**

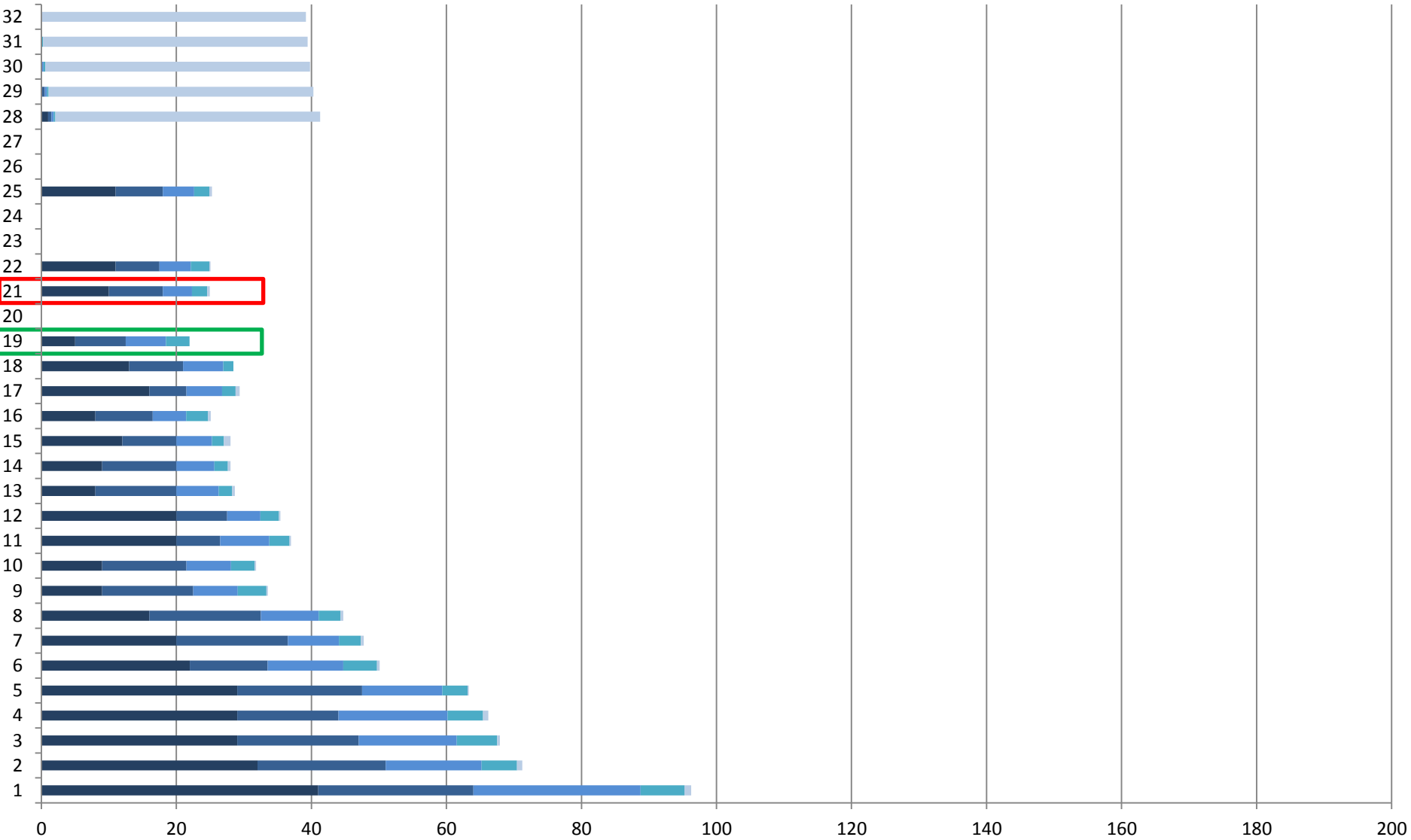
# 2013 Best Novel Point Totals – Round 6



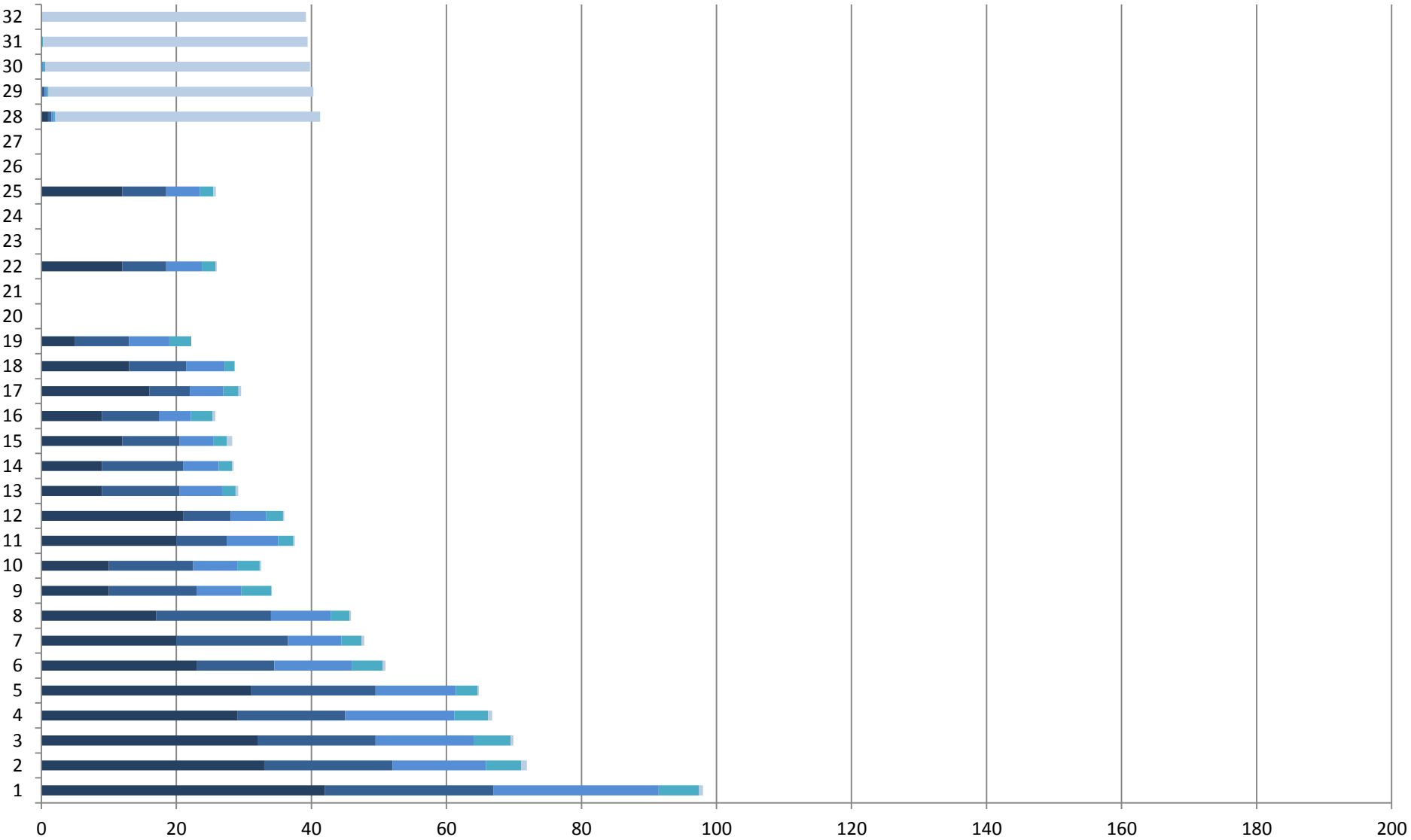
# 2013 Best Novel Point Totals – Round 6



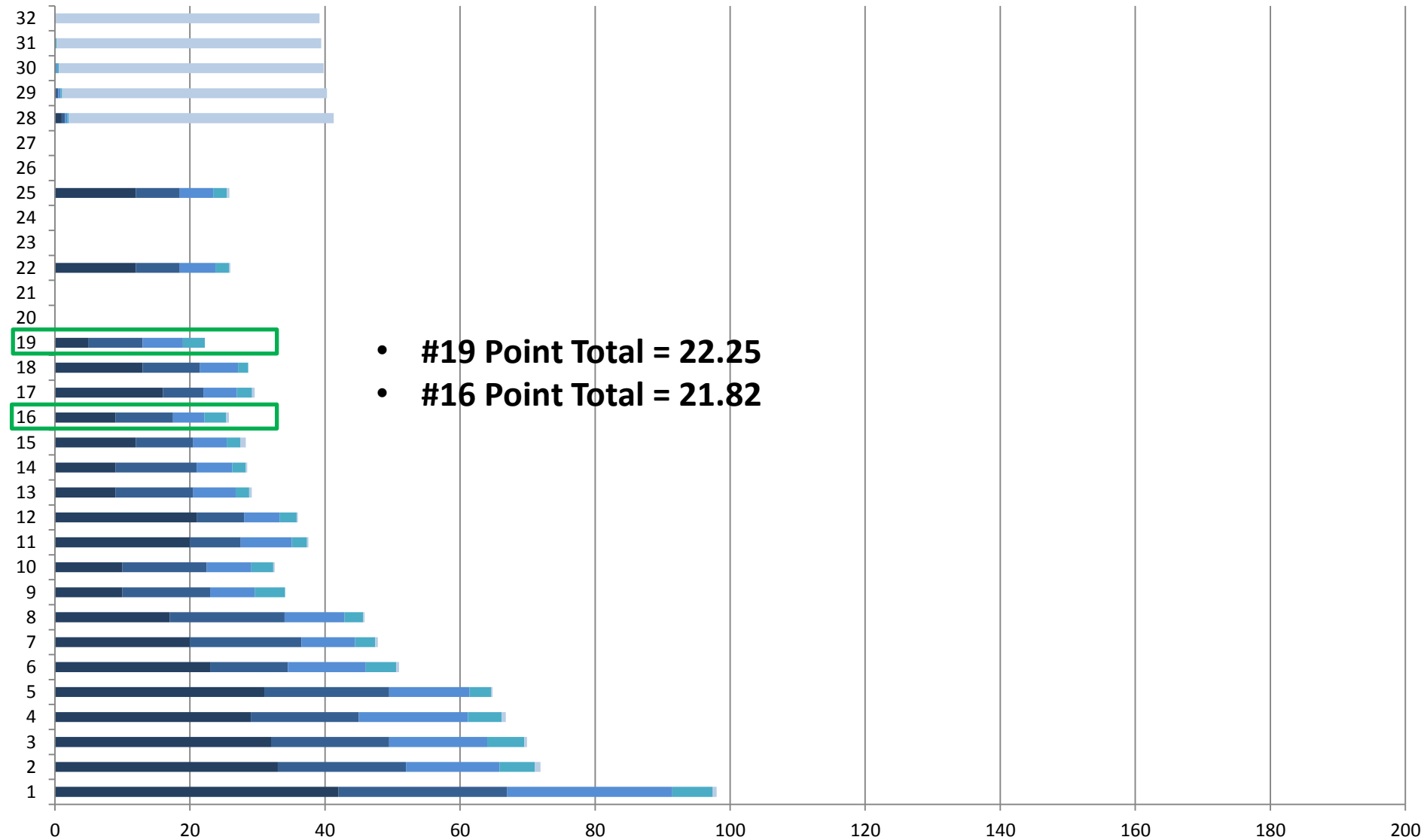
# 2013 Best Novel Point Totals – Round 6



# 2013 Best Novel Point Totals – Round 7

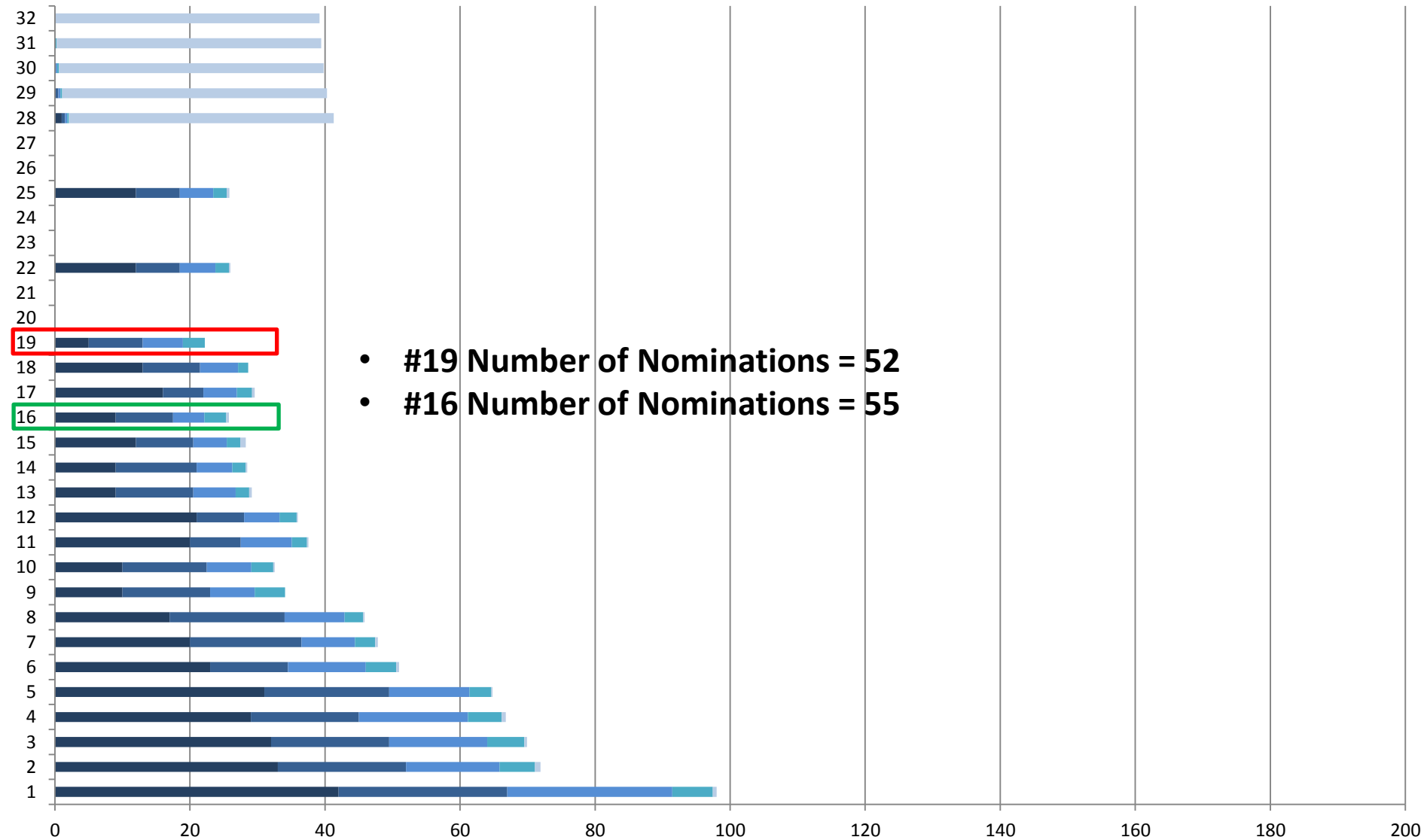


# Selection Phase: Lowest Point Totals



**#16 and #19 are eligible for elimination**

# Elimination Phase: Fewest Nominations



**#19 has fewer nominations, so is eliminated**

## Voter #44

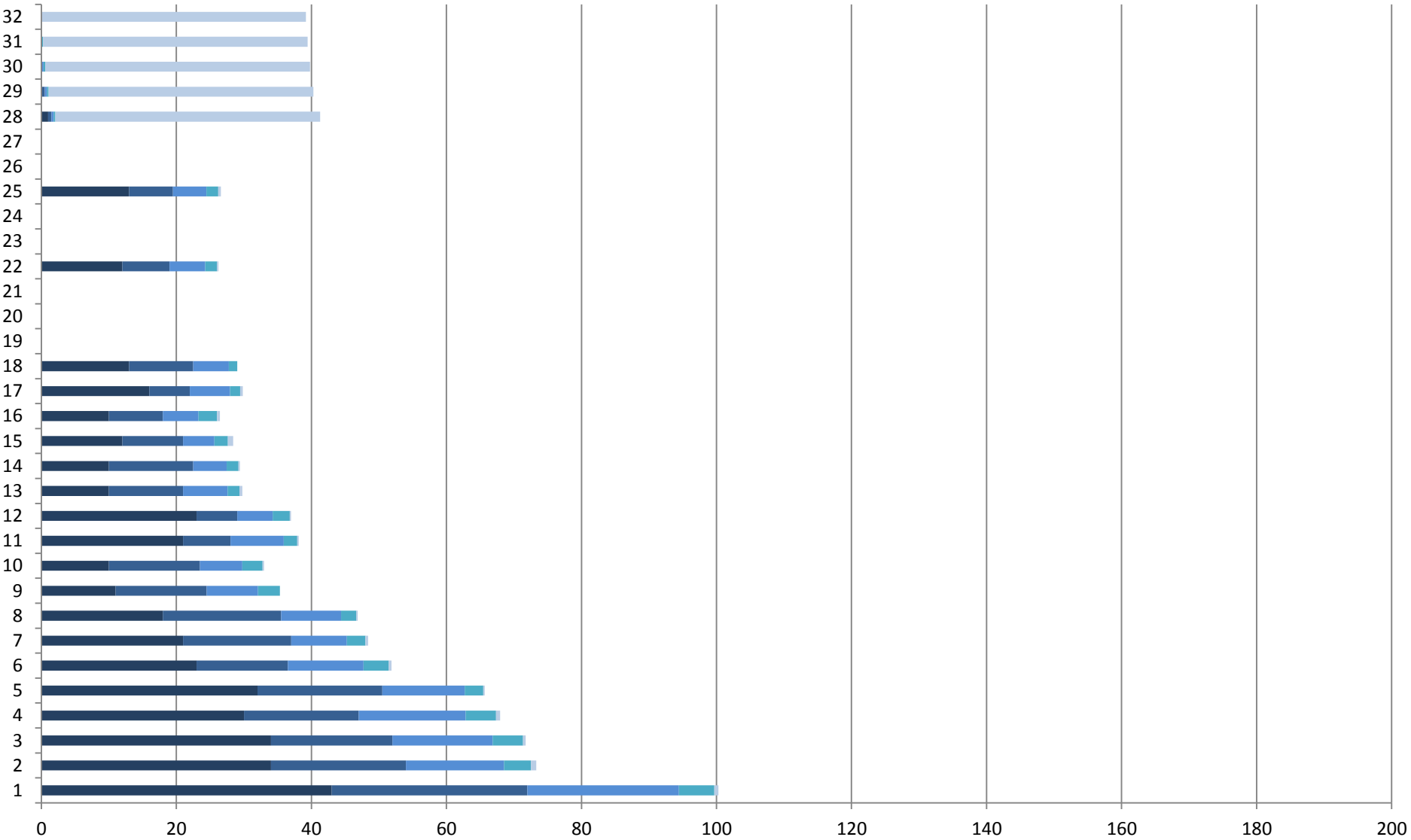
- #19 was on Voter #44's nomination ballot, so it is removed.
- There are now only three nominees on Voter #44's nomination ballot.
- Each nominee listed on Voter #44 nomination ballot now gets  $1/3$  point from Voter #44.
- **Again, the remaining three nominees mentioned on Voter #44's ballot have more points than they did last round!**



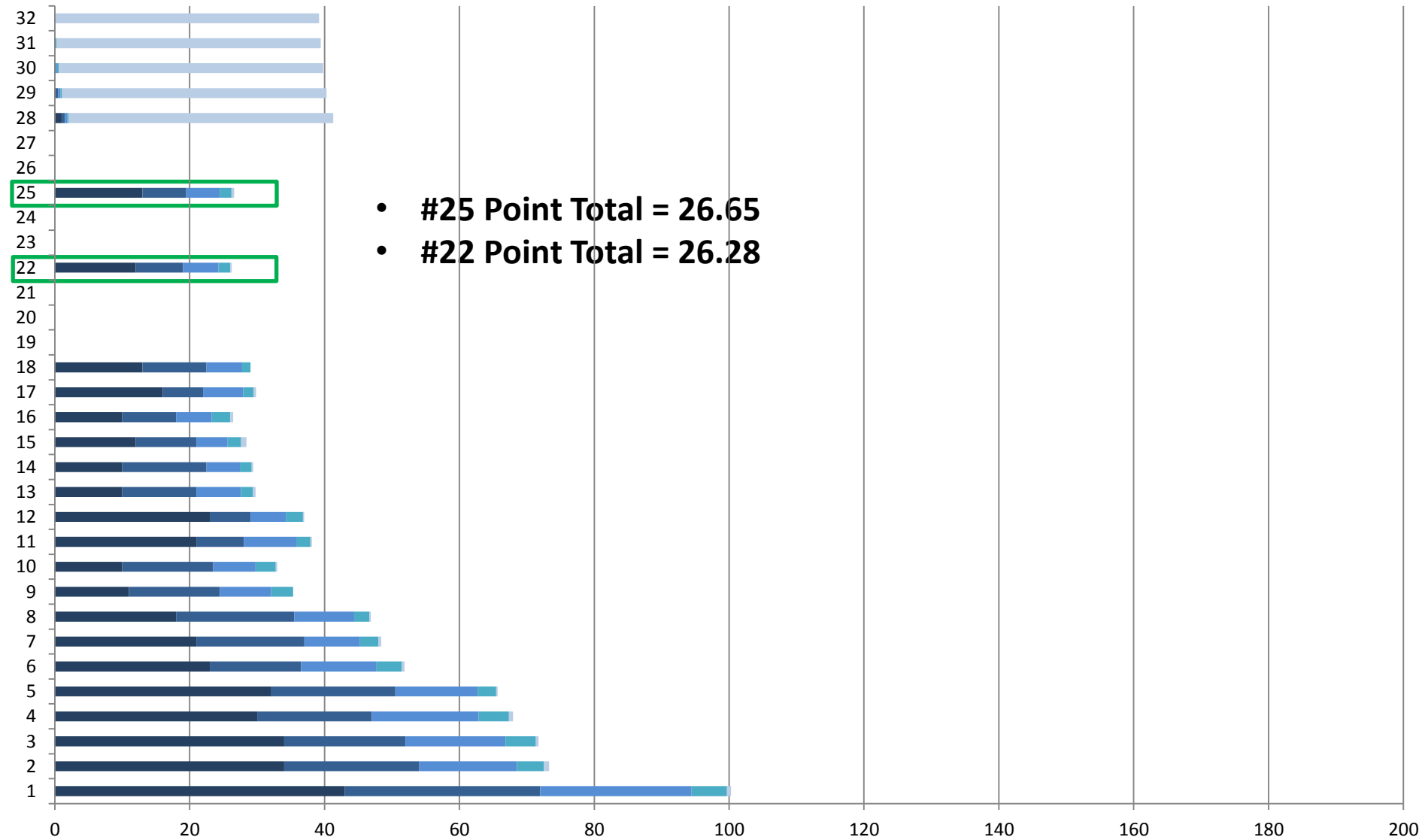
# Voter #44

- Voter #44's current nomination ballot looks like this:
  - #4
  - #1
  - #22

# 2013 Best Novel Point Totals – Round 8

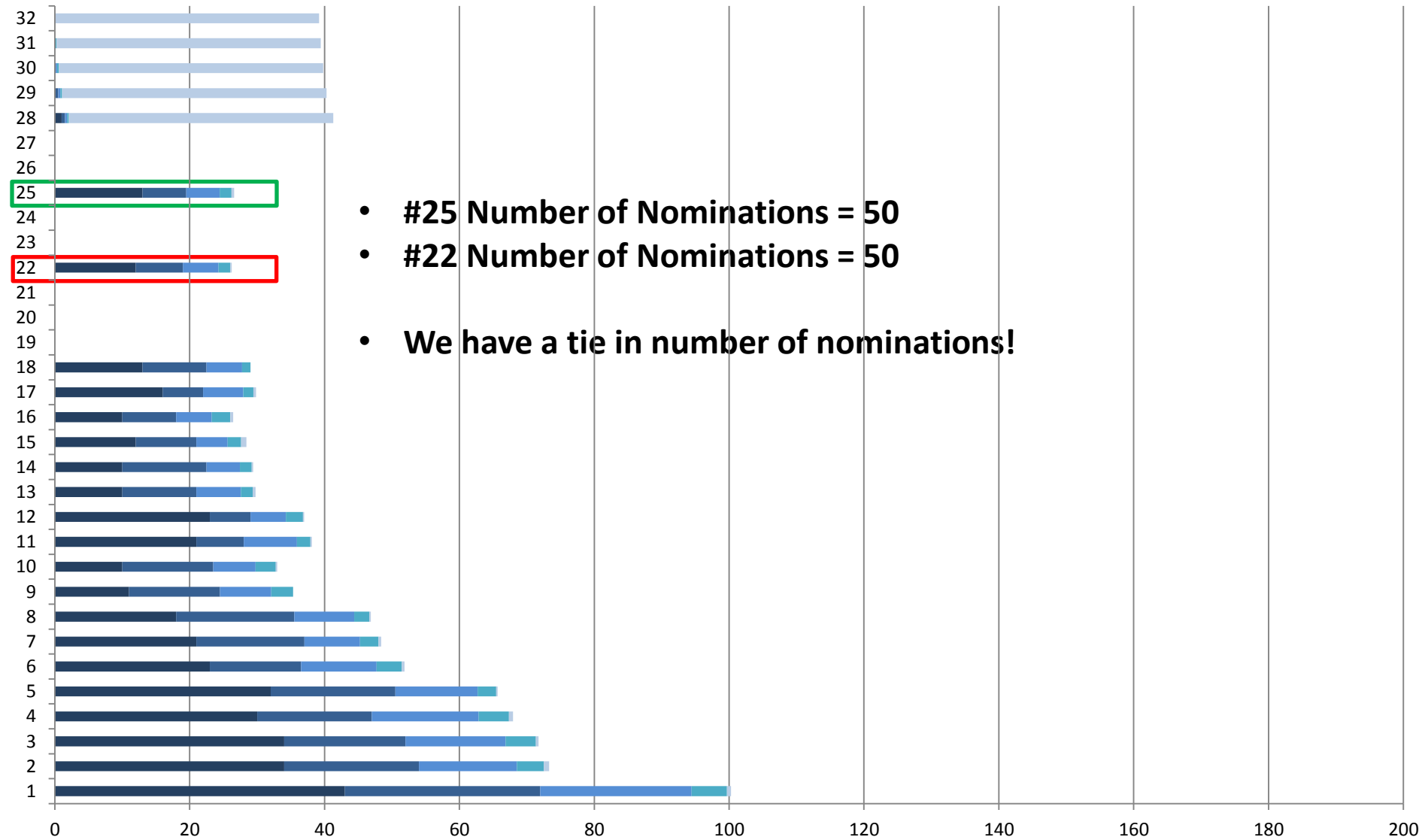


# Selection Phase: Lowest Point Totals



**#22 and #25 are eligible for elimination**

# Elimination Phase: Fewest Nominations



**We break the tie by eliminating the nominee with the lowest point total, so #22 is eliminated**

# Tie Breakers

- If two (or more) nominees have the same number of nominations, then we'll eliminate the one with the lowest point total.
- If they are also tied for points as well as nominations, then we will just eliminate all the tied nominees.
- This tie break method is consistent with Section 6.4 of the Worldcon Constitution.

# Tie Breakers

- Note that we don't really have tie-breakers as such in the selection phase.
- We need to select at least two nominees as candidates for elimination.
  - If there is a tie for lowest point total, we'll just take all of those and not select the second-lowest point total nominees
  - If there is only one nominee with the lowest point total, but there is a tie for second-lowest point total, we'll take the lowest and all of the second-lowest point total nominees.

