Gorse Action Group
Conference Call
Meeting Notes
May 28th, 2015

Attending:
Alexis Brickner – Coos Watershed Association
Hannah McDonald – South Slough
Jim Seeley – Wild Rivers Coast Alliance
Marie Simonds – Wild Rivers Coast Alliance
Michael Schindel – The Nature Conservancy
Erin Minster – Curry SWCD
Dawn Weekly – Coquille Watershed Association
Mary Finnerty – The Nature Conservancy

Grant Update
At the face-to-face meeting in April, Darcy Grahek with Go Native nursery at Bandon High School mentioned that her students were doing some experimental gorse control at their greenhouse. She also mentioned a wetland owned by The Wetlands Conservancy in Bandon. There was a discussion about maybe using this site as a student project site. Alexis spoke with Esther Lev, the Executive Director for TWC and she would be more than happy to partner with GAG and Go Native at this site. Alexis tried to contact Darcy before the meeting but could not get a hold of her. However, shortly after the conference call, Darcy emailed Alexis to say that she spoke with the life sciences teacher and he feels the site is too far away from the school to be fully involved there. A few trips a year, as field trips, would be all that they can manage. Alexis will follow up with Darcy on the phone to discuss what other options might be available.

Dawn suggested having the students create a draft project outline and figure out how much funding they may need and for what. That way we can target specific grants for funding a project with Go Native.

Alexis researched a grant opportunity that Dawn sent her from the Western Native Trout Initiative. They have a small grant program, up to $3,000, for conservation of western native trout populations at the local level. The GAG could develop a project with them that would meet their goals of habitat, collaboration, and education. The deadline is June 30th. Alexis will discuss with Esther Lev and Darcy to see if there is a project that could be developed with this funding.

Alexis also has been keeping an eye out for the National Fish and Wildlife Foundation grant, Pulling Together Infinitive. It is usually announced this time of year.

Hannah stated that she knew of a grant opportunity with the Hardwood Forestry Fund. They provide funding for forest projects that convert idle lands to replanted forests. It is focused on hardwoods and may be good for an inland site. Due dates are quarterly.

Alexis will add these grant opportunities to the grant spreadsheet for easy reference once we have projects planned.

Mapping Project Update
Alexis reviewed the conference call with Janet Hoyt from Mason Bruce & Girard that was held on Tuesday, May 19th. Janet gave an update on the status of the mapping project. The bottom line is that so far the results are encouraging, the maps look good visually, the assessment is positive, and the project supports the classification of gorse when capture in bloom. A few weaknesses include identifying scotch broom when both gorse and broom are in bloom and that we have only classified 1.375% of the 1.6 million acres that were flown by David Smith & Associates. The application of classification methods still needs to be assessed to a larger area.

*Please see attached for supplemental information about the mapping project update.

The big question from this update is where to focus our attention next. Marie asked if we spent some time improving the project area, how would that affect the classification overall? Michael responded by saying it wasn't really worthwhile to spend time improving classification in the pilot area. Currently, we have a very large geography with various terrains. We need to see if these techniques are holding up across the larger project area. Marie asked if these techniques would include scotch broom vs. gorse to test accuracy. Michael said that there are scotch broom sites outside of the pilot so this could be a good question to dive into since there is data outside of the pilot area. Erin asked if we needed to find areas where scotch broom and gorse intermixed or just big patches of broom. Michael said that if we know where big patches of broom are, we can point them out on the imagery and use a random forest model to tease out relationships and augment data with plots where the two are mixed.

Janet used two classification schemes to classify the gorse. One scheme over-classifies gorse while the other under-classifies. She said it is good for her to know if the client prefers one way or the other.

Erin said Janet showed her several wetland areas that came out with pixels that looked like gorse, but it is not a common place for gorse to grow. These might be good areas to focus on for field verification since it is not likely to be there. The problem with field verification is that it could be quite a time consuming venture. It might be best to over-classify. Mary said that by over-classifying, we will be able to justify nuances with the computer; we can have that spread of error. Additionally, within 5 years or so, we may be accurate in our assessment of gorse with further spread.

The Nature Conservancy will look through plot data with imagery to see how the scotch broom is coming out once they have Janet's ratio bands. Michael commented that both species are invasive, perhaps we should change to the yellow invasives group and battle scotch broom and gorse. Michael also commented that there is a lingering concern about the second flight which was two weeks later so the accuracy may drop a little bit. Over-

classifying is a little better than under since gorse in the second area will be a little confused with the broom.

Jim asked if we wanted to do some plot improving in the second area? Michael responded that there are some plots in the second area that extend into the 2nd flight zone which would be good for plot improvement. He also stated that getting 80% or more accuracy is considered good in these kinds of exercises; we are in good shape (currently have an unofficial accuracy of 95-96% in the pilot area). TNC will work with what Janet has provided and come back with some potential next steps.

Michael said that if the group feels that gorse is worst in the coastal plane and that is the area that we have good data for so some classification using random forest analysis might be the next step. This would help us identify areas that are threatened. It would require additional funding to get the Institute of Natural Resources to do that work. Alexis asked if he had an estimate for this additional analysis. Michael said that once TNC has had a chance to look at the information, as well as Janet's report, it can be sent out to bid to several firms. They need to take all the imagery and predictors and build packets that the computer can analyze independently. With all of the information we will have, it will be a pretty big job. He also said that we have the NAIP imagery which is flown in the summer. We could pull out information of gorse in non-flowering time to be more broadly applicable.

Erin said that Janet was still wrestling with green parts of gorse in really dense areas. She is still trying to figuring out different ratios that will classify that as gorse. The summer image data could helpful with this.

Jim brought up finding more co-funders. As soon as we can start pulling together parameters and what is next, we can strategize more co-funders. Once we have our "elevator speech" we can prepare a pitch and to go funders. Marie suggested that we brainstorm more clearly what our ask is and what the next steps are before asking for additional funds.

Outreach
Alexis is working on a draft pamphlet. She hopes to discuss the economic and ecologic effects of gorse on the southern Oregon coast, what the GAG is, an overview of the mapping projects, some highlights of gorse control, and contact information. Once a basic draft is complete, she will send it to the group for review and suggestions.

Strategic Planning Committee
Alexis will work to find members who would be interested in joining a committee to draft the strategic plan.

Logo
The graphic designer at Bandon Dunes/WRCA has a few logo options drafted. Marie will review soon and send out potential designs to the group when they are ready.

Oregon Invasive Species Council
Alexis will present to the OISC a "who, what, where, when, why" of the Gorse Action Group on July 1st at the summer meeting in Medford.

June Conference Call
Please respond to Doodle poll link in the email.

Thanks!

Figure 1: Plots collected

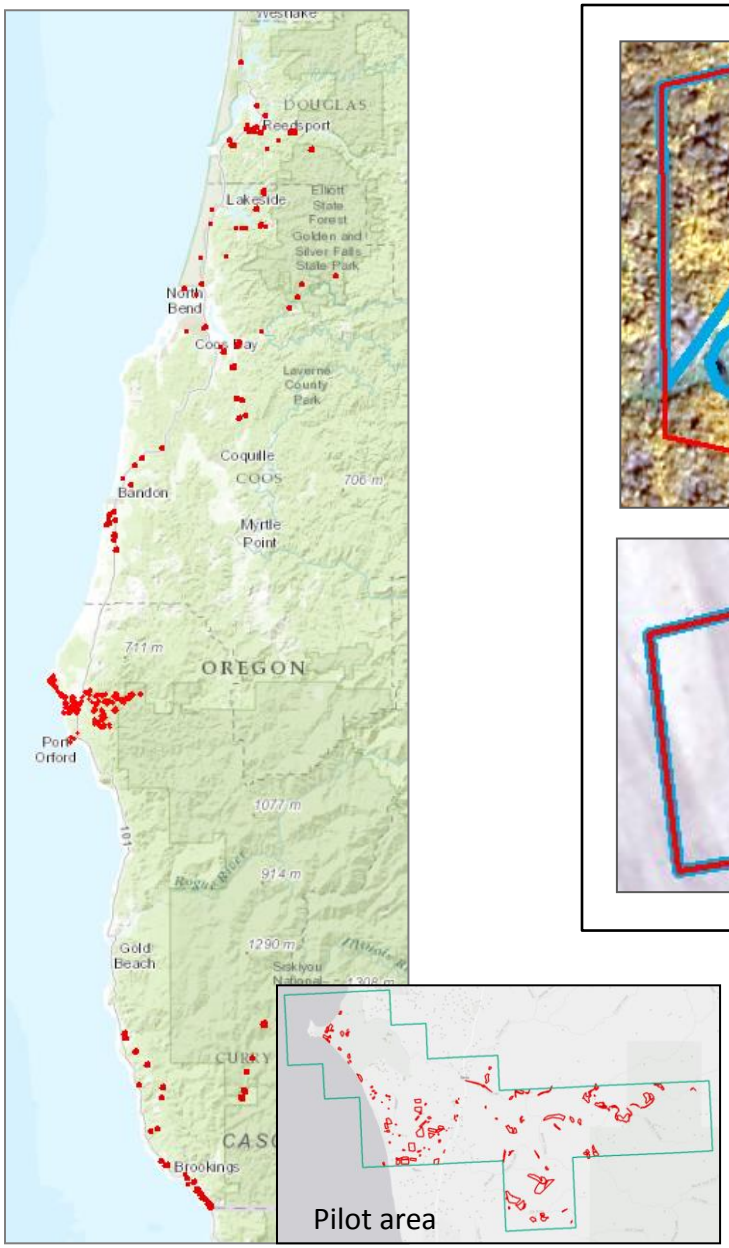


Figure 2: Example of adjustments

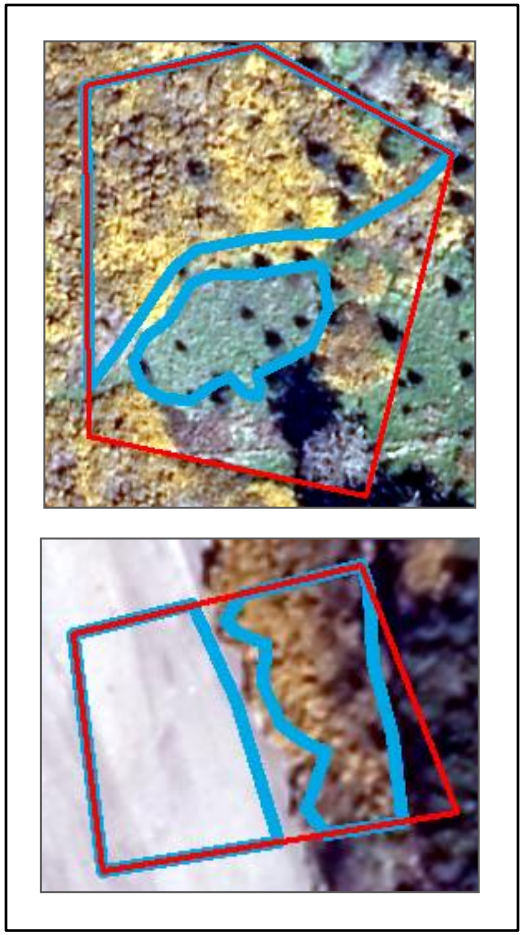
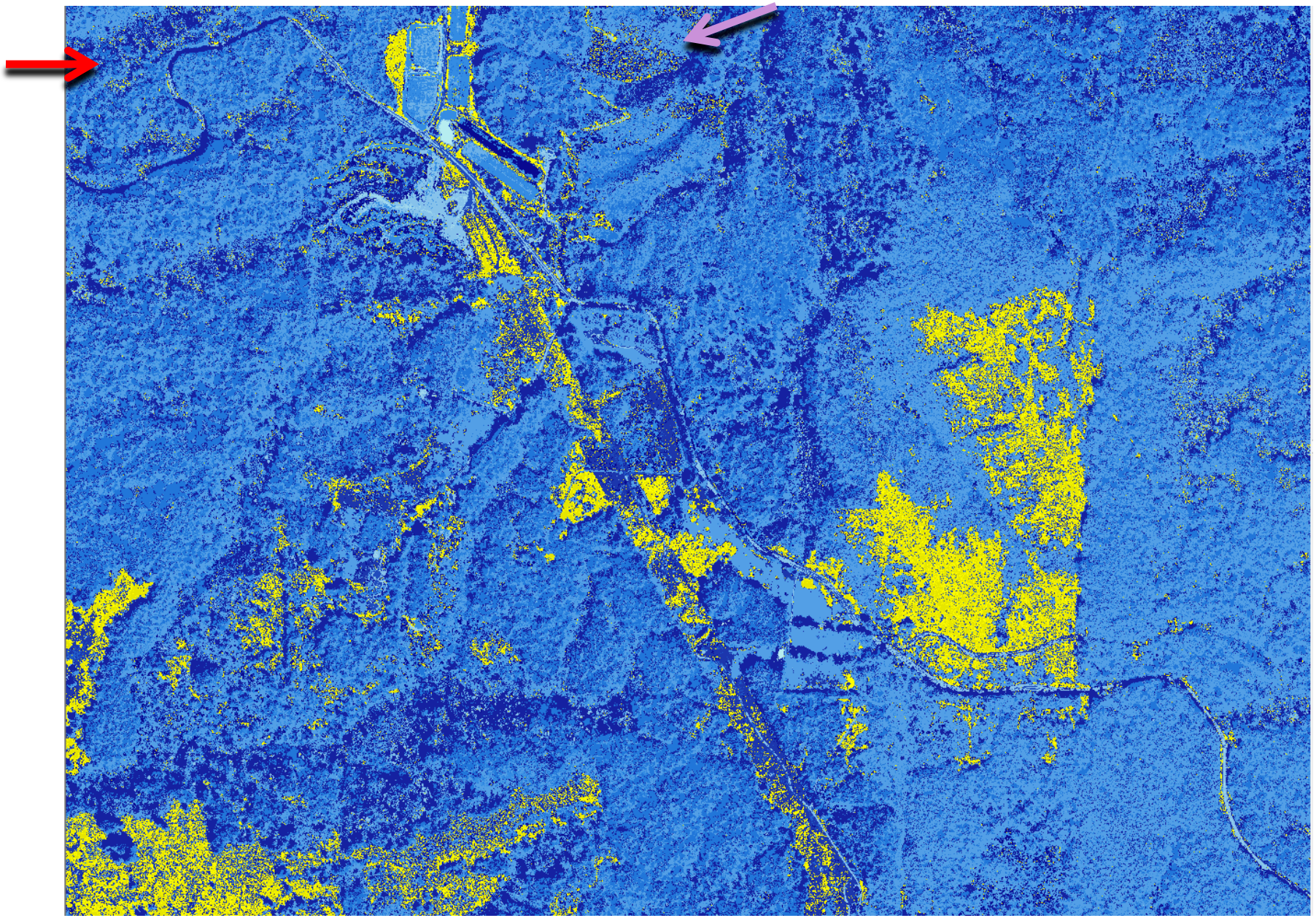


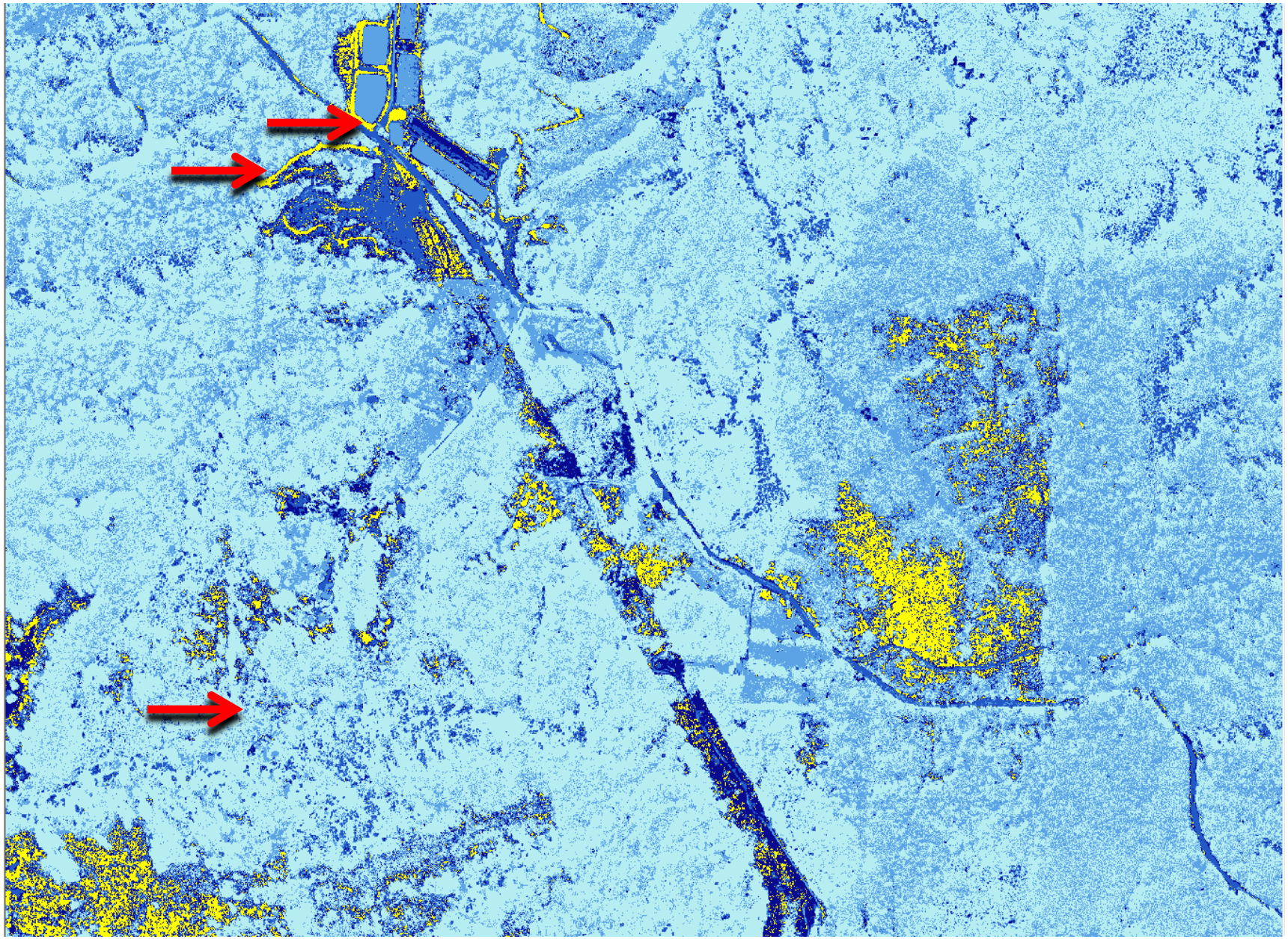
Figure 3: Classification scheme

Class	L1	L2	L3 (L2 modifier)	Field Sites
1	Gorse Absent	Water		23
2		Barren		18
3		Impervious		9
4		Crop		1
11		Gorse – 0%	Grass	52
12			Other Shrub	
13			Forest	31
14			Mixed Veg	1
15			Other	4
21		Gorse – 1-9%	Grass	2
22			Other Shrub	
23			Forest	
24			Mixed Veg	
25			Other	1
31	Gorse Present	Gorse – 10-25%	Grass	2
32			Other Shrub	
33			Forest	
34			Mixed Veg	2
35			Other	
41		Gorse – 26-50%	Grass	2
42			Other Shrub	
43			Forest	
44			Mixed Veg	2
45			Other	
51		Gorse – 51-75%	Grass	
52			Other Shrub	
53			Forest	
54			Mixed Veg	
55			Other	
60		Gorse – 76-100%	Pure Gorse	9

