

NAMP TECHNICAL ANNUAL MEETING 2023

MEETING RECORD

TUESDAY 22-THURSDAY 24 AUGUST 2023

In attendance:

Participant	Organisation
Bronwyn Hendry	AHA – Chair
Mikhaila Nye	AHA – record
Madeleine Leyden	AHA
Elias Christofi	AHA
Emily Sears	PHA
Jaye Newman	PHA – day 2 & 3
Corrie Croton	DAFF – proxy
Debbie Eagles	CSIRO ACDP
Tristan Reid	CSIRO ACDP; virtual
Matthew Neave	CSIRO ACDP; day 3 Item 12.1 only
Glenn Bellis	Ref. Ento.; day 2 & 3
Catherine Hallatt	LiveCorp
Anna Genge	Aus. Gov. – NAQS; day 2 & 3
Charlotte Burgoyne	Aus. Gov. – NAQS; day 2 & 3
Deborah Finlaison	NSW
Birgit Loecker	NSW; day 2 & 3; virtual
Peter Kirkland	NSW
Peter Gillespie	NSW; day 2; virtual
Vidya Bhardwaj	NT; virtual
Leanne Nelson	Qld; day 2 & 3
Lawrence Gavey	Qld
Sarah Gestier	Qld
Cornelius Matereke	SA
Emma Watkins	Tas – proxy; Item 4.6 only; virtual
Julia Sarandopoulos	Vic – proxy
Zoe Chatfield	WA

Apologies: Cass Wittwer (Aus. Gov. – NAQS), Luke Watson (Aus. Gov. – NAQS), Teagan Fitzwater (Aus. Gov. – NAQS), Adam Robinson (DAFF), Debra Groll (Tas.), Berwyn Squire (Vic).

Objectives of meeting:

1. Review monitoring results 2022–23 and finalise a monitoring plan for 2023–24
2. Develop a technical strategy and monitoring plan for 2024–25
3. Workshop NAMP Virology data standards and data quality for AUSPestCheck® (half day workshop)

DAY 1 TUESDAY 22 AUGUST

A.1 Workshop part 1

Welcome and introductions (B Hendry):

The Chair welcomed participants to the NAMP virology data standards and data quality workshop.

A.1 Workshop part 1 (E Sears & E Christofi)

- E Sears introduced the purpose of the workshop. Noted that jurisdictional CVOs have been involved in the AUSPestCheck® (APC) project, but not directly through the NAMP Steering Committee. An APC update will be on the agenda for the NAMP Steering Committee meeting in November. AHA will provide an update to all AHA members including industry at the upcoming AHA Members Engagement Week in September.
- Noted the intent for APC to provide a like-for-like replacement to NAMP-info functionality where possible, e.g., the bluetongue transmission map, with scope for future enhancements.
- Concerns about the sharing of personal data were raised, and the need to get permissions from those whose personal data is stored (e.g., locations and collaborator names/contact details). Further work on data sharing arrangements and agreement formalisation is ongoing through the APC project directly with jurisdictions/organisations.
- Discussion on jurisdictional and ACDP testing protocols for the NAMP viruses. AHA will capture disease-specific virology testing protocols as discussed into a table and circulate to the Technical Committee for review.
- ACDP raised that data fields should not be limited only to what is funded. Instead, there is benefit in having a separate field to distinguish which laboratory is doing the testing (e.g., state lab or ACDP) e.g., for BTV, ACDP performed a repeat ELISA. AHA noted that a similar field exists in another program's draft data standard and an equivalent could be placed into the draft NAMP virology data standard as an 'optional field'.
- Noted that cross reactions can occur when SNT testing is undertaken. It was suggested that it could be useful to capture the level of confidence for serotypes e.g. in instances of a low titre for SNT.
- The Technical Committee agreed that a testing algorithm (flow chart) for BTV testing should be included in the Operations Plan for clarifying the next steps when a positive test result is received. This algorithm should also clarify the next testing steps for different regions (e.g., within or outside the transmission zone) and seasons.

A.2 Workshop part 1 continued (E Sears & E Christofi)

- AHA proposed to streamline the new AUSPestCheck® data standards from the current five excel workbook sheets into two Data Programs: one for sentinel herds and one for serosurvey herds. This would help to distinguish between the terminology related to seroconversion (for sentinel herds which are seronegative when recruited) versus seropositive (for serosurvey herds being tested at a point in time). The Technical Committee agreed that two data projects is the preferred approach. Noted that the current setup for data upload within the workbook allows for the site code to be entered and the specific details (e.g., location or property name) to be auto filled. The Technical Committee expressed a preference to retain the auto-filling ability.
- Discussion on the 'status' field. The Technical Committee agreed that the status field options should be 'seroconversion' and 'absence of seroconversion' for sentinel herds; and 'seropositive' and 'seronegative' for serosurvey herds.

- Discussion on adding an extra assay field to distinguish as to whether singleplex or multiplex PCR assays are used. The NAMP Steering Committee can consider the funding for multiplex vs singleplex assays.
- NT raised that it is trialling multiplex PCR (3 assays) vs. VNT for BTV, and testing issues were discussed with ACDP and NSW.
- Discussion on the need for the 'numPCRsamples' field. The Technical Committee agreed that it was more suitable to have two fields: 'numSingleplex PCRs' and 'numMultiplexPCRs' and that 'numPCRsamples' field could be removed.
- Discussion on the reporting of singleplex vs. multiplex assay testing and whether the results could be entered into APC as an array. In NAMP-info this can currently be entered as multiple for virus isolation. PHA will investigate whether APC could have this capability.
- Technical Committee members asked whether instances when animals within a herd test positive to different BTV serotypes (e.g., 3 animals positive for BTV16 and 4 BTV21) could be reported into APC. This is not currently captured in the field "PCR Test type." Technical Committee members expressed that capturing the 'number of animals per serotype for VNT (less confidence) and PCR testing would be beneficial. If it is difficult, capturing animal-level data for PCR serotypes vs. herd level for VNT serotypes, may be sufficient.
- PHA/AHA will explore what is possible given system limitations in relation to creating two fields:

