

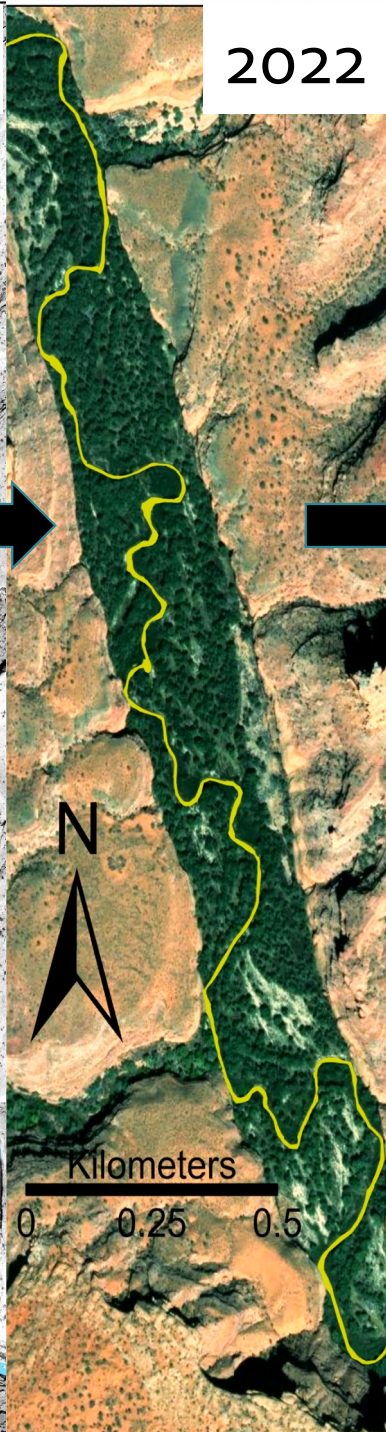
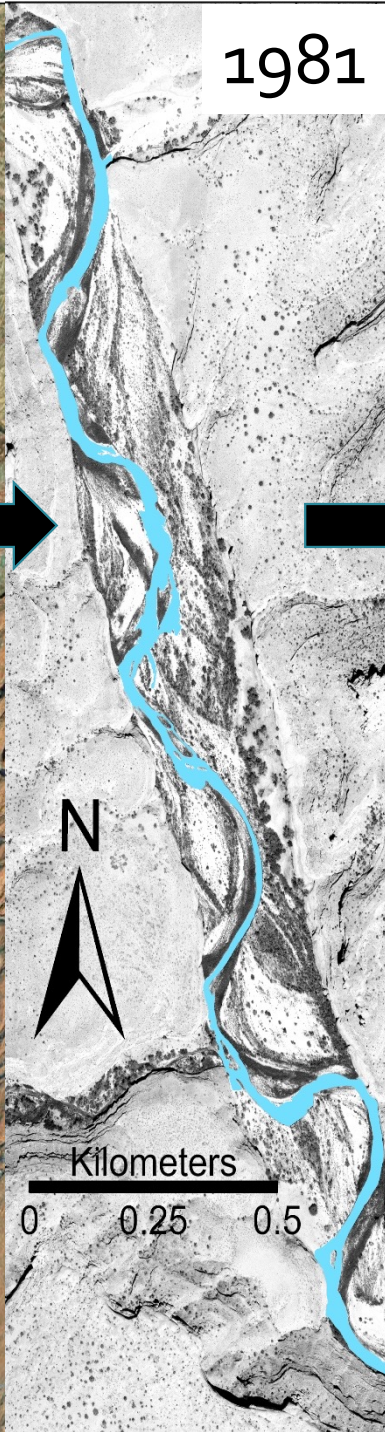
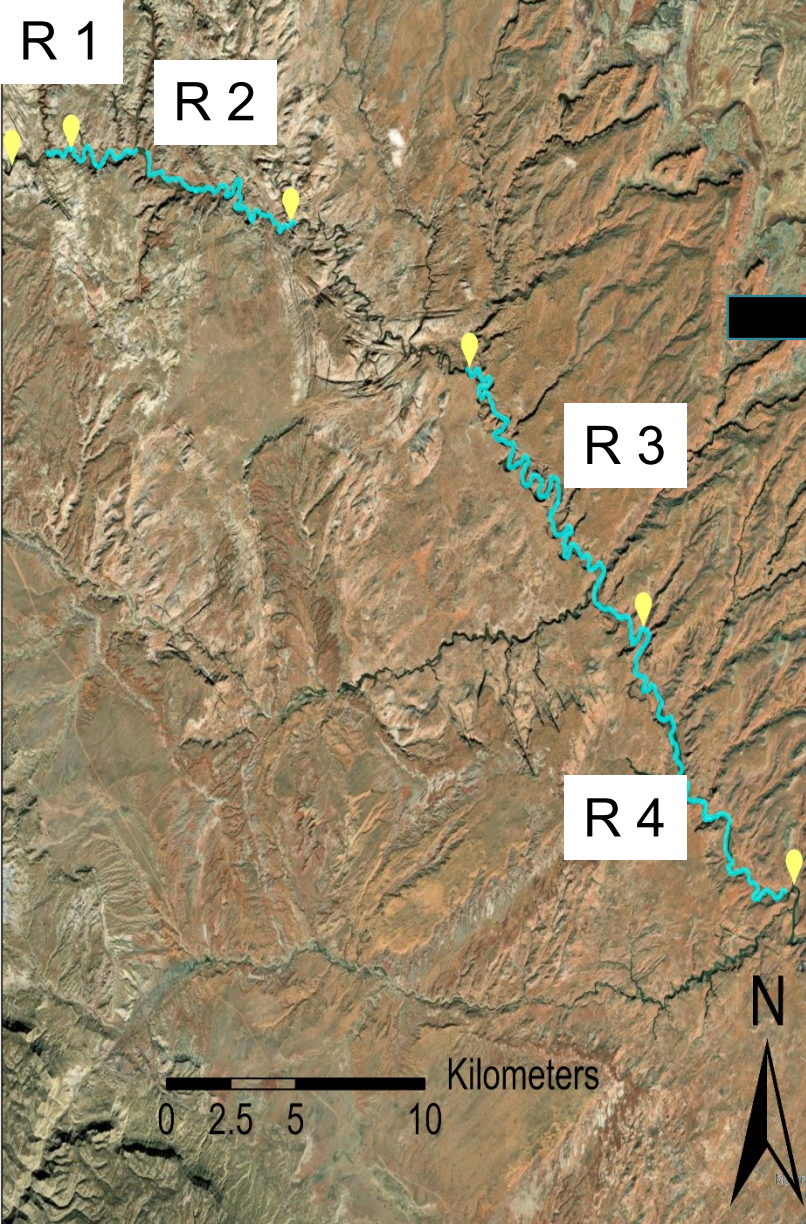
# Forward looking monitoring of the Escalante River channel following treatment of Russian olive

