Freshwater Creek Life Cycle Monitoring Station

Pacific Lamprey Summary

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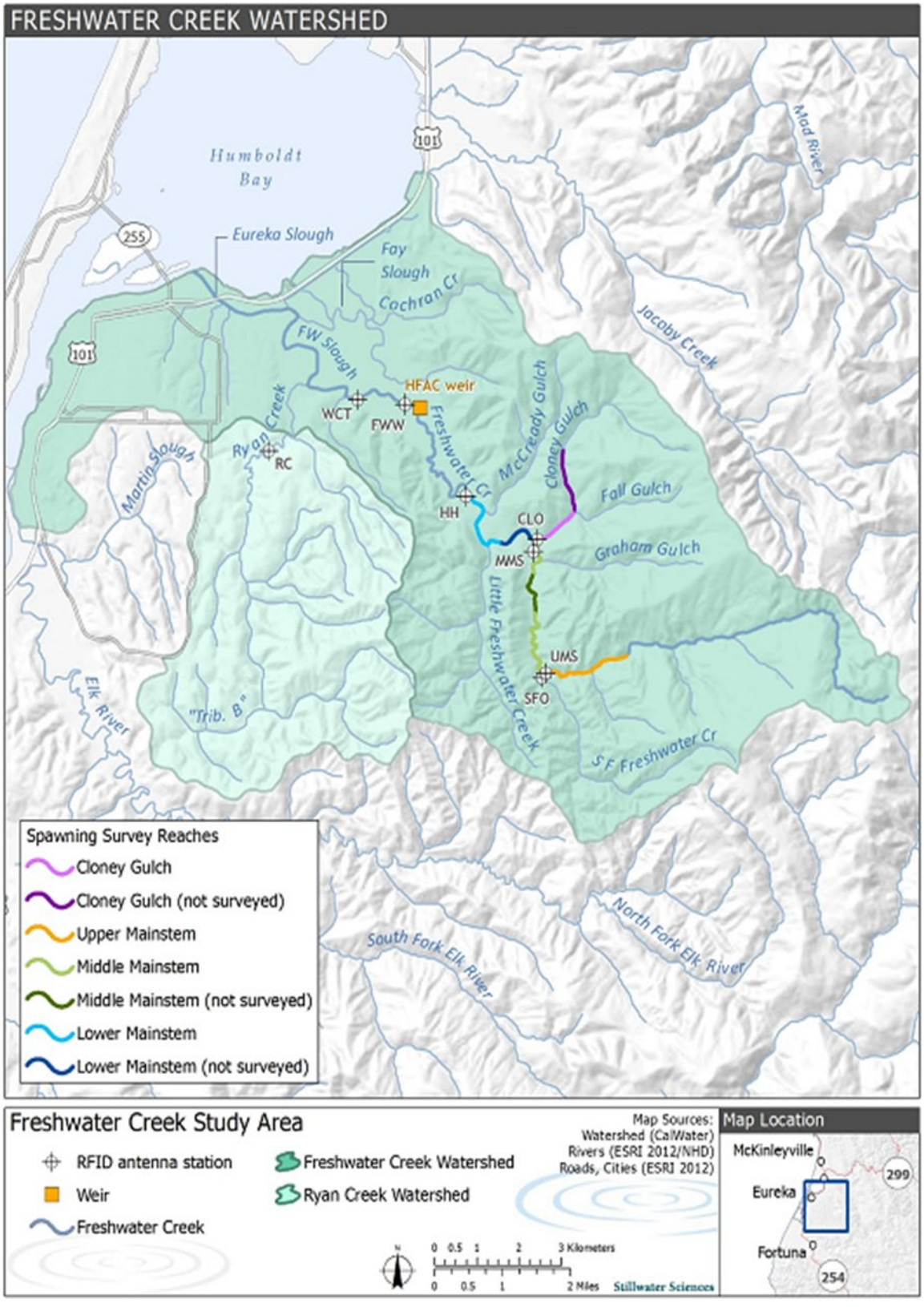
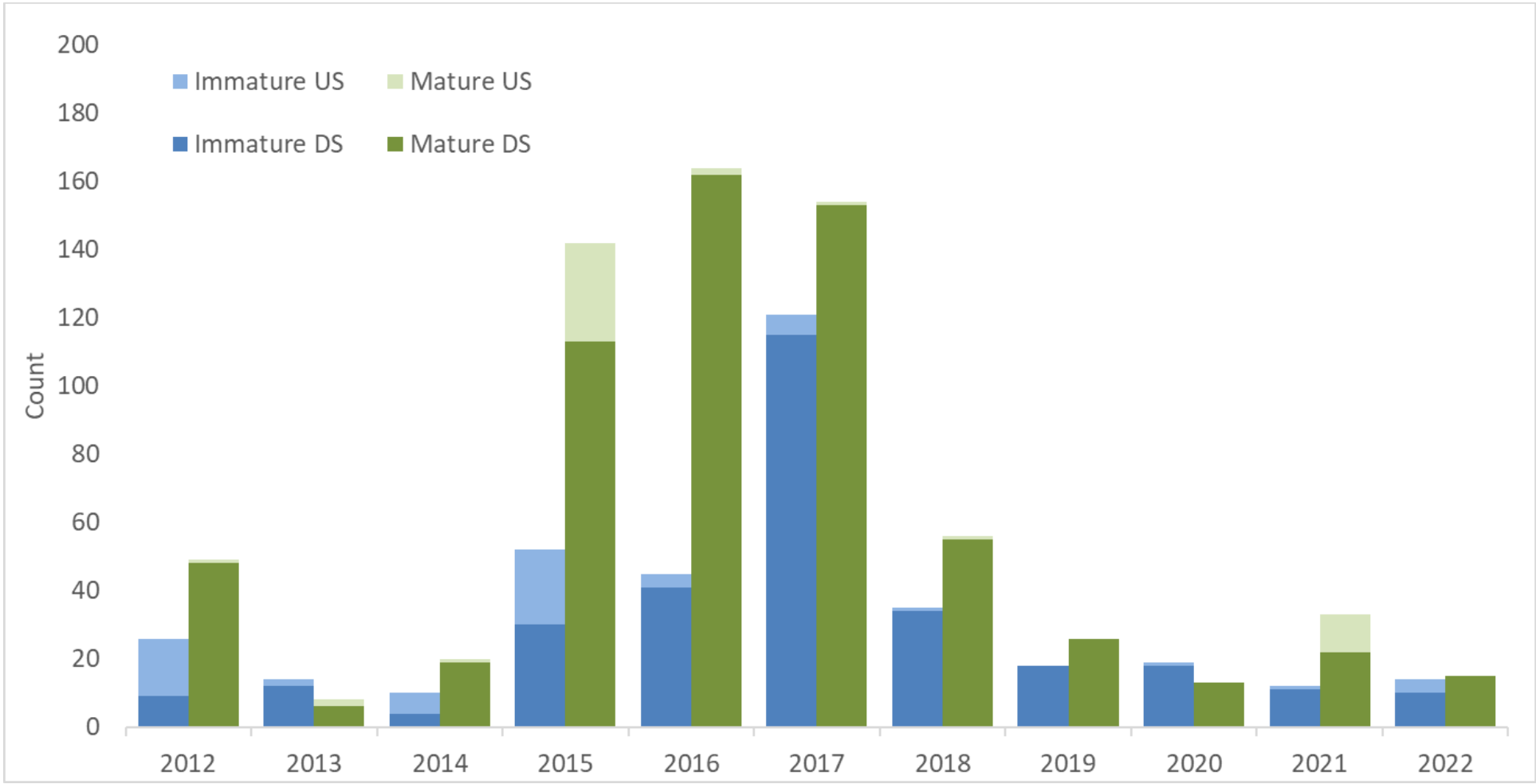
Study Area:

