

Summary of Infectious Zone Study – Part D

Approach

On Monday, 26 April, 2010, 225 river water samples were taken at 25 sites covering approximately 180 Rkm of the Klamath River. At each site, 3 x 1L water samples were taken in the morning, midday and afternoon (approx 3 hours apart). Each sample was filtered, the DNA present extracted and a qPCR run to determine the amount of *Ceratomyxa shasta* DNA present (where Cq 34 = ~ 1 spore/L).

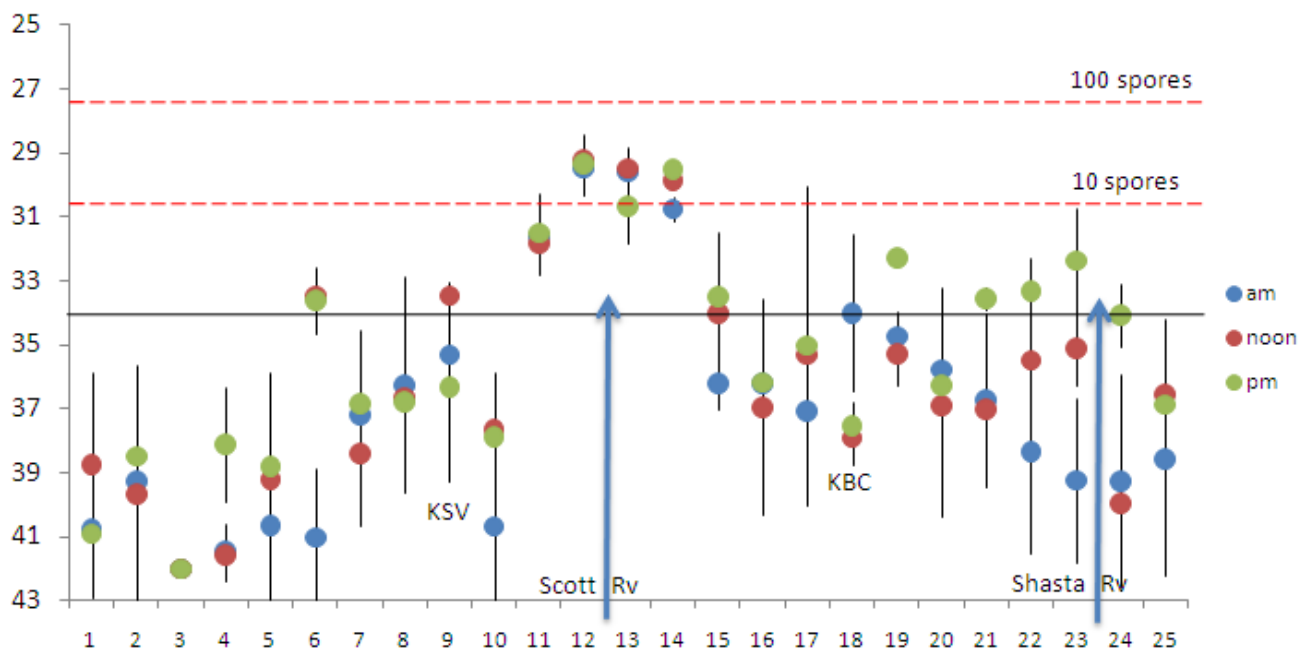
Results

Data are displayed in two graphs. The temporal view separates the morning, noon and afternoon samplings (each data point is the average Cq value of 3 x 1L water samples, with lines showing the standard deviation of these) whereas these are all combined in the overall view (each data point is the average Cq value of 9 x 1L water samples, with lines showing the standard deviation of these).

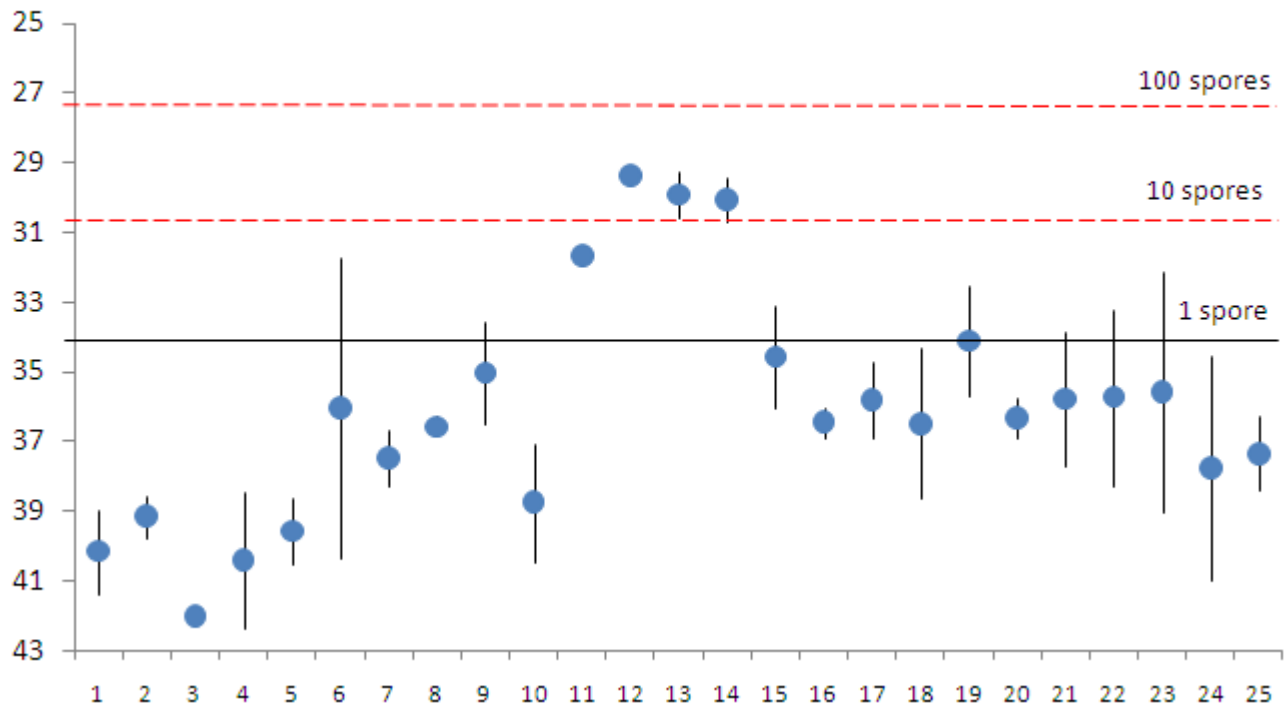
Observations:

- Abundance of *C. shasta* varied from less than 1 spore/L to ~ 10 spores/L.
- One 'hot stretch' spanning ~ 14 Rkm is apparent (sites 11-14) between index sites Seiad Valley (KSV) and Beaver Creek (KBC).
- At sites outside the 'hot stretch', parasite abundance tends to increase during the day.
- Scott River does not exhibit any dilution effect, occurring in the middle of the hot stretch (and there is no apparent contribution of spores from the Scott River as indicated by concurrent monitoring data).
- Spore abundance differs considerably between sites 10 and 11, which are only 4Rkm apart.
- Selection of sites appears appropriate for this time of year i.e. peripheral collection sites have low concentrations of spores and flank a hot spot.

Temporal view of IZD 4/26/10



Overall view of IZD 4/26/10



List of Sites

0. Estuary **Yurok**
1. **KOR** **Karuk**
2. Ike's Falls **Karuk**
3. Dillon Ck river access, downriver of tributary confluence Rkm 132.1 N 41° 34.588 W 123° 32.245 **Karuk**
4. Coon Creek boat launch Rkm 140.15 N 41° 36.813 W 123° 29.742 **Karuk**
5. Wingate bar river access Rkm 157.49 N 41° 43.371 W 123° 26.221 **Karuk**
6. Indian Creek river access, downriver of trib confluence Rkm 168.49 N 41° 47.383 W 123° 22.800 **Karuk**
7. China point river access Rkm 186.89 N 41° 48.079 W 123° 18.856 **Karuk**
8. Road mile 53.05, large pull out Rkm 195.57 N 41° 51.979 W 123° 18.159 **Karuk**
9. **KSV** Rkm 208 **OSU**
10. Rocky Point River Access Rkm 216.04 N41 48.962' W123 07.659' (NAD 83) 4 miles from KSV **OSU**
11. Mining Claim Rkm 220.74 N41 47.753' W123 05.536' (NAD 83) **OSU**
12. Sara Totten Campground Rkm 225.04 N41 47.246' W123 03.146' (NAD 83) **OSU**
13. Fish Trap Rkm 231.78 N41 48.612' W123 00.819' **OSU**
14. Horse Creek Rkm 234.88 N41 49.443' W122 59.861' **OSU**
15. Off 96 Rkm 240.79 N41 50.055' W122 56.791' **OSU**
16. Off Walker Rd. Rkm 245.88 N41 50.670' W122 53.692 **OSU**
17. Oak Knoll Grange RM 85.81 Rkm 252.13 N41 50.296' W122 50.400' **Yurok**
18. Fisher's RV Rkm 257.08 **Yurok**
19. Dirt Pull Off RM 91.15 Rkm 261.3 N41 51.293' W122.46.003' **Yurok**
20. RM 94.96 Rkm 267.27 N41 51.948' W122 42.578' **Yurok**
21. Off 96 Rkm 271.58 N41 50.571' W122 40.807' or Cayuse River Access (2miles form site 12) **Yurok**
22. Cross Ash Ck Bridge Drive down Klamath River Rd. 1 mile Rkm 278.58 N41 49.870' W122 37.668' **Yurok**
23. RM 103.15 Rkm 281.91 N41 49.836' W122 35.809' **Yurok**
24. Trap Rkm 287.18 N41 51.780' W122 33.873' **Yurok**
25. BLM land cattle access Rkm 291.76 N 41.892' W122.538 (following dirt road toward IG dam) **Yurok**