

Forestry on Eroding Land...

Are we going to be able to meet the challenge?

*KIT RICHARDS
PF OLSEN LTD*



THEY HAVE BEEN TELLING US FOR SOME TIME !

CLIMATE CHANGE IS ALREADY AFFECTING NEW ZEALAND'S LAND SYSTEMS. **WE CAN EXPECT SEVERE EFFECTS ON LAND AND HUMAN SYSTEMS FROM LONG-TERM CHANGES AND INCREASED FREQUENCY OF INTENSE RAINFALL EVENTS.**

THE EFFECTS **INCLUDE CHALLENGES TO PRODUCTIVE SYSTEMS** (SHIFTS IN THE SUITABILITY OF LAND FOR HORTICULTURE AND AGRICULTURE), PRESSURE ON INDIGENOUS ECOSYSTEMS (WITH EXACERBATED IMPACTS FROM PEST INVASIONS), AND **INCREASED VULNERABILITY TO EROSION, SEDIMENTATION OF WATERWAYS,** AND WILDFIRES, THROUGH INCREASED RISK OF RAINFALL AND DROUGHT EVENTS.

OF THE 840,000 HECTARES IN THE NORTH ISLAND DEEMED AT RISK OF SEVERE EROSION, 515,000 HECTARES (61 PERCENT) IS CLASSIFIED 'AT HIGH RISK OF LANDSLIDES'. THESE CAN POSE RISKS TO PEOPLE AND INFRASTRUCTURE, AS WELL AS POTENTIALLY DEGRADING FRESHWATER AND MARINE ENVIRONMENTS.

WE MIGHT HAVE THOUGHT IT WAS THEM !!



**BUT AT A LOCAL LEVEL- NOT MUCH DIFFERENCE
AND A LOT MORE DAMAGE BELOW !**



SO IS THIS “THE NEW NORMAL” !?

THE ESK R FLOODS EARLIER IN THE YEAR ILLUSTRATED ANOTHER FEATURE OF CONCERN.... LOCALISED HIGH INTENSITY.

THE TOLAGA BAY FLOODS RESULTED FROM A STORM CHARACTERISED AS RELATIVELY LOW LEVEL AND COMMON RECURRENCE – BUT

2 RAIN GAUGES ALONG A NARROW STRIP INDICATED 150MM IN < 4HOURS.

THAT INTENSITY EQUATED TO APPROX. 1:100 RETURN AND CATCHMENT FLOOD MEASUREMENTS CONFIRMED IT.



How long will 'Act of God' prevail...!?



Hostile Councils

Wary Councils

 FSC Please explain!

Hazard mgmnt

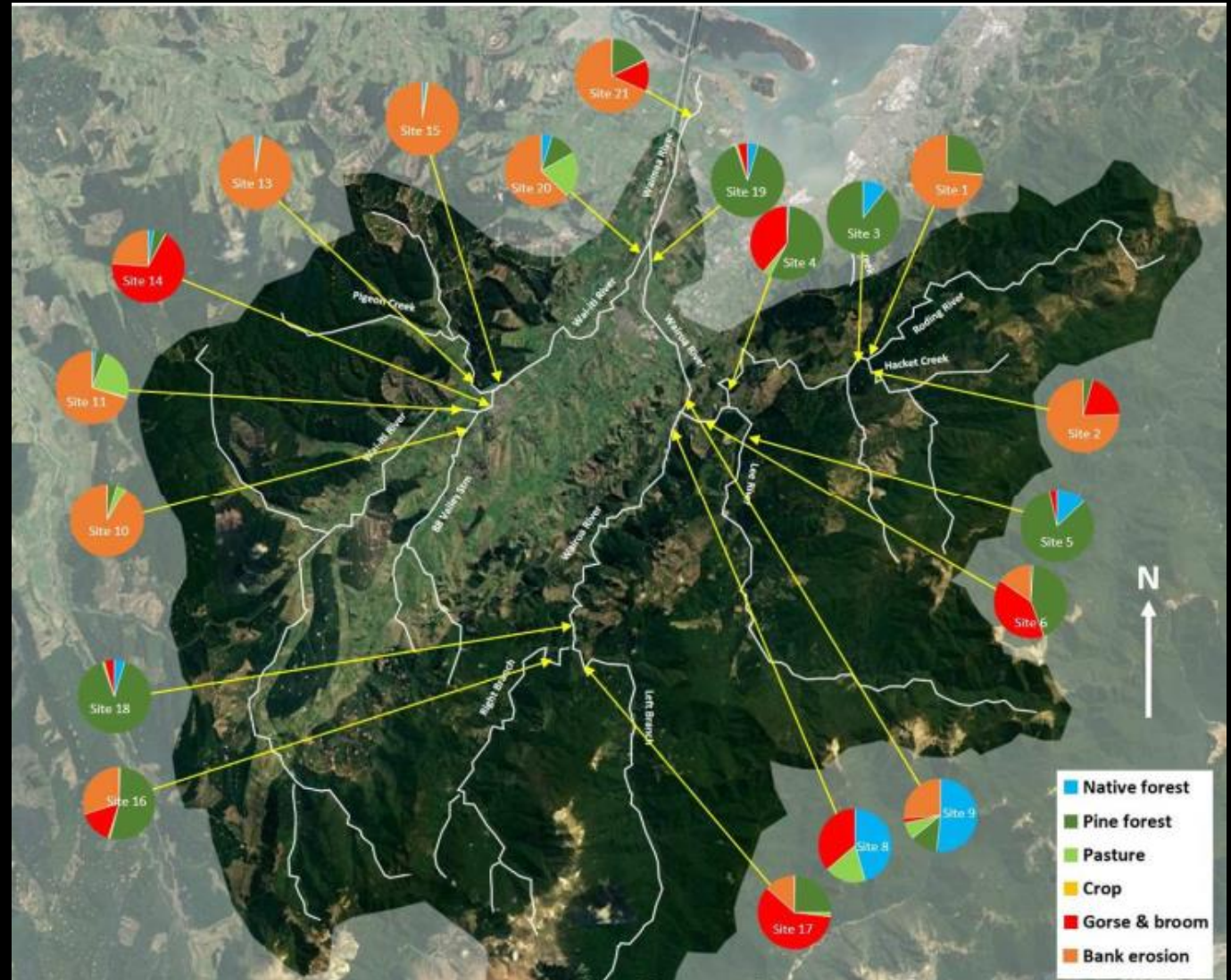
2010, 2011, 2012, 2016, 2017, 2018

AND.....

THEN THERE IS SEDIMENT..... NOT GOING AWAY !

There are good reasons to have some concerns about the application and conclusions arising from the CSSI technique....

But the fact remains some of our practices are producing avoidable sediment and the quantities arising from debris flow events will increase deposition by orders of magnitude!



BUT FOR HOW LONG ?