Freshwater Creek basin is located in Humboldt County between Eureka to the south and Arcata to the north. Freshwater Creek, which drains into Humboldt Bay via the Eureka Slough, is a fourth order stream with a drainage area of approximately 9,227 hectares (31 sq. mi.). Elevations in the watershed range from sea-level at the mouth to 823 meters at the headwaters. The main-stem of Freshwater Creek is approximately 23 rkm long, of which 14.5 rkm is anadromous fish habitat. Five main tributaries, Little Freshwater, Graham Gulch, Cloney Gulch, McCready Gulch, and South Fork Freshwater, each provide 2 to 4 rkm of anadromous fish habitat.

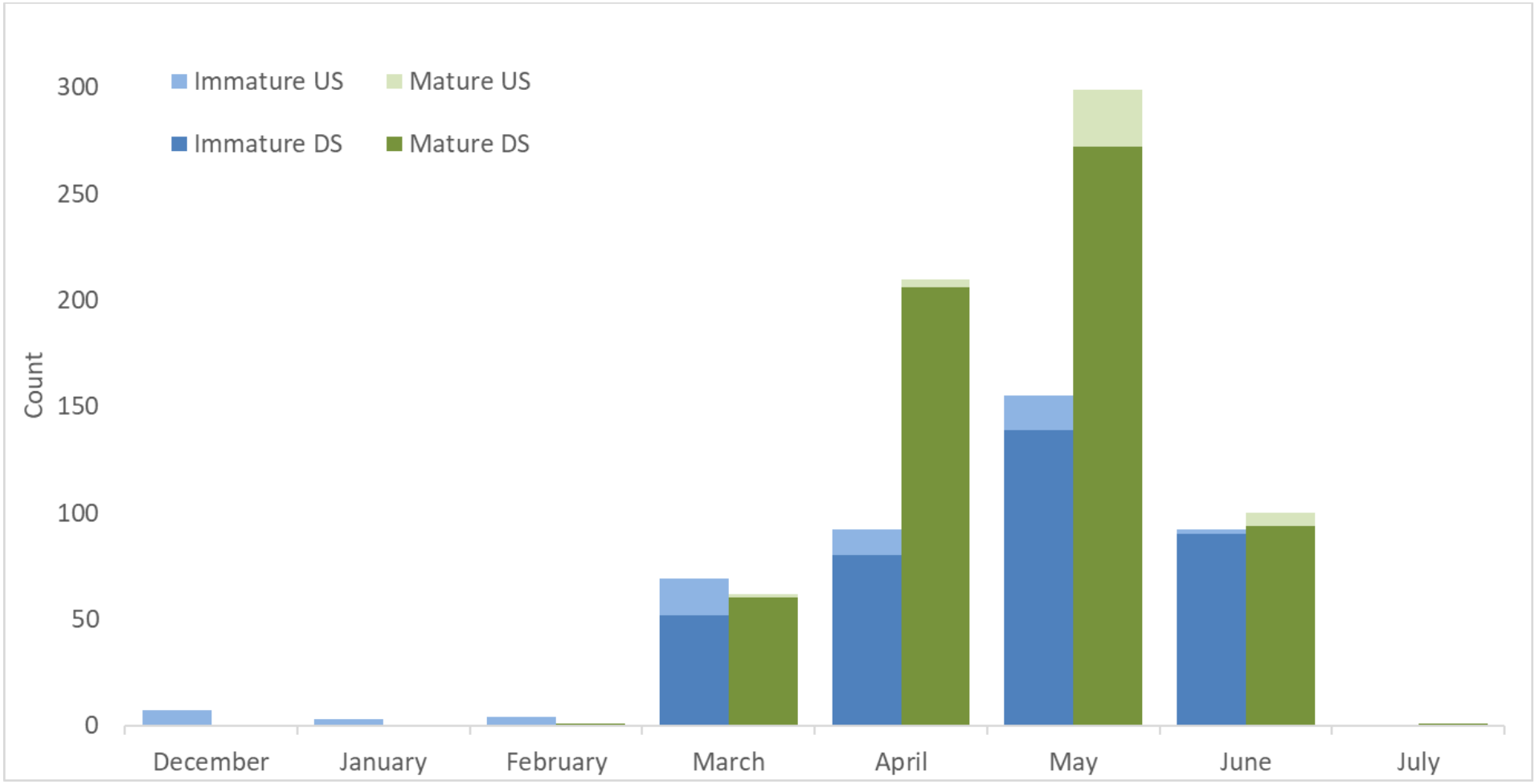
Methods:

- Annual abundance from upstream weir and downstream trap counts 2012-2022.
- Sexual maturity is determined by inter-dorsal length.
    - 3-5 cm sexually immature
    - 0-2.5 cm sexually mature
- All adults PIT tagged (no tag for gravid females).
- Passive recaptures of individuals at RFID throughout the basin.
    - Eight locations 2012-2016.
    - Three locations (WCT+FWW+HH) 2017-2022.
- Spawning ground surveys in 4 reaches during Spring 2012-2022.