## Voter #44

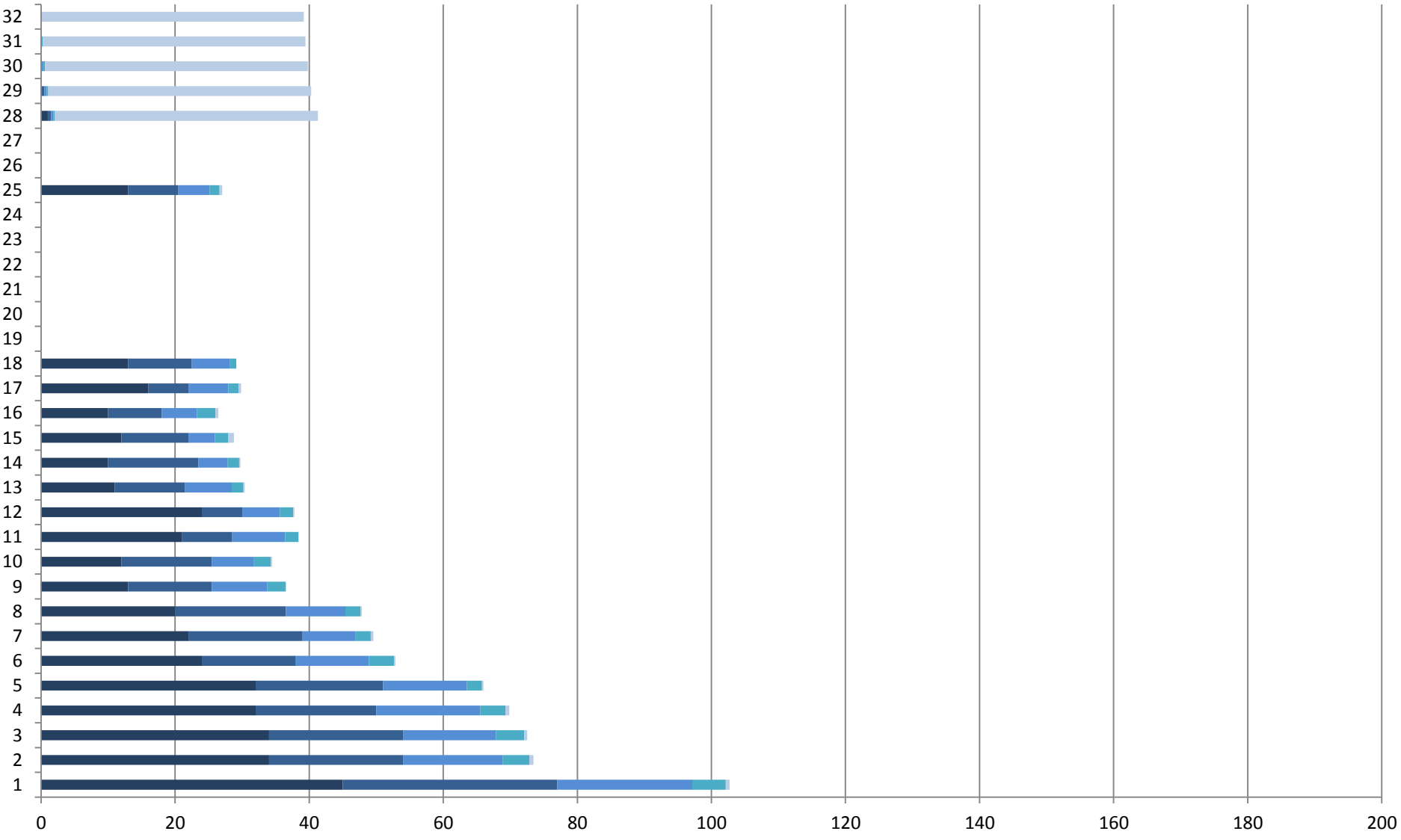
- #22 was on Voter #44's nomination ballot, so it is removed.
- There are now only two works on Voter #44's nomination ballot.
- Each nominee listed on Voter #44 nomination ballot now gets  $1/2$  point from Voter #44.
- **Once again, the remaining two nominees mentioned on Voter #44's ballot have more points than they did last round!**

# Voter #44

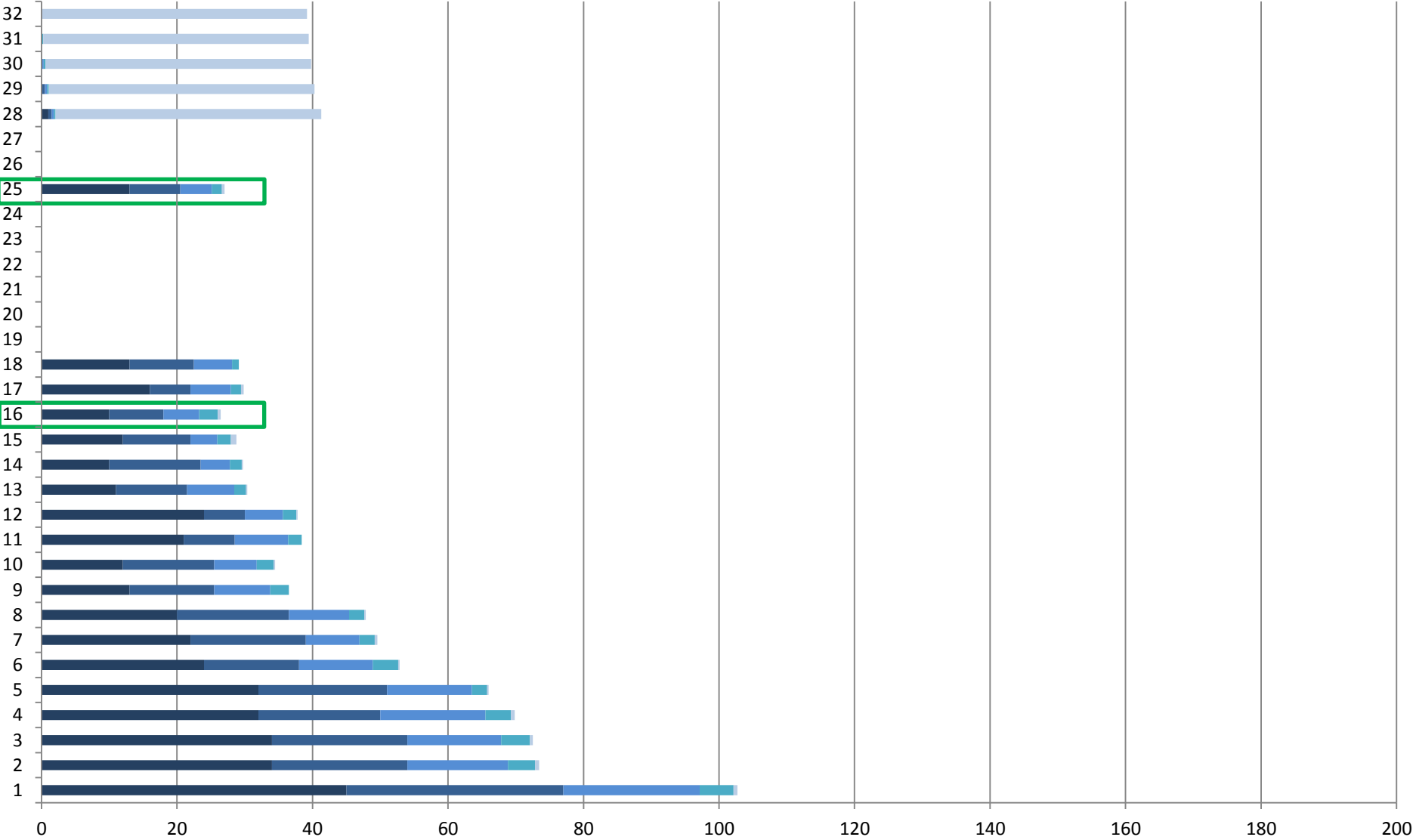
- Voter #44's current nomination ballot looks like this:
  - #4
  - #1
- Voter #44's remaining nominees will make it all the way to the final ballot.
- **Let's fast-forward to Round #16...**



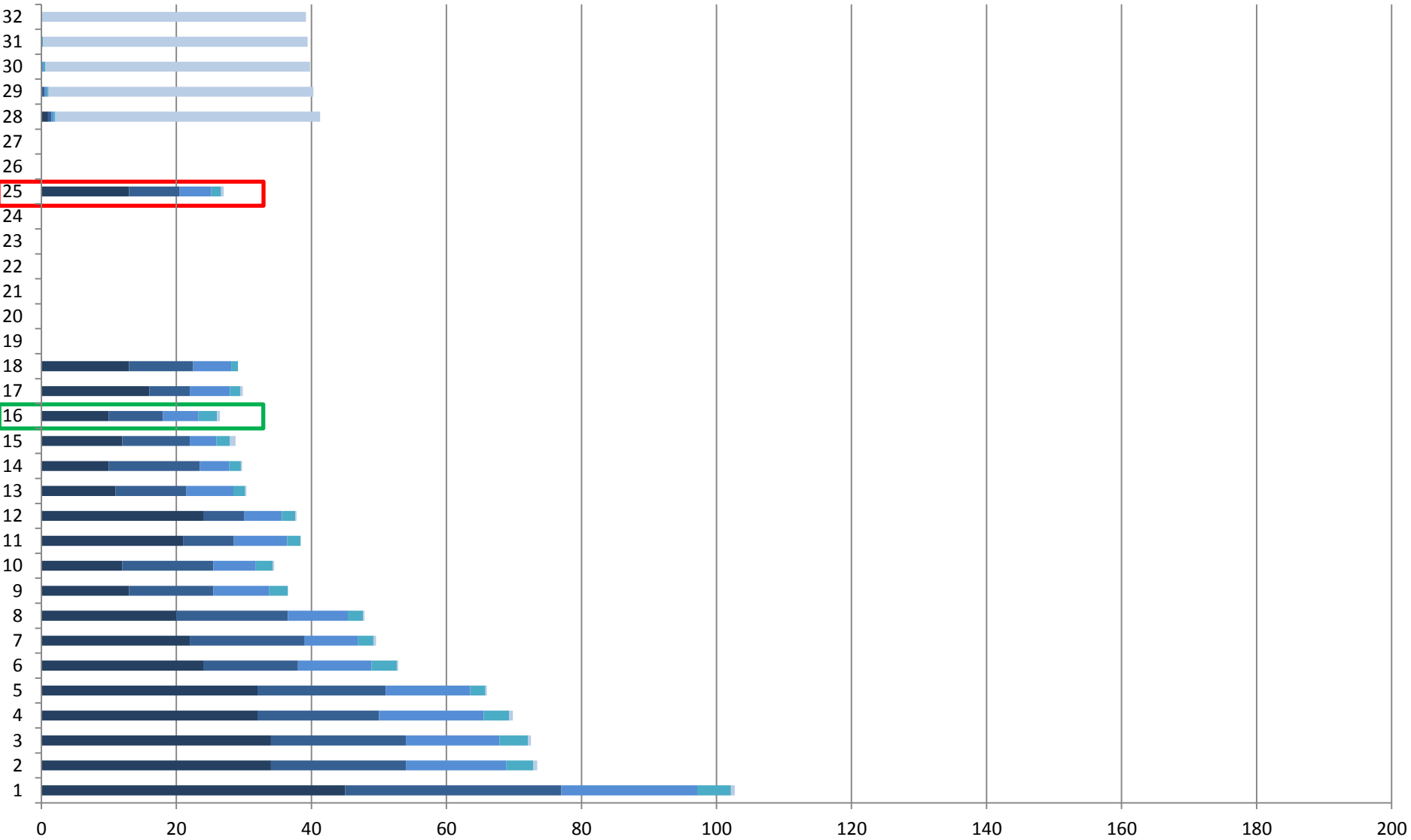
# 2013 Best Novel Point Totals – Round 9



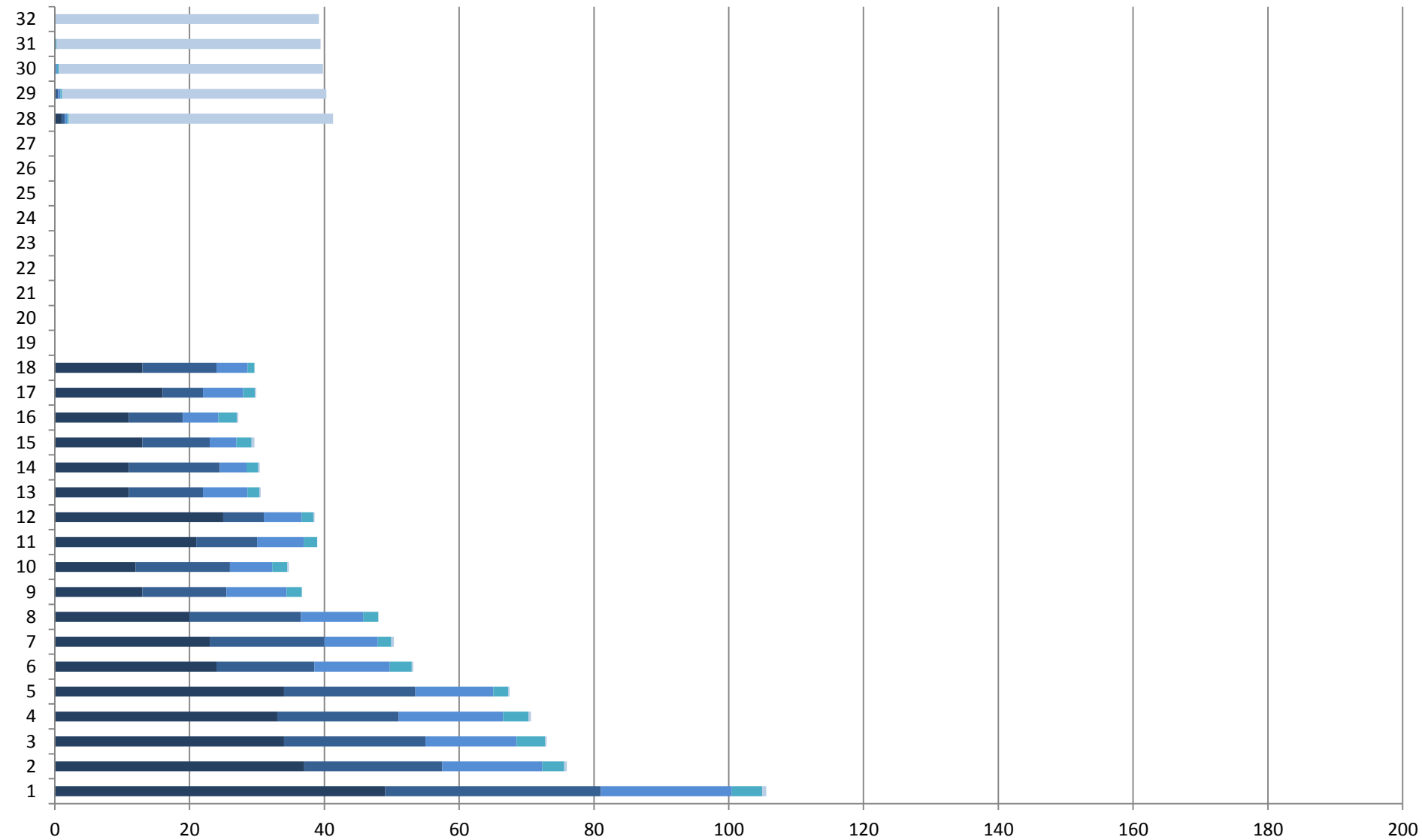
# 2013 Best Novel Point Totals – Round 9



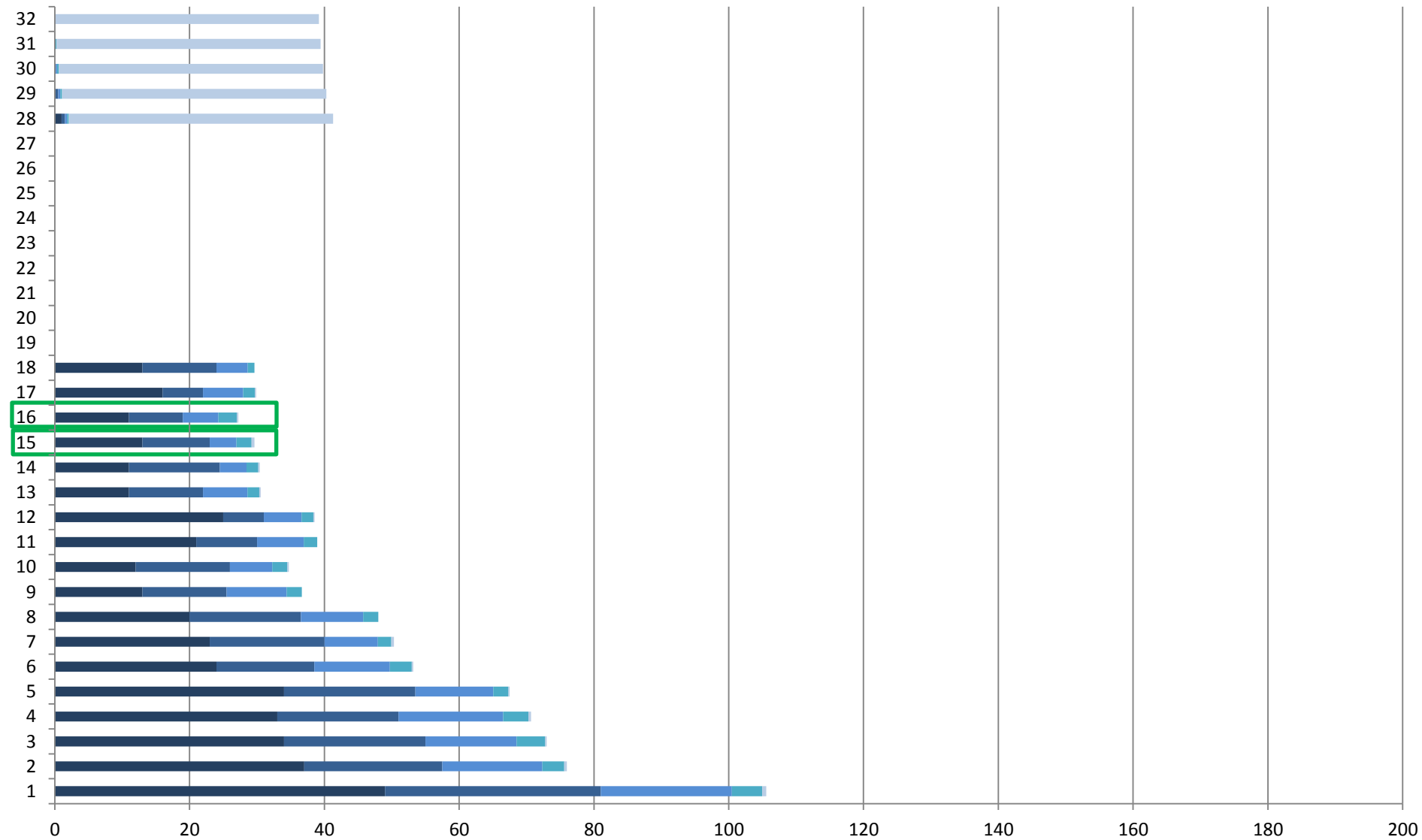
# 2013 Best Novel Point Totals – Round 9



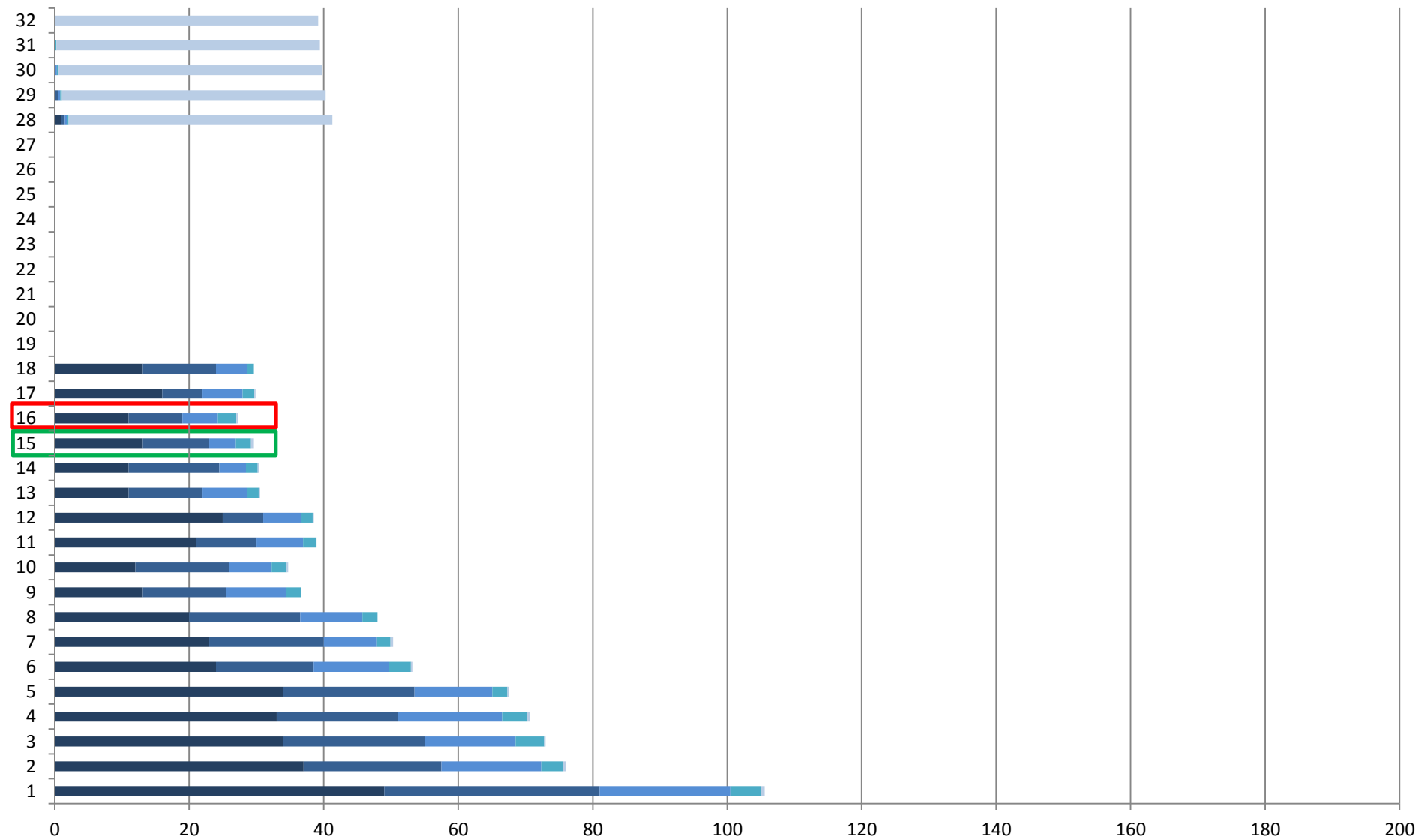
# 2013 Best Novel Point Totals – Round 10



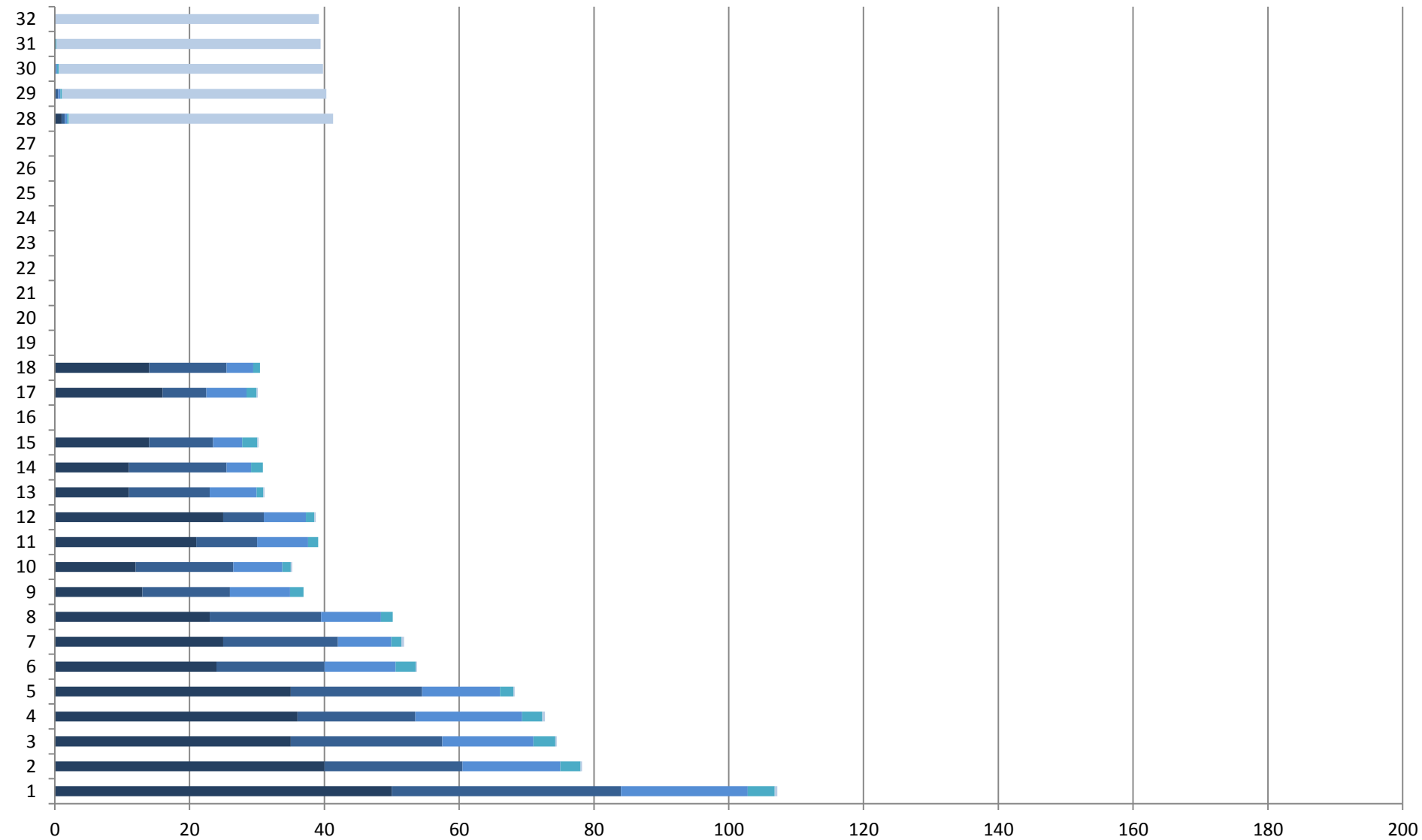
# 2013 Best Novel Point Totals – Round 10



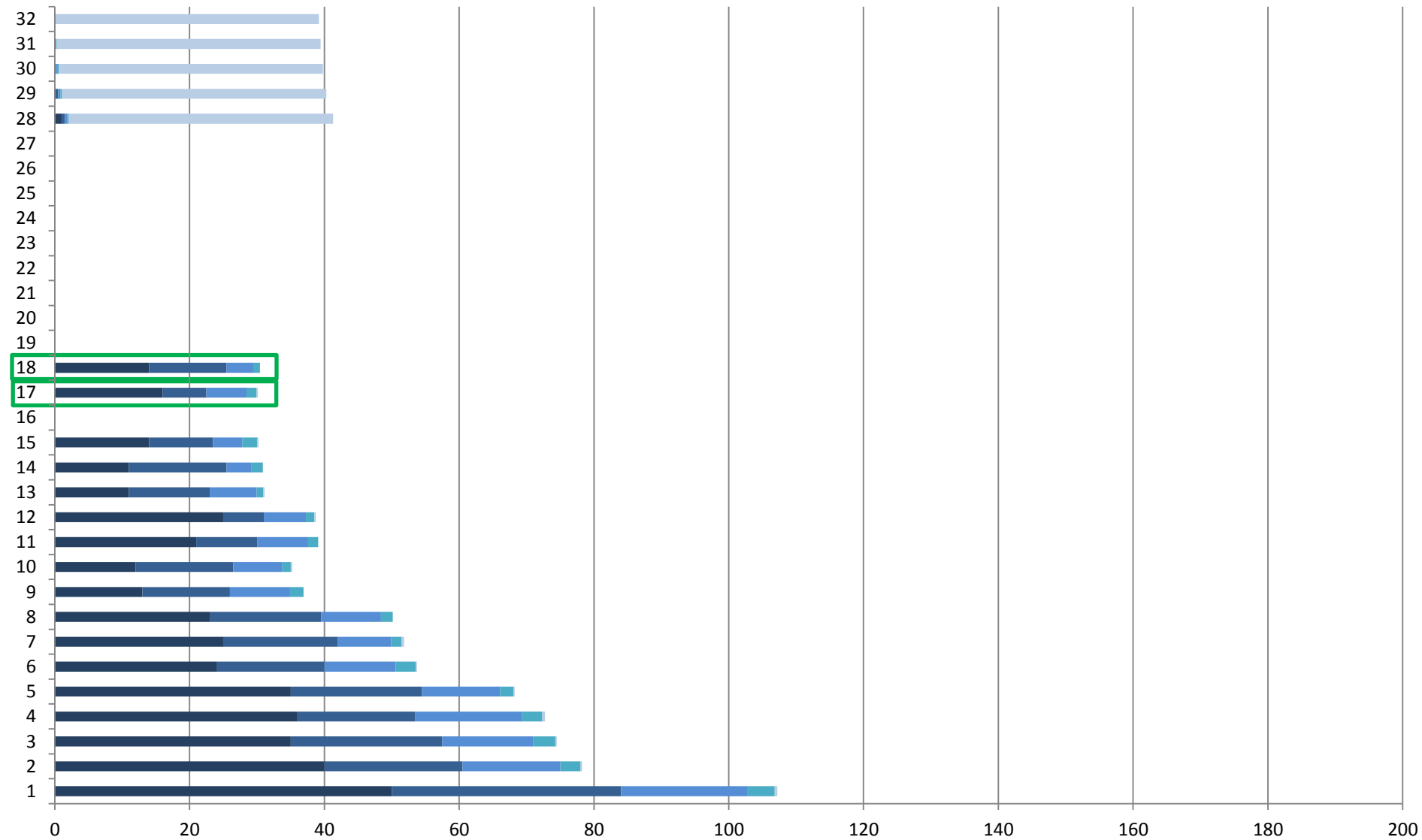
# 2013 Best Novel Point Totals – Round 10



# 2013 Best Novel Point Totals – Round 11

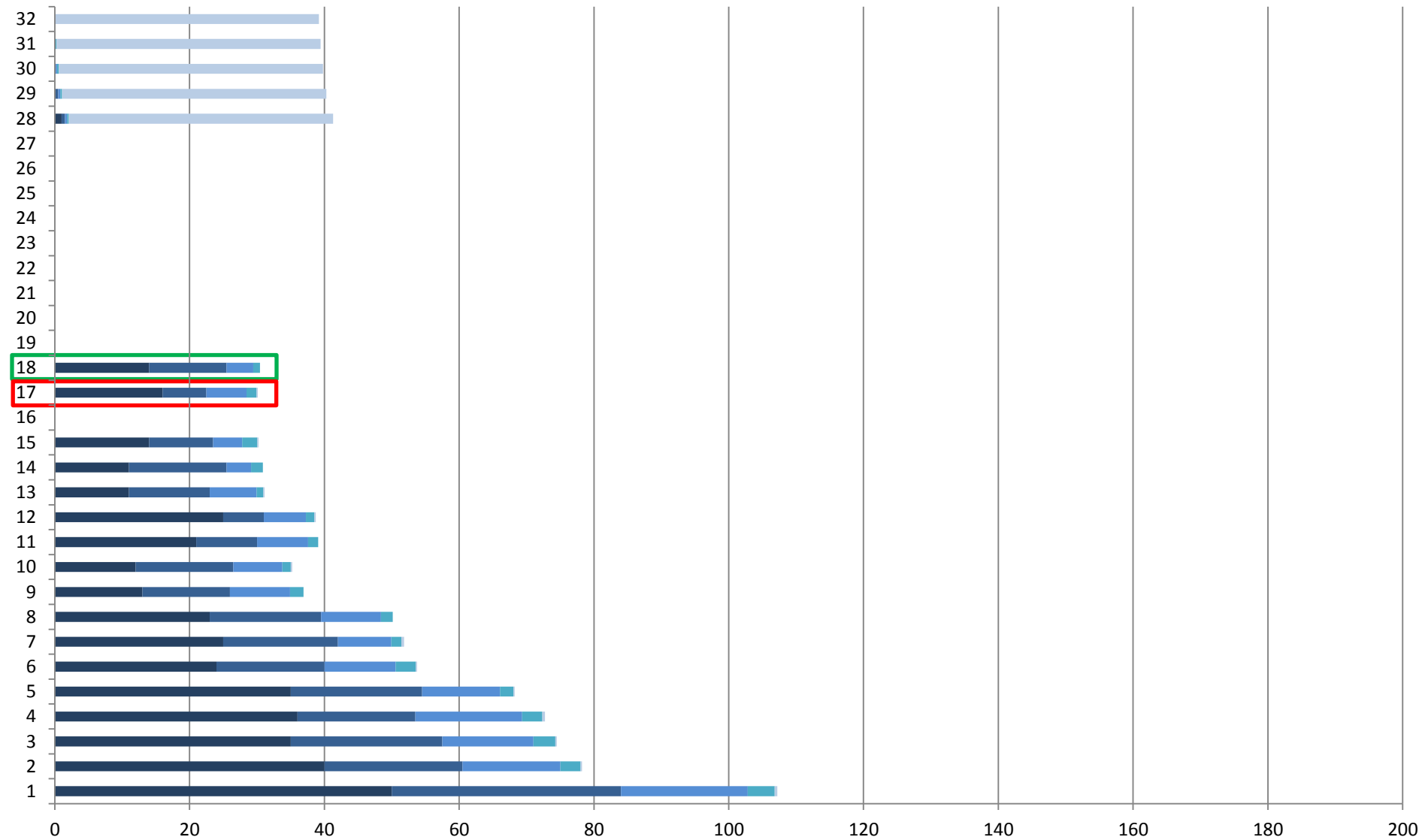


# 2013 Best Novel Point Totals – Round 11

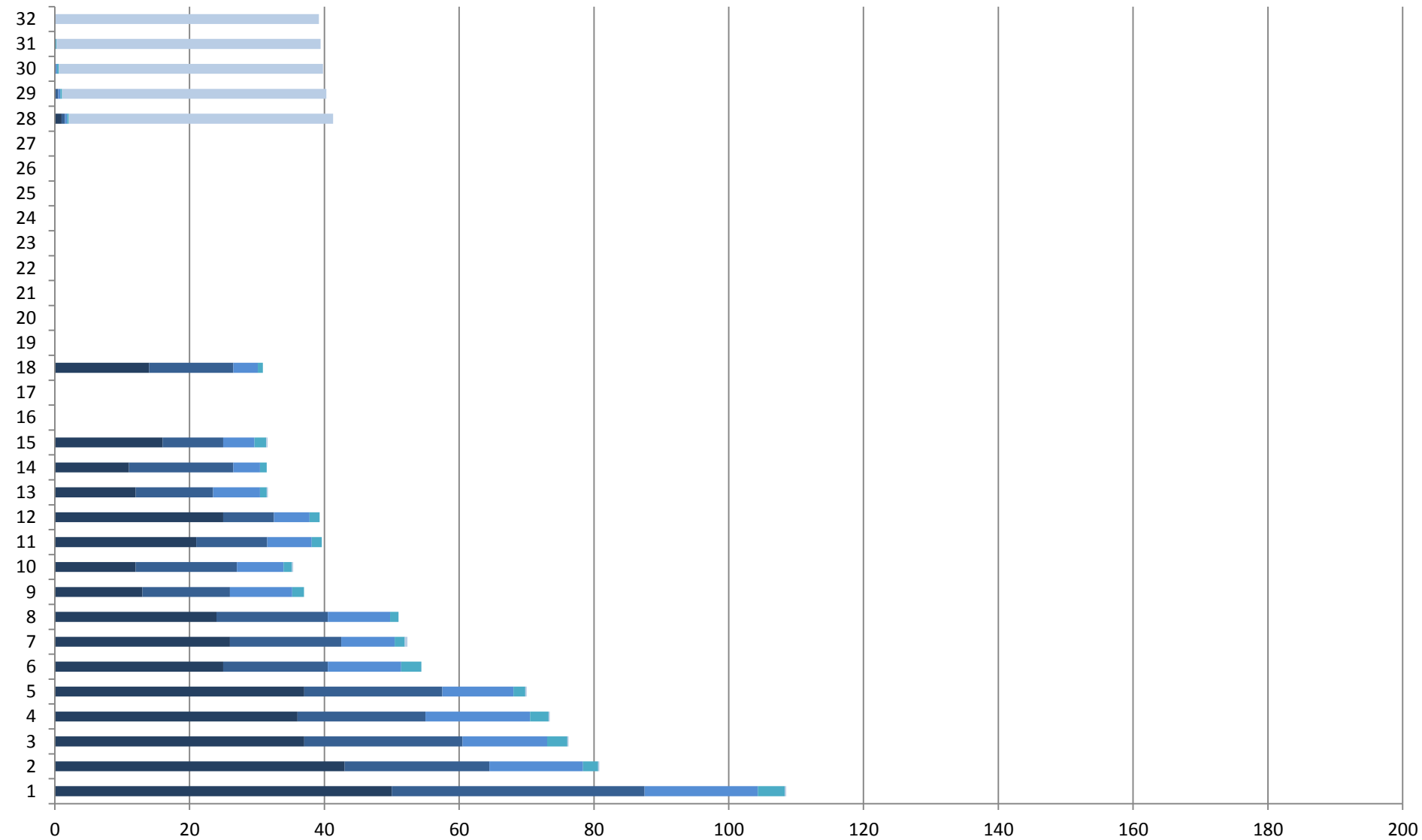




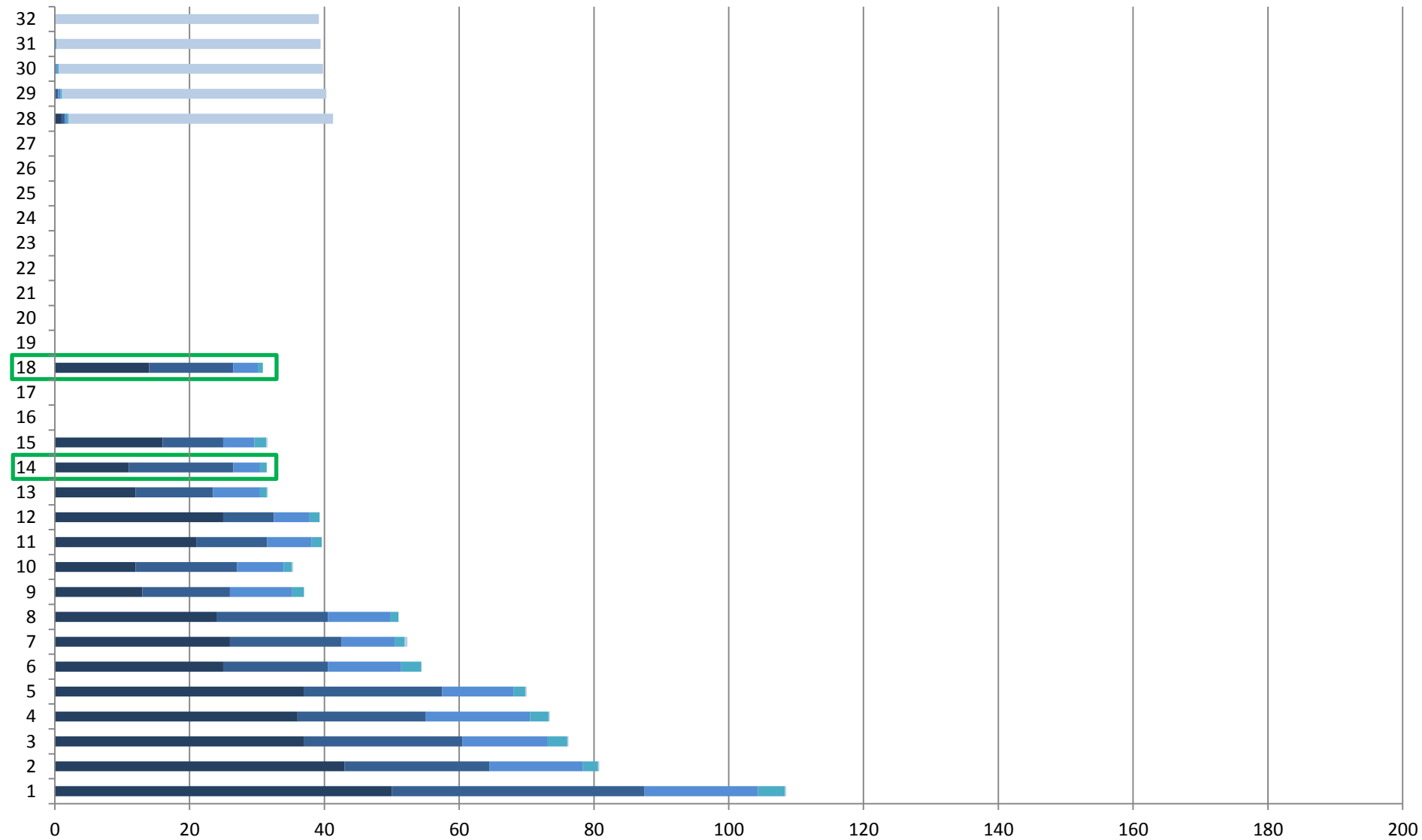
# 2013 Best Novel Point Totals – Round 11



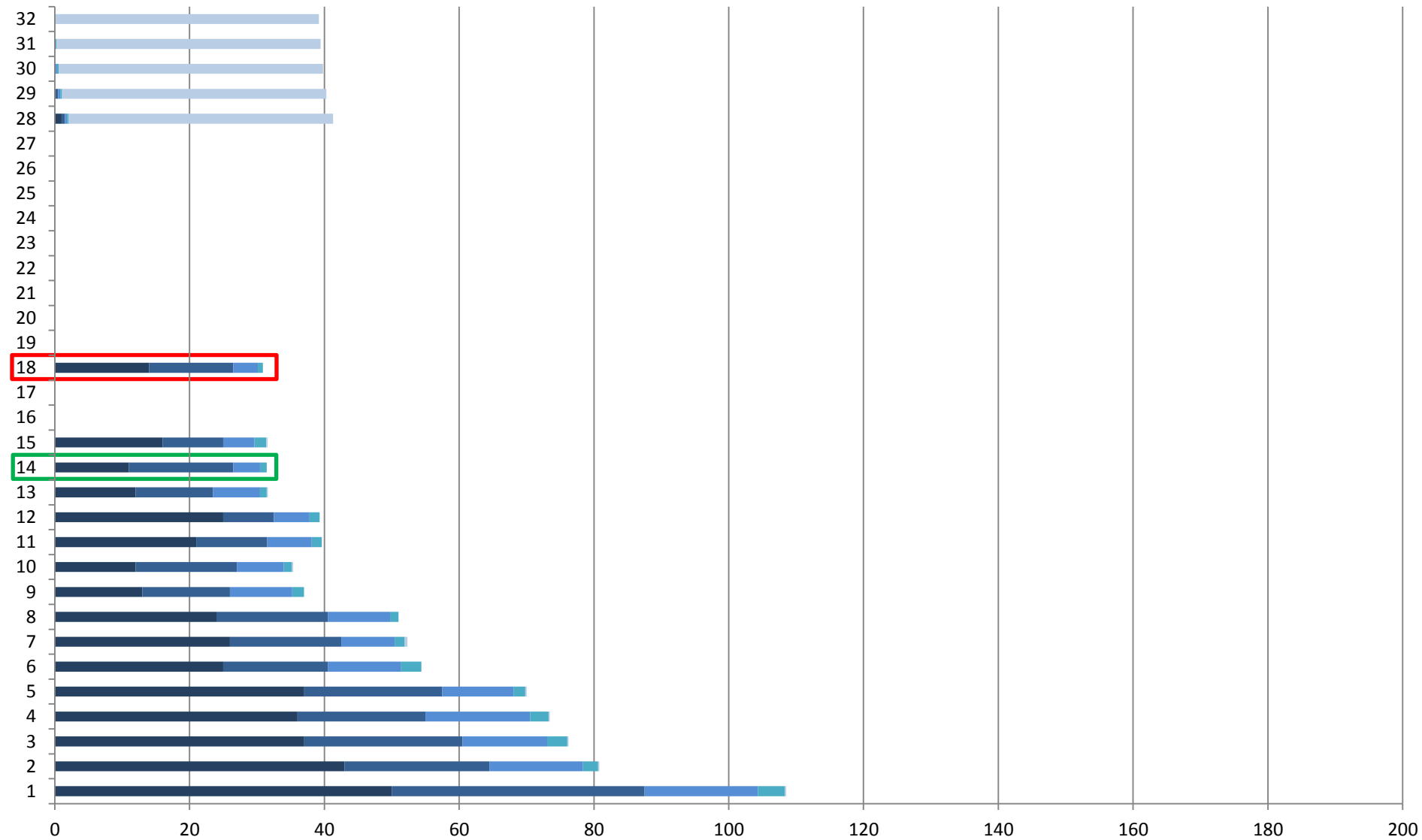
# 2013 Best Novel Point Totals – Round 12



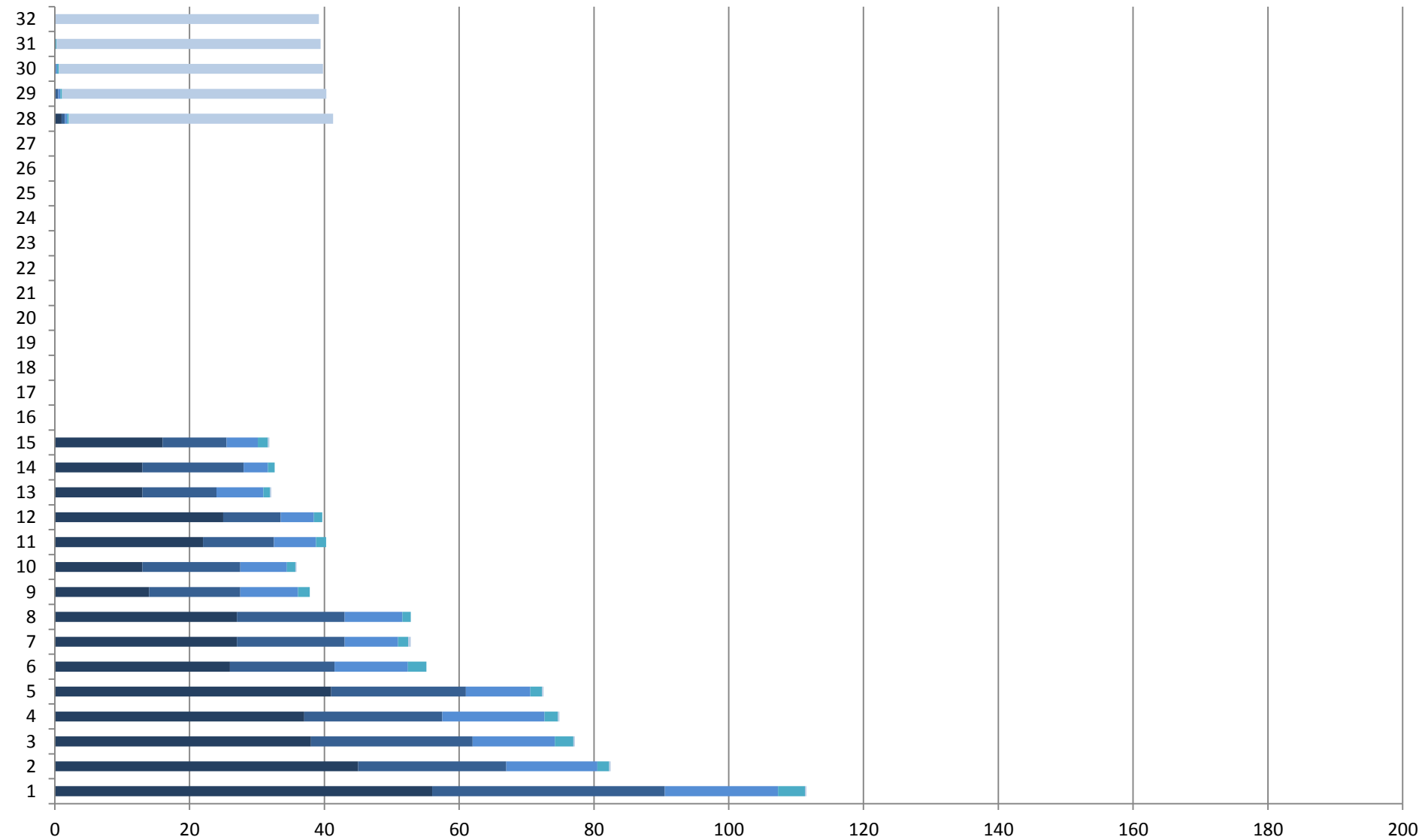
# 2013 Best Novel Point Totals – Round 12



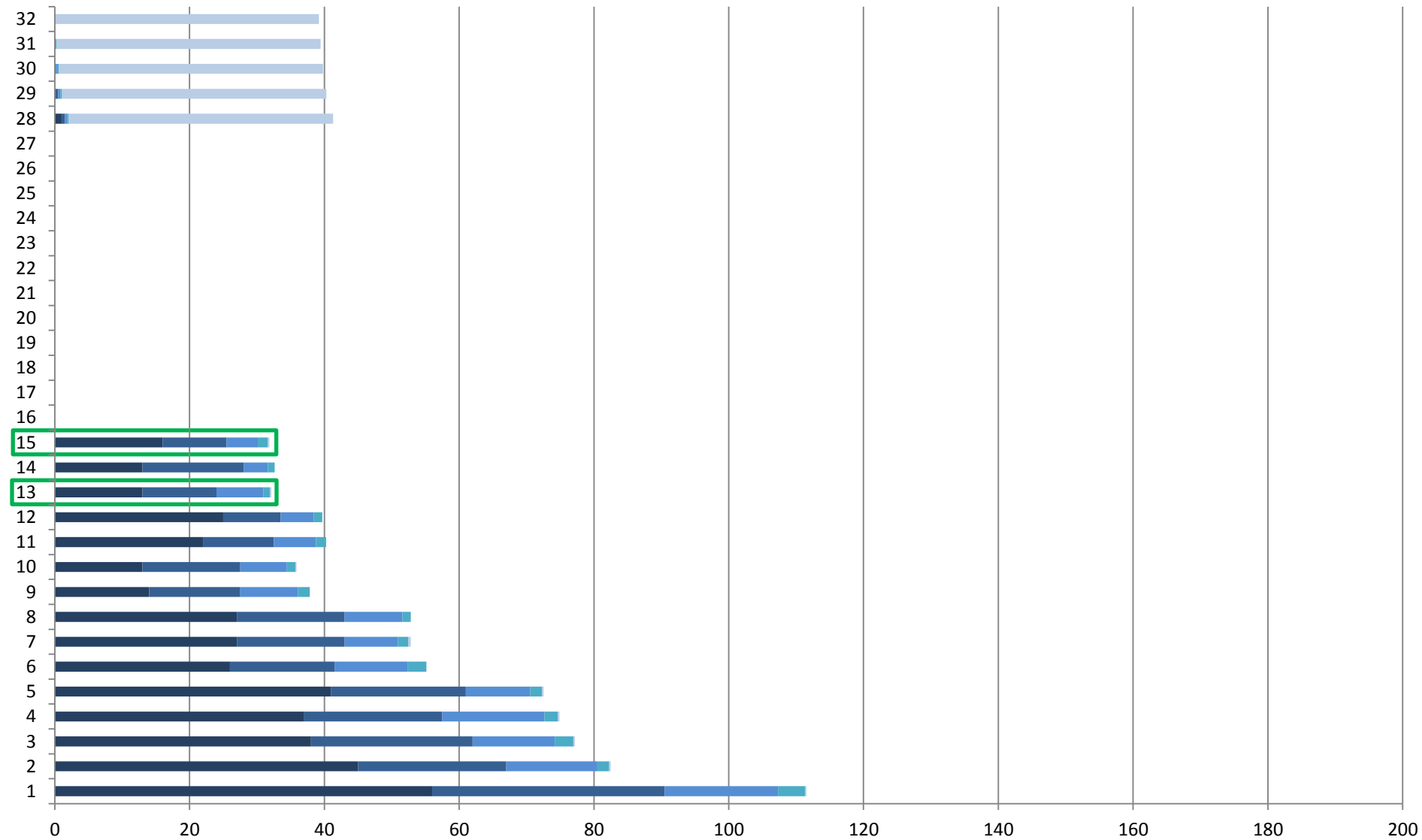
# 2013 Best Novel Point Totals – Round 12



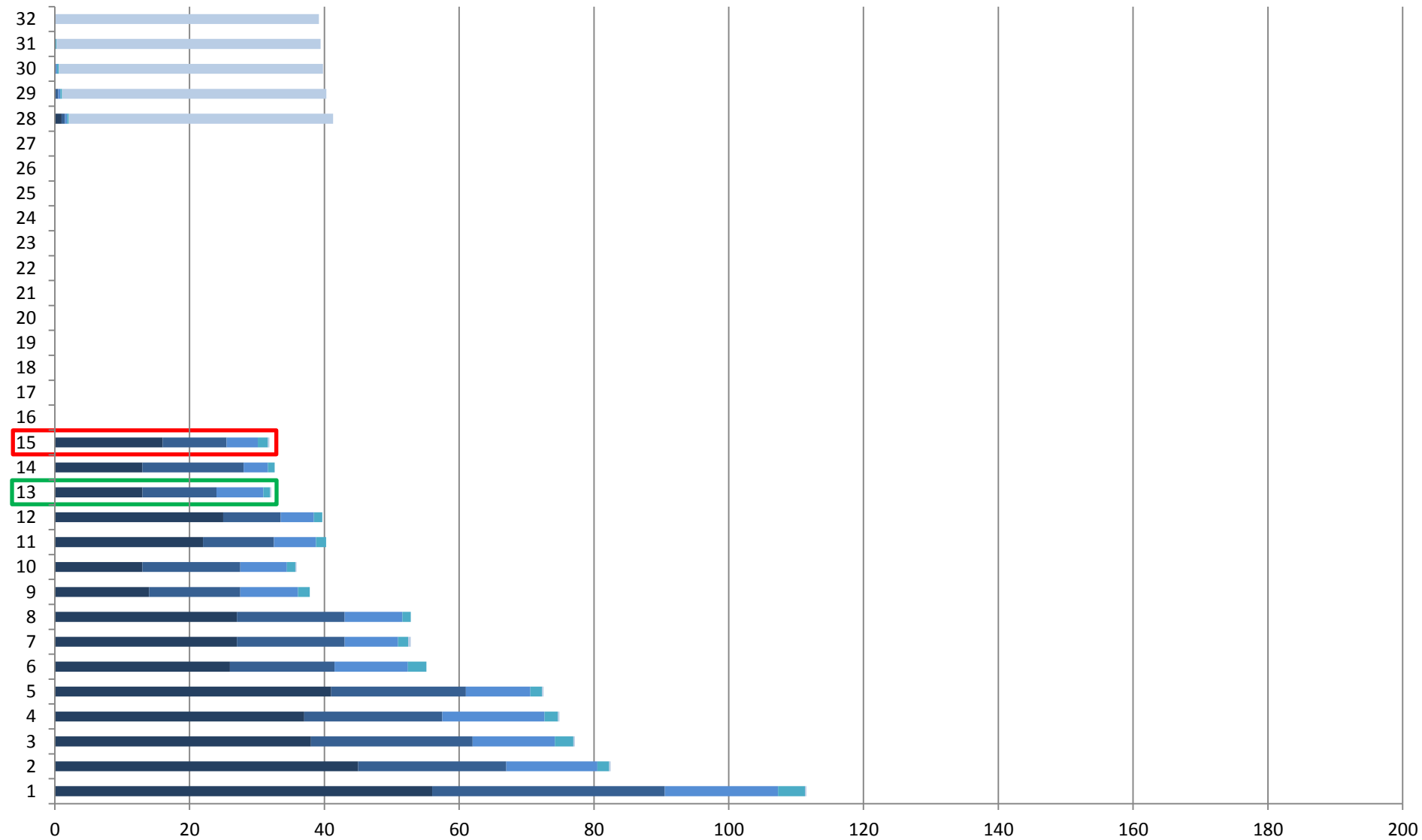
# 2013 Best Novel Point Totals – Round 13



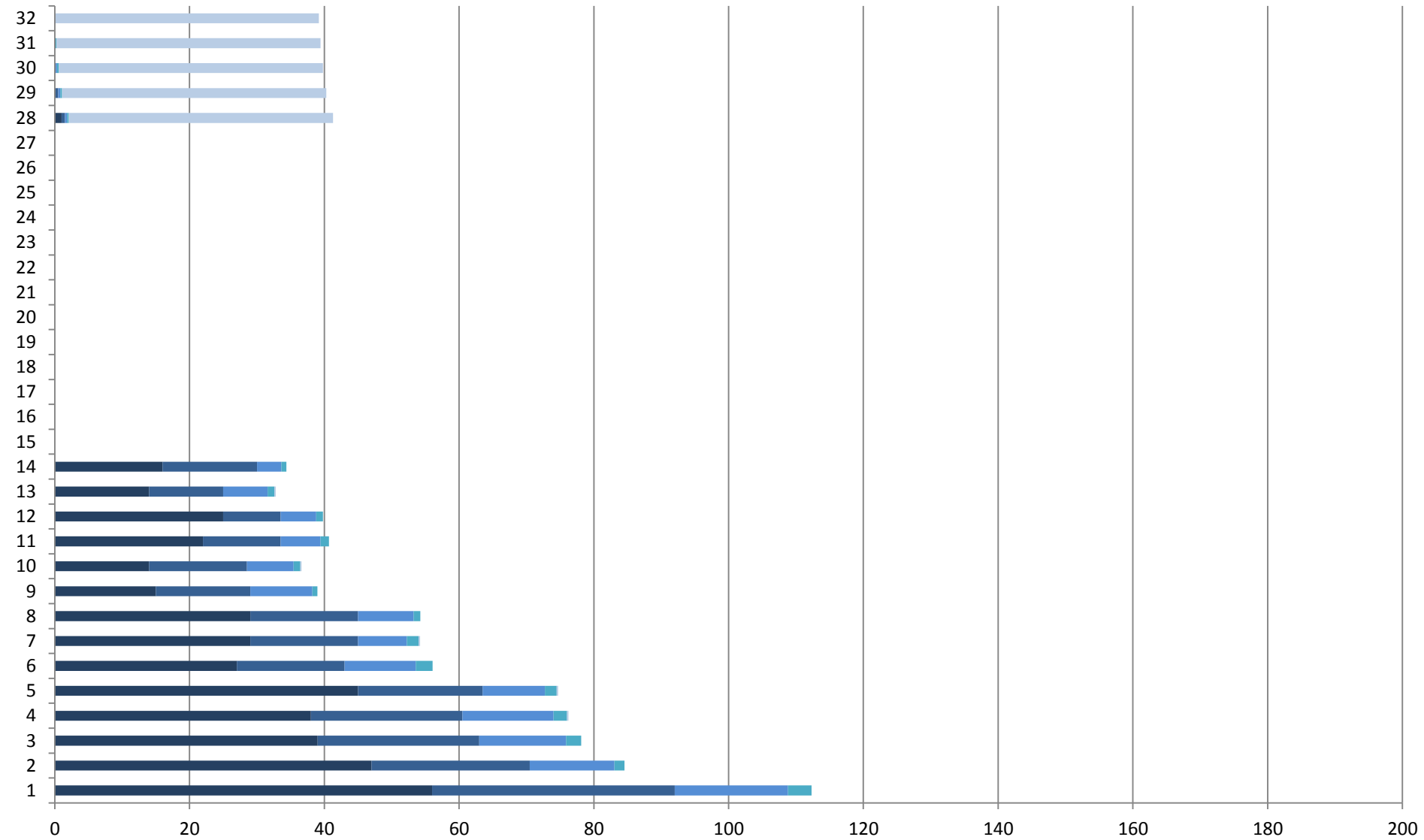
# 2013 Best Novel Point Totals – Round 13



# 2013 Best Novel Point Totals – Round 13

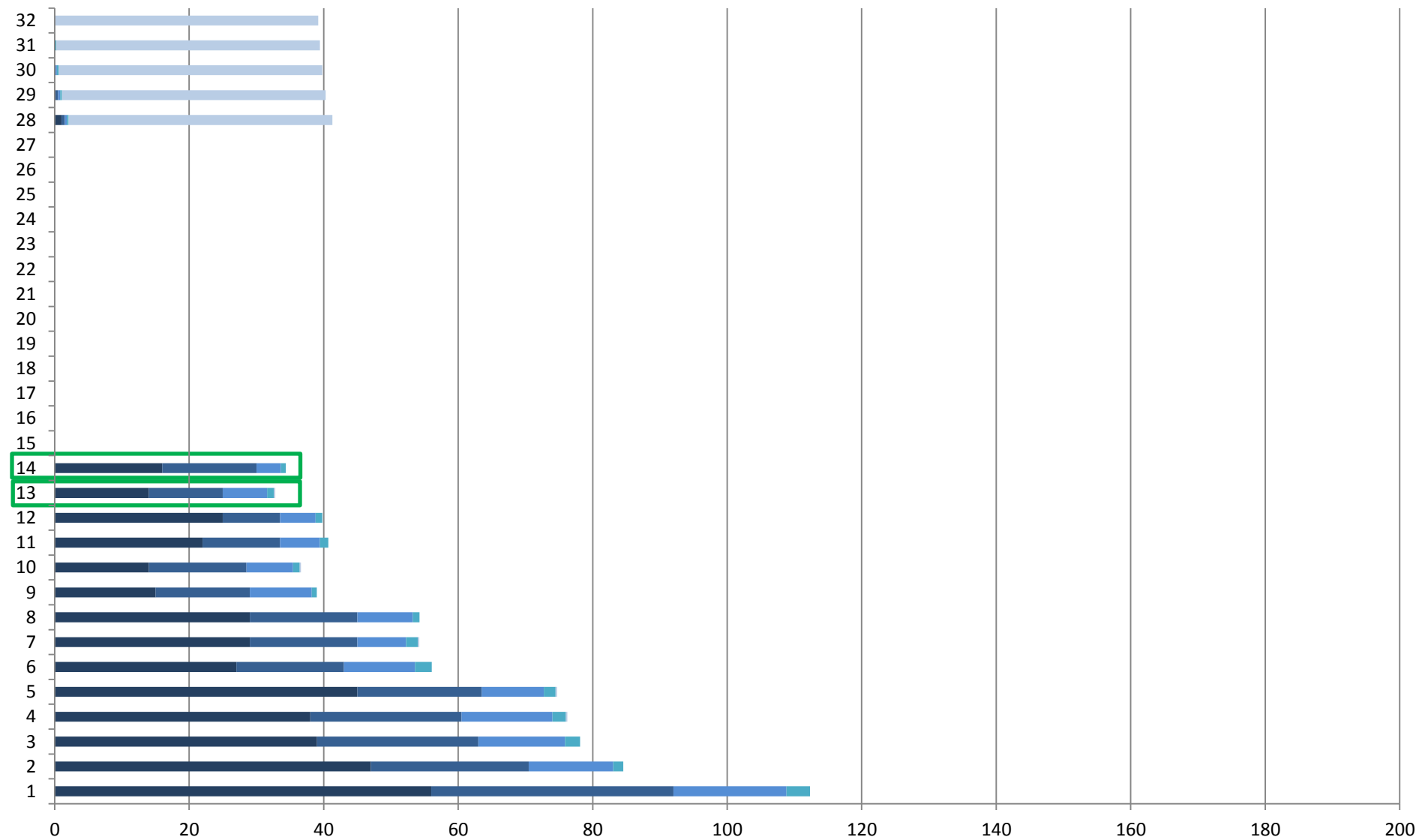


# 2013 Best Novel Point Totals – Round 14

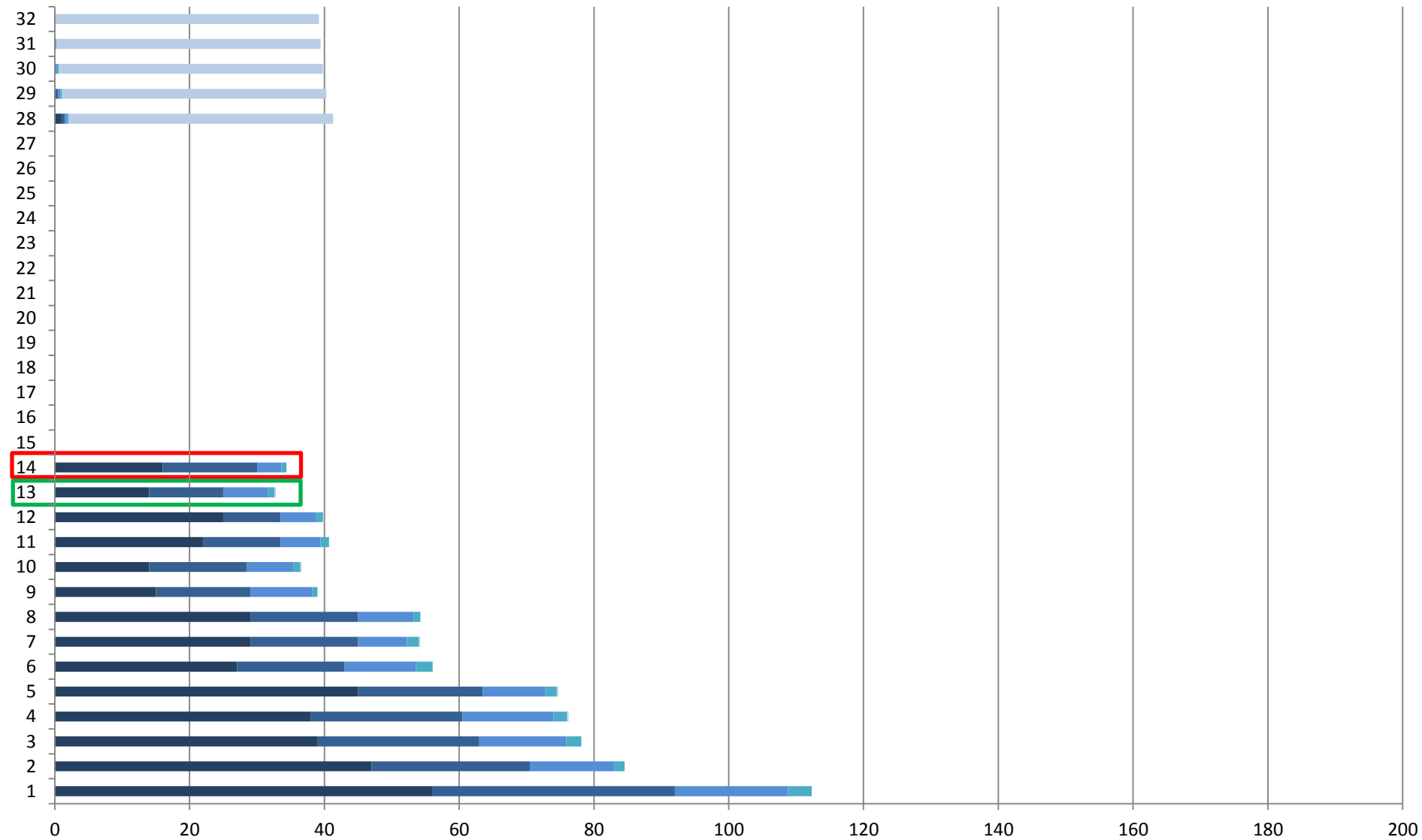




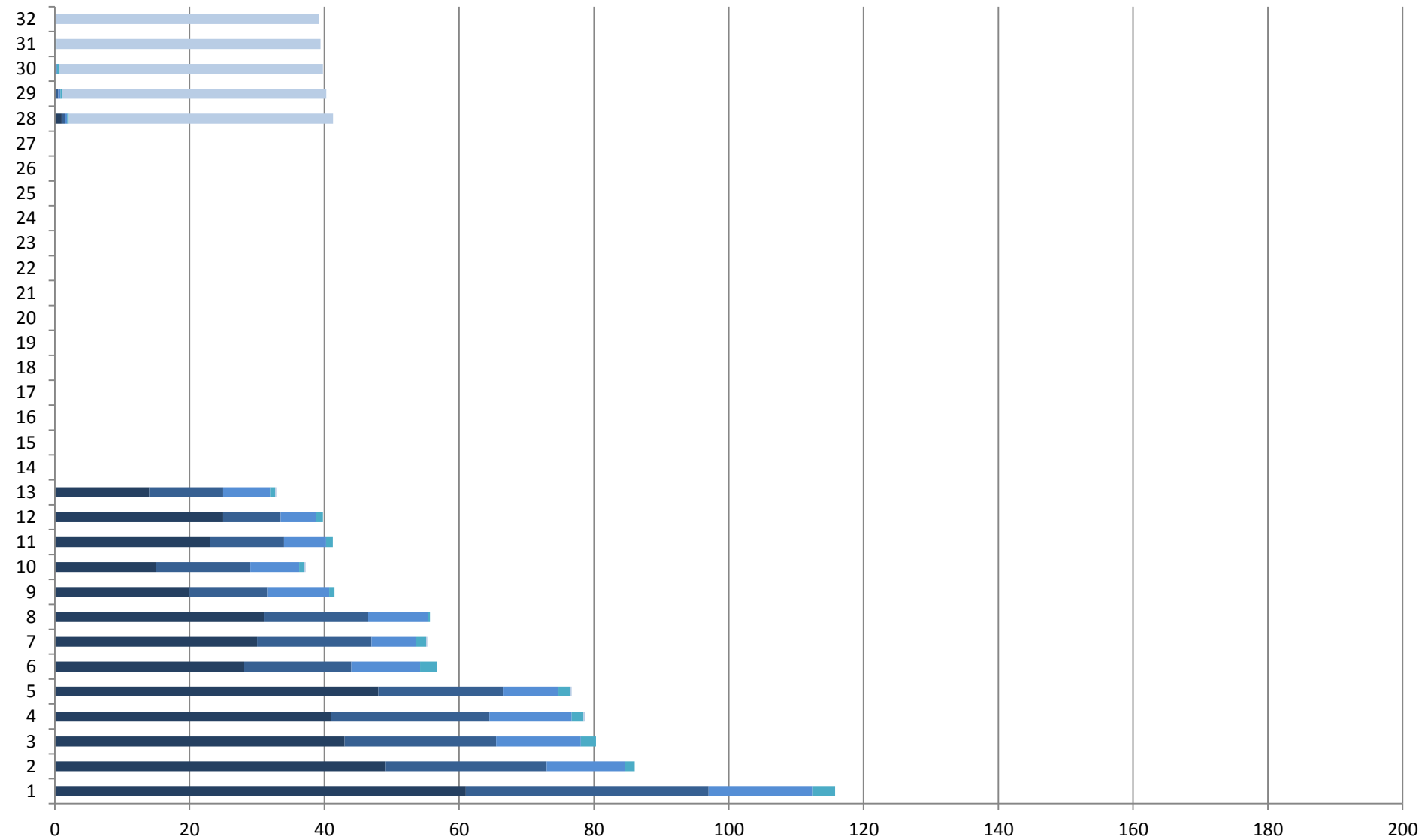
# 2013 Best Novel Point Totals – Round 14



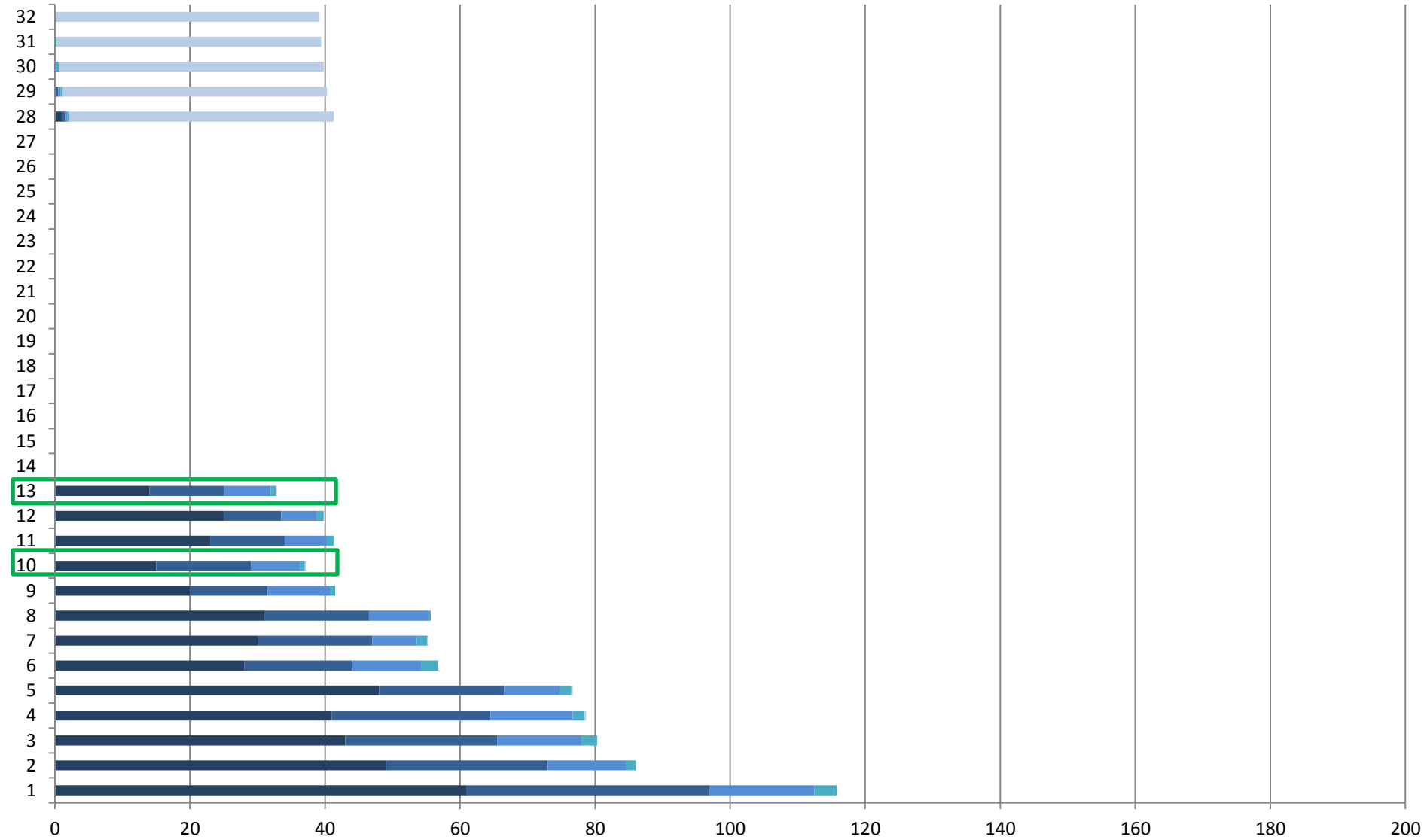
# 2013 Best Novel Point Totals – Round 14



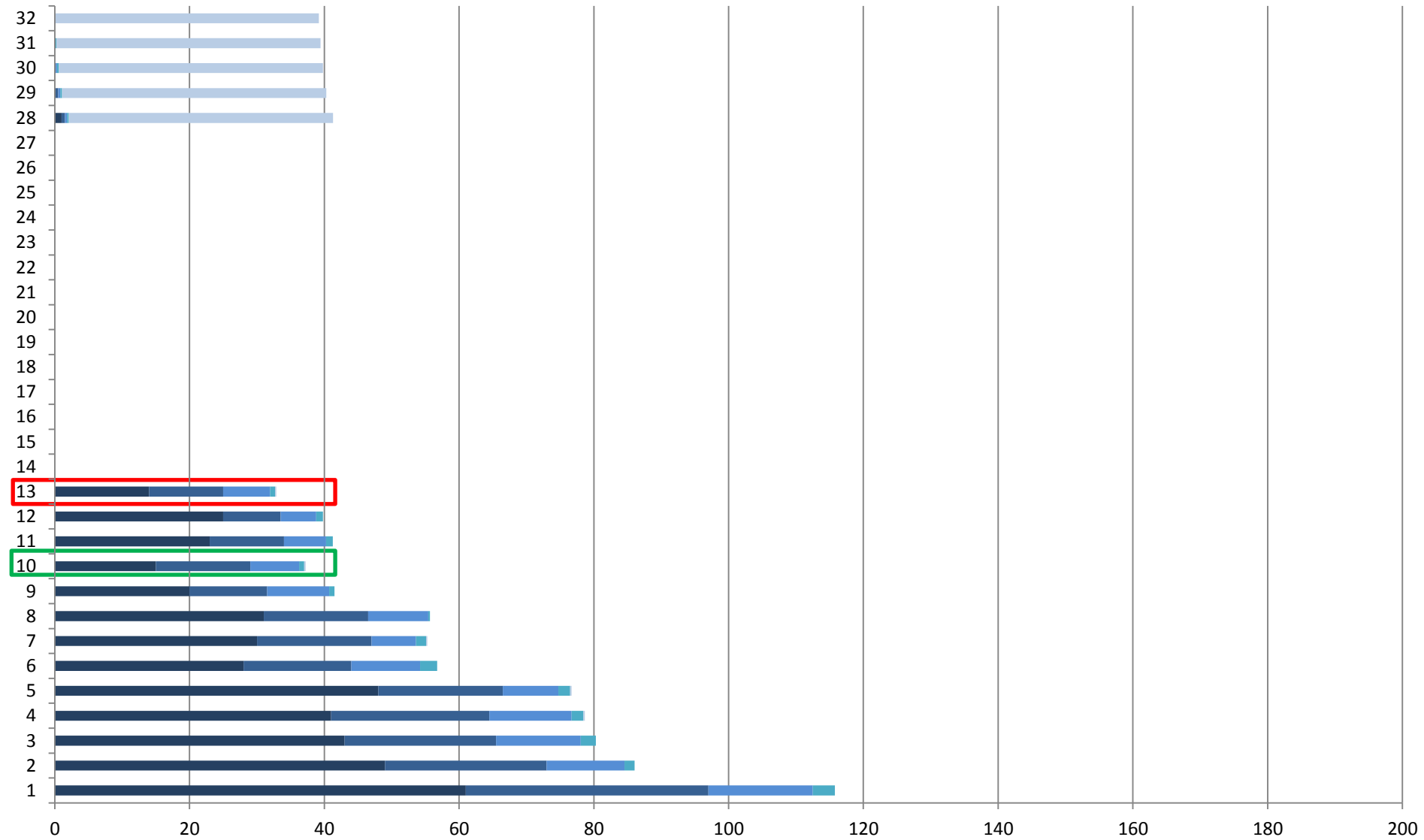
# 2013 Best Novel Point Totals – Round 15



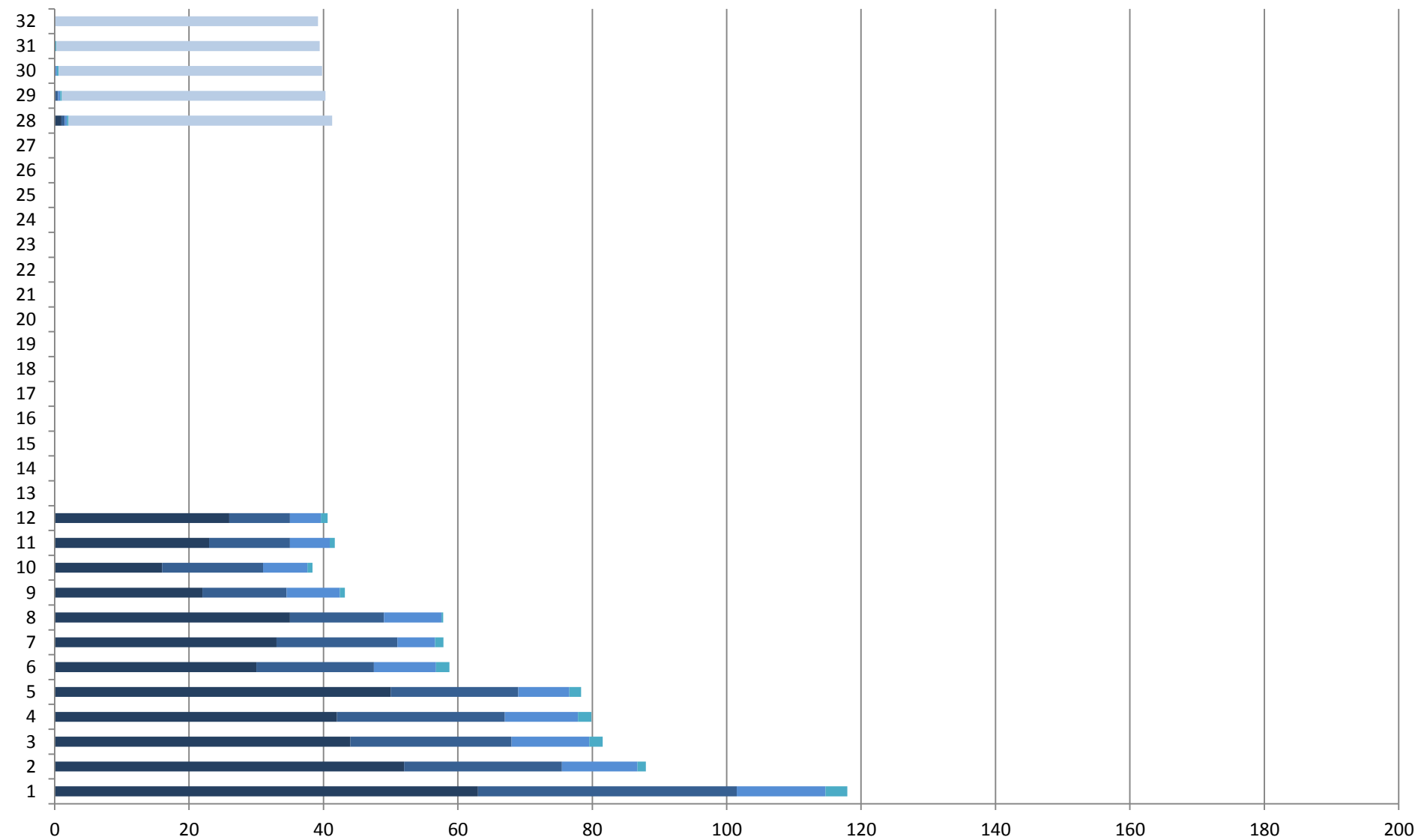
# 2013 Best Novel Point Totals – Round 15



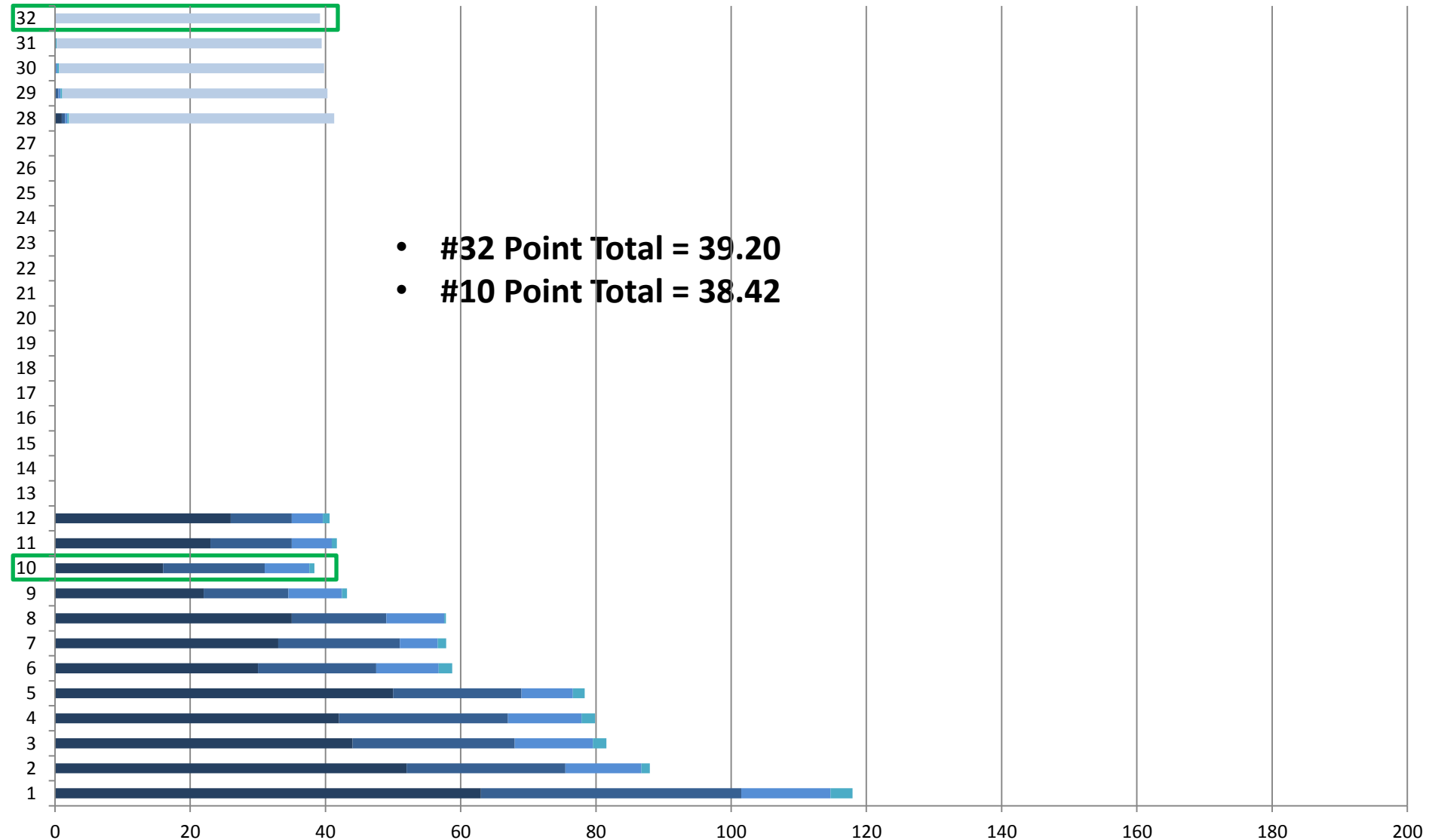
# 2013 Best Novel Point Totals – Round 15



# 2013 Best Novel Point Totals – Round 16

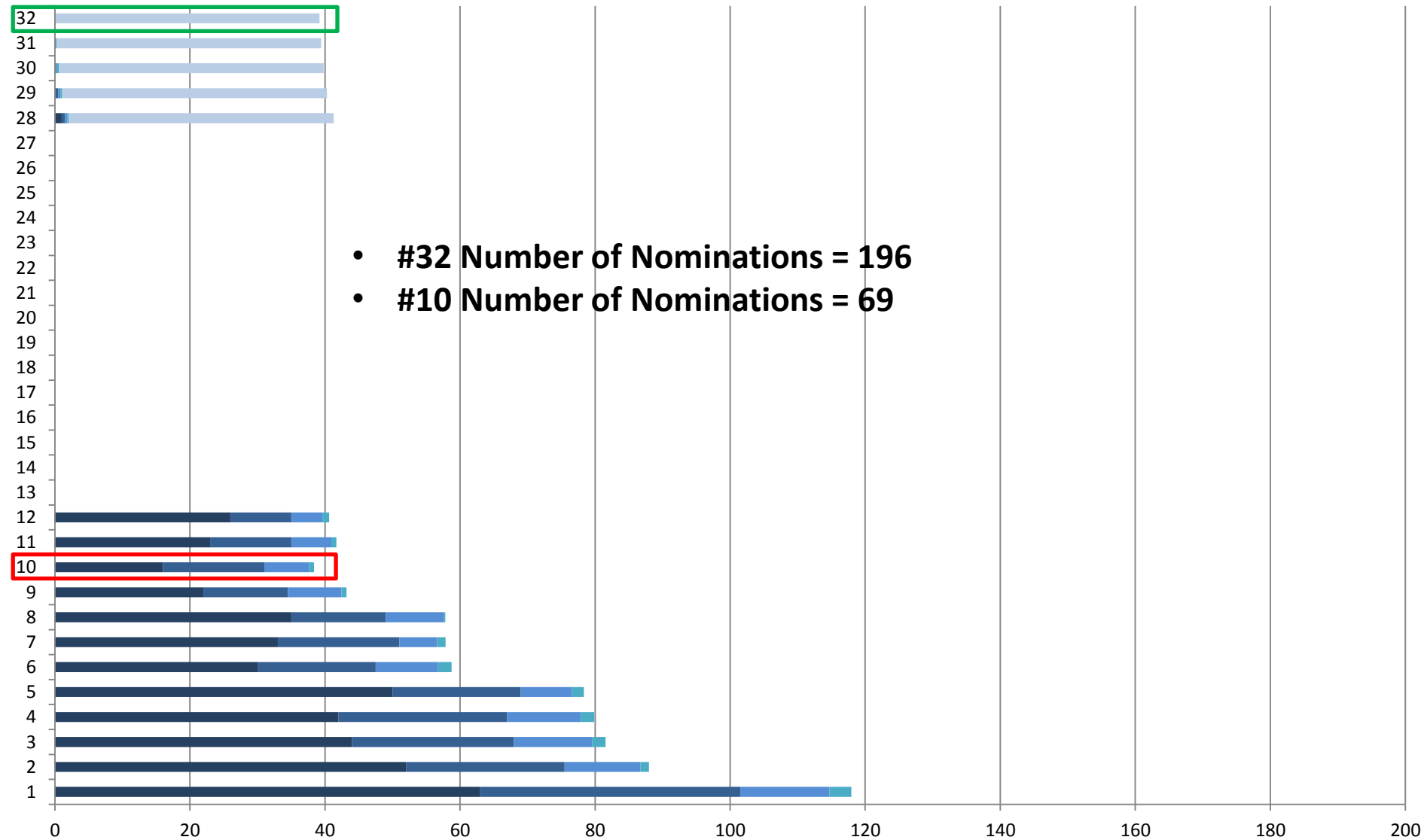


# Selection Phase: Lowest Point Totals



**#10 and #32 are eligible for elimination;  
this is the first time a slate work has been eligible**

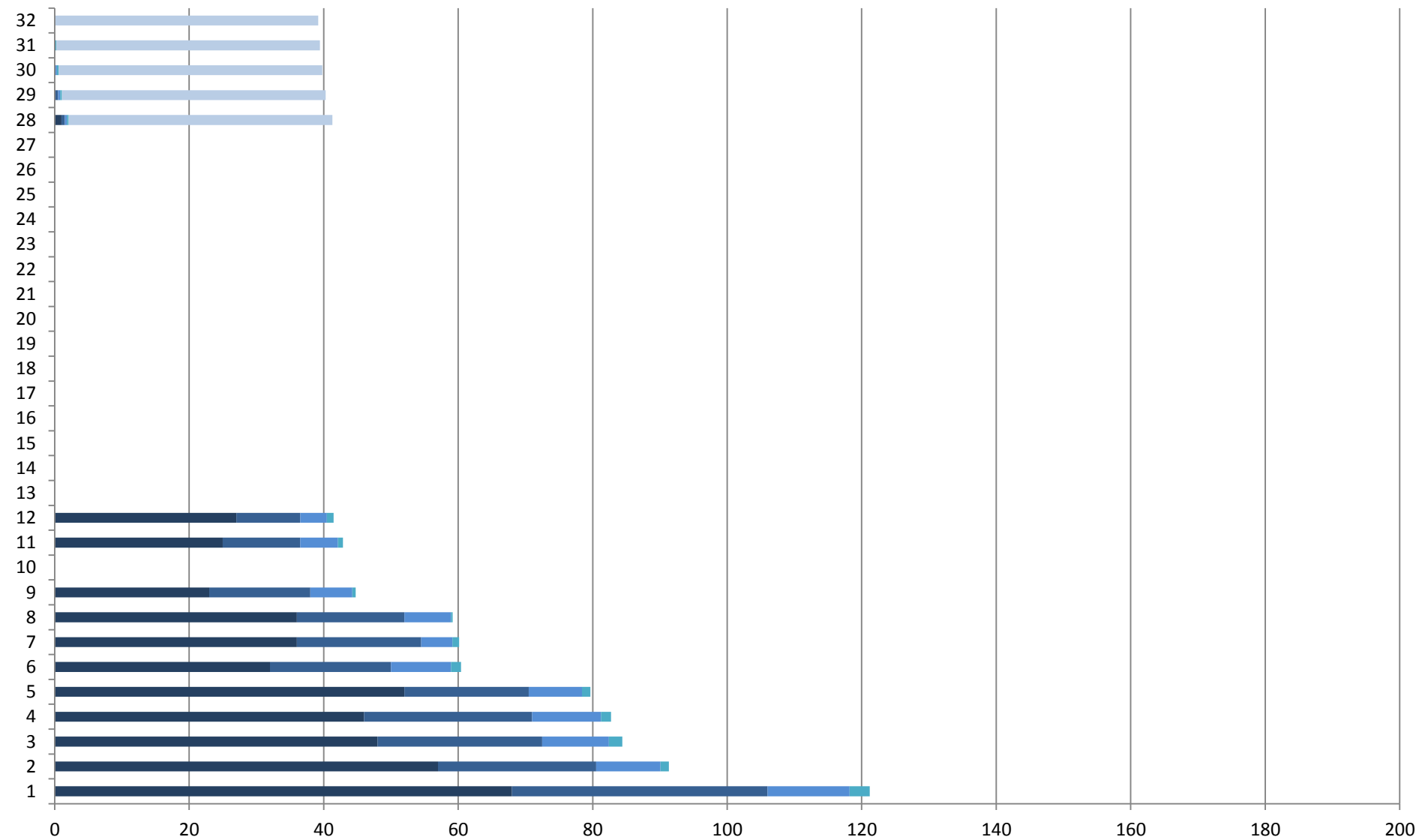
# Elimination Phase: Fewest Nominations



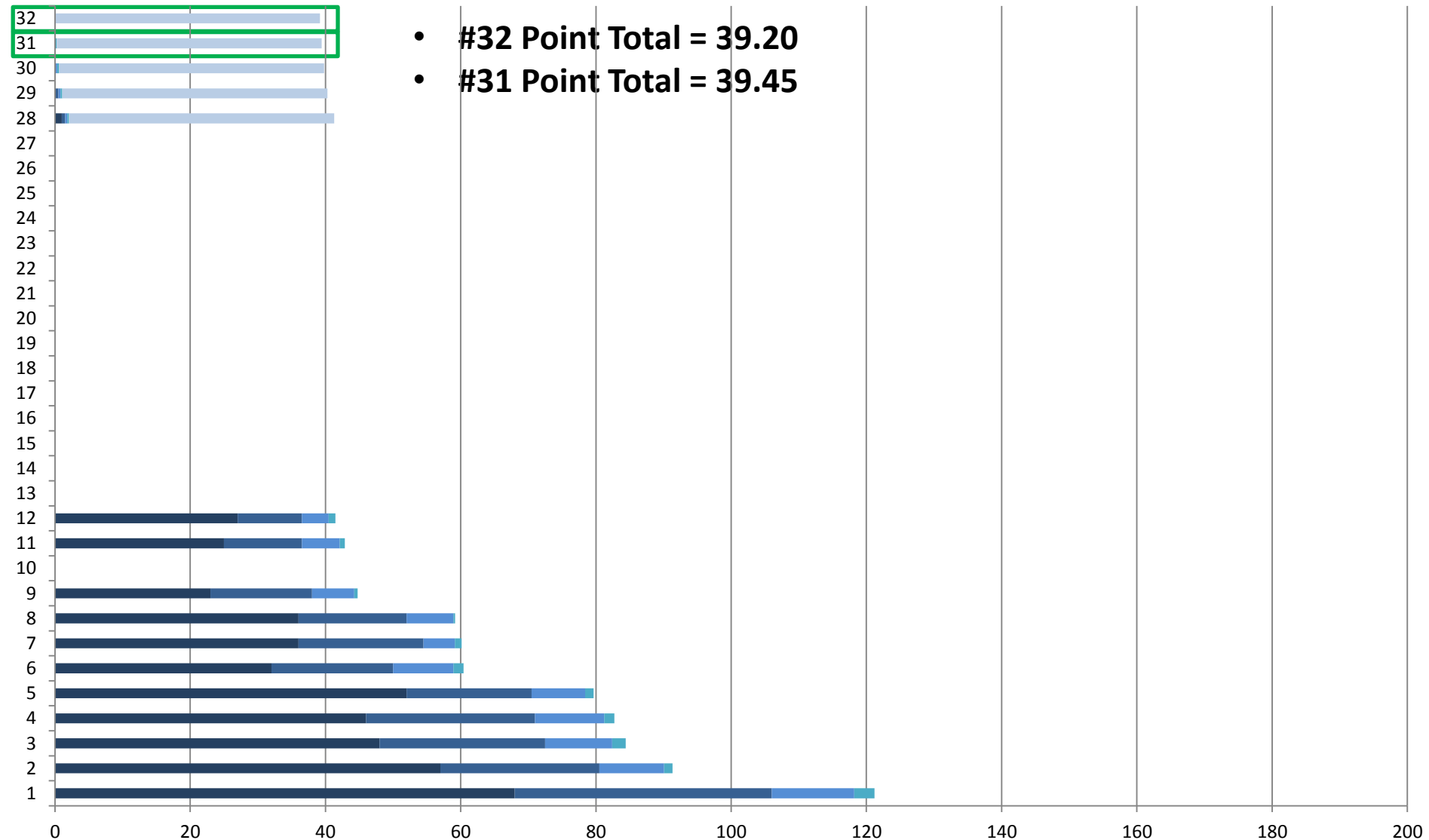
**#10 has fewer nominations, so the slate work survives  
(it's not really close)**



# 2013 Best Novel Point Totals – Round 17

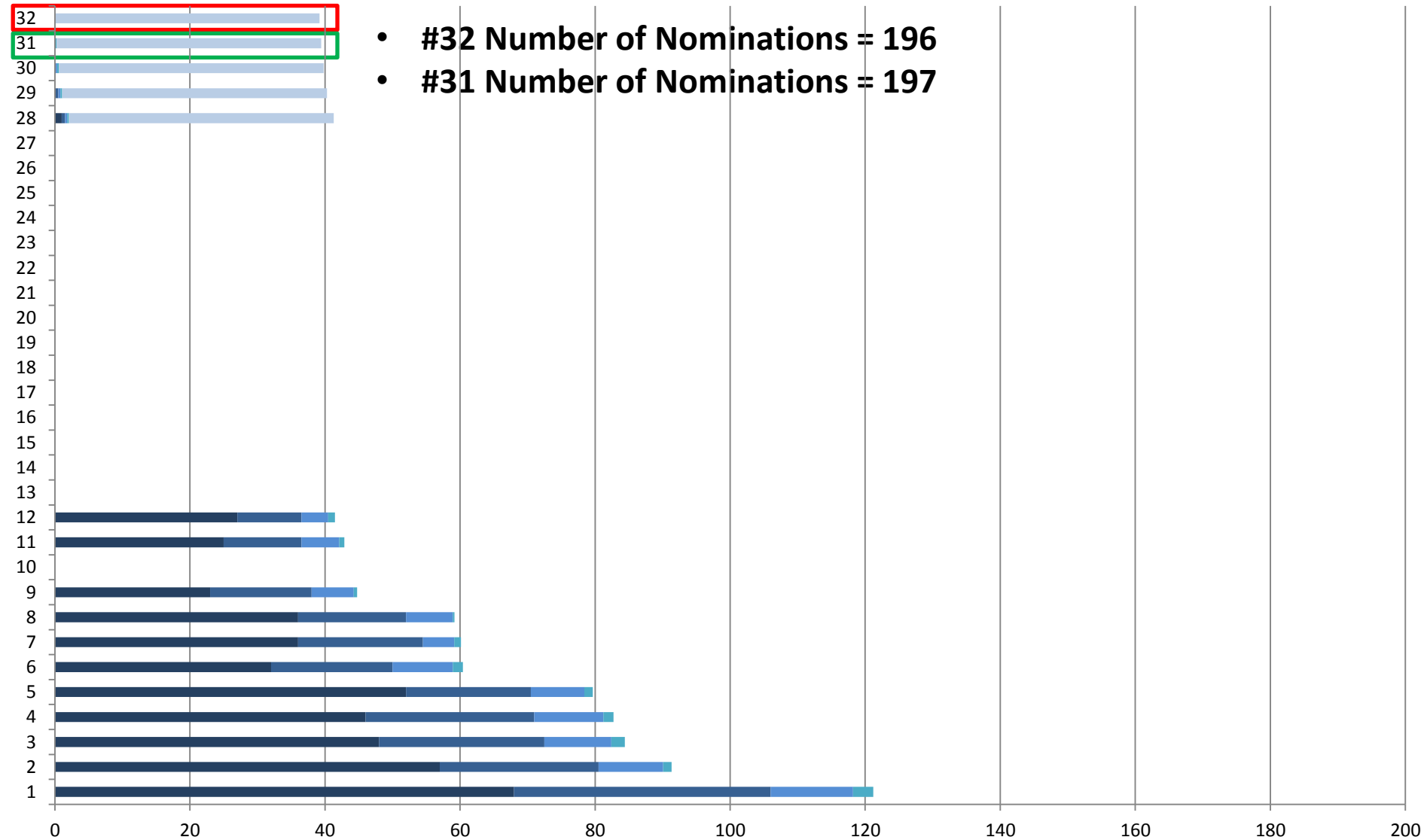


# Selection Phase: Lowest Point Totals



**Slate works tend to eliminate each other; this means that their points don't go up gradually like other works**

# Elimination Phase: Fewest Nominations



**#32 has fewer nominations (barely), so is eliminated**

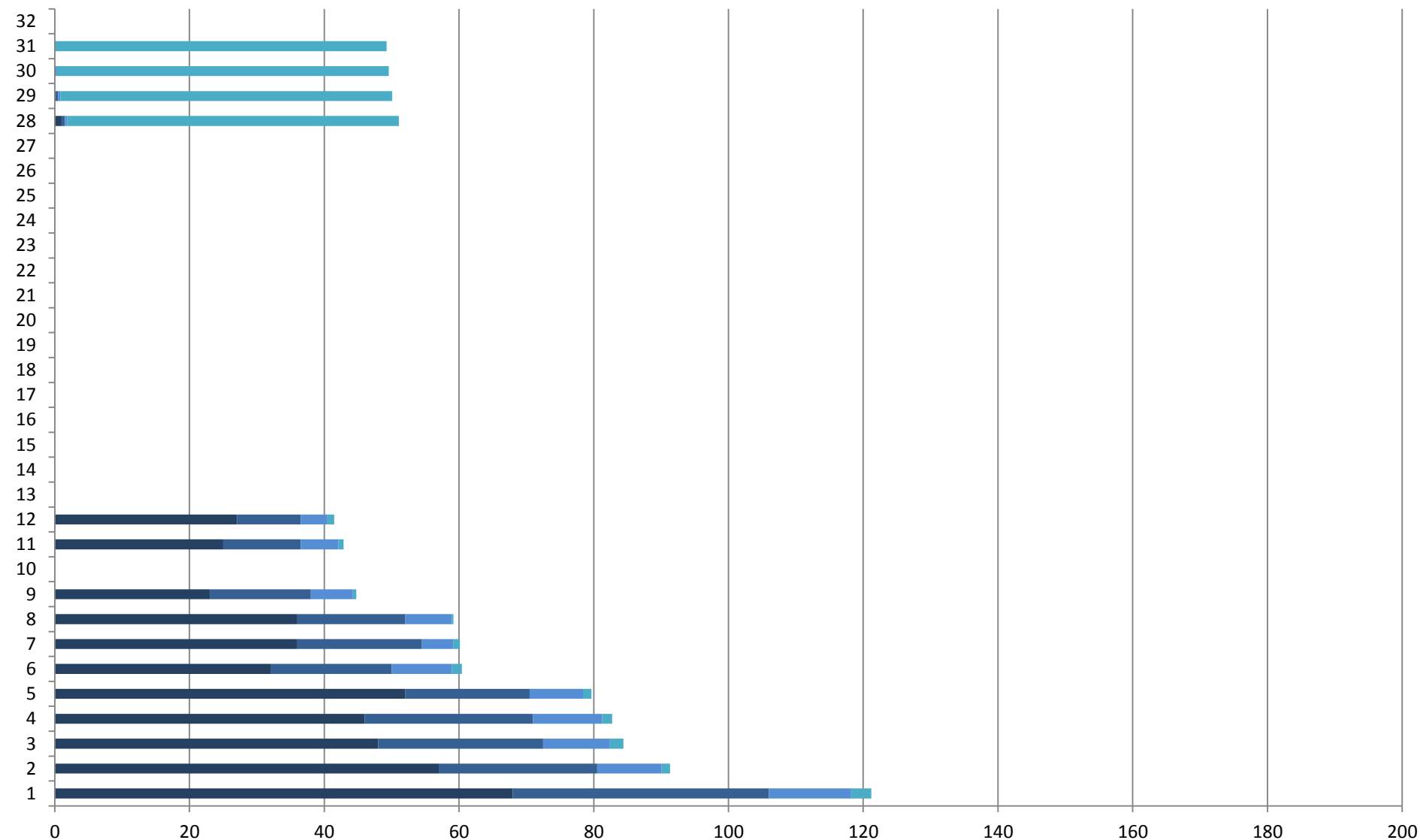
# Slates and Eliminations

- In general, slates will have almost the same number of nominations (and the same number of points) for all of their members.
- This means that, in general, they compete against each other.
- The least-nominated slate work is eliminated by the next least-nominated work, and so on.

# Slates and Eliminations

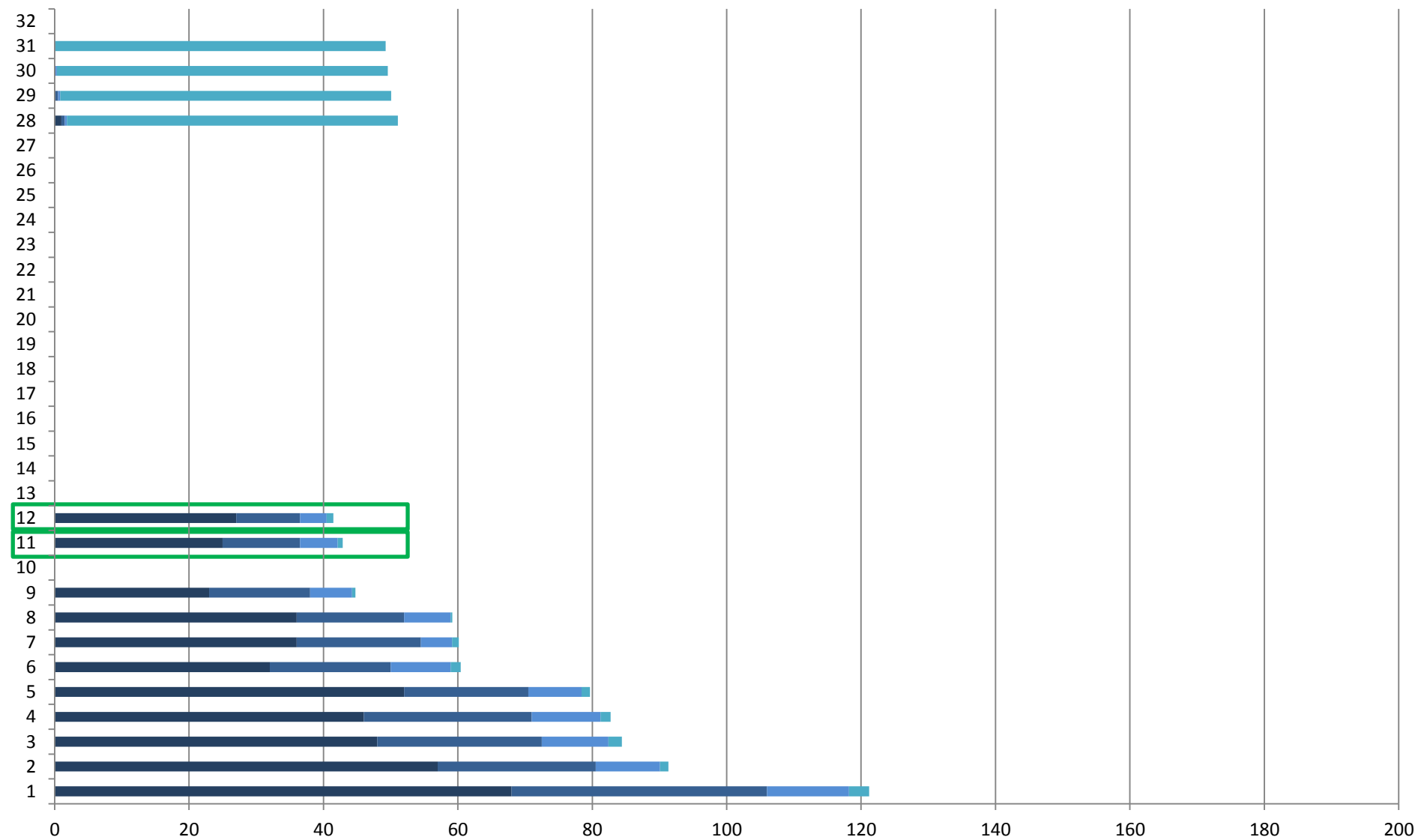
- What if all members of the slate have *exactly* the same ballots?
- We call this a slate with “perfect discipline.”
- Humans being what they are, it’s vanishingly difficult to do.
- **Due to the tie breaker rules, a slate with perfect discipline will eliminate *all* nominees on the slate in one round!**

# 2013 Best Novel Point Totals – Round 18

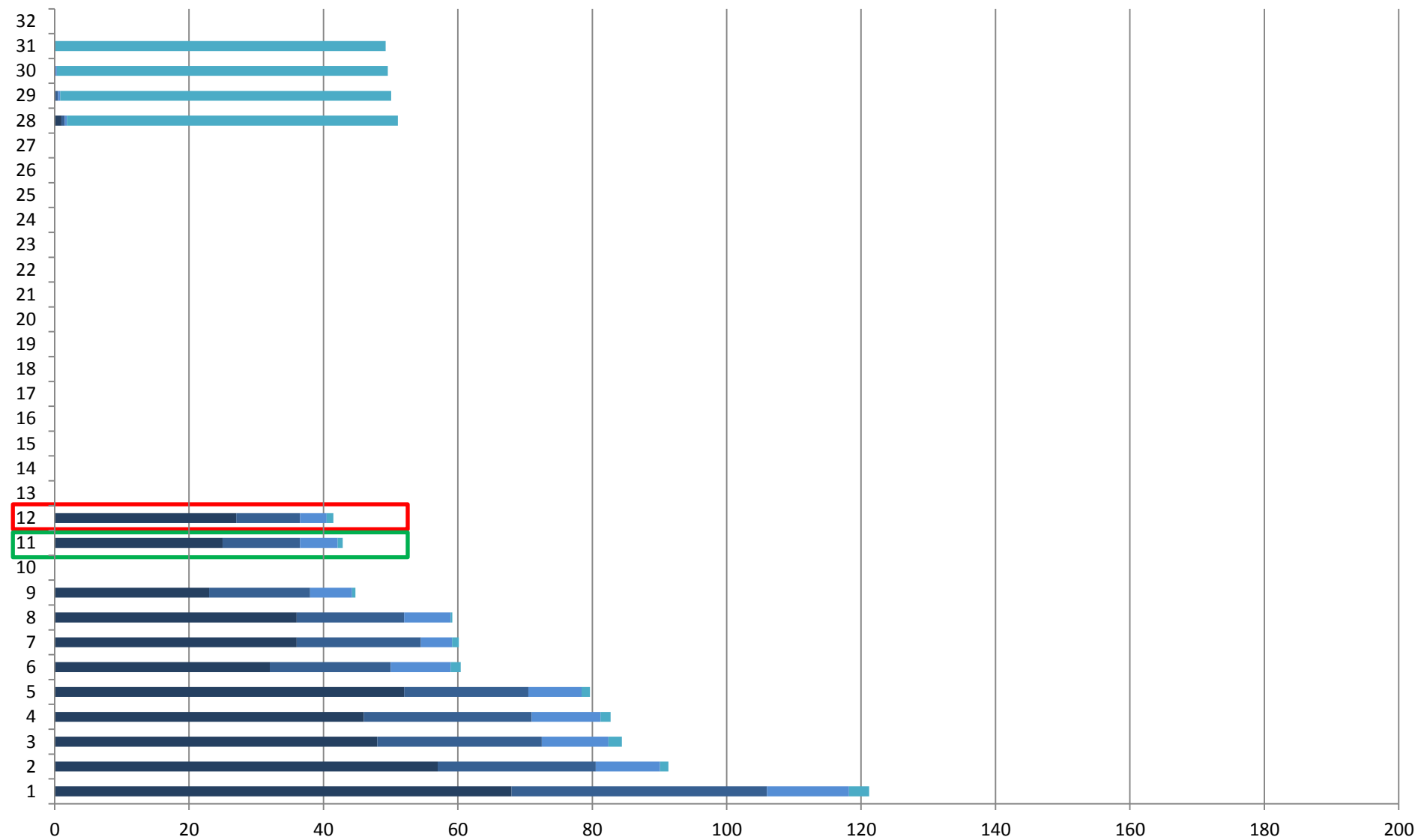


**Notice that the remaining slate works got a big jump in points...**

# 2013 Best Novel Point Totals – Round 18

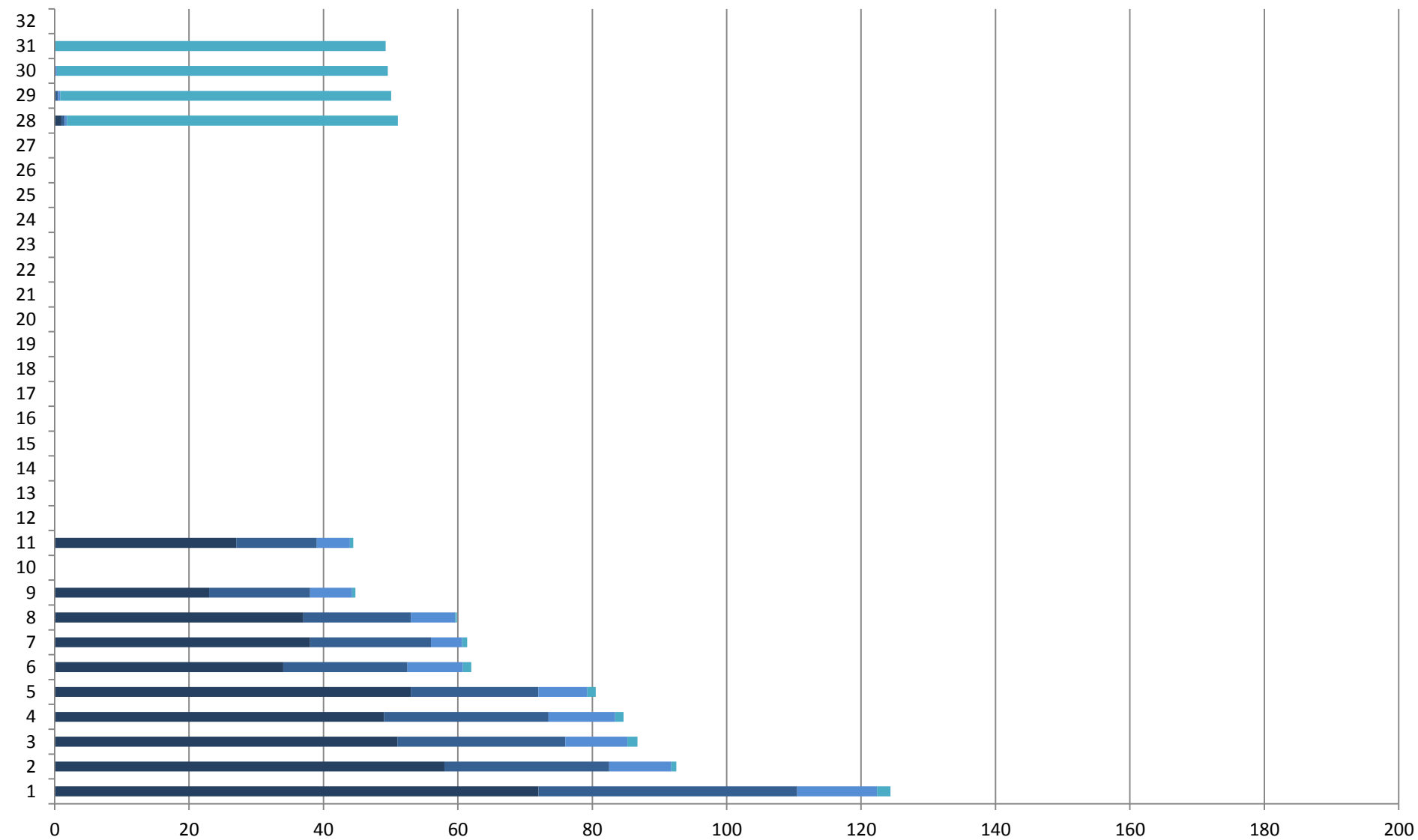


# 2013 Best Novel Point Totals – Round 18

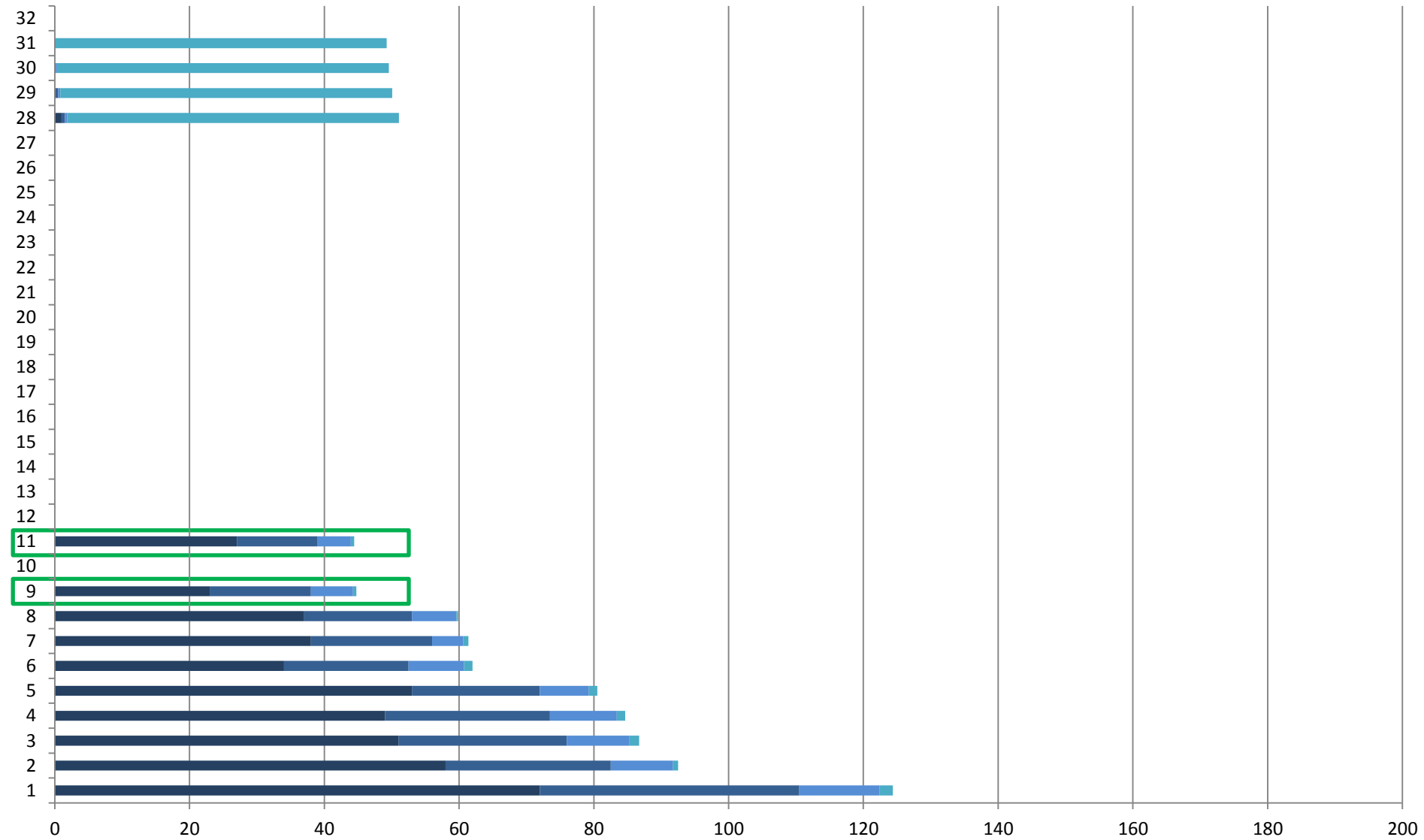




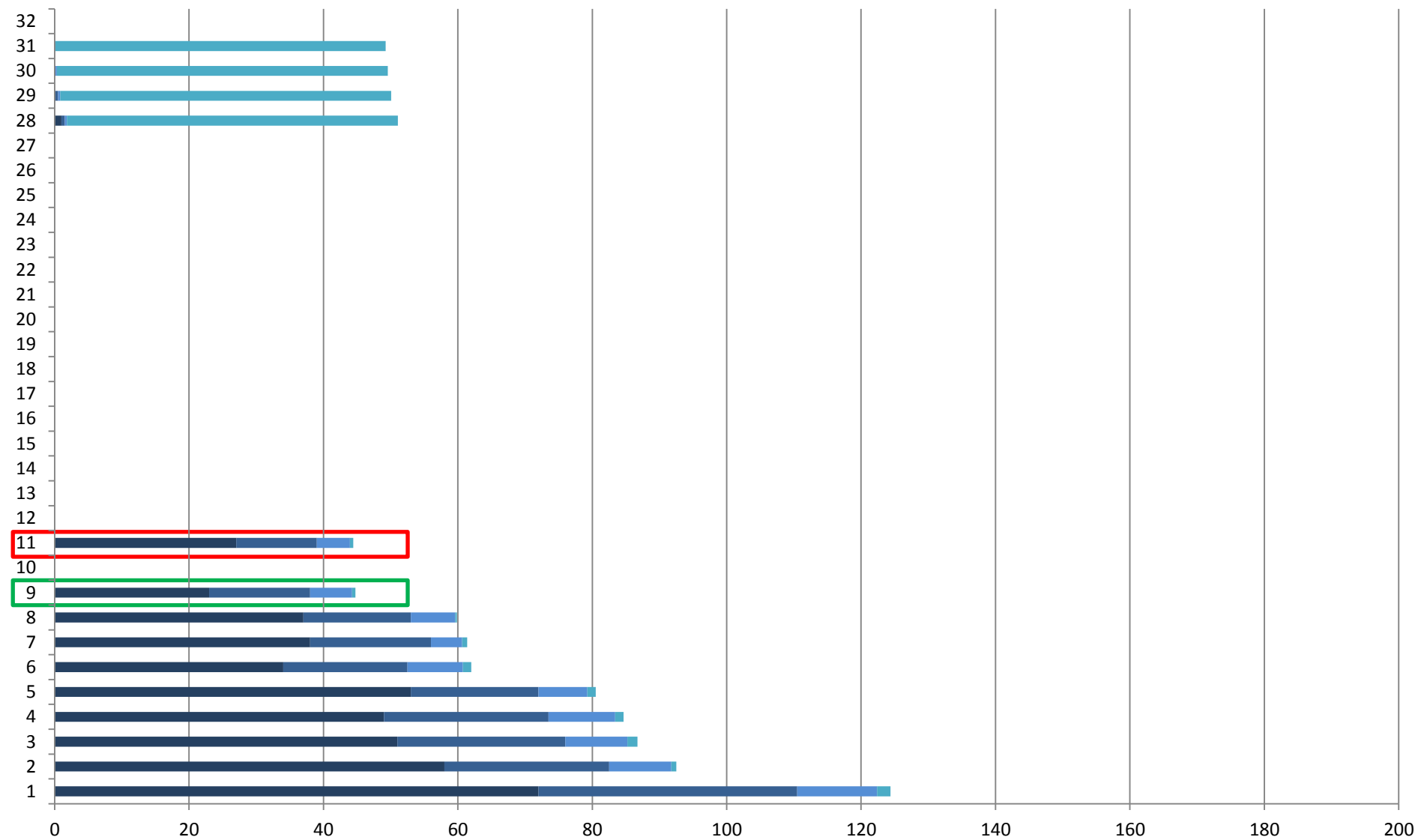
# 2013 Best Novel Point Totals – Round 19



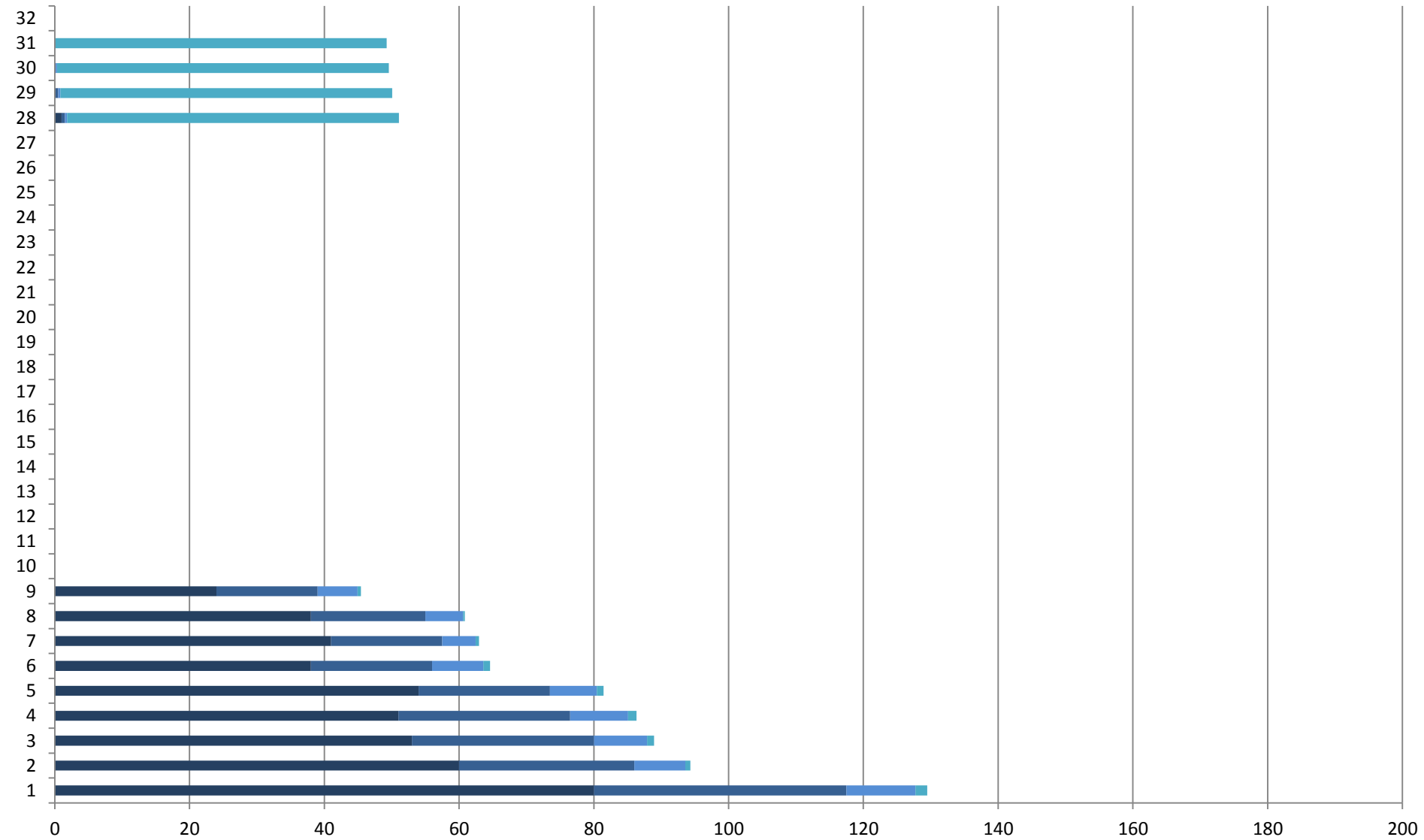
# 2013 Best Novel Point Totals – Round 19



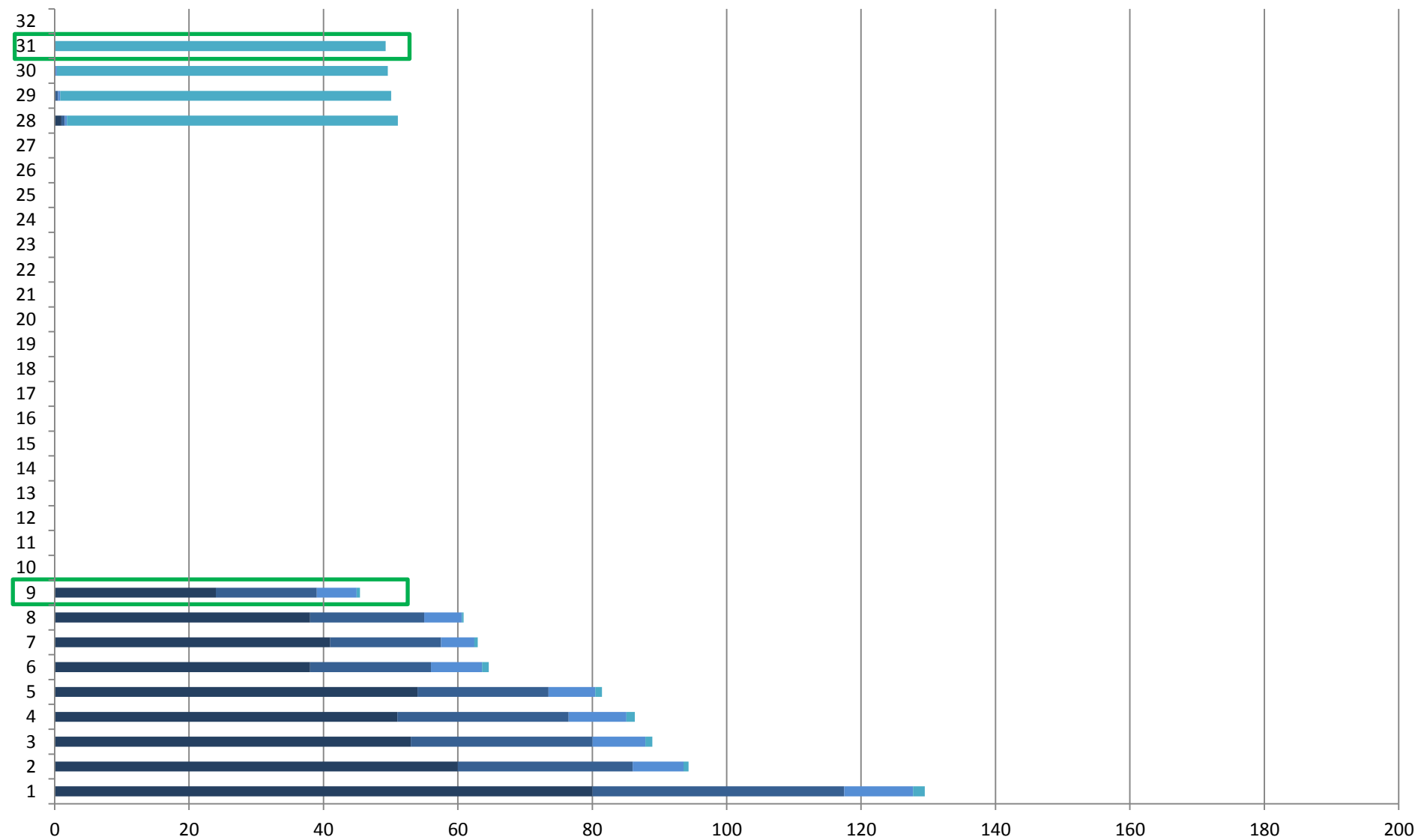
# 2013 Best Novel Point Totals – Round 19



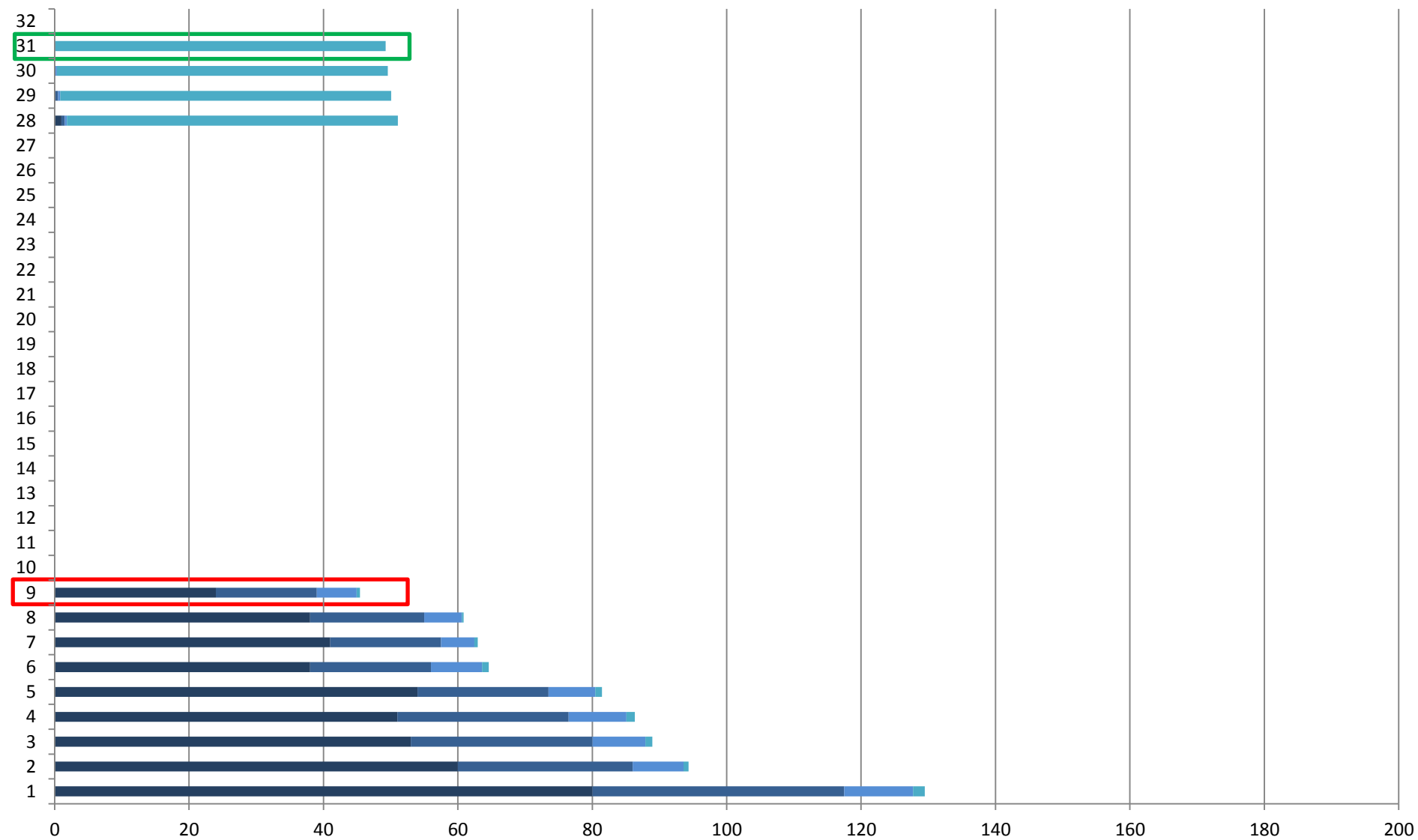
# 2013 Best Novel Point Totals – Round 20



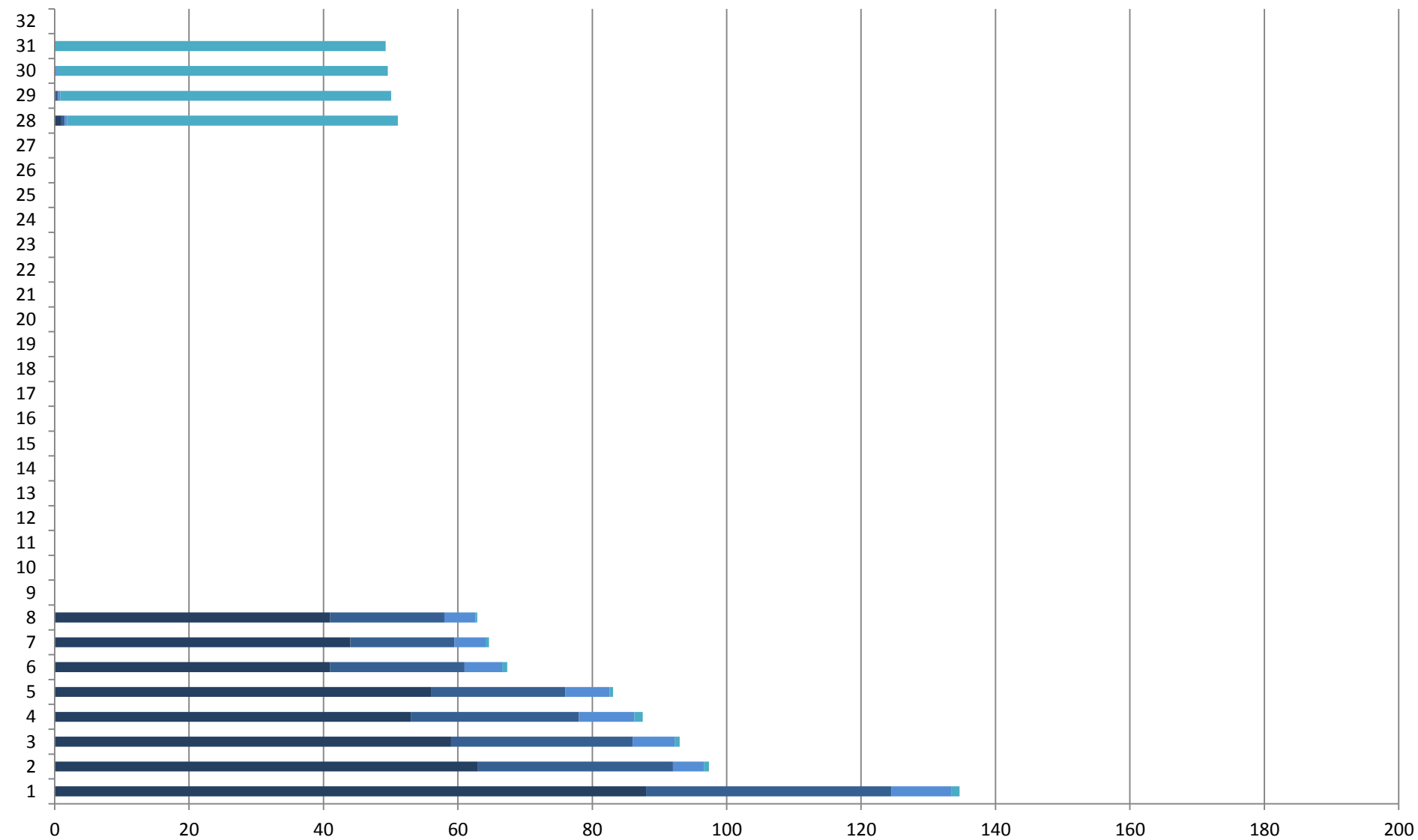
# 2013 Best Novel Point Totals – Round 20



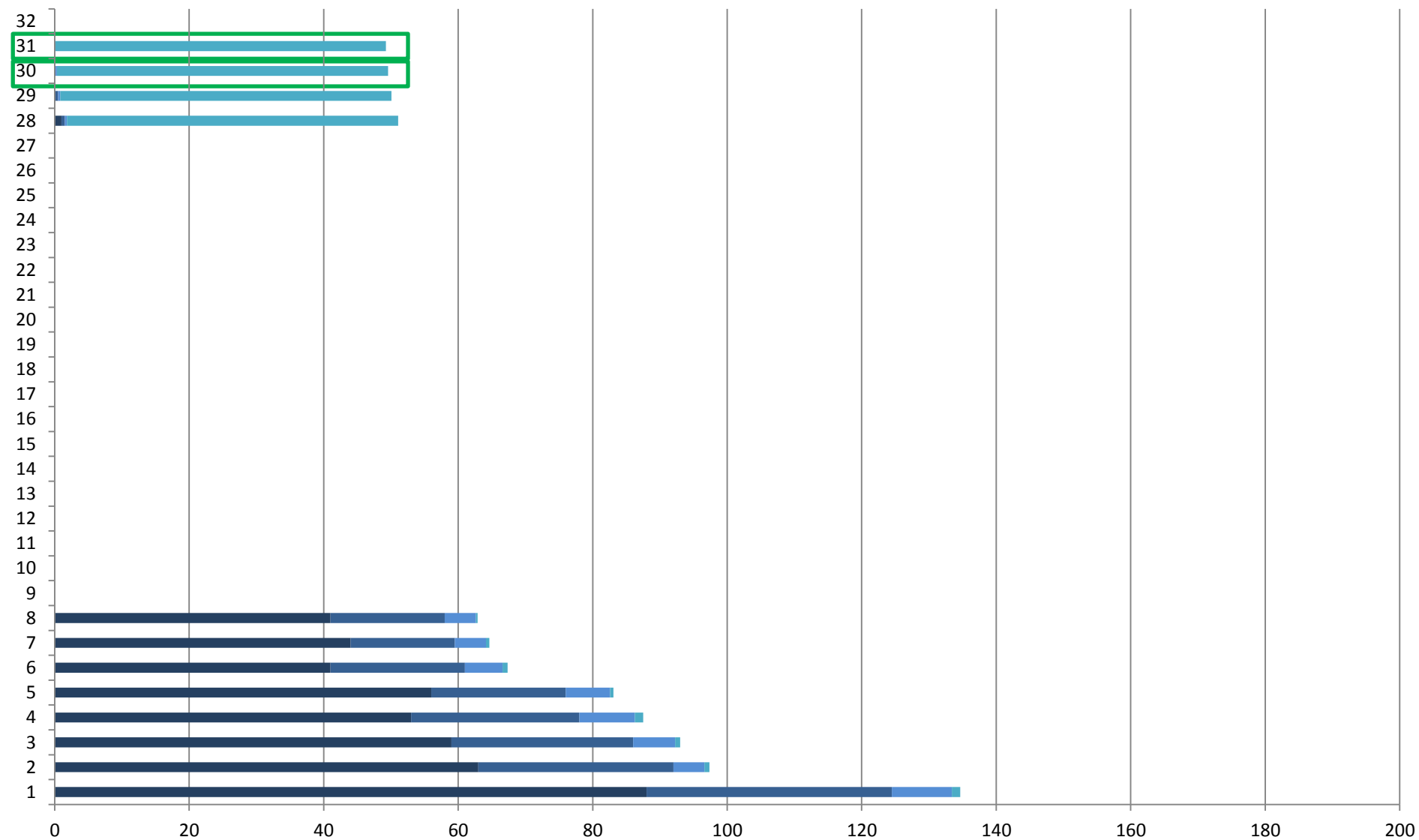
# 2013 Best Novel Point Totals – Round 20



# 2013 Best Novel Point Totals – Round 21

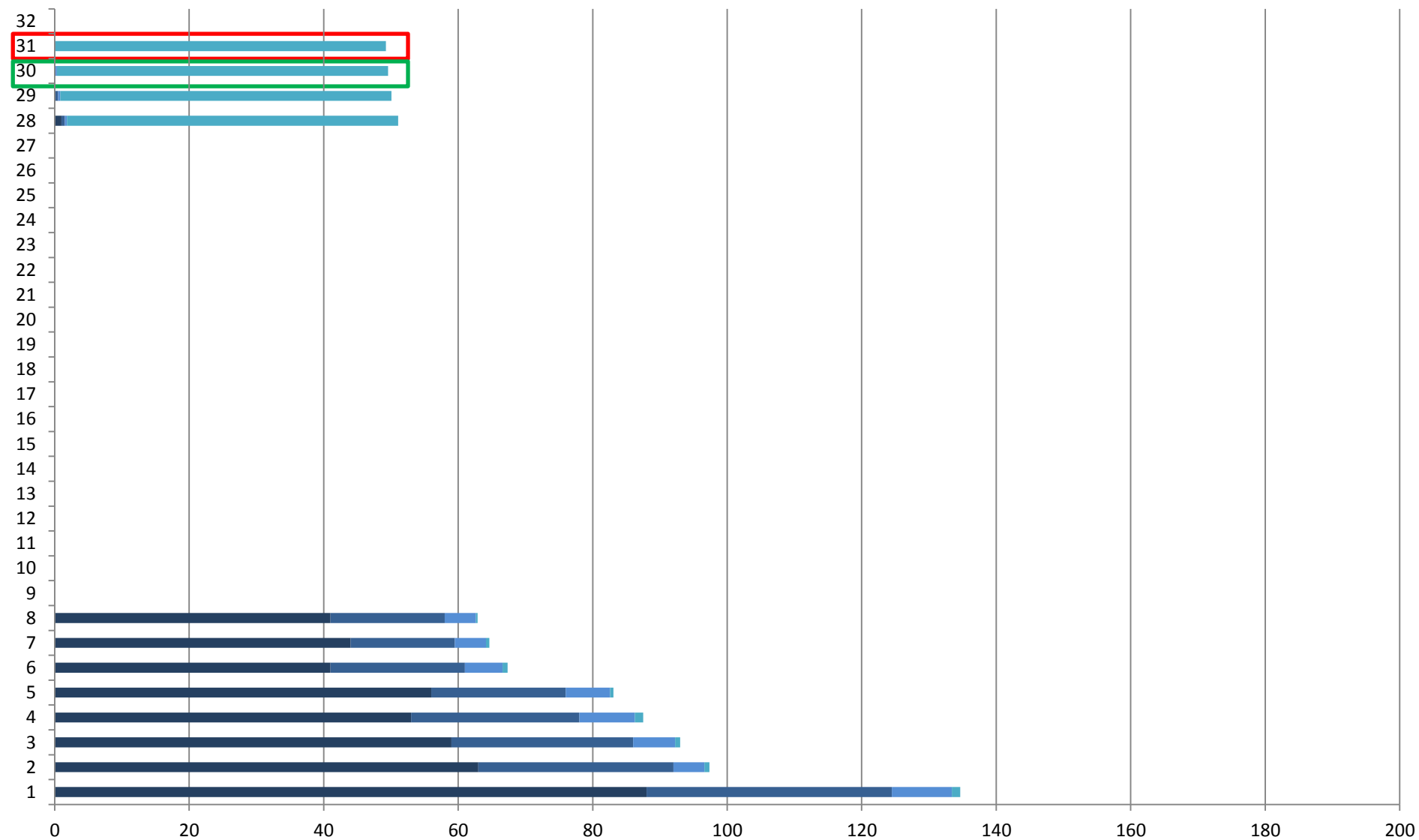


# 2013 Best Novel Point Totals – Round 21

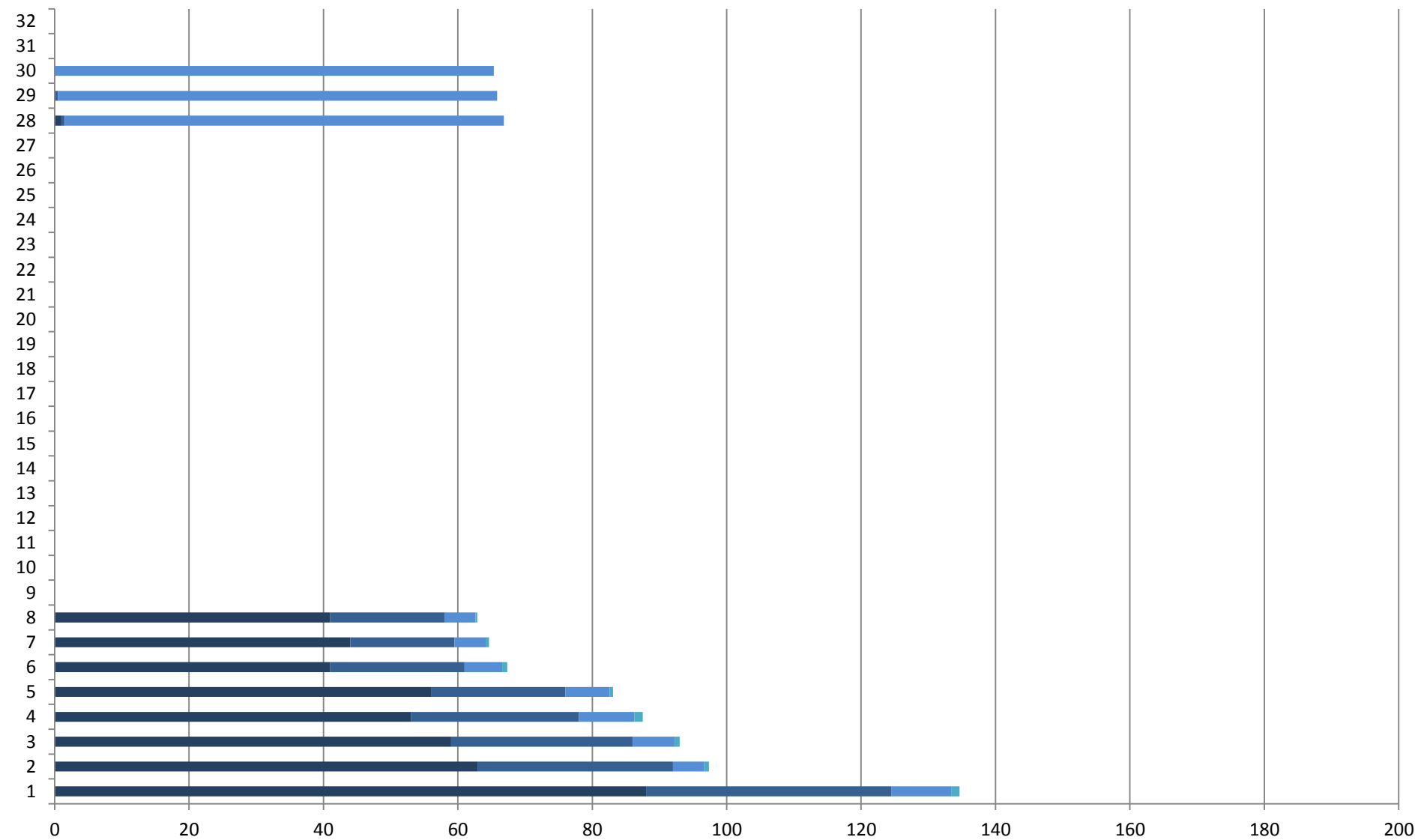




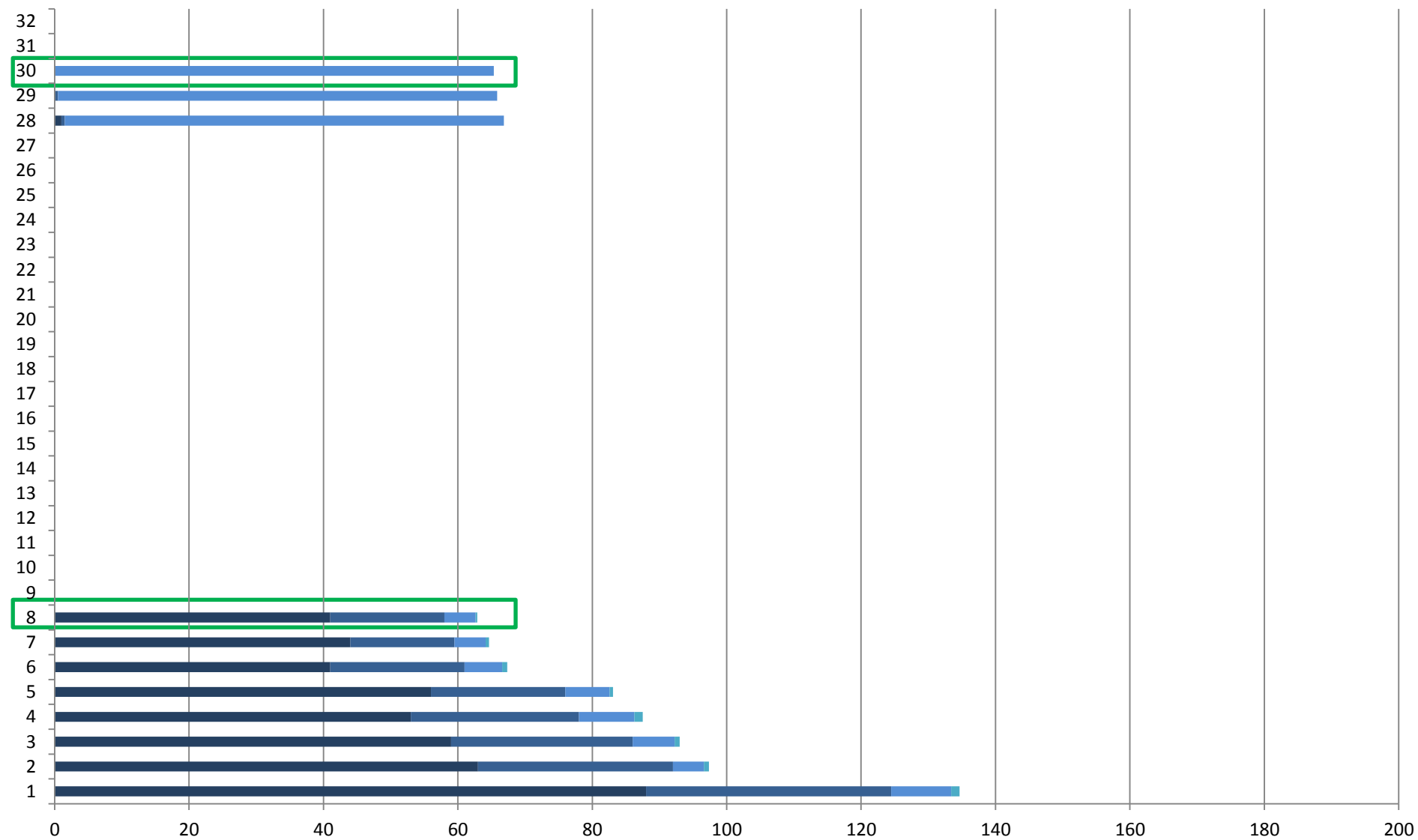
# 2013 Best Novel Point Totals – Round 21



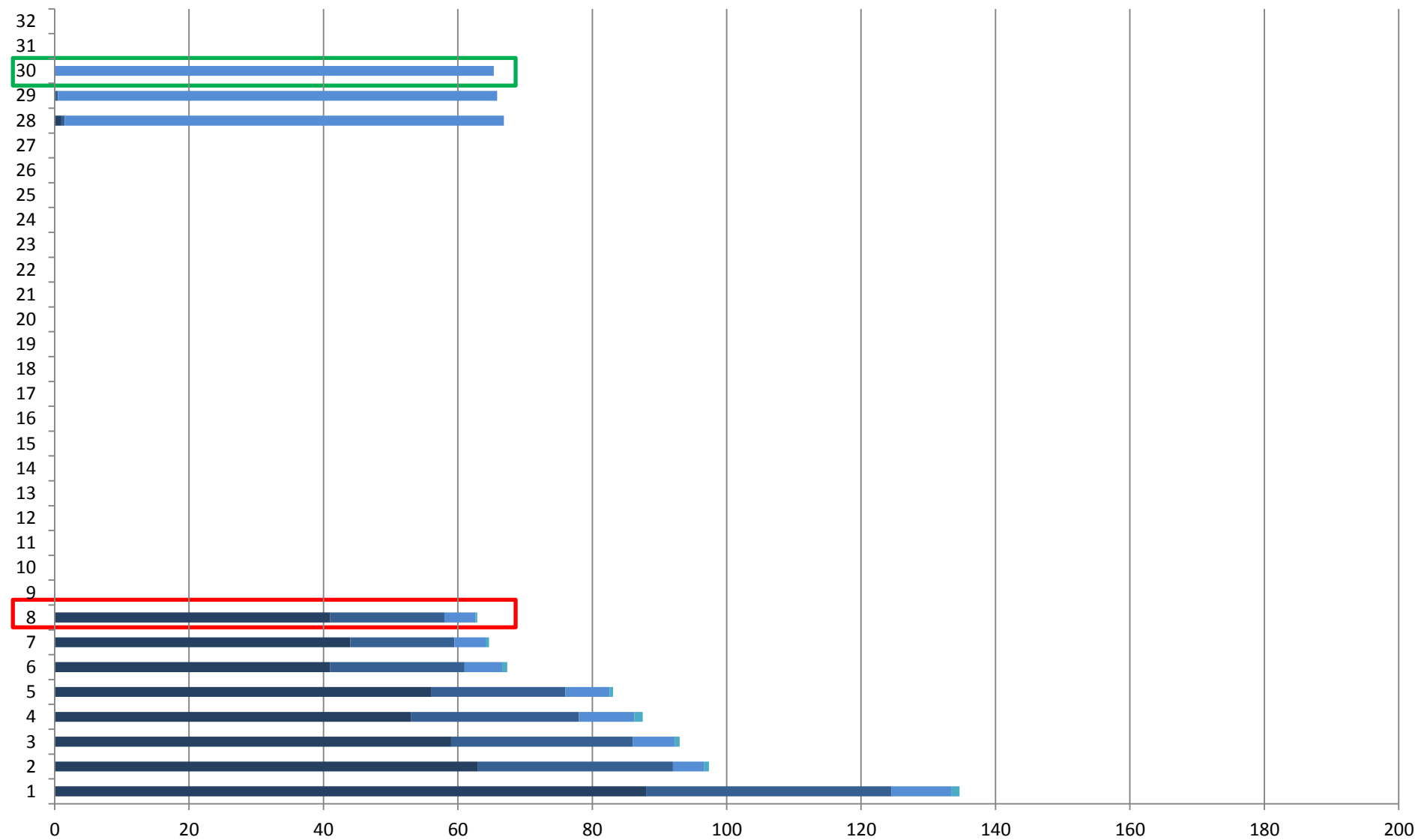
# 2013 Best Novel Point Totals – Round 22



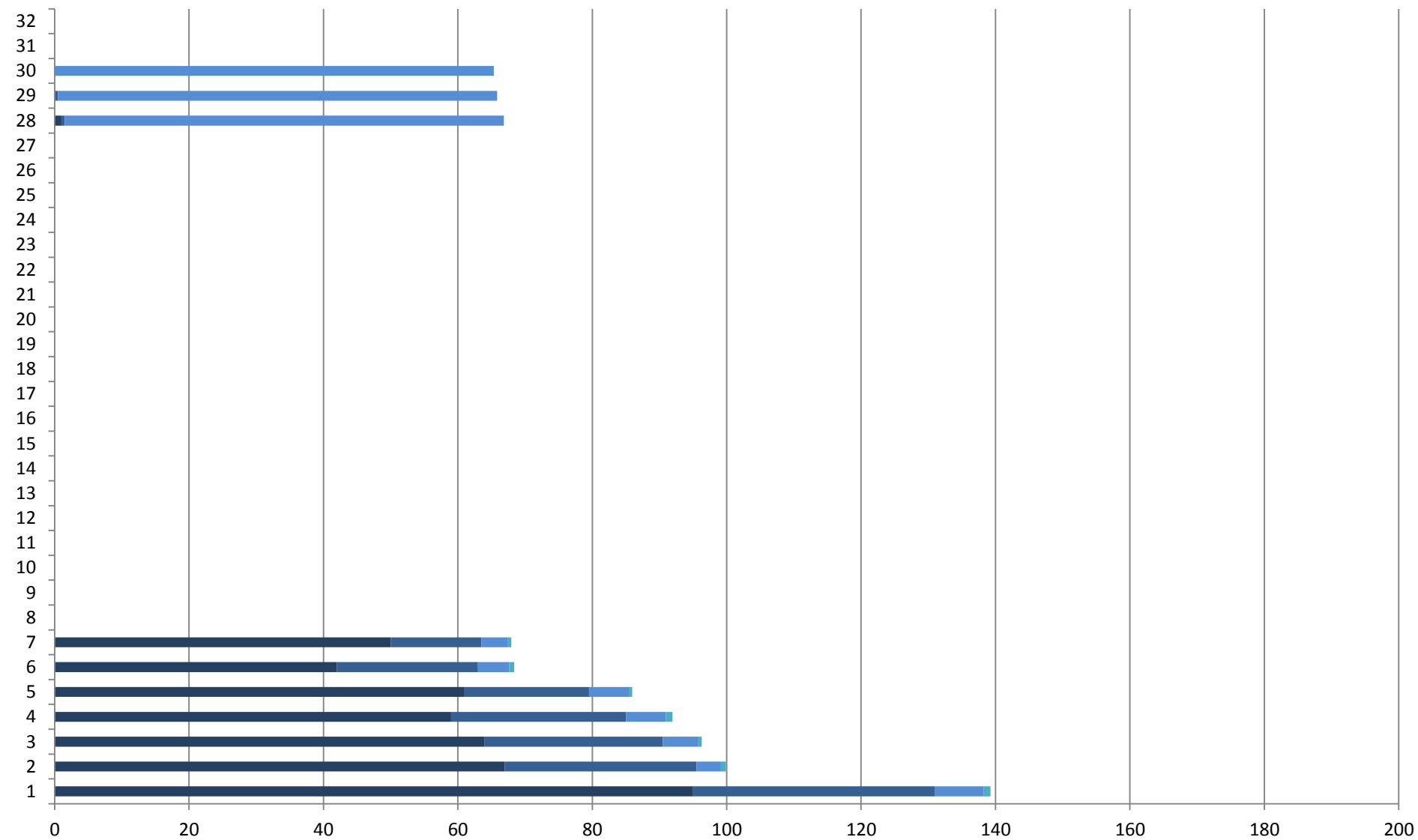
# 2013 Best Novel Point Totals – Round 22



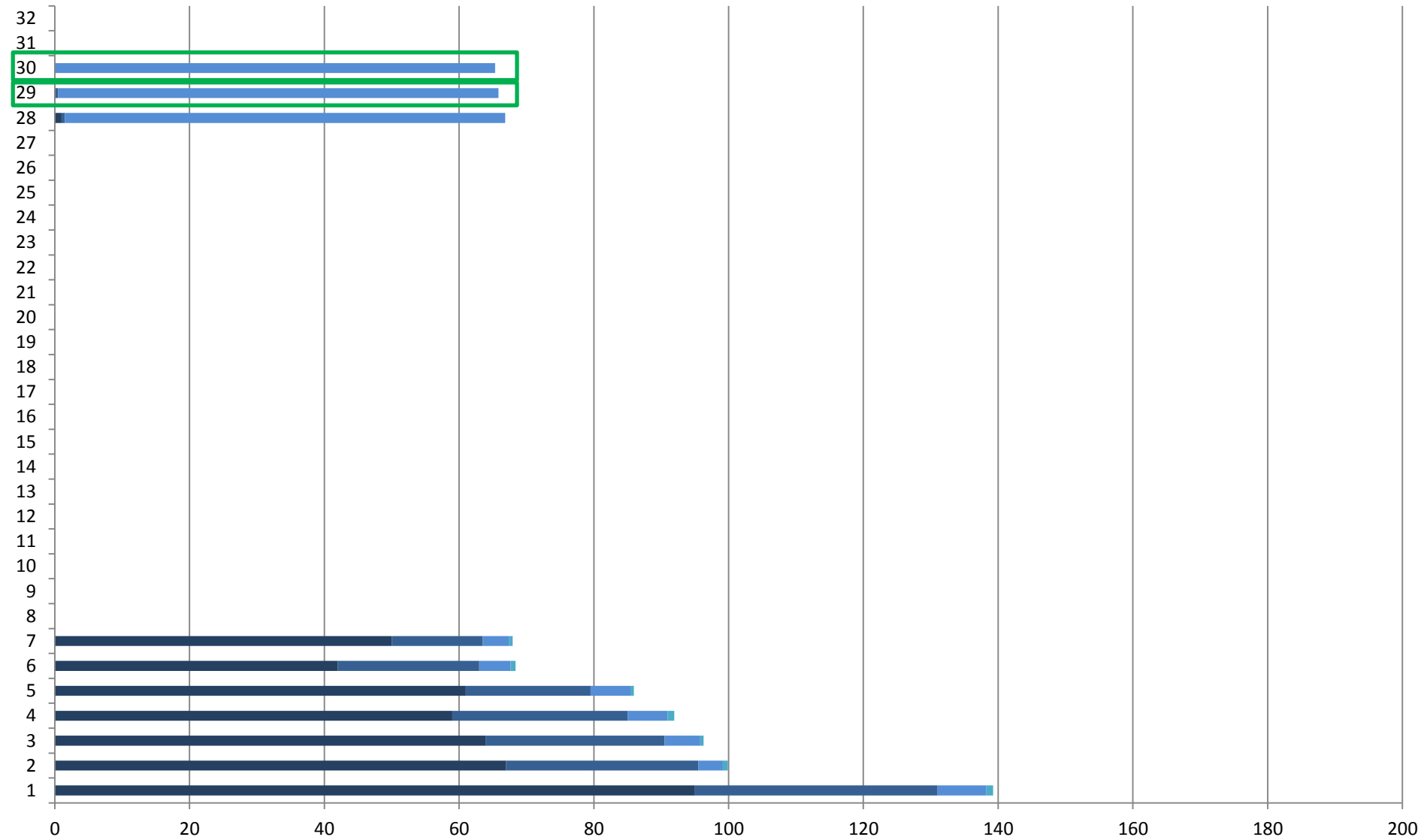
# 2013 Best Novel Point Totals – Round 22



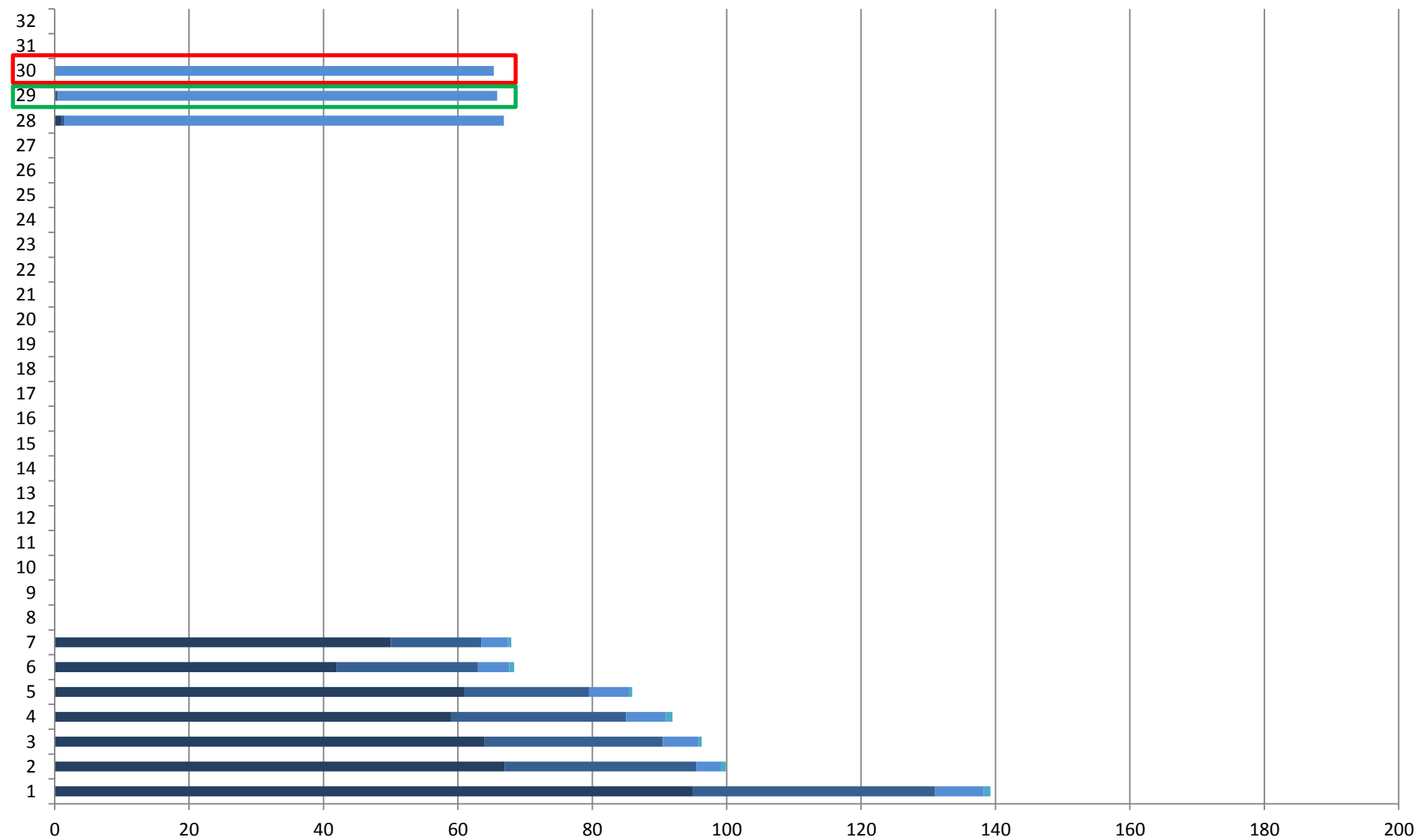
# 2013 Best Novel Point Totals – Round 23



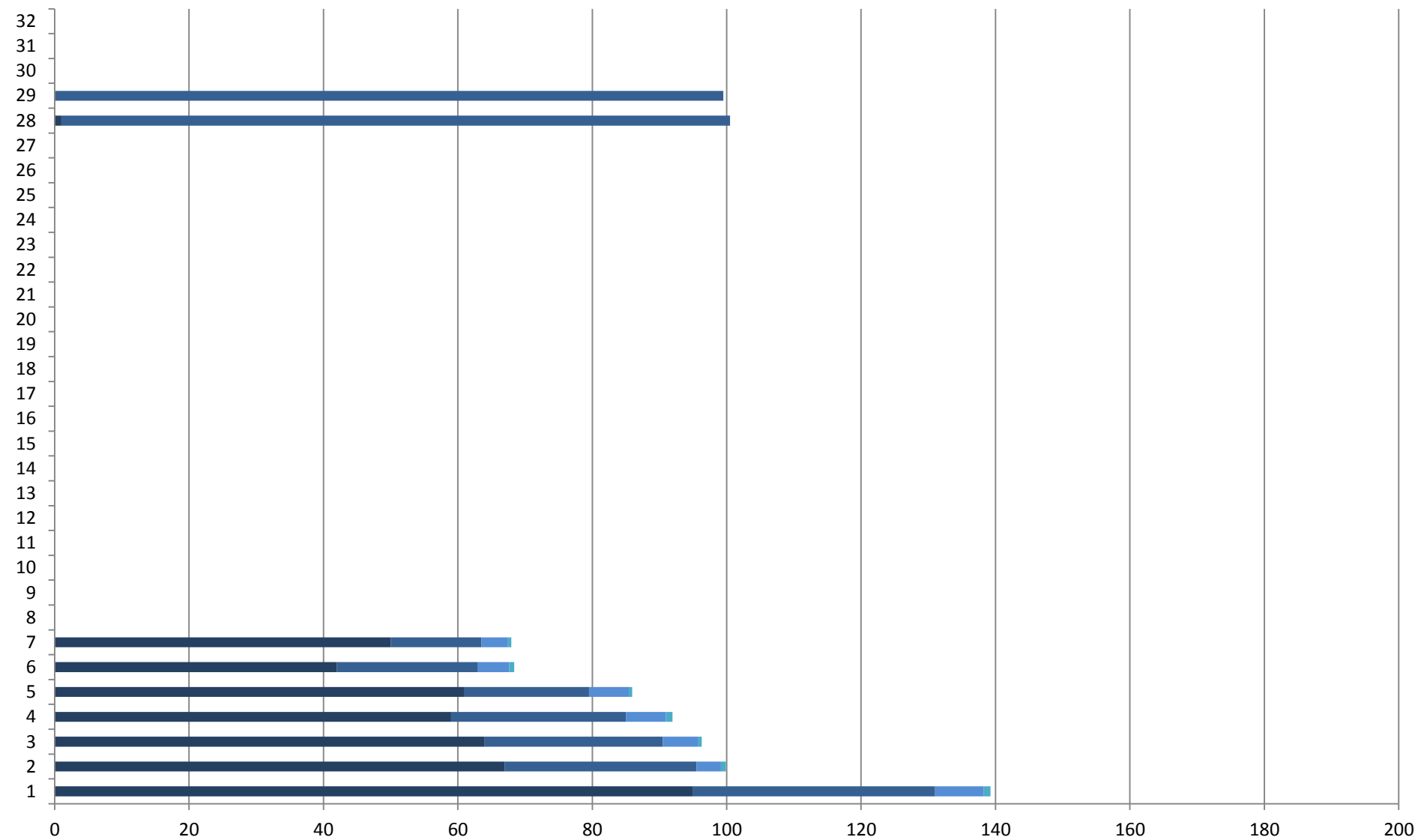
# 2013 Best Novel Point Totals – Round 23



# 2013 Best Novel Point Totals – Round 23

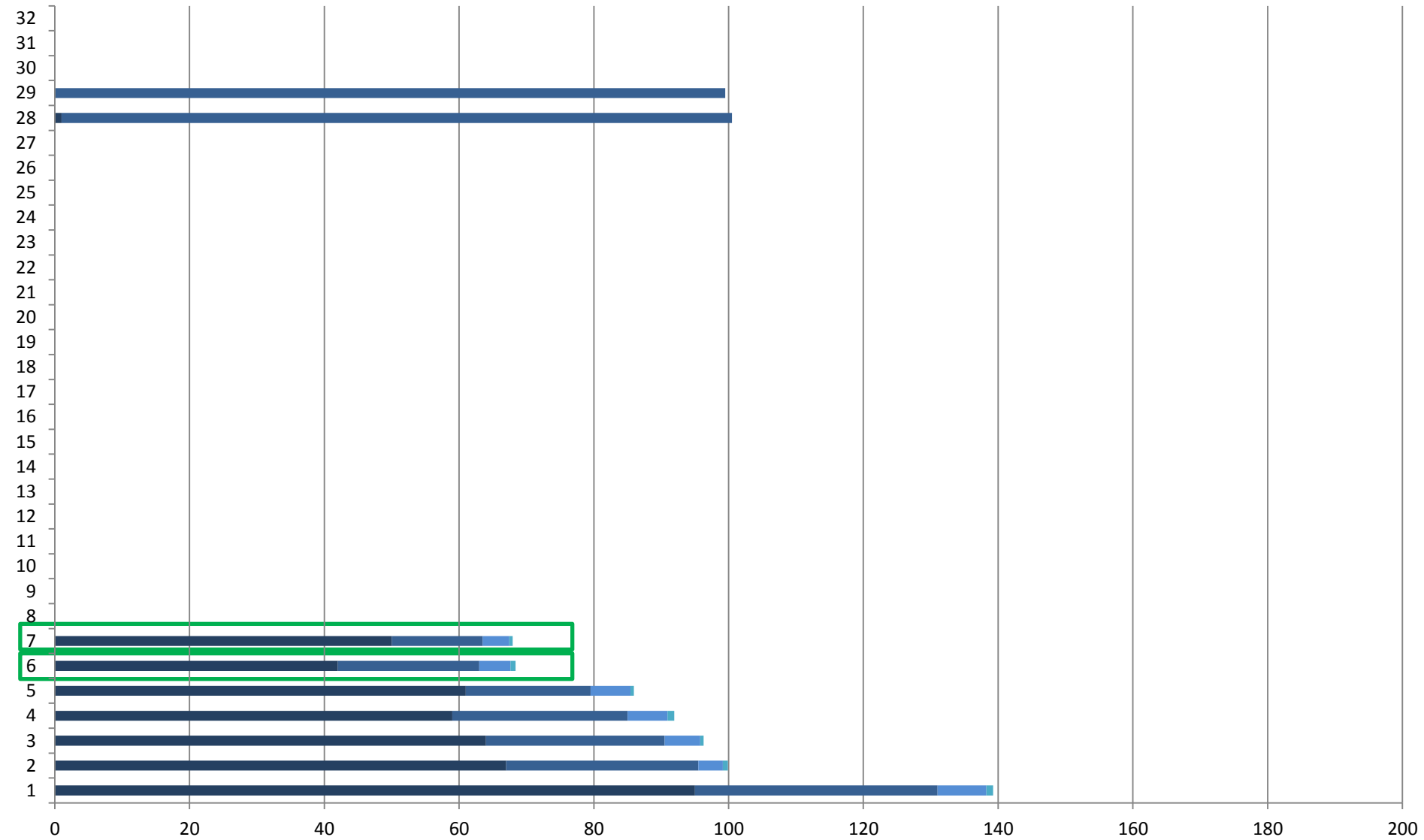


# 2013 Best Novel Point Totals – Round 24

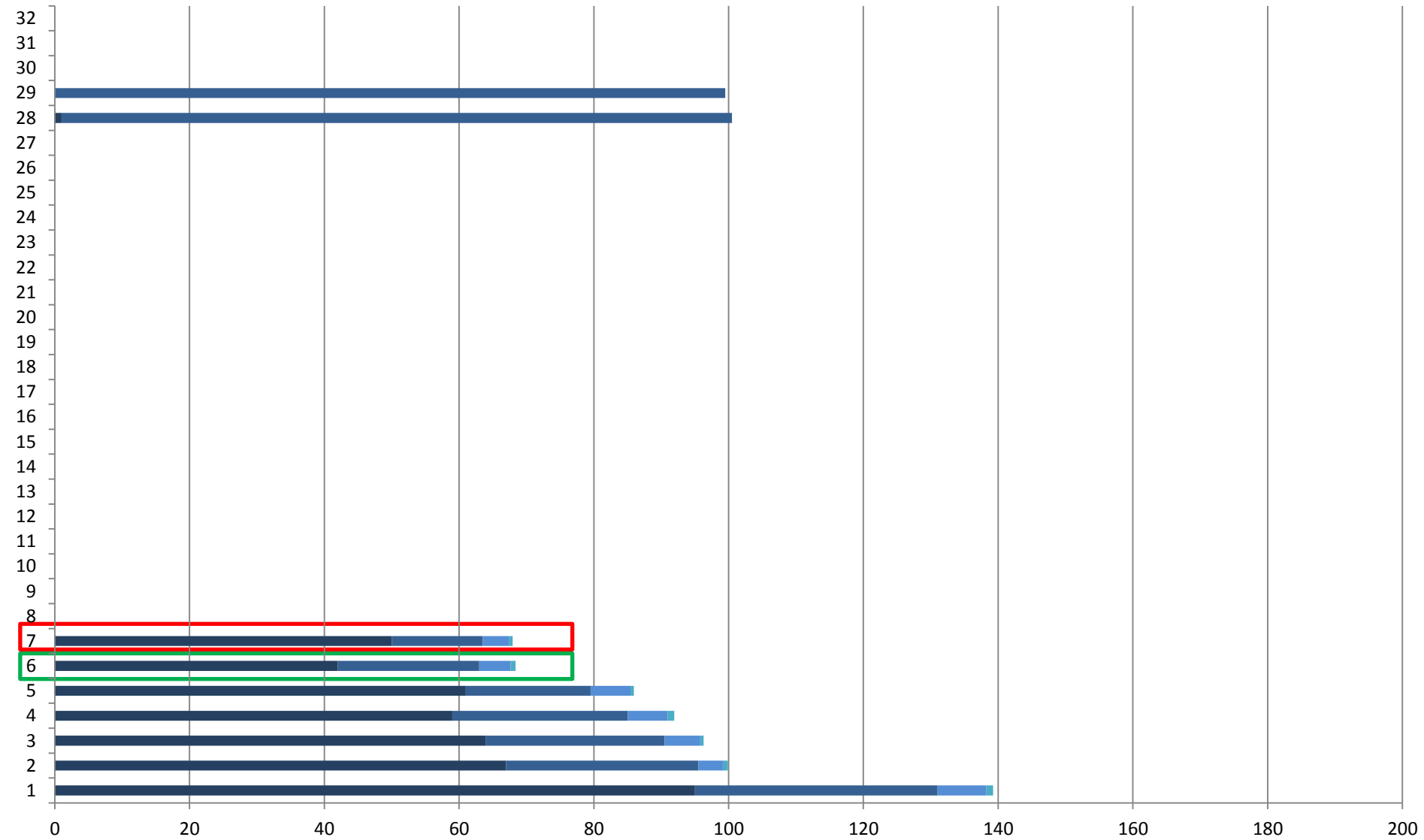




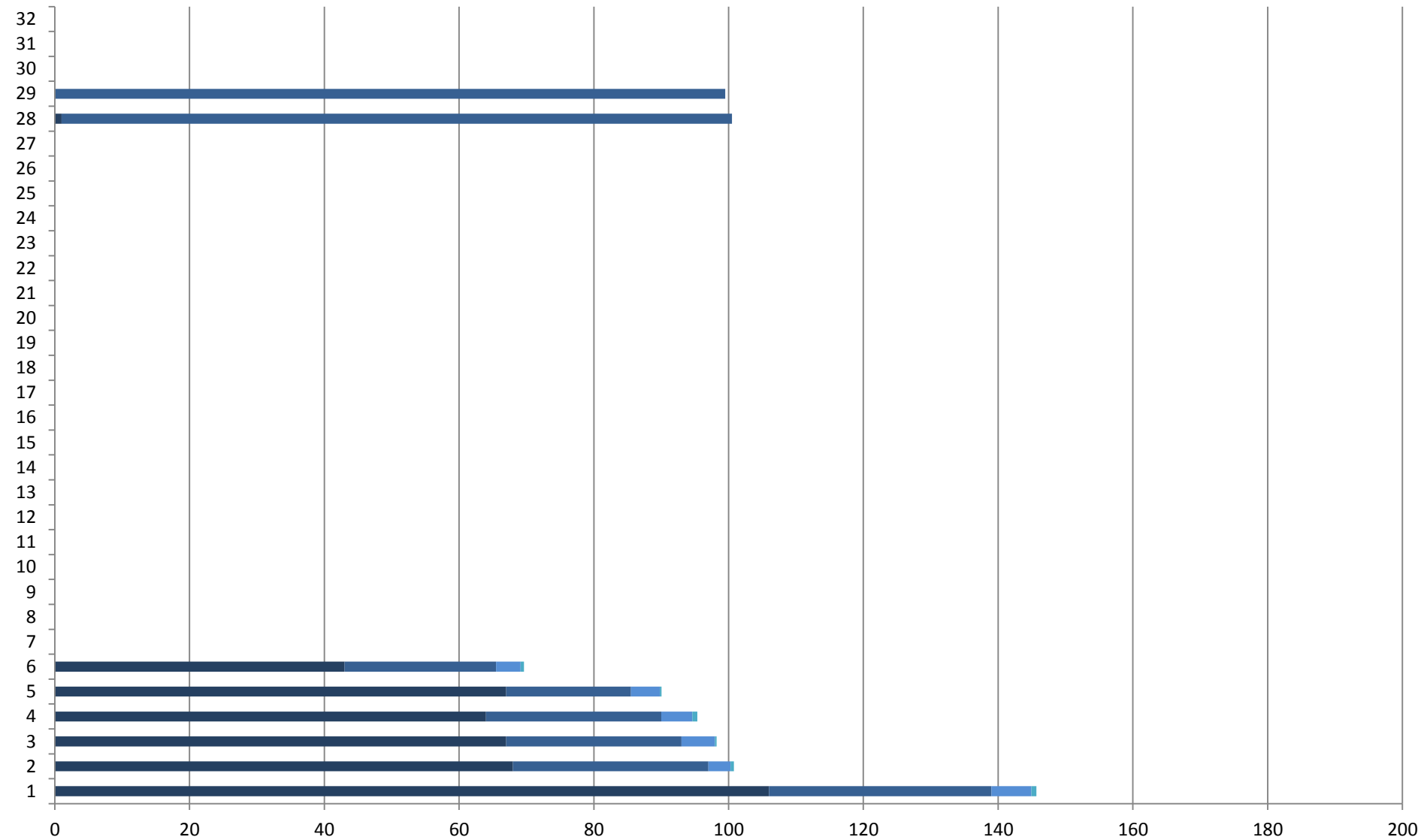
# 2013 Best Novel Point Totals – Round 24



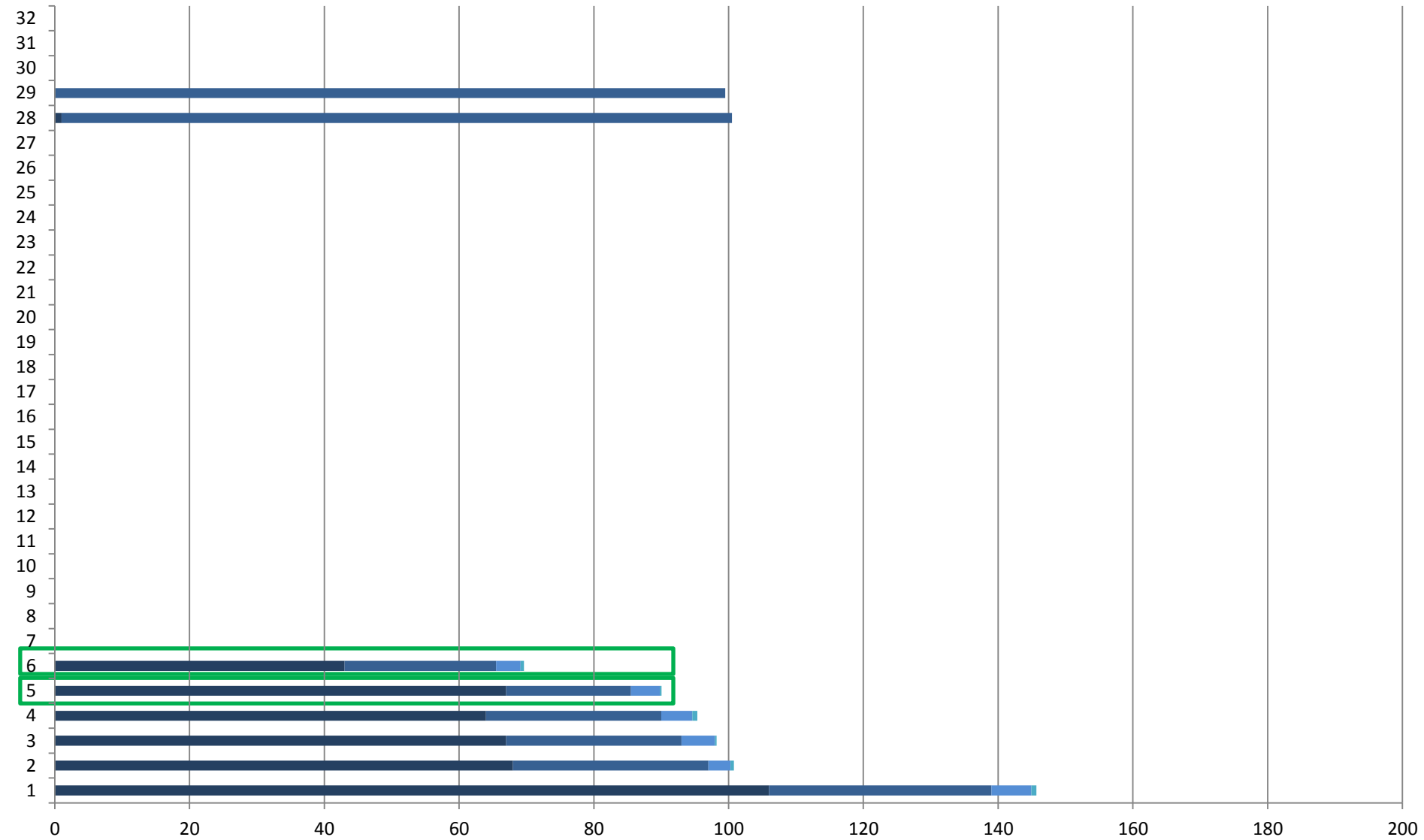
# 2013 Best Novel Point Totals – Round 24



