
APPENDIX A: SUMMARY OF DRAFT DECISION SUPPORT TOOLS REPORT

The decision framework consists of four (4) Decision Support Tools (DSTs) and a rating system to assess recommendations for end land use. This is a summary of the key points – readers are referred to the original report (Drozdowski et al., 2020b) for a detailed description of the DSTs and process.

Decision Support Tools

The Decision Support Tools are used independently to evaluate the site end land use recommendation, and consist of the following:

- Adjacent and Regional Impacts Decision Support Tool
- Site Specific Decision Support Tool
- Access Decision Support Tool
- Borrow Decision Support Tool

The DST figures (Figure 5 to Figure 8) were modified for the purposes of the field verification trial by adding in the blue numbered circles to represent the Key Decision Points.

Key terms in each DST are defined and a table is provided that may be used to help determine if the DST leads the user to decide if the pad/access is a Candidate for Peatland Reclamation or Candidate for Upland Reclamation.

Site Rating and Process Decision Support Tool

Each DST has been assigned a rating for input into a calculation for a Peatland Rating or Upland Rating. Values were assigned to each DST based on consultation with industry, AEP, AER and environmental practitioners through Stage 1 and 2 of the project. Higher ratings represent a greater importance than lower ratings (Drozdowski et al. 2020b):

- Adjacent and Regional Impacts Decision Support Tool = 3
- Site Specific Decision Support Tool = 3
- Access Decision Support Tool = 2
- Borrow Decision Support Tool = 1

An end land use recommendation for each DST is assigned based on the outcome for each as either a Candidate for Peatland Reclamation or Candidate for Upland Reclamation. The ratings from each DST with an outcome for a Candidate for Peatland Reclamation are summed to form a Peatland Rating. The ratings from each DST with an outcome for a Candidate for Upland Reclamation are summed to form an Upland Rating. A comparison of the Peatland Rating and Upland Rating is then made using the Process Decision Support tool. The entire process must be viewed together when weighing whether a site is a candidate for peatland reclamation or upland reclamation (i.e., the answer to each DST does not “pass” or “fail” a site).

The detailed steps to arrive at the final site end land use recommendation are described below in Table 5, and a depiction of the decision framework for determining an end land use recommendation is provided in Figure 9.

Adjacent and Regional Impacts Decision Support Tool

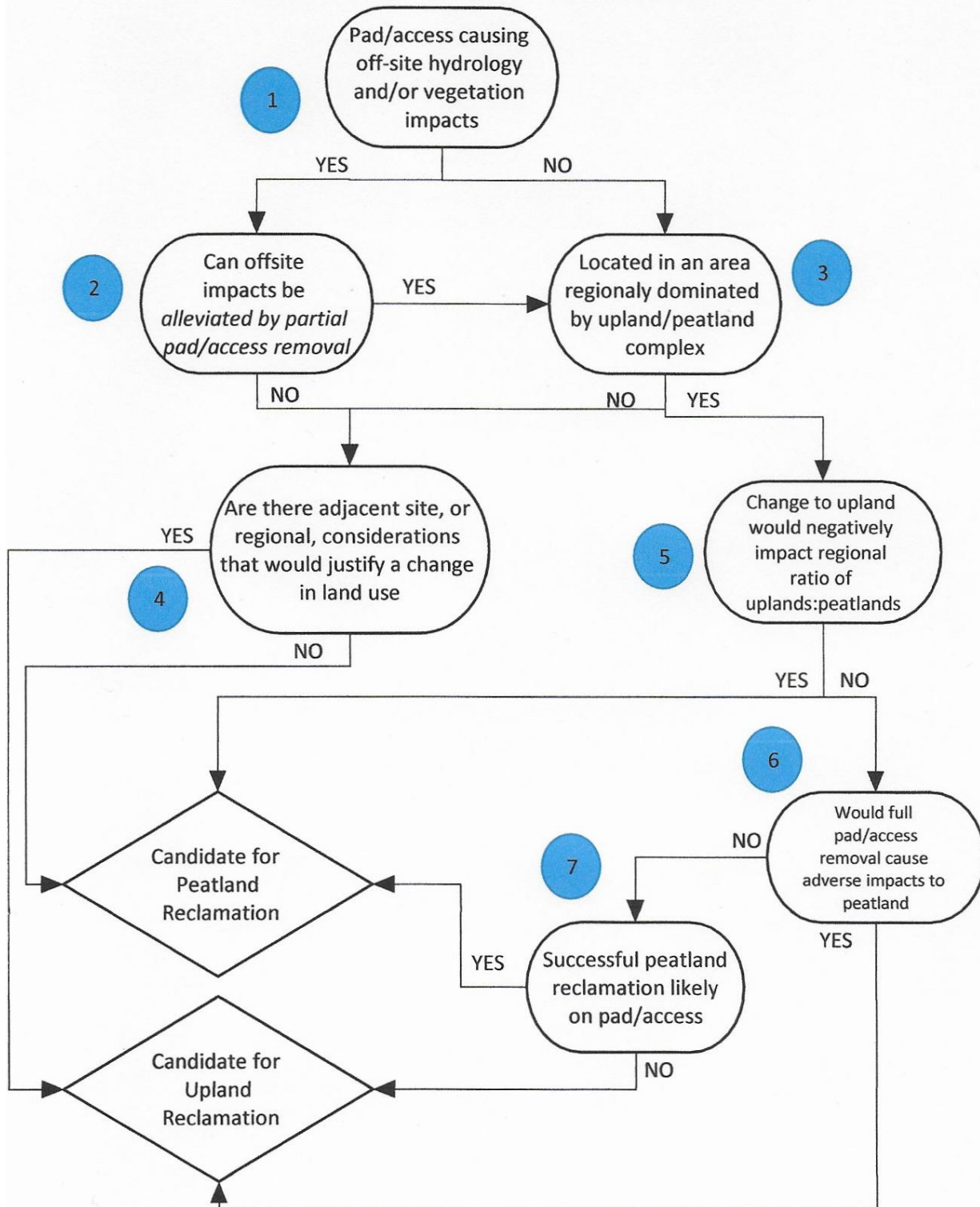


Figure 5. Adjacent and Regional Impacts Decision Support Tool.

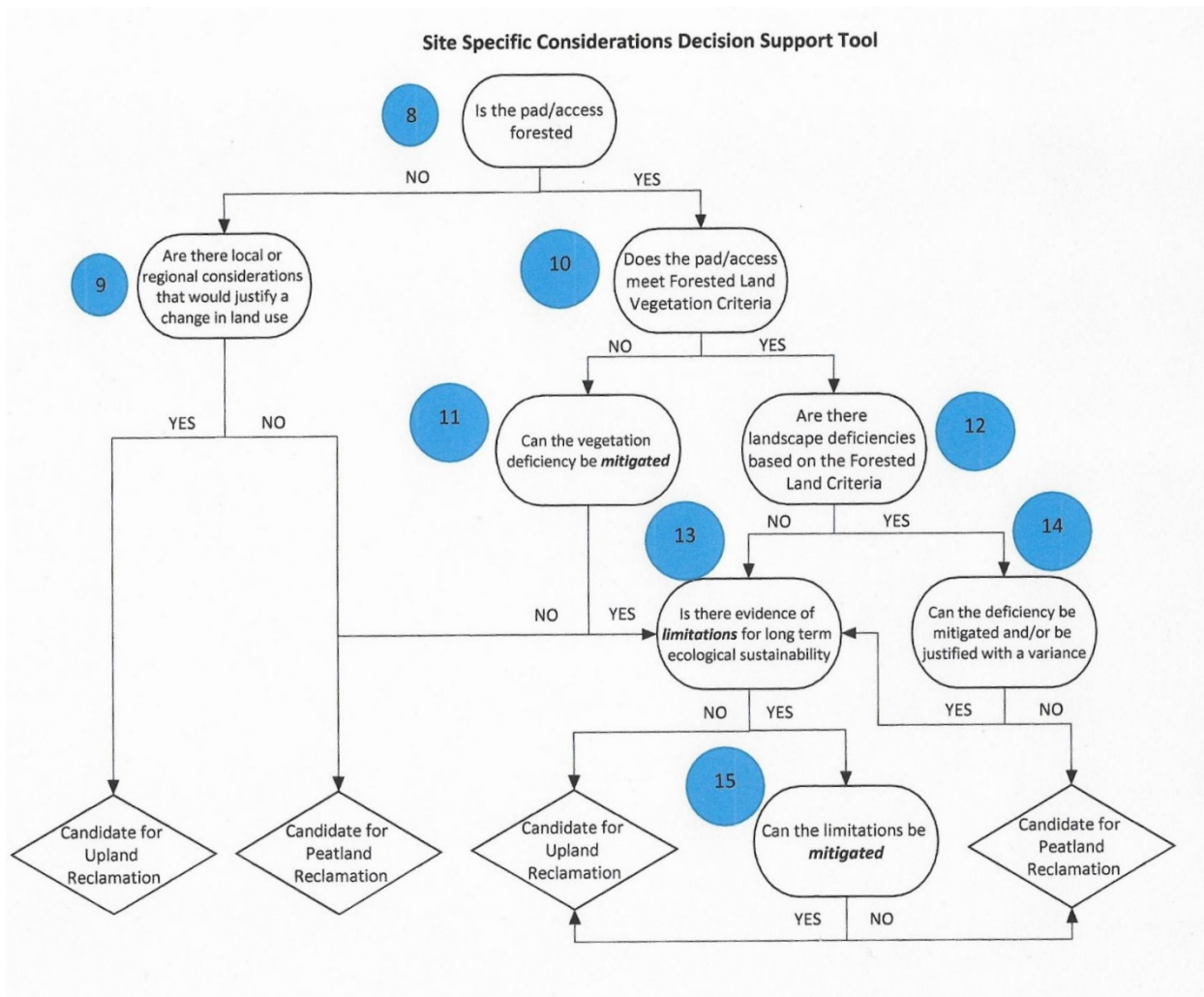


Figure 6. Site Specific Considerations Decision Support Tool.

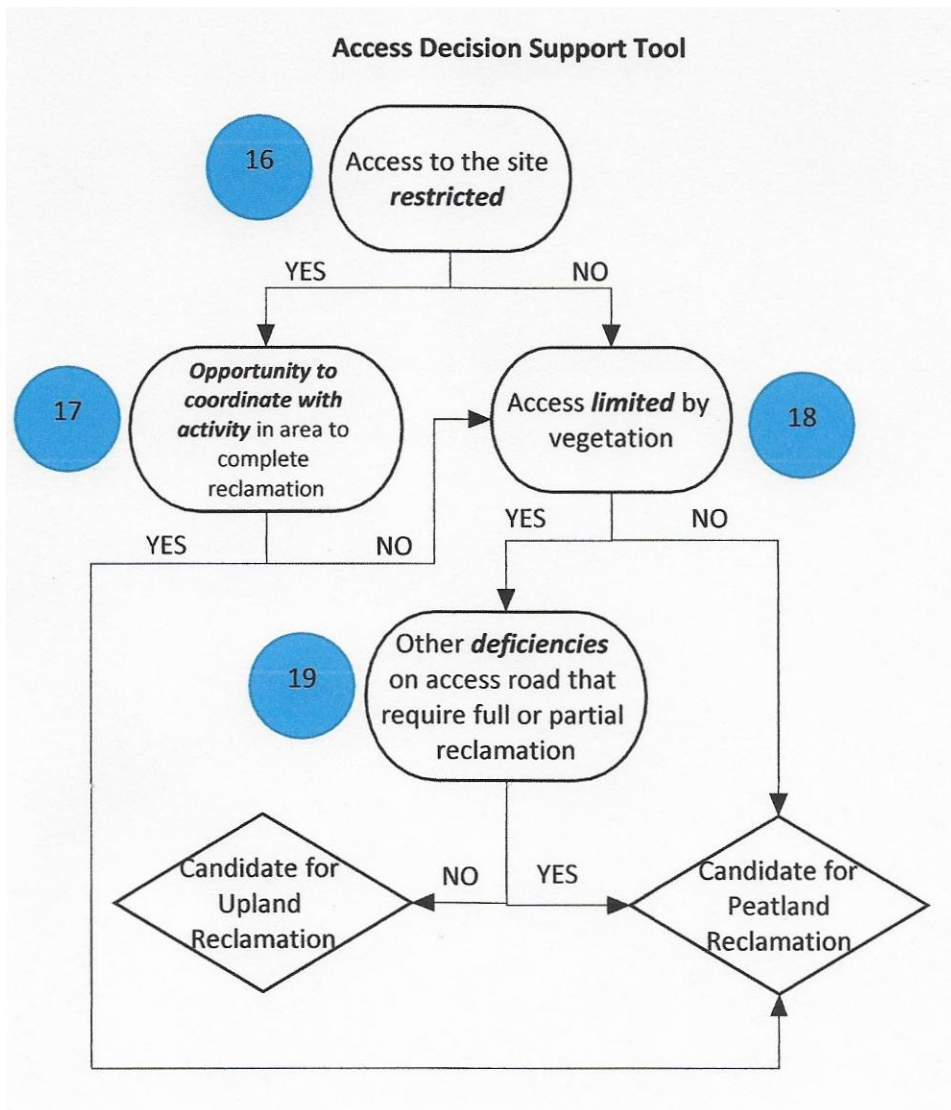


Figure 7. Access Decision Support Tool.

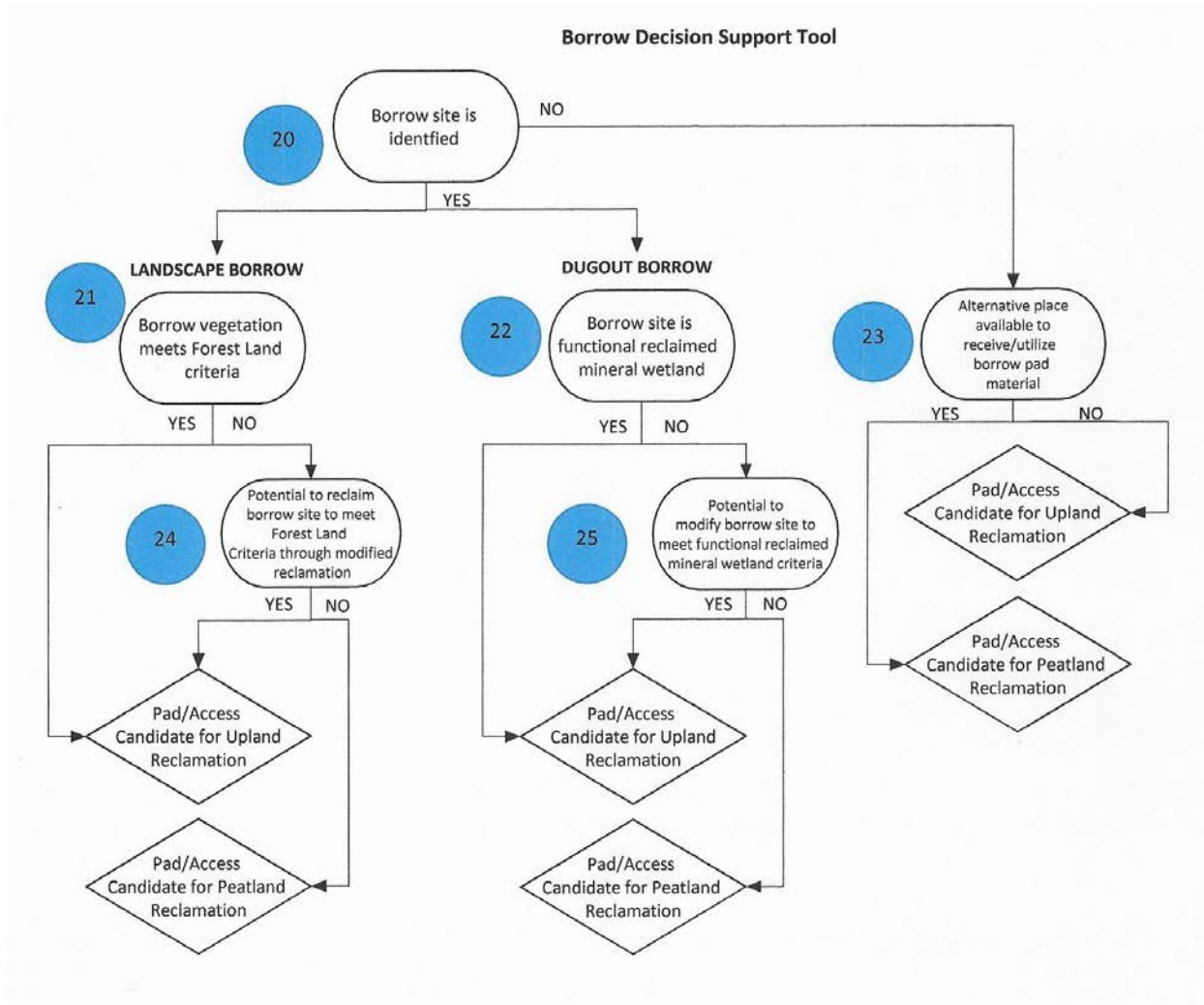


Figure 8. Borrow Decision Support Tool.

Table 5. Steps for determining end land use recommendation.

Step 1	<ul style="list-style-type: none"> For each of the four Decision Support Tools, determine whether the site is a Candidate for Peatland Reclamation or a Candidate for Upland Reclamation.
Step 2	<ul style="list-style-type: none"> Assign the appropriate rating for each DST to either the Candidate for Peatland Reclamation or a Candidate for Upland Reclamation category based on the following: <ul style="list-style-type: none"> Adjacent and Regional Impacts = 3 Site Specific Considerations = 3 Access = 2 Borrow = 1
Step 3	<ul style="list-style-type: none"> Using the accompanying 'Recommendation Calculator' enter the rating from each of the four DSTs to determine the: <ul style="list-style-type: none"> Peatland Rating by summing the ratings for each DST that identified the site as a Candidate for Peatland Reclamation; Upland Rating by summing the ratings for each DST that identified the site as a Candidate for Upland Reclamation.

Step 4	<ul style="list-style-type: none"> • Calculate the difference between the <i>Peatland Rating</i> and <i>Upland Rating</i> <ul style="list-style-type: none"> ○ Where the difference in the ratings is at least 3 the final recommendation is the option with the highest rating. ○ Where the difference in the ratings is less than 3 the ratings should be modified based on answers to the questions in Table 6 below³. Once the modifications are made, the final recommendation is the option with the highest rating.
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Table 7 below shows a sample calculation for a site where the sum of the **Peatland Ratings is 6** and the sum of the **Upland Ratings is 3; the difference in ratings is 3** and therefore the site is a Candidate for Peatland Reclamation (i.e., pad removal).

³ Note in the original report this was Table 7.

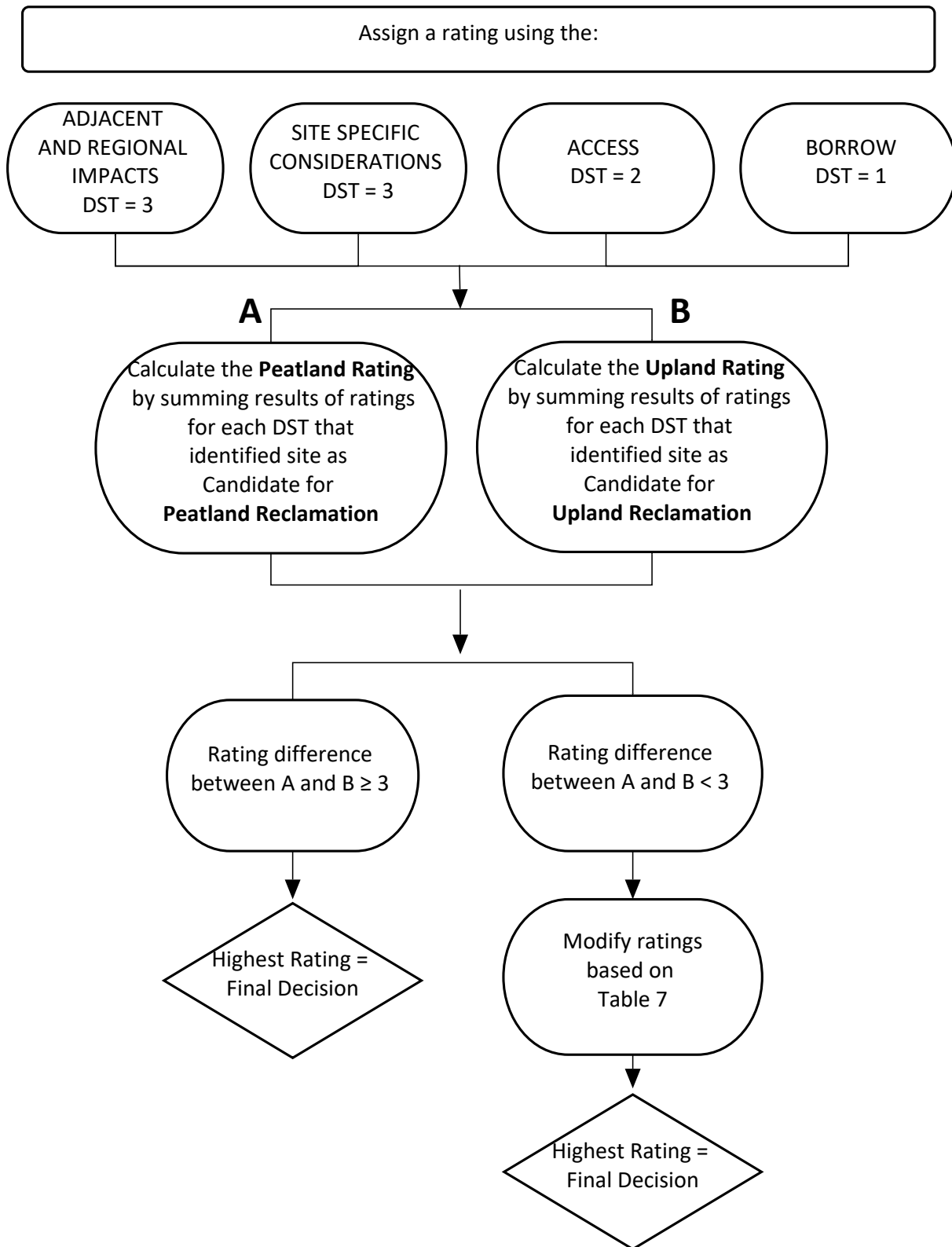


Figure 9. Process Decision Support Tool.

Table 6. Additional factors to consider in developing the final site rating.

Factor	Modification to Peatland Rating	Modification to Upland Rating
The Wetland Policy applies to the site (i.e., constructed post-2016)	+1	0
Borrow pit is available to receive pad/access borrow material	+1	0
Impacts to local hydrology are evident	+1	0
Site is in an upland/peatland complex area with >75% peatland	+1	0
Pad and access are not forested with desirable vegetation	+1	0
Site access is restricted	0	+1
Borrow site is a functional reclaimed mineral wetland	0	+1
Partial reclamation to peatland is possible so the rest can remain as upland	0	+1
Cost of full or partial reclamation of the access/pad to peatland exceeds \$250K	0	+1

Table 7. Example calculation of the Peatland Rating and Upland Rating.

Decision Support Tool*	Candidate for Peatland Reclamation	Candidate for Upland Reclamation
Adjacent and Regional Impacts	3	-
Site Specific Considerations	3	-
Access	-	2
Borrow	-	1
SUM [Peatland Rating]	6	
SUM [Upland Rating]		3

*In this example outcomes from DSTs were as follows; Access and Borrow DSTs = Candidates for Upland Reclamation; Adjacent and Regional Impacts and Site Specific Considerations DSTs = Candidates for Peatland Reclamation.

Decision Framework and Support Tools Field Verification Training

June 17, 2021
Chris Powter, Enviro Q&A Services

[PTAC AUPRF Pads Project Site](#)
(CTRL-left click to open)



Enviro Q&A Services



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[DST Report](#)
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Enviro Q&A Services



CERTIFICATION OF MINERAL SOIL PADS IN THE BOREAL REGION – DECISION FRAMEWORK AND SUPPORT TOOLS

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REPORT PREPARED FOR
PETROLEUM TECHNOLOGY ALLIANCE CANADA
Reclamation Remediation Research Committee



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Refresher: Purpose of the Report

- Provide a **framework and set of tools** to support practitioners, energy companies and decision-makers in deciding whether to leave a pad in place in a peatland (i.e., to **support a request for a change in land use** from peatland to upland)
- The tools are designed to determine if the site is on a trajectory towards developing a **sustainable plant community** from an ecological perspective, and if it is causing **off-site impacts**



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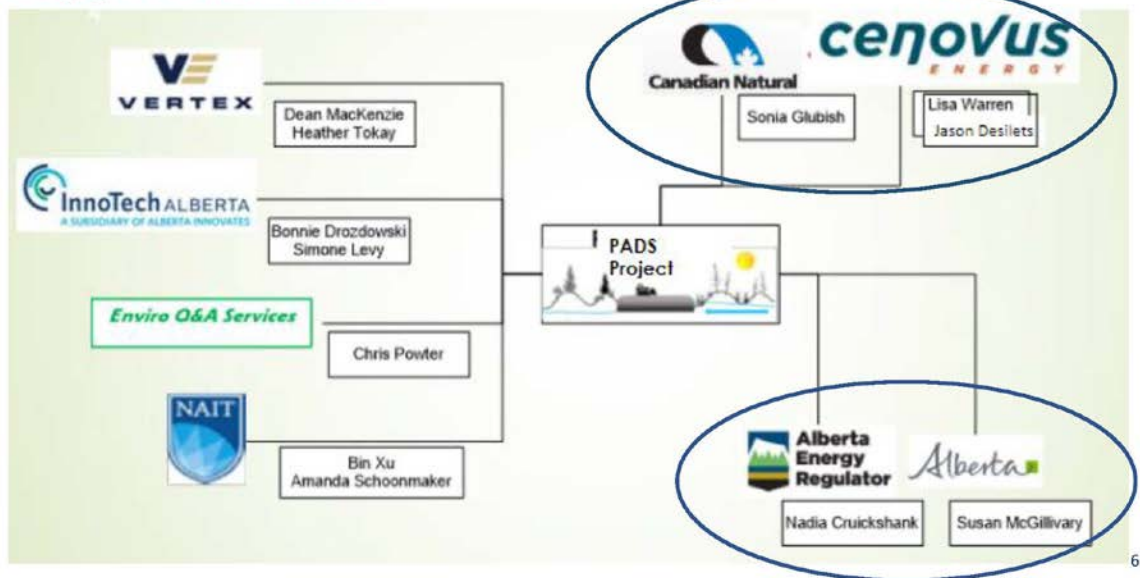
Purpose of the Field Verification Trial

- Test whether the DSTs make sense in the field
 - Are they easy to use?
 - Do they give the expected result?
 - Do some decisions have more impact than others?
- Recommend changes to the DSTs and supporting guidance if required



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Support for Trial



This Is ...

- A description of the field verification process for the *Decision Framework and Support Tools (DSTs) report*
 - A separate training session is being held for those verifying the *Guide to Variance Justifications for Reclamation Certification of Wellsites and Associated Facilities on Forested Land*
- A description of the information we need from you before and after verification

This Isn't ...

- A detailed review of the report
 - Assume you have read it and/or attended the Knowledge Transfer session June 7
- How to do DSAs or prepare reclamation certificate applications
- How to use OneStop



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What We Are Asking of Practitioners

- The remaining slides address what we need practitioners to do prior to, during, and after the field season
- This may be *additional work beyond business as usual* which is why we want you to have approval from your energy client



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What We Are Asking of AEP/AER

- Business as usual except we are asking you fill in a survey at the end of the field season providing your views on the applications you reviewed that were supported by the DST trial
- Would also be very helpful to have one or two reviewers from each agency look at some of the work done on old sites



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What We Need From You

- List of Sites
 - **New Sites:** List of sites you will assess and apply for in the 2021 field season using the DSTs
 - **Old Sites:** List of sites you have already applied for and received a decision on that you will retroactively test the DSTs on
- Site Assessment Information Form
 - Results of using the DSTs at each site you assess
- Overall Experience Survey
 - Response to a survey of your overall experience with using the DSTs during the field season



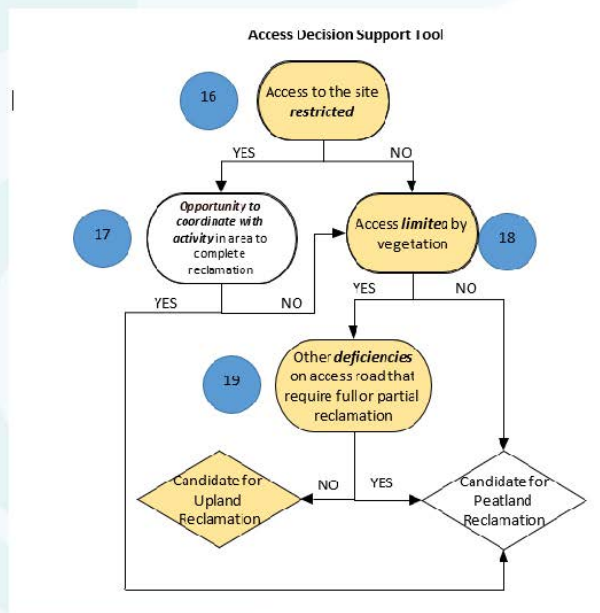
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Terminology

- Site (Wellsite) = well pad plus access road
- DSTs = the four Decision Support Tools (flowcharts) in the report
 - DST = a Decision Support Tool
- Key Decision Point = the Yes/No node in a DST
- Decision Path = the sequence of Key Decision Points you use in each DST for a site



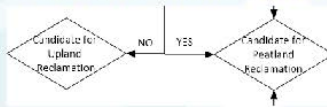
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Terminology (2)

- Recommendation = the result of applying a DST
 - The site is a Candidate for Upland Reclamation or a Candidate for Peatland Reclamation



- Process Support Tool = The weighted evaluation of the Recommendations from the four DSTs leading to a site recommendation
- Decision Support Calculator = an Excel tool to perform the Process Support Tool calculation



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List of Sites

- The goal is to obtain as many sites as possible to test all the Key Decision Points in the DSTs
- Key site selection criteria (see link for more)
 - Entire pad to be left or removed
 - Key site issue is leave pad or not
 - Different peatland types
 - Some doubt as to final pad decision
- Sites can be Nominated by
 - Industry Partners
 - Practitioners (with approval from their industry client)

[Site Selection Criteria \(CTRL-left click to open\)](#)



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List of Sites (2)

- Site Nomination Form
 - An **online questionnaire** with details of the site and the likely Key Decision Points in each DST
 - Fill in as best you can, based on either site-specific knowledge or experience with similar sites
- Process
 - Fill out a **questionnaire for each site** you are nominating
 - Simone Levy at InnoTech Alberta will get back to Industry Partners to identify any gaps that need to be filled
 - Sites can be added or removed later in the season.
 - Please communicate changes to Simone Levy at InnoTech Alberta

[Questionnaire Link \(CTRL-left click to open\)](#)



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Site Nomination Form

- Who and Where Information
 - Wellsite legal location
 - Energy company name, representative name and contact info
 - Responsible consultant name, company/organization and contact info
- Above information is strictly for internal use and will not be shared with others or included in any reports**
- AER and AEP office locations



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Site Nomination Form (2)

- Site Information
 - Aerial and/or satellite info available
 - Wellsite pad status
 - Access information
 - Surrounding wetland type
- Site History
 - Construction, abandonment, reclamation and revegetation dates
 - DSA completed date (if applicable)
 - Change in land use and certification status



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Site Nomination Form (3)

- Expected Key Decision Points in DSTs (check off all that apply)
 - Adjacent and Regional Impacts DST – 1 to 7
 - Site Specific DST – 8 to 15
 - Access DST – 16 to 19
 - Borrow DST – 20 to 25
- Additional Comments

[Numbered DSTs](#)
(CTRL-left click
to open)



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Field Verification Process – New Sites

- Use the DSTs to determine the site recommendation
- Ask AEP for a change in land use
 - Indicate you used the DSTs to support your request for a change in land use
 - **Recommend** you show the results of the DSTs as supporting documentation
- Submit the reclamation certificate application
 - Indicate in your application that you used the DSTs to support your request for a change in land use



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Field Verification Process – Old Sites

- Use the DSTs to determine the site recommendation
- Compare the recommendation against what was originally applied for
- AER/AEP – potential to review results of some of the old site assessments?



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Site Assessment Information Form

- Background Site and Assessor Information
- Decision Path for each DST
- Recommendation – New Site
 - Did the recommendation match what you expected?
 - If not, which Key Decision Points were responsible for the difference?
 - Do you agree with the recommendation?



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Site Assessment Information Form

- Recommendation – Old Site
 - Did the recommendation match what was originally submitted?
 - If not, which Key Decision Points were responsible for the difference?
 - Do you agree with the DST recommendation?
 - If your original request for a land use change was rejected, do you think the DST recommendation might have made a difference?
- Problems using the DST



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Site Assessment Information (2)

- Use of “Additional factors to consider” in Table 7 to determine final Site Recommendation
 - Which factor(s) determined the outcome?
- Process
 - Complete the **form for each site**
 - Forms should be submitted soon after the site is evaluated
 - Simone Levy, InnoTech Alberta, may request additional information



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Overall Experience Survey

- Two surveys at end of season
 - Practitioner Survey
 - AER/AEP Decision-maker Survey
 - Ask similar questions but targeted to audience



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Practitioner Survey

- General Questions on the Document
 - Similar to the Knowledge Transfer Survey – skip or update with post-verification thoughts
- Field Verification Process Questions



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AER/AEP Decision-maker Survey

- Questions pertain to the reviews of reclamation certificate applications in which the DSTs were used to recommend a change in land use
- General Questions on the Document
 - Similar to the Knowledge Transfer Survey – skip or update with post-verification thoughts
- Application Review Process Questions



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Next Steps

1. Submit site nomination forms ASAP
 2. Submit Site Assessment Forms as sites are completed
 3. Complete Overall Experience Survey at end of season
- If you have questions at any time in the process, contact Simone Levy at simone.levy@innotechalberta.ca



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