PCR Serotypes (BTV)		VNT Serotypes (BTV)	
Serotype	Number of animals	Serotype	Number of herds
BTV 16	5	BTV16	1

- The Technical Committee agreed to remove the 'date last negative' field because this is not consistently used, and this information can be obtained from the seroconversion data field.
- The current 'Period of susceptibility' field was discussed. There was variation between jurisdictions.
 - QLD considers that maternal antibodies can be present up to 9 months of age.
 - NSW defines this as cattle aged 6-7 months but acknowledges that maternal antibodies can be present up to 9 months of age. NSW proposed that estimating the age of maternal antibody presence could be based on each respective states' professional judgement, as it is not an exact science.
 - SA recruits cattle at 6 months of age and bleeds within the same financial year.
 - WA advised that there may be variation due to the different ages of calves within a cohort. Average is 6 months but aim to bleed at 9 months of age.
 - AHA proposed adding to the field a description, by acknowledging variation in the age of maternal antibody presence, with presence up to 9 months of age possible. AHA will also add some clarification to the Operational Plan.

Actions

1. AHA to circulate the NAMP Virology testing protocol table to the Technical Committee for review.
2. AHA to circulate flow charts showing current BTV testing by jurisdictions to Technical Committee for review and then add these flow charts to the Operations Plan.
3. NSW, ACDP and NT to meet out of session regarding PCR vs VNT testing for BTV.

4. AHA to consult with PHA in relation to APC system capability – e.g., ability to capture multiple serotypes within a herd at a bleed event; ability to have separate data programs for sentinel and serosurvey herds.
5. AHA to draft the AUSPestCheck® NAMP virology data standard:
 - a. AHA/PHA to look at developing an additional optional field to distinguish level of testing conducted (e.g., state vs. lab ACDP).
 - b. AHA/PHA to consider functionality of capturing serotype information in free text vs. drop down selection in draft virology data standards.
 - c. AHA/PHA to draft 'Status' field as agreed for review, based upon serological exposure for two programs: Sentinel Herds: Seroconversion (absent/present); Serosurvey herds (seropositive/seronegative).
 - d. AHA/PHA to remove 'numPCR samples' and to replace 'numPCR assays,' with 'numSinglePlex PCRs' and 'numMultiplexPCRs.'
6. AHA to request the NAMP Steering Committee consider the funding basis for multiplex vs singleplex assays.
7. PHA/AHA to explore AUSPest Check® system capability in relation to developing a field which could capture the number of animals within a herd per serotype for PCR vs. VNT tests or explore alternate option to capture this information.
8. AHA to remove current data field 'last date negative,' as agreed by TC.
9. AHA to add guidance in the Operations Plan around age of loss of maternal antibodies.

DAY 2 WEDNESDAY 23 AUGUST

1.1 Welcome and introductions (B Hendry):

- The Chair welcomed participants to the NAMP Technical Committee meeting, including those joining virtually.

2. 2022-23 in review

2.1 Setting the scene (B Hendry)

- Spoke about the NAMP Technical Committee Terms of Reference.
- Noted the ad hoc meeting that was held in May 2023 following the clinical BTV-16 detection in sheep in NSW and Qld. The Technical Committee worked within their terms of reference to provide advice on this. Manuscript from NSW DPI and S Gestier was circulated. Clinical disease is outside NAMP scope. As detection was within BTV zone no changes were required to NAMP activities except for a minor update to the zone change notification email wording. P Kirkland noted that a short case report accompanying the full report is with the Australian Veterinary Journal for publication. This was a good opportunity to test the NAMP and it demonstrated that recent changes to the NAMP Operations Plan are working well.
- There was one zone change during the season which was an expansion of the BTV transmission zone into northwest NSW near Walgett.
- Discussion on the process for data and specimen access requests. L Gavey noted that there has been a lot of email correspondence following the New Zealand specimen request and suggested that holding a brief ad-hoc meeting may be more efficient. More information will be added into the Operations Plans to provide guidance around requests for data and specimens, for example, that specimens that have been caught as bycatch through NAMP activities are considered to be NAMP specimens.

Actions

10. AHA to review how data/specimen access requests are addressed in the future including the consideration of holding brief ad hoc meetings, and to add appropriate wording to the Operations Plan.

2.2 Progress on 2022 Technical Committee meeting action list (M Nye)

- Spoke to the NAMP Technical Committee action item update paper.
- The status of the action items was accepted with no comments.

Actions

11. AHA to circulate information from DAFF about which countries require BTV-testing of livestock pre-export from Australia.

3. Australian Government Report**3.1 DAFF NAMP and Australian livestock market access (C Croton)**

- Spoke about the relevance of NAMP, noting that the NAMP map and publicly available information on the program is most commonly accepted without query by overseas countries. China often queries aspects of the NAMP.
- Overall, live exports have declined in recent years.
- During favourable seasons, stock is retained, and prices increase. Drought conditions precipitate selling and push livestock to the export markets. These export markets help to maintain sale prices.
- Breeder cattle are exported in small numbers to infrequent markets. These are high value animals that are less affected by commodity prices. China pays much higher prices than other markets as it is developing its breeder herd, and the NAMP is important to maintain sales to this market. Southeast Asia is also a significant market.
- Feeder/slaughter cattle are primarily sent to Indonesia and Vietnam. Cattle trade to Japan has dropped off. Indonesia is concerned with BTV-8. Lumpy skin disease concern has affected exports to Indonesia.
- Breeder sheep export numbers are declining. There are less defined trends based on rainfall and variation is more random. China and the Philippines require that sheep are sourced from a BTV free area and also do additional testing on arrival. Australia is no longer exporting stock to Russia.
- Feeder/slaughter sheep are sent primarily to the Middle East. Middle Eastern markets don't require certification of freedom from BTV. The current Government plans to stop live sheep exports after the next federal election.
- The top three priority markets for industry are China, Indonesia and Japan.
- UK is planning to visit Australia in early 2024 to look at BTV management. If the NAMP is accepted by the UK, this could potentially open other EU markets.
- Turkey is flagged as potential new market. Its protocol states three years of national clinical freedom.
- The protocol for the export of wool to China is outdated. DAFF will update the Technical Committee on the outcome of any review of the protocol for export of wool to China.