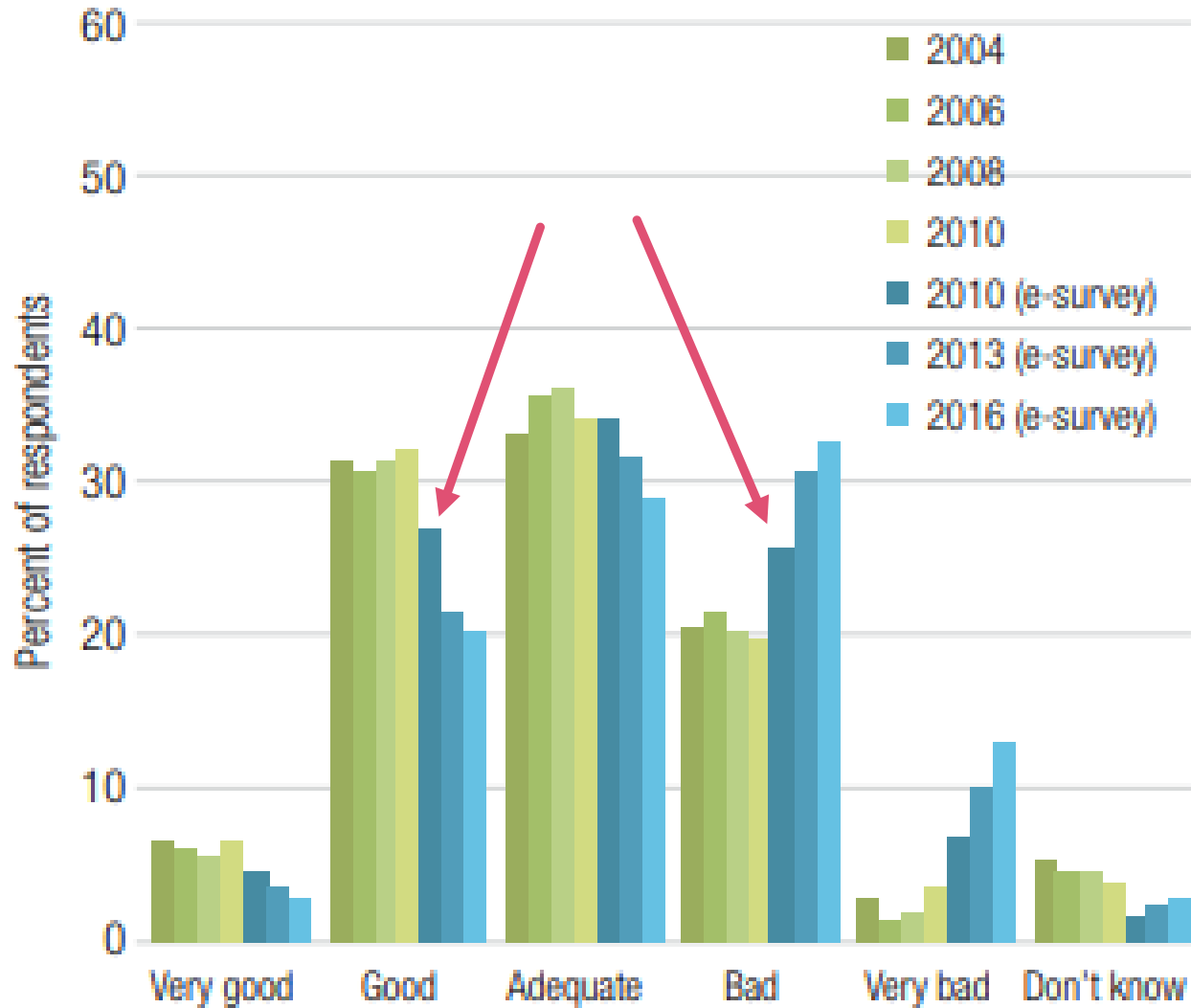
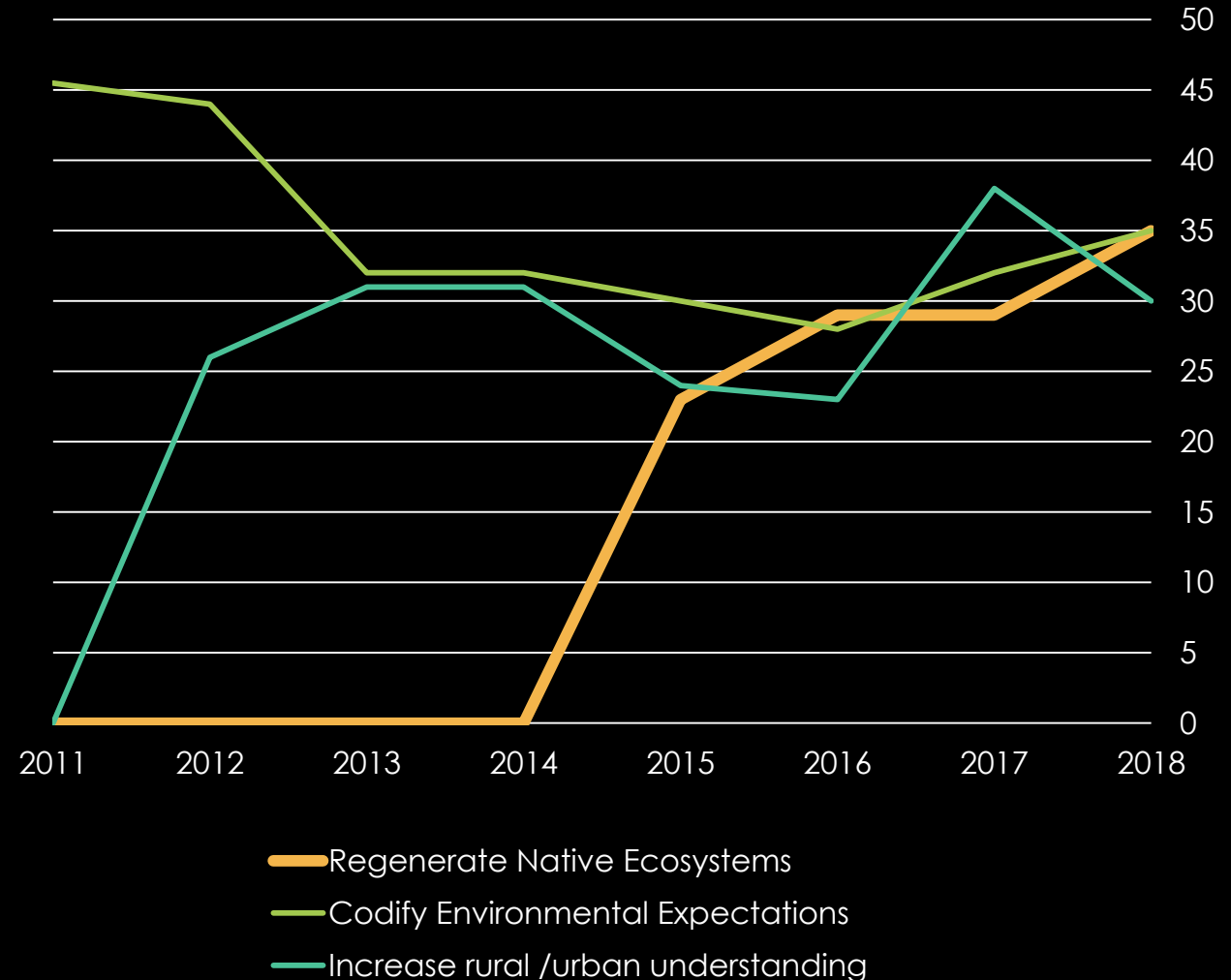


Figure 4.9a. Perceived quality or condition of rivers and lakes.

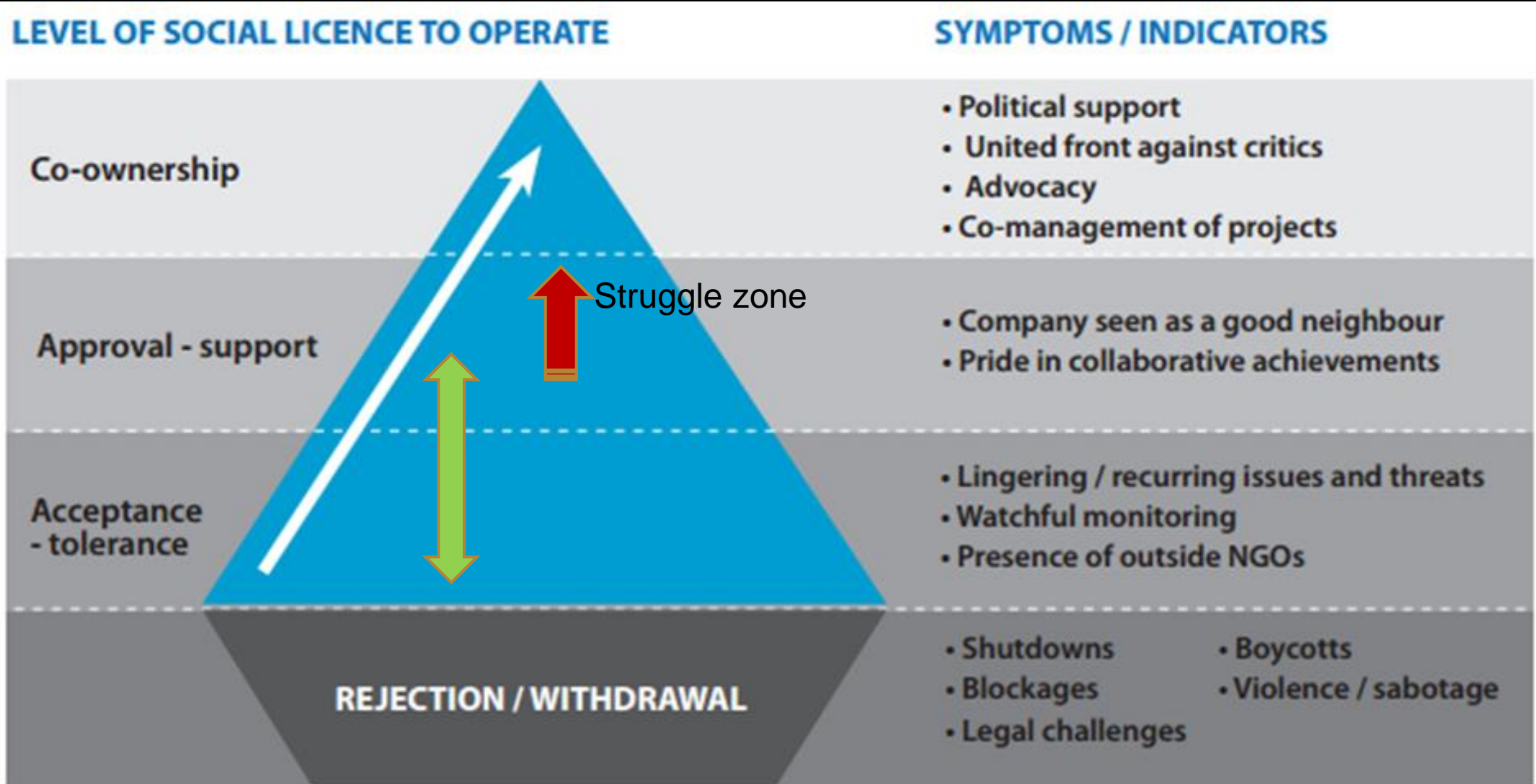
THINGS CHANGE QUICKLY

Agribusiness Agenda 2018

- **THE PERCEPTION THAT FARMERS CAN NO LONGER BE TRUSTED AS GUARDIANS OF THE LAND IS LEADING THE INDUSTRY TOWARDS TIGHTER REGULATION, MORE ONE-SIZE-FITS-ALL REMEDIATION, AND INCREASING REQUIREMENTS TO CAPTURE AND REPORT DATA.**



SO WHERE DO YOU THINK WE ARE NOW?



Adapted from Boutilier and Thomson

REPUTATION AT RISK?

WE CANNOT MANAGE 1:100 YEAR



SO WHAT & HOW DO WE MANAGE?....

- **RISK RECOGNITION / AWARENESS:**
 - INCREASINGLY LIKELY – ALMOST ANY PART OF COUNTRY.
 - STEEP SLOPES / SHALLOW SOILS – RED & ORANGE ZONE ESPECIALLY.
 - WINDTHROW.
- **MANAGEMENT:**
 - COMPREHENSIVE PLANNING.
 - EXEMPLARY STANDARDS...?
 - DON'T GO THERE...?
 - PROFESSIONAL FORESTRY ADVICE/... ALTERNATIVES!
 - JUST BECAUSE WE CAN ... SHOULD WE?
 - THINK BEYOND THE BLOCK...!
 - CORRECT PRICING!!
- **PLUS STRATEGY & RESEARCH**