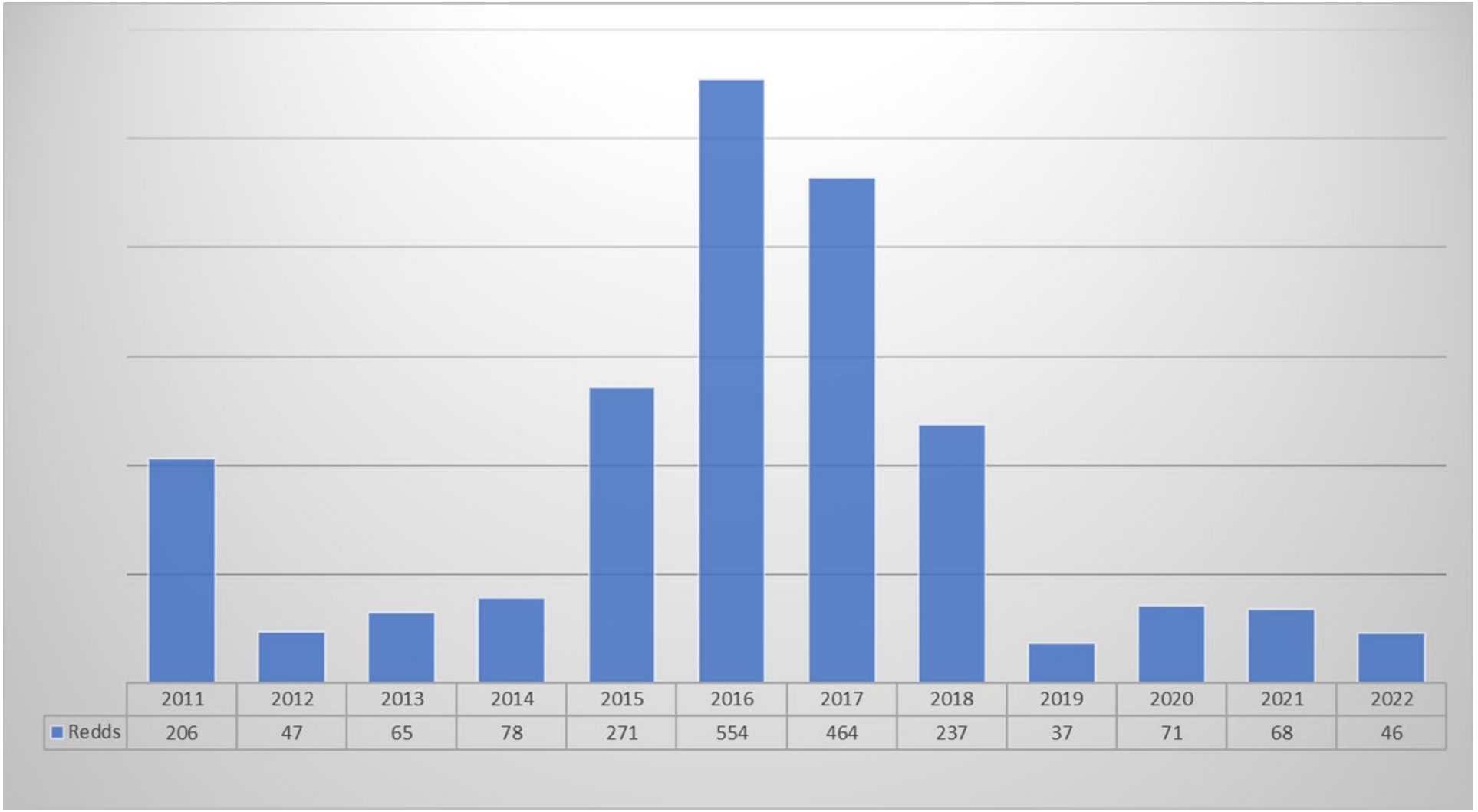

FRESHWATER CREEK WATERSHED
Humboldt Bay
Eureka Slough
Fay Slough
Cochran Cr
FW Slough
Ryan Creek
Martin Slough
Elk River
"Trib. B"
Mad River
Jacoby Creek
McCready Gulch
Cloney Gulch
Fall Gulch
Graham Gulch
Little Freshwater Creek
Freshwater Cr
S F Freshwater Cr
South Fork Elk River
North Fork Elk River
HFAC weir
WCT
FWW
RC
HH
CLO
MMS
UMS
SFO
101
255
Spawning Survey Reaches
Cloney Gulch
Cloney Gulch (not surveyed)
Upper Mainstem
Middle Mainstem
Middle Mainstem (not surveyed)
Lower Mainstem
Lower Mainstem (not surveyed)
Freshwater Creek Study Area
RFID antenna station
Weir
Freshwater Creek
Freshwater Creek Watershed
Ryan Creek Watershed
Map Sources:
Watershed (CalWater)
Rivers (ESRI 2012/NHD)
Roads, Cities (ESRI 2012)
0 0.5 1 2 3 Kilometers
0 0.5 1 2 Miles
Stillwater Sciences
Map Location
McKinleyville
Eureka
Fortuna
299
254