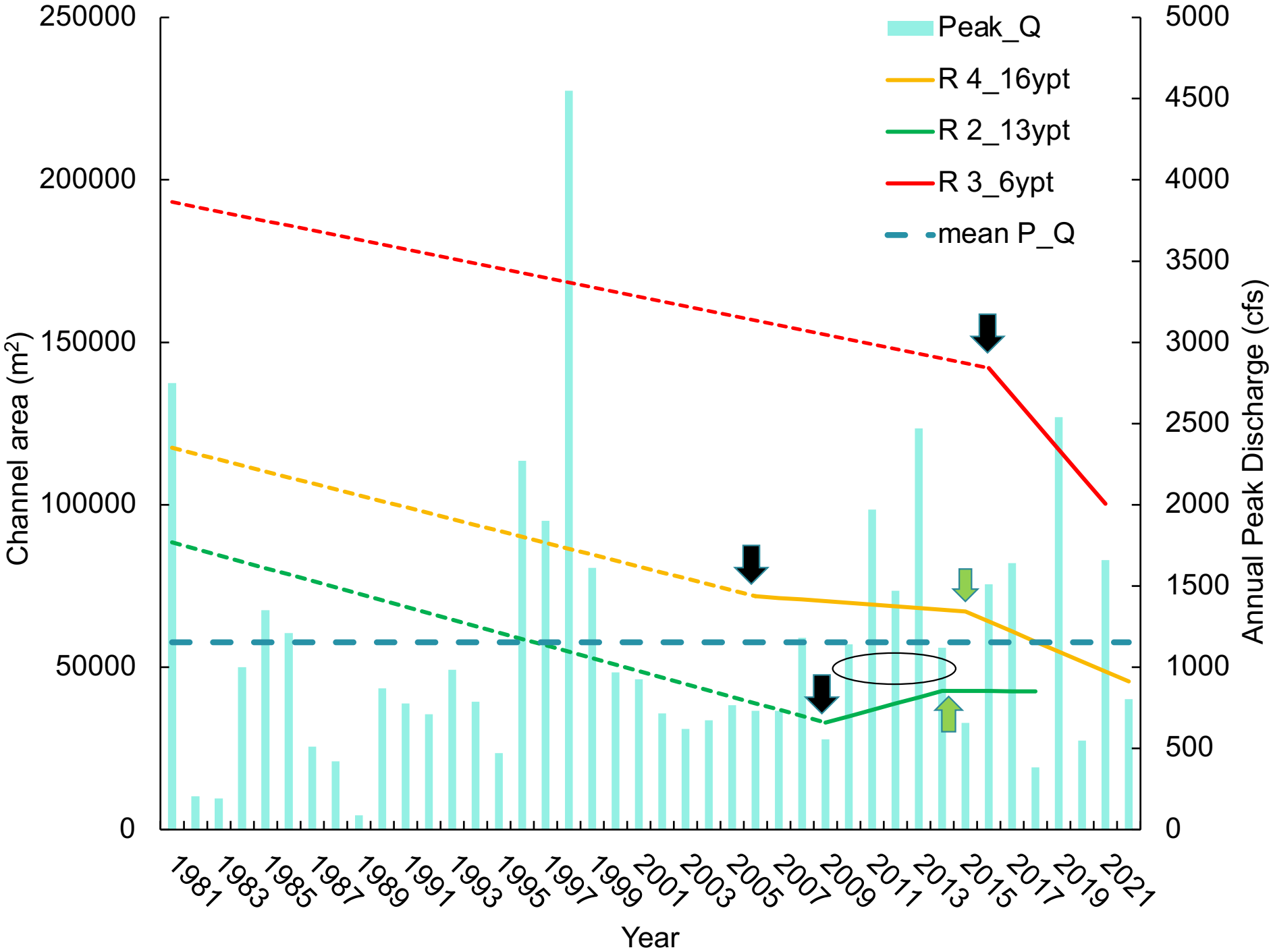
Michael Scott, Erin Williams, John Spence and Jonathan  
Friedman