Actions

12. DAFF to update the Technical Committee on the outcome of any review of the protocol for export of wool to China.

4. Coordinator reports (findings and recommendations resulting from the 2022-23 season)

4.1 NAQS virology and entomology (C Burgoyne & A Genge)

- Referred to the paper.
- Noted challenges including dog attacks and labelling issues, with labels not being readable when arriving at the laboratory.
- Noted drop in vector species for 2022-23 FY.
- A few specimens of *C. nudipalpus* were found in 2019, 2021 and 2022. Looking to get a blood-fed specimen to see what species the *C. nudipalpus* have been feeding on. Samples from East Timor are being reviewed by G Bellis.

4.2 NT virology and entomology (V Bhardwaj)

- Referred to the paper.
- Problems with samples from Katherine and Victoria River due to flooding and station staff changes.
- The NT CVO went to the stations to emphasise the importance of the NAMP. Sample return is lower than planned. Three serosurveys were conducted in this area.
- Barkley tablelands and Victoria Downs have been identified as gaps. Some producers are not willing to commit to hosting a sentinel herd but may be involved sometimes as serosurvey sites.
- A BTV 12 result was highlighted as interesting. ACDP is willing to review it too. P Kirkland requested the CTs and typing assays be provided by NT.
- April to June entomology collections are pending due to delays in getting collections in for identification.
- Noted that Berrimah Farm is budgeted for 6 collections but isn't in use.
- Proposed that Victoria River do 12 trapping events per year rather than 6. This would harmonise between Victoria River and Coomalie. The Technical Committee supported flexibility for NT arounds its trap sites, it has been difficult to lock in ongoing sites. Updates to monitoring plans were discussed further under Item 6.1.

4.3 NSW virology and entomology (D Finlaison & B Loecker)

- Referred to the paper.
- Noted lower numbers of specimens trapped in 2022-23 compared with previous seasons. Only four specimens of *C. wadai* were collected.
- Diagnostic workshop was held in Orange in early 2023 hosted by G Bellis.
- Barcoding project run by David Goperanko developing molecular means suitable to identify NAMP collections, utilising a reference library of C1 sequences, will be uploaded to BOLD (Barcode of Life Data system). Noted specimens entered into DPI database get uploaded to APPD (Australia Plant Pest Database).
- Privacy issues related to the uploading of BOLD data with precise coordinates to a public site were raised. NSW suggested to de-identify by limiting the coordinates to one decimal point. The Technical Committee agreed that this item that could be addressed out of session. Discussed further under Item 9.1.

- Patterson (Tocal) didn't get as many *Culicoides* in 22-23. Across NSW it appears that trapping started later this year in terms of catch quantities. The varroa response in NSW has possibly affected involvement in trapping for the NAMP.

4.4 Qld virology and entomology (L Gavey & L Nelson)

- Spoke to the paper.
- Noted swathe in central north where there are no sentinel herds. Properties are huge and difficult to access meaning only do serosurveys can be conducted due to accessibility.
- Discussion on the value to SA of potentially increasing surveillance in southern Qld.
- BTV-15 had been detected occasionally in previous years in northern Qld and was also detected within southern Qld this year.
- Qld is developing a farm specific report to target producers individually and to encourage continued involvement in the program. This report will be based mainly on BEF and AKA and will also contain some targeted information on the importance of the NAMP. It will only include the results publicly available plus each producer's own farm results. Qld will share the template with other jurisdictions. AHA advised QLD that they would not need to seek permission to publish the reports if the information is already publicly available through NAMP.
- Qld *C. brevitarsis* numbers have been relatively constant.
- Propylene glycol is cheaper than alcohol and readily available (not hard to get). The time frame for transporting samples is also improved as it is not restricted mail. The Technical Committee agreed to include propylene glycol as an option in the Operations Plan.

4.5 SA virology and entomology (C Matereke)

- Referred to the paper.
- In 2020 there was a *C. brevitarsis* collected at Cordillo Downs (S022). Following this, a one-off serosurvey was conducted at a property near the Birdsville track, Clifton Hills (S048). Results showed a positive VNT, noting that it could be a non-specific reaction, with SA discussing with P Kirkland. Note that this positive doesn't have an impact on our program. No virology testing has been done. SA propose to increase activities at S048 to have a permanent sentinel herd and entomology trapping at this location. This was discussed further under Item 6.1

4.6 Tas virology and entomology (E Watkins)

- Noted D Grull as a late apology.
- Referred to the paper.

4.7 Vic virology and entomology (J Sarandopoulos)

- Referred to the paper.

4.8 WA virology and entomology (Z Chatfield)

- Referred to the paper.
- Discussion on which traps are used in WA. Will be confirmed with the NAMP Reference Entomologist OOS.

4.9 ACDP virology (T Reid)

- Referred to the paper.
- BTV 1,15, 16 and 21 are the main serotypes detected across Australia.

Queensland samples

- From Qld samples, ACDP is detecting an increasing predominance of BTV 16 and also mixed infections within herds with serotypes BTV 21 and 15 in SE Qld. This aligns with the pattern being detected in NSW.
- BTV 1,15, 16 and 21 are the main serotypes detected across Australia.
- ACDP has also routinely seen low levels of BTV 23 reactivity over the last few years, especially when multiple serotypes are present. However, cross reactivity of BTV-23 is not unusual in the SNT panel.
- In 2021 there was increased reactivity to BTV-23, however, additional targeted investigations showed no evidence of BTV-23 circulating in Qld.

Western Australian samples

- Predominance of BTV-16.

Diagnostics

- ACDP completed a review of two non-prototype viruses (BTV-4 and BTV-21), which have been routinely used in the SNT panel in recent years. These non-prototype viruses BTV-4 and BTV-21 are antigenically distinct from the prototype viruses previously used for SNT. The outcome was that the non-prototype BTV-4 virus will not be part of the reduced SNT panel, and the non-prototype BTV-21 will be part of the panel. As such, results will be reported for testing against only the prototype BTV-4, but against both the prototype and non-prototype BTV-21.
- The Technical Committee noted that test sensitivity for serotyping by sequencing was highest for samples with BTV TQM PCR threshold cycle values (C_t) of 30 and below. QLD advised they only refer C_t 30 and below. It was proposed that conventional PCR and sequencing testing may be useful in these cases.
- ACDP encouraged jurisdictions to keep sending samples from a broad geographic and temporal range as these are important for ACDP's reference collection.

4.10 Reference entomology (G Bellis)

- Referred to the paper.
- Key highlight was the female *Culicoides* key development and workshop.
- The Technical Committee congratulated the Reference Entomologist on the key.
- The Reference Entomologist proposed the development of a male *Culicoides* key and will send through a proposal for Technical Committee review before it goes to the Steering Committee for endorsement.
- QLD offered to provide additional specimens to the Reference Entomologist if these are required for metabarcoding the reference specimen collection.
- The Reference Entomologist and AHA have finalised the *Culicoides* list into the BOLD format. This list is ready to be inputted into the APC system.
- The female *Culicoides* species manual will be published electronically and then produced as a hard copy for use as a reference guide. The Technical Committee acknowledged its value as a training resource for new entomologists.

4.11 NAMP Activity Summary 2022-23 (M Nye)

- Referred to the draft activity summary which will be updated as final monitoring activities are entered into NAMP-*info*. Coordinators to check that the numbers are as expected and that information on underactivity is included in the wiki annual reports, which will be summarised in the Management Report to the Steering Committee.

Actions

13. NAQS to update the Technical Committee on further investigation of the suspected establishment of *C. nudipalpis*.
14. NAQS to update the Technical Committee on the NSW DPI metabarcoding project.
15. NT to send CTs and typing assays for the BTV-12 to P Kirkland, and a sample to ACDP for confirmatory sequencing
16. Qld to share with the Technical Committee its template for annual targeted report to producers.
17. Qld to confirm with NSW if *C. brevitarsis* detections have occurred at the same time this year as previously.
18. WA to confirm with G Bellis what type of traps are being used.
19. Jurisdictions to send submissions from a broad geographic and temporal range to ACDP for its reference collection.
20. G Bellis to update the female *Culicoides* key with input from NSW and send to AHA to finalise and to initially publish electronically. Printed copies will be developed once further feedback has been provided.
21. G Bellis to advise L Nelson if any further specimens are needed for metabarcoding of the reference specimen collection.
22. Glenn and AHA to submit a proposal to the NAMP Steering Committee for the male key.
23. AHA and G Bellis to continue to work to identify historical records that are not aligning with known distribution.
24. AHA to send out updated activity summary early in November for review by the Technical Committee for the Steering Committee meeting.

5. AUSPestCheck® Project Update

5.1 AUSPestCheck® Project Update (E Sears)

- Provided an update on the AusPestCheck project.
- In 2018, the National Biosecurity Committee agreed to a trial of APC for national animal health surveillance data. Aquatic surveillance will also be incorporated in APC. AHA's current Central Animal Health Database is 30 years old and no longer contemporary (e.g., it cannot support multifactor authentication and APIs, and doesn't have PowerBI functionality).
- It was queried as to who qualifies as a 'non-organisational private user.' E.g., could our Reference Entomologist, as a user who is not employed by an organisation, be granted access. Suggestion that G Bellis could be set up as a 'sub-contractor to AHA,' as he is the AHA reference entomologist for NAMP. AHA and PHA to confirm.
- It was queried who is a Participant Administrator. PHA advised that the CVO and one delegate in an organisation would likely be Participant Administrators. The Participant Administrator has access to all the programs that that Participant (organisation) has access to.
- AHA advised that there will be limits on how many delegates are granted access within the system, to ensure security and privacy.
- NSW expressed it will be useful to have both a Participant Administrator and a Program Administrator with the ability to grant access.
- It is planned to transition the NAMP from the Central Animal Health Database to APC in 2024, and then move historic data across as an archive. The most recent two years of historic data will

be transformed and used to test the APC system for the NAMP, so these two years of data will be available in the APC system in the updated data format.

- There will be processes for disciplinary action for misuse such as inappropriately adding new Individual Users within a Participant organisation.
- WA raised concerns about NAMP map accessibility. AHA/PHA confirmed there will be no changes to public access.
- A guidance document will be developed to support data entry of the new draft data standards. Through APC, there will be the option to upload data via a CSV file using an excel workbook which will be available through APC. Upload will be the whole file, rather than the copy/paste process used in CAHD. There is capability to transition to an API if Jurisdictions prefer.
- The NAMP Entomology data standards are currently with jurisdictions for review.
- G Bellis noted for entomology data standards, presence of insects would be reported as a 'positive' status, 'negatives' are not reported.
- L Gavey queried if at the Participant level, the Participant Administrator is the CVO, and/or another person delegated by them, would the CVO need to add new users. AHA noted that as the Program Administrator, they can also add a new individual user. A Data Sharing Agreement will be put in place to prevent access given to inappropriate individual users. AHA will continue to do six-monthly audits of all users.
- E Sears thanked the Technical Committee for reviewing the entomology data standards and the *Culicoides* species list. Reach out to E Christofi, B Hendry, E Sears, or J Newman with any questions about APC.

Actions

25. AHA/PHA to confirm if an Individual User would need to be part of a Participant (organisation) or if they can be their own Participant e.g., G Bellis as a subcontractor of AHA (as the Participant), or as his own Participant.
26. Jurisdictions to send back feedback on entomology data standards to E Christofi if not already done so.

DAY 3 THURSDAY 24 AUGUST

6. Prospective technical strategy (including proposed changes to monitoring for 2023–24)

6.1 NAMP strategy discussion (Technical Committee)

- Spoke to section 3.1 under *Monitoring strategy* of the Operations Plan.
- The clinical detection of BTV-16 in NSW and Qld will be discussed at the NAMP Steering Committee meeting in November, highlighting the importance of the NAMP for export.
- Noted the detection of *C. nudipalpus* in the Cobourg Peninsula during the season.
- G Bellis provided an update from project in Thailand. *C. nudipalpus* and *C. sumatrae* were collected from an infected farm, both had no blood but were positive for LSD.
- Committee noted that historically, EHD was of interest to North America. P Kirkland highlighted Schmallenberg and Douglas viruses are hard to distinguish as they are almost identical, and Douglas is widespread.
- Discussion on proposed changes to monitoring plans. Proposed changes will be approved for 2023-24 by the NAMP TC, with ongoing approval to be confirmed through the Steering Committee.

- NT requested that the six visits allocated to Berrimah farm (190), which is not in use, be moved to Coomalie (T143), bringing the number of visits to twelve. Victoria River (120) collections to also be increased from six to twelve collections per year. Committee supported updates to T143 and 120 trapping frequency, and removal of 190.
- SA request that Clifton Hills (S048) be added as an ongoing sentinel herd (SNTL) and entomology (ENTO) site, to complement Gidgealpa (S019; SNTL, ENTO) and Cordilla Downs (S022; ENTO). Reliable monitoring sites in this region of north-east SA is important as Qld don't have reliable sites near their southern border, and S022 can be hard to access. Committee supported addition of S048 as ongoing SNTL and ENTO.
- WA requested the addition of an ongoing sentinel herd at Minderoo (W072) in the north Pilbara. There is occasional Akabane detection in the region, and a lot of cattle movement. This location is the next point south in the Pilbara from the sentinel herd at Mardie (W071) and is closer to the coast than the sites further south along the coast. As a sentinel site, this site will allow us to better pinpoint detection compared with serosurvey herds and will only involve 2 bleeds per season so won't have much effect on the budget. Discussion on if the serosurvey herd further south and inland at Onslow (W081) should be removed. As there are a lot of rivers in that area and W081 is right on the edge of the river system the committee agreed that it is a valuable serosurvey site and should remain. Committee supported addition of W072 as ongoing SNTL.
- Qld requested that the herd at Glengyle Station (Q377) be added as an ongoing serosurvey site. This site is well placed to pick up transmission through the channel country. Access is difficult year-round so better placed to be a serosurvey (SERO) herd than a SNTL. Qld requested that Isla Downs (Q423) be added as an ongoing SNTL and ENTO site. Committee support addition of Q377 as ongoing SERO and Q423 as an ongoing SNTL and ENTO.
- Qld raised that they have consistently got negative results along the zone boundary. Noted that sampling at Boulia (Q258), on the west boarder of Qld with NT, and Winton (Q398) and Longreach (Q395) in central Qld has not been conducted and these sites will likely need to be replaced. Qld to identify replacement sites and notify AHA.
- Discussion on the zone retraction process, noting Qld would need at least two years sampling evidence that BTV is not present in these areas, and a proposal submitted to the Committee as per usual zone change processes. The Committee also noted that Qld would need sites located closer to the zone to really identify where the zone should be retracted to. Qld will go to producers and determine the value of looking at retracting the zone.
- Committee noted that the predicted El Nino weather cycle and reduced cattle density might be conducive of reduced vector numbers.
- Discussion on the number of collections required for sites within and without the zone. AHA to update the Operations plan to clarify trapping frequencies and take to the Steering Committee for endorsement.
- Operations Plan says 12 collections in northern sites – but Qld only does 6 (entomology) – Were directed in the past to reduce budget. Either update Operations Plan and or increase Qld sites to 12. GB – think that is referring to the ones right up on the coast – NAQS ones. Qld is hovering around 50-65% collection rate – having extra collections coming in from the North wouldn't make a change.

Raised after 8.1:

- Discussion on real-time PCR (qPCR) and the budget/costing of performing multiplex rather than single-plex PCRs. EMAI and ACDP do a lot outside the program. The Committee agreed to the forming of a working group consisting of NSW DPI, QLD, NT and ACDP to develop a proposal to consider the optimum use of single-plex and multiplex PCR for the Committee to consider at the 2024 annual meeting.
- NSW noted there have been requests for NAMP sentinel herds to be tested for other diseases e.g., JEV. NSW has increased its number of non-budget sentinel herds (not covered under NAMP but used for NAMP and JEV).

Actions

27. AHA to provisionally update the 2023-24 budget with agreed monitoring changes, and raise with the Steering Committee for ongoing endorsement, noting underactivity in most areas.
28. Qld to consult with industry on the value of retracting the BTV Transmission Zone.
29. Qld to advise AHA on sites that can be replaced due to lack of activity.
30. AHA to raise with the Steering Committee around discussion for retraction of the zone in Qld and the work required to do so.
31. AHA to update the Operations Plan in relation to trapping numbers and take to the Steering Committee for endorsement.
32. AHA to ensure G Bellis has access to the NAMP Budget site lists in NAMP-info.
33. NSW DPI, QLD, NT and ACDP to form a working group to consider the optimal use of single-plex and multiplex PCR and to report back to the Technical Committee at its next meeting.

7. Zone change proposals, industry update

7.1 Bluetongue virus zone change proposals

No zone change proposals raised.

7.2 LiveCorp update (C Hallatt)

- Provided a verbal update to the Technical Committee.
- The Australian cattle herd is going into surplus following four years of high rainfall, breeding herd rebuild and good pasture availability.
- Exports during 2021-22 were restricted due to high stock prices, and farmers holding onto livestock, which caused challenges for importing markets (especially Indonesia) due to the price.
- Cattle prices are dropping with oversupply of cattle. Levels are almost equal now (mid-way through 2023) to what they were for all of 2022.
- COVID affected export livestock vessels. Lower export numbers are also due to changes in sheep export requirements (not sending during certain months due to heat).
- The current LSD situation in Indonesia, with Australia cattle being identified as LSD positive after testing after vaccination and Indonesia applying restrictions on key quarantine yards, has caused a drop in exports to Indonesia. Exports to Malaysia have ceased for cattle in buffalo due to Indonesia's query into Australia's LSD status.
- The priority in recent years has been market maintenance through COVID, drought and high cattle prices.
- The China export market is starting to slow.

- Two new markets have been established: Argentina feeder, breeder and slaughter sheep and goats; PNG – breeder sheep and goats. Looking at future trade with Ecuador, UK, Saudi Arabia, and Morocco, with NAMP supporting trade to these markets.
- Noted that the NAMP is an invaluable resource and supports trade to many countries that have BTV requirements. 21 markets rely on the NAMP, with 65% cattle, 67% buffalo, 77% goat and 60% sheep markets supported by the NAMP.
- Propose an agenda item for the NAMP Steering Committee meeting to include discussion on the BTV clinical detection in sheep and the effect to trade.
- When asked, LiveCorp explained that sheep export numbers have gradually declined over the past decade primarily due to regulatory practices (reduced stocking density, moratorium ban for northern summer, increased costs), high prices and COVID disruptions, but exports are still relatively steady. Noted that the plan to cease live sheep exports will likely cause major concerns for importing countries, as Australian sheep have been prized for their great, disease free status and heat resistance. Importing countries have invested a lot of money to meet Australia's requirements for the welfare of Australian sheep on arrival that they wouldn't have otherwise done (500K – 1M sheep per year for Saudi Arabia).
- The Technical Committee requested that the next LiveCorp report include percentage of exports by dollar value.

Actions

34. AHA to raise with NAMP Steering Committee for discussion the clinical detection of BTV-16 in NSW and Qld and trade implications.
35. LiveCorp to provide an update at the next NAMP Technical Committee meeting and include percentage of exports by dollar value.

8. NAMP-I database

8.1 NAMP-info database management system (Technical Committee)

- Noted that the Central Animal Health Database (CAHD), which includes NAMP-info, will be phased out at the end of the 2023-24 financial year, at which point APC will become operational.
- AHA is managing the continuity of the NAMP zone map to ensure there is no break in its availability during the transition to APC, and to implement appropriate communications to ensure all parties can access the map.
- The new *Culicoides* species list developed by G Bellis will be integrated into APC. There is no plan to update the species list in NAMP-info at this time. It was noted that APC can incorporate BOLD system formatting used for the finalised species list.
- All data will be transferred across to APC with the most recent two years transformed and the remainder being archived in APC. AHA to confirm how easily accessible the historic data will be e.g., if it will be searchable, downloadable to excel, able to be edited, etc.
- G Bellis questioned whether a map could be developed for each species to highlight discrepancies and e.g., incorrect location. Noted that this would require the production of approximately 140 maps to show information for each vector species. AHA noted lack of capacity currently to do this, but that doing this for just the last two years of data may be a possibility. AHA advised that if the Technical Committee can provide resources, it may also be achievable.
- E Sears noted that any changes to the historical data would need to occur before the data is moved to APC, as PHA is uncertain if the data could be changed once it is in APC. It is possible

that this could be looked at once APC is up and running e.g., second half of next year. It was raised that members of the Committee need access to the archive material in its current form for at least till the end of 2024 before it is transitioned to APC.

- QLD suggested adding in a field to flag dubious records, so they are identified as potentially incorrect. NSW suggested the option of recording an 'undetermined species' or 'unidentified species' in the new *Culicoides* list could address dubious species records. AHA advised the list currently has "undetermined species." DAFF noted there could be errors in location (coordinates or site number) rather than solely errors with the species ID.
- PHA suggested identifying the number of data errors first to assess how long the correction process would take to complete.
- PHA noted that they are looking to replicate visual aspects of NAMP-*info* as much as possible in APC. Site information will still be included. Noted that standardisation of what is included in the site information is required (e.g., general vs specific details including property names, owner names, regions, etc.). PHA advised there would be a move towards PowerBI, as there is more flexibility to create tables and summaries and add filters, rather than static reports/summary tables being hard coded into the system.

Actions

36. AHA/PHA/DAFF to investigate process/timeframe for the transferring of archived data to APC, and how accessible the archived data will be in APC.
37. AHA and G Bellis to review two years' worth of entomology data and analyse maps to identify problem records initially.
38. AHA to scope timeframe required to analyse all suspect errors in data and update records.

9. Business Plan

9.1 Draft Business Plan 2023-24 (Committee)

- The Committee discussed proposed updates to the Business Plan.
- Section 2.3. The Committee supported an update regarding data access requests to include that jurisdictions can raise requests internally for consultation with their CVO if required, and the Technical Committee may forward the publication/request internally as part of this internal consultation process. Data Access Agreement form to be updated to include that the proposal will be circulated to the Technical Committee and may be circulated internally within the Technical Committee organisations (e.g., to the CVO), for approval. The Committee also support inclusion of bycatch in the Data Access Agreement form. AHA to ensure that these notes sit in the appropriate places within the data governance section of the Business Plan, and in the Data Access Agreement form.
- Section 3.5. Noted that updates were endorsed by Steering Committee last year. Discussion around what is covered under program activities. Agreement that activities such as sending samples to David Goperenko in NSW is counted as sending to a NAMP partner and is a subset of reference entomology activities. Hence, no Data Access Agreement is needed in this circumstance.
- Discussion on uploading data to other platforms such as BOLD and Genbank. The NAMP information that has been included has not currently been made public on these platforms, but likely will be in the future. Noted that specific location data is needed for inclusion in BOLD. Agreement that if it has been signed off by G Bellis for upload that it is endorsed as correct and accurate. P Kirkland noted that any of the sequence info submitted to platforms such as these is always 'use at your own risk' and may not be correct. Committee noted that David doesn't release

anything unless it is part of a paper, so would put the paper to the Technical Committee for publishing approval before anything was made public. B Loecker and G Bellis to work with D Goperenko to put a short agreement together on what is being uploaded to BOLD, to then be added to the Business Plan.

- AHA clarified that species of no concern to the NAMP within a jurisdiction can be sequenced or uploaded to external platforms at the discretion of the jurisdiction.
- The Committee agreed that a protocol for an unusual entomological detection should be added to the Business Plan, analogous to the protocol for virology.
- The Committee agreed that the risk register should be updated to include the risk around changes in property owners such as those less experienced or not as familiar with the program and changes in staff within the Jurisdictions/Committee that may not be familiar with the program under Risk #12; a new risk around the transitioning of the NAMP to a new database; and a correction to Risk #16 which should read “SW QD”.
- AHA proposed closing out those risks which are no longer current and reformatting the risk register. Suggested closed risks could be included in something like the wiki to refer back to if needed, and retain the updated current risk register in the Business Plan.
- Noted no update from NAQS regarding the Kalumburu biosecurity grant. The Steering Committee were very interested in the grant.
- Noted that the remote vs. non remote criteria that was a footnote to Table 2 in Appendix D has been omitted in the current version of the Business Plan. This was unintentional and will be added back in.

Operations Plan

- The Committee agreed that the ACDP serology testing algorithm and testing flow charts should be added as an Appendix to the Operations Plan.
- Propylene glycol has been shown to be an effective transport medium. Committee agreed it should be added as an option for sample transport.
- Discussion on the number of cattle for the recruitment bleed (Section 4.1). Committee noted that Vic are doing 12, NSW doing 15 but continuing through with closer to 10, and Qld doing at least 15. Wording to be updated to clarify recruitment bleed numbers.
- Discussion on Section 6.2. Wording to be updated to specify that traps should be placed near animals, such as where cattle sleep at night, and that trapping on cold, windy or rainy nights, or during the full moon, should be avoided.

Actions

39. AHA to update the Business Plan and Data Access Agreement form around circulation of Data Access Agreements within Jurisdictions/Organisations.
40. NSW to provide clarification on what NAMP data has been uploaded to BOLD and Genbank.
41. AHA to include in the Business Plan that NAMP data is routinely uploaded to other sources such as BOLD and Genbank.
42. AHA to propose wording on the protocol for an unusual entomological detection.
43. AHA to update the risk register in the Business Plan.
44. AHA to close out the risks that are no longer current and upload a historic risk register to the wiki.
45. AHA to provide clarification back into the Business Plan regarding the remote vs. not remote location criteria.

46. ACDP serology testing algorithm and testing flow charts to be added as an Appendix to Operations Plan.
47. Propylene glycol to be added as an option for sample transport.
48. AHA to review wording in relation to number of animals per herd at recruitment.
49. AHA to add additional guidance in Operations Plan in relation to placement of traps.
50. AHA to update wiki with program documentation including the Operations Plan.

10. Management Report to SC

10.1 Draft Management Report to Steering Committee (Technical Committee)

- Spoke to the paper noting it is a draft and will be updated in early November following final season activities being uploaded to NAMP-info. It will be circulated to the Technical Committee for review prior to circulation to the NAMP Steering Committee.
- AHA and Jurisdictions to identify any sites with significant underactivity that could be swapped, or have sampling reduced to supplement the proposed additions noted under Item 6.1.

Actions

51. AHA to update and circulate the draft Management Report to the Committee prior to circulation to the NAMP SC.
52. AHA to work with the jurisdictions to identify and streamline any underactivity to help to resource the proposed additional sites.

11. NAMP Annual Publication Plan

11.1 NAMP Annual Publication Plan (M Nye)

- Provided an overview of the production schedule for the NAMP annual report. The annual report will be drafted in November, with Technical Committee review of draft maps and text in November-December. The report will go to the Technical Committee and Steering Committee for final approval prior to publication in February 2024.
- Noted that the annual report is promoted by AHA via social media and the AHA website. Hard copies are circulated to jurisdictional coordinators for distribution to all NAMP cooperators. Jurisdictions are welcome to cross promote via the AHA website.

Actions

Nil

12. Other Business

12.1 ML/Nextstrain update (M Neave)

- M Neave provided an update on whole genome sequencing and Nextstrain.
- The presentation has been provided to the Committee post the meeting.

Actions

Nil

12.2 Other business

- Noted the update on discussions with Perry Larsen around the development of more sustainable traps. Approval from the Steering Committee for the expenditure to invest in the prototypes is required.
- A NSW trap was sent to P Larsen to look at. The committee noted different trap types are used across Australia. Need to review the number and types of traps in use to assess how many new

traps would be required. There are approximately 110 traps in use across Australia, therefore the 200 units suggested by P Larsen is greater than the number required nationally.

- Discussion on if the current traps can be retrofitted e.g., solder on a new component to plug into power charge, or solar panel etc., and if the jurisdictions have the capability to do this, or if P Larsen would need to. Noted that the bow traps don't have enough surface area to have a solar panel installed, and extra space would be needed for a solar panel (approximately A4 size space to place the panel). A prototype would need to be developed to test durability.
- Solar panels may not be suitable for two days in the field. Rechargeable batteries could be more suitable. Suggest that rechargeable batteries be able to be left plugged in when not in use so that the cooperator doesn't need to remember to charge it just before placing it.
- WA are using Adrian traps, Qld are using John Hock traps, NSW are using bow traps. Adrian traps no longer available, so all Jurisdictions are likely to be using only bow and John Hock traps in the future.
- Discussion on next steps with agreement that further discussions with P Larsen are needed before progressing further. Further steps could include identifying exact numbers and types of traps in each jurisdiction and submitting a funding proposal for a prototype to the Steering Committee. Agreement that rechargeable batteries that can be left plugged in to charge when the trap is not in use is the most suitable option. Noted there are transport challenges with lithium batteries.

Actions

53. AHA to further discuss trap upgrades with P Larsen.
54. AHA and B Loecker to lead collation of trap numbers and types across the Jurisdictions.
55. AHA to draft a funding proposal for a prototype trap for review by the Technical Committee prior to submission to the Steering Committee.

12.3 Summary of actions (M Nye)

See action list below.

12.4 Location and date of next meeting

Dates – 3rd week of August at NSW EMAI.

NAMP TECHNICAL ANNUAL MEETING 2023

MEETING RECORD

TUESDAY 22-THURSDAY 24 AUGUST 2023

#	ACTION	WHO	BY
1	Circulate the NAMP Virology testing protocol table to the Technical Committee for review.	AHA	November 2023
2	Circulate flow charts showing current BTV testing by jurisdictions to Technical Committee for review and then add these flow charts to the Operations Plan.	AHA	January 2024
3	Meet out of session regarding PCR vs VNT testing for BTV.	NSW, ACDP and NT	March 2024
4	Consult in relation to APC system capability – e.g., ability to capture multiple serotypes within a herd at a bleed event; ability to have separate data programs for sentinel and serosurvey herds.	AHA and PHA	November 2023
5	Draft the AUSPestCheck® NAMP virology data standard: a. Look at developing an additional optional field to distinguish level of testing conducted (e.g., state vs. lab ACDP). b. Consider functionality of capturing serotype information in free text vs. drop down selection in draft virology data standards. c. Draft 'Status' field as agreed for review, based upon serological exposure for two programs: Sentinel Herds: Seroconversion (absent/present); Serosurvey herds (seropositive/seronegative). d. Remove 'numPCR samples' and to replace 'numPCR assays,' with 'numSinglePlex PCRs' and 'numMultiplexPCRs.'	AHA	Completed
6	Request the NAMP Steering Committee consider the funding basis for multiplex vs singleplex assays.	AHA	August 2024
7	Explore AUSPest Check® system capability in relation to developing a field which could capture the number of animals within a herd per serotype for PCR vs. VNT tests or explore alternate option to capture this information.	PHA/AHA	October 2023

8	Remove current data field 'last date negative,' as agreed by TC.	AHA	October 2023
9	Add guidance in the Operations Plan around age of loss of maternal antibodies.	AHA	November 2023
10	Review how data/specimen access requests are addressed in the future including the consideration of holding brief ad hoc meetings, and to add appropriate wording to the Operations Plan.	AHA	November 2023
11	Circulate information from DAFF about which countries require BTV-testing of livestock pre-export from Australia.	AHA	Completed
12	Update the Technical Committee on the outcome of any review of the protocol for export of wool to China.	DAFF	August 2024
13	Update the Technical Committee on further investigation of the suspected establishment of <i>C. nudipalpis</i> .	NAQS	August 2024
14	Update the Technical Committee on the NSW DPI metabarcoding project.	NAQS	August 2024
15	Send CTs and typing assays for the BTV-12 to PKirkland and a sample to ACDP for confirmatory sequencing.	NT	August 2024
16	Share with the Technical Committee its template for annual targeted report to producers.	Qld	August 2024
17	Confirm with NSW if <i>C. brevitarsis</i> detections have occurred at the same time this year as previously.	Qld	February 2024
18	Confirm with G Bellis what type of traps are being used.	WA	Completed
19	Send submissions from a broad geographic and temporal range to ACDP for its reference collection.	Jurisdictions	August 2024
20	Update the female <i>Culicoides</i> key with input from NSW and send to AHA to finalise and to initially publish electronically. Printed copies will be developed once further feedback has been provided.	G Bellis	February 2024
21	Advise L Nelson if any further specimens are needed for metabarcoding of the reference specimen collection.	G Bellis	December 2023
22	Submit a proposal to the NAMP Steering Committee for the male key.	AHA/ G Bellis	November 2023
23	Continue to work to identify historical records that are not aligning with known distribution.	AHA/ G Bellis	March 2024
24	Send out updated activity summary early in November for review by the Technical Committee for the Steering Committee meeting.	AHA	November 2023

25	Confirm if an Individual User would need to be part of a Participant (organisation) or if they can be their own Participant e.g., G Bellis as a subcontractor of AHA (as the Participant), or as his own Participant	AHA/PHA	November 2023
26	Send back feedback on entomology data standards to E Christofi if not already done so.	Jurisdictions	Completed
27	Provisionally update the 2023-24 budget with agreed monitoring changes, and raise with the Steering Committee for ongoing endorsement, noting underactivity in most areas.	AHA	November 2023
28	Consult with industry on the value of retracting the BTV Transmission Zone.	Qld	August 2024
29	Advise AHA on sites that can be replaced due to lack of activity.	Qld	January 2024
30	Raise with the Steering Committee around discussion for retraction of the zone in Qld and the work required to do so.	AHA	November 2023
31	Update the Operations Plan in relation to trapping numbers and take to the Steering Committee for endorsement.	AHA	November 2023
32	Ensure G Bellis has access to the NAMP Budget site lists in NAMP-info.	AHA	October 2023
33	Form a working group to consider the optimal use of single-plex and multiplex PCR and to report back to the Technical Committee at its next meeting.	NSW DPI, QLD, NT and ACDP	August 2024
34	Raise with NAMP Steering Committee for discussion the clinical detection of BTV-16 in NSW and Qld and trade implications.	AHA	November 2023
35	Provide an update at the next NAMP Technical Committee meeting and include percentage of exports by dollar value.	LiveCorp	August 2024
36	Investigate process/timeframe for the transferring of archived data to APC, and how accessible the archived data will be in APC.	AHA/PHA/DAFF	March 2024
37	Review two years' worth of entomology data and analyse maps to identify problem records initially.	AHA/ G Bellis	March 2024
38	Scope timeframe required to analyse all suspect errors in data and update records.	AHA	March 2024
39	Update the Business Plan and Data Access Agreement form around circulation of Data Access Agreements within Jurisdictions/Organisations.	AHA	November 2023

40	Provide clarification on what NAMP data has been uploaded to BOLD and Genebank.	NSW	December 2023
41	Include in the Business Plan that NAMP data is routinely uploaded to other sources such as BOLD and Genebank.	AHA	November 2023
42	Propose wording on the protocol for an unusual entomological detection.	AHA	January 2023
43	Update the risk register in the Business Plan.	AHA	November 2023
44	Close out the risks that are no longer current and upload a historic risk register to the wiki.	AHA	January 2024
45	Provide clarification back into the Business Plan regarding the remote vs. not remote location criteria.	AHA	November 2023
46	ACDP serology testing algorithm and testing flow charts to be added as an Appendix to Operations Plan.	AHA	January 2024
47	Propylene glycol to be added as an option for sample transport.	AHA	November 2023
48	Review wording in relation to number of animals per herd at recruitment.	AHA	November 2023
49	Add additional guidance in Operations Plan in relation to placement of traps.	AHA	November 2023
50	Update wiki with program documentation including the Operations Plan.	AHA	January 2024
51	Update and circulate the draft Management Report to the Committee prior to circulation to the NAMP SC.	AHA	November 2023
52	Work with the jurisdictions to identify and streamline any underactivity to help to resource the proposed additional sites.	AHA	November 2023
53	Further discuss trap upgrades with P Larsen.	AHA	January 2024
54	Lead collation of trap numbers and types across the Jurisdictions.	AHA/ B Loecker	January 2024
55	Draft a funding proposal for a prototype trap for review by the Technical Committee prior to submission to the Steering Committee.	AHA	August 2024