Advancing Technology: The PIT Tag Problem

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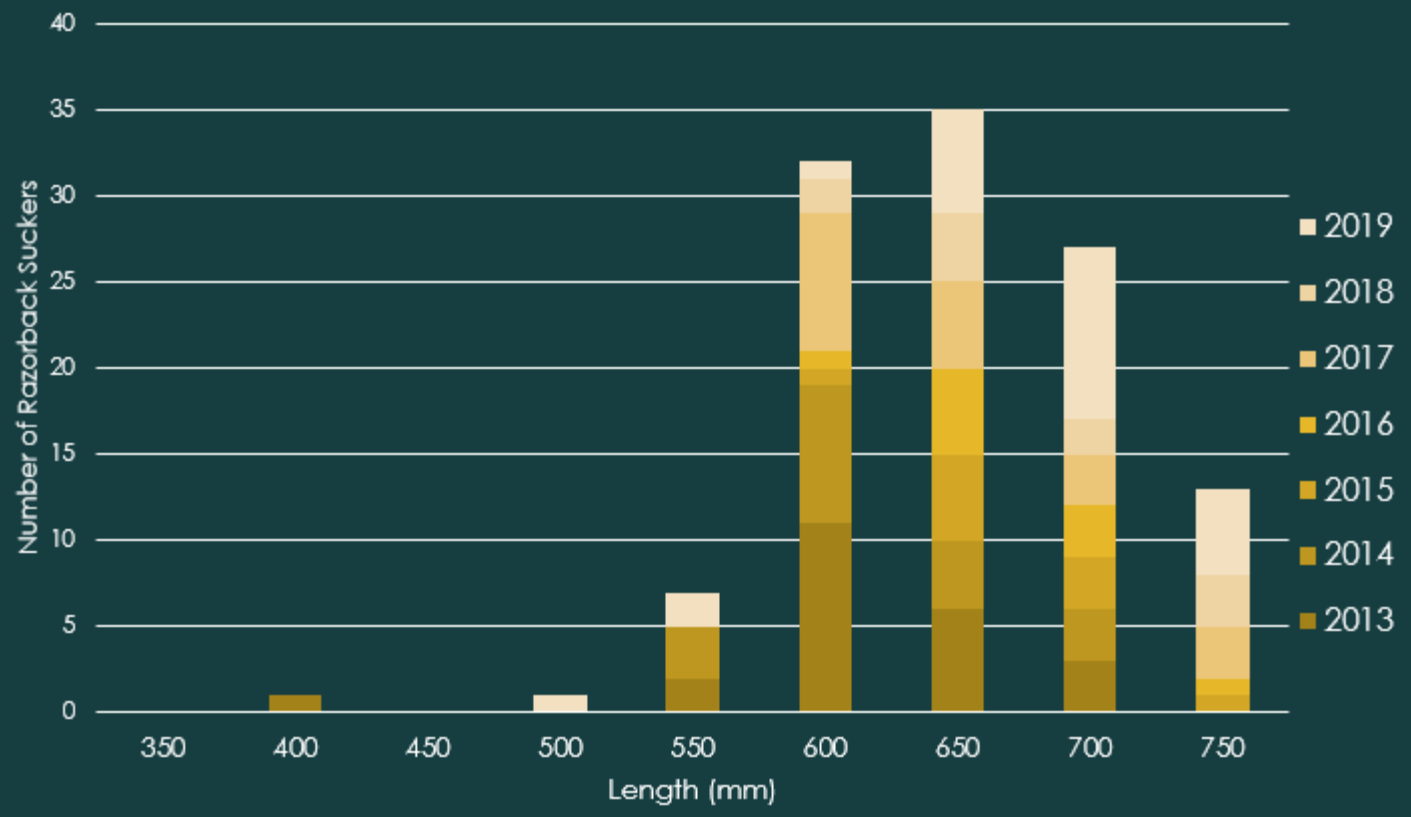
Razorback Sucker

- Stocking since 1992
  - 400 kHz tags
  - 134.2 kHz tags

Tagless Fish in Lake Mohave

- Since 2013, 122 untagged Razorback Sucker
  - Most fish were >600 mm
- Why?
  - Lost PIT Tags?
  - Wild fish?
  - Tag malfunction?
  - Reader incompatibility?