East of Sixes, between Sixes and Elk Rivers

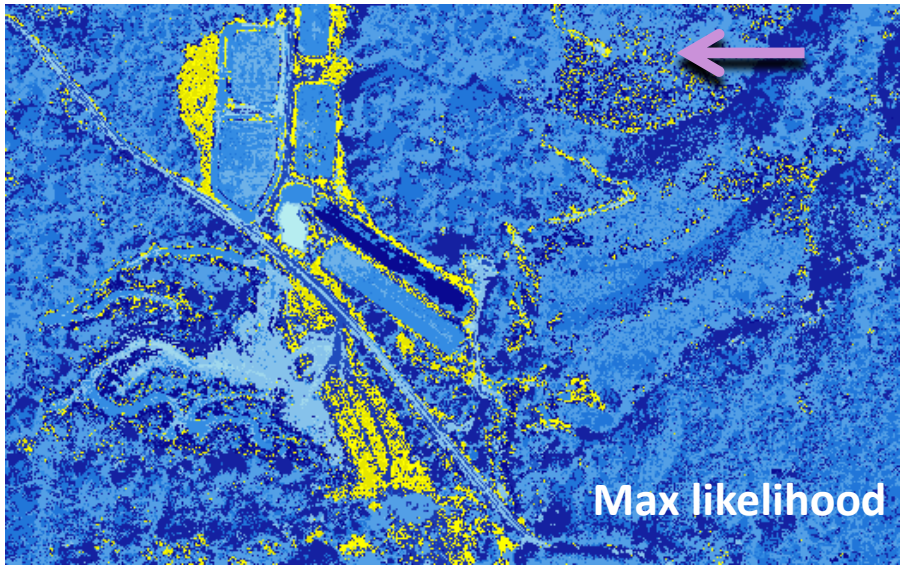


Max Likelihood

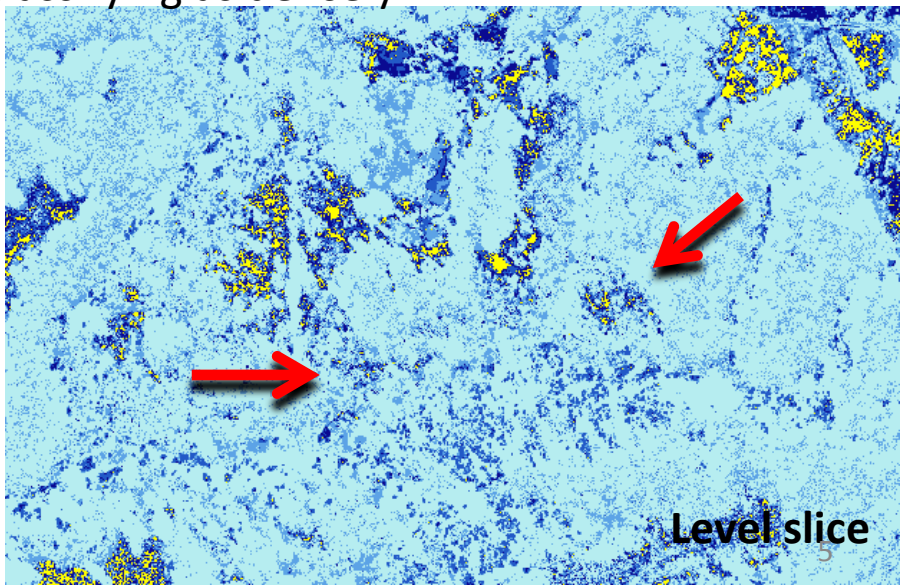


Level Slice

Potential site for field verification based on classification



Less scatter in this classification so gorse not classifying as densely



Assessment – Level Slice

Presence vs Absence

- 142 absence, 17 presence
- low presence but patterns are promising
- Visual good

Classification	Field: Absence	Field: Presence	Totals	
Absence	138	3	141	98%
Presence	4	14	18	78%
Totals	142	17	159	
	97%	82%		96%

Classification	Field: Absence	Field: Presence	Totals	
Absence	138	7	145	95%
Presence	4	51	55	93%
Totals	142	58	200	
	97%	88%		95%

Detailed Percents

- Merely anecdotal
- Not enough per class
- But still Interesting

Classification	Field Call: Gorse - 0%	Gorse - 1-9%	Gorse - 10-25%	Gorse - 26-50%	Gorse - 51-75%	Gorse - 76-100%	Total
Gorse - 0%	124	3	2				129
Gorse - 1-9%	11		1	1		3	16
Gorse - 10-25%	3		1	5	3		12
Gorse - 26-50%	1		2		6	17	26
Gorse - 51-75%					1	9	10
Gorse - 76-100%						7	7
Total	139	3	6	6	10	36	**200**

Where to Focus Next?

- **Improving Pilot?**
    - More assessment sites in gorse
    - Validating via field review and refine
    - Reducing noise by defining minimum mapping unit and using filters etc
  - Is it really necessary?
    - Pilot has succeeded in showing that there is potential in mapping gorse in bloom
    - Dollars and effort may be better spent elsewhere

- **Scotchbroom vs Gorse?**
  - We still don't know if gorse can be distinguished from scotchbroom when both are in bloom
  - 2nd pilot area focusing on sites where field data identifies scotchbroom
    - There are about 15 sites that have measurable scotchbroom
    - Initial review shows Reedsport might be a good area?

- **Assessing methods from pilot in other areas**
  - Need to understand if promise seen in pilot is seen at broader scale
  - Could piggy back on the assessment of scotchbroom and gorse

- **Classification of Full Area**
  - Probably too soon to make this leap
  - Techniques and Scale
    - Pixel based Random Forest - TNC
    - Cam's Tool (Local)
    - Object based: CART (Regional) or Arc10.3 segmentation tools
  - Consideration needs to be made of project size and efficiently creating normalized ratio bands etc