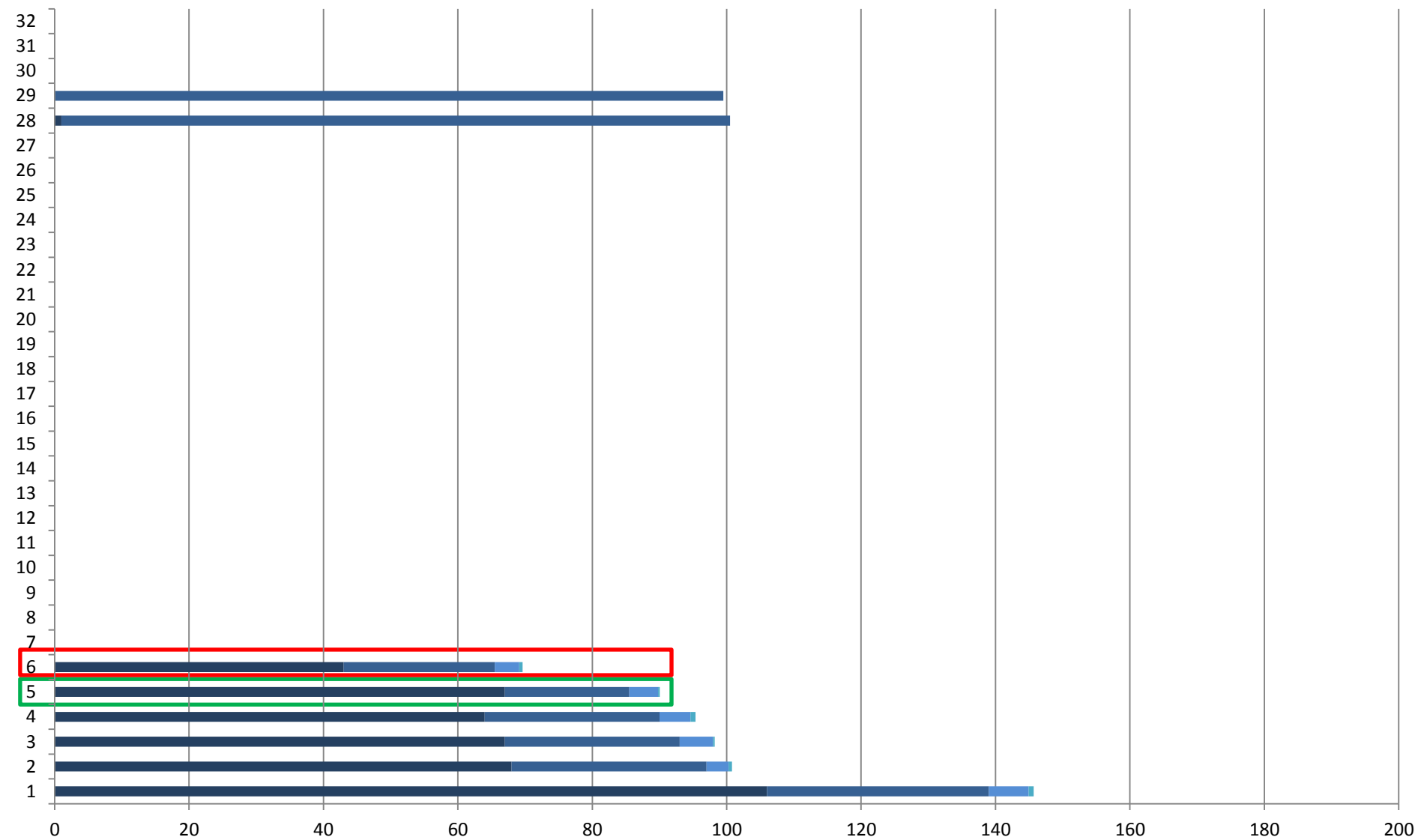
# 2013 Best Novel Point Totals – Round 25



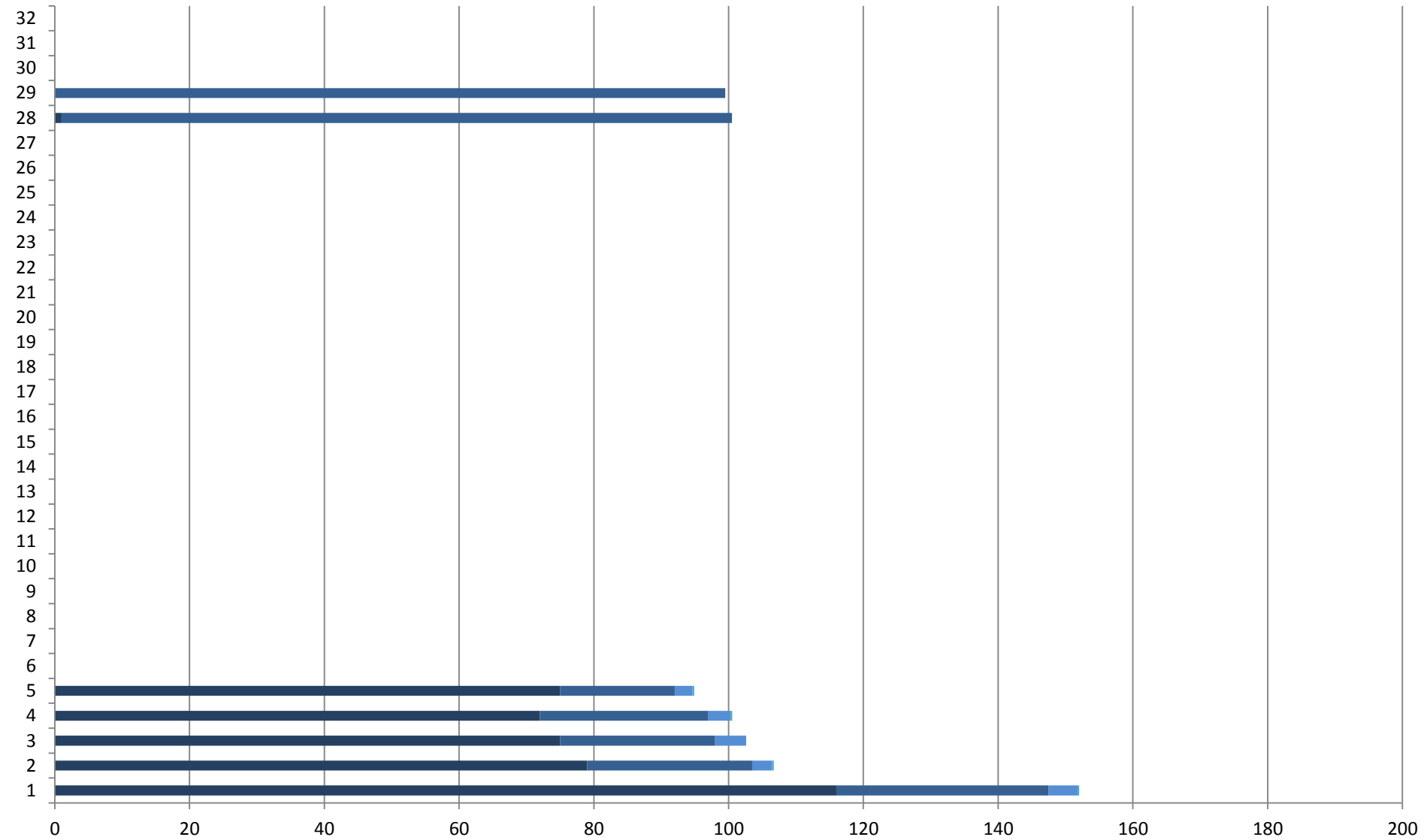
# 2013 Best Novel Point Totals – Round 25



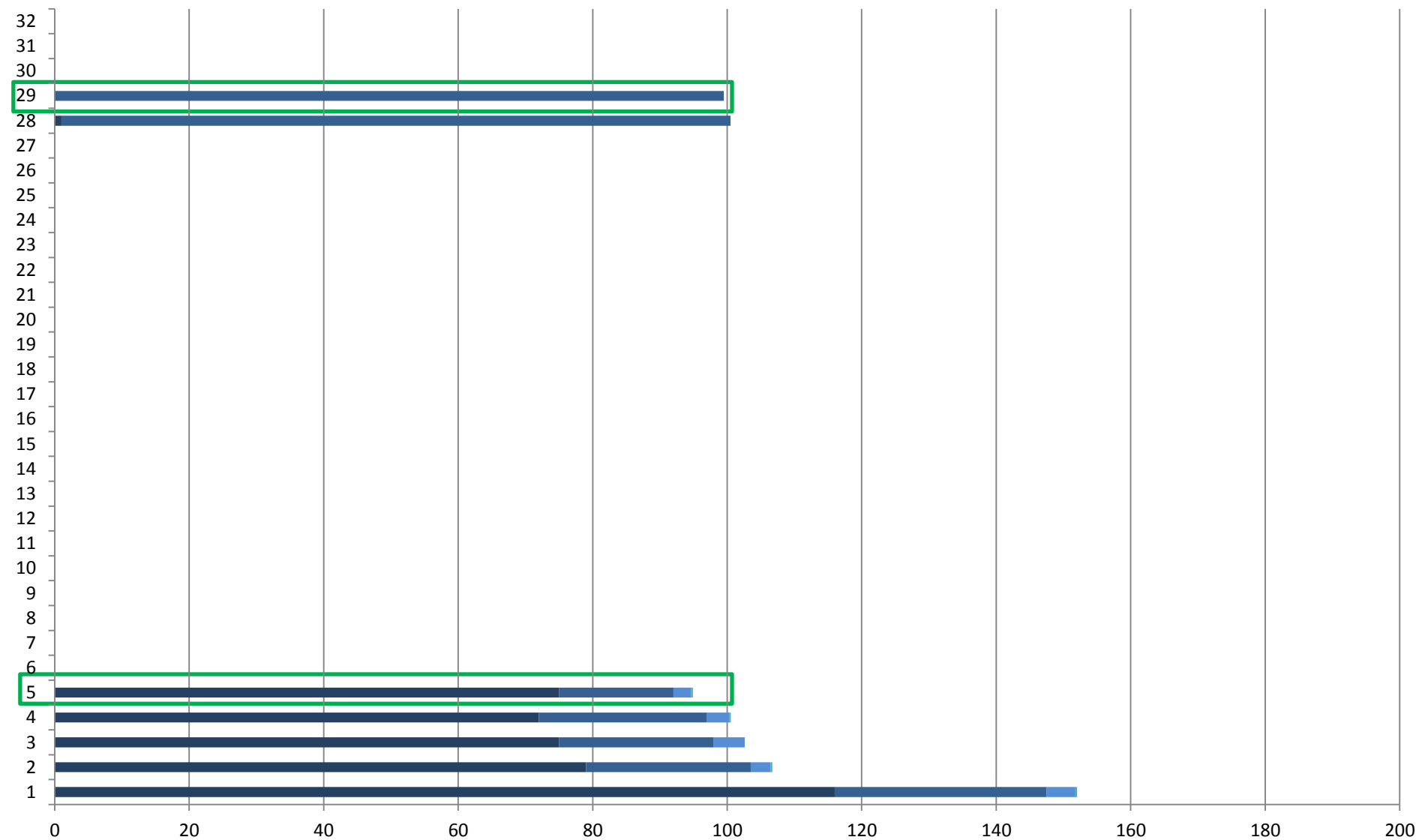
# 2013 Best Novel Point Totals – Round 25



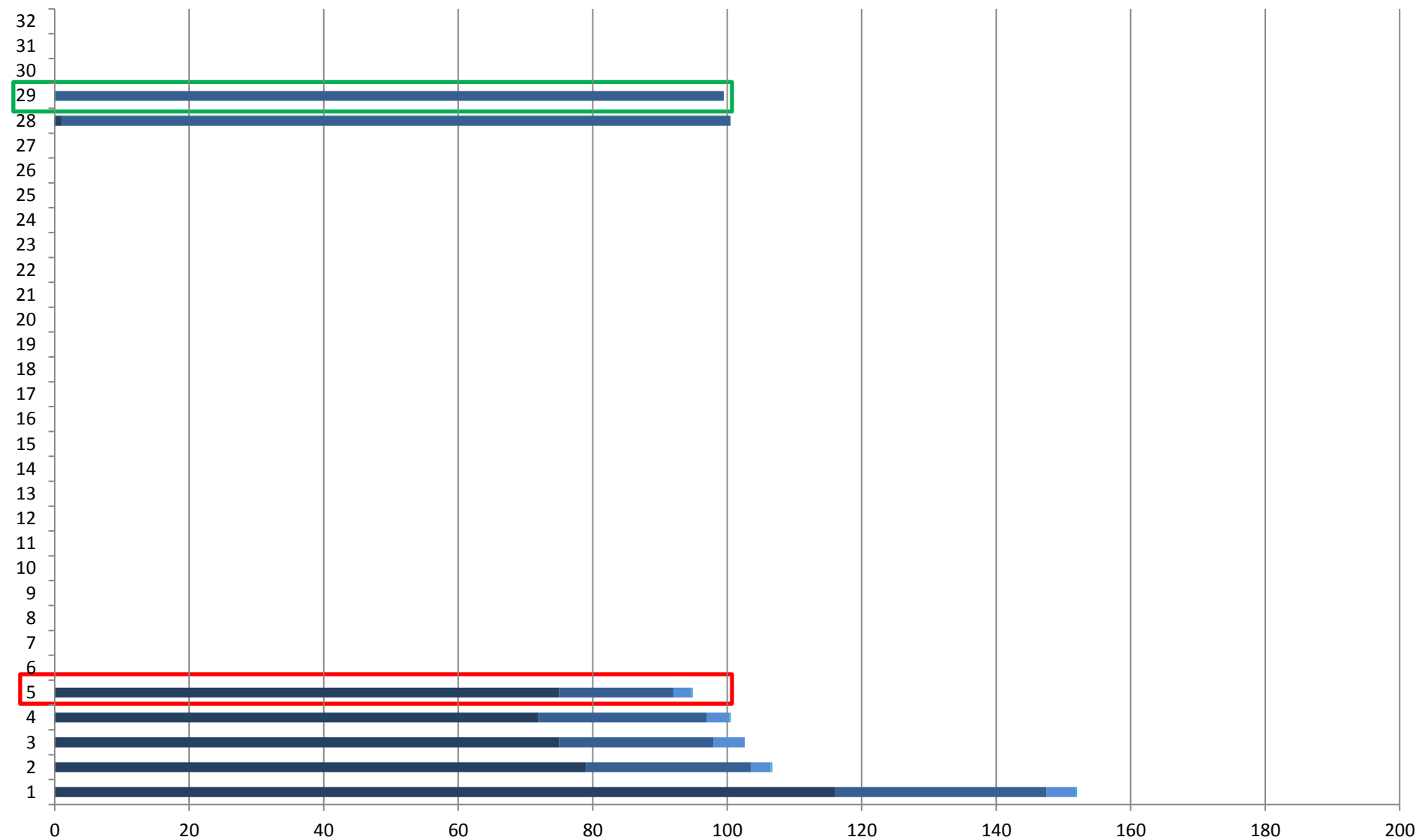
# 2013 Best Novel Point Totals – Round 26



# 2013 Best Novel Point Totals – Round 26

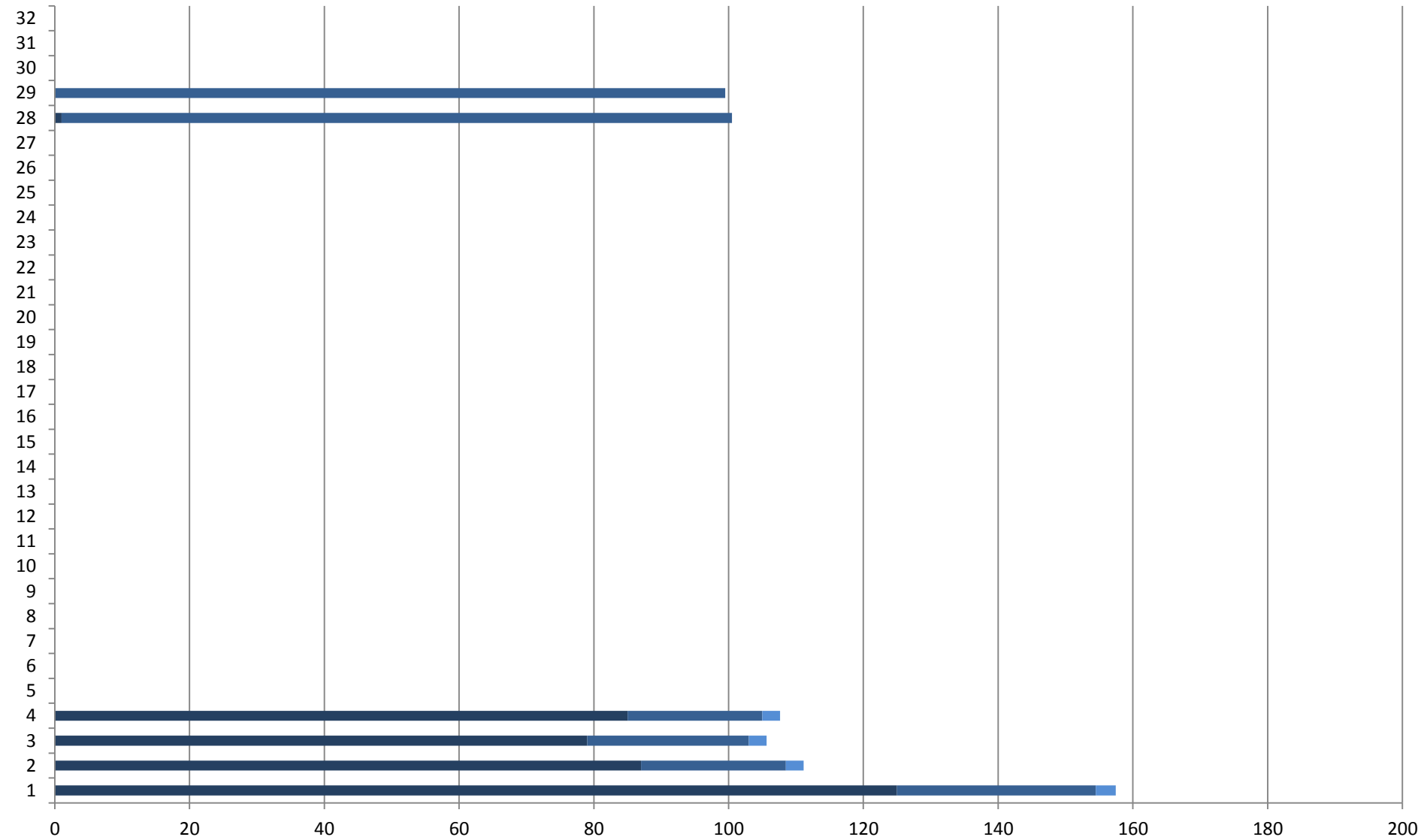


# 2013 Best Novel Point Totals – Round 26

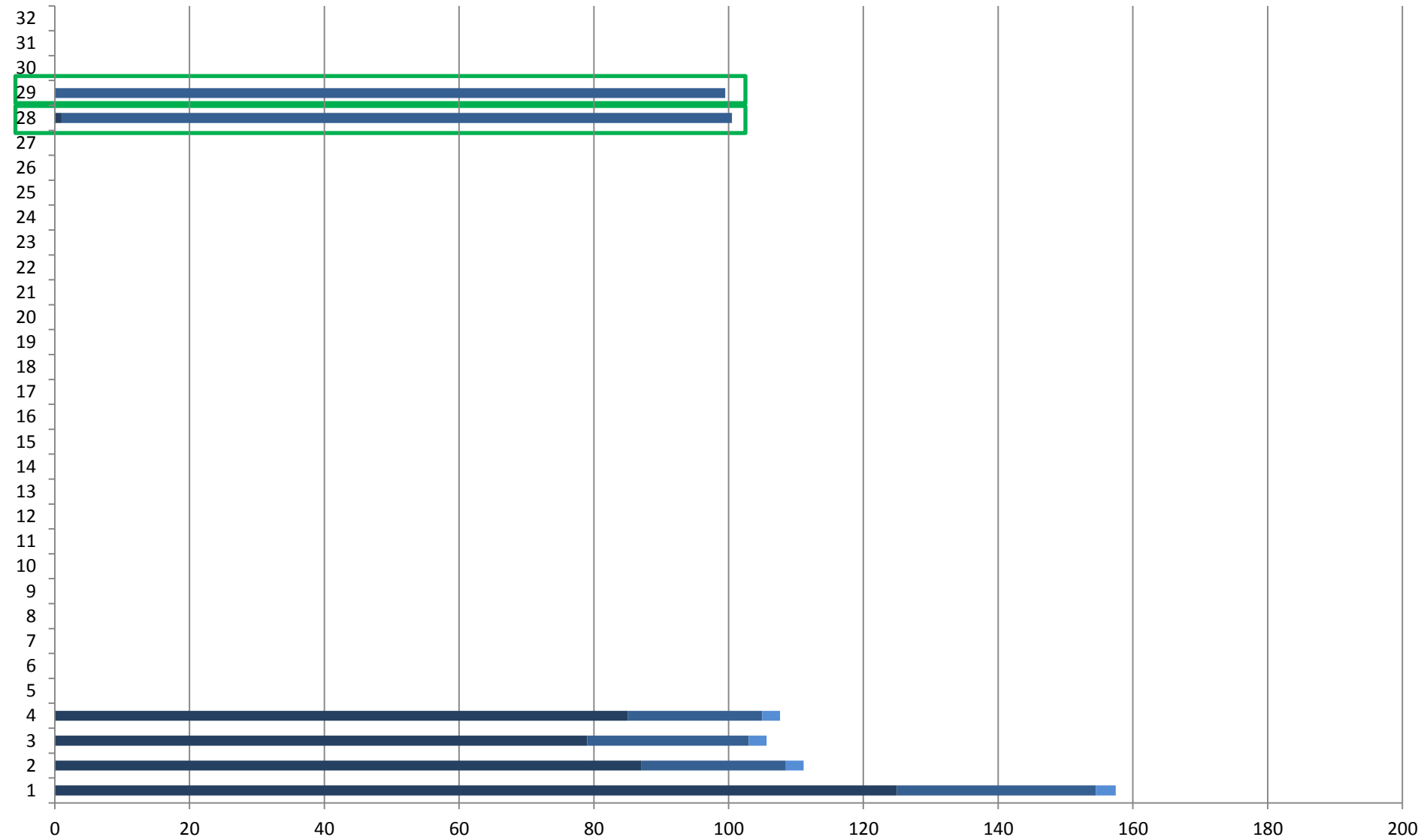




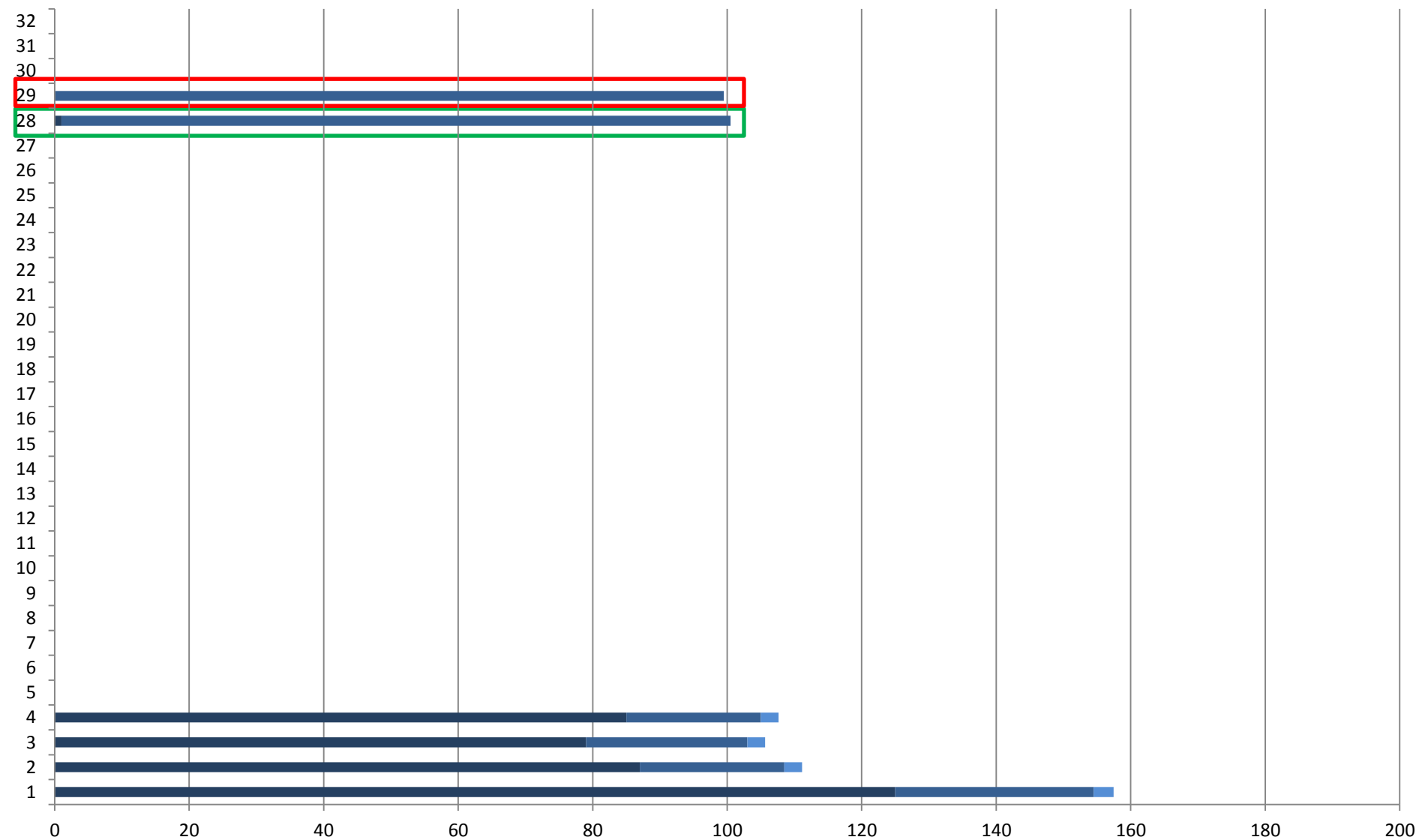
# 2013 Best Novel Point Totals – Round 27



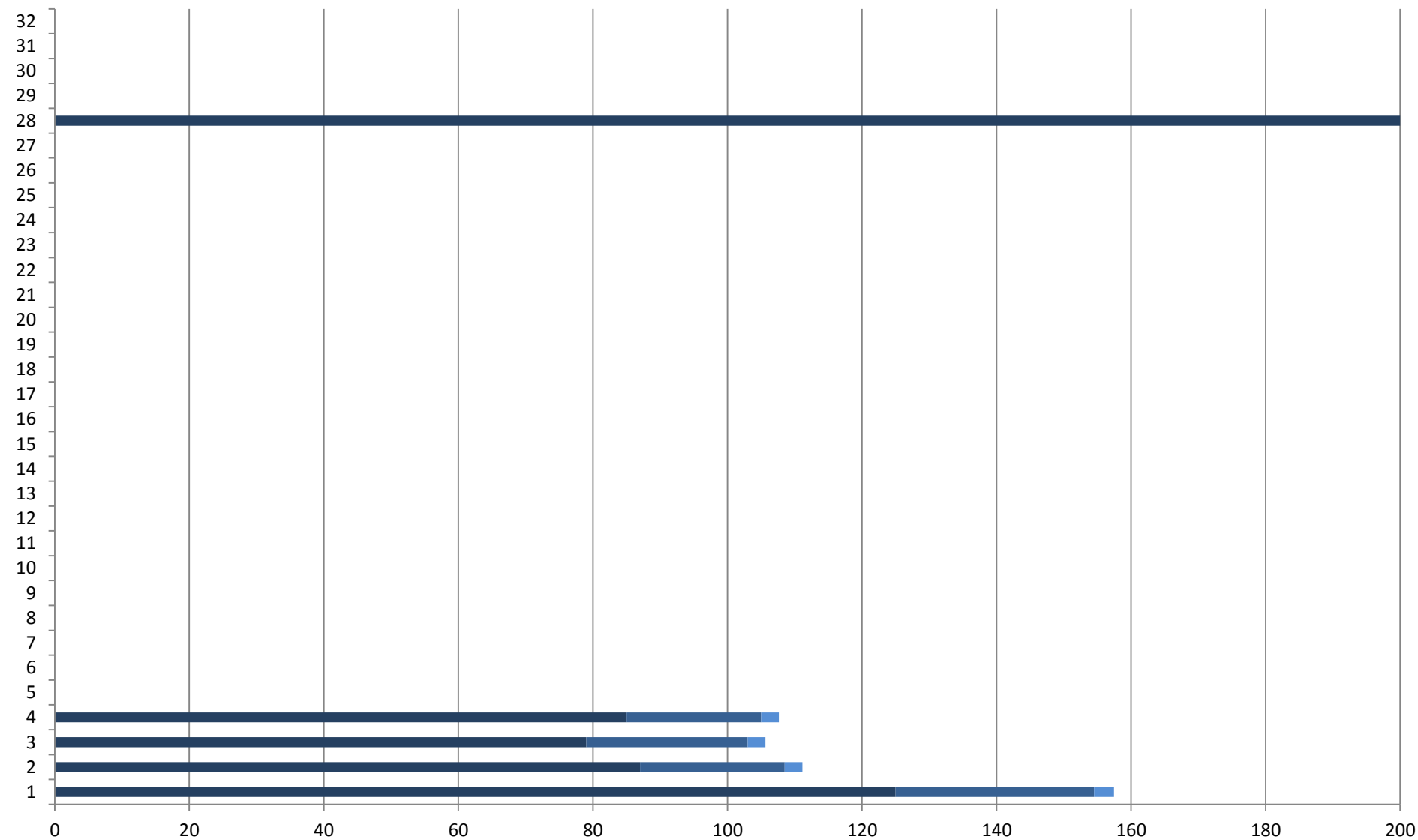
# 2013 Best Novel Point Totals – Round 27



# 2013 Best Novel Point Totals – Round 27



# 2013 Best Novel Point Totals – Round 28



**Now that there are only five nominees left, the process ends.**

# 2013 Best Novel : Final Ballot (E Pluribus Hugo)

- #1
- #2
- #3
- #4
- #28

# Conclusion

- Under the current nomination system, the five slate nominees have the five most number of nominations, so the final ballot is 28,29,30,31,32 – **the slate sweeps the category.**
- Under EPH, the final ballot is 1,2,3,4,28 – **the slate only gets one nomination slot.**

# Conclusion

- Note that as a slate gets a larger percentage of the total number of nomination ballots, they can potentially get more than one slot on the final ballot.
- Also, of course, if non-slate ballots list a slate nominee, it will get a boost from that as well.
- The only way for a slate (or even a group of slates) to sweep a category is to have a majority of the total number of nomination ballots – in which case they deserve to win.

# Where To Go From Here

- We hope this helps answer some of your questions about E Pluribus Hugo.
- You can find the formal proposal on the Sasquan Business Meeting Agenda page at: <http://sasquan.org/business-meeting/agenda/>
- There is also an FAQ linked from that page that may answer more of your questions.
- Finally, there is a community Q&A page hosted at: <http://nielsenhayden.com/makinglight/archives/016283.html>



**THANK YOU!**

“Out of the Many, a Hugo”