## Why monitor channel response?

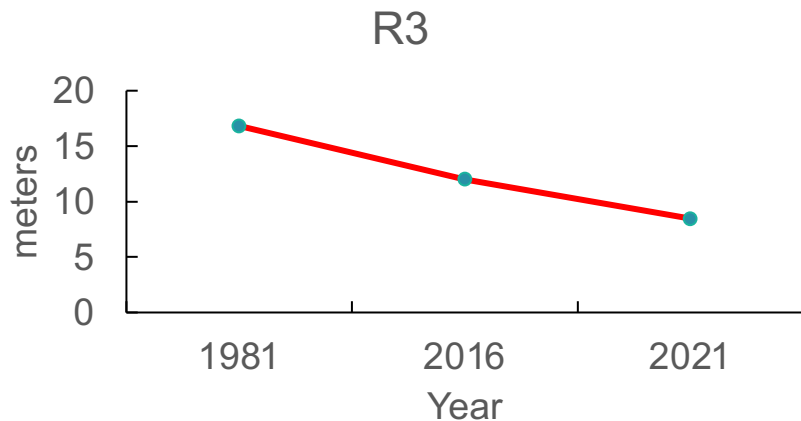
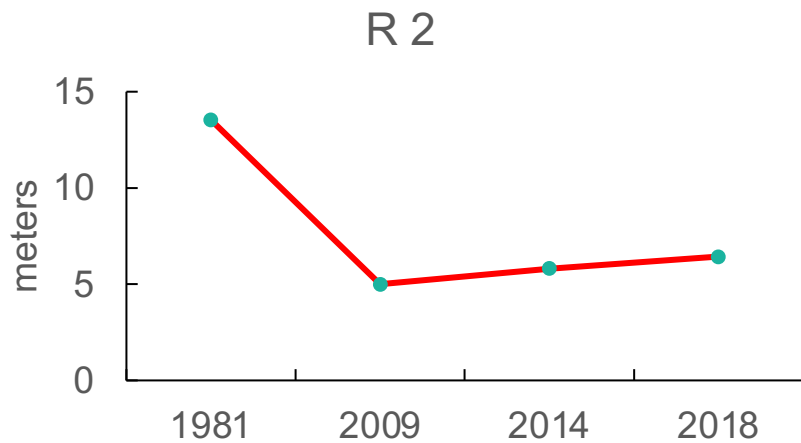
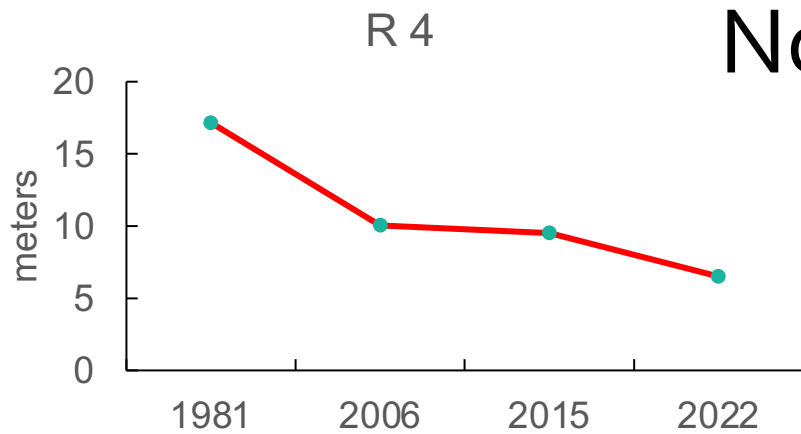
- 1) channel movement structures and maintains riparian vegetation;
- 2) can be assessed with accuracy and consistency at large scales; and
- 3) can be conducted cost effectively.

# Escalante River Study reaches



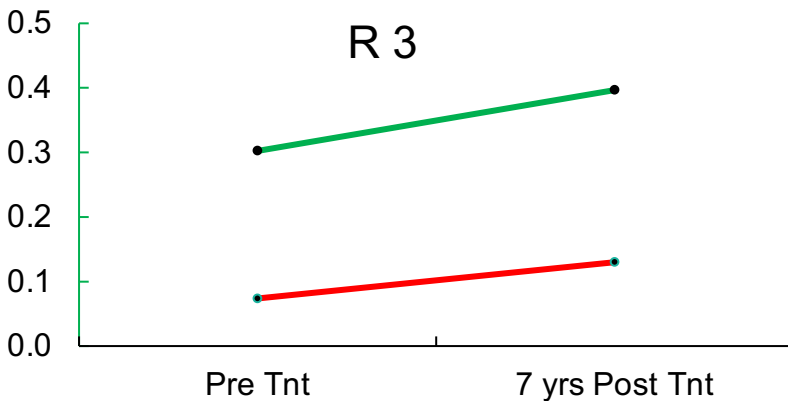
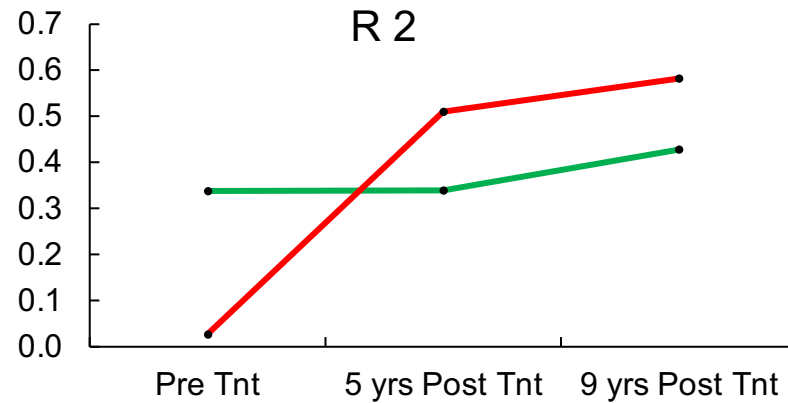
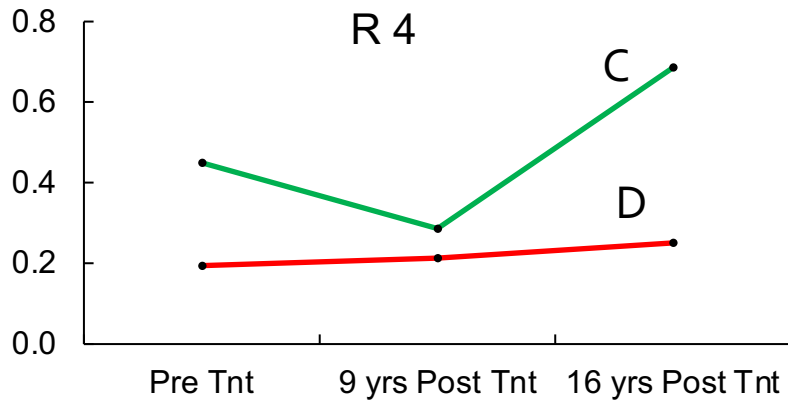


# Normalized channel widths (m)



- Channels narrow up to ~60% during  $R_0$  invasion, pre-treatment, across reaches
- Channel width responds individualistically across reaches, including decreases and increases

# Rate of flood plain construction/destruction (m/yr)



- Annual rates of flood plain construction and destruction are low
- Post-tnt increases in flood plain indicate channel movement even with narrowing

# A few quick conclusions

- 1) Russian olive invasion associated with channel narrowing across all reaches;
- 2) Channel response to RO treatment was variable across reaches;
- 3) Reaches treated prior to a series of high peak annual discharges widened or displayed slower narrowing; those treated after this period narrowed
- 4) Channel width decreased overall in most reaches post-treatment but widened slightly in reach 2;
- 5) The frequency and magnitude of large flows, channel slope or gradient and valley width appear to contribute to observed variability in channel responses across reaches;
- 6) Continued monitoring of channel change provides an accurate, repeatable and quantifiable and ecologically relevant assessment of the treatment of RO along the Escalante R.