Questions

1. Is the technology we are using (more modern scanners) able to detect the 400 kHz tags?

2. Are the old 400 kHz tag becoming unresponsive?

3. Is there a read range that is too small for us to detect 400 kHz tags in these large bodied fish?

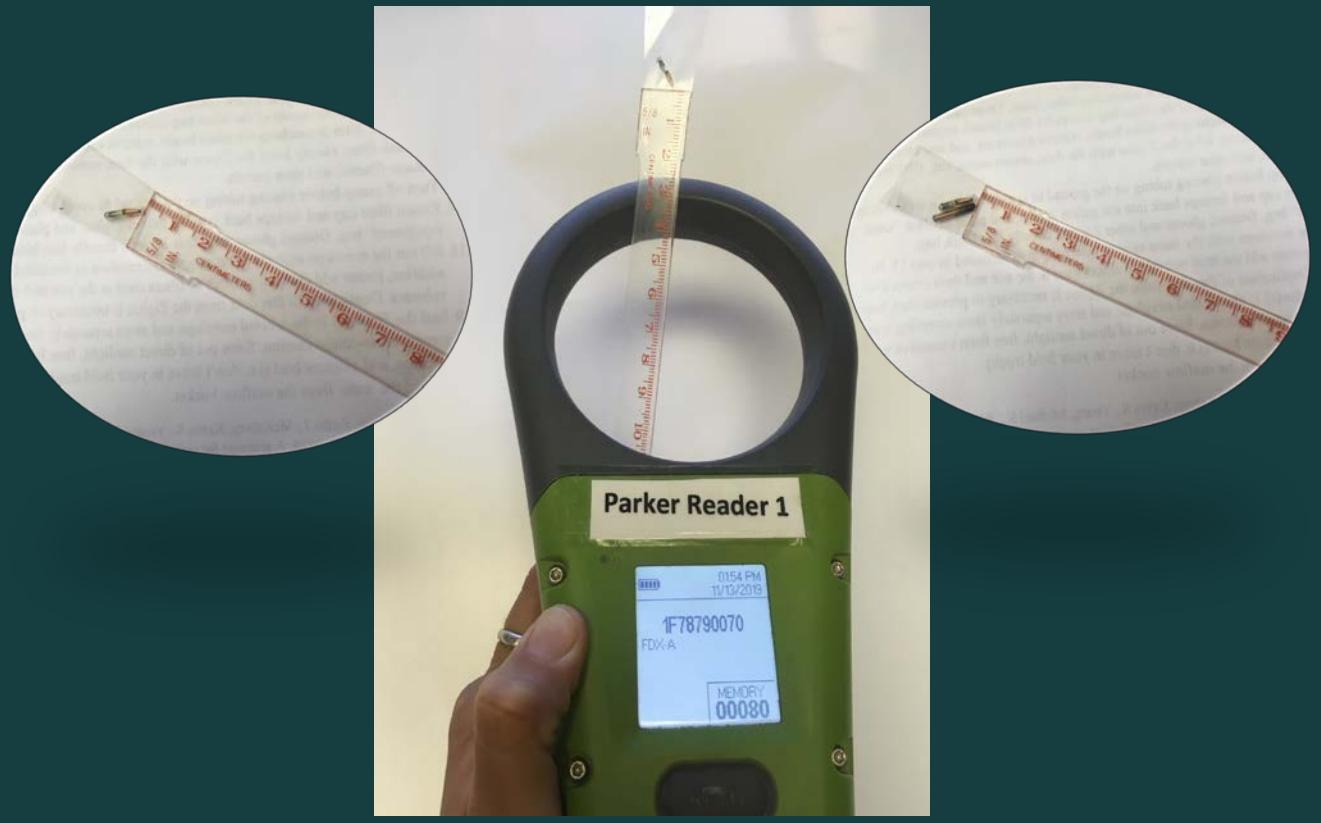
Methods

Destron/IDI

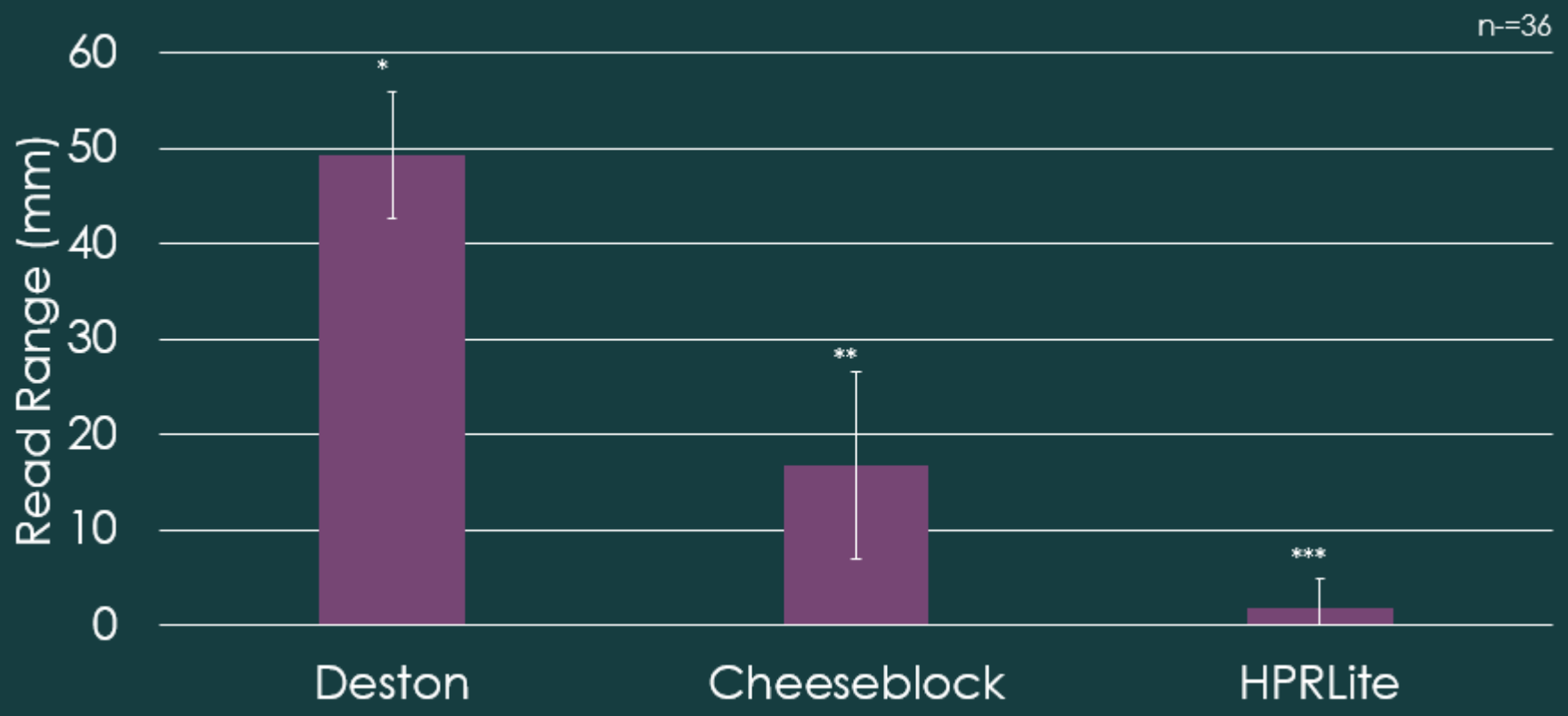
BioMark SF 2001 (Cheeseblock)

BioMark HPRLite

Methods


Parker Reader 1
0154 PM
11/13/2019
1F78790070
FDX-A
MEMORY
00080

Results


n-=36
Read Range (mm)
60
50
40
30
20
10
0
*
**
***
Deston
Cheeseblock
HPRLite

Conclusions

1. Is the technology we are using (more modern scanners) able to detect the 400 kHz tags?
   - Yes. However, the read range on the Cheeseblock is less than half that of the Deston. HPR even less.
2. Are the old 400 kHz tag becoming unresponsive?
   - All 400 kHz tags tested were easily detected with the Destron. However there is a range of detectability based on series for the HPRLite.
3. Is there a read range that is too small for us to detect 400 kHz tags in these large bodied fish?
   - Possibly. There were 5 tags that likely would NOT have been detected with either the Cheeseblock or the HPRLite (read range <10 mm).

Take away…

Thank you