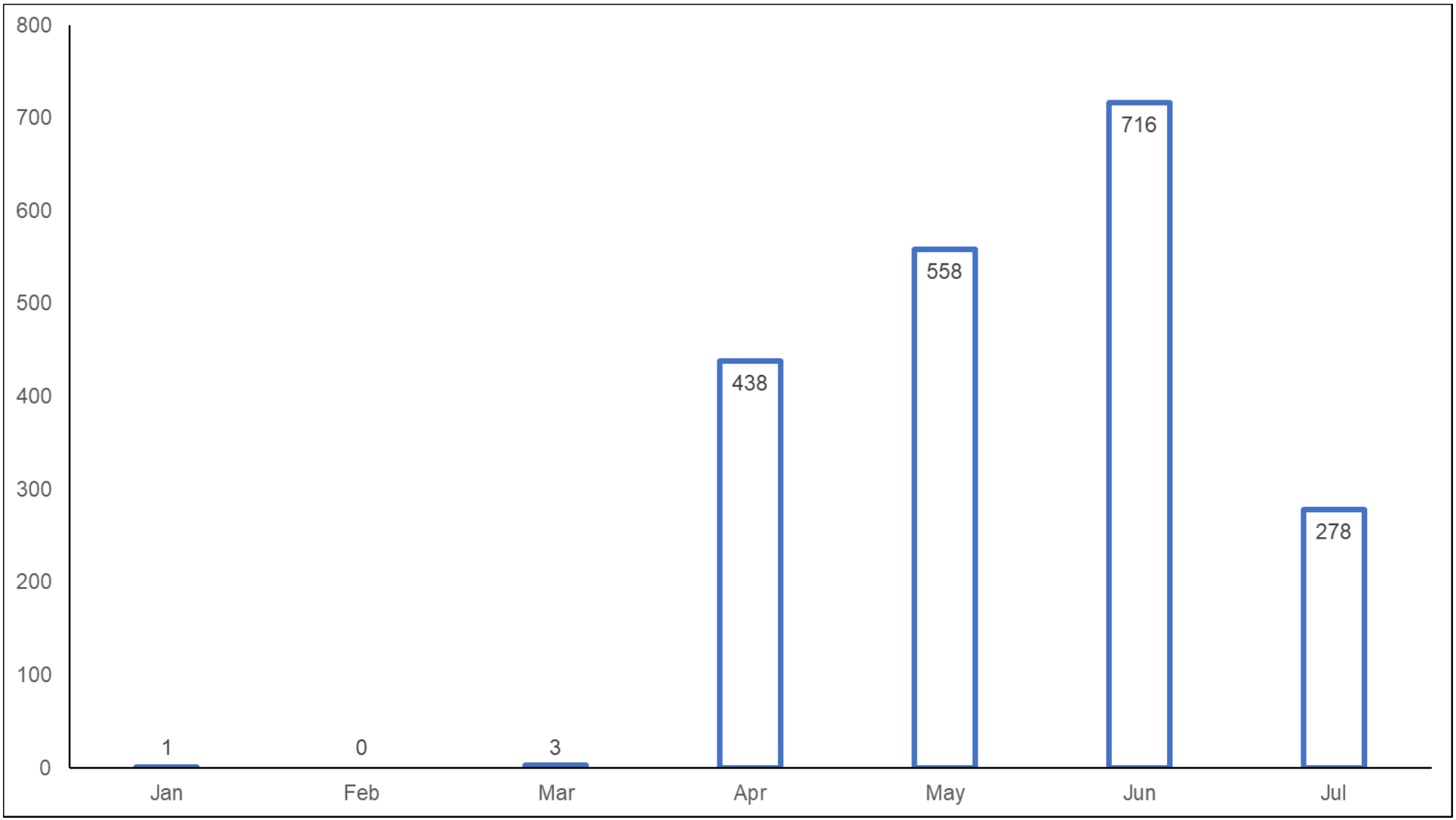
Number of immature and mature adult Pacific Lamprey captured moving downstream (DS) and upstream (US) at the Freshwater Creek weir from 2012-2022. Stacked bars represent spawning class and show total number of each class, for example in 2012, 17 Immature individuals moving upstream and 9 downstream for a total of 26 immature class captures.



Number of immature and mature adult Pacific Lamprey captured moving downstream (DS) and upstream (US) at the Freshwater Creek weir by month 2012-2022.



Yearly Pacific Lamprey redd counts in Freshwater Creek from 2011-2022.



Freshwater Creek Pacific Lamprey redd count frequency by month for spawning years 2012-2022.