

" SR 23 "

**From:** Dan Spiller [REDACTED]  
**Sent:** Thursday, 6 January 2011 1:17 PM  
**To:** Stephen Robertson; Lance McCallum; Tim Watts; Geoff Stead; Lauren Sims; Best Debbie; [REDACTED]  
**Cc:** Rob Drury; Mike Foster; SEQWGM Media; Reilly Bob  
**Subject:** Recommencement of Wivenhoe Dam gate releases  
**Attachments:** Technical Situation Report W28.docx

All,

We expect to begin gate release from Wivenhoe Dam this evening, to release water accumulated in the dams over the last 24 hours. The technical situation report is attached.

The release rate will be about 25,000 ML/day, compared to the peak last week of about 115,000 ML/day. We will aim to manage releases so as to avoid inundating Burtons Bridge and isolating up to 50 houses. However, depending upon rainfall, the bridge may be inundated by other flows.

The release strategy will be reviewed over the next 24 hours, and may change depending upon the amount of rainfall in the catchment.

We are consulting with Councils and the BoM about the release strategy.

A short media update is being issued, in consultation with the Minister's office.

Please contact me if you require any further information.

Regards,  
Dan

**Daniel Spiller**  
Director, Operations  
SEQ Water Grid Manager

Phone: [REDACTED] Fax: [REDACTED] | Mobile: [REDACTED]  
[REDACTED]

Visit: Level 15, 53 Albert Street Brisbane  
Post: PO Box 16205, City East QLD 4002  
ABN: 14783 317 630

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[illegible][illegible]

[REDACTED]

---

**From:** Dan Spiller [REDACTED]  
**Sent:** Thursday, 6 January 2011 2:56 PM  
**To:** Stephen Robertson; Lance McCallum; Tim Watts; Geoff Stead; Lauren Sims; Best Debbie; [REDACTED]  
**Cc:** Rob Drury; Mike Foster; SEQWGM Media; Reilly Bob  
**Subject:** RE: Recommencement of Wivenhoe Dam gate releases

All,

Rainfall in the Lockyer Valley over the past few hours has been heavier than initially assessed, with the prospect of further falls.

The scale of flows may be sufficient to close Burtons Bridge without any contribution from Wivenhoe Dam.

Given these flows, the Wivenhoe Dam release will be deferred until after the Lockyer Valley flows have peaked (expected to be Saturday, depending on rainfall). This strategy will minimise the impacts on downstream areas.

The media update will reflect this status. We had not advised media that a release was being considered from this evening.

We will provide more detailed advice tomorrow morning.

Regards,  
Dan

**From:** Dan Spiller  
**Sent:** Thursday, 6 January 2011 1:17 PM  
**To:** [REDACTED]  
[REDACTED]  
**Cc:** Rob Drury; 'Mike Foster'; SEQWGM Media; 'Reilly Bob'  
**Subject:** Recommencement of Wivenhoe Dam gate releases

All,

We expect to begin gate release from Wivenhoe Dam this evening, to release water accumulated in the dams over the last 24 hours. The technical situation report is attached.

The release rate will be about 25,000 ML/day, compared to the peak last week of about 115,000 ML/day. We will aim to manage releases so as to avoid inundating Burtons Bridge and isolating up to 50 houses. However, depending upon rainfall, the bridge may be inundated by other flows.

The release strategy will be reviewed over the next 24 hours, and may change depending upon the amount of rainfall in the catchment.

We are consulting with Councils and the BoM about the release strategy.

A short media update is being issued, in consultation with the Minister's office.

Please contact me if you require any further information.

Regards,  
Dan

**Daniel Spiller**

Director, Operations

SEQ Water Grid Manager

Phone: (07) [REDACTED] | Fax: (07) [REDACTED] | Mobile: [REDACTED]

Email: [REDACTED]

Visit: Level 15, 53 Albert Street Brisbane

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[REDACTED]

---

**From:** Dan Spiller [REDACTED]  
**Sent:** Friday, 7 January 2011 8:27 AM  
**To:** Stephen Robertson; Lance McCallum; Tim Watts; Geoff Stead; Lauren Sims; Best Debbie; [REDACTED]  
**Cc:** Rob Drury; Mike Foster; SEQWGM Media; Reilly Bob  
**Subject:** Update on dam gate releases  
**Attachments:** Technical Situation Report W29.docx

All,

Attached is the updated technical situation report.

There has been widespread rainfall in most of the dam catchments. These inflows have triggering the need for gate releases, with forecasts of between 100 and 200 mm of further rainfall over the next five days.

For Wivenhoe and Somerset dams, key points are:

- There has been general falls of around 30 to 50 mm since Wednesday, with isolated peaks of up to 75mm. About 230,000 ML will need to be released, based on estimated flows into the dam.
- There has been heavier rainfall in the Lockyer Creek catchment, which flows into the Brisbane River below the dam wall. Without dam releases, these flows are likely to result in Burtons Bridge being inundated by mid afternoon today – again isolating up to 50 households.
- Dam releases are expected to commence late tonight or early tomorrow, once existing Lockyer Valley flows have peaked – minimising downstream impacts and deferring the inundation of Burtons Bridge.
- At this stage, releases are expected to be at a similar rate to the recent events (up to about 105,000 ML/day) and continue until Monday or Tuesday next week (depending on further rainfall).

North Pine and Leslie Harrison dams are also making gate releases. Youngs Crossing has been inundated.

Councils have been advised. Somerset is contacting key affected residents.

We will provide an update once the timing of releases has been fixed.

Please contact me if you require any further information.

Regards,  
Dan

**Daniel Spiller**

Director, Operations

SEQ Water Grid Manager

Phone: (07) [REDACTED] | Fax: (07) [REDACTED] | Mobile: [REDACTED]

Email: [REDACTED]

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[REDACTED]

---

**From:** Dan Spiller [REDACTED]  
**Sent:** Friday, 7 January 2011 4:24 PM  
**To:** Stephen Robertson; Lance McCallum; Tim Watts; Geoff Stead; Lauren Sims; Best Debbie; [REDACTED]  
**Cc:** Rob Drury; Mike Foster; SEQWGM Media; Reilly Bob  
**Subject:** Update on Wivenhoe Dam releases  
**Attachments:** Technical Situation Report W30.docx

All,

Attached is the updated technical situation report.

For Wivenhoe Dam, key points are:

- The first of the gates has opened. The release rate is planned to be increased to about 1,200 m<sup>3</sup>/s by 1400 Saturday. This is a similar release rate to last week.
- Burtons Bridge is again inundated, isolating some residents.
- Councils have been advised of this strategy and are contacting residents as necessary.
- The releases will have a minimal impact on the level of the Brisbane River in the City Reach. Seqwater and BoM concur that a total flow of a 1,500m<sup>3</sup>/s adds about 50mm to the expected water levels at that location.
- Due to atmospheric conditions, current recorded high tide levels are 0.4 to 0.5 metres higher than predicted tides.

North Pine and Leslie Harrison dams are also making gate releases. Releases from Hinze Dam are likely to be required over the weekend.

Please contact me if you require any further information.

Regards,  
Dan

**Daniel Spiller**

Director, Operations

SEQ Water Grid Manager

Phone: [REDACTED] | Fax: [REDACTED] | Mobile: [REDACTED]

Email: [REDACTED]

Visit: Level 15, 53 Albert Street Brisbane

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[REDACTED]

---

**From:** Dan Spiller [REDACTED]  
**Sent:** Saturday, 8 January 2011 9:00 AM  
**To:** Stephen Robertson; Lance McCallum; Tim Watts; Geoff Stead; Lauren Sims; Debbie Best [REDACTED]  
**Cc:** Rob Drury [REDACTED] SEQWGM Media; Damien Brown [REDACTED] Scott Denner  
**Subject:** Water Grid operations update: 8/1/11  
**Attachments:** Technical Situation Report W31.docx

All,

### Dam releases

Attached is the current technical situation report.

Releases are being made from Somerset, Wivenhoe, North Pine and Leslie Harrison dams, with forecasts of high rainfall totals over the next four days.

For Wivenhoe Dam:

- All five gates are now open with the release rate planned to increase to 1200 cubic metres per second by midday today. This release rate is less than peak release from October 2010.
- The release strategy will continue to be reviewed based on actual rainfall. With significant inflows, it may need to be increased.
- As advised yesterday, a number of local bridges have been inundated by releases and local flows. The Fernvale and Mt Crosby Weir Bridges could potentially also be affected if predicted rainfall totals eventuate.
- The BoM and Seqwater concur that current releases will increase the level of the lower Brisbane River by about 50 to 100mm. There is currently a 40 to 50mm atmospheric anomaly.

Releases from North Pine and Leslie Harrison dams are continuing. Releases from Hinze Dam are expected to be required over the weekend.

### Water treatment

In terms of operations, Lockyer Valley flows have again caused a turbidity spike in the Brisbane River. Impacts are expected to peak today at Mt Crosby today, before being diluted by dam releases. There are similar issues at some other locations.

Despite the spike, all key plants are currently operating within critical limits with any impacts being monitored. Seqwater and Linkwater have prepared for potential issues by increasing treated water storage and staffing at some treatment plants. Desalination is at one-third capacity and ready to increase production within two hours of an instruction (but is unlikely to be required in this event).

With forecast rainfall, these type of issues are likely to recur over the remainder of the wet season.

Please call me on [REDACTED] if you require any further information.

Regards,  
Dan



[REDACTED]

---

**From:** Dan Spiller [REDACTED]  
**Sent:** Saturday, 8 January 2011 12:39 PM  
**To:** Stephen Robertson; Lance McCallum; Tim Watts; Geoff Stead; Lauren Sims; Debbie Best [REDACTED]  
**Cc:** SEOWGM Media; [REDACTED] Scott Denner;  
**Subject:** RE: Water Grid operations update: 8/1/11

All,

High turbidity caused the Mt Crosby WTP to cease production for a period this morning. Turbidity levels have since returned to controllable levels and production recommenced, initially at low levels.

Reservoir levels in central SEQ dropped over this period, albeit from a high starting level. To stabilize reservoir levels, we have increased desalination production to two-thirds of capacity for about 24 hours.

Other plants are operating within critical limits.

While this turbidity peak has passed, we will monitor the impacts of rainfall over coming days and respond as appropriate.

Regards,  
Dan

**From:** Dan Spiller  
**Sent:** Saturday, January 08, 2011 9:00 AM  
**To:** [REDACTED] Lance McCallum [REDACTED] Tim Watts  
[REDACTED] Geoff Stead [REDACTED]  
[REDACTED] Debbie Best [REDACTED]  
**Cc:** Rob Drury [REDACTED] SEOWGM Media; Damien Brown [REDACTED] Scott Denner  
**Subject:** Water Grid operations update: 8/1/11

All,

### Dam releases

Attached is the current technical situation report.

Releases are being made from Somerset, Wivenhoe, North Pine and Leslie Harrison dams, with forecasts of high rainfall totals over the next four days.

For Wivenhoe Dam:

- All five gates are now open with the release rate planned to increase to 1200 cubic metres per second by midday today. This release rate is less than peak release from October 2010.
- The release strategy will continue to be reviewed based on actual rainfall. With significant inflows, it may need to be increased.
- As advised yesterday, a number of local bridges have been inundated by releases and local flows. The Fernvale and Mt Crosby Weir Bridges could potentially also be affected if predicted rainfall totals eventuate.
- The BoM and Seqwater concur that current releases will increase the level of the lower Brisbane River by about 50 to 100mm. There is currently a 40 to 50mm atmospheric anomaly.

Releases from North Pine and Leslie Harrison dams are continuing. Releases from Hinze Dam are expected to be required over the weekend.

### **Water treatment**

In terms of operations, Lockyer Valley flows have again caused a turbidity spike in the Brisbane River. Impacts are expected to peak today at Mt Crosby today, before being diluted by dam releases. There are similar issues at some other locations.

Despite the spike, all key plants are currently operating within critical limits with any impacts being monitored. Seqwater and Linkwater have prepared for potential issues by increasing treated water storage and staffing at some treatment plants. Desalination is at one-third capacity and ready to increase production within two hours of an instruction (but is unlikely to be required in this event).

With forecast rainfall, these type of issues are likely to recur over the remainder of the wet season.

Please call me on [REDACTED] if you require any further information.

Regards,  
Dan

[REDACTED]

---

**From:** Dan Spiller [REDACTED]  
**Sent:** Sunday, 9 January 2011 8:14 AM  
**To:** Stephen Robertson; Lance McCallum; Tim Watts; Geoff Stead; Lauren Sims; Debbie Best [REDACTED]  
**Cc:** Rob Drury [REDACTED] SEQWGM Media; Damien Brown [REDACTED]  
**Subject:** Water Grid operations update: 9/1  
**Attachments:** Technical Situation Report W32.docx

All,

Current technical situation report.

Key points are:

- Wivenhoe Dam is continuing releases at about 116,000 ML/day. Releases are expected to continue until at least Wednesday.
- A severe weather warning remains current for dam catchments. There has been heavy rainfall in the Somerset Dam catchment over the past two hours.
- The release strategy will continue to be reviewed based on actual rainfall.
- Releases are being made so as to avoid inundating the Fernvale and Mt Crosby Weir Bridges. Other flows may impact on the bridges, should the forecast rainfall eventuate.
- North Pine Dam may cease releases today or tomorrow morning, depending upon actual rainfall.
- Many dams and recreation areas are closed.

Please call me on [REDACTED] if you require any further information.

Regards,  
Daniel Spiller

[REDACTED]

---

**From:** Dan Spiller [REDACTED]  
**Sent:** Sunday, 9 January 2011 11:07 PM  
**To:** Stephen Robertson; Ken Smith [REDACTED] Lance McCallum; Tim Watts; Geoff Stead; Lauren Sims; Debbie Best [REDACTED]  
**Cc:** 'Rob Drury'; [REDACTED]; SEQWGM Media; Scott Denner; [REDACTED] Damien Brown  
**Subject:** Updated Wivenhoe Dam release strategy  
**Attachments:** Technical Situation Report W34.docx

All,

Latest advice from the Flood Control Centre attached.

There has been 100 to 300mm of rainfall in the Wivenhoe and Somerset dam catchments over the past 24 hours. Rainfall of similar magnitudes is expected over the next 12 to 24 hours.

At this time, including forecast rainfall, total inflows will exceed 1,000,000 ML and may approach 1,500,000 ML - in the order of the 1974 flood volume.

To date, the primary objective for this event has been managing to prevent inundation of the Mt Crosby Weir and Fernvale Bridges.

With the forecast volumes, this primary objective is being changed to minimizing the risk of urban inundation. This involves larger releases now, minimizing the risk of even larger releases later (were the flood compartment to reach high levels).

Urban inundation in the City reaches generally commences at total river flows of about 3,500 cubic metres per second (dam releases plus Lockyer and Bremer). At this time, and depending upon overnight rainfall, the Flood Control Centre is proposing to increase releases from around 1,200 to 2,500 cubic metres per second from midday tomorrow. This provides an allowance for other flows.

The Mt Crosby Weir and Fernvale bridges will certainly be inundated - isolating or inconveniencing many Brisbane valley residents. The timing will depend largely on local flows, with the river having recently increased to be about one foot below the deck. Seqwater is preparing the bridge to be inundated, and may need to close it tonight. However, other flows permitting, we will delay inundating the bridge until tomorrow night - providing notice for impacted residents.

Actions to date:

- Notified Councils (up to the CEO level at BCC)
- Notified Police (Assistant Commissioner)
- Increasing treated water storage and preparing treatment plants, should there again be increased turbidity levels or other operational issues.

A media advice is being prepared now, for review and issue by 7am. The advice will address the closure of the bridges, with the intent of providing as much notice as possible to impacted residents (if not already closed). Impacts on the City reaches will be addressed following further consultation with Council (with there being a 20+ hour transit time).

It is important to note that the dams are managing impacts by delaying and reducing releases. For comparison, peak flows into the dam are forecast to reach up to 7,500 cubic metres per second - excluding any downstream flows.

Please call me on [REDACTED] if you require any further information.

Regards,  
Daniel Spiller

[illegible]

( )

( )

[REDACTED]

---

**From:** Dan Spiller [REDACTED]  
**Sent:** Monday, 10 January 2011 5:31 AM  
**To:** Dan Spiller; Stephen Robertson; [REDACTED]; Lance McCallum; Tim Watts; Geoff Stead; Lauren Sims; 'Debbie Best' [REDACTED]  
**Cc:** 'Rob Drury'; [REDACTED] SEQWGM Media; Scott Denner; [REDACTED] 'Damien Brown'  
**Subject:** RE: Updated Wivenhoe Dam release strategy

The Mt Crosby Weir and Fernvale Bridges were both inundated by other flows last night. Councils were advised and are on site.

Dam releases began to be increased overnight, brought forward because the bridges were already and with increasing inflows to storages.

( ) We are preparing communications and technical information.

Regards,  
Dan

**From:** Dan Spiller  
**Sent:** Sunday, January 09, 2011 11:07 PM  
**To:** [REDACTED] Ken Smith [REDACTED] Lance McCallum [REDACTED] Tim Watts [REDACTED] Geoff Stead [REDACTED] Debbie Best [REDACTED]  
**Cc:** 'Rob Drury'; [REDACTED] SEQWGM Media; Scott Denner; [REDACTED] Damien Brown [REDACTED]  
**Subject:** Updated Wivenhoe Dam release strategy

All,

( ) test advice from the Flood Control Centre attached.

There has been 100 to 300mm of rainfall in the Wivenhoe and Somerset dam catchments over the past 24 hours. Rainfall of similar magnitudes is expected over the next 12 to 24 hours.

At this time, including forecast rainfall, total inflows will exceed 1,000,000 ML and may approach 1,500,000 ML - in the order of the 1974 flood volume.

To date, the primary objective for this event has been managing to prevent inundation of the Mt Crosby Weir and Fernvale Bridges.

With the forecast volumes, this primary objective is being changed to minimizing the risk of urban inundation. This involves larger releases now, minimizing the risk of even larger releases later (were the flood compartment to reach high levels).

Urban inundation in the City reaches generally commences at total river flows of about 3,500 cubic metres per second (dam releases plus Lockyer and Bremer). At this time, and depending upon overnight rainfall, the Flood Control Centre is proposing to increase releases from around 1,200 to 2,500 cubic metres per second from midday tomorrow. This provides an allowance for other flows.



The Mt Crosby Weir and Fernvale bridges will certainly be inundated - isolating or inconveniencing many Brisbane Valley residents. The timing will depend largely on local flows, with the river having recently increased to be about one foot below the deck. Seqwater is preparing the bridge to be inundated, and may need to close it tonight. However, other flows permitting, we will delay inundating the bridge until tomorrow night - providing notice for impacted residents.

Actions to date:

- Notified Councils (up to the CEO level at BCC)
- Notified Police (Assistant Commissioner)
- Increasing treated water storage and preparing treatment plants, should there again be increased turbidity levels or other operational issues.

A media advice is being prepared now, for review and issue by 7am. The advice will address the closure of the bridges, with the intent of providing as much notice as possible to impacted residents (if not already closed). Impacts on the City reaches will be addressed following further consultation with Council (with there being a 20+ hour transit time).

It is important to note that the dams are managing impacts by delaying and reducing releases. For comparison, peak flows into the dam are forecast to reach up to 7,500 cubic metres per second - excluding any downstream flows.

Please call me on [REDACTED] if you require any further information.

Regards,  
Daniel Spiller

[REDACTED]

---

**From:** Dan Spiller [REDACTED]  
**Sent:** Monday, 10 January 2011 9:46 AM  
**To:** Stephen Robertson; [REDACTED] Lance McCallum; Tim Watts;  
Geoff Stead; Lauren Sims; Best Debbie; [REDACTED]  
**Cc:** Rob Drury; Paul Bird; SEQWGM Media; [REDACTED] Reilly Bob;  
[REDACTED] 'Stan Stevenson'  
**Subject:** Water Grid operations update  
**Attachments:** Technical Situation Report W36.docx

All,

Current situation report attached. We are distributing this version of the Technical Support Report to Councils and BoM now. We are seeking their formal input and endorsement by 1pm, prior to finalising and speaking publicly to our release strategy.

For dam operations, key points are:

- There is continuing heavy rainfall in catchments. Total inflows will be at least 1,500,000 ML and probably above 2,100,000 ML.
- As a result, Wivenhoe Dam is above 140% of capacity and Somerset is above 150%, with both rising fast.
- As specified in the approved Operational Procedures, the primary objective is now to minimizing the risk of urban inundation (release strategy W2). This involves larger releases now, minimizing the risk of even larger releases later (were the flood compartment to reach high levels).
- Consistent with this release strategy, dam releases have increased to 1,750 cubic metres per second (150,000 ML/day). It is expected to increase to 2,600 cubic metres per second by midday tomorrow.
- As specified in the approved Operational Manual, we are targeting maximum flow in the Brisbane River of 3,500 cumecs at Moggill. This is the levels above which urban inundation begins.
- For comparison, flows would be up to 12,000 cumecs without the dams.

For water treatment, key points are:

- Key facilities are operating and reservoir levels are high. Mt Crosby WTP is producing at 250 ML/day and desalination at one-third of capacity.
- There are a range of smaller plants that have been impacts, due to inundation of infrastructure, connections or stranding of operators. We are working through these issues and will advise if any become critical.

Please call me on [REDACTED] if you require any further information.

Regards,  
Dan

**Daniel Spiller**

Director, Operations

SEQ Water Grid Manager

Phone: [REDACTED] Fax: [REDACTED] | Mobile: [REDACTED]

Email: [REDACTED]

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[REDACTED]

---

**From:** Barry Dennien [REDACTED]  
**Sent:** Monday, 10 January 2011 11:46 AM  
**To:** Lance McCallum  
**Subject:** FW: Wivenhoe Dam release strategy  
**Attachments:** Technical Situation Report W37.docx

**Importance:** High

Lance

As discussed

Barry

Dear CEOs

( ) is teleconference at 12.30pm today is to update you on the current Wivenhoe flood release strategy.

In preparation for this meeting we are intending to send out a Technical Report closer to 12.30pm that will detail the strategy.

Dial in details are:

Phone: [REDACTED]

Pin: [REDACTED]

If you wish to contact me regarding this teleconference, please phone my office on [REDACTED] or mobile [REDACTED]

Carl and Rob,

Attached is the Technical Situation Report drafted by Seqwater following consultation with BoM and Councils.

( ) y points are:

- There is continuing heavy rainfall in catchments. Total inflows over the event will be at least 1,500,000 ML and probably above 2,100,000 ML.
- As a result, Wivenhoe Dam is above 140% of capacity and Somerset is above 150%, with both rising fast.
- As specified in the approved Operational Procedures, the primary objective is now to minimizing the risk of urban inundation (release strategy W2). This involves larger releases now, minimizing the risk of even larger releases later (were the flood compartment to reach high levels).
- Consistent with this release strategy, dam releases have increased to 2,000 cubic metres per second (172,000 ML/day). It is expected to increase to 2,600 cubic metres per second by midday tomorrow.
- As specified in the approved Operational Manual, we are targeting maximum flow in the Brisbane River of 3,500 cumecs at Moggill. This is the levels above which urban inundation begins.
- For comparison, flows would be up to 12,000 cumecs without the dams.

Seqwater has previously had verbal conversations with Council staff regarding impacts. However, given the significance of this event, and consistent with the draft protocol, we are seeking formal Council input to this version. This advice would relate to the impact of releases, based on the type of scenario analysis that you described this morning.

Our preference would be to finalise the report, including your input, before or at the 12.30 teleconference with Council CEOs and the BoM. This timing means that it can underpin all media messaging this afternoon.

I appreciate your assistance. Please call me if I can be of any assistance.

Regards,  
Dan

**Daniel Spiller**

Director, Operations

SEQ Water Grid Manager

Phone: (07) [REDACTED] | Fax: (07) [REDACTED] | Mobile: [REDACTED]

Email: [REDACTED]

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[REDACTED]

---

**From:** Dan Spiller [REDACTED]  
**Sent:** Monday, 10 January 2011 4:22 PM  
**To:** Stephen Robertson; [REDACTED]; Lance McCallum; Tim Watts;  
Geoff Stead; Lauren Sims; Best Debbie; [REDACTED]  
**Cc:** Paul Bird; SEQWGM Media; [REDACTED] Reilly Bob;  
[REDACTED] 'Stan Stevenson'; 'Stan Stevenson'  
**Subject:** Water Grid water supply update

All,

While most of the Water Grid is operating well, there are a number of incidents affecting areas with stand-alone supplies.

We have issued a boil water notice for areas supplied from a small treatment plant off Atkinson Dam. The treatment plant supplies about 20 people, including a couple of houses.

At Jimna and Linville we are relying upon treated water storage. These towns both have about 100 residences and are currently isolated. We are arranging site access for operators through EMQ. We will also work with EMQ to ensure that essential supplies are maintained. In the meantime, we are using local radio to ask residents to use water wisely. With efficient use, reservoir levels should be sufficient for at least two days.

At Kilcoy, the treatment plant is offline due to power outages. Energex is treating this as a priority but has not yet been able to access its site. In the meantime, we will ask local residents to use water wisely and develop contingency plans for resupply. While this is a larger town, reservoir levels should also be sufficient for at least two days with efficient use.

At Kenilworth, the treatment plant has been flooded and will be out of operation for some days. Three trucks have been arranged to start deliveries from tomorrow. These deliveries should be sufficient to maintain reservoirs at current levels (about two days supply).

Please call me on [REDACTED] if you require any further information.

Regards,  
Dan

**Daniel Spiller**  
Director, Operations  
SEQ Water Grid Manager

Phone: (07) [REDACTED] Fax: (07) [REDACTED] | Mobile: [REDACTED]

Email: [REDACTED]  
Visit: Level 15, 53 Albert Street Brisbane  
Post: PO Box 16205, City East QLD 4002  
ABN: 14783 317 630

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[REDACTED]

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**From:** Barry Dennien [REDACTED]  
**Sent:** Monday, 10 January 2011 4:37 PM  
**To:** Stephen Robertson; [REDACTED] Lance McCallum; Tim Watts;  
Geoff Stead; Lauren Sims; [REDACTED]  
**Cc:** [REDACTED] SEQWGM Media; [REDACTED]  
[REDACTED] Dan Spiller; Scott Denner  
**Subject:** FW: FLDWARN for Lower Brisbane and Bremer Rs [SEC=UNCLASSIFIED]

Folks

For information

Barry Dennien  
-----

( D::BOM615

IDQ20805

Australian Government Bureau of Meteorology Queensland

**PRIORITY**

**FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY** Issued at 4:16 PM on Monday the 10th of January 2011 by the Bureau of Meteorology, Brisbane.

Stream level rises causing moderate to major flooding are being recorded in Lockyer Creek, Warrill Creek and along the Bremer River. Major flood levels are likely at Ipswich during Tuesday.

Wivenhoe dam is providing significant mitigation of upper Brisbane floods. River flows from the Bremer and Lockyer catchments combined with releases from Wivenhoe dam are expected to increase levels in Brisbane overnight and through Tuesday.

At the Brisbane City Gauge, a river levels of about 2.1 metres is expected with the afternoon high tide on Tuesday and about 3 metres is expected with the high tides on Wednesday causing moderate flooding.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

**LOCKYER CREEK:**

Further rainfall during Monday has led to renewed rises in the Lockyer Creek catchment. Rainfall is forecast to continue this evening and a return to moderate to major flood levels is expected overnight and during Tuesday. Major flood levels are expected to continue at Lyons Bridge with rises above 15 metres likely during Tuesday.

**BREMER RIVER:**

Rainfall during Monday will lead to renewed rises and a return to moderate flood levels along the Bremer River to Walloon. Levels over 5 metres are expected at Rosewood overnight.

The Bremer River at Ipswich is expected to reach about 12.7 metres on Tuesday afternoon. Higher levels are possible.

**WARRILL CREEK**

Further rainfall during Monday will lead to increasing river levels along Warrill Creek with levels expected to reach above 6 metres at Amberley overnight.

**MIDDLE AND LOWER BRISBANE:**

SEQwater advises releases from Wivenhoe Dam will increase during Monday.

Moderate flooding is expected at Savages Crossing and at Mt Crosby Weir overnight tonight and during Tuesday.



The Brisbane River at the City Gauge (lower end of Edward Street and at Thornton Street) is expected to reach about 2.1 metres with the afternoon high tide on Tuesday and reach about 3 metres with the high tides on Wednesday causing moderate flooding.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

**Predicted River Heights/Flows:**

Ipswich: Reach about 12.7 metres (major) during Tuesday afternoon. Quicker rises and higher levels are possible depending on further rainfall tonight.

Moggill: Reach about 12 metres (minor) during Tuesday afternoon.

Jindalee: Reach about 7 metres (minor) overnight Tuesday.

Brisbane: Reach about 2.1 metres with the afternoon high tide on Tuesday.

Reach about 3 metres with the high tides on Wednesday causing moderate flooding.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

Further rises are possible at all four locations depending on further rain.

**Next Issue:**

The next warning will be issued at about 9pm Monday.

**Latest River Heights:**

Lockyer Ck at Gatton #	10.36m steady	03:04 PM MON 10/01/11
Laidley Ck at Laidley	6m rising	02:45 PM MON 10/01/11
Laidley Ck at Showground Weir #	6.98m rising	03:07 PM MON 10/01/11
Laidley Ck at Warrego Hwy *	5.43m falling	01:00 PM MON 10/01/11
Lockyer Ck at Glenore Grove #	11.36m falling	03:05 PM MON 10/01/11
Lockyer Ck at Lyons Br #	14.79m rising	03:02 PM MON 10/01/11
Lockyer Ck at Rifle Range Rd *	13.4m rising	08:20 AM MON 10/01/11
Brisbane R at Lowood Pump Stn #	14.13m falling	03:07 PM MON 10/01/11
Brisbane R at Savages Crossing #	14.15m rising	03:09 PM MON 10/01/11
Brisbane R at Burtons Br #	10.88m rising	03:05 PM MON 10/01/11
Brisbane R at Kholo Br #	6.23m rising	03:06 PM MON 10/01/11
Brisbane R at Mt Crosby #	14.26m rising	03:07 PM MON 10/01/11
Brisbane R at Colleges Crossing #	11.96m rising	03:09 PM MON 10/01/11
Bremer R at Spresters Br #	5.07m rising	03:09 PM MON 10/01/11
Bremer R at Rosewood #	4.94m rising	03:02 PM MON 10/01/11
Bremer R at Five Mile Br Walloon #	5.12m falling	03:09 PM MON 10/01/11
Warrill Ck at Harrisville #	3.82m rising	03:05 PM MON 10/01/11
Warrill Ck at Amberley DNR *	5.34m rising	08:10 AM MON 10/01/11
Bremer R at Ipswich #	6.6m rising	02:40 PM MON 10/01/11
Brisbane R at Moggill #	5.52m rising	02:59 PM MON 10/01/11
Brisbane R at Jindalee Br #	3.7m rising	02:50 PM MON 10/01/11
Brisbane R at City Gauge #	1.36m falling	03:09 PM MON 10/01/11

\*automatic station

Warnings and River Height Bulletins are available at <http://www.bom.gov.au/qld/flood/>. Flood Warnings are also available on telephone 1300 659 219 at a low call cost of 27.5 cents, more from mobile, public and satellite phones.

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QLD Bulk Water Supply Authority ABN75450239876 (Trading as Seqwater).

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[REDACTED]

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**From:** Jade Simmons [REDACTED]  
**Sent:** Tuesday, 11 January 2011 2:27 PM  
**To:** Geoff Stead; Michael Lyons; SEQWGM Media  
**Cc:** Tim Watts; Lance McCallum; Lauren Sims; Megan Saunders; Premiers Office - Media Unit  
**Subject:** RE: Wyaralong Dam

Thanks Geoff,

I am preparing the update now, will call Frank.

Regards  
Jade

-----Original Message-----

**From:** Geoff Stead [mailto:[REDACTED]]  
**Sent:** Tuesday, 11 January 2011 8:30 AM  
**To:** Michael Lyons; Jade Simmons; SEQWGM Media  
**Cc:** Tim Watts; Lance McCallum; [REDACTED] Megan Saunders; Premiers Office - Media Unit  
**Subject:** Wyaralong Dam

Hi all, we have been advised Wyaralong Dam will spill inside the next hour. Although the dam is yet to be commissioned and therefore not in our portfolio, I would advise it might be prudent to include a line on the dam's situation in our next update. The best contact for the latest on Wyaralong is QWI CEO Frank Carroll 0408 730 431. Let me know if there are any problems with this request. Thanks, G

Geoff Stead  
Senior Media Advisor  
Office of the Hon Stephen Robertson MP  
Minister for Natural Resources, Mines and Energy and Trade  
P: [REDACTED]  
M: [REDACTED]  
E: [REDACTED]

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[REDACTED]

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**From:** Dan Spiller [REDACTED]  
**Sent:** Tuesday, 11 January 2011 7:17 AM  
**To:** Stephen Robertson; 'Ken Smith' [REDACTED]; Lance McCallum; Tim Watts; Geoff Stead; Lauren Sims; [REDACTED]  
**Cc:** Barry Dennien; [REDACTED] 'Rob Drury'; [REDACTED] 'Damien Brown' [REDACTED]  
**Subject:** Water Grid dam release strategy  
**Attachments:** Technical Situation Report W38.docx

All,

Attached is the latest report, with the BoM warning on the Lockyer flood below.

Key points are:

- Current releases are 2,750 cubic metres per second (about 240,000 ML/day). Due to heavy rainfall in the catchment, it was not possible to reduce releases to allow the Lockyer Valley flows to pass.
- Further rainfall may result in the need to increase releases.
- Wivenhoe Dam is at 73.51m AHD and rising at about 25mm/hour. Above 74m, the primary objective becomes maintaining the security of the dam. Releases would be increased at this level with less scope for consideration of downstream impacts.

The BoM is remodeling based on this release strategy. There is some uncertainty about the level of flows coming from the Lockyer.

Please call me on [REDACTED] if you require any further information.

Debbie and Tim: I recommend that a briefing for the Minister would be appropriate, perhaps around 10am.

Regards,  
Daniel Spiller

( )  
Australian Government Bureau of Meteorology Queensland

**PRIORITY**

FLOOD WARNING FOR THE LOCKYER, BREMER, WARRILL AND BRISBANE RIVER BELOW WIVENHOE INCLUDING BRISBANE CITY Issued at 4:06 AM on Tuesday the 11th of January 2011 by the Bureau of Meteorology, Brisbane.

The main flood waters in the Lockyer Creek are now arriving at Lyons Bridge, with strong stream rises expected during Tuesday.

Wivenhoe dam is providing significant mitigation of upper Brisbane floods. River flows from the Bremer and Lockyer catchments combined with releases from Wivenhoe dam are expected to increase levels in Brisbane during Tuesday.

At the Brisbane City Gauge, minor flood levels of about 2.1 metres are expected with the afternoon high tide on Tuesday and levels of about 3 metres are expected with the high tides on Wednesday causing moderate flooding.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

#### LOCKYER CREEK:

Extremely heavy rainfall during Monday led to extreme rises in the Lockyer Creek catchment and Laidley Creek at Mulgowie. Record flood levels of 18.92 metres were recorded at Gatton Monday evening before the station failed. This level was well above the previous record peak of 16.33 metres from the February 1893 flood.

The main flood waters are currently arriving at Lyons Bridge, with strong stream rises expected in the next few hours. The Lockyer Creek at Glenore Grove peaked at 14.60 metres at 11:30pm, which is 0.3 metres below the 1974 flood.

Renewed stream rises have commenced in Lockyer Creek at Lyons Bridge with a peak between 16 and 16.5 metres expected Tuesday morning. This is likely to be similar in level to the 1996 flood.

#### BREMER RIVER:

The Bremer River at Walloon has exceeded the moderate flood level. The Bremer River at Rosewood peaked at 5.8 metres around midnight Monday.

The Bremer River at Ipswich is expected to reach about 12.7 metres on Tuesday afternoon. Higher levels are possible.

#### WARRILL CREEK

Warrill Creek at Amberley peaked at 5.98 metres around 9pm Monday.

#### MIDDLE AND LOWER BRISBANE:

Moderate flooding is developing at Savages Crossing and at Mt Crosby Weir.

At the Brisbane City Gauge (lower end of Edward Street and at Thornton Street), minor flood levels of about 2.1 metres are expected with the afternoon high tide on Tuesday and levels of about 3 metres are expected with the high tides on Wednesday causing moderate flooding.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

#### Predicted River Heights/Flows:

Ipswich: Reach about 12.7 metres (major) during Tuesday afternoon.

( )ggill: Reach about 12 metres (minor) during Tuesday afternoon.

Jindalee: Reach about 7 metres (minor) overnight Tuesday.

Brisbane: Reach about 2.1 metres (minor) with the afternoon high tide on Tuesday. Reach about 3 metres (moderate) with the high tides on Wednesday.

(3 metres at the Brisbane City gauge is about 1.5 metres higher than the highest tide of the year at this location).

Further rises are possible at all four locations depending on further rain.

#### Next Issue:

The next warning will be issued at about 8am Tuesday.

#### Latest River Heights:

Lockyer Ck at Helidon #	12.68m steady	03:02 PM MON 10/01/11
Flagstone Ck at Brown-Zirbels Rd *	3.49m falling	02:10 AM TUE 11/01/11
Sandy Creek at Sandy Creek Road #	2.15m falling	03:19 AM TUE 11/01/11
Ma Ma Ck at Harm's *	3.26m rising	02:30 AM TUE 11/01/11
Tenthill Ck at Tenthill *	5.57m rising	02:40 AM TUE 11/01/11

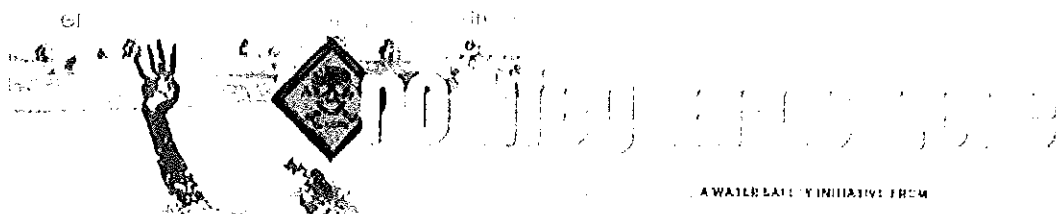
Lockyer Ck at Gatton #	18.92m rising	06:30 PM MON 10/01/11
Laidley Ck at Mulgowie *	6.39m rising	02:20 AM TUE 11/01/11
Laidley Ck at Laidley	8.7m falling slowly	10:00 PM MON 10/01/11
Laidley Ck at Showground Weir #	7.84m rising	03:25 AM TUE 11/01/11
Laidley Ck at Warrego Hwy *	6.41m rising	02:00 AM TUE 11/01/11
Lockyer Ck at Glenore Grove #	13.8m falling	03:24 AM TUE 11/01/11
Lockyer Ck at Lyons Br #	15.55m rising	03:23 AM TUE 11/01/11
Lockyer Ck at Rifle Range Rd *	15.39m rising	02:40 AM TUE 11/01/11
Lockyer Ck at O'Reilly's Weir #	18m falling	03:28 AM TUE 11/01/11
Brisbane R at Lowood Pump Stn #	15.93m falling	03:31 AM TUE 11/01/11
Brisbane R at Savages Crossing #	15.89m rising	03:29 AM TUE 11/01/11
Brisbane R at Burtons Br #	12.22m rising	03:29 AM TUE 11/01/11
Brisbane R at Kholo Br #	7.99m rising	03:29 AM TUE 11/01/11
Brisbane R at Mt Crosby #	15.82m steady	03:30 AM TUE 11/01/11
Brisbane R at Mt Crosby #	14.08m falling	04:39 PM MON 10/01/11
Brisbane R at Colleges Crossing #	13.91m rising	03:32 AM TUE 11/01/11
Bremer R at Rosewood#	5.56m falling	03:11 AM TUE 11/01/11
Bremer R at Five Mile Br Walloon #	6.4m rising	03:15 AM TUE 11/01/11
Warrill Ck at Greens Rd Amberley #	5.84m falling	03:29 AM TUE 11/01/11
Bremer R at One Mile Br #	13.75m rising	03:31 AM TUE 11/01/11
Bremer R at Hancocks Br Brassall #	11.33m rising	03:22 AM TUE 11/01/11
Bremer R at Ipswich #	8.55m rising	03:31 AM TUE 11/01/11
Brisbane R at Moggill #	7.07m rising	03:29 AM TUE 11/01/11
Brisbane R at Jindalee Br #	4.5m rising	03:29 AM TUE 11/01/11
Brisbane R at City Gauge #	1.4m falling	03:15 AM TUE 11/01/11

\*automatic station

Warnings and River Height Bulletins are available at <http://www.bom.gov.au/qld/flood/>. Flood Warnings are also available on telephone 1300 659 219 at a low call cost of 27.5 cents, more from mobile, public and satellite phones.

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Swimming in weirs and  
flowing water is FA!

rethink

[www.seqwater.com.au](http://www.seqwater.com.au)

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[REDACTED]

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**From:** Dan Spiller [REDACTED]  
**Sent:** Tuesday, 11 January 2011 1:18 PM  
**To:** [REDACTED] Stephen Robertson; Ken Smith  
[REDACTED] Lance McCallum; Tim Watts; Lauren Sims;  
[REDACTED] Debbie Best  
[REDACTED] Geoff Stead  
**Cc:** Barry Dennien; Peter Borrows; Rob Drury [REDACTED] Stan Stevenson;  
[REDACTED]  
**Subject:** Wivenhoe Dam release update  
**Attachments:** image001.png; Technical Situation Report W39 (2).docx

All,

Attached is the updated Technical Situation Report.

Releases from Wivenhoe Dam have needed to be increased to 3,970 cubic metres per second. BoM is modelling based on this strategy.

Based on these releases, Wivenhoe Dam will peak at between 74.5 and 74.8m with no further inflows.

Further inflows will require further releases. Seqwater is considering worst case scenarios to provide to BoM and BCC to model impacts.

Regards,  
Daniel Spiller

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[REDACTED]

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**From:** Petula Martinz [REDACTED]  
**Sent:** Tuesday, 11 January 2011 6:44 PM  
**To:** Barry Dennien; Bob Reilly; Damien Brown; Darren Madgwick; Geoff Stead; Ken Smith; Kerry Dunn; Lance McCallum; Lauren Sims; Peter Borrows; Peter Martin; Rob Drury; SEQWGM Emergency; Stephen Robertson; Terry Wall; Tim Watts; SEQWGM Media; [REDACTED]  
**Subject:** Updated technical support report  
**Attachments:** Technical Situation Report W41.docx

All,

Updated report attached.

Regards,  
Dan

Petula Martinz  
Executive Assistant to Daniel Spiller  
Director Operations  
SEQ Water Grid Manager  
Phone: (07) [REDACTED] | Fax: (07) [REDACTED]  
Email: [REDACTED]  
Visit: Level 15, 53 Albert Street, Brisbane  
Post: PO Box 16205, City East Qld 4002  
ABN: 14783 317 630

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[REDACTED]

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**From:** Dan Spiller [REDACTED]  
**Sent:** Tuesday, 11 January 2011 10:19 PM  
**To:** Stephen Robertson; Lance McCallum; Tim Watts; Geoff Stead; Lauren Sims; John Bradley [REDACTED] Debbie Best [REDACTED] Ken Smith [REDACTED]  
**Cc:** Rob Drury [REDACTED]; Barry Dennien; Peter Borrows; SEQWGM Media; SEQWGM Emergency; [REDACTED]  
**Subject:** Wivenhoe Dam update  
**Attachments:** Technical Situation Report W44.docx

All,

Attached is the most recent technical situation report.

Note that Wivenhoe Dam levels have stabilised and are now falling slowly. Without further rainfall, release rates will be reduced progressively. The first reduction will be to 7,100 cubic metres per second.

Regards,  
Daniel Spiller

[REDACTED]

---

**From:** Petula Martinz [REDACTED] on behalf of Dan Spiller  
**Sent:** Tuesday, 11 January 2011 9:04 PM  
**To:** Ken Smith; Dan Spiller; [REDACTED]  
**Cc:** [REDACTED] Barry Dennien;  
[REDACTED] Tim Watts; Lance McCallum;  
[REDACTED]  
**Subject:** RE: Request for logistic support - SEQ Water Grid

Ken,

Seqwater has been able to access a commercial helicopter for the day. That will be sufficient for the survey of reservoirs.

We will still require assistance with the supply of bottled water, and will continue to liaise with SDCC about that.

Thanks for your assistance.

Dan

**From:** Ken Smith [mailto:[REDACTED]]  
**Sent:** Tuesday, 11 January 2011 7:06 PM  
**To:** Dan Spiller; [REDACTED]  
**Cc:** [REDACTED] Barry Dennien; [REDACTED]  
[REDACTED]  
**Subject:** Re: Request for logistic support - SEQ Water Grid

Dan

I will take up these logistical support issues with a/asst commissioner Alistair Dawson

**From:** Petula Martinz <[REDACTED]>  
( ) Peter Martin <[REDACTED]> Kerry Dunn <[REDACTED]>  
**Cc:** Ken Smith; [REDACTED] Barry Dennien  
<[REDACTED]> Darren Madgwick <[REDACTED]> Tim Watts  
[REDACTED] Lance McCallum <[REDACTED]>  
**Sent:** Tue Jan 11 19:00:36 2011  
**Subject:** FW: Request for logistic support - SEQ Water Grid

All,

As noted below, there are a number of stand-alone towns in the Scenic Rim and Somerset areas that have run out of supply or are expected to do so tomorrow.

Most of these towns are isolated. While we have tanker trucks on standby, these cannot access the areas. We also cannot access the reservoirs to confirm the amount in storage and the need and priority to supply of bottled water.

Our recommendation is that a helicopter be prioritised to early tomorrow to:

- transport operators to the Kilcoy site, which should be able to recommence supply (avoiding the need for air supply of bottled water)
- transport a QUU and a Seqwater officer to other isolated towns, allowing them to confirm remaining reservoir levels and provide advice and the need for supply of bottled water.

We are preparing a proposed itinerary and timetable.

We appreciate that these resources will need to be prioritised against other needs. We appreciate your advice and assistance.

We are receiving good support on a number of other issues.

Regards,  
Dan

**From:** Lee Hutchison  
**Sent:** Tuesday, 11 January 2011 6:46 PM  
**To:** [REDACTED]  
**Cc:** SEQWGM Emergency; Dan Spiller  
**Subject:** FW: Request for logistic support - SEQ Water Grid  
**Importance:** High

Further to the below, please find attached the latest update. Please note that Fernvale a sub-district of Lowood is now out of water. It is the highest priority for resupply of potable water within the attached list.

We do not have any internal capacity to carry out the resupply to Fernvale as it is cut off by road.

Please acknowledge receipt and do not hesitate to contact our Emergency Manager on [REDACTED]

Regards,

Scott Denner  
Duty Emergency Executive  
[REDACTED]

**From:** Lee Hutchison  
**Sent:** Tuesday, 11 January 2011 4:25 PM  
**To:** [REDACTED]  
**Cc:** SEQWGM Emergency  
**Subject:** Request for logistic support - SEQ Water Grid

Per telecom at 1605hr, please find attached a log of requested support tasks consisting of 5 towns requiring the supply of potable water (thru tanker or bottled water), and one water treatment plant requiring a resupply of lime.

The attachment includes detail of the time-line for supply of water to townships, based on what remains within the reservoirs at present.

With regards to the Water Treatment Plant, we have procured some lime, but are unable to get it to the plant. The plant supplies approx 40,000 pers on the Sunshine Coast, and will fail within 24 hours.

Included in the attachment are the contact details for personnel at a local level best able to answer queries and to coordinate movements and local support.

Regards

Scott Denner  
Duty Emergency Executive  
[REDACTED]

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[REDACTED]

---

**From:** Dan Spiller [REDACTED]  
**Sent:** Tuesday, 11 January 2011 10:40 PM  
**To:** Ken Smith; [REDACTED]  
**Cc:** [REDACTED] Barry Dennien;  
[REDACTED] Tim Watts; Lance McCallum;  
[REDACTED]  
**Subject:** RE: Request for logistic support - SEQ Water Grid

All,

A helicopter has been arranged through

Thank you for your assistance

Regards,  
Dan

**From:** Ken Smith [REDACTED]  
**Sent:** Tuesday, January 11, 2011 7:06 PM  
**To:** Dan Spiller; [REDACTED]  
**Cc:** [REDACTED] Barry Dennien; [REDACTED]  
[REDACTED]  
**Subject:** Re: Request for logistic support - SEQ Water Grid

Dan

I will take up these logistical support issues with a/asst commissioner Alistair Dawson

**From:** Petula Martinz <[REDACTED]>  
**To:** Peter Martin <[REDACTED]>, Kerry Dunn <[REDACTED]>  
**Cc:** Ken Smith; [REDACTED] Barry Dennien  
[REDACTED] Darren Madgwick <[REDACTED]>; Tim Watts  
[REDACTED] Lance McCallum <[REDACTED]>  
**Sent:** Tue Jan 11 19:00:36 2011  
**Subject:** FW: Request for logistic support - SEQ Water Grid

All,

As noted below, there are a number of stand-alone towns in the Scenic Rim and Somerset areas that have run out of supply or are expected to do so tomorrow.

Most of these towns are isolated. While we have tanker trucks on standby, these cannot access the areas. We also cannot access the reservoirs to confirm the amount in storage and the need and priority to supply of bottled water.

Our recommendation is that a helicopter be prioritised to early tomorrow to:

- transport operators to the Kilcoy site, which should be able to recommence supply (avoiding the need for air supply of bottled water)
- transport a QUU and a Seqwater officer to other isolated towns, allowing them to confirm remaining reservoir levels and provide advice and the need for supply of bottled water.

We are preparing a proposed itinerary and timetable.

We appreciate that these resources will need to be prioritised against other needs. We appreciate your advice and assistance.

We are receiving good support on a number of other issues.

Regards,  
Dan

**From:** Lee Hutchison  
**Sent:** Tuesday, 11 January 2011 6:46 PM  
**To:** [REDACTED]  
**Cc:** SEQWGM Emergency; Dan Spiller  
**Subject:** FW: Request for logistic support - SEQ Water Grid  
**Importance:** High

Further to the below, please find attached the latest update. Please note that Fernvale a sub-district of Lowood is now out of water. It is the highest priority for resupply of potable water within the attached list.

We do not have any internal capacity to carry out the resupply to Fernvale as it is cut off by road.

Please acknowledge receipt and do not hesitate to contact our Emergency Manager on [REDACTED] (24/7).

Regards,

Scott Denner  
Duty Emergency Executive  
[REDACTED]

**From:** Lee Hutchison  
**Sent:** Tuesday, 11 January 2011 4:25 PM  
**To:** [REDACTED]  
**Cc:** SEQWGM Emergency  
**Subject:** Request for logistic support - SEQ Water Grid

Per telecom at 1605hr, please find attached a log of requested support tasks consisting of 5 towns requiring the supply of potable water (thru tanker or bottled water), and one water treatment plant requiring a resupply of lime.

The attachment includes detail of the time-line for supply of water to townships, based on what remains within the reservoirs at present.

With regards to the Water Treatment Plant, we have procured some lime, but are unable to get it to the plant. The plant supplies approx 40,000 pers on the Sunshine Coast, and will fail within 24 hours.

Included in the attachment are the contact details for personnel at a local level best able to answer queries and to coordinate movements and local support.

Regards

Scott Denner  
Duty Emergency Executive  
[REDACTED]

-----  
-----  
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-----  
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[REDACTED]

---

**From:** Dan Spiller [REDACTED]  
**Sent:** Tuesday, 11 January 2011 11:43 PM  
**To:** Stephen Robertson; 'Ken Smith' [REDACTED]  
[REDACTED] Lance McCallum; Tim Watts; Geoff Stead; Lauren  
Sims; [REDACTED]  
**Cc:** Barry Dennien; [REDACTED] 'Rob Drury'; SEQWGM Media; SEQWGM  
Emergency; [REDACTED] 'Damien Brown'  
[REDACTED]  
**Subject:** Updated Wivenhoe Dam releases  
**Attachments:** Technical Situation Report W46.docx

All,

Updated report attached.

At 2300, Wivenhoe Dam was at 74.92m AHD (190.4%) and holding.

The Flood Operations Centre has commenced a closure sequence. At 2330, releases will be reduced to 6,100 cubic metres per second.

The centre will continue to monitor rainfall and inflows and adjust as necessary.

With releases having peaked, the next report will be provided at 0500.

Regards,  
Dan

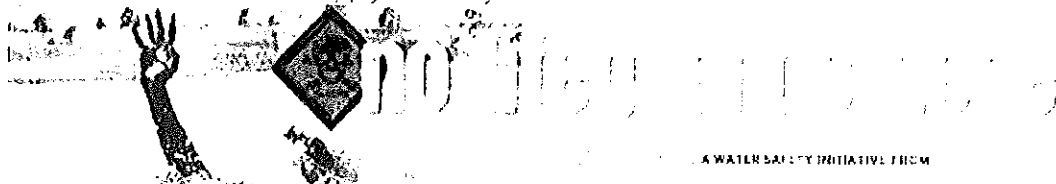
**From:** Rob Drury [REDACTED]  
**Sent:** Tuesday, January 11, 2011 11:21 PM  
**To:** Rob Drury; Dan Spiller; Paul Bird; Stan Stevenson; Peter Borrows; [REDACTED]  
**Cc:** David Roberts; Duty Seq  
**Subject:** RE: Technical Report

Attached report W46.

Next report will be 5am Wednesday 12.1.2011.

Rob

For further information,  
Dan Spiller, Senior Engineer,  
Water Delivery,  
Queensland Bulk Water Supply, can be contacted on 07 559 9999.



Swimming in weirs and  
flowing water is **FA**

rethink

A WATER SAFETY INITIATIVE FROM



water  
for people

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[REDACTED]

---

**From:** Dan Spiller [REDACTED]  
**Sent:** Wednesday, 12 January 2011 5:37 AM  
**To:** Stephen Robertson; [REDACTED] Bradley John; Lance McCallum;  
Tim Watts; Geoff Stead; Lauren Sims; [REDACTED]  
[REDACTED] Best Debbie  
**Cc:** Barry Dennien; Peter Borrows; Rob Drury; SEQWGM Media; SEQWGM Emergency;  
[REDACTED] Reilly Bob  
**Subject:** Dam release update  
**Attachments:** Technical Situation Report W47.docx

All,

Attached is the most recent situation report.

There was minimum rainfall in the catchment last night, meaning that dam levels and release rates were reduced.

Wivenhoe Dam is currently at 188%, having peaked at about 191% (74.97m AHD, about 0.6m below the first fuse peak). Somerset Dam is at about 190%, which is its peak level.

Releases are now at 4,300 cubic metres per second (about 370,000 ML/day), having peaked at 7,500 cubic metres per second (about 650,000 ML/day) for a couple of hours.

We will update the report about every three hours. The next report will include more information about the closing sequence, including the broad timeframes for dam levels to be reduced. Note that, while dam levels are reducing, they remain at critical levels.

An update on water treatment will be provided later this morning.

Please call me on [REDACTED] if you require further information.

Regards,  
Dan

Daniel Spiller  
Director, Operations  
SEQ Water Grid Manager  
Phone: (07) [REDACTED] | Fax: (07) [REDACTED] | Mobile: [REDACTED]  
Email: [REDACTED]  
Visit: Level 15, 53 Albert Street Brisbane  
Post: PO Box 16205, City East QLD 4002  
ABN: 14783 317 630

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[REDACTED]

---

**From:** Dan Spiller [REDACTED]  
**Sent:** Wednesday, 12 January 2011 9:00 AM  
**To:** Stephen Robertson; [REDACTED] 'Bradley John'; Lance McCallum;  
Tim Watts; Geoff Stead; Lauren Sims; [REDACTED]  
[REDACTED] 'Best Debbie'  
**Cc:** Barry Dennien; 'Peter Borrows'; 'Rob Drury'; SEQWGM Media; SEQWGM Emergency;  
[REDACTED] 'Reilly Bob'  
**Subject:** Dam release update  
**Attachments:** Technical Situation Report W48.docx

All,

Attached is an updated Technical Support Report, including advice about the gate closure process.

Note that releases have been reduced to 2,500 cubic metres per second while peak Lockyer Valley flows pass. Increases will then increase to 3,500 cubic metres per second.

Please call me on [REDACTED] if you require further information.

Regards,  
Dan

**Daniel Spiller**

Director, Operations

SEQ Water Grid Manager

Phone: (07) [REDACTED] | Fax: (07) [REDACTED] | Mobile: [REDACTED]

Email: [REDACTED]

Visit: Level 15, 53 Albert Street Brisbane

Post: PO Box 16205, City East QLD 4002

ABN: 14783 317 630

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[REDACTED]

---

**From:** Water Grid Emergency Manager [REDACTED]  
**Sent:** Wednesday, 12 January 2011 1:45 PM  
**To:** Lance McCallum  
**Subject:** Update regarding Water Grid Supply Situation

All,

Water supply status across the Water Grid is as follows.

**WE, WATERSECURE AND SEQWATER ARE EXPERIENCING EMAIL ISSUES. ALL EMAILS SHOULD BE SENT TO THIS ADDRESS [REDACTED] FOR KEY ISSUES, PLEASE ALSO CONFIRM RECEIPT VIA SMS OR MOBILE.**

#### **Water quality**

All water continues to meet quality requirements.

The exception is supply to about 20 people at Atkinson, where a boiled water notice has been issued.

#### **Stand-alone towns**

We are carting water to Kenilworth and Dayboro, though capacity may be limited.

Helicopters have been hired to enable supply of bottled water to other towns, in partnership with QUU. Supply is being prioritised based on remaining storage. Critical towns include Jimna, Linville and Withcott, which are all relatively small.

We are seeking to bring the standby water treatment plant online at Kilcoy/Somerset. This town is significantly larger than the others currently being supplied bottled water.

#### **Central SEQ**

In central SEQ, water storage levels remain high.

Reservoirs are likely to be drawn down over coming days, with the extent of drawdown depending upon demand and any asset failures (both bulk and local).

Available supply capacity to the central area is up to about 320 ML/day. Typical demand in this area is about 370 ML/day. The 50 ML/day difference will be supplied by drawing down reservoirs. Conservation is important to minimise drawdown.

Every effort is being made to have more water available by Friday, in order to ensure water is available for clean up.

In term of treatment assets:

- Mt Crosby East Bank WTP is offline. The raw water pump station is very close to being flooded, which may result in the plant remaining offline for some time.
- Mt Crosby West Bank WTP has been producing at reduced capacity due to poor water quality (about 135 ML/day). Water quality is being closely monitored
- At North Pine WTP, poor water quality has restricted treatment capacity.
- The Southern Regional Water Pipeline has been transporting about 95 ML/day to central SEQ. It is being supplied from the Molendinar WTP and the desalination facility, which is operating at two-thirds capacity.

A number of major plants are isolated. Another helicopter has been hired to ferry staff.

#### **Chemical supply**

Inundation has created logistic problems for the supply of chemicals into and within SEQ.

These issues are currently being managed, with all plants having at least two day supply of all chemicals and access to plants improving.

The most critical issue is the supply of lime to the Landershute WTP, which is the sole supply for about 40,000 people on the Sunshine Coast (pending completion of NPI Stage 2). Supply of 5 tonnes of bagged lime has been arranged, ensuring that supply can continue until at least tomorrow. Further supplies are being arranged.

### **Coordination**

I am the Emergency Manager. I am available on [REDACTED]

An Emergency Management Team has been formed. The emergency room can be contacted on [REDACTED]

Operational teams have been formed with all Grid participants and relevant agencies. Teams include:

- Stand-alone towns
- Water balance
- Water quality
- Chemical logistics
- Resource logistics.

( Please call me on [REDACTED] if you require any further information.

Regards,

Water Grid Emergency Manager

Daniel Spiller

[Click here to acknowledge this message](#)

[REDACTED]

---

**From:** Dan Spiller [REDACTED]  
**Sent:** Wednesday, 12 January 2011 3:52 PM  
**To:** Stephen Robertson; [REDACTED] 'Bradley John'; Lance McCallum;  
Tim Watts; Geoff Stead; Lauren Sims; [REDACTED]  
[REDACTED] 'Best Debbie'  
**Cc:** Barry Dennien; 'Peter Borrows'; 'Rob Drury'; SEQWGM Media; SEQWGM Emergency;  
[REDACTED]; 'Reilly Bob';  
**Subject:** Dam release update  
**Attachments:** Technical\_Situation\_Report\_W50.docx

All,

Attached is an updated Technical Support Report, including advice about the gate closure process.

The Wivenhoe Dam release rate has been maintained at 2,500 cubic metres per second. Dam levels have reduced slightly.

Please call me on [REDACTED] if you require further information.

Regards,  
Dan

**Daniel Spiller**

Director, Operations

SEQ Water Grid Manager

Phone: (07) [REDACTED] | Fax: (07) [REDACTED] | Mobile: [REDACTED]

Email: [REDACTED]

Visit: Level 15, 53 Albert Street Brisbane

Post: PO Box 16205, City East QLD 4002

ABN: 14783 317 630

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[REDACTED]

---

**From:** Dan Spiller [REDACTED]  
**Sent:** Wednesday, 12 January 2011 8:34 PM  
**To:** Stephen Robertson; [REDACTED] 'Bradley John'; Lance McCallum;  
Tim Watts; Geoff Stead; Lauren Sims; [REDACTED]  
[REDACTED]; 'Best Debbie'  
**Cc:** Barry Dennien; 'Peter Borrows'; 'Rob Drury'; SEQWGM Media; SEQWGM Emergency;  
[REDACTED] 'Reilly Bob';  
[REDACTED]  
**Subject:** RE: Dam release update  
**Attachments:** Technical\_Situation\_Report\_W51.docx

All,

Attached is an updated Technical Support Report.

Please call me on [REDACTED] if you require further information.

Regards,  
Dan

**Daniel Spiller**

Director, Operations

SEQ Water Grid Manager

Phone: (07) [REDACTED] | Fax: (07) [REDACTED] | Mobile: [REDACTED]

Email: [REDACTED]

Visit: Level 15, 53 Albert Street Brisbane

Post: PO Box 16205, City East QLD 4002

ABN: 14783 317 630

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[REDACTED]

---

**From:** Dan Spiller [REDACTED]  
**Sent:** Thursday, 13 January 2011 3:31 AM  
**To:** [REDACTED] 'Bradley John'; [REDACTED]  
[REDACTED] Tim Watts; Lance  
McCallum; Geoff Stead; Stephen Robertson  
**Cc:** Barry Dennien; [REDACTED] 'Best Debbie';  
[REDACTED]  
**Subject:** Update on Water Grid supply situation  
**Attachments:** Water balance\_130111.docx

Update attached for information.

Please call me on [REDACTED] if you require any further information.

Regards,  
Daniel Spiller

### Central SEQ water balance

- On 12 January 2011, bulk water storage in central South East Queensland (Brisbane, Ipswich and Logan) reduced by a third from 338 to 215 ML.
- Most of the reduction was due to both of the Mt Crosby water treatment plants being taken offline.
  - The East Bank water treatment plant was partially inundated, forcing it to be shutdown for at least two days. Recovery is underway.
  - Raw water quality reduced during the day, causing treated water from the West Bank water treatment plant to exceed standard operational limits. Raw water quality increased from 1100 to 1700 NTU during the day.
- Without supply from Mt Crosby, key reservoirs around Ipswich would have been depleted on 13 January 2011.
- Table 1 lists expected production on 13 January. These are maximum production values, excluding any allowance for mechanical or other failures. By comparison, total production on 12 January was less than 200 ML due to Mt Crosby WTP being offline for much of the day and the Northern Pipeline Interconnector supplying north rather than south.
- The table also includes an indication of additional supplies that could potentially become available on 14 January, as the clean up commences. These additional supplies are subject to operational considerations, such as rectification of flood damage. Only some of these supplies are likely to become available.

**Table 1: Supply to central SEQ (Brisbane, Ipswich and Logan)**

Source	Planned production 13 January (ML)	Potential additional production from 14 January (ML)
Northern Pipeline Interconnector	25	
North Pine WTP	100	50
Petrie WTP	0	
Mt Crosby West Bank WTP	150	50
Mt Crosby East Bank WTP	0	100
Eastern Pipeline Interconnector	7	
Logan interconnector	20	
Southern Regional Water Pipeline <sup>1</sup>	100	110
Enoggera WTP and Brisbane Aquifer Project	0	TBD
<b>Total</b>	<b>402</b>	

<sup>1</sup> Includes supply from desalination facility.

- These supplies exceed estimated demand scenarios for the clean up period in central SEQ, as illustrated in Table 2. Forecasts are based on:
  - the proportion of residences in the area that are likely to be inundated
  - for impacted areas, demand being about double typical consumption

- for other areas, demand being around current levels.
- The forecasts highlight the importance of water conservation outside of the impacted areas, as a contingency against further operational issues (including an inability to bring on the potential additional supplies listed above).

**Table 2: Estimated demand scenarios for clean up period in central SEQ (Brisbane, Ipswich and Logan)**

Area	Typical	Low	Likely	High
Ipswich	42	55	61	67
Brisbane	270	265	294	324
Logan	48	43	48	53
<b>Total</b>	<b>360</b>	<b>363</b>	<b>403</b>	<b>443</b>

#### **Mt Crosby operating arrangements**

- As noted above, Mt Crosby West Bank WTP ceased production on 12 January 2011 due to treated water exceeding critical limits for normal operations.
- Alternative operating arrangements are now being applied, taking into account current catchment risks. These risks are considered to be considerably lessened, for a range of impacts including dilution.
- For the duration of the current flood event, the operating rules for the Mt Crosby water treatment plants are:
  - Minimum production of 150 ML/day
  - Achieve and maintain stable operation
  - Shutdown for operational reasons only, not treated water quality
  - Target of below 1 NTU in treated water
  - Periods of up to 2 NTU in treated water tolerable
  - Disinfection residual maintained at standard operating procedure
  - Note some discolouration may occur
- Queensland Health advised that:
  - Based on these operating rules, water supplied from the Mt Crosby water treatment plants is considered to have taken all necessary precautions to minimise the public health risk.
  - Further advice should be sought from Queensland Health should there be a prolonged trend to above 1.5 NTU in treated water. Production should not cease while this advice is sought. An evaluation will be made at that time to determine if water of above 2 NTU may still be safe to supply.

#### **Mt Crosby critical logistics**

- Continued operation of the Mt Crosby West Bank WTP is required to maintain water supplies in central SEQ.

- Chemical supplies are required in order to maintain continued operation. A dirt track is now accessible on the site, however supply routes from Brisbane are still flooded.
- Critical supplies are:
  - hypochlorite (2 days)
  - caustic soda (3 days)
  - alum (5 days).
- **Should supply routes not become open tomorrow, assistance will be required to transport chemicals to the site. Volumes required are relatively large.**
- Recommissioning of Mt Crosby East Bank WTP is a priority, to provide additional production and as a contingency in the event that chemicals are unable to be replenished at the site on the other side of the river.
- The East Bank WTP is both partially inundated and surrounded by flood waters, with access currently only able to be made by helicopter. A helicopter has been hired to transport additional staff to the WTP on the morning of 14 January. **It is critical that this helicopter not be reprioritised by EMQ.**

#### Western SEQ towns supplies

- Gatton is expected to run out of water overnight, following the loss of stored treated water.
- Supply is from the Lowood water treatment plant, which is offline due to loss of electricity and some operational issues. Energex has given electricity supply to the site a high priority.
- A number of smaller towns have already run out of supply or are expected to do so soon. QUU has started to supply bottled water to these towns via commercial helicopter.
- Tanker trucks will commence supply to towns as soon as they become accessible. **QUU is seeking advice about potential routes as they become available.**
- A boiled water notice is required when supply recommences after having run dry. A notice is required because of the risk of ingress into the pipelines. A number of these notices will be issued on 13 January 2011 for western towns.

[REDACTED]

---

**From:** Dan Spiller [REDACTED]  
**Sent:** Thursday, 13 January 2011 8:28 PM  
**To:** [REDACTED]  
[REDACTED]  
[REDACTED] 'Bradley John'; [REDACTED]  
[REDACTED] Barry  
Dennien; [REDACTED]  
[REDACTED]  
[REDACTED]; Tim Watts; Lance  
McCallum  
**Cc:** 'Best Debbie'; 'Reilly Bob'; Elaina Smouha; SEQWGM Media  
**Subject:** RE: Record of teleconference 12 January 2011

All,

I wish to flag that a teleconference may be required early tomorrow morning.

The Mt Crosby West water treatment plant has been producing at a rate of 150 ML/day today, with water quality in the range of 0.4 to 0.8 NTU. While overall quality was within the agreed specification, two of twelve filters were producing water at above 1.5 NTU. For this reason, and mindful that East Bank WTP was commencing operation, we chose not to increase production. Queensland Health confirmed that continued operation at this levels was appropriate.

With this production, we maintained reservoir levels at about 150 ML. However, without additional production, we are unlikely to be able to match the forecast increase in demand for wash down (estimated at 60 to 80 ML/day).

Unfortunately, we will be unable to meet these increased demands from the East Bank water treatment plant. Due to a series of unrelated mechanical failures, the East Bank water treatment plant will not commence production until at least tomorrow morning.

Without the East Bank water treatment plant being available, I have directed that production be maximized at:

- West Bank water treatment plant, increasing supply by 100 ML/day (total 250 ML/day)
- North Pine water treatment plant, increasing supply by about 50 ML/day with re-valving within the Linkwater network.

The purpose of this email is to highlight that a teleconference may be required early tomorrow morning, should increase production from the West Bank water treatment plant exceed the triggers agreed last night. A teleconference may also be required should water from the North Pine water treatment plant exceed existing operating protocols (noting that much of the logic applying to the Mt Crosby water treatment plant also applies to North Pine).

Please call me on [REDACTED] should you require any further information.

Regards,  
Daniel Spiller

**From:** Dan Spiller  
**Sent:** Thursday, January 13, 2011 12:37 AM  
**To:** [REDACTED]

[REDACTED] 'Bradley John';  
Barry Dennien;

**Cc:** 'Best Debbie'; 'Reilly Bob'; Elaina Smouha; SEQWGM Media  
**Subject:** Record of teleconference 12 January 2011

Record of teleconference attached.

Please contact me should you require any further information.

Regards,  
Daniel Spiller

[illegible]

2

[REDACTED]

---

**From:** Dan Spiller [REDACTED]  
**Sent:** Friday, 14 January 2011 12:16 AM  
**To:** [REDACTED]  
[REDACTED]  
[REDACTED] 'Bradley John'; [REDACTED]  
[REDACTED] Barry  
Dennien; [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED] Tim Watts; Lance  
McCallum  
**Cc:** 'Best Debbie'; 'Reilly Bob'; Elaina Smouha; SEQWGM Media  
**Subject:** RE: Record of teleconference 12 January 2011

All,

The Mt Crosby West Bank WTP has increased production to 180 ML/day, with treated water remaining in the range of 0.4 to 0.8 NTU. It is currently being increased to 200 ML/day, with operators optimistic that at least this level of production can be achieved while remaining within the operating parameters that were agreed at the teleconference last night.

Given the increased output, until decided otherwise, operators will seek to ensure that water treatment plant is operated within the agreed operating parameters. We will continue to seek to increase production to 250 ML/day, but will limit it to less if further increases would result in exceeding the agreed parameters.

There is likely to be an increase in demand tomorrow, as the river level falls and clean-up commences. River levels are currently at 2.75 m at the Port Office gauge, which is below the major flooding level defined by Brisbane City Council. The BoM has verbally advised that it expects levels to fall to 2.3 to 2.4 metres by 5pm tomorrow, which remains within the moderate flooding range.

A teleconference has been arranged with Grid entities for 10am to assess the water balance, including the likely timing of commencement of production at the East Bank WTP and the outcomes of trials to increase the production from the North Pine WTP.

Without this additional production, the Grid will have limited capacity to meet demand that is significantly greater than it was today. Should the additional production not be available, scenarios and responses will need to be quickly agreed with relevant agencies, including consideration of health impacts. A teleconference may need to be urgently called with Queensland Health at about 10.30am to discuss options. Prior to this occurring, entities will update and refine potential supply scenarios.

To minimize these risks, the WGM recommends that residents outside the impacted area be strongly urged to conserve water. Within the affected area, until the East Bank WTP is consistently treating water, we recommend that the use of water to wash down roads and driveways be limited to what is required for health and safety reasons.

Please call me on [REDACTED] if you require any further information.

Regards,  
Dan

**From:** Dan Spiller  
**Sent:** Thursday, January 13, 2011 8:28 PM  
**To:** [REDACTED]

[REDACTED] 'Bradley John';  
[REDACTED] Barry Dennien;



[REDACTED]

**Cc:** 'Best Debbie'; 'Reilly Bob'; Elaina Smouha; SEQWGM Media  
**Subject:** RE: Record of teleconference 13 January 2011

All,

I wish to flag that a teleconference may be required early tomorrow morning.

The Mt Crosby West water treatment plant has been producing at a rate of 150 ML/day today, with water quality in the range of 0.4 to 0.8 NTU. While overall quality was within the agreed specification, two of twelve filters were producing water at above 1.5 NTU. For this reason, and mindful that East Bank WTP was commencing operation, we chose not to increase production. Queensland Health confirmed that continued operation at this levels was appropriate.

With this production, we maintained reservoir levels at about 150 ML. However, without additional production, we are unlikely to be able to match the forecast increase in demand for wash down (estimated at 60 to 80 ML/day).

Unfortunately, we will be unable to meet these increased demands from the East Bank water treatment plant. Due to a series of unrelated mechanical failures, the East Bank water treatment plant will not commence production until at least tomorrow morning.

Without the East Bank water treatment plant being available, I have directed that production be maximized at:

- West Bank water treatment plant, increasing supply by 100 ML/day (total 250 ML/day)
- North Pine water treatment plant, increasing supply by about 50 ML/day with re-valving within the Linkwater network.

The purpose of this email is to highlight that a teleconference may be required early tomorrow morning, should increase production from the West Bank water treatment plant exceed the triggers agreed last night. A teleconference may also be required should water from the North Pine water treatment plant exceed existing operating protocols (noting that much of the logic applying to the Mt Crosby water treatment plant also applies to North Pine).

Please call me on [REDACTED] should you require any further information.

Regards,  
Daniel Spiller

**From:** Dan Spiller  
**Sent:** Thursday, January 13, 2011 12:37 AM  
**To:** [REDACTED]

[REDACTED] 'Bradley John';  
[REDACTED] Barry Dennien;

**Cc:** 'Best Debbie'; 'Reilly Bob'; Elaina Smouha; SEQWGM Media  
**Subject:** Record of teleconference 12 January 2011

Record of teleconference attached.

Please contact me should you require any further information.

Regards,  
Daniel Spiller

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry must be supported by appropriate documentation, such as receipts or invoices, to ensure transparency and accountability. This section also outlines the procedures for reconciling accounts and addressing discrepancies.

The second part focuses on the role of internal controls in preventing fraud and errors. It describes how a robust system of checks and balances can help identify potential weaknesses and mitigate risks. Key elements include segregation of duties, regular audits, and clear policies regarding asset protection and information security.

Finally, the document addresses the need for ongoing training and education for staff members. It stresses that staying up-to-date on best practices and regulatory requirements is essential for maintaining the integrity of financial reporting. Regular workshops and seminars are recommended to keep employees informed and skilled in their roles.

Figure 1 consists of two line graphs, (a) and (b), plotted on a grid. Both graphs have a vertical y-axis and a horizontal x-axis. Graph (a) shows a curve that starts at the origin (0,0), rises steeply, and then levels off, approaching a horizontal asymptote. Graph (b) shows a curve that starts at a positive value on the y-axis, rises steeply, and then levels off, approaching a horizontal asymptote.

" SR 24 "

## TECHNICAL SITUATION REPORT

TSR Number	W2	Date of TSR release	13.12.2010	Time of TSR release	1pm
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### Seqwater status of inflows and dam operations

#### Somerset/Wivenhoe Dams

As highlighted in the previous Report, releases commenced from Wivenhoe Dam today.

Wivenhoe Dam Lake Level was 67.30 m AHD and rising slowly at 0630 Monday 13/12/2010. Two regulators are open at Somerset Dam releasing about 138m<sup>3</sup>/s into Wivenhoe.

One gate is being opened at Wivenhoe Dam commencing at 1.00pm and being fully opened by 3:30pm and releasing approximately 290m<sup>3</sup>/s, adding to the small ongoing release from the hydro plant gives a total of 300m<sup>3</sup>/s.

At this stage, it is expected that this gate setting will be maintained until at least Thursday afternoon 16/12/2010.

It should be noted that a release of 300m<sup>3</sup>/s will impact upon Twin Bridges, Savages Crossing and Colleges Crossing.

Councils were contacted this morning to provide a heads up and contacted again when the gate was opened.

A follow up email has been sent however their phone advice is considered sufficient considering the minor actions required of councils. They were advised they can offer their own assessments if they wish and can ring the Flood Centre for further information.

Seqwater Technical Officer name	Robert Drury
Seqwater Technical Officer position title	Dam Operations Manager

### BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM was advised of planned releases via their flood information email. No formal advice is required of them as the release is a minor drawdown however there is ongoing advice provided by them on predicted rainfall and flows. They were also provided advice of the releases that are occurring.

Action taken was to mobilise the flood centre and advise Councils as requested regarding releases and keep BoM up to date.

<b>BoM Technical Officer name</b>	
<b>BoM Technical Officer position title</b>	
<b>BoM Technical Officer contact details</b>	

**Brisbane City Council (BCC) assessment**

*(to include predicted local inundation areas and depths of inundation based on the information)*

BCC will advise internally for information purposes mainly re bridge closures in other council areas that may affect Brisbane residents.

Action taken was to mobilise the flood centre and advise Councils as requested regarding releases and keep BoM up to date.

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

**Ipswich City Council (ICC) assessment (if required)**

*(to include predicted local inundation areas and depths of inundation based on the information)*

Ipswich will coordinate closure of Colleges Crossing as necessary and any other actions.

Action taken was to mobilise the flood centre and advise Councils as requested regarding releases and keep BoM up to date.

<b>ICC Technical Officer name</b>	Tony Trace
<b>ICC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>ICC Technical Officer contact details</b>	

**Somerset Regional Council (SRC) assessment (if required)**

*(to include predicted local inundation areas and depths of inundation based on the information)*

Somerset Council will coordinate closure of Twin Bridges and Savages Crossing as necessary and any other actions.

Action taken was to mobilise the flood centre and advise Councils as requested regarding releases and keep BoM up to date.

<b>SRC Technical Officer name</b>	Tony Jacobs
<b>SRC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>SRC Technical Officer contact details</b>	

Collated and distributed by (Agency)

<b>Contact Officer signature</b>	
<b>Contact Officer name</b>	Rob Drury
<b>Contact Officer position title</b>	Dam Operations Manager

<b>Next TSR due</b>	<b>Date</b>		<b>Time</b>		<b>or Event</b>	<b>Update on closure strategy</b>
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## TECHNICAL SITUATION REPORT

TSR Number	W3	Date of TSR release	15.12.2010	Time of TSR release	6pm
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### Seqwater status of inflows and dam operations

#### Somerset/Wivenhoe Dams

As highlighted in the previous Reports, releases continued from Wivenhoe Dam and will cease around 10am on 16<sup>th</sup> December 2010.

At this stage it is planned that the radial gate will be closed by 10am Thursday morning with the closing sequence starting around 8am.

Once the radial gate is closed, releases from the hydro will continue during fish recovery operations. Once they are completed, the cone valve will also be opened to continue to release at a combined rate of around 4200ML per day until the water level in both dams falls to near full supply levels. At this time normal operational releases to the Mt. Crosby WTP will re-commence.

The release from Wivenhoe dam continues to impact upon Twin Bridges, Savages Crossing and Colleges Crossing and these crossings will clear as the river level drops. It is likely that Colleges Crossing will be opened sometime Friday morning, although this will depend on flows in the river and any rainfall.

Councils were contacted this morning to provide advice on closing sequences and will be contacted again when the gate is finally closed.

A follow up email will not be sent as no assessment is required.

Seqwater Technical Officer name	Robert Drury
Seqwater Technical Officer position title	Dam Operations Manager

#### BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM was advised of planned releases via their flood information email. No formal advice is required of them as the release is a minor drawdown however there is ongoing advice provided by them on predicted rainfall and flows. They were also provided advice of the releases that are occurring and closing.

Action taken was to mobilise the flood centre and advise Councils as requested regarding releases and keep BoM up to date.

<b>BoM Technical Officer name</b>	
<b>BoM Technical Officer position title</b>	
<b>BoM Technical Officer contact details</b>	

**Brisbane City Council (BCC) assessment**  
*(to include predicted local inundation areas and depths of inundation based on the information)*

BCC will advise internally for information purposes mainly re bridge closures in other council areas that may affect Brisbane residents.

Action taken was to mobilise the flood centre and advise Councils as requested regarding releases and keep BoM up to date.

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

**Ipswich City Council (ICC) assessment (if required)**  
*(to include predicted local inundation areas and depths of inundation based on the information)*

Ipswich will coordinate closure of Colleges Crossing as necessary and any other actions.

Action taken was to mobilise the flood centre and advise Councils as requested regarding releases and keep BoM up to date.

<b>ICC Technical Officer name</b>	Tony Trace
<b>ICC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>ICC Technical Officer contact details</b>	

**Somerset Regional Council (SRC) assessment (if required)**  
*(to include predicted local inundation areas and depths of inundation based on the information)*

Somerset Council will coordinate closure of Twin Bridges and Savages Crossing as necessary and any other actions.

Action taken was to mobilise the flood centre and advise Councils as requested regarding releases and keep BoM up to date.

<b>SRC Technical Officer name</b>	Tony Jacobs
<b>SRC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>SRC Technical Officer contact details</b>	

Collated and distributed by (Agency)

<b>Contact Officer signature</b>	
<b>Contact Officer name</b>	Rob Drury
<b>Contact Officer position title</b>	Dam Operations Manager

<b>Next TSR due</b>	<b>Date</b>	16.12.2010	<b>Time</b>		<b>or Event</b>	Closing of event
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## TECHNICAL SITUATION REPORT

TSR Number	W4	Date of TSR release	16.12.2010	Time of TSR release	4pm
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Seqwater status of inflows and dam operations

### Somerset/Wivenhoe Dams

Releases ceased from Wivenhoe Dam at 10am on 16<sup>th</sup> December 2010.

Releases from the hydro continued during fish recovery operations.

Once they were completed, the cone valve was also opened to release at a combined rate of around 4200ML per day until the water level in both dams falls to near full supply levels. At this time normal operational releases to the Mt. Crosby WTP will re-commence.

Twin Bridges, Savages Crossing and Colleges Crossing will clear as the river level drops. It is likely that Colleges Crossing will be opened sometime Friday morning, although this will depend on flows in the river and any rainfall.

Releases from Somerset to Wivenhoe will be wound back during today and tomorrow.

Councils were contacted when the gate was closed this morning.

A follow up email will not be sent as no assessment is required.

Seqwater Technical Officer name	Robert Drury
Seqwater Technical Officer position title	Dam Operations Manager

### BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM was advised of the closure.

Action taken was to demobilise the flood centre.

BoM Technical Officer name	
BoM Technical Officer position title	
BoM Technical Officer contact details	

### Brisbane City Council (BCC) assessment

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council was advised of the closure.

Action taken was to demobilise the flood centre.

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	[REDACTED]

### Ipswich City Council (ICC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council was advised of the closure.

Action taken was to demobilise the flood centre.

<b>ICC Technical Officer name</b>	Tony Trace
<b>ICC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>ICC Technical Officer contact details</b>	[REDACTED]

### Somerset Regional Council (SRC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council was advised of the closure.

Action taken was to demobilise the flood centre.

<b>SRC Technical Officer name</b>	Tony Jacobs
<b>SRC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>SRC Technical Officer contact details</b>	[REDACTED]

Collated and distributed by (Agency)

<b>Contact Officer signature</b>	
<b>Contact Officer name</b>	Rob Drury
<b>Contact Officer position title</b>	Dam Operations Manager

Next TSR due	Date	Nil	Time		or Event	
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## TECHNICAL SITUATION REPORT

TSR Number	W5	Date of TSR release	17.12.2010	Time of TSR release	12pm
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### Seqwater status of inflows and dam operations

#### Somerset/Wivenhoe Dams

The previous release plan was to get Wivenhoe dam as close to FSL as possible without inundating Burtons bridge and balance this off against opening Colleges Crossing as soon as possible. The BOM forecasts on Wednesday when the decision was made to proceed with closure on Thursday morning indicated a low chance of significant rainfall until Sunday and unfortunately these forecasts did not prove correct and were revised upwards on Thursday.

A decision to commence a release tonight was made this morning by Duty Flood Engineers to provide as much notice to impacted Councils as possible. Due to the large storms experienced yesterday afternoon and night, the current rain on the ground will result in over 60,000ML needing to be released from Wivenhoe and Somerset Dams to achieve FSL. Additionally BOM are forecasting an additional 20 to 50 millimetres of rain tonight, with further rain forecast through the weekend. If this rain eventuates, substantial flood releases will occur impacting a number of bridges along the river.

The extent of the release commencing tonight will depend on the rain that falls in the catchment over the next 72 hours. This could vary between 10 and 100+ millimetres and the release strategy will be developed in accordance with the Manual of Flood Mitigation as the situation develops. The objectives of the release will be to protect the safety of the dam while minimising flooding impacts on the crossings downstream of the dam in the Brisbane River.

Councils were contacted this morning to advise of the strategy and they had no concerns with the strategy and agreed with the strategy.

Twin Bridges, Savages Crossing and Colleges Crossing may be impacted by releases but it depends to some extent on the rainfall tonight and weekend. Significant rainfall could result in other bridges being impacted by releases.

A follow up email will be sent in case Councils want to provide an assessment.

Seqwater Technical Officer name	Robert Drury
Seqwater Technical Officer position title	Dam Operations Manager

#### BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised of the strategy.

Action taken was to mobilise the flood centre.

<b>BoM Technical Officer name</b>	
<b>BoM Technical Officer position title</b>	
<b>BoM Technical Officer contact details</b>	

Brisbane City Council (BCC) assessment

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council was advised of the strategy.

Action taken was to mobilise the flood centre.

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

Ipswich City Council (ICC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council was advised of the strategy.

Action taken was to mobilise the flood centre.

<b>ICC Technical Officer name</b>	Tony Trace
<b>ICC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>ICC Technical Officer contact details</b>	

Somerset Regional Council (SRC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council was advised of the strategy.

Action taken was to mobilise the flood centre:

<b>SRC Technical Officer name</b>	Tony Jacobs
<b>SRC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>SRC Technical Officer contact details</b>	

**SRC Technical Officer contact details**

Collated and distributed by (Agency)

Contact Officer signature	
Contact Officer name	Rob Drury
Contact Officer position title	Dam Operations Manager

<b>Next TSR due</b>	<b>Date</b>	17.12.2010	<b>Time</b>		<b>or Event</b>	Gate opening
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## TECHNICAL SITUATION REPORT

TSR Number	W6	Date of TSR release	17.12.2010	Time of TSR release	6pm
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### Seqwater status of inflows and dam operations

#### Somerset/Wivenhoe Dams

At 18:00 tonight the regulator was closed and Gate 3 opening initiated.

By 18:30, Gate 3 will be open 0.5 metres and releasing approximately 50m<sup>3</sup>/s.

It is noted that the hydro will continuing releasing 13 m<sup>3</sup>/s, making a total release from Wivenhoe Dam just over 63m<sup>3</sup>/s.

Based on levels in the creeks and ongoing rain, releases will most likely increase during the night depending on the flow in Lockyer Creek and inflows. It is planned at this stage that releases could increase to 300m<sup>3</sup>/s depending on downstream flows. This is similar to last week and will impact Twin Bridges, Savages Crossing and Colleges Crossing.

Councils were contacted tonight prior to release to advise them of the strategy and they had no concerns with the proposed release strategy.

A follow up email will be sent in case Councils want to provide an assessment.

Seqwater Technical Officer name	Robert Drury
Seqwater Technical Officer position title	Dam Operations Manager

### BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised of the releases.

Action taken was to mobilise the flood centre.

BoM Technical Officer name	
BoM Technical Officer position title	
BoM Technical Officer contact details	

Brisbane City Council (BCC) assessment  
(to include predicted local inundation areas and depths of inundation based on the information)

Council was advised of the strategy.

Action taken was to mobilise the flood centre.

BCC Technical Officer name	Chris Lavin
BCC Technical Officer position title	Disaster Operations Manager
BCC Technical Officer contact details	

Ipswich City Council (ICC) assessment (if required)  
(to include predicted local inundation areas and depths of inundation based on the information)

Council was advised of the strategy.

Action taken was to mobilise the flood centre.

ICC Technical Officer name	Tony Trace
ICC Technical Officer position title	Local Disaster Response Coordinator
ICC Technical Officer contact details	

Somerset Regional Council (SRC) assessment (if required)  
(to include predicted local inundation areas and depths of inundation based on the information)

Council was advised of the strategy.

Action taken was to mobilise the flood centre.

SRC Technical Officer name	Tony Jacobs
SRC Technical Officer position title	Local Disaster Response Coordinator
SRC Technical Officer contact details	

Collated and distributed by (Agency)

Contact Officer signature	
Contact Officer name	Rob Drury
Contact Officer position title	Dam Operations Manager

Next TSR due	Date	18.12.2010	Time	9am	or Event	Change in strategy
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## TECHNICAL SITUATION REPORT

TSR Number	W7	Date of TSR release	18.12.2010	Time of TSR release	7am
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### Seqwater status of inflows and dam operations

#### Somerset/Wivenhoe Dams

Since Thursday falls of 40-50 mm have fallen over the catchment with isolated falls of up to 80 mm. It is estimated that this inflow will result in approximately 100,000 Ml of flood water flood storage that will need to be drained over the next four days. The total flow in the Brisbane River will be maintained at between 300-350 m3/s, depending on further rain. Somerset Dam is currently transferring water to Wivenhoe Dam through two regulators. Overnight Wivenhoe Dam releases were increased to 150m3/s and will increase to 300 m3/s as the flows from Lockyer Creek subside over the next twenty-four hours. Lockyer Creek is currently peaking at approximately 130 m3/s.

Currently twin Bridges and Savages crossing are closed by the flood releases. Colleges crossing will be impacted from late afternoon.

This is in accordance with the strategy advised to Councils previously however a follow up advice will be sent.

A follow up email will be sent in case Councils want to provide an assessment.

Seqwater Technical Officer name	Robert Drury
Seqwater Technical Officer position title	Dam Operations Manager

#### BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised of the releases.

Action taken was to mobilise the flood centre.

BoM Technical Officer name	
BoM Technical Officer position title	
BoM Technical Officer contact details	

### Brisbane City Council (BCC) assessment

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council was advised of the strategy.

Action taken was to mobilise the flood centre.

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

### Ipswich City Council (ICC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council was advised of the strategy.

Action taken was to mobilise the flood centre.

<b>ICC Technical Officer name</b>	Tony Trace
<b>ICC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>ICC Technical Officer contact details</b>	

### Somerset Regional Council (SRC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council was advised of the strategy.

Action taken was to mobilise the flood centre.

<b>SRC Technical Officer name</b>	Tony Jacobs
<b>SRC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>SRC Technical Officer contact details</b>	

Collated and distributed by (Agency)

<b>Contact Officer signature</b>	
<b>Contact Officer name</b>	Rob Drury
<b>Contact Officer position title</b>	Dam Operations Manager

<b>Next TSR due</b>	<b>Date</b>		<b>Time</b>		<b>or Event</b>	<b>Any significant change in strategy</b>

## TECHNICAL SITUATION REPORT

TSR Number	W8	Date of TSR release	19.12.2010	Time of TSR release	7am
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### Seqwater status of inflows and dam operations

#### Somerset/Wivenhoe Dams

This is just an update and does not include further discussions with Councils unless the strategy changes.

There is no change in the current strategy however storms on Saturday afternoon dumped 20 to 30mm in the Monsildale area in the upper Brisbane River but elsewhere in the Upper Brisbane and Stanley Rivers falls were much lower.

At 0600 Sunday, two regulators remain open at Somerset Dam, giving a release of around 12,000 ML/day into Wivenhoe. These releases are expected to continue for several days, especially as further rain is forecast in the next 24 hours.

The storms on Saturday afternoon caused renewed river rises in the Upper Brisbane. Significant inflows to Wivenhoe will continue for several days.

There is currently has one gate open at Wivenhoe Dam at 3.5 metres providing a release of about 350 m<sup>3</sup>/s. This release is expected to continue until at least Wednesday and perhaps longer depending on forecast rain in the next 36 hours.

Twin Bridges, Savages Crossing and Colleges Crossing are closed. Savages Crossing and Colleges Crossing are expected to remain closed until at least Wednesday with Twin Bridges closed for a much longer period.

The current strategy is to drain Somerset and Wivenhoe back to full supply level by mid week and keep Kholo and Burtons Bridge remaining open, but this may change depending on the rainfall experienced in the catchments in the next 24 hours.

This is in accordance with the strategy advised to Councils and they will be advised of any change.

Seqwater Technical Officer name	Robert Drury
Seqwater Technical Officer position title	Dam Operations Manager

### BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised of the releases.

Action taken was to mobilise the flood centre.

<b>BoM Technical Officer name</b>	
<b>BoM Technical Officer position title</b>	
<b>BoM Technical Officer contact details</b>	

Brisbane City Council (BCC) assessment

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council was advised of the strategy.

Action taken was to mobilise the flood centre.

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

Ipswich City Council (ICC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council was advised of the strategy.

Action taken was to mobilise the flood centre.

<b>ICC Technical Officer name</b>	Tony Trace
<b>ICC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>ICC Technical Officer contact details</b>	

Somerset Regional Council (SRC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council was advised of the strategy.

Action taken was to mobilise the flood centre.

<b>SRC Technical Officer name</b>	Tony Jacobs
<b>SRC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>SRC Technical Officer contact details</b>	

Collated and distributed by (Agency)

Contact Officer signature	
Contact Officer name	Rob Drury
Contact Officer position title	Dam Operations Manager

Next TSR due	Date		Time		or Event	Any significant change in strategy
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## TECHNICAL SITUATION REPORT

TSR Number	W9	Date of TSR release	19.12.2010	Time of TSR release	6pm
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### Seqwater status of inflows and dam operations

#### Somerset/Wivenhoe Dams

This is a further update.

Somerset Dam remains relatively steady with two regulator valves discharging around 140 cumecs. Inflows have risen slightly during the afternoon and so Somerset Dam lake level should remain steady until late tonight.

The only change with Wivenhoe Dam was to reduce the gate opening from 3.5m to 3.0m due to the Lockyer flows. Wivenhoe Dam also remains steady with Gate 3 open 3.0 m discharging approximately 300 cumecs. Rises in the Upper Brisbane are expected to result in the Lake level increasing to around 67.4 m AHD over the next two days.

Under the current operational strategy the release from Wivenhoe Dam will be maintained at 300 cumecs (Lockyer Creek flows permitting) to enable Burtons Bridge to remain open. This may mean releases from Wivenhoe Dam will be throttled back to ensure the bridge is not inundated prematurely. It is anticipated that if no further rainfall occurs, Wivenhoe and Somerset Dam will continue to operate until early Friday 24 December.

If more rainfall occurs this evening or further inflows occur, the current strategy will need to be revised and the closing of Burtons Bridge and Kholo Bridge will be considered. A decision on this will be made by 10:00 on Monday 20 December 2010. Councils have been advised of this possibility and further discussions with Councils will take place in the morning.

Twin Bridges, Savages Crossing and Colleges Crossing are closed. Savages Crossing and Colleges Crossing are expected to remain closed until at Friday.

Seqwater Technical Officer name	Robert Drury
Seqwater Technical Officer position title	Dam Operations Manager

#### BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised of the releases.

Action taken was to mobilise the flood centre.

<b>BoM Technical Officer name</b>	
<b>BoM Technical Officer position title</b>	
<b>BoM Technical Officer contact details</b>	

Brisbane City Council (BCC) assessment

*(to include predicted local inundation areas and depths of inundation based on the information)*

Action taken was to mobilise the flood centre.

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

Ipswich City Council (ICC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current situation with further advice before the current strategy is changed.

Action taken was to mobilise the flood centre.

<b>ICC Technical Officer name</b>	Tony Trace
<b>ICC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>ICC Technical Officer contact details</b>	

Somerset Regional Council (SRC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current situation with further advice before the current strategy is changed.

Action taken was to mobilise the flood centre.

<b>SRC Technical Officer name</b>	Tony Jacobs
<b>SRC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>SRC Technical Officer contact details</b>	

Collated and distributed by (Agency)

Contact Officer signature	
Contact Officer name	Rob Drury
Contact Officer position title	Dam Operations Manager

Next TSR due	Date	20.12.2010	Time	Morning	or Event	Any significant change in strategy
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## TECHNICAL SITUATION REPORT

TSR Number	W10	Date of TSR release	20.12.2010	Time of TSR release	7am
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### Seqwater status of inflows and dam operations

#### Somerset/Wivenhoe Dams

This is a further update.

#### Somerset and Wivenhoe Dam

Somerset Dam has risen steadily overnight to currently be at around 100.2m AHD. A sluice gate will be opened at 0700 this morning, with a further sluice gate opened later today. Sluice gate releases are projected to continue until around Wednesday morning, when the dam level will approach FSL. Dam inflow should peak today at around 700 cumecs.

Wivenhoe Dam has risen steadily overnight, with the level projected to reach 68.0m AHD by this afternoon. The proposed strategy is to ramp up releases to have the dam drained to FSL by Saturday. This will require both Burtons and Kholo bridges to be inundated, with dam discharges in excess of 1200 cumecs. This strategy will be discussed with the impacted Councils this morning with a decision on the strategy to be made by 1000. Dam inflow excluding Somerset Dam outflows should peak tomorrow at around 1800 cumecs.

Seqwater Technical Officer name	Robert Drury
Seqwater Technical Officer position title	Dam Operations Manager

#### BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM will be advised of the releases.

BoM Technical Officer name	
BoM Technical Officer position title	
BoM Technical Officer contact details	

### Brisbane City Council (BCC) assessment

*(to include predicted local inundation areas and depths of inundation based on the information)*

BCC is being contacted again to discuss situation and get their comment.

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

### Ipswich City Council (ICC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

ICC is being contacted again to discuss situation and get their comment.

<b>ICC Technical Officer name</b>	Tony Trace
<b>ICC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>ICC Technical Officer contact details</b>	

### Somerset Regional Council (SRC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Somerset Council is being contacted again to discuss situation and get their comment. They were advised yesterday of the possibility.

<b>SRC Technical Officer name</b>	Tony Jacobs
<b>SRC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>SRC Technical Officer contact details</b>	

Collated and distributed by (Agency)

<b>Contact Officer signature</b>	
<b>Contact Officer name</b>	Rob Drury
<b>Contact Officer position title</b>	Dam Operations Manager

<b>Next TSR due</b>	<b>Date</b>	20.12.2010	<b>Time</b>	Morning	<b>or Event</b>	After strategy is finalised with Councils
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## TECHNICAL SITUATION REPORT

TSR Number	W11	Date of TSR release	20.12.2010	Time of TSR release	9am
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### Seqwater status of inflows and dam operations

#### Somerset/Wivenhoe Dams

Somerset Dam has risen steadily overnight to currently be at around 100.2m AHD. A sluice gate will be opened at 0700 this morning, with a further sluice gate opened later today. Sluice gate releases are projected to continue until around Wednesday morning, when the dam level will approach FSL. Dam inflow should peak today at around 700 cumecs.

Wivenhoe Dam has risen steadily overnight, with the level projected to reach 68.0m AHD by this afternoon. The proposed strategy is to ramp up releases to have the dam drained to FSL by Saturday. This will require both Burtons and Kholo bridges to be inundated, with dam discharges in excess of 1200 cumecs. This strategy has been discussed with the impacted Councils this morning. Dam inflow excluding Somerset Dam outflows should peak tomorrow at around 1800 cumecs.

Currently Somerset and Wivenhoe are storing around 140,000ML above FSL with further inflows occurring.

Releases from Wivenhoe are being reduced slightly this morning to prevent Burtons Bridge being affected by flows down Lockyer Creek. Releases are then expected to increase from Wivenhoe Dam late this afternoon once Somerset Regional Council have had time to advise residents affected by Burtons Bridge being inundated.

Releases will then be increased overnight to around 1200m<sup>3</sup>/sec or higher (possibly 1500m<sup>3</sup>/s) depending on ongoing inflows to the dams and flows downstream of the dam.

A heads up was provided to Somerset Regional Council on Sunday and they were advised again at 8am of the strategy. They did not have a concern as long as there was a lead time and releases were not ramped up until Monday afternoon and media releases were made.

Ipswich City Council and Brisbane City Council were both advised at 8am today and had no concerns with the strategy.

Emails have been sent to all Councils requesting an assessment if they want to forward one in.

The BoM has been advised and they

Seqwater Technical Officer name	Robert Drury
Seqwater Technical Officer position title	Dam Operations Manager

## BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM will be advised of the releases.

<b>BoM Technical Officer name</b>	
<b>BoM Technical Officer position title</b>	
<b>BoM Technical Officer contact details</b>	

## Brisbane City Council (BCC) assessment

*(to include predicted local inundation areas and depths of inundation based on the information)*

BCC is being contacted again to discuss situation and get their comment.

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

## Ipswich City Council (ICC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

ICC is being contacted again to discuss situation and get their comment.

<b>ICC Technical Officer name</b>	Tony Trace
<b>ICC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>ICC Technical Officer contact details</b>	

## Somerset Regional Council (SRC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Somerset Council is being contacted again to discuss situation and get their comment. They were advised yesterday of the possibility.

<b>SRC Technical Officer name</b>	Tony Jacobs
<b>SRC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>SRC Technical Officer contact details</b>	

Collated and distributed by (Agency)

Contact Officer signature	
Contact Officer name	Rob Drury
Contact Officer position title	Dam Operations Manager

Next TSR due	Date	20.12.2010	Time	Morning	or Event	After strategy is finalised with Councils
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## TECHNICAL SITUATION REPORT

TSR Number	W12	Date of TSR release	20.12.2010	Time of TSR release	9am
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### Seqwater status of inflows and dam operations

#### Somerset/Wivenhoe Dams

Somerset Dam has risen steadily overnight to currently be at around 100.2m AHD. A sluice gate will be opened at 0700 this morning, with a further sluice gate opened later today. Sluice gate releases are projected to continue until around Wednesday morning, when the dam level will approach FSL. Dam inflow should peak today at around 700 cumecs.

Wivenhoe Dam has risen steadily overnight, with the level projected to reach 68.0m AHD by this afternoon. The proposed strategy is to ramp up releases to have the dam drained to FSL by Saturday. This will require both Burtons and Kholo bridges to be inundated, with dam discharges in excess of 1200 cumecs. This strategy has been discussed with the impacted Councils this morning. Dam inflow excluding Somerset Dam outflows should peak tomorrow at around 1800 cumecs.

Currently Somerset and Wivenhoe are storing around 140,000ML above FSL with further inflows occurring.

Releases from Wivenhoe are being reduced slightly this morning to prevent Burtons Bridge being affected by flows down Lockyer Creek. Releases are then expected to increase from Wivenhoe Dam late this afternoon once Somerset Regional Council have had time to advise residents affected by Burtons Bridge being inundated.

Releases will then be increased overnight to around 1200m<sup>3</sup>/sec or higher (possibly 1500m<sup>3</sup>/s) depending on ongoing inflows to the dams and flows downstream of the dam.

A heads up was provided to Somerset Regional Council on Sunday and they were advised again at 8am of the strategy. They did not have a concern as long as there was a lead time and releases were not ramped up until Monday afternoon and media releases were made.

Ipswich City Council and Brisbane City Council were both advised at 8am today and had no concerns with the strategy.

Emails have been sent to all Councils requesting an assessment if they want to forward one in.

The BoM has been advised.

Seqwater Technical Officer name	Robert Drury
Seqwater Technical Officer position title	Dam Operations Manager

## BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

The Flood Centre has spoken to the Duty Flood Engineer (Jimmy Stewart) at the BoM FWC at 8.15am today and discussed the proposed release strategy for Wivenhoe Dam. They will incorporate the new advice into their warning system. Proposed releases will be provided to BoM and Councils when model scenarios are complete.

<b>BoM Technical Officer name</b>	Jimmy Stewart
<b>BoM Technical Officer position title</b>	Duty Flood Engineer
<b>BoM Technical Officer contact details</b>	

## Brisbane City Council (BCC) assessment

*(to include predicted local inundation areas and depths of inundation based on the information)*

BCC has been contacted to advise and discuss.  
Email sent to request any assessment.

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

## Ipswich City Council (ICC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

ICC has been contacted to advise and discuss.  
Email sent to request any assessment.

<b>ICC Technical Officer name</b>	Tony Trace
<b>ICC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>ICC Technical Officer contact details</b>	

## Somerset Regional Council (SRC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

SRC has been contacted to advise and discuss.  
Email sent to request any assessment.

<b>SRC Technical Officer name</b>	Tony Jacobs
<b>SRC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>SRC Technical Officer contact details</b>	[REDACTED]

Collated and distributed by (Agency)

<b>Contact Officer signature</b>	
<b>Contact Officer name</b>	Rob Drury
<b>Contact Officer position title</b>	Dam Operations Manager

<b>Next TSR due</b>	<b>Date</b>	20.12.2010	<b>Time</b>	Late afternoon	<b>or Event</b>	
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## TECHNICAL SITUATION REPORT

TSR Number	W13	Date of TSR release	21.12.2010	Time of TSR release	7.30am
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### Seqwater status of inflows and dam operations

#### Somerset/Wivenhoe Dams

##### Somerset Dam

Gate operations are occurring at Somerset Dam and are expected to continue until at least Wednesday 22 December 2010 assuming no further rainfall. Two sluice gates are currently releasing about 410 m<sup>3</sup>/s from the dam into Lake Wivenhoe.

Somerset Dam peaked at EL 100.43 m AHD at around 13:00 on Monday 20 December 2010 and the lake level is slowly falling. Somerset Dam is currently at EL 100.23 m AHD, (114 % of capacity).

The estimated inflow into Somerset Dam to date is 110,700 ML, of which 67,500 ML has been discharged into Wivenhoe Dam.

Continued gate operations may be necessary if forecast rainfall from Wednesday to Monday results in subsequent river rises.

##### Wivenhoe Dam

Gate operations are occurring at Wivenhoe Dam and are expected to continue until Thursday 23 December 2010 assuming no further rainfall. Releases from the dam have been steadily increased overnight with a maximum release rate of about 1,280 m<sup>3</sup>/s being established at 05:00 today. This flow rate will be maintained until early Thursday 23 December 2010, when releases will be reduced as the flood storage compartment is emptied.

Wivenhoe Dam peaked at a level of EL 68.24 m AHD at approximately 04:00 this morning. The current level is EL 68.22 m AHD (112% of capacity) and falling slowly.

The estimated inflow into Wivenhoe Dam to date (excluding releases from Somerset Dam) is 157,900 ML, of which 103,000 ML has been released. The total estimated inflow into both dams for this event, based upon rainfall to date is 310,000 ML.

Continued gate operations may be necessary if forecast rainfall from Wednesday to Monday results in subsequent river rises.

##### Impacts of Releases

The increased release from Wivenhoe Dam has resulted in elevated levels in the Lower Brisbane River. Twin Bridges, Savages Crossing and Colleges Crossing were inundated earlier in the event. As a consequence of the increased release from Wivenhoe Dam, Burtons Bridge was inundated at around 00:40 on Tuesday 21 December 2010. Kholo Bridge is also expected to be inundated by mid-morning today as the increased releases reach the lower Brisbane River. In accordance with the adopted

operational strategy these bridges should be back in service by late Thursday and all bridges (with the possible exception of Twin Bridges) should be trafficable for Christmas providing no further rainfall occurs.

Advice from the BoM regarding predicted tides in the Brisbane River at the City Gauge, suggest that peak levels (1.6 to 1.8 m AHD) may reach or slightly exceed the minor flood level of 1.7 m AHD. The effect of the Wivenhoe release on these high tide values is estimated to be only 0.1 m. Peak levels will coincide with high tides which are expected at about 11:00 am on Wednesday 22 December and around noon on Thursday 23 December. Tide levels will be monitored over the next few days and these estimates may be adjusted in light of changed observations.

BCC had similar advice from BoM yesterday that releases plus other fresh water flows would only have 100mm impact on tides. The Flood Centre discussed with BCC yesterday and requested if they had any concerns to advise or any need to change release strategy and none received to date.

Emails have been sent to BCC, ICC and SRC this morning with similar information and requesting any assessments or concerns. If any are received they will be forwarded.

The BoM is aware of all releases.

<b>Seqwater Technical Officer name</b>	Robert Drury
<b>Seqwater Technical Officer position title</b>	Dam Operations Manager

#### BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

As above.

<b>BoM Technical Officer name</b>	Peter Baddiley
<b>BoM Technical Officer position title</b>	
<b>BoM Technical Officer contact details</b>	

#### Brisbane City Council (BCC) assessment

*(to include predicted local inundation areas and depths of inundation based on the information)*

BCC has been contacted by Flood Centre on ongoing basis.  
Email sent to request any assessment.

<b>BCC Technical Officer name</b>	Chris Lavin
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<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	[REDACTED]

Ipswich City Council (ICC) assessment (if required)  
*(to include predicted local inundation areas and depths of inundation based on the information)*

ICC has been contacted by Flood Centre on ongoing basis.  
 Email sent to request any assessment.

<b>ICC Technical Officer name</b>	Tony Trace
<b>ICC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>ICC Technical Officer contact details</b>	[REDACTED]

Somerset Regional Council (SRC) assessment (if required)  
*(to include predicted local inundation areas and depths of inundation based on the information)*

SRC has been contacted by Flood Centre on ongoing basis.  
 Email sent to request any assessment.

<b>SRC Technical Officer name</b>	Tony Jacobs
<b>SRC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>SRC Technical Officer contact details</b>	[REDACTED]

Collated and distributed by (Agency)

<b>Contact Officer signature</b>	
<b>Contact Officer name</b>	Rob Drury
<b>Contact Officer position title</b>	Dam Operations Manager

<b>Next TSR due</b>	<b>Date</b>	21.12.2010	<b>Time</b>	Late afternoon	<b>or Event</b>	
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## TECHNICAL SITUATION REPORT

<b>TSR Number</b>	<b>W14</b>	<b>Date of TSR release</b>	<b>22.12.2010</b>	<b>Time of TSR release</b>	<b>8.30am</b>
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### Seqwater status of inflows and dam operations

#### Somerset/Wivenhoe Dams

##### Rainfall

No rainfall has occurred over the catchment of the dams since 03:00 on Monday 20 December 2010. All major streams have now peaked and inflows are receding.

**Wednesday 22 December** Rain developing

**Thursday 23 December** Rain easing to showers

**Friday 24 December** Showers tending to rain at times

**Saturday 25 December** Showers tending to rain at times

**Sunday 26 December** Rain increasing

**Monday 27 December** Rain at times

**Tuesday 28 December** Rain at times

##### Somerset Dam

Gate operations are occurring at Somerset Dam and are expected to continue until at least Wednesday 22 December 2010 assuming no further rainfall. Two sluice gates are currently releasing about 410 m<sup>3</sup>/s from the dam into Lake Wivenhoe.

Somerset Dam peaked at EL 100.43 m AHD at around 13:00 on Monday 20 December 2010 and the lake level is slowly falling. Somerset Dam is currently at EL 99.68 m AHD, (108 % of capacity).

The estimated inflow into Somerset Dam to date is 121,500ML, of which 103,000 ML has been discharged into Wivenhoe Dam.

Continued gate operations may be necessary if forecast rainfall from Wednesday to Monday results in subsequent river rises.

##### Wivenhoe Dam

Gate operations are occurring at Wivenhoe Dam and are expected to continue until Thursday 23 December 2010 assuming no further rainfall. Releases from the dam were increased slightly late yesterday as other river flows dropped and have been steady at a maximum release rate of about 1,440 m<sup>3</sup>/s since 18:00 Tuesday 21/12/2010. This flow rate will be maintained until early Thursday 23 December 2010, when releases will be reduced as the flood storage compartment is emptied.

Wivenhoe Dam peaked at a level of EL 68.24 m AHD at approximately 04:00 on Tuesday 21/12/2010. The current level is EL 67.71 m AHD (107% of capacity) and falling slowly.

The estimated inflow into Wivenhoe Dam to date (excluding releases from Somerset Dam) is 181,000 ML, of which 221,500 ML has been released. The total estimated inflow into both dams for this event, based upon rainfall to date is 310,000 ML.

Continued gate operations may be necessary if forecast rainfall from Wednesday to Monday results in subsequent river rises.

## Impacts of Releases

The increased release from Wivenhoe Dam has resulted in elevated levels in the Brisbane River from Wivenhoe to Colleges Crossing. Twin Bridges, Savages Crossing and Colleges Crossing were inundated earlier in the event. As a consequence of the increased release from Wivenhoe Dam, Burtons Bridge was inundated at around 00:40 on Tuesday 21 December 2010. Kholo Bridge was inundated around midday Tuesday 21 December 2010. In accordance with the adopted operational strategy these bridges should be back in service by late Thursday or Friday and all bridges (with the exception of Twin Bridges) should be trafficable for Christmas providing no further rainfall occurs. No future rainfall is currently included in these forecasts.

Advice from the BoM regarding predicted tides in the Brisbane River at the City Gauge, suggest that peak levels (1.7 to 1.8 m AHD) may reach or slightly exceed the minor flood level of 1.7 m AHD. The effect of the Wivenhoe release on these high tide values is estimated to be about 0.1m. Peak levels will coincide with high tides which are expected at about 11:00 am on Wednesday 22 December and around noon on Thursday 23 December. Tide levels will be monitored over the next few days and these estimates may be adjusted by BoM in light of changed observations. It is anticipated that this advice will be updated sometime today but no significant change to this advice is expected.

Emails have been sent to BCC, ICC and SRC this morning with similar information and requesting any assessments or concerns. If any are received they will be forwarded.

The BoM is aware of all releases.

<b>Seqwater Technical Officer name</b>	Robert Drury
<b>Seqwater Technical Officer position title</b>	Dam Operations Manager

## BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

As above.

<b>BoM Technical Officer name</b>	Peter Baddiley
<b>BoM Technical Officer position title</b>	
<b>BoM Technical Officer contact details</b>	

## Brisbane City Council (BCC) assessment

*(to include predicted local inundation areas and depths of inundation based on the information)*

BCC has been contacted by Flood Centre on ongoing basis.  
Email sent to request any assessment.

BCC Technical Officer name	Chris Lavin
BCC Technical Officer position title	Disaster Operations Manager
BCC Technical Officer contact details	

Ipswich City Council (ICC) assessment (if required)  
(to include predicted local inundation areas and depths of inundation based on the information)

ICC has been contacted by Flood Centre on ongoing basis.  
Email sent to request any assessment.

ICC Technical Officer name	Tony Trace
ICC Technical Officer position title	Local Disaster Response Coordinator
ICC Technical Officer contact details	

Somerset Regional Council (SRC) assessment (if required)  
(to include predicted local inundation areas and depths of inundation based on the information)

SRC has been contacted by Flood Centre on ongoing basis.  
Email sent to request any assessment.

SRC Technical Officer name	Tony Jacobs
SRC Technical Officer position title	Local Disaster Response Coordinator
SRC Technical Officer contact details	

Collated and distributed by (Agency)

Contact Officer signature	
Contact Officer name	Rob Drury
Contact Officer position title	Dam Operations Manager

Next TSR due	Date		Time		or Event	Closing strategy
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## TECHNICAL SITUATION REPORT

TSR Number	W15	Date of TSR release	22.12.2010	Time of TSR release	4.00pm
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Seqwater status of inflows and dam operations

Somerset/Wivenhoe Dams

### Closing Sequence

In order to close by 1400 Thursday and allow bridges to be accessible prior to the weekend and achieve an acceptable recession, closing of Wivenhoe gates commenced at 1600 Wednesday.

This will result in Wivenhoe finishing at a level slightly above FSL.

The BoM is aware of all releases.

Seqwater Technical Officer name	Robert Drury
Seqwater Technical Officer position title	Dam Operations Manager

### BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

BoM Technical Officer name	Peter Baddiley
BoM Technical Officer position title	
BoM Technical Officer contact details	

### Brisbane City Council (BCC) assessment

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and is in line with previous strategy.

BCC Technical Officer name	Chris Lavin
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<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

Ipswich City Council (ICC) assessment (if required)  
*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and is in line with previous strategy.

<b>ICC Technical Officer name</b>	Tony Trace
<b>ICC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>ICC Technical Officer contact details</b>	

Somerset Regional Council (SRC) assessment (if required)  
*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and is in line with previous strategy.

<b>SRC Technical Officer name</b>	Tony Jacobs
<b>SRC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>SRC Technical Officer contact details</b>	

Collated and distributed by (Agency)

<b>Contact Officer signature</b>	
<b>Contact Officer name</b>	Rob Drury
<b>Contact Officer position title</b>	Dam Operations Manager

<b>Next TSR due</b>	<b>Date</b>	23.12.2010	<b>Time</b>		<b>or Event</b>	<b>Closure</b>
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## TECHNICAL SITUATION REPORT

TSR Number	W16	Date of TSR release	23.12.2010	Time of TSR release	8.00am
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### Seqwater status of inflows and dam operations

#### Somerset/Wivenhoe Dams

##### Somerset Dam

Sluice Gate operations are continuing with once sluice gate currently open. This gate will be closed at around 9:00am this morning. At this time the lake level will be around 99.10m or 100mm above the dam full supply level. A regulator may then be used to maintain the lake level near full supply level. The estimated inflow into Somerset Dam to date is 135,000ML, the majority of which has been discharged into Wivenhoe Dam.

Further gate operations may be necessary in coming days if forecast rainfall results in subsequent river rises.

##### Wivenhoe Dam

Radial Gate operations are occurring at Wivenhoe Dam with the gate closure sequence currently underway. The gate closure sequence has been developed to minimise adverse river bank impacts downstream of the dam, while also aiming to allow downstream river crossings to be open for Christmas day. All gates are currently scheduled to be closed by 1500 on Thursday 23 December 2010 (today) to allow for fish recovery in daylight hours. This assumes that no further significant rainfall occurs during the day. When the gates are closed, the lake level will be around 67.20m or 200mm above the dam full supply level and 50mm below the radial gate opening trigger level of 67.25m. A regulator will then be used to maintain the lake level near to or below this level. The estimated inflow into Wivenhoe Dam to date (excluding releases from Somerset Dam) is 204,000 ML. A total of 324000 ML has been released. The total estimated inflow into both dams for this event, based upon rainfall to date is 340,000 ML.

There is also the possibility of using a gate to make a low level ongoing release that may affect low levels bridges but keep the dam levels under control. Again this is rain dependent and will be decided later today.

Continued gate operations may be necessary if forecast rainfall results in subsequent river rises. The gate closure sequence will be reviewed throughout today and discussions with impacted Local Authorities will be ongoing.

##### Impacts of Wivenhoe Dam Releases

The releases from Wivenhoe Dam have resulted in elevated levels in the Brisbane River downstream to Colleges Crossing. Twin Bridges, Savages Crossing, Colleges Crossing, Burtons Bridge and Kholo Bridge are currently all closed due to inundation resulting from these releases. In accordance with the

current operational strategy all bridges (with the exception of Twin Bridges) should be trafficable by Friday. Projected "early side" times for bridges becoming clear of water based on the current gate closure sequence and no Lockyer Creek outflows are as follows. (Note that rainfalls of up to 33mm have been observed in the Lockyer Creek Catchment over the last 24 hours, but no significant stream rises have been observed as yet). These are estimates only.

Burtons Bridge – 18:00 Thursday 23 December 2010.  
Savages Crossing – 19:00 Thursday 23 December 2010  
Kholo Bridge – 21:00 Thursday 23 December 2010  
Colleges Crossing – 08:00 Friday 23 December 2010

Tide levels continue to be monitored closely with peak tide estimates being adjusted by BOM to account for Wivenhoe Dam outflows.

The BoM is aware of all releases.

<b>Seqwater Technical Officer name</b>	Robert Drury
<b>Seqwater Technical Officer position title</b>	Dam Operations Manager
<b>Seqwater Technical Officer contact details</b>	

#### BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

<b>BoM Technical Officer name</b>	Peter Baddiley
<b>BoM Technical Officer position title</b>	
<b>BoM Technical Officer contact details</b>	

#### Brisbane City Council (BCC) assessment

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and is in line with previous strategy.

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

Ipswich City Council (ICC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and is in line with previous strategy.

ICC Technical Officer name	Tony Trace
ICC Technical Officer position title	Local Disaster Response Coordinator
ICC Technical Officer contact details	

Somerset Regional Council (SRC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and is in line with previous strategy.

SRC Technical Officer name	Tony Jacobs
SRC Technical Officer position title	Local Disaster Response Coordinator
SRC Technical Officer contact details	

Collated and distributed by (Agency)

Contact Officer signature	
Contact Officer name	Rob Drury
Contact Officer position title	Dam Operations Manager

Next TSR due	Date		Time		or Event	Closure
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## TECHNICAL SITUATION REPORT

TSR Number	W17	Date of TSR release	23.12.2010	Time of TSR release	2.30pm
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### Seqwater status of inflows and dam operations

#### Somerset/Wivenhoe Dams

##### Somerset Dam

Sluice gate operations ceased at 09:00 today with the lake level at 99.10 m AHD. Base flows will result in the lake level rising over the next few days.

Further gate operations may be necessary in coming days if forecast rainfall results in subsequent river rises.

##### Wivenhoe Dam

Wivenhoe Dam is currently discharging around 350 m<sup>3</sup>/s with Gate 3 open 3.5 m. The scheduled cessation of gate operations at Wivenhoe Dam has been extended until tomorrow afternoon (Friday 24 December 2010) with a target of 1.00pm as base flows and the overnight rain has meant the lake level has not dropped as quickly as anticipated. The current lake level is 67.23 m AHD.

Continued gate operations may be necessary if forecast rainfall results in subsequent river rises. The gate closure sequence will be reviewed throughout today and discussions with impacted Local Authorities will be ongoing.

##### Impact of Wivenhoe Dam Releases

The releases from Wivenhoe Dam have resulted in elevated levels in the Brisbane River downstream to Colleges Crossing, Twin Bridges, Savages Crossing, Colleges Crossing, Burtons Bridge and Kholo Bridge are currently all closed due to inundation resulting from these releases. In accordance with the current operational strategy Kholo Bridge and Burtons Bridge should be trafficable by this evening.

Projected "early side" times for bridges becoming clear of water based on the current gate closure sequence and concurrent Lockyer Creek flows are as follows:-

Burtons Bridge – 18:00 Thursday 23 December 2010.

Kholo Bridge – 21:00 Thursday 23 December 2010.

The remaining bridges will most likely remain closed until Christmas Day.

##### Rainfall

There have been falls of between 10 and 30 mm in the catchments over the last 24 hours. This has led to small rises in the Stanley, Pine, Lockyer and Bremer Rivers. The Lockyer Creek flow is likely to impact the middle-Brisbane River tomorrow and this may prevent the opening of Savages Crossing and Colleges Crossing.

Rainfall across the region is expected to increase up to 06:00 on 25 December 2010 before easing and further heavy rainfall may commence late on 29 December 2010.

Tide levels continue to be monitored closely with peak tide estimates being adjusted by BOM to account for Wivenhoe Dam outflows.

<b>Seqwater Technical Officer name</b>	Robert Drury
<b>Seqwater Technical Officer position title</b>	Dam Operations Manager
<b>0410378740</b>	

#### BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

<b>BoM Technical Officer name</b>	Peter Baddiley
<b>BoM Technical Officer position title</b>	
<b>BoM Technical Officer contact details</b>	

#### Brisbane City Council (BCC) assessment

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

#### Ipswich City Council (ICC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

<b>ICC Technical Officer name</b>	Tony Trace
<b>ICC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>ICC Technical Officer contact details</b>	

Somerset Regional Council (SRC) assessment (if required)  
(to include predicted local inundation areas and depths of inundation based on the information)

Council has been advised and do not have a problem with the new strategy.

<b>SRC Technical Officer name</b>	Tony Jacobs
<b>SRC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>SRC Technical Officer contact details</b>	

Collated and distributed by (Agency)

<b>Contact Officer signature</b>	
<b>Contact Officer name</b>	Rob Drury
<b>Contact Officer position title</b>	Dam Operations Manager

<b>Next TSR due</b>	<b>Date</b>		<b>Time</b>		<b>or Event</b>	<b>Closure</b>
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## TECHNICAL SITUATION REPORT

<b>TSR Number</b>	W18	<b>Date of TSR release</b>	24.12.2010	<b>Time of TSR release</b>	6.30am
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### Seqwater status of inflows and dam operations

*Current status but could change based on inflows or rainfall.*

<b>Current objectives</b>	<ul style="list-style-type: none"> <li>Reduce level of Wivenhoe as close as possible and still close off today and allow further bridge openings (dependent on other inflows).</li> </ul>										
<b>Strategy</b>	<ul style="list-style-type: none"> <li>Wivenhoe releasing around 300 to 350m<sup>3</sup>/s through one gate but reducing during the day based on Lockyer flows to prevent Burtons Crossing going under.</li> <li>Continued releases through valves and hydro after gate is closed at 1pm but level based on Lockyer flows.</li> <li>Monitor inflows and need for further gate releases.</li> </ul>										
<b>Key considerations</b>	<table> <tr> <td>Storage levels:</td><td>See below</td></tr> <tr> <td>Inflows:</td><td>Ongoing base flows</td></tr> <tr> <td>Rainfall:</td><td>See below</td></tr> <tr> <td>Lockyer/Bremer:</td><td>Flows increasing. With further rainfall, may inundate local bridges with further rainfall.</td></tr> <tr> <td>Brisbane River:</td><td>Any minor impact on tides will start decreasing.</td></tr> </table>	Storage levels:	See below	Inflows:	Ongoing base flows	Rainfall:	See below	Lockyer/Bremer:	Flows increasing. With further rainfall, may inundate local bridges with further rainfall.	Brisbane River:	Any minor impact on tides will start decreasing.
Storage levels:	See below										
Inflows:	Ongoing base flows										
Rainfall:	See below										
Lockyer/Bremer:	Flows increasing. With further rainfall, may inundate local bridges with further rainfall.										
Brisbane River:	Any minor impact on tides will start decreasing.										

### Rainfall

Little to no rainfall has been experienced in the dam catchments since yesterday morning. However BOM commenced issuing severe weather warnings last night for scattered showers, thunderstorms and general rain areas over eastern Queensland for the coming week. Some locally heavy falls are expected to commence developing about the southeast coast during this evening. The current BOM forecast is:

**Friday 24 December** Rain Increasing  
**Saturday 25 December** Rain at times  
**Sunday 26 December** Rain at times  
**Monday 27 December** Rain at times  
**Tuesday 28 December** Rain easing  
**Wednesday 29 December** Showers  
**Thursday 30 December** Showers

With the current wet catchments, there is a high probability that the forecast rain will result in further flood releases from the dams over the coming week.

### Somerset Dam

Sluice Gate operations ceased at 0900 yesterday and since that time the lake has risen around 100 millimeters. A regulator will be opened this morning to drain the lake to near full supply level. Further



gate operations may be necessary in coming days if forecast rainfall results in subsequent river rises. The estimated total inflow into the dam for the event is in excess of 135,000ML, the majority of which has been released into Wivenhoe.

### **Wivenhoe Dam**

Radial Gate operations are currently continuing at Wivenhoe Dam with the release being reduced by one gate increment every 5 to 6 hours to ensure that Brisbane River flows are not increased by the increasing Lockyer Creek outflows and to maintain Burtons Bridge open (water ceased to flow over Burtons Bridge at approximately 2030 yesterday). All gates are currently scheduled to be closed by 1300 today. When the gates are closed, the lake level will be around 67.07m or 70mm above the dam full supply level and 180mm below the radial gate opening trigger level of 67.25m. A regulator will then be used to maintain the lake level near to or below this level. The estimated inflow into Wivenhoe Dam for the event (excluding releases from Somerset Dam) is now 250,000 ML. A total of over 360,000 ML will have been released downstream from Wivenhoe Dam into the Brisbane River by this afternoon. The total estimated inflow into both dams for this event is now approaching 390,000 ML.

Further gate operations may be necessary in coming days if forecast rainfall results in subsequent river rises.

### **Impacts of Wivenhoe Dam Releases**

Twin Bridges, Savages Crossing and Colleges Crossing are currently closed and should remain so for some time due in part to current outflows into the Brisbane River from Lockyer Creek that will peak in excess of 200 cumecs late today. All other crossings downstream of the dam are currently open. Tide levels continue to be monitored closely with peak tide estimates being adjusted by BOM to account for Wivenhoe Dam outflows but will decrease continuously.

<b>Seqwater Technical Officer name</b>	Robert Drury
<b>Seqwater Technical Officer position title</b>	Dam Operations Manager

### **BoM assessment**

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

<b>BoM Technical Officer name</b>	Peter Baddiley
<b>BoM Technical Officer position title</b>	
<b>BoM Technical Officer contact details</b>	

### **Brisbane City Council (BCC) assessment**

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

Ipswich City Council (ICC) assessment (if required)  
(to include predicted local inundation areas and depths of inundation based on the information)

Council has been advised and do not have a problem with the new strategy.

<b>ICC Technical Officer name</b>	Tony Trace
<b>ICC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>ICC Technical Officer contact details</b>	

Somerset Regional Council (SRC) assessment (if required)  
(to include predicted local inundation areas and depths of inundation based on the information)

Council has been advised and do not have a problem with the new strategy.

<b>SRC Technical Officer name</b>	Tony Jacobs
<b>SRC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>SRC Technical Officer contact details</b>	

Collated and distributed by (Agency)

<b>Contact Officer signature</b>	
<b>Contact Officer name</b>	Rob Drury
<b>Contact Officer position title</b>	Dam Operations Manager

<b>Next TSR due</b>	<b>Date</b>		<b>Time</b>		<b>or Event</b>	<b>Closure</b>
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## TECHNICAL SITUATION REPORT

<b>TSR Number</b>	<b>W19</b>	<b>Date of TSR release</b>	24.12.2010	<b>Time of TSR release</b>	1.30pm
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Seqwater status of inflows and dam operations

*Current status but could change based on inflows or rainfall.*

<b>Current objectives</b>	<ul style="list-style-type: none"> <li>Monitor the rain overnight and ongoing inflows.</li> </ul>
<b>Strategy</b>	<ul style="list-style-type: none"> <li>Close gates at Wivenhoe at 1.00pm</li> <li>Wivenhoe continues to release 4,200ML per day through hydro and valves.</li> </ul>
<b>Key considerations</b>	<p>Storage levels: Just above FSL</p> <p>Inflows: Ongoing base flows</p> <p>Rainfall:</p> <p>Lockyer/Bremer: Flows increasing. With further rainfall, may inundate local bridges with further rainfall.</p> <p>Brisbane River: Any minor impact on tides still decreasing.</p>

### Somerset Dam

Sluice Gate and valve operations have ceased for the time being.

### Wivenhoe Dam

Radial Gate operations ceased at 1.00pm.

A regulator and hydro will be opened to release around 4,200ML per day.

The Flood Centre will monitor overnight and consider options tomorrow morning based on inflows and rainfall.

Further gate operations may be necessary in coming days.

### Impacts of Wivenhoe Dam Releases

Twin Bridges, Savages Crossing and Colleges Crossing may still be affected by flows from the Lockyer.

<b>Seqwater Technical Officer name</b>	Robert Drury
<b>Seqwater Technical Officer position title</b>	Dam Operations Manager

## BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

BoM Technical Officer name	Peter Baddiley
BoM Technical Officer position title	
BoM Technical Officer contact details	

## Brisbane City Council (BCC) assessment

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

BCC Technical Officer name	Chris Lavin
BCC Technical Officer position title	Disaster Operations Manager
BCC Technical Officer contact details	

## Ipswich City Council (ICC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

ICC Technical Officer name	Tony Trace
ICC Technical Officer position title	Local Disaster Response Coordinator
ICC Technical Officer contact details	

## Somerset Regional Council (SRC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

SRC Technical Officer name	Tony Jacobs
SRC Technical Officer position title	Local Disaster Response Coordinator
SRC Technical Officer contact details	

Collated and distributed by (Agency)

Contact Officer signature	
Contact Officer name	Rob Drury
Contact Officer position title	Dam Operations Manager

Next TSR due	Date		Time		or Event	Gate opening
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## TECHNICAL SITUATION REPORT

<b>TSR Number</b>	<b>W20</b>	<b>Date of TSR release</b>	<b>25.12.2010</b>	<b>Time of TSR release</b>	<b>9.30am</b>
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### Seqwater status of inflows and dam operations

*Current status but could change based on inflows or rainfall.*

<b>Current objectives</b>	<ul style="list-style-type: none"> <li>Begin discharging tomorrow now Lockyer is dropping</li> </ul>
<b>Strategy</b>	<ul style="list-style-type: none"> <li>Monitor today and begin releases Sunday morning to maximise release but not affecting anything more than low level bridges.</li> <li>Planned release is 300-400m3/s</li> <li>Currently still releasing 4200ML per day from valve and hydro</li> </ul>
<b>Key considerations</b>	<p>Storage levels: Above FSL</p> <p>Inflows: Ongoing inflows plus last nights rain</p> <p>Rainfall:</p> <p>Lockyer/Bremer: Flows decreasing..</p> <p>Brisbane River:</p>

### Somerset Dam

All regulators and sluices are currently closed at Somerset Dam.

In the 24 hours to 0600 25/12/2010 rainfall totals have varied from 10 to 20mm with an average of about 20mm. Some small rises have been recorded at Peachester, Woodford and Mt Kilcoy. Lake level has risen from 99.18m at 0600 24/12/2010 to 99.33 at 0730 25/12/2010. The runoff from the overnight rain plus baseflow will result in approximately 13,000 ML over the next few days. Without gate ops, water level could reach 99.5m later on Sunday 26/12/2010.

### Wivenhoe Dam

Wivenhoe Dam is currently releasing 4,200ML through the hydro and regulator.

In the 24 hours to 0600 25/12/2010 rainfall totals have varied from 10 to 20mm with an average of about 20mm. Recessions are expected to be prolonged. An additional 15,000ML is expected to flow into Wivenhoe just from the upper Brisbane in the next few days. Downstream of Wivenhoe, water levels are continuing to fall in Lockyer Ck and the overnight rain is not expected to cause renewed rises. Some small rises are expected in the Bremer and Warrill systems during today. Lake level has risen from 67.12m when gates were closed at 1400 24/12/2010 to 67.28m at 0600 25/12/2010.

Twin Bridges, Savages and Colleges Crossing remain impacted by Wivenhoe releases and Lockyer and local runoff. Burtons and Kholo Bridges would be currently unaffected. Kholo will no doubt still be closed by Council regarding repairs.

Strategy is to begin operation Sunday morning of Wivenhoe gates and probably Somerset valves. Councils have been notified and are fine with strategy.

Burtons and Kholo (apart from repairs) will not be affected by this release strategy at this stage however it depends on rainfall over next few days.

**Rainfall Forecast for SEQld**

Sat 25/12/2010 10-15mm

Sun 26/12/2010 25-50mm

Mon 27/12/2010 50-100mm

Tue 28/12/2010 50-100mm

Wed 29/12/2010 15-25mm

BOM confirm that heaviest rain is likely to be Sunday/Monday.

<b>Seqwater Technical Officer name</b>	Robert Drury
<b>Seqwater Technical Officer position title</b>	Dam Operations Manager

**BoM assessment**

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

<b>BoM Technical Officer name</b>	Peter Baddiley
<b>BoM Technical Officer position title</b>	
<b>BoM Technical Officer contact details</b>	

**Brisbane City Council (BCC) assessment**

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

**Ipswich City Council (ICC) assessment (if required)**

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

<b>ICC Technical Officer name</b>	Tony Trace
<b>ICC Technical Officer position title</b>	Local Disaster Response Coordinator

**ICC Technical Officer contact details**

Somerset Regional Council (SRC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

**SRC Technical Officer name**

Tony Jacobs

**SRC Technical Officer position title**

Local Disaster Response Coordinator

**SRC Technical Officer contact details**

Collated and distributed by (Agency)

**Contact Officer signature****Contact Officer name**

Rob Drury

**Contact Officer position title**

Dam Operations Manager

**Next TSR due****Date****Time****or Event****Gate opening**



## TECHNICAL SITUATION REPORT

<b>TSR Number</b>	<b>W21</b>	<b>Date of TSR release</b>	26.12.2010	<b>Time of TSR release</b>	8.00am
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### Seqwater status of inflows and dam operations

*Current status but could change based on inflows or rainfall.*

<b>Current objectives</b>	<ul style="list-style-type: none"> <li>Begin releases to drain stored flood waters only impacting on low level bridges and monitoring predicted rainfall</li> </ul>
<b>Strategy</b>	<ul style="list-style-type: none"> <li>Begin releases of around 300m<sup>3</sup>/sec</li> <li>Monitor rainfall</li> </ul>
<b>Key considerations</b>	<p>Storage levels: Above FSL</p> <p>Inflows: Ongoing inflows plus last nights rain</p> <p>Rainfall:</p> <p>Lockyer/Bremer: Flows decreasing.</p> <p>Brisbane River:</p>

### Rainfall

Only relatively minor rainfall has been experienced in the dam catchments in the last 24 hours, with a catchment average of around 10mm experienced at all three dams. However the QPF issues at 1600 yesterday was for 40 to 60mm and BOM radar indicates that rain is approaching the catchments from the north. Additionally at 0445, BOM issued a severe weather warning that takes in the dam catchment areas that is associated with a rain depression moving down from Mackay towards the NSW border. The current BOM forecast is:

**Sunday 26 December** Rain  
**Monday 27 December** Rain periods  
**Tuesday 28 December** Rain at times  
**Wednesday 29 December** Rain at times  
**Thursday 30 December** Rain easing to showers  
**Friday 31 December** Mostly fine  
**Saturday 31 December** Mostly fine

With the current wet catchments, there is a high probability that the forecast rain will result in further flood releases from the dams over the coming week.

### Somerset Dam

Sluice Gate operations ceased on 23 December 2010 and since that time the lake has risen steadily to currently be around 99.46m or 460mm above the full supply level. At least two regulators will be opened later today to drain the lake to near full supply level, plan is for 9.00am at a discharge of about 140m<sup>3</sup>/s. Draining will take at least until Tuesday. Further gate operations may be necessary in coming days if forecast rainfall results in subsequent river rises.

## Wivenhoe Dam

Radial Gate operations ceased on 24 December 2010 and since that time the lake has risen steadily to currently be around 67.37m or 370mm above the full supply level. A radial gate will be opened later today following discussions with the impacted Local Authorities to drain the lake to near full supply level. Draining will take at least until Tuesday. Further gate operations may be necessary in coming days if forecast rainfall results in subsequent river rises.

## Impacts of Wivenhoe Dam Releases

With no radial gate releases from Wivenhoe dam since 24 December 2010, the crossings downstream of the dam are currently impacted primarily by non-controlled river flows only. Lockyer Creek outflows into the Brisbane River are currently in the order of 60 cumecs.

Twin Bridges, Savages and Colleges Crossings will be inundated but the plan is to release around 300-350cumecs depending on flows downstream so as to not impact Burtons Bridge.

<b>Seqwater Technical Officer name</b>	Robert Drury
<b>Seqwater Technical Officer position title</b>	Dam Operations Manager

## BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

<b>BoM Technical Officer name</b>	Peter Baddiley
<b>BoM Technical Officer position title</b>	
<b>BoM Technical Officer contact details</b>	

## Brisbane City Council (BCC) assessment

*(ta include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

Ipswich City Council (ICC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

ICC Technical Officer name	Tony Trace
ICC Technical Officer position title	Local Disaster Response Coordinator
ICC Technical Officer contact details	

Somerset Regional Council (SRC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

SRC Technical Officer name	Tony Jacobs
SRC Technical Officer position title	Local Disaster Response Coordinator
SRC Technical Officer contact details	

Collated and distributed by (Agency)

Contact Officer signature	
Contact Officer name	Rob Drury
Contact Officer position title	Dam Operations Manager

Next TSR due	Date		Time		or Event	Significant Change
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## TECHNICAL SITUATION REPORT

<b>TSR Number</b>	<b>W22</b>	<b>Date of TSR release</b>	<b>27.12.2010</b>	<b>Time of TSR release</b>	<b>8.00am</b>
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### Seqwater status of inflows and dam operations

*Current status but could change based on inflows or rainfall.*

<b>Current objectives</b>	<ul style="list-style-type: none"> <li>Continue reducing releases until Lockyer increases to flow sufficient to inundate Burtons and/or Kholo and then begin releasing stored water during week.</li> <li>Continue to store floodwaters to minimise impacts downstream and then release in a controlled manner</li> </ul>
<b>Strategy</b>	<ul style="list-style-type: none"> <li>Begin increasing release later today or early tomorrow as Lockyer rises to give overall river flow of around 1500cumecs</li> </ul>
<b>Key considerations</b>	Storage levels: Above FSL
	Inflows: Ongoing inflows plus last nights rain
	Rainfall:
	Lockyer/Bremer: Flows increasing significantly due to rain last 24 hours
	Brisbane River:

### Rainfall

Reasonably significant rainfalls in the order of 40 to 50 mm have been experienced in the dam catchments in the last 24 hours, but the rainfall has only been in the order of 5 to 10mm in the last 6 hours. The QPF issued at 1600 yesterday was for 50 to 100mm and the severe weather warning associated with possible widespread rainfall in the dam catchments remains current and was re-issued by BOM at 0445 today. The current BOM forecast is:

**Monday 27 December** Rain periods  
**Tuesday 28 December** Rain at times  
**Wednesday 29 December** Rain at times  
**Thursday 30 December** Shower or two  
**Friday 31 December** Fine  
**Saturday 31 December** Fine  
**Sunday 1 January** Fine

With the current wet catchments, there is a high probability that the forecast rain will result in further flood releases from the dams over the coming week.

### Somerset Dam

Two regulators were opened yesterday morning, to provide a release of 12000ML/day. Since that time the lake has continued to rise steadily to currently be around 99.60m or 600mm above the full supply level. Further gate operations may be necessary today if forecast rainfall results in subsequent river rises. Draining will take at least until Wednesday. The next update will be provided at around 1200

today.

Currently at 107.7% with 30,000ML over FSL.

### **Wivenhoe Dam**

Radial Gate operations recommenced yesterday at 0900 and since that time the lake has risen steadily to currently be around 67.57m or 570mm above the full supply level. Because of outflows from Lockyer Creek, outflows from Wivenhoe Dam have been steadily reduced during the night to ensure Burtons Bridge remained open. Radial gates at Wivenhoe Dam have been progressively wound back this morning as the Lockyer Creek outflows into the Brisbane River increase above 250 cumecs. This will keep Burtons Bridge open until late this afternoon. However it is anticipated that Lockyer Creek outflows will peak above 500 cumecs later today/tomorrow and these flows will inundate Burtons Bridge. As this occurs, outflows from Wivenhoe Dam will be increased to drain the lake to near full supply level. Draining will take at least until Thursday. Further gate operations may be necessary in coming days if forecast rainfall results in subsequent river rises.

Wivenhoe is around 105.6% and 65,000ML over FSL.

### **Impacts of Wivenhoe Dam Releases**

Twin Bridges, Savages Crossing and Colleges Crossing are currently closed and will remain so until at least Thursday. Burtons Bridge is currently open, but will be closed later today/tomorrow and is likely to remain closed until at least Wednesday. However, the length of time that Burtons Bridge will be closed is dependant upon the rainfall experienced over the next several days. Kholo Bridge remains unserviceable due to flood damage. There is no current expectation that either Mt Crosby Weir Bridge or Fernvale Bridge will be impacted by the current event.

An updated estimate of the time of closure of Burtons Bridge this afternoon will be provided to Council, but at this stage it is not expected to be before 1600 today. This may change as rainfall is experienced during the day.

Tide levels in Brisbane are decreasing generally so Wivenhoe releases should have minimal impact.

<b>Seqwater Technical Officer name</b>	Robert Drury
<b>Seqwater Technical Officer position title</b>	Dam Operations Manager

### **BoM assessment**

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

<b>BoM Technical Officer name</b>	Peter Baddiley
<b>BoM Technical Officer position title</b>	
<b>BoM Technical Officer contact details</b>	

Brisbane City Council (BCC) assessment

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

Ipswich City Council (ICC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

<b>ICC Technical Officer name</b>	Tony Trace
<b>ICC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>ICC Technical Officer contact details</b>	

Somerset Regional Council (SRC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

<b>SRC Technical Officer name</b>	Tony Jacobs
<b>SRC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>SRC Technical Officer contact details</b>	

Collated and distributed by (Agency)

<b>Contact Officer signature</b>	
<b>Contact Officer name</b>	Rob Drury
<b>Contact Officer position title</b>	Dam Operations Manager

<b>Next TSR due</b>	<b>Date</b>		<b>Time</b>		<b>or Event</b>	<b>Change in strategy</b>
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## TECHNICAL SITUATION REPORT

<b>TSR Number</b>	<b>W24</b>	<b>Date of TSR release</b>	<b>29.12.2010</b>	<b>Time of TSR release</b>	<b>7.00am</b>
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### Seqwater status of inflows and dam operations

*Current status but could change based on inflows or rainfall.*

<b>Current objectives</b>	<ul style="list-style-type: none"> <li>Drain flood compartment as quickly as possible (by about Sunday) without impacting Mt Crosby or Fernvale bridges.</li> </ul>										
<b>Strategy</b>	<ul style="list-style-type: none"> <li>Continue increasing releases from current release as Lockyer drops up to maximum of 1500cumecs.</li> <li>Twin Bridges, Savages, Burtons, Kholo and Colleges will be inundated until Sunday.</li> </ul>										
<b>Key considerations</b>	<table> <tr> <td>Storage levels:</td><td>Above FSL</td></tr> <tr> <td>Inflows:</td><td>Ongoing inflows plus yesterdays rain</td></tr> <tr> <td>Rainfall:</td><td></td></tr> <tr> <td>Lockyer/Bremer:</td><td>Flows beginning to decrease</td></tr> <tr> <td>Brisbane River:</td><td>Releases increasing from yesterday, other inflows downstream dropping away rapidly so releases will not impact on Brisbane River downstream. As per BoM advice, impact on tides minimal.</td></tr> </table>	Storage levels:	Above FSL	Inflows:	Ongoing inflows plus yesterdays rain	Rainfall:		Lockyer/Bremer:	Flows beginning to decrease	Brisbane River:	Releases increasing from yesterday, other inflows downstream dropping away rapidly so releases will not impact on Brisbane River downstream. As per BoM advice, impact on tides minimal.
Storage levels:	Above FSL										
Inflows:	Ongoing inflows plus yesterdays rain										
Rainfall:											
Lockyer/Bremer:	Flows beginning to decrease										
Brisbane River:	Releases increasing from yesterday, other inflows downstream dropping away rapidly so releases will not impact on Brisbane River downstream. As per BoM advice, impact on tides minimal.										

### Rainfall

No rainfall has fallen in the past 12 hours to 0600 Wednesday with the exception of 2-4 mm in the upper Somerset Dam catchment.

The rainfall forecast issued by BOM at 1600 Tuesday indicated only 3-5 mm in the Somerset and Wivenhoe catchments and 5-10mm in the North Pine catchment for the next 24 hours. The current BOM forecast for SE Qld over the next few days is mostly fine with a few showers

However, catchments remain saturated and are primed for additional runoff in the event of rain.

### Somerset Dam

A flood release through the regulator cone valves at the dam commenced at 0900 on Sunday 26 December 2010. Early Tuesday the regulators were closed and sluices progressively opened throughout the day. At 1800 Tuesday 2 sluices were open, releasing about 35,000 ML/day into Wivenhoe. A further two sluice gates were opened overnight in an attempt to bring the lake level down to 99.75 to enable recreational use of Somerset water activities to resume on Wednesday. At 1800, the lake level was 99.83m AHD and falling slowly. Two sluice gates will be closed by 12:00 29/12/2010 and two sluice gates are expected to remain open until Thursday and will be closed when the lake returns to the full supply level of 99m AHD. The total volume of water released since the event commenced on 26 December 2010 is 66,000ML, with the current projected total release volume for this event approaching 110,000ML (includes inflows still coming in).

Currently Somerset is at around 110% with 36,000ML above FSL.

### Wivenhoe Dam

Radial gate operations for the current event commenced at 0900 on Sunday 26 December 2010. After scaling up to an initial release rate of 30,000ML/day, the release was scaled back Monday to the minimum radial gate release rate of 4,000ML/day to ensure that Burtons Bridge remained open and to reduce flooding impacts in the Brisbane River caused by flows from Lockyer Creek. Lockyer Ck outflow peaked at midday Tuesday and Wivenhoe gates were commenced to be re-opened at 1500 Tuesday, releasing on the back of the Lockyer recession. It is intended to gradually increase the Wivenhoe releases during Tuesday and Wednesday so that the combined release and Lockyer flow is maintained at about 1600m<sup>3</sup>/s (140,000 ML/day) in the mid Brisbane R. Note this is similar to the flows in the mid Brisbane in mid October and mid December 2010. This will be maintained until at least Saturday when it is expected that shut down procedure will commence. Gate closure sequencing will be such that the releases will mimic the natural pre-dam flows.

At 0600, the Wivenhoe water level was 69.26m AHD and rising slowly with the current release rate at 60,000ML/day. Inflows into the dam are subsiding and the lake will fall slowly once the release rate is scaled up 130,000 ML/day during Wednesday. It is aimed to return the dam to full supply level by Sunday. The total volume of water released since the event commenced on 26 December 2010 is 56,000ML, with the current projected total release volume for this event being in the order of 385,000ML (includes inflows from Somerset Dam).

Currently Wivenhoe is at 122.3% about 260,000ML above FSL.

### Impacts of Wivenhoe Dam Releases

Twin Bridges, Savages Crossing, Colleges Crossing, Burtons Bridge and Kholo Bridge are currently closed and will remain so until at least Sunday. There is no current expectation that either Mt Crosby Weir Bridge or Fernvale Bridge will be impacted by the current event. At this stage, it is estimated that the flow at Burtons Bridge will fall below the bridge deck on Sunday morning.

Wivenhoe releases should have minimal impact on tides based on planned releases. BoM advice confirmed this. Impacts from Bremer and other inflows should have mostly passed by the time any release from Wivenhoe gets to downstream river reaches.

Seqwater Technical Officer name	Robert Drury
Seqwater Technical Officer position title	Dam Operations Manager

### BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

BoM Technical Officer name	Peter Baddiley
BoM Technical Officer position title	



**B6M Technical Officer contact details**

Brisbane City Council (BCC) assessment  
(to include predicted local inundation areas and depths of inundation based on the information)

Council has been advised and do not have a problem with the new strategy.

**BCC Technical Officer name**

Chris Lavin

**BCC Technical Officer position title**

Disaster Operations Manager

**BCC Technical Officer contact details**

Ipswich City Council (ICC) assessment (if required)

(to include predicted local inundation areas and depths of inundation based on the information)

Council has been advised and do not have a problem with the new strategy.

**ICC Technical Officer name**

Tony Trace

**ICC Technical Officer position title**

Local Disaster Response Coordinator

**ICC Technical Officer contact details**

Somerset Regional Council (SRC) assessment (if required)

(to include predicted local inundation areas and depths of inundation based on the information)

Council has been advised and do not have a problem with the new strategy.

**SRC Technical Officer name**

Tony Jacobs

**SRC Technical Officer position title**

Local Disaster Response Coordinator

**SRC Technical Officer contact details**

Collated and distributed by (Agency)

**Contact Officer signature**

**Contact Officer name**

Rob Drury

**Contact Officer position title**

Dam Operations Manager

**Next TSR due**

**Date**

30.12.2010

**Time**

**or Event**

## TECHNICAL SITUATION REPORT

<b>TSR Number</b>	W25	<b>Date of TSR release</b>	30.12.2010	<b>Time of TSR release</b>	7.00am
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### Seqwater status of inflows and dam operations

*Current status but could change based on inflows or rainfall.*

<b>Current objectives</b>	<ul style="list-style-type: none"> <li>Drain flood compartment as quickly as possible (by about Sunday) without impacting Mt Crosby or Fernvale bridges.</li> </ul>										
<b>Strategy</b>	<ul style="list-style-type: none"> <li>Continue current releases of around 1500cumecs.</li> <li>Twin Bridges, Savages, Burtons, Kholo and Colleges will be inundated until Sunday.</li> </ul>										
<b>Key considerations</b>	<table> <tr> <td>Storage levels:</td><td>Above FSL</td></tr> <tr> <td>Inflows:</td><td>Ongoing inflows</td></tr> <tr> <td>Rainfall:</td><td></td></tr> <tr> <td>Lockyer/Bremer:</td><td>Flows continue to decrease</td></tr> <tr> <td>Brisbane River:</td><td>Releases increased from yesterday, other inflows downstream dropping away rapidly so releases will not impact on Brisbane River downstream. As per BoM advice, impact on tides minimal.</td></tr> </table>	Storage levels:	Above FSL	Inflows:	Ongoing inflows	Rainfall:		Lockyer/Bremer:	Flows continue to decrease	Brisbane River:	Releases increased from yesterday, other inflows downstream dropping away rapidly so releases will not impact on Brisbane River downstream. As per BoM advice, impact on tides minimal.
Storage levels:	Above FSL										
Inflows:	Ongoing inflows										
Rainfall:											
Lockyer/Bremer:	Flows continue to decrease										
Brisbane River:	Releases increased from yesterday, other inflows downstream dropping away rapidly so releases will not impact on Brisbane River downstream. As per BoM advice, impact on tides minimal.										

### Rainfall

There has been no significant rainfall in the North Pine, Somerset and Wivenhoe catchments since 09:00 on Wednesday 29 December 2010. The current BOM forecast for SE Qld over the next few days is mostly fine with a few light showers, although there is a chance of storms on Tuesday and Wednesday next week.

The catchments remain saturated and are primed for additional runoff in the event of rain.

### Somerset Dam

At 06:00 Thursday 30 December 2010, two sluices remain open, releasing about 35,000 ML/d into Lake Wivenhoe and are expected to remain open until Thursday afternoon when the lake returns to the full supply level of 99.00m AHD. The total volume of water released since the event commenced on 26 December 2010 is 104,000ML, with the current projected total release volume for this event approaching 123,000ML.

### Wivenhoe Dam

Releases were gradually increased during Wednesday and Thursday morning until the combined release and Lockyer flow reached about 1,600m<sup>3</sup>/s (140,000 ML/d) in the middle Brisbane River. (Note this is similar to the flows in the releases made in mid-October and earlier in December 2010). This release will be maintained until mid-day Friday 31 December 2010, when the shut down procedure will commence and gates are expected to be fully closed by Sunday morning 2 January 2010. The proposed gate closure sequence will be such that the releases will mimic the natural pre-dam

recessional flows.

Gauge board readings indicate that the Wivenhoe dam water level peaked at 69.33m at noon Wednesday 29 December 2010, about 2.3m above the full supply level. At this level, the dam was temporarily storing over 270,000ML of flood water. At 06:00 on Thursday 30 December 2010, the level had fallen slightly to 69.07m AHD and was releasing about 1,530m<sup>3</sup>/s (132,000ML/d). The total volume of water released from Wivenhoe dam since the event commenced on 26 December 2010 is 160,000ML, with the current projected total release volume for this event being in the order of 425,000ML (includes inflows from Somerset Dam).

#### Impacts of Wivenhoe Dam Releases

Twin Bridges, Savages Crossing, Colleges Crossing, Burtons Bridge and Kholo Bridge are currently closed due to inundation and will remain so until at least Sunday 2 January 2011. There is no current expectation that either Mt Crosby Weir Bridge or Fernvale Bridge will be impacted by this event. At this stage, it is estimated that the flow at Burtons Bridge will fall below the bridge deck on Sunday morning.

Wivenhoe releases should have minimal impact on tides based on planned releases. BoM advice confirmed this earlier in the week. Impacts from Bremer and other inflows should have mostly passed by the time any release from Wivenhoe gets to downstream river reaches.

<b>Seqwater Technical Officer name</b>	Robert Drury
<b>Seqwater Technical Officer position title</b>	Dam Operations Manager

#### BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

<b>BoM Technical Officer name</b>	Peter Baddiley
<b>BoM Technical Officer position title</b>	
<b>BoM Technical Officer contact details</b>	

#### Brisbane City Council (BCC) assessment

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

Ipswich City Council (ICC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

ICC Technical Officer name	Tony Trace
ICC Technical Officer position title	Local Disaster Response Coordinator
ICC Technical Officer contact details	

Somerset Regional Council (SRC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

SRC Technical Officer name	Tony Jacobs
SRC Technical Officer position title	Local Disaster Response Coordinator
SRC Technical Officer contact details	

Collated and distributed by (Agency)

Contact Officer signature	
Contact Officer name	Rob Drury
Contact Officer position title	Dam Operations Manager

Next TSR due	Date		Time		or Event	Closing sequence or change in strategy

## TECHNICAL SITUATION REPORT

<b>TSR Number</b>	<b>W26</b>	<b>Date of TSR release</b>	<b>31.12.2010</b>	<b>Time of TSR release</b>	<b>7.00am</b>
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Seqwater status of inflows and dam operations

*Current status but could change based on inflows or rainfall.*

<b>Current objectives</b>	<ul style="list-style-type: none"> <li>Drain flood compartment as quickly as possible (by about Sunday) without impacting Mt Crosby or Fernvale bridges.</li> </ul>										
<b>Strategy</b>	<ul style="list-style-type: none"> <li>Continue current releases of around 1500cumecs.</li> <li>Twin Bridges, Savages, Burtons, Kholo and Colleges will be inundated until Sunday.</li> </ul>										
<b>Key considerations</b>	<table> <tr> <td>Storage levels:</td><td>Above FSL</td></tr> <tr> <td>Inflows:</td><td>Ongoing inflows</td></tr> <tr> <td>Rainfall:</td><td></td></tr> <tr> <td>Lockyer/Bremer:</td><td>Flows continue to decrease</td></tr> <tr> <td>Brisbane River:</td><td>Releases not changing greatly, other inflows downstream dropping away rapidly so releases will not impact on Brisbane River downstream. As per BoM advice, impact on tides minimal.</td></tr> </table>	Storage levels:	Above FSL	Inflows:	Ongoing inflows	Rainfall:		Lockyer/Bremer:	Flows continue to decrease	Brisbane River:	Releases not changing greatly, other inflows downstream dropping away rapidly so releases will not impact on Brisbane River downstream. As per BoM advice, impact on tides minimal.
Storage levels:	Above FSL										
Inflows:	Ongoing inflows										
Rainfall:											
Lockyer/Bremer:	Flows continue to decrease										
Brisbane River:	Releases not changing greatly, other inflows downstream dropping away rapidly so releases will not impact on Brisbane River downstream. As per BoM advice, impact on tides minimal.										

### Rainfall

There has been no significant rainfall in the North Pine, Somerset and Wivenhoe catchments since 0900 on Wednesday 29 December 2010. The current BOM forecast for SE Qld over the next few days is mostly fine with a few light showers, although there is a chance of storms on Tuesday and Wednesday next week.

The catchments remain wet and are likely to generate additional runoff in the event of rain.

### Somerset Dam

At 0500 on Friday 31 December 2010, the lake level was 99.01m AHD falling from a peak of 100.0m AHD reached around noon Tuesday 28 December 2010. Two regulators are currently operating and will remain open until the lake returns to the full supply level of 99.00m AHD. The total volume of water released since the event commenced on 26 December 2010 is 126,000 ML, with the current projected total release volume for this event approaching 130,000ML.

### Wivenhoe Dam

Releases were gradually increased during Wednesday and Thursday morning until the combined release and Lockyer flow reached about 1,600m<sup>3</sup>/s (140,000 ML/d) in the middle Brisbane River. (Note this is similar to the flows in the releases made in mid-October and earlier in December 2010). Flow measurement carried out by the Department of Environment and Heritage during Thursday has confirmed this flow. This release will be maintained until late Friday 31 December 2010, when the shut down procedure will commence and gates are expected to be fully closed by Sunday 2 January 2010.

The proposed gate closure sequence will be such that the releases will mimic the natural pre-dam recessional flows.

At 0500 on Friday 31 December 2010, the level had fallen slightly to 68.40m AHD and was releasing about 1,550m<sup>3</sup>/s (132,000ML/d). The total volume of water released from Wivenhoe dam since the event commenced on 26 December 2010 is 293,000ML, with the current projected total release volume for this event being in the order of 450,000ML (includes inflows from Somerset Dam).

#### Impacts of Wivenhoe Dam Releases

Twin Bridges, Savages Crossing, Colleges Crossing, Burtons Bridge and Kholo Bridge are currently closed due to inundation and will remain so until at least Sunday 2 January 2011. There is no current expectation that either Mt Crosby Weir Bridge or Fernvale Bridge will be impacted by this event. At this stage, it is estimated that the flow at Burtons Bridge will fall below the bridge deck on Sunday morning.

Wivenhoe releases should have minimal impact on tides based on planned releases. BoM advice confirmed this earlier in the week. Impacts from Bremer and other inflows should have mostly passed by the time any release from Wivenhoe gets to downstream river reaches.

Seqwater Technical Officer name	Robert Drury
Seqwater Technical Officer position title	Dam Operations Manager

#### BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

BoM Technical Officer name	Peter Baddiley
BoM Technical Officer position title	
BoM Technical Officer contact details	

#### Brisbane City Council (BCC) assessment

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

BCC Technical Officer name	Chris Lavin
BCC Technical Officer position title	Disaster Operations Manager
BCC Technical Officer contact details	

Ipswich City Council (ICC) assessment (if required)  
(to include predicted local inundation areas and depths of inundation based on the information)

Council has been advised and do not have a problem with the new strategy.

ICC Technical Officer name	Tony Trace
ICC Technical Officer position title	Local Disaster Response Coordinator
ICC Technical Officer contact details	

Somerset Regional Council (SRC) assessment (if required)  
(to include predicted local inundation areas and depths of inundation based on the information)

Council has been advised and do not have a problem with the new strategy.

SRC Technical Officer name	Tony Jacobs
SRC Technical Officer position title	Local Disaster Response Coordinator
SRC Technical Officer contact details	

Collated and distributed by (Agency)

Contact Officer signature	
Contact Officer name	Rob Drury
Contact Officer position title	Dam Operations Manager

Next TSR due	Date		Time		or Event	Final closing of gates
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## TECHNICAL SITUATION REPORT

<b>TSR Number</b>	<b>W27</b>	<b>Date of TSR release</b>	<b>2.1.2011</b>	<b>Time of TSR release</b>	<b>9.00am</b>
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Seqwater status of inflows and dam operations

*Current status but could change based on inflows or rainfall.*

<b>Current objectives</b>	<ul style="list-style-type: none"> <li>.</li> </ul>										
<b>Strategy</b>	<ul style="list-style-type: none"> <li>Closed gates at 9am</li> <li>Maintain levels through low level releases</li> <li>All bridges should be out of water during Sunday, Colleges may be late Sunday.</li> </ul>										
<b>Key considerations</b>	<table> <tr> <td>Storage levels:</td><td>Slightly above FSL</td></tr> <tr> <td>Inflows:</td><td>Ongoing minor inflows</td></tr> <tr> <td>Rainfall:</td><td></td></tr> <tr> <td>Lockyer/Bremer:</td><td></td></tr> <tr> <td>Brisbane River:</td><td>Initial reduction of releases will have started being observed in Brisbane River downstream by late Saturday night. By Sunday afternoon impact would be equivalent to around 50% of maximum release. By later Monday there should be no impact of releases as flows will have all passed.</td></tr> </table>	Storage levels:	Slightly above FSL	Inflows:	Ongoing minor inflows	Rainfall:		Lockyer/Bremer:		Brisbane River:	Initial reduction of releases will have started being observed in Brisbane River downstream by late Saturday night. By Sunday afternoon impact would be equivalent to around 50% of maximum release. By later Monday there should be no impact of releases as flows will have all passed.
Storage levels:	Slightly above FSL										
Inflows:	Ongoing minor inflows										
Rainfall:											
Lockyer/Bremer:											
Brisbane River:	Initial reduction of releases will have started being observed in Brisbane River downstream by late Saturday night. By Sunday afternoon impact would be equivalent to around 50% of maximum release. By later Monday there should be no impact of releases as flows will have all passed.										

### Rainfall

There has been light falls of up to 30mm in the North Pine and Somerset Dam catchments in the 24 hours to 06:00 Sunday 2 January 2011 which has resulted in some runoff in the Stanley and Pine Rivers. The current BOM forecast for SE Qld over the next week is for light showers, although there is a chance of storms on Wednesday and Thursday next week.

The catchments remain wet and are likely to generate additional runoff in the event of rain.

### Somerset Dam

The rain in the Stanley River catchment has produced minor inflows and one regulator is partially open, managing the small inflows.

At 07:30 on Sunday 2 January 2010, the lake level was EL 99.10m AHD and rising slowly. The peak of the event occurred around noon on Tuesday 28 December 2010 with a level of EL 100.0 m. The total volume of water released since the event commenced on 26 December 2010 is 135,000 ML.

### Wivenhoe Dam

At 09:00 on Sunday 2 January 2011, Wivenhoe Dam level was EL 67.10 m and gates are fully closed



and fish recovery has commenced. Upon completion of this operation, a regulator will be fully opened to manage continuing low inflows to the dam.

The total volume of water released from Wivenhoe dam since the event commenced on 26 December 2010 is 480,000ML (includes inflows from Somerset Dam).

### Impacts of Wivenhoe Dam Releases

Somerset Regional, Ipswich City and Brisbane City Councils have been advised of the closure.

It is expected that the flow in the mid Brisbane R will fall below Burtons Bridge on Sunday morning and below Colleges Crossing by Monday morning. Twin Bridges will continue to be impact by the continuing low releases for several days.

Wivenhoe releases should have minimal impact on tides based on planned releases. BoM advice confirmed this earlier in the week. Impacts from Bremer and other inflows have mostly passed by this time. By later Monday virtually all releases will have passed through the system.

Seqwater Technical Officer name	Robert Drury
Seqwater Technical Officer position title	Dam Operations Manager

### BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

BoM Technical Officer name	Peter Baddiley
BoM Technical Officer position title	
BoM Technical Officer contact details	

### Brisbane City Council (BCC) assessment

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

BCC Technical Officer name	Chris Lavin
BCC Technical Officer position title	Disaster Operations Manager
BCC Technical Officer contact details	

Ipswich City Council (ICC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

ICC Technical Officer name	Tony Trace
ICC Technical Officer position title	Local Disaster Response Coordinator
ICC Technical Officer contact details	

Somerset Regional Council (SRC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

SRC Technical Officer name	Tony Jacobs
SRC Technical Officer position title	Local Disaster Response Coordinator
SRC Technical Officer contact details	

Collated and distributed by (Agency)

Contact Officer signature	
Contact Officer name	Rob Drury
Contact Officer position title	Dam Operations Manager

Next TSR due	Date		Time		or Event	
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## TECHNICAL SITUATION REPORT

<b>TSR Number</b>	W28	<b>Date of TSR release</b>	6.1.2011	<b>Time of TSR release</b>	12.00pm
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Seqwater status of inflows and dam operations

*Current status but could change based on inflows or rainfall.*

<b>Current objectives</b>	<ul style="list-style-type: none"> <li>Monitor inflows and begin releases later today depending on Lockyer flows</li> </ul>										
<b>Strategy</b>	<ul style="list-style-type: none"> <li>Monitor and develop release strategy</li> </ul>										
<b>Key considerations</b>	<table> <tr> <td>Storage levels:</td><td>Above FSL</td></tr> <tr> <td>Inflows:</td><td>Ongoing inflows</td></tr> <tr> <td>Rainfall:</td><td></td></tr> <tr> <td>Lockyer/Bremer:</td><td>Monitoring their inflows</td></tr> <tr> <td>Brisbane River:</td><td>No impact as yet</td></tr> </table>	Storage levels:	Above FSL	Inflows:	Ongoing inflows	Rainfall:		Lockyer/Bremer:	Monitoring their inflows	Brisbane River:	No impact as yet
Storage levels:	Above FSL										
Inflows:	Ongoing inflows										
Rainfall:											
Lockyer/Bremer:	Monitoring their inflows										
Brisbane River:	No impact as yet										

### Rainfall

Since 9am Wednesday, there have been widespread falls of 30mm with isolated heavy falls up to 50mm in the Somerset and Wivenhoe catchments. Totals in the North Pine catchment have generally been below 10mm. Falls up to 60mm were recorded in the Leslie Harriott catchment.

The forecast for the next 24 to 48 hours is for totals up to 150mm in SE Qld.

The catchments remain wet and are likely to generate additional runoff in the event of rain.

### Somerset Dam

At 0700 Thursday, Somerset Dam was 99.34m, 0.34m above FSL, and rising slowly. The rain in the Stanley River catchment has produced a small amount of runoff in the upper Stanley but there have been significant rises in Kilcoy Ck. Further regulator operations will be required later Thursday.

### Wivenhoe Dam

At 0700 Thursday, Wivenhoe Dam was 67.31m and rising slowly. This is 0.31m above FSL and above the gate trigger level of 67.25m. There have been rises recorded at rivers and stream upstream of Wivenhoe Dam. Gates will be opened in the next 24 hours to manage the inflows from the upper Brisbane River and the outflow from Somerset.

### Impacts of Wivenhoe Dam Releases

Based upon rain to date, expecting about 70,000ML from upper Brisbane. Lockyer Ck peak of about 100m<sup>3</sup>/s Friday afternoon. This will take out Twin Bridges and nearly inundate Savages Crossing. Colleges Crossing could be taken out by a combined Lockyer and local runoff.

Current strategy is to keep Burton Bridge free. On this basis, we will commence opening Wivenhoe at 1800 Thursday and ramp up to about 300m<sup>3</sup>/s by 2200. This would limit mid Brisbane flows to just

under 400m<sup>3</sup>/s (Burtons capacity 450m<sup>3</sup>/s).

If rainfall increases and Lockyer and local runoff also increase, we can close/reduce Wivenhoe accordingly to ensure that that 450m<sup>3</sup>/s is not exceeded unless necessary.

Councils have been advised of this strategy and are contacting residents.

<b>Seqwater Technical Officer name</b>	Robert Drury
<b>Seqwater Technical Officer position title</b>	Dam Operations Manager

#### BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

<b>BoM Technical Officer name</b>	Peter Baddiley
<b>BoM Technical Officer position title</b>	
<b>BoM Technical Officer contact details</b>	

#### Brisbane City Council (BCC) assessment

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

#### Ipswich City Council (ICC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

<b>ICC Technical Officer name</b>	Tony Trace
<b>ICC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>ICC Technical Officer contact details</b>	

Somerset Regional Council (SRC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

<b>SRC Technical Officer name</b>	Tony Jacobs
<b>SRC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>SRC Technical Officer contact details</b>	

Collated and distributed by (Agency)

<b>Contact Officer signature</b>	
<b>Contact Officer name</b>	Rob Drury
<b>Contact Officer position title</b>	Dam Operations Manager

<b>Next TSR due</b>	<b>Date</b>		<b>Time</b>		<b>or Event</b>	<b>Gate opening</b>
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## TECHNICAL SITUATION REPORT

<b>TSR Number</b>	W29	<b>Date of TSR release</b>	7.1.2011	<b>Time of TSR release</b>	7.00am
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### Seqwater status of inflows and dam operations

*Current status but could change based on inflows or rainfall.*

<b>Current objectives</b>	<ul style="list-style-type: none"> <li>Monitor inflows and begin releases later today depending on Lockyer flows</li> </ul>										
<b>Strategy</b>	<ul style="list-style-type: none"> <li>Monitor and develop release strategy, possible Wivenhoe releases later today or early Saturday</li> <li>Due to high inflows, may need to impact Burtons which could be impacted purely by Lockyer flows later today anyway.</li> </ul>										
<b>Key considerations</b>	<table> <tr> <td>Storage levels:</td><td>Above FSL</td></tr> <tr> <td>Inflows:</td><td>Ongoing inflows</td></tr> <tr> <td>Rainfall:</td><td></td></tr> <tr> <td>Lockyer/Bremer:</td><td>Monitoring their inflows</td></tr> <tr> <td>Brisbane River:</td><td>No impact as yet</td></tr> </table>	Storage levels:	Above FSL	Inflows:	Ongoing inflows	Rainfall:		Lockyer/Bremer:	Monitoring their inflows	Brisbane River:	No impact as yet
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Inflows:	Ongoing inflows										
Rainfall:											
Lockyer/Bremer:	Monitoring their inflows										
Brisbane River:	No impact as yet										

### Rainfall

There have been general totals around 30 to 50 mm with isolated heavy falls up to 75mm in the Somerset and Wivenhoe catchments since the event commenced on Wednesday 5 January 2011. There have been significant rainfalls in the Lockyer Ck catchment in the last 72 hours with widespread falls of 50mm and isolated falls up to 100mm.

Totals in the North Pine catchment have generally been about 35mm.

Falls between 20 and 30mm were recorded in the Leslie Harrison catchment.

The forecast for the next five days is for totals between 100 and 200mm in SE Qld. Given the saturated condition of the catchments further runoff will most likely be generated from this rainfall.

### North Pine Dam

At 0600 Friday, North Pine Dam was at 39.48m, 0.12m below FSL. Gate operations commenced at 1915 on Thursday 6 January and are expected to continue until at least mid-day Friday 7 January when North Pine Dam is expected to be at 39.40m. These releases have impacted upon Youngs Crossing. Moreton Bay Regional Council was advised and they closed Youngs Crossing prior to gate operations commencing. Based upon the forecast rainfall, gate operations may continue into Saturday, but at this stage it is anticipated that gate operations will cease at around mid-day on Friday 7 January 2011.

### Somerset Dam

At 0600 Friday, Somerset Dam was at 99.59m, 0.59m above FSL, and rising slowly. The rain in the Stanley River catchment has produced a small amount of runoff in the Upper Stanley but there have been significant rises in Kilcoy Creek, contributing to the Somerset inflows. Somerset Dam is currently releasing at a rate of 35 cumecs and further regulator/sluice operations will be required in the next 24 to 72 hours.

The estimated event inflow volume into Somerset Dam is around 50,000ML.

#### **Wivenhoe Dam**

At 0600 Friday, Wivenhoe Dam was at 67.64m and rising slowly. This is 0.64m above FSL and above the gate trigger level of 67.25m. Upstream of the dam river levels have peaked at the Linville and Gregors Ck gauges. The estimated event inflow volume into Wivenhoe Dam is 230,000ML including Somerset Dam outflow.

A peak of about 470 cumecs is expected from Lockyer Creek by mid-afternoon on Friday 7 January. At this stage there is some uncertainty associated with this estimate but it may be of sufficient magnitude to inundate Burtons Bridge.

Wivenhoe gate releases will occur after the impact of Lockyer flows on Burtons Bridge has been ascertained and flood levels in the lower Lockyer subside. It is proposed that Wivenhoe releases will commence late Friday/early Saturday and may be as high as 1,200 cumecs, (similar but slightly smaller to recent events), and the releases are expected to continue over the weekend though to Monday or Tuesday.

#### **Impacts of Downstream of Wivenhoe**

Somerset Regional Council, Ipswich City Council and Brisbane City Council have been advised of the potential for gate operations during the next 24 hours.

The relatively high Lockyer flows will adversely impact upon Twin Bridges, Savages Crossing, and Colleges Crossing for several days and may impact upon Burtons Bridge from Friday mid-day and Kholo Bridge later on Friday evening. At this stage, there are not expected to be any adverse impacts upon Fernvale Bridge or Mt Crosby Weir Bridge.

Councils have been advised of this strategy and are contacting residents.

#### **Leslie Harrison Dam**

Following the heavy rainfall Wednesday night, gate operations commenced at Leslie Harrison Dam late Wednesday night and are continuing. It is possible operations may cease later today with no further rainfall however, given the forecast rainfall, gate operations are expected to continue for some time.

<b>Seqwater Technical Officer name</b>	Robert Drury
<b>Seqwater Technical Officer position title</b>	Dam Operations Manager
<b>0410378740</b>	

## BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

BoM Technical Officer name	Peter Baddiley
BoM Technical Officer position title	
BoM Technical Officer contact details	

## Brisbane City Council (BCC) assessment

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

BCC Technical Officer name	Chris Lavin
BCC Technical Officer position title	Disaster Operations Manager
BCC Technical Officer contact details	

## Ipswich City Council (ICC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

ICC Technical Officer name	Tony Trace
ICC Technical Officer position title	Local Disaster Response Coordinator
ICC Technical Officer contact details	

## Somerset Regional Council (SRC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

SRC Technical Officer name	Tony Jacobs
SRC Technical Officer position title	Local Disaster Response Coordinator
SRC Technical Officer contact details	



Collated and distributed by (Agency)

Contact Officer signature	
Contact Officer name	Rob Drury
Contact Officer position title	Dam Operations Manager

Next TSR due	Date		Time		or Event	Gate opening decision
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## TECHNICAL SITUATION REPORT

<b>TSR Number</b>	W30	<b>Date of TSR release</b>	7.1.2011	<b>Time of TSR release</b>	3.00pm
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Seqwater status of inflows and dam operations

*Current status but could change based on inflows or rainfall.*

<b>Current objectives</b>	<ul style="list-style-type: none"> <li>Begin discharging stored floodwaters</li> </ul>										
<b>Strategy</b>	<ul style="list-style-type: none"> <li>Start releasing at 3pm today and increase up to 1200cumecs.</li> </ul>										
<b>Key considerations</b>	<table> <tr> <td>Storage levels:</td><td>Above FSL</td></tr> <tr> <td>Inflows:</td><td>Ongoing inflows</td></tr> <tr> <td>Rainfall:</td><td></td></tr> <tr> <td>Lockyer/Bremer:</td><td>Monitoring their inflows</td></tr> <tr> <td>Brisbane River:</td><td>No impact as yet</td></tr> </table>	Storage levels:	Above FSL	Inflows:	Ongoing inflows	Rainfall:		Lockyer/Bremer:	Monitoring their inflows	Brisbane River:	No impact as yet
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Inflows:	Ongoing inflows										
Rainfall:											
Lockyer/Bremer:	Monitoring their inflows										
Brisbane River:	No impact as yet										

### North Pine Dam

Ongoing operations.

### Somerset Dam

Somerset Dam is currently releasing at a rate of 35 cumecs and further regulator/slucice operations will be required in the next 24 to 72 hours.

The estimated event inflow volume into Somerset Dam is around 50,000ML.

### Wivenhoe Dam

Wivenhoe releases commenced at 1500 Friday and will be slowly increased to about 1,200 m3/s by 1400 Saturday. It will initially be held around this level until Sunday morning at which time the release strategy will be reviewed and be dependent upon further rainfall.

### Impacts of Downstream of Wivenhoe

This will mean that all of the crossings downstream of Wivenhoe with the exception of Fernvale and Mt Crosby Weir Bridge will be adversely impacted.

Councils have been advised of this strategy and are contacting residents.

Conversations have just taken place between BCC, Seqwater and BoM re impact of flows in the lower Brisbane R

Seqwater and BoM concur that a flow of a 1,500m3/s in the lower Brisbane R will only add about 50mm to the expected water levels in the City Reach on the recorded high tides. This has been demonstrated

by a comparison of the recorded water levels at Whyte Is and Brisbane City gauges during periods of no flow and periods of higher flows in the last few months.

However, it should be noted that this impact varies during the tidal cycle and is more pronounced on the low tide level than the high tide level.

It is recognized that current recorded high tide levels are 0.4 to 0.5 metres higher than predicted tides due to atmospheric conditions.

#### **Leslie Harrison Dam**

Following the heavy rainfall Wednesday night, gate operations commenced at Leslie Harrison Dam late Wednesday night and are continuing.

<b>Seqwater Technical Officer name</b>	Robert Drury
<b>Seqwater Technical Officer position title</b>	Dam Operations Manager

#### **BoM assessment**

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

<b>BoM Technical Officer name</b>	Peter Baddiley
<b>BoM Technical Officer position title</b>	
<b>BoM Technical Officer contact details</b>	

#### **Brisbane City Council (BCC) assessment**

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

#### **Ipswich City Council (ICC) assessment (if required)**

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

ICC Technical Officer name	Tony Trace
ICC Technical Officer position title	Local Disaster Response Coordinator
ICC Technical Officer contact details	

Somerset Regional Council (SRC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

SRC Technical Officer name	Tony Jacobs
SRC Technical Officer position title	Local Disaster Response Coordinator
SRC Technical Officer contact details	

Collated and distributed by (Agency)

Contact Officer signature	
Contact Officer name	Rob Drury
Contact Officer position title	Dam Operations Manager

Next TSR due	Date	8.1.2011	Time		or Event	
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## TECHNICAL SITUATION REPORT

<b>TSR Number</b>	<b>W31</b>	<b>Date of TSR release</b>	<b>8.1.2011</b>	<b>Time of TSR release</b>	<b>7.00am</b>
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Seqwater status of inflows and dam operations

*Current status but could change based on inflows or rainfall.*

<b>Current objectives</b>	<ul style="list-style-type: none"> <li>Continue increasing releases to discharge floodwater as quickly as possible</li> </ul>										
<b>Strategy</b>	<ul style="list-style-type: none"> <li>Continue to increase releases from 890cumecs this morning to 1200cumecs by lunchtime</li> <li>This should keep Fernvale and Mt Crosby bridges clear however further predicted rainfall may impact.</li> </ul>										
<b>Key considerations</b>	<table> <tr> <td>Storage levels:</td><td>Above FSL</td></tr> <tr> <td>Inflows:</td><td>Ongoing inflows</td></tr> <tr> <td>Rainfall:</td><td></td></tr> <tr> <td>Lockyer/Bremer:</td><td>Monitoring their inflows</td></tr> <tr> <td>Brisbane River:</td><td>Minimal impact as per previous discussions and releases.</td></tr> </table>	Storage levels:	Above FSL	Inflows:	Ongoing inflows	Rainfall:		Lockyer/Bremer:	Monitoring their inflows	Brisbane River:	Minimal impact as per previous discussions and releases.
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Inflows:	Ongoing inflows										
Rainfall:											
Lockyer/Bremer:	Monitoring their inflows										
Brisbane River:	Minimal impact as per previous discussions and releases.										

### Rainfall

Since 0900 Friday, there has been widespread 20 to 40mm throughout North Pine, Somerset and Wivenhoe catchments with isolated higher totals of 70mm in the upper reaches of the Brisbane R. No significant rain has fallen in the past 12 hours.

Advice from BoM indicates that SE Qld can expect further high rainfall totals over the next 4 days.

Saturday: Rain light at times 5-50mm with higher falls along the coast  
 Sunday: Widespread rain with totals between 50-100mm  
 Monday: Widespread rain again with totals between 50-100mm  
 Tuesday: Rain easing with totals between 25-50mm

Given the saturated conditions of the catchments, significant inflows to Seqwater dams will be generated, especially following the forecast rainfall on Sunday/Monday

### North Pine (Full Supply Level 39.60 m AHD)

At 0600 Saturday, North Pine Lake Level was 39.46 m AHD and slowly rising. Currently 3 gates are open to release runoff from rain on Wed/Thursday/Friday. Given the very high likelihood of significant runoff during the next 4 days, gates will be kept open to match inflows over the next few days, rather than opening and closing at various times with short notice. Youngs Crossing will remain adversely impacted for the duration of the gates being open. Moreton Bay Regional Council has been advised and concurs with this strategy.

### **Somerset (Full Supply Level 99.00 m AHD)**

At 0500 Saturday, Somerset Dam level was 100.42m AHD and rising. The Dam is releasing into Wivenhoe through one open sluice gate. Water will be temporarily held in Somerset to allow the inflow from the upper Brisbane to be passed through the system. However, this strategy may need to be reviewed if significant runoff occurs in the Stanley and Upper Brisbane. Under circumstances of high inflows to Somerset and Wivenhoe, it is the usual practice to hold flood water in Somerset until there is a high level of confidence in the estimated inflows to Wivenhoe.

Since the commencement of the event on 02/01/2011, approximately 85,000ML has flowed into Somerset Dam with a further 20,000ML expected based on the recorded rainfall to date. Approximately 25,000ML has been released into Wivenhoe.

### **Wivenhoe (Full Supply Level 67.00 m AHD)**

At 0600 Saturday, Wivenhoe Dam was 68.45 m AHD and rising steadily with all five gates open and releasing about 890 m<sup>3</sup>/s. River levels upstream of Wivenhoe Dam were rising again, generating further inflow to the dam. It is intended to ramp up the release from Wivenhoe to 1,200m<sup>3</sup>/s by midday Saturday 08/01/2011. Further assessments will be undertaken to determine increases above this level. However, given the high likelihood of significant inflows in the next week, this may be increased.

Since the commencement of the event on 02/01/2011, approximately 200,000ML has flowed into Wivenhoe Dam (including Somerset releases) with a further 180,000ML expected based on the recorded rainfall to date. Approximately 50,000ML has been released from Wivenhoe via the hydro and regulator at about 50m<sup>3</sup>/s.

### **Impacts downstream of Wivenhoe**

The projected Wivenhoe release of 1,200m<sup>3</sup>/s combined with Lockyer flows and local runoff will mean that all crossings downstream of Wivenhoe (Twin Bridges, Savages Crossing, Burtons Bridge, Kholo Bridge and Colleges Crossing) will be adversely impacted for several days. At this stage Fernvale and Mt Crosby Weir Bridge are not expected to be affected but they could potentially be affected if the predicted rainfall totals eventuate.

The current available assessments indicate that the combined flow in the lower Brisbane R would only add 50mm to an upper limit of 100mm to the recorded water levels in the City Reach of the Brisbane Rive. However, it is noted that tides in the lower Brisbane R will be 0.4 to 0.5 metres higher than predicted tides

Somerset Regional, Ipswich City and Brisbane City Councils have been advised of the Wivenhoe operating strategy.

### **Leslie Harrison Dam**

Following the heavy rainfall Wednesday night, gate operations commenced at Leslie Harrison Dam late Wednesday night and are continuing.

**Seqwater Technical Officer name**

Robert Drury

**Seqwater Technical Officer position title**

Dam Operations Manager

## BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

<b>BoM Technical Officer name</b>	Peter Baddiley
<b>BoM Technical Officer position title</b>	
<b>BoM Technical Officer contact details</b>	

## Brisbane City Council (BCC) assessment

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

## Ipswich City Council (ICC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

<b>ICC Technical Officer name</b>	Tony Trace
<b>ICC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>ICC Technical Officer contact details</b>	

## Somerset Regional Council (SRC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

<b>SRC Technical Officer name</b>	Tony Jacobs
<b>SRC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>SRC Technical Officer contact details</b>	

Collated and distributed by (Agency)

Contact Officer signature	
Contact Officer name	Rob Drury
Contact Officer position title	Dam Operations Manager

Next TSR due	Date		Time		or Event	Change in strategy
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## TECHNICAL SITUATION REPORT

<b>TSR Number</b>	W32	<b>Date of TSR release</b>	9.1.2011	<b>Time of TSR release</b>	7.00am
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Seqwater status of inflows and dam operations

*Current status but could change based on inflows or rainfall.*

<b>Current objectives</b>	<ul style="list-style-type: none"> <li>Continue current releases to discharge floodwater as quickly as possible</li> </ul>										
<b>Strategy</b>	<ul style="list-style-type: none"> <li>Continue the current releases of around 1350cumecs or 116,000ML per day, however this may change slightly depending on other flows to maintain around 1600cumecs in the mid Brisbane River</li> <li>This should keep Fernvale and Mt Crosby bridges clear however if further predicted rainfall occurs there may be impacts on these bridges too</li> </ul>										
<b>Key considerations</b>	<table> <tr> <td>Storage levels:</td><td>Above FSL</td></tr> <tr> <td>Inflows:</td><td>Ongoing inflows</td></tr> <tr> <td>Rainfall:</td><td></td></tr> <tr> <td>Lockyer/Bremer:</td><td>Monitoring their inflows</td></tr> <tr> <td>Brisbane River:</td><td>Minimal impact as per previous discussions and releases.</td></tr> </table>	Storage levels:	Above FSL	Inflows:	Ongoing inflows	Rainfall:		Lockyer/Bremer:	Monitoring their inflows	Brisbane River:	Minimal impact as per previous discussions and releases.
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Brisbane River:	Minimal impact as per previous discussions and releases.										

### Rainfall

Catchment average rainfall for the past 12 hours is; North Pine Dam (less than 10 mm); Somerset Dam (40 mm); Wivenhoe Dam (less than 10 mm). The bulk of the rain that has fallen in the Somerset Dam catchment has occurred in the last two hours, with recorded falls exceeding 60mm in some areas. The BOM forecast for the next seven days issued at 0450 this morning is:-

Sunday:	Rain periods.
Monday:	Rain periods.
Tuesday:	Rain periods.
Wednesday	A few showers.
Thursday	A shower or two.
Friday	A shower or two.
Saturday	Mostly fine.

A severe weather warning remains current for heavy rainfall in the dam catchment areas. The dam catchments are relatively saturated and significant inflows will be generated if the forecast rainfall eventuates.

### North Pine Dam (Full Supply Level 39.60 m AHD)

The dam level is currently 39.47 m AHD and steady. Two radial gates remain open to release runoff generated from recent rainfall. Based on rainfall forecasts, the radial gates have been kept open in anticipation of further inflows over the next few days. However unless significant rain falls today,

consideration will be given to closing the gates late this afternoon or early tomorrow morning and discussions to finalise a decision on the timing of radial gate closure will be held with the Moreton Bay Regional Council later today. Youngs crossing will remain closed while releases are in progress.

#### **Somerset Dam (Full Supply Level 99.00 m AHD)**

The dam level is currently falling slowly, with the current level being 100.27m AHD. However the rain that has fallen in the dam catchment over the last two hours (recorded falls exceed 60mm in some areas) will result in significant inflows later today. The current release rate into Wivenhoe Dam is 35,000ML/day. Since the commencement of the event on 02/01/2011 approximately 56,000ML has been released from the dam, with a total of at least 150,000ML to be released based on the currently recorded rainfall. The total release for the event is likely to increase significantly over the next few days based on the current rainfall forecasts. At this stage, releases will continue until at least Tuesday.

#### **Wivenhoe Dam (Full Supply Level 67.00 m AHD)**

The dam level is currently falling slowly, with the current level being 68.58m AHD. River levels upstream of the dam are receding, however further inflows will result from any additional rainfall. The current gate operation strategy will maintain flows of around 1,600m<sup>3</sup>/s in the mid-Brisbane River. The current release rate from Wivenhoe Dam is 116,000ML/day. Since the commencement of the event on 02/01/2011 approximately 150,000ML has been released from the dam, with a total of at least 450,000ML to be released based on the currently recorded rainfall. The total release for the event is likely to increase over the next few days based on the current rainfall forecasts. At this stage, releases will continue until at least Wednesday.

#### **Impacts downstream of Wivenhoe Dam**

The current Wivenhoe Dam release combined with Lockyer flows and local runoff will mean that all low level crossings downstream of Wivenhoe (Twin Bridges, Savages Crossing, Burtons Bridge, Kholo Bridge and Colleges Crossing) will be adversely impacted until at least Wednesday 12 January. At this stage Fernvale and Mt Crosby Weir Bridge are not expected to be affected, but this may be revised if the predicted rainfall totals eventuate and higher releases from Wivenhoe Dam are considered necessary.

Somerset Regional, Ipswich City and Brisbane City Councils have been advised of the Wivenhoe operating strategy.

#### **Leslie Harrison Dam**

Following the heavy rainfall Wednesday night, gate operations commenced at Leslie Harrison Dam late Wednesday night and closed late last night. However further releases are likely.

#### **Hinze Dam**

The gate opening of 300mm continues today and may for several days depending on inflows.

<b>Seqwater Technical Officer name</b>	Robert Drury
<b>Seqwater Technical Officer position title</b>	Dam Operations Manager

## BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

<b>BoM Technical Officer name</b>	Peter Baddiley
<b>BoM Technical Officer position title</b>	
<b>BoM Technical Officer contact details</b>	

## Brisbane City Council (BCC) assessment

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

## Ipswich City Council (ICC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

<b>ICC Technical Officer name</b>	Tony Trace
<b>ICC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>ICC Technical Officer contact details</b>	

## Somerset Regional Council (SRC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised and do not have a problem with the new strategy.

<b>SRC Technical Officer name</b>	Tony Jacobs
<b>SRC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>SRC Technical Officer contact details</b>	

Collated and distributed by (Agency)

Contact Officer signature	
Contact Officer name	Rob Drury
Contact Officer position title	Dam Operations Manager

Next TSR due	Date		Time		or Event	Change in strategy
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## TECHNICAL SITUATION REPORT

<b>TSR Number</b>	<b>W33</b>	<b>Date of TSR release</b>	<b>9.1.2011</b>	<b>Time of TSR release</b>	<b>6.00pm</b>
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### Seqwater status of inflows and dam operations

*Current status but could change based on inflows or rainfall.*

<b>Current objectives</b>	<ul style="list-style-type: none"> <li>Continue current releases however event is increasing in magnitude and may require increased releases.</li> </ul>										
<b>Strategy</b>	<ul style="list-style-type: none"> <li>Continue the current releases however there may be a need to increase releases above current levels and impact Mt Crosby and Fernvale Bridges.</li> </ul>										
<b>Key considerations</b>	<table> <tr> <td>Storage levels:</td><td>Above FSL</td></tr> <tr> <td>Inflows:</td><td>Inflows may approach 1,000,000ML which is close to outflow in 1999 and two thirds of 1974 event.</td></tr> <tr> <td>Rainfall:</td><td>Continuing</td></tr> <tr> <td>Lockyer/Bremer:</td><td>Monitoring their inflows</td></tr> <tr> <td>Brisbane River:</td><td>Minimal impact as per previous discussions and releases.</td></tr> </table>	Storage levels:	Above FSL	Inflows:	Inflows may approach 1,000,000ML which is close to outflow in 1999 and two thirds of 1974 event.	Rainfall:	Continuing	Lockyer/Bremer:	Monitoring their inflows	Brisbane River:	Minimal impact as per previous discussions and releases.
Storage levels:	Above FSL										
Inflows:	Inflows may approach 1,000,000ML which is close to outflow in 1999 and two thirds of 1974 event.										
Rainfall:	Continuing										
Lockyer/Bremer:	Monitoring their inflows										
Brisbane River:	Minimal impact as per previous discussions and releases.										

### Rainfall

Catchment average rainfall for the past 12 hours is; North Pine Dam (60 mm); Somerset Dam (150 mm); Wivenhoe Dam (80 mm). The bulk of the rain that has fallen in the upper reaches of the Stanley and Brisbane Rivers.

The BOM rainfall forecast for the next few days is:-

Monday:	Very heavy rain periods with totals up to 300mm centred around North Pine.
Tuesday:	Rain periods with totals up to 150mm centred around North Pine.
Wednesday	A few showers less than 10mm
Thursday	A shower or two.
Friday	A shower or two.
Saturday	Mostly fine.

A severe weather warning remains current for heavy rainfall in the dam catchment areas. The dam catchments are relatively saturated and significant inflows will be generated if the forecast rainfall eventuates.

### North Pine Dam (Full Supply Level 39.60 m AHD)

The dam level is currently 39.65 m AHD and rising at 1600. Following the rain in the 9 hours, the number of open gates has been increased from 2 to 5 which are expected to remain open for the next 12 hours. Youngs Crossing will remain closed while releases are in progress.

### Somerset Dam (Full Supply Level 99.00 m AHD)

The dam level is 100.75 m AHD and rising quickly. Estimated peak inflow to the dam is about 3,000m<sup>3</sup>/s. Five sluice gates are open releasing about 1,100m<sup>3</sup>/s (95,000ML/d) into Wivenhoe Dam. At this stage the dam will reach at least 101.5 during early Tuesday morning.

Since the commencement of the event on 02/01/2011 approximately 80,000ML has been released from the dam, with an event total of at least 320,000ML based on the recorded rainfall to date. The event total is expected to increase significantly due to the forecast rain in the next 24 to 48 hours. At this stage, releases will continue until at least Wednesday.

#### **Wivenhoe Dam (Full Supply Level 67.00 m AHD)**

The dam level is currently rising again, with the current level being 68.70m AHD. Estimated peak inflow to the dam just from the Upper Brisbane R is about 5,000m<sup>3</sup>/s and, at this stage, the dam will reach at least 72.5 m AHD during Wednesday morning. River levels upstream of the dam are rising quickly with significant inflow being generated from the intense heavy rainfall. The current gate operation strategy will maintain flows of around 1,600m<sup>3</sup>/s in the mid-Brisbane River for the next 24 hours. This may mean temporarily reducing releases from Wivenhoe Dam as Lockyer flows increase. However, releases may have to be increased significantly during Monday depending on the rain in the next 12 to 24 hours. The current release rate from Wivenhoe Dam is 1,400m<sup>3</sup>/s (120,000ML/day).

Since the commencement of the event on 02/01/2011 approximately 210,000ML has been released from the dam, with an event total approaching 1,000,000ML (including Somerset outflow) based on the recorded rainfall to date. The total release for the event is likely to increase over the next few days based on the current rainfall forecasts. At this stage, releases will continue until at least Saturday 15<sup>th</sup> January 2011.

#### **Impacts downstream of Wivenhoe Dam**

The current Wivenhoe Dam release combined with Lockyer flows and local runoff will mean that all low level crossings downstream of Wivenhoe (Twin Bridges, Savages Crossing, Burtons Bridge, Kholo Bridge and Colleges Crossing) will be adversely impacted until at least Saturday 15 January.

**At this stage Fernvale and Mt Crosby Weir Bridge will not be affected for the next 24 hours but there is a strong possibility that, if the predicted rainfall totals eventuate in the next 12 to 24 hours, higher releases from Wivenhoe Dam will be necessary. This may adversely impact upon Fernvale and Mt Crosby Weir Bridges as early as Tuesday morning.**

Water levels in the lower Brisbane R will be impacted by the combined flows of Lockyer Ck, Bremer River, local runoff and releases from Wivenhoe Dam.

Somerset Regional, Ipswich City and Brisbane City Councils have been advised of the Wivenhoe operating strategy.

<b>Seqwater Technical Officer name</b>	Robert Drury
<b>Seqwater Technical Officer position title</b>	Dam Operations Manager

#### **BoM assessment**

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

BoM Technical Officer name	Peter Baddiley
BoM Technical Officer position title	
BoM Technical Officer contact details	

Brisbane City Council (BCC) assessment  
(to include predicted local inundation areas and depths of inundation based on the information)

Council has been advised of the current status.

BCC Technical Officer name	Chris Lavin
BCC Technical Officer position title	Disaster Operations Manager
BCC Technical Officer contact details	

Ipswich City Council (ICC) assessment (if required)  
(to include predicted local inundation areas and depths of inundation based on the information)

Council has been advised of the current status.

ICC Technical Officer name	Tony Trace
ICC Technical Officer position title	Local Disaster Response Coordinator
ICC Technical Officer contact details	

Somerset Regional Council (SRC) assessment (if required)  
(to include predicted local inundation areas and depths of inundation based on the information)

Council has been advised of the current status.

SRC Technical Officer name	Tony Jacobs
SRC Technical Officer position title	Local Disaster Response Coordinator
SRC Technical Officer contact details	

Collated and distributed by (Agency).

Contact Officer signature	
Contact Officer name	Rob Drury
Contact Officer position title	Dam Operations Manager

<b>Next TSR due</b>	<b>Date</b>	9.1.2011	<b>Time</b>		<b>or Event</b>	Change in strategy
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## TECHNICAL SITUATION REPORT

<b>TSR Number</b>	W34	<b>Date of TSR release</b>	9.1.2011	<b>Time of TSR release</b>	9.00pm
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Seqwater status of inflows and dam operations

*Current status but could change based on inflows or rainfall.*

<b>Current objectives</b>	<ul style="list-style-type: none"> <li>Continue current releases however event is increasing in magnitude and will require increased releases.</li> </ul>										
<b>Strategy</b>	<ul style="list-style-type: none"> <li>Continue the current releases until tomorrow noon when releases will be increased to impact Mt Crosby and Fernvale Bridges.</li> </ul>										
<b>Key considerations</b>	<table> <tr> <td>Storage levels:</td><td>Above FSL</td></tr> <tr> <td>Inflows:</td><td>Inflows may approach 1,500,000ML which is close to 1974 event.</td></tr> <tr> <td>Rainfall:</td><td>Continuing</td></tr> <tr> <td>Lockyer/Bremer:</td><td>Monitoring their inflows</td></tr> <tr> <td>Brisbane River:</td><td>Impact as below.</td></tr> </table>	Storage levels:	Above FSL	Inflows:	Inflows may approach 1,500,000ML which is close to 1974 event.	Rainfall:	Continuing	Lockyer/Bremer:	Monitoring their inflows	Brisbane River:	Impact as below.
Storage levels:	Above FSL										
Inflows:	Inflows may approach 1,500,000ML which is close to 1974 event.										
Rainfall:	Continuing										
Lockyer/Bremer:	Monitoring their inflows										
Brisbane River:	Impact as below.										

### Rainfall

Very heavy rainfall has been recorded in the upper reaches of the Brisbane and Stanley in the last 6 hours with totals up 100 to 140mm. Totals for the last 24 hours range from 100 to 300mm.

Rainfall of similar magnitudes is expected in the 12 to 24 hours, especially around the Bremer/Warrill catchments as the system tracks south.

A severe weather warning remains current for heavy rainfall in the dam catchment areas.

### Somerset Dam (Full Supply Level 99.00 m AHD)

The dam level is 101.68 m AHD (about 500,000ML currently in storage) and rising quickly. Peak inflow to the dam is estimated to be about 4,000 m<sup>3</sup>/s based on observed rainfall and could be as high as 5,000m<sup>3</sup>/s with additional forecast rainfall. Five sluice gates are open releasing about 1,100m<sup>3</sup>/s (95,000ML/d) into Wivenhoe Dam. At this stage the dam will reach at least 103.5 early Tuesday morning which will adversely impact areas around Kilcoy.

Since the commencement of the event on 02/01/2011 approximately 100,000ML has been released from the dam into Wivenhoe, with an event total of the order of 520,000ML expected. This may increase due to the forecast rain in the next 24 to 48 hours. At this stage, releases will continue until at least Thursday.

### Wivenhoe Dam (Full Supply Level 67.00 m AHD)

River levels upstream of the dam are rising quickly with significant inflow being generated from the intense heavy rainfall. Flows in the Brisbane River at Gregor's Ck have already reached 6,700m<sup>3</sup>/s and the river is still rising.

The dam level is rising again, with the current level being 69.10m AHD (1,410,000ML with about 300,00 of flood storage). Estimated peak inflow to the dam just from the Upper Brisbane R alone may reach as high as 7,500m<sup>3</sup>/s and, at this stage, the dam will reach at least 73.0 m AHD during Tuesday morning. Given the rapid increase in inflow volumes, it will be necessary to increase the release from Wivenhoe Monday morning.

The objective for dam operations will be to minimise the impact of urban flooding in areas downstream of the dam and, at this stage, releases will be kept below 3,500m<sup>3</sup>/s and the combined flows in the lower Brisbane will be limited to 4,000m<sup>3</sup>/s. This is below the limit of urban damages in the City reaches.

The current release rate from Wivenhoe Dam is 1,400m<sup>3</sup>/s (120,000ML/day). Gate opening will start to be increased from noon Monday and the release is expected to increase to at least 2,600m<sup>3</sup>/s during Tuesday morning.

Since the commencement of the event on 02/01/2011 approximately 220,000ML has been released from the dam, with an event total approaching 1,000,000ML without further rain and as much as 1,500,000ML with forecast rainfall of (both including Somerset outflow). At this stage, releases will continue until at least Sunday 16<sup>th</sup> January 2011.

#### Impacts downstream of Wivenhoe Dam

The projected Wivenhoe Dam releases combined with Lockyer flows and local runoff will mean that all crossings downstream of Wivenhoe (Twin Bridges, Fernvale, Savages Crossing, Burtons Bridge, Kholo Bridge, Mt Crosby Weir and Colleges Crossing) will be adversely impacted until at least Saturday 15 January in varying degrees.

Water levels in the lower Brisbane R will be impacted by the combined flows of Lockyer Ck, Bremer River, local runoff and releases from Wivenhoe Dam.

Somerset Regional, Ipswich City and Brisbane City Councils have been advised of the updated Wivenhoe operating strategy.

Seqwater Technical Officer name	Robert Drury
Seqwater Technical Officer position title	Dam Operations Manager

#### BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

BoM Technical Officer name	Peter Baddiley
BoM Technical Officer position title	
BoM Technical Officer contact details	

### Brisbane City Council (BCC) assessment

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current status.

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

### Ipswich City Council (ICC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current status.

<b>ICC Technical Officer name</b>	Tony Trace
<b>ICC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>ICC Technical Officer contact details</b>	

### Somerset Regional Council (SRC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current status.

<b>SRC Technical Officer name</b>	Tony Jacobs
<b>SRC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>SRC Technical Officer contact details</b>	

Collated and distributed by (Agency)

<b>Contact Officer signature</b>	
<b>Contact Officer name</b>	Rob Drury
<b>Contact Officer position title</b>	Dam Operations Manager

<b>Next TSR due</b>	<b>Date</b>	10.1.2011	<b>Time</b>		<b>or Event</b>	<b>Change in strategy</b>
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## TECHNICAL SITUATION REPORT

<b>TSR Number</b>	W35	<b>Date of TSR release</b>	10.1.2011	<b>Time of TSR release</b>	7am
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### Seqwater status of inflows and dam operations

*Current status but could change based on inflows or rainfall.*

<b>Current objectives</b>	<ul style="list-style-type: none"> <li>Continue increasing releases to discharge flood waters but keep impact downstream to minimum.</li> </ul>										
<b>Strategy</b>	<ul style="list-style-type: none"> <li>All bridges are now inundated .</li> <li>Aiming to release 3,500cumecs to keep flow in lower Brisbane River around 4,000cumecs</li> </ul>										
<b>Key considerations</b>	<table> <tr> <td>Storage levels:</td><td>Above FSL</td></tr> <tr> <td>Inflows:</td><td>Inflows expected around 1,500,000ML which is close to 1974 event.</td></tr> <tr> <td>Rainfall:</td><td>Continuing</td></tr> <tr> <td>Lockyer/Bremer:</td><td>Monitoring their inflows</td></tr> <tr> <td>Brisbane River:</td><td>Impact as below.</td></tr> </table>	Storage levels:	Above FSL	Inflows:	Inflows expected around 1,500,000ML which is close to 1974 event.	Rainfall:	Continuing	Lockyer/Bremer:	Monitoring their inflows	Brisbane River:	Impact as below.
Storage levels:	Above FSL										
Inflows:	Inflows expected around 1,500,000ML which is close to 1974 event.										
Rainfall:	Continuing										
Lockyer/Bremer:	Monitoring their inflows										
Brisbane River:	Impact as below.										

### Rainfall

Moderate to heavy rainfall has been recorded in the Upper Brisbane and Stanley Rivers in the last 12 hours with totals up to 90 mm. Totals for the last 24 hours range from 100 to 325mm.

Mt Glorious recorded 100 mm in the last 12 hours.

Rainfall of similar magnitudes is expected in the 12 to 24 hours around the downstream catchments as the system tracks south.

A severe weather warning remains current for heavy rainfall in the dam catchment areas.

### North Pine Dam (Full Supply Level 39.60 m AHD)

The dam level was 39.97 m and steady. Five gates are open releasing 475 m<sup>3</sup>/s. The inflow into the dam since the commencement of the event is 52,000 ML. Estimated event volume is 72,000 ML assuming no further rainfall. Gate operations will continue until at least Tuesday 11 January 2011.

### Somerset Dam (Full Supply Level 99.00 m AHD)

The dam level at 05:00 was 102.84 m AHD and rising (storing 193,000 ML above FSL). Peak inflow to the dam is estimated to be about 4,200 m<sup>3</sup>/s based on observed rainfall and could be as high as 5,000m<sup>3</sup>/s with additional forecast rainfall. Five sluice gates are open releasing about 1,100m<sup>3</sup>/s (95,000ML/d) into Wivenhoe Dam. At this stage the dam lake level will reach about 103.5 m AHD on Monday afternoon. Areas around Kilcoy will continue to be adversely affected.

Since the commencement of the event on 02/01/2011 approximately 142,000ML has been released from the dam into Wivenhoe, with an event total of the order of 520,000ML expected. This is expected to increase due to the forecast rain in the next 24 to 48 hours. At this stage, releases will continue until at least Thursday.

#### **Wivenhoe Dam (Full Supply Level 67.00 m AHD)**

River levels upstream of the dam have peaked and are falling slowly with significant inflow being generated from the intense heavy rainfall. Flows in the Brisbane River at Gregor's Ck have peaked at 7,350m<sup>3</sup>/s at 23:00 on Sunday 9 January. This peak is bigger than January 1974 and February 1999 at this location.

The dam level is rising quickly, with the current level being 70.77m AHD (storing 450,000 ML). Estimated peak inflow to the dam just from the Upper Brisbane R is around 8,800m<sup>3</sup>/s and, at this stage, the dam will reach at least 73.3 m AHD during Tuesday morning. Given the rapid increase in inflow volumes, it was necessary to start to increase the release from Wivenhoe during Monday morning.

The objective for dam operations will be to minimise the impact of urban flooding in areas downstream of the dam and, at this stage, releases will be kept below 3,500m<sup>3</sup>/s and the combined flows in the lower Brisbane will be limited to 4,000m<sup>3</sup>/s if possible. This is significantly less than the current estimated combined pre-dam peak inflow of 12,000 m<sup>3</sup>/s.

Fernvale Bridge approaches and Mt Crosby Weir Bridge have been inundated and both bridges are now closed.

The current release rate from Wivenhoe Dam is 1,753m<sup>3</sup>/s (150,000ML/day). Gate opening will continue to be increased during Monday and the release is expected to increase to at least 2,600m<sup>3</sup>/s in the next 12 to 24 hours.

Since the commencement of the event on 02/01/2011 approximately 275,000ML has been released from the dam, with an event total approaching 1,600,000ML without further rain and as much as 2,100,000ML with forecast rainfall of (both including Somerset outflow). At this stage, releases will continue until at least Sunday 16<sup>th</sup> January 2011.

#### **Impacts downstream of Wivenhoe Dam**

The projected Wivenhoe Dam releases combined with Lockyer flows and local runoff will mean that all crossings downstream of Wivenhoe (Twin Bridges, Fernvale, Savages Crossing, Burtons Bridge, Kholo Bridge, Mt Crosby Weir and Colleges Crossing) will be adversely impacted until at least Saturday 15 January in varying degrees.

Water levels in the lower Brisbane R will be impacted by the combined flows of Lockyer Ck, Bremer River, local runoff and releases from Wivenhoe Dam. If the predicted rainfall eventuates in the downstream tributary catchments the resultant combined flows in the lower Brisbane may exceed the threshold of damaging discharge in the urban areas within the next 24 to 48 hours. Currently the estimate peak flow in the lower Brisbane River will be the highest since Wivenhoe Dam was completed in 1984 but still well below flows the 1974 levels.

Somerset Regional, Ipswich City and Brisbane City Councils have been advised of the updated Wivenhoe operating strategy.

#### **Outlook**

Heavy rainfall continues throughout South East Queensland and the situation could deteriorate rapidly over the next 24 hours. The flood operation centre will continue to monitor the situation and provide every six hours until the situation stabilizes.

<b>Seqwater Technical Officer name</b>	Robert Drury
<b>Seqwater Technical Officer position title</b>	Dam Operations Manager
<b>Seqwater Technical Officer contact details</b>	

#### BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

<b>BoM Technical Officer name</b>	Peter Baddiley
<b>BoM Technical Officer position title</b>	
<b>BoM Technical Officer contact details</b>	

#### Brisbane City Council (BCC) assessment

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current status.

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

#### Ipswich City Council (ICC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current status.

<b>ICC Technical Officer name</b>	Tony Trace
<b>ICC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>ICC Technical Officer contact details</b>	

#### Somerset Regional Council (SRC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current status.

<b>SRC Technical Officer name</b>	Tony Jacobs
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**SRC Technical Officer position title**

Local Disaster Response Coordinator

**SRC Technical Officer contact details**



Collated and distributed by (Agency)

**Contact Officer signature**

**Contact Officer name**

Rob Drury

**Contact Officer position title**

Dam Operations Manager

Next TSR due	Date	11.1.2011	Time		or Event	Change in strategy
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## TECHNICAL SITUATION REPORT

<b>TSR Number</b>	W36	<b>Date of TSR release</b>	10.1.2011	<b>Time of TSR release</b>	8am
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### Seqwater status of inflows and dam operations

*Current status but could change based on inflows or rainfall.*

<b>Current objectives</b>	<ul style="list-style-type: none"> <li>Continue increasing releases to discharge flood waters but keep impact downstream to minimum.</li> </ul>										
<b>Strategy</b>	<ul style="list-style-type: none"> <li>All bridges are now inundated .</li> </ul>										
<b>Key considerations</b>	<table> <tr> <td>Storage levels:</td><td>Above FSL</td></tr> <tr> <td>Inflows:</td><td>Inflows expected around 1,500,000ML which is close to 1974 event.</td></tr> <tr> <td>Rainfall:</td><td>Continuing</td></tr> <tr> <td>Lockyer/Bremer:</td><td>Monitoring their inflows</td></tr> <tr> <td>Brisbane River:</td><td>Impact as below.</td></tr> </table>	Storage levels:	Above FSL	Inflows:	Inflows expected around 1,500,000ML which is close to 1974 event.	Rainfall:	Continuing	Lockyer/Bremer:	Monitoring their inflows	Brisbane River:	Impact as below.
Storage levels:	Above FSL										
Inflows:	Inflows expected around 1,500,000ML which is close to 1974 event.										
Rainfall:	Continuing										
Lockyer/Bremer:	Monitoring their inflows										
Brisbane River:	Impact as below.										

### Rainfall

Moderate to heavy rainfall has been recorded in the Upper Brisbane and Stanley Rivers in the last 12 hours with totals up to 90 mm. Totals for the last 24 hours range from 100 to 325mm.

Mt Glorious recorded 100 mm in the last 12 hours.

Rainfall of similar magnitudes is expected in the 12 to 24 hours around the downstream catchments as the system tracks south.

A severe weather warning remains current for heavy rainfall in the dam catchment areas.

### North Pine Dam (Full Supply Level 39.60 m AHD)

The dam level was 39.97 m and steady. Five gates are open releasing 475 m<sup>3</sup>/s. The inflow into the dam since the commencement of the event is 52,000 ML. Estimated event volume is 72,000 ML assuming no further rainfall. Gate operations will continue until at least Tuesday 11 January 2011.

### Somerset Dam (Full Supply Level 99.00 m AHD)

The dam level at 05:00 was 102.84 m AHD and rising (storing 193,000 ML above FSL). Peak inflow to the dam is estimated to be about 4,200 m<sup>3</sup>/s based on observed rainfall and could be as high as 5,000m<sup>3</sup>/s with additional forecast rainfall. Five sluice gates are open releasing about 1,100m<sup>3</sup>/s (95,000ML/d) into Wivenhoe Dam. At this stage the dam lake level will reach about 103.5 m AHD on Monday afternoon. Areas around Kilcoy will continue to be adversely affected.

Since the commencement of the event on 02/01/2011 approximately 142,000ML has been released from the dam into Wivenhoe, with an event total of the order of 520,000ML expected. This is expected to increase due to the forecast rain in the next 24 to 48 hours. At this stage, releases will continue until at least Thursday.



### **Wivenhoe Dam (Full Supply Level 67.00 m AHD)**

River levels upstream of the dam have peaked and are falling slowly with significant inflow being generated from the intense heavy rainfall. Flows in the Brisbane River at Gregor's Ck have peaked at 7,350m<sup>3</sup>/s at 23:00 on Sunday 9 January. This peak is bigger than January 1974 and February 1999 at this location.

The dam level is rising quickly, with the current level being 70.77m AHD (storing 450,000 ML). Estimated peak inflow to the dam just from the Upper Brisbane R is around 8,800m<sup>3</sup>/s and, at this stage, the dam will reach at least 73.3 m AHD during Tuesday morning. Given the rapid increase in inflow volumes, it was necessary to start to increase the release from Wivenhoe during Monday morning.

The objective for dam operations will be to minimise the impact of urban flooding in areas downstream of the dam and, at this stage, the aim is to keep combined flows in the lower Brisbane to 3,500m<sup>3</sup>/sec if possible. Consistent with the approved Operating Procedures, these target combined flows may need to be increased to 4,000m<sup>3</sup>/s, and potentially higher. In either case, this is significantly less than the current estimated combined pre-dam peak inflow of 12,000 m<sup>3</sup>/s.

Fernvale Bridge approaches and Mt Crosby Weir Bridge have been inundated and both bridges are now closed.

The current release rate from Wivenhoe Dam is around 2,000m<sup>3</sup>/s (172,000ML/day). Gate opening will continue to be increased during Monday and the release is expected to increase to at least 2,600m<sup>3</sup>/s in the next 12 to 24 hours and further depending on downstream flows..

Since the commencement of the event on 02/01/2011 approximately 275,000ML has been released from the dam, with an event total approaching 1,600,000ML without further rain and as much as 2,100,000ML with forecast rainfall of (both including Somerset outflow). At this stage, releases will continue until at least Sunday 16<sup>th</sup> January 2011.

### **Impacts downstream of Wivenhoe Dam**

The projected Wivenhoe Dam releases combined with Lockyer flows and local runoff will mean that all crossings downstream of Wivenhoe (Twin Bridges, Fernvale, Savages Crossing, Burtons Bridge, Kholo Bridge, Mt Crosby Weir and Colleges Crossing) will be adversely impacted until at least Saturday 15 January in varying degrees.

Water levels in the lower Brisbane R will be impacted by the combined flows of Lockyer Ck, Bremer River, local runoff and releases from Wivenhoe Dam. If the predicted rainfall eventuates in the downstream tributary catchments the resultant combined flows in the lower Brisbane may exceed the threshold of damaging discharge in the urban areas within the next 24 to 48 hours. Currently the estimate peak flow in the lower Brisbane River will be the highest since Wivenhoe Dam was completed in 1984 but still well below flows the 1974 levels.

Somerset Regional, Ipswich City and Brisbane City Councils have been advised of the updated Wivenhoe operating strategy.

### **Outlook**

Heavy rainfall continues throughout South East Queensland and the situation could deteriorate rapidly over the next 24 hours. The flood operation centre will continue to monitor the situation and provide every six hours until the situation stabilizes.

**Seqwater Technical Officer name**

Robert Drury

<b>Seqwater Technical Officer position title</b>	Dam Operations Manager

#### BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

<b>BoM Technical Officer name</b>	Peter Baddiley
<b>BoM Technical Officer position title</b>	
<b>BoM Technical Officer contact details</b>	

#### Brisbane City Council (BCC) assessment

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current status.

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

#### Ipswich City Council (ICC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current status.

<b>ICC Technical Officer name</b>	Tony Trace
<b>ICC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>ICC Technical Officer contact details</b>	

#### Somerset Regional Council (SRC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current status.

<b>SRC Technical Officer name</b>	Tony Jacobs
<b>SRC Technical Officer position title</b>	Local Disaster Response Coordinator

**SRC Technical Officer contact details**



Collated and distributed by (Agency)

<b>Contact Officer signature</b>	
<b>Contact Officer name</b>	Rob Drury
<b>Contact Officer position title</b>	Dam Operations Manager

<b>Next TSR due</b>	<b>Date</b>	11.1.2011	<b>Time</b>		<b>or Event</b>	Change in strategy
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## TECHNICAL SITUATION REPORT

<b>TSR Number</b>	<b>W37</b>	<b>Date of TSR release</b>	<b>10.1.2011</b>	<b>Time of TSR release</b>	<b>3pm</b>
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### Seqwater status of inflows and dam operations

*Current status but could change based on inflows or rainfall.*

<b>Current objectives</b>	<ul style="list-style-type: none"> <li>Continue increasing releases to discharge flood waters but keep impact downstream to minimum.</li> </ul>										
<b>Strategy</b>	<ul style="list-style-type: none"> <li>All bridges are now inundated .</li> <li>Ramp up to 2800cumecs which will give a flow in the lower Brisbane River of around 4,000cumecs</li> </ul>										
<b>Key considerations</b>	<table> <tr> <td>Storage levels:</td><td>Above FSL</td></tr> <tr> <td>Inflows:</td><td>Inflows expected around 1,500,000ML which is close to 1974 event.</td></tr> <tr> <td>Rainfall:</td><td>Continuing</td></tr> <tr> <td>Lockyer/Bremer:</td><td>Monitoring their inflows</td></tr> <tr> <td>Brisbane River:</td><td>Impact as below.</td></tr> </table>	Storage levels:	Above FSL	Inflows:	Inflows expected around 1,500,000ML which is close to 1974 event.	Rainfall:	Continuing	Lockyer/Bremer:	Monitoring their inflows	Brisbane River:	Impact as below.
Storage levels:	Above FSL										
Inflows:	Inflows expected around 1,500,000ML which is close to 1974 event.										
Rainfall:	Continuing										
Lockyer/Bremer:	Monitoring their inflows										
Brisbane River:	Impact as below.										

### Rainfall

Significant rainfall has fallen in the Wivenhoe Dam catchment over the last 3 hours, with falls exceeding 100mm. This rainfall will significantly increase inflows into the dam. A severe weather warning remains current for heavy rainfall in the dam catchment areas. The QPF issued by BOM at 10:00 estimates rainfalls for the 24 hours to 10:00 Tuesday as North Pine Dam (75mm to 150mm); Wivenhoe/Somerset Dam Catchments (50mm – 100mm). Potentially significant rain moving towards the dam catchments is currently evident on the BOM radar.

### Somerset Dam (Full Supply Level 99.00 m AHD)

The dam level is 103.41m AHD and rising. Peak inflow to the dam is estimated to be about 4,200 m<sup>3</sup>/s. Five sluice gates are open releasing about 1,100m<sup>3</sup>/s (95,000ML/day) into Wivenhoe Dam. At this stage the dam lake level will reach about 103.5m AHD on Monday afternoon. Areas around Kilcoy will continue to be adversely affected.

### Wivenhoe Dam (Full Supply Level 67.00 m AHD)

The dam level is 72.41m AHD and rising quickly. The rainfall experienced over the last 2 to 3 hours will result in significant further inflows into the dam and releases from the dam will need to be increased in accordance with Flood Mitigation procedures and to ensure that a fuse plug is not initiated. The initiation of a fuse plug will result in a rapid uncontrolled outflow from the dam of 2,000m<sup>3</sup>/s being added to the gate release outflow. Outflows into the Brisbane River from both Lockyer Creek and the Bremer River are also increasing.

Five radial gates are currently open at the dam releasing about 2,000m<sup>3</sup>/s into the Brisbane River and

this will need to be increased steadily to an outflow of 2,800m<sup>3</sup>/s over the next 9 hours (commencing at 1500). At this stage, the dam will reach about 73.8m AHD during Tuesday morning.

The objective for dam operations is currently to minimise the impact of urban flooding in areas downstream of the dam and to keep river flows in the lower Brisbane River below 4,000m<sup>3</sup>/s if possible. This is significantly less than the current estimated combined pre-dam peak inflow of 12,000m<sup>3</sup>/s. If further rainfall occurs, dam releases may need to be increased further and this may result in river flows in the lower Brisbane River approaching or exceeding 5,000m<sup>3</sup>/s.

#### **Impacts downstream of Wivenhoe Dam**

The projected Wivenhoe Dam releases combined with Lockyer Creek flows and local runoff will mean that all crossings downstream of Wivenhoe (Twin Bridges, Fernvale, Savages Crossing, Burtons Bridge, Kholo Bridge, Mt Crosby Weir and Colleges Crossing) will be adversely impacted until at least Sunday 16 January in varying degrees.

Water levels in the lower Brisbane River will be impacted by the combined flows of Lockyer Creek, Bremer River, local runoff and releases from Wivenhoe Dam.

#### **Outlook**

Heavy rainfall continues throughout South East Queensland and the situation could deteriorate rapidly over the next 24 hours. The flood operation centre will continue to monitor the situation and provide every six hours until the situation stabilizes.

<b>Seqwater Technical Officer name</b>	Robert Drury
<b>Seqwater Technical Officer position title</b>	Dam Operations Manager

#### **BoM assessment**

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

<b>BoM Technical Officer name</b>	Peter Baddiley
<b>BoM Technical Officer position title</b>	
<b>BoM Technical Officer contact details</b>	

#### **Brisbane City Council (BCC) assessment**

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current status.

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

Ipswich City Council (ICC) assessment (if required)  
*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current status.

<b>ICC Technical Officer name</b>	Tony Trace
<b>ICC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>ICC Technical Officer contact details</b>	

Somerset Regional Council (SRC) assessment (if required)  
*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current status.

<b>SRC Technical Officer name</b>	Tony Jacobs
<b>SRC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>SRC Technical Officer contact details</b>	

Collated and distributed by (Agency)

<b>Contact Officer signature</b>	
<b>Contact Officer name</b>	Rob Drury
<b>Contact Officer position title</b>	Dam Operations Manager

<b>Next TSR due</b>	<b>Date</b>	11.1.2011	<b>Time</b>		<b>or Event</b>	Change in strategy
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## TECHNICAL SITUATION REPORT

<b>TSR Number</b>	<b>W38</b>	<b>Date of TSR release</b>	<b>11.1.2011</b>	<b>Time of TSR release</b>	<b>6.30am</b>
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### Seqwater status of inflows and dam operations

*Current status but could change based on inflows or rainfall.*

<b>Current objectives</b>	<ul style="list-style-type: none"> <li>Maintain releases to keep Wivenhoe below RL74 at which significant releases need to be made to ensure the dam security and minimise flood impacts downstream if possible</li> </ul>										
<b>Strategy</b>	<ul style="list-style-type: none"> <li>Maintain current release of 2750cumecs as long as possible but it may need to be increased</li> <li>Close sluices at Somerset Dam to store more water however will affect upstream areas.</li> <li></li> </ul>										
<b>Key considerations</b>	<table> <tr> <td>Storage levels:</td><td>Above FSL</td></tr> <tr> <td>Inflows:</td><td>Inflows expected around 1,500,000ML which is close to 1974 event.</td></tr> <tr> <td>Rainfall:</td><td>Continuing</td></tr> <tr> <td>Lockyer/Bremer:</td><td>Monitoring their inflows</td></tr> <tr> <td>Brisbane River:</td><td>Impact as below.</td></tr> </table>	Storage levels:	Above FSL	Inflows:	Inflows expected around 1,500,000ML which is close to 1974 event.	Rainfall:	Continuing	Lockyer/Bremer:	Monitoring their inflows	Brisbane River:	Impact as below.
Storage levels:	Above FSL										
Inflows:	Inflows expected around 1,500,000ML which is close to 1974 event.										
Rainfall:	Continuing										
Lockyer/Bremer:	Monitoring their inflows										
Brisbane River:	Impact as below.										

### Rainfall

Rainfall continues in the North Pine Dam, Somerset Dam and Wivenhoe Dam catchments. Isolated falls in the Upper Brisbane River of up to 125 mm have been recorded with widespread falls of 40 to 70 mm in the Somerset Dam catchment. This rainfall will increase inflows into the dam.

There has also been 20 to 60 mm in the Lockyer Creek catchment in the last 12 hours with falls of up to 30 mm in the Bremer River.

A severe weather warning remains current for heavy rainfall in the dam catchment areas. The QPF issued by BOM at 16:00 estimates rainfalls for the 24 hours to 10:00 Tuesday as North Pine Dam (25mm to 50mm, with isolated falls to 100mm); Wivenhoe/Somerset Dam Catchments (25mm to 50mm, with isolated falls to 100mm).

#### North Pine Dam (Full Supply Level 39.60 m AHD)

The dam level is 39.80m AHD and has commenced rising again (storing 4,400ML above FSL). Five gates are open releasing 177 m3/s. The inflow into the dam since the commencement of the event is 77,000 ML. Estimated event volume is 88,000 ML assuming no further rainfall. Releases from the dam will continue until at least Wednesday 12 January 2011.

#### Somerset Dam (Full Supply Level 99.00 m AHD)

The dam level is 103.27m AHD and falling slowly. Peak inflow to the dam is estimated to be about

4,200 m<sup>3</sup>/s. Total discharge into Wivenhoe Dam is currently 1400 m<sup>3</sup>/s and this discharge will be decreased in the next few hours to be around 500 m<sup>3</sup>/s later on Tuesday. This is to ensure that the combined flood mitigation capacity in Somerset and Wivenhoe Dam is maximized.

The dam level peaked at 103.52m AHD at 19:00 on Monday 10 January 2011, (unless further significant rainfall is experienced). Areas around Kilcoy will continue to be adversely affected.

#### **Wivenhoe Dam (Full Supply Level 67.00 m AHD)**

The dam level is 73.51m AHD and rising at about 25 mm/hour. Releases from the dam have been held at a rate of 2,750 m<sup>3</sup>/s since 19:30 hours on Monday 10 January 2011. Outflows into the Brisbane River from both Lockyer Creek and the Bremer River are also increasing.

The BoM has provided further advice about the flash flooding experienced in the upper areas of Lockyer Creek. The rainfall responsible for this event was not observed at any rainfall stations but it is considered to be extreme. Flood levels in the Lockyer Creek catchment will exceed maximum recorded levels in some stations in the upper catchment. This flow will result in increases in Brisbane River levels below the junction of Lockyer Creek.

Five radial gates are currently open at the dam releasing about 2,750m<sup>3</sup>/s into the Brisbane River. At this stage, the dam will reach just over 74.0m AHD during Tuesday evening.

Above EL 74.0m AHD the objective for dam operations is to maintain the security of the dam and minimise downstream flood flows if possible.

If further rainfall occurs, dam releases may need to be increased further and this may result in river flows in the lower Brisbane River approaching or exceeding 5,000m<sup>3</sup>/s.

#### **Impacts downstream of Wivenhoe Dam**

The projected Wivenhoe Dam releases combined with Lockyer Creek flows and local runoff will mean that all crossings downstream of Wivenhoe (Twin Bridges, Fernvale, Savages Crossing, Burtons Bridge, Kholo Bridge, Mt Crosby Weir and Colleges Crossing) will be adversely impacted until at least Sunday 16 January in varying degrees.

Water levels in the lower Brisbane River will be impacted by the combined flows of Lockyer Creek, Bremer River, local runoff and releases from Wivenhoe Dam.

The BoM will provide further information regarding the magnitude of the flash flood event occurring in Lockyer Creek early Tuesday morning. Consideration was given to modifying the releases from Wivenhoe Dam to try to moderate the peak flows emanating from Lockyer Creek but the rainfall in the past 12 hours in the catchment above the dam makes this option not possible. Therefore instead of decreasing releases to accommodate the Lockyer Creek flows, the strategy will endeavour to maintain the current releases until Lockyer Creek peaks.

#### **Outlook**

Heavy rainfall continues throughout South East Queensland and the situation could deteriorate over the next 24 hours. The flood operation centre will continue to monitor the situation and provide situation reports every six hours until the situation stabilizes.

<b>Seqwater Technical Officer name</b>	Robert Drury
<b>Seqwater Technical Officer position title</b>	Dam Operations Manager



### BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

BoM Technical Officer name	Peter Baddiley
BoM Technical Officer position title	
BoM Technical Officer contact details	

### Brisbane City Council (BCC) assessment

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current status.

BCC Technical Officer name	Chris Lavin
BCC Technical Officer position title	Disaster Operations Manager
BCC Technical Officer contact details	

### Ipswich City Council (ICC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current status.

ICC Technical Officer name	Tony Trace
ICC Technical Officer position title	Local Disaster Response Coordinator
ICC Technical Officer contact details	

### Somerset Regional Council (SRC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current status.

SRC Technical Officer name	Tony Jacobs
SRC Technical Officer position title	Local Disaster Response Coordinator
SRC Technical Officer contact details	

Collated and distributed by (Agency)

Contact Officer signature	
Contact Officer name	Rob Drury
Contact Officer position title	Dam Operations Manager

Next TSR due	Date	11.1.2011	Time	PM	or Event	
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## TECHNICAL SITUATION REPORT

<b>TSR Number</b>	W39	<b>Date of TSR release</b>	11.1.2011	<b>Time of TSR release</b>	12.00pm
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### Seqwater status of inflows and dam operations

*Current status but could change based on inflows or rainfall.*

<b>Current objectives</b>	<ul style="list-style-type: none"> <li>Maintain releases to keep Wivenhoe below fuse plug initiation and releases need to be made to ensure the dam security and minimise flood impacts downstream if possible</li> </ul>										
<b>Strategy</b>	<ul style="list-style-type: none"> <li>Maintain current release of 3970cumecs as long as possible but it may need to be increased</li> <li>Close sluices at Somerset Dam to store more water however will affect upstream areas.</li> <li>Current estimate of peak dam level is between EL74.5 and EL74.8 (assuming no further significant rainfall). However it is noted that rainfall is continuing across the catchment.</li> <li>Further rainfall in the next 3 hours will require releases to be increased in accordance with Strategy W4, page 29 of the Manual of Operational Procedures for Flood Mitigation at Wivenhoe Dam and Somerset Dam (Flood Operations Manual)</li> </ul>										
<b>Key considerations</b>	<table> <tr> <td>Storage levels:</td><td>Above FSL</td></tr> <tr> <td>Inflows:</td><td>Inflows expected around 1,500,000ML which is close to 1974 event.</td></tr> <tr> <td>Rainfall:</td><td>Continuing</td></tr> <tr> <td>Lockyer/Bremer:</td><td>Monitoring their inflows</td></tr> <tr> <td>Brisbane River:</td><td>Impact as below.</td></tr> </table>	Storage levels:	Above FSL	Inflows:	Inflows expected around 1,500,000ML which is close to 1974 event.	Rainfall:	Continuing	Lockyer/Bremer:	Monitoring their inflows	Brisbane River:	Impact as below.
Storage levels:	Above FSL										
Inflows:	Inflows expected around 1,500,000ML which is close to 1974 event.										
Rainfall:	Continuing										
Lockyer/Bremer:	Monitoring their inflows										
Brisbane River:	Impact as below.										

### Somerset Dam (Full Supply Level 99.00 m AHD)

The dam level is 103.30 AHD and rising. Peak inflow to the dam is estimated to be about 4,200 m<sup>3</sup>/s. Volume stored above FSL is 240,00ML at 163.3%

The dam level peaked at 103.52m AHD at 19:00 on Monday 10 January 2011, (unless further significant rainfall is experienced). Areas around Kilcoy will continue to be adversely affected.

### Wivenhoe Dam (Full Supply Level 67.00 m AHD)

The dam level is 74.1m AHD and rising at about 25 mm/hour. Holding 930,000ML above FSL and 179.5%. Releases from the dam are currently 3,970cumec/s. Outflows into the Brisbane River from both Lockyer Creek and the Bremer River are also increasing.

At this stage it is considered that without further rainfall the dam can be kept at around 74.8m.

The aim is to prevent fuse plug initiation.

Currently the situation is being assessed every 3 hours.

If further rainfall occurs, dam releases may need to be increased further.

### Outlook

Heavy rainfall continues throughout South East Queensland and the situation could deteriorate over the next 24 hours. The flood operation centre will continue to monitor the situation and provide situation reports every six hours until the situation stabilizes.

<b>Seqwater Technical Officer name</b>	Robert Drury
<b>Seqwater Technical Officer position title</b>	Dam Operations Manager

### BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

<b>BoM Technical Officer name</b>	Peter Baddiley
<b>BoM Technical Officer position title</b>	
<b>BoM Technical Officer contact details</b>	

### Brisbane City Council (BCC) assessment

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current status.

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

### Ipswich City Council (ICC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current status.

ICC Technical Officer name	Tony Trace
ICC Technical Officer position title	Local Disaster Response Coordinator
ICC Technical Officer contact details	

Somerset Regional Council (SRC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current status.

SRC Technical Officer name	Tony Jacobs
SRC Technical Officer position title	Local Disaster Response Coordinator
SRC Technical Officer contact details	

Collated and distributed by (Agency)

Contact Officer signature	
Contact Officer name	Rob Drury
Contact Officer position title	Dam Operations Manager

Next TSR due	Date	11.1.2011	Time	PM	or Event	
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## TECHNICAL SITUATION REPORT

<b>TSR Number</b>	W40	<b>Date of TSR release</b>	11.1.2011	<b>Time of TSR release</b>	4.00pm
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### Seqwater status of inflows and dam operations

*Current status but could change based on inflows or rainfall.*

<b>Current objectives</b>	<ul style="list-style-type: none"> <li>Maintain releases to keep Wivenhoe below fuse plug initiation and releases need to be made to ensure the dam security and minimise flood impacts downstream if possible</li> </ul>										
<b>Strategy</b>	<ul style="list-style-type: none"> <li>Inflows into Wivenhoe in excess of 12000 cumecs.</li> <li>Maintain current release 5700 cumecs as long as possible but due to the high level in the dam may change frequently due to inflows, this is being reviewed every 30 minutes and releases adjusted accordingly.</li> <li>Close sluices at Somerset Dam to store more water however will affect upstream areas.</li> </ul>										
<b>Key considerations</b>	<table> <tr> <td>Storage levels:</td><td>Above FSL</td></tr> <tr> <td>Inflows:</td><td>Inflows expected around 1,500,000ML which is close to 1974 event.</td></tr> <tr> <td>Rainfall:</td><td>Continuing</td></tr> <tr> <td>Lockyer/Bremer:</td><td>Monitoring their inflows</td></tr> <tr> <td>Brisbane River:</td><td>Impact as below.</td></tr> </table>	Storage levels:	Above FSL	Inflows:	Inflows expected around 1,500,000ML which is close to 1974 event.	Rainfall:	Continuing	Lockyer/Bremer:	Monitoring their inflows	Brisbane River:	Impact as below.
Storage levels:	Above FSL										
Inflows:	Inflows expected around 1,500,000ML which is close to 1974 event.										
Rainfall:	Continuing										
Lockyer/Bremer:	Monitoring their inflows										
Brisbane River:	Impact as below.										

### Somerset/Wivenhoe Dam

Our strategy revolves ensuring dam security and is around trying to prevent initiation of the first fuse plug at EL 75.6m. If this happens we will get a rapid increase of about 2,000m<sup>3</sup>/s in outflow from the dam in addition to the gate release which could be as high as 10,000m<sup>3</sup>/s at the time. Sluices have been closed at Somerset and this will result in high upstream water levels affecting Kilcoy.

Wivenhoe Dam is rising very quickly and rapid gate openings are required to manage this increase. Based on the current rate of rise, inflow rate is in excess of 12,000m<sup>3</sup>/s. The situation is being revised constantly and releases will be increased hourly until the water level starts to stabilize. It is possible that the releases will be as high as 10,000m<sup>3</sup>/s in the next few hours. Heavy rainfall continues in the catchment especially around the dam.

It should be noted that the flow in the lower Brisbane R in 1974 was about 9,500m<sup>3</sup>/s.

Travel time to Lower Brisbane River is 24 hours.

## North Pine

Inflows and outflows are at record levels and increasing within inflows nearing 3,000m<sup>3</sup>/s, and is approaching an extreme event (possibly as high as 1 in 10,000 AEP)

Seqwater Technical Officer name	Robert Drury
Seqwater Technical Officer position title	Dam Operations Manager

## BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

BoM Technical Officer name	Peter Baddley
BoM Technical Officer position title	
BoM Technical Officer contact details	

## Brisbane City Council (BCC) assessment

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current status.

BCC Technical Officer name	Chris Lavin
BCC Technical Officer position title	Disaster Operations Manager
BCC Technical Officer contact details	

## Ipswich City Council (ICC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current status.

ICC Technical Officer name	Tony Trace
ICC Technical Officer position title	Local Disaster Response Coordinator
ICC Technical Officer contact details	

Somerset Regional Council (SRC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current status.

<b>SRC Technical Officer name</b>	Tony Jacobs
<b>SRC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>SRC Technical Officer contact details</b>	

Collated and distributed by (Agency)

<b>Contact Officer signature</b>	
<b>Contact Officer name</b>	Rob Drury
<b>Contact Officer position title</b>	Dam Operations Manager

<b>Next TSR due</b>	<b>Date</b>	11.1.2011	<b>Time</b>	PM	<b>or Event</b>	
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## TECHNICAL SITUATION REPORT

<b>TSR Number</b>	W41	<b>Date of TSR release</b>	11.1.2011	<b>Time of TSR release</b>	6pm
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Seqwater status of inflows and dam operations

*Current status but could change based on inflows or rainfall.*

<b>Current objectives</b>	<ul style="list-style-type: none"> <li>Maintain releases to keep Wivenhoe below fuse plug initiation and releases need to be made to ensure the dam security and minimise flood impacts downstream if possible</li> </ul>										
<b>Strategy</b>	<ul style="list-style-type: none"> <li>Peak inflows into Wivenhoe in excess of 12000 cumecs.</li> <li>Increase releases to maintain fuse plug and dam integrity.</li> <li>Close sluices at Somerset Dam to store more water however will affect upstream areas.</li> </ul>										
<b>Key considerations</b>	<table> <tr> <td>Storage levels:</td><td>Above FSL</td></tr> <tr> <td>Inflows:</td><td>Inflows expected well over 1,500,000ML.</td></tr> <tr> <td>Rainfall:</td><td>Continuing</td></tr> <tr> <td>Lockyer/Bremer:</td><td>Monitoring their inflows</td></tr> <tr> <td>Brisbane River:</td><td>Impact as below.</td></tr> </table>	Storage levels:	Above FSL	Inflows:	Inflows expected well over 1,500,000ML.	Rainfall:	Continuing	Lockyer/Bremer:	Monitoring their inflows	Brisbane River:	Impact as below.
Storage levels:	Above FSL										
Inflows:	Inflows expected well over 1,500,000ML.										
Rainfall:	Continuing										
Lockyer/Bremer:	Monitoring their inflows										
Brisbane River:	Impact as below.										

### Somerset/Wivenhoe

Our strategy revolves ensuring dam security and is around trying to prevent initiation of the first fuse plug at EL 75.6m. If this happens we will get a rapid increase of about 2,000m<sup>3</sup>/s in outflow from the dam in addition to the gate release which could be as high as 10,000m<sup>3</sup>/s at the time.

Sluices have been closed at Somerset and this will result in high upstream water levels affecting Kilcoy. Somerset is at 104.41m holding 671,000ML and 176.6%.

In the last twelve hours totals of up to 370mm have fallen in the area around Wivenhoe Dam. In the last hour, rainfalls between 15 and 30mm have been recorded in the same area. At 1600, the BoM advised that falls between 50 to 100mm are still forecast for the 24hrs to 1600 Wednesday 12 January 2011 for the North Pine and Somerset/Wivenhoe catchments. Current inflows are about 9,000cumecs.

At 1730 Wivenhoe Dam was 74.92m AHD holding 2,200,000ML and 190% and rising slowly and releasing about 6,700m<sup>3</sup>/s.

The current expectation is that the dam will reach a steady state (outflow equals inflow) within the next 3 hours without further significant rainfall. At this time, release from the dam will be about 8,000 m<sup>3</sup>/s.

If there is no further rainfall, it may be possible to then slowly reduce this release overnight.

The dam is expected to peak below 75.5m AHD which is 100mmm below the first fuse plug initiation level.

Note that the automatic recorder as indicated on the BoM website is affected by drawdown and is not reflecting the actual lake level and tendency.

The Flood Operations Centre is continuing to monitor rainfalls and water levels through the Brisbane and Pine catchments and reviewing operating strategy every 30 minutes. The FOC is also maintaining close contact with warning agencies and local councils.

It should be noted that the flow in the lower Brisbane R in 1974 was about 9,500m<sup>3</sup>/s

**North Pine Dam:**

Five gates are open, and will continue until at least Wednesday 12 January.

The local Council is being kept informed regarding Youngs Crossing.

**Leslie Harrison Dam:**

Gate releases are underway due to rainfall and inflows.

**Hinze Dam:**

A release of around 86cumecs or 7396 megalitres a day is being made through the emergency gates and this will increase to around 8,000 megalitres per day by 6pm Tuesday 11 January. There is no public access to the spillway.

**Wyaralong Dam**

As at 5:00pm today 9,680ML/day was passing over the spillway at Wyaralong Dam. This represents a water depth of 0.59m over the spillway. The water level is continuing to rise. Wyaralong Dam Alliance will continue to monitor and advise of water levels and flows.

<b>Seqwater Technical Officer name</b>	Robert Drury
<b>Seqwater Technical Officer position title</b>	Dam Operations Manager

**BoM assessment**

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

<b>BoM Technical Officer name</b>	Peter Baddiley
<b>BoM Technical Officer position title</b>	
<b>BoM Technical Officer contact details</b>	

**Brisbane City Council (BCC) assessment**

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current status.

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

Ipswich City Council (ICC) assessment (if required)  
(to include predicted local inundation areas and depths of inundation based on the information)

Council has been advised of the current status.

<b>ICC Technical Officer name</b>	Tony Trace
<b>ICC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>ICC Technical Officer contact details</b>	

Somerset Regional Council (SRC) assessment (if required)  
(to include predicted local inundation areas and depths of inundation based on the information)

Council has been advised of the current status.

<b>SRC Technical Officer name</b>	Tony Jacobs
<b>SRC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>SRC Technical Officer contact details</b>	

Collated and distributed by (Agency)

<b>Contact Officer signature</b>	
<b>Contact Officer name</b>	Rob Drury
<b>Contact Officer position title</b>	Dam Operations Manager

<b>Next TSR due</b>	<b>Date</b>	11.1.2011	<b>Time</b>	PM	<b>or Event</b>	
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## TECHNICAL SITUATION REPORT

<b>TSR Number</b>	W44	<b>Date of TSR release</b>	11.1.2011	<b>Time of TSR release</b>	8pm
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### Seqwater status of inflows and dam operations

*Current status but could change based on inflows or rainfall.*

<b>Current objectives</b>	<ul style="list-style-type: none"> <li>Initiate the gradual reduction of releases.</li> </ul>										
<b>Strategy</b>	<ul style="list-style-type: none"> <li>Peak inflows into Wivenhoe were in excess of 12000 cumecs.</li> <li>Maintain controlled releases.</li> <li>Keep sluices closed at Somerset Dam to store more water however will affect upstream areas.</li> </ul>										
<b>Key considerations</b>	<table> <tr> <td>Storage levels:</td><td>Above FSL</td></tr> <tr> <td>Inflows:</td><td>Inflows expected well over 1,500,000ML.</td></tr> <tr> <td>Rainfall:</td><td>Continuing</td></tr> <tr> <td>Lockyer/Bremer:</td><td>Monitoring their inflows</td></tr> <tr> <td>Brisbane River:</td><td>Impact as below.</td></tr> </table>	Storage levels:	Above FSL	Inflows:	Inflows expected well over 1,500,000ML.	Rainfall:	Continuing	Lockyer/Bremer:	Monitoring their inflows	Brisbane River:	Impact as below.
Storage levels:	Above FSL										
Inflows:	Inflows expected well over 1,500,000ML.										
Rainfall:	Continuing										
Lockyer/Bremer:	Monitoring their inflows										
Brisbane River:	Impact as below.										

### Somerset/Wivenhoe

Our strategy revolves ensuring dam security and is around trying to prevent initiation of the first fuse plug at EL 75.6m. If this happens we will get a rapid increase of about 2,000m<sup>3</sup>/s in outflow from the dam in addition to the gate release which could be as high as 10,000m<sup>3</sup>/s at the time.

Sluices have been closed at Somerset and this will result in high upstream water levels affecting Kilcoy. Somerset is at 104.78m holding 697,400ML and 183.6%.

Somerset should peak at around 105.2m (1974 peak level was 106.5m).

At 2100 Wivenhoe Dam was 74.95m AHD holding 2,223,000ML and 190.8% and slowly dropping.

The levels have now stabilized and commenced to fall slowly.

The FOC has begun an appropriate closure sequence to reduce releases.

Releases will be reduced slowly throughout the night to track dropping levels. First reduction will be to around 7,100cumecs.

Assuming no further rain, the dam has now peaked around 74.97m AHD which was around 600mm below the first fuse plug initiation level.

The Flood Operations Centre is continuing to monitor rainfalls and water levels through the Brisbane and Pine catchments and reviewing operating strategy every 30 minutes. The FOC is also maintaining close contact with warning agencies and local councils.

It should be noted that the flow in the lower Brisbane R in 1974 was about 9,500m<sup>3</sup>/s

**North Pine Dam:**

Five gates are open and continuing to drop. Releases may still continue until Wednesday 12 January.

The local Council is being kept informed regarding Youngs Crossing.

**Leslie Harrison Dam:**

Gate releases are underway due to rainfall and inflows.

**Hinze Dam:**

A release of around 8,000 megalitres a day is being made through the emergency gates. There is no public access to the spillway.

<b>Seqwater Technical Officer name</b>	Robert Drury
<b>Seqwater Technical Officer position title</b>	Dam Operations Manager

**BoM assessment**

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

<b>BoM Technical Officer name</b>	Peter Baddiley
<b>BoM Technical Officer position title</b>	
<b>BoM Technical Officer contact details</b>	

**Brisbane City Council (BCC) assessment**

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current strategy

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

**Ipswich City Council (ICC) assessment (if required)**

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current strategy.

ICC Technical Officer name	Tony Trace
ICC Technical Officer position title	Local Disaster Response Coordinator
ICC Technical Officer contact details	

Somerset Regional Council (SRC) assessment (if required)  
(to include predicted local inundation areas and depths of inundation based on the information)

Council has been advised of the current strategy.

SRC Technical Officer name	Tony Jacobs
SRC Technical Officer position title	Local Disaster Response Coordinator
SRC Technical Officer contact details	

Collated and distributed by (Agency)

Contact Officer signature	
Contact Officer name	Rob Drury
Contact Officer position title	Dam Operations Manager

Next TSR due	Date	11.1.2011	Time	PM	or Event	
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## TECHNICAL SITUATION REPORT

<b>TSR Number</b>	W46	<b>Date of TSR release</b>	11.1.2011	<b>Time of TSR release</b>	11pm
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Seqwater status of inflows and dam operations

*Current status but could change based on inflows or rainfall.*

<b>Current objectives</b>	<ul style="list-style-type: none"> <li>Gradual reduction of releases.</li> </ul>										
<b>Strategy</b>	<ul style="list-style-type: none"> <li>Peak inflows into Wivenhoe were in excess of 12000 cumecs.</li> <li>Maintain controlled releases.</li> <li>Keep sluices closed at Somerset Dam to store more water however will affect upstream areas.</li> </ul>										
<b>Key considerations</b>	<table> <tr> <td>Storage levels:</td><td>Above FSL</td></tr> <tr> <td>Inflows:</td><td>Inflows expected well over 1,500,000ML.</td></tr> <tr> <td>Rainfall:</td><td>Continuing</td></tr> <tr> <td>Lockyer/Bremer:</td><td>Monitoring their inflows</td></tr> <tr> <td>Brisbane River:</td><td>Impact as below.</td></tr> </table>	Storage levels:	Above FSL	Inflows:	Inflows expected well over 1,500,000ML.	Rainfall:	Continuing	Lockyer/Bremer:	Monitoring their inflows	Brisbane River:	Impact as below.
Storage levels:	Above FSL										
Inflows:	Inflows expected well over 1,500,000ML.										
Rainfall:	Continuing										
Lockyer/Bremer:	Monitoring their inflows										
Brisbane River:	Impact as below.										

### Somerset/Wivenhoe

Our strategy revolves ensuring dam security and is around trying to prevent initiation of the first fuse plug at EL 75.6m. If this happens we will get a rapid increase of about 2,000m<sup>3</sup>/s in outflow from the dam in addition to the gate release which could be as high as 10,000m<sup>3</sup>/s at the time.

Sluices have been closed at Somerset and this will result in high upstream water levels affecting Kilcoy. Somerset is at 104.90m holding 705,730ML and 185.8%.

Somerset should peak at around 105.2m (1974 peak level was 106.5m).

At 2300 Wivenhoe Dam was 74.92m AHD holding 2,219,000ML and 190.4%.

The FOC has begun an appropriate closure sequence to reduce releases. Releases will be reduced throughout the night to track dropping levels. Another reduction will commence around 23:30 to 6,100cumecs. Further reductions will occur over night.

Assuming no further rain, the dam peaked around 74.97m AHD which was around 600mm below the first fuse plug initiation level.

The Flood Operations Centre is continuing to monitor rainfalls and water levels through the Brisbane and Pine catchments and reviewing operating strategy every 30 minutes. The FOC is also maintaining close contact with warning agencies and local councils.

It should be noted that the flow in the lower Brisbane R in 1974 was about 9,500m<sup>3</sup>/s

**North Pine Dam:**

Five gates are open and continuing to drop. Releases may still continue until Wednesday 12 January.

The local Council is being kept informed regarding Youngs Crossing.

**Leslie Harrison Dam:**

Gate releases are underway due to rainfall and inflows.

**Hinze Dam:**

A release of around 8,000 megalitres a day is being made through the emergency gates. There is no public access to the spillway.

<b>Seqwater Technical Officer name</b>	Robert Drury
<b>Seqwater Technical Officer position title</b>	Dam Operations Manager

**BoM assessment**

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

<b>BoM Technical Officer name</b>	Peter Baddiley
<b>BoM Technical Officer position title</b>	
<b>BoM Technical Officer contact details</b>	

**Brisbane City Council (BCC) assessment**

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current strategy

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

**Ipswich City Council (ICC) assessment (if required)**

*(to include predicted local inundation areas and depths of inundation based on the information)*



Council has been advised of the current strategy.

ICC Technical Officer name	Tony Trace
ICC Technical Officer position title	Local Disaster Response Coordinator
ICC Technical Officer contact details	

Somerset Regional Council (SRC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current strategy.

SRC Technical Officer name	Tony Jacobs
SRC Technical Officer position title	Local Disaster Response Coordinator
SRC Technical Officer contact details	

Collated and distributed by (Agency)

Contact Officer signature	
Contact Officer name	Rob Drury
Contact Officer position title	Dam Operations Manager

Next TSR due	Date	12.1.2011	Time	AM	or Event	
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## TECHNICAL SITUATION REPORT

<b>TSR Number</b>	<b>W47</b>	<b>Date of TSR release</b>	<b>12.1.2011</b>	<b>Time of TSR release</b>	<b>5am</b>
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### Seqwater status of inflows and dam operations

*Current status but could change based on inflows or rainfall.*

<b>Current objectives</b>	<ul style="list-style-type: none"> <li>Gradual reduction of releases.</li> </ul>										
<b>Strategy</b>	<ul style="list-style-type: none"> <li>Peak inflows into Wivenhoe were in excess of 12000 cumecs.</li> <li>Maintain controlled releases.</li> <li>Keep sluices closed at Somerset Dam to store more water however will affect upstream areas.</li> </ul>										
<b>Key considerations</b>	<table> <tr> <td>Storage levels:</td><td>Above FSL</td></tr> <tr> <td>Inflows:</td><td>Inflows expected well over 1,500,000ML.</td></tr> <tr> <td>Rainfall:</td><td>Continuing</td></tr> <tr> <td>Lockyer/Bremer:</td><td>Monitoring their inflows</td></tr> <tr> <td>Brisbane River:</td><td>Impact as below.</td></tr> </table>	Storage levels:	Above FSL	Inflows:	Inflows expected well over 1,500,000ML.	Rainfall:	Continuing	Lockyer/Bremer:	Monitoring their inflows	Brisbane River:	Impact as below.
Storage levels:	Above FSL										
Inflows:	Inflows expected well over 1,500,000ML.										
Rainfall:	Continuing										
Lockyer/Bremer:	Monitoring their inflows										
Brisbane River:	Impact as below.										

### Somerset/Wivenhoe

Our strategy revolved ensuring dam security and was around trying to prevent initiation of the first fuse plug at EL 75.6m. If this happens we will get a rapid increase of about 2,000m<sup>3</sup>/s in outflow from the dam in addition to the gate release which could be as high as 10,000m<sup>3</sup>/s at the time.

Only minimal falls occurred overnight in the order of mm.

Sluices have been closed at Somerset and this will result in high upstream water levels affecting Kilcoy. Somerset is at 105.1m holding 719730ML and 189.5%. Some flows are going over the Somerset spillway.

Somerset should peak at around 105.2m (1974 peak level was 106.5m).

At 0500 Wivenhoe Dam was 74.77m AHD holding 2,195,287ML and 188%.

The FOC has begun an appropriate closure sequence to reduce releases.

Current release rate is 4,300cumecs.

Further reductions will occur throughout the week..

Assuming no further rain, the dam peaked around 74.97m AHD which was around 600mm below the first fuse plug initiation level.

The Flood Operations Centre is continuing to monitor rainfalls and water levels through the Brisbane and Pine catchments and reviewing operating strategy every 30 minutes. The FOC is also maintaining close contact with warning agencies and local councils.

It should be noted that the flow in the lower Brisbane R in 1974 was about 9,500m<sup>3</sup>/s

**North Pine Dam:**

Five gates are open and continuing to drop. Releases may still continue until Wednesday 12 January. The event magnitude is estimated to be a 1:10,000 year exceedance probability.

The local Council is being kept informed regarding Youngs Crossing.

**Leslie Harrison Dam:**

Gate releases are underway due to rainfall and inflows.

**Hinze Dam:**

A release of around 8,000 megalitres a day is being made through the emergency gates. There is no public access to the spillway.

<b>Seqwater Technical Officer name</b>	Robert Drury
<b>Seqwater Technical Officer position title</b>	Dam Operations Manager

**BoM assessment**

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

<b>BoM Technical Officer name</b>	Peter Baddiley
<b>BoM Technical Officer position title</b>	
<b>BoM Technical Officer contact details</b>	

**Brisbane City Council (BCC) assessment**

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current strategy

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

Ipswich City Council (ICC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current strategy.

ICC Technical Officer name	Tony Trace
ICC Technical Officer position title	Local Disaster Response Coordinator
ICC Technical Officer contact details	

Somerset Regional Council (SRC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current strategy.

SRC Technical Officer name	Tony Jacobs
SRC Technical Officer position title	Local Disaster Response Coordinator
SRC Technical Officer contact details	

Collated and distributed by (Agency)

Contact Officer signature	
Contact Officer name	Rob Drury
Contact Officer position title	Dam Operations Manager

Next TSR due	Date	12.1.2011	Time	PM	or Event	
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## TECHNICAL SITUATION REPORT

<b>TSR Number</b>	W48	<b>Date of TSR release</b>	12.1.2011	<b>Time of TSR release</b>	8am
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### Seqwater status of inflows and dam operations

*Current status but could change based on inflows or rainfall.*

<b>Current objectives</b>	<ul style="list-style-type: none"> <li>Gradual reduction of releases.</li> </ul>										
<b>Strategy</b>	<ul style="list-style-type: none"> <li>Peak inflows into Wivenhoe were in excess of 12000 cumecs.</li> <li>Develop and implement closing plan for next 7 or so days</li> </ul>										
<b>Key considerations</b>	<table> <tr> <td>Storage levels:</td><td>Above FSL</td></tr> <tr> <td>Inflows:</td><td>Inflows expected well over 2,000,000ML.</td></tr> <tr> <td>Rainfall:</td><td>Continuing</td></tr> <tr> <td>Lockyer/Bremer:</td><td>Monitoring their inflows</td></tr> <tr> <td>Brisbane River:</td><td>Impact as below.</td></tr> </table>	Storage levels:	Above FSL	Inflows:	Inflows expected well over 2,000,000ML.	Rainfall:	Continuing	Lockyer/Bremer:	Monitoring their inflows	Brisbane River:	Impact as below.
Storage levels:	Above FSL										
Inflows:	Inflows expected well over 2,000,000ML.										
Rainfall:	Continuing										
Lockyer/Bremer:	Monitoring their inflows										
Brisbane River:	Impact as below.										

### Rainfall

No significant rain has fallen over the catchments in the past twelve hours. Less than 10 to 15 millimeters of rainfall is expected over the next 24-48 hours.

### Somerset/Wivenhoe

Somerset Dam has peaked at 105.11 m AHD at 08:00 on 12 January 2011 and the dam is discharging 1,230 m<sup>3</sup>/s over the spillway. Sluice gates will be utilised to assist the draining of the flood storage compartment commencing later Wednesday. At 8am Somerset was 105.11m and 720,400ML at 189.7%.

Wivenhoe Dam peaked at 74.97 m AHD at 19:00 on 11 January 2011 with a corresponding discharge of 7,450 m<sup>3</sup>/s. Wivenhoe Dam was 74.75 m AHD at 2,192,000ML and 188.1% at 07:30 and generally falling slowly.

The releases from Wivenhoe Dam have been temporarily reduced to 2,500 m<sup>3</sup>/s at 07:30 to allow the peak of Lockyer Creek to enter the Brisbane River. After the downstream peak in the lower Brisbane River has passed, releases will be increased to maximum of 3,500 m<sup>3</sup>/s. This release will then be maintained to drain the flood storage component within the required 7 days.

The combined flood event volume in Somerset and Wivenhoe Dams is estimated to be in excess of 2 million megalitres.

### North Pine

At 07:00 North Pine Dam was 39.78 m AHD falling and releasing about 105 m<sup>3</sup>/s. North Pine has

peaked at 41.11 mAHD at 14:00 on 11 January 1974 with peak release of 2,800 m<sup>3</sup>/s. The event has a volume of around 200,000 ML. It is expected that gates will be close later Wednesday or early Thursday

### Strategy

The Flood Operations Centre is continuing to monitor rainfalls and water levels through the Brisbane and Pine catchments and reviewing operating strategy every 30 minutes. The FOC is maintaining close contact with warning agencies and local councils.

#### Leslie Harrison Dam:

Gate releases are underway due to rainfall and inflows.

#### Hinze Dam:

A release of around 8,000 megalitres a day is being made through the emergency gates. There is no public access to the spillway.

Seqwater Technical Officer name	Robert Drury
Seqwater Technical Officer position title	Dam Operations Manager

### BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

BoM Technical Officer name	Peter Baddiley
BoM Technical Officer position title	
BoM Technical Officer contact details	

### Brisbane City Council (BCC) assessment

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current strategy

BCC Technical Officer name	Chris Lavin
BCC Technical Officer position title	Disaster Operations Manager
BCC Technical Officer contact details	

Ipswich City Council (ICC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current strategy.

ICC Technical Officer name	Tony Trace
ICC Technical Officer position title	Local Disaster Response Coordinator
ICC Technical Officer contact details	

Somerset Regional Council (SRC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current strategy.

SRC Technical Officer name	Tony Jacobs
SRC Technical Officer position title	Local Disaster Response Coordinator
SRC Technical Officer contact details	

Collated and distributed by (Agency)

Contact Officer signature	
Contact Officer name	Rob Drury
Contact Officer position title	Dam Operations Manager

Next TSR due	Date	12.1.2011	Time	11am	or Event	
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## TECHNICAL SITUATION REPORT

<b>TSR Number</b>	W50	<b>Date of TSR release</b>	12.1.2011	<b>Time of TSR release</b>	3pm
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### Seqwater status of inflows and dam operations

*Current status but could change based on inflows or rainfall.*

<b>Current objectives</b>	<ul style="list-style-type: none"> <li>Gradual release of stored floodwaters with minimal impact.</li> </ul>										
<b>Strategy</b>	<ul style="list-style-type: none"> <li>Peak inflows into Wivenhoe were in excess of 12000 cumecs.</li> <li>Continue release of water from Somerset into Wivenhoe to reduce impacts upstream in Kilcoy area</li> <li>Maintain reduced release from Wivenhoe until Lockyer flows are reduced and then increase to discharge flood waters over 7 days</li> </ul>										
<b>Key considerations</b>	<table> <tr> <td>Storage levels:</td><td>Above FSL</td></tr> <tr> <td>Inflows:</td><td>Inflows expected well over 2,300,000ML.</td></tr> <tr> <td>Rainfall:</td><td>Continuing</td></tr> <tr> <td>Lockyer/Bremer:</td><td>Monitoring their inflows</td></tr> <tr> <td>Brisbane River:</td><td>Impact as below.</td></tr> </table>	Storage levels:	Above FSL	Inflows:	Inflows expected well over 2,300,000ML.	Rainfall:	Continuing	Lockyer/Bremer:	Monitoring their inflows	Brisbane River:	Impact as below.
Storage levels:	Above FSL										
Inflows:	Inflows expected well over 2,300,000ML.										
Rainfall:	Continuing										
Lockyer/Bremer:	Monitoring their inflows										
Brisbane River:	Impact as below.										

### Rainfall

Rainfall in the last 12 hours is generally below 5mm with a couple of 10mm falls in the Stanley and North Pine catchments. There is no significant rain expected in the next 4 days.

### Somerset/Wivenhoe

Somerset Dam has peaked at 105.11 m AHD at 08:00 on 12 January 2011 and the dam has been discharging over the spillway. One sluice was opened at 1030 12 January 2011 and the dam is discharging 1,440 m<sup>3</sup>/s. Sluice gates will be utilised to drain of the flood storage compartment during the next 5 days.

At 3pm Somerset was 104.94m and 708,505ML at 186.5%.

Wivenhoe Dam peaked at 74.97 m AHD at 19:00 on 11 January 2011 with a corresponding discharge of 7,450 m<sup>3</sup>/s

The releases from Wivenhoe Dam have been temporarily reduced to 2,500 m<sup>3</sup>/s at 07:30 to allow the peak of Lockyer Creek to enter the Brisbane River. After the downstream peak in the lower Brisbane River has passed, releases will be increased to maximum of 3,500 m<sup>3</sup>/s. This release will then be maintained to drain the flood storage component within the required 7 days.

At 3pm Wivenhoe Dam was 74.81 m AHD at 2,201,636ML and 188.9% and fluctuating slightly due to the releases coming from Somerset but relatively steady.



The combined flood event volume in Somerset and Wivenhoe Dams is estimated to be approximately 2.6 million megalitres.

### North Pine

North Pine peaked at 41.11 mAHD at 14:00 on 11 January 1974 with peak release of 2,800 m<sup>3</sup>/s. The event has a volume of around 200,000 ML.

At 3.00pm North Pine Dam was 39.74 mAHD and 217,370 ML and 101.4% and slowly falling. It is expected that gates will be closed Thursday or Friday.

### Strategy

The Flood Operations Centre is continuing to monitor rainfalls and water levels through the Brisbane and Pine catchments and reviewing operating strategy every 30 minutes. The FOC is maintaining close contact with warning agencies and local councils.

### Leslie Harrison Dam:

Gate releases are underway due to rainfall and inflows.

### Hinze Dam:

A release of around 8,000 megalitres a day is being made through the emergency gates. There is no public access to the spillway.

Seqwater Technical Officer name	Robert Drury
Seqwater Technical Officer position title	Dam Operations Manager

### BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

BoM Technical Officer name	Peter Baddiley
BoM Technical Officer position title	
BoM Technical Officer contact details	

### Brisbane City Council (BCC) assessment

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current strategy

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

Ipswich City Council (ICC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current strategy.

<b>ICC Technical Officer name</b>	Tony Trace
<b>ICC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>ICC Technical Officer contact details</b>	

Somerset Regional Council (SRC) assessment (if required)

*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current strategy.

<b>SRC Technical Officer name</b>	Tony Jacobs
<b>SRC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>SRC Technical Officer contact details</b>	

Collated and distributed by (Agency)

<b>Contact Officer signature</b>	
<b>Contact Officer name</b>	Rob Drury
<b>Contact Officer position title</b>	Dam Operations Manager

<b>Next TSR due</b>	<b>Date</b>	12.1.2011	<b>Time</b>	8pm	<b>or Event</b>	
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## TECHNICAL SITUATION REPORT

<b>TSR Number</b>	W51	<b>Date of TSR release</b>	12.1.2011	<b>Time of TSR release</b>	6pm
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### Seqwater status of inflows and dam operations

*Current status but could change based on inflows or rainfall.*

<b>Current objectives</b>	<ul style="list-style-type: none"> <li>Gradual release of stored floodwaters with minimal impact.</li> </ul>										
<b>Strategy</b>	<ul style="list-style-type: none"> <li>Peak inflows into Wivenhoe were in excess of 12000 cumecs.</li> <li>Continue release of water from Somerset into Wivenhoe to reduce impacts upstream in Kilcoy area</li> <li>Maintain reduced release from Wivenhoe until Lockyer flows are reduced and then increase to discharge flood waters over 7 days</li> </ul>										
<b>Key considerations</b>	<table> <tr> <td>Storage levels:</td><td>Above FSL</td></tr> <tr> <td>Inflows:</td><td>Inflows expected well over 2,300,000ML.</td></tr> <tr> <td>Rainfall:</td><td>Continuing</td></tr> <tr> <td>Lockyer/Bremer:</td><td>Monitoring their inflows</td></tr> <tr> <td>Brisbane River:</td><td>Impact as below.</td></tr> </table>	Storage levels:	Above FSL	Inflows:	Inflows expected well over 2,300,000ML.	Rainfall:	Continuing	Lockyer/Bremer:	Monitoring their inflows	Brisbane River:	Impact as below.
Storage levels:	Above FSL										
Inflows:	Inflows expected well over 2,300,000ML.										
Rainfall:	Continuing										
Lockyer/Bremer:	Monitoring their inflows										
Brisbane River:	Impact as below.										

### Rainfall

Rainfall in the last 12 hours is generally below 5mm with a couple of 10mm falls in the Stanley and North Pine catchments. There is no significant rain expected in the next 4 days.

### Somerset/Wivenhoe

Somerset Dam has peaked at 105.11 mAHD at 06:00 on 12 January 2011. One sluice was opened at 1030 12 January 2011 and discharging 1,410 m<sup>3</sup>/s. Sluice gates will be utilised to drain of the flood storage compartment during the next 5 days.

At 5pm Somerset was 104.86m and 702,953ML at 185.1%.

Wivenhoe Dam peaked at 74.97 mAHD at 19:00 on 11 January 2011 with a corresponding discharge of 7,450 m<sup>3</sup>/s.

The release from Wivenhoe Dam was reduced to 2,500 m<sup>3</sup>/s at 07:30 12 January 2011 to allow the peak of Lockyer Creek to enter the Brisbane River and this release has been maintained since. After the downstream peak in the lower Brisbane River has passed, releases will be increased to maximum of 3,500 m<sup>3</sup>/s. The release is expected to commence Thursday and then be maintained at this level to drain the flood storage component within the required 7 days. The releases will not result in any renewed rises at downstream locations.

At 5pm Wivenhoe Dam was 74.82 m AHD at 2,203,223ML and 189.1% and fluctuating slightly due to the releases coming from Somerset but relatively steady.

The combined flood event volume in Somerset and Wivenhoe Dams is estimated to be approximately 2.6 million megalitres.

### North Pine

At 17:00 North Pine Dam had all gates open 1 increment, releasing about 80 m3/s. North Pine peaked at 41.11 mAHd at 14:00 on 11 January 2011 with peak release of 2,800 m3/s. The event has a volume of around 200,000 ML

At 5.00pm North Pine Dam was 39.74 mAHd and 217,370 ML and 101.4% and slowly falling. It is expected that gates will be closed Thursday or Friday.

### Strategy

The Flood Operations Centre is continuing to monitor rainfalls and water levels through the Brisbane and Pine catchments and reviewing operating strategy every 30 minutes. The FOC is maintaining close contact with warning agencies and local councils.

### Leslie Harrison Dam:

Gate releases finished late this afternoon.

### Hinze Dam:

A release of around 8,000 megalitres a day is being made through the emergency gates. There is no public access to the spillway.

Seqwater Technical Officer name	Robert Drury
Seqwater Technical Officer position title	Dam Operations Manager

### BoM assessment

*(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (e.g. weather/rain forecasts, Tropical Cyclone Warning etc) and other updates/comments if needed)*

BoM has been advised.

BoM Technical Officer name	Peter Baddiley
BoM Technical Officer position title	
BoM Technical Officer contact details	

**Brisbane City Council (BCC) assessment**  
*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current strategy

<b>BCC Technical Officer name</b>	Chris Lavin
<b>BCC Technical Officer position title</b>	Disaster Operations Manager
<b>BCC Technical Officer contact details</b>	

**Ipswich City Council (ICC) assessment (if required)**  
*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current strategy.

<b>ICC Technical Officer name</b>	Tony Trace
<b>ICC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>ICC Technical Officer contact details</b>	

**Somerset Regional Council (SRC) assessment (if required)**  
*(to include predicted local inundation areas and depths of inundation based on the information)*

Council has been advised of the current strategy.

<b>SRC Technical Officer name</b>	Tony Jacobs
<b>SRC Technical Officer position title</b>	Local Disaster Response Coordinator
<b>SRC Technical Officer contact details</b>	

Collated and distributed by (Agency)

<b>Contact Officer signature</b>	
<b>Contact Officer name</b>	Rob Drury
<b>Contact Officer position title</b>	Dam Operations Manager

<b>Next TSR due</b>	<b>Date</b>	13.1.2011	<b>Time</b>	8am	<b>or Event</b>	
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### Central SEQ water balance

- On 12 January 2011, bulk water storage in central South East Queensland (Brisbane, Ipswich and Logan) reduced by a third from 338 to 215 ML.
- Most of the reduction was due to both of the Mt Crosby water treatment plants being taken offline.
  - The East Bank water treatment plant was partially inundated, forcing it to be shutdown for at least two days. Recovery is underway.
  - Raw water quality reduced during the day, causing treated water from the West Bank water treatment plant to exceed standard operational limits. Raw water quality increased from 1100 to 1700 NTU during the day.
- Without supply from Mt Crosby, key reservoirs around Ipswich would have been depleted on 13 January 2011.
- Table 1 lists expected production on 13 January. These are maximum production values, excluding any allowance for mechanical or other failures. By comparison, total production on 12 January was less than 200 ML due to Mt Crosby WTP being offline for much of the day and the Northern Pipeline Interconnector supplying north rather than south.
- The table also includes an indication of additional supplies that could potentially become available on 14 January, as the clean up commences. These additional supplies are subject to operational considerations, such as rectification of flood damage. Only some of these supplies are likely to become available.

**Table 1: Supply to central SEQ (Brisbane, Ipswich and Logan)**

Source	Planned production 13 January (ML)	Potential additional production from 14 January (ML)
Northern Pipeline Interconnector	25	
North Pine WTP	100	50
Petrie WTP	0	
Mt Crosby West Bank WTP	150	50
Mt Crosby East Bank WTP	0	100
Eastern Pipeline Interconnector	7	
Logan interconnector	20	
Southern Regional Water Pipeline <sup>1</sup>	100	110
Enoggera WTP and Brisbane Aquifer Project	0	TBD
<b>Total</b>	<b>402</b>	

<sup>1</sup> Includes supply from desalination facility.

- These supplies exceed estimated demand scenarios for the clean up period in central SEQ, as illustrated in Table 2. Forecasts are based on:
  - the proportion of residences in the area that are likely to be inundated
  - for impacted areas, demand being about double typical consumption

- for other areas, demand being around current levels.
- The forecasts highlight the importance of water conservation outside of the impacted areas, as a contingency against further operational issues (including an inability to bring on the potential additional supplies listed above).

**Table 2: Estimated demand scenarios for clean up period in central SEQ (Brisbane, Ipswich and Logan)**

Area	Typical	Low	Likely	High
Ipswich	42	55	61	67
Brisbane	270	265	294	324
Logan	48	43	48	53
Total	360	363	403	443

#### **Mt Crosby operating arrangements**

- As noted above, Mt Crosby West Bank WTP ceased production on 12 January 2011 due to treated water exceeding critical limits for normal operations.
- Alternative operating arrangements are now being applied, taking into account current catchment risks. These risks are considered to be considerably lessened, for a range of impacts including dilution.
- For the duration of the current flood event, the operating rules for the Mt Crosby water treatment plants are:
  - Minimum production of 150 ML/day
  - Achieve and maintain stable operation
  - Shutdown for operational reasons only, not treated water quality
  - Target of below 1 NTU in treated water
  - Periods of up to 2 NTU in treated water tolerable
  - Disinfection residual maintained at standard operating procedure
  - Note some discolouration may occur
- Queensland Health advised that:
  - Based on these operating rules, water supplied from the Mt Crosby water treatment plants is considered to have taken all necessary precautions to minimise the public health risk.
  - Further advice should be sought from Queensland Health should there be a prolonged trend to above 1.5 NTU in treated water. Production should not cease while this advice is sought. An evaluation will be made at that time to determine if water of above 2 NTU may still be safe to supply.

#### **Mt Crosby critical logistics**

- Continued operation of the Mt Crosby West Bank WTP is required to maintain water supplies in central SEQ.

- Chemical supplies are required in order to maintain continued operation. A dirt track is now accessible on the site, however supply routes from Brisbane are still flooded.
- Critical supplies are:
  - hypochlorite (2 days)
  - caustic soda (3 days)
  - alum (5 days).
- **Should supply routes not become open tomorrow, assistance will be required to transport chemicals to the site. Volumes required are relatively large.**
- Recommissioning of Mt Crosby East Bank WTP is a priority, to provide additional production and as a contingency in the event that chemicals are unable to be replenished at the site on the other side of the river.
- The East Bank WTP is both partially inundated and surrounded by flood waters, with access currently only able to be made by helicopter. A helicopter has been hired to transport additional staff to the WTP on the morning of 14 January. **It is critical that this helicopter not be reprioritised by EMQ.**

#### **Western SEQ towns supplies**

- Gatton is expected to run out of water overnight, following the loss of stored treated water.
- Supply is from the Lowood water treatment plant, which is offline due to loss of electricity and some operational issues. Energex has given electricity supply to the site a high priority.
- A number of smaller towns have already run out of supply or are expected to do so soon. QUU has started to supply bottled water to these towns via commercial helicopter.
- Tanker trucks will commence supply to towns as soon as they become accessible. **QUU is seeking advice about potential routes as they become available.**
- A boiled water notice is required when supply recommences after having run dry. A notice is required because of the risk of ingress into the pipelines. A number of these notices will be issued on 13 January 2011 for western towns.



**From:** John Bradley [REDACTED]  
**Sent:** Friday, 14 January 2011 12:28 AM  
**To:** Stephen Robertson; [REDACTED]  
**Cc:** Lance McCallum; [REDACTED]  
**Subject:** Mount Crosby

Minister

This is to let you know that Mt Crosby's East Bank is currently off line again having been recommissioned today. It suffered a parts failure which is expected - but not certain - to be fixed tomorrow morning.

This means the water balance/availability of supply is again under close watch, particularly given potential for increased consumption from Ipswich and Brisbane residents as floodwaters recede.

Key factors we are assessing closely include

- \* turbidity levels in source water for MC Westbank as SEQWater seek to increase its output towards maximum capacity (250 ML/day) - it is possible turbidity may constrain output but as at 11.30 pm, it was looking ok. (If necessary to fine-tune the water quality assessment to maximize output, we are on standby to liaise with M Reid and J Young re health input.)
- \* demand increases tomorrow - noting some potential for mitigation through general SEQ community messaging and deferring non-essential clean up activities (eg. Some council street cleaning/wash down)
- \* timeframes to bring Eastbank back online.

We will discuss with officers before 7 am tomorrow and may bring further strategic advice before 8 am SDMG. Our clearest assessment is expected at around 10 am.

If Eastbank can return to service, then there is little risk to supply security.

If the general outlook is not looking acceptable, we may need to brief you during the morning on options including - at worst - the risk that boiled water notices may be required, in some segments of the Ipswich network later in the day tomorrow.

I will update you again in the morning.

Regards  
John B

[REDACTED]

**From:** Bradley John [REDACTED]  
**Sent:** Friday, 14 January 2011 8:55 PM  
**To:** Stephen Robertson; Lance McCallum  
**Cc:** Tim Watts  
**Subject:** Fw: Water Supply is looking better

Fyi

**From:** Barry Dennien [REDACTED]  
**Sent:** Friday, January 14, 2011 08:26 PM  
**To:** Bradley John; Ken Smith [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** Water Supply is looking better

Gents

Good news, Mt Crosby is now producing 410 megalitres per day ( Westbank 230, Eastbank 180) and we are building the system storage.

Lowood Water pump station and treatment plant is up and running, after a short commissioning Lowood, Gatton, Helidon, Fernvale and Laidley will start getting supply. Six QUU crews are on site to repair the reticulation system to these towns.

Regards

Barry

+-----+  
Think B4U Print  
1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere  
3 sheets of A4 paper = 1 litre of water  
+-----+

[REDACTED]

---

**From:** Bradley John [REDACTED]  
**Sent:** Friday, 14 January 2011 7:37 PM  
**To:** Lauren Sims; [REDACTED]; Stephen Robertson;  
[REDACTED]  
**Cc:** Lance McCallum; Tim Watts; Lyons Michael @ SEQWGM; Geoff Stead  
**Subject:** RE: Wivenhoe - Courier Mail for Williams

pls change 1990 to 1992 in the flood manual response so it aligns with latest version of Hedley Thomas responsee

-----Original Message-----

**From:** Lauren Sims [REDACTED]  
**Sent:** Friday, 14 January 2011 7:35 PM  
**To:** Media @ SEQWGM; [REDACTED] Stephen Robertson; [REDACTED]  
**Cc:** Lance McCallum; Tim Watts; Lyons Michael @ SEQWGM; Bradley John; Geoff Stead  
**Subject:** Wivenhoe - Courier Mail for Williams

Please find attached response approved by Minister and Premiers RE questions from Brian Williams.

<<Floods- Wivenhoe CM 140111.doc>>  
Regards,

Lauren Sims

Assistant Media Advisor  
Office of the Hon. Stephen Robertson MP  
Minister for Natural Resources, Mines and Energy and Minister for Trade  
Phone: [REDACTED]  
Mobile: [REDACTED]  
e-mail: [REDACTED]  
[REDACTED]

+-----+  
( ) Think B4U Print  
, ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere  
3 sheets of A4 paper = 1 litre of water  
+-----+

[REDACTED]

---

**From:** Bradley John [REDACTED]  
**Sent:** Saturday, 15 January 2011 12:20 PM  
**To:** Lance McCallum  
**Cc:** Ken Smith  
**Subject:** Response to Minister Robertson on 24/12  
**Attachments:** Letter to Minister - flood management.doc; ATT00001.htm

Lance /Ken

Further to separate discussions with you both today,

Attached is a copy should you need it today (due to media interest) of the advice which SEQWGM gave Min Robertson on 24/12 regarding whether there would be any flood mitigation benefit in drawing down dam levels below FSL before the wet season.

We are preparing the detailed advice requested by Min Robertson on these issues also which we have agreed with Lance to have ready by COB tomorrow prior to a meeting with Minister before Cabinet Monday.

Regards

John Bradley  
Director-General  
Department of Environment and Resource Management  
**Telephone:** [REDACTED]  
**Email:** [REDACTED]  
[www.derm.qld.gov.au](http://www.derm.qld.gov.au)

Department of Environment and Resource Management  
400 George Street, Brisbane Q 4000  
GPO Box 2454, Brisbane Q 4001

**From:** Barry Dennien [REDACTED]  
**Sent:** Saturday, 15 January 2011 7:34 AM  
**To:** Bradley John  
**Subject:** Fwd: Flood Letter - Minister

John

See attached

I will phone in the sdmg so I can attend the lord mayors disaster meeting

We will have a full brief for you

Regards  
Barry Dennien

Begin forwarded message:

**From:** Elaina Smouha <[REDACTED]>  
**Date:** 14 January 2011 3:04:21 PM AEST  
**To:** Barry Dennien <[REDACTED]>  
**Subject:** Fwd: Flood Letter - Minister

Elaina Smouha

Director, Governance and Regulatory Compliance

SEQ Water Grid Manager

Phone: (07) [REDACTED] Mobile: [REDACTED] Fax: (07) [REDACTED]

Email: [REDACTED]

Visit: Level 15, 53 Albert Street Brisbane

Post: PO Box 16205, City East QLD 4002

ABN: 14783 317 630

Begin forwarded message:

**From:** Chris Snape <[REDACTED]>

**Date:** 14 January 2011 3:01:46 PM GMT+10:00

**To:** [REDACTED]

**Cc:** Elaina Smouha <[REDACTED]>

**Subject:** Flood Letter - Minister

+-----+  
Think B4U Print

1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere

7 sheets of A4 paper = 1 litre of water  
+-----+

24 December 2010

Hon Stephen Robertson MP  
Minister for Natural Resources, Mines and Energy  
and Minister for Trade  
PO Box 15216  
Brisbane Qld 4001

Dear Minister

I am pleased to respond to your letter of 25 October 2010 regarding options to and benefits of releasing water from key storages in anticipation of major inflows over the current wet season. Our advice follows, based on discussions with Seqwater.

Only four of the dams in South East Queensland region are gated, with the ability to release significant amounts of water in anticipation of major inflows. These are Wivenhoe, Somerset, North Pine and Leslie Harrison dams.

Detailed operational procedures have been approved for each of the gated dams. The dams will continue to be operated in accordance with these procedures. These procedures generally relate to the management of the dams and should be managed above Full Supply Level. This advice relates to the water security aspect of the management of the dams below Full Supply Level.

Based on information currently available, Seqwater has advised that releasing water to below Full Supply Level may provide some benefits in terms of reduced community and operational impacts during minor inflow events, such as has occurred over the past month. For medium and major flood events, it considers that pre-emptive releases will provide negligible benefits.

Informed by this advice, the SEQ Water Grid Manager has advised Seqwater that, from a water security perspective, it has no in-principle objection to minor releases from Wivenhoe, Somerset and North Pine dams to minimise the operational and community impacts of gate releases. Specifically, it has advised that it has no in-principle objection to:

- Wivenhoe and Somerset dams being drawn down to 95 per cent of their combined Full Supply Level
- North Pine Dam being drawn down to 97.5 per cent of its Full Supply Level.

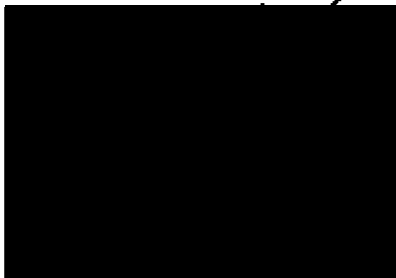
The SEQ Water Grid Manager has assessed the water security implications of the release to be negligible, having no impact on our ability to meet the risk criteria specified in the System Operating Plan or our ability to meet our supply obligations to Grid Customers. From a water security perspective, the Queensland Water Commission has also confirmed that it does not have any objections to the potential release.

Please note that these arrangements are intended to apply for the current wet season only, taking into account the level of storages and the rainfall forecasts over coming months.

For future wet seasons, the SEQ Water Grid Manager will continue to work with Seqwater to investigate the optimal arrangements. In particular, we propose to further investigate options that may reduce the frequency or duration of intermediate level flows (between 1,900 and 3,500 cubic metres per second). In addition, we recommend that the investigations with the Queensland Water Commission to examine the opportunity of raising the full supply level of Wivenhoe Dam for water supply be expanded to include options involving the release of the additional water once major inflows are forecast.

I trust that this advice is sufficient. If you have any questions, please do not hesitate to contact Mr Dan Spiller, Director Operations, by telephone on [REDACTED] or by email on [REDACTED]

Yours sincerely



**Gary Humphrys**  
Chair

## **ATTACHMENT**

### **Wivenhoe and Somerset dams**

Wivenhoe Dam can store up to 1.15 million litres (ML) of drinking water. In addition, it has the capacity to store an additional 1.45 ML of flood water.

While large, the flood compartment can be filled within days. For example, following heavy rainfall in October 2010 Wivenhoe Dam received inflows equivalent to almost half of the flood storage compartment capacity in just a few days.

Several factors influence flood release strategies for Wivenhoe and Somerset dams.

First, rain events that have caused flooding have historically been prolonged events over several days, often with a second event occurring several days to a week after the first. As a result, the operational procedures for the dam are designed to ensure that all water held in the flood compartments is released within seven days of a rain event, ensuring that the flood compartment is available for any future inflows.

Secondly, the dam only controls flood waters from part of the Brisbane River catchment area. About 50 per cent of the catchment area of the Brisbane River is upstream of the Wivenhoe Dam wall, and can be potentially controlled by it. No flood mitigation structures exist for most of the potential run-off from the other 50 per cent of the catchment area.

Third, the Bureau of Meteorology has had limited success in plotting rainfall distribution accurately to assess where most flooding risk lies above or below the dam wall. Historical floods have demonstrated that flooding can occur from both. For example, the 1974 flood flows primarily occurred below the dam wall whilst the 1890's event occurred above the dam wall. As a result, when releasing water from Wivenhoe Dam it is very important to predict and monitor below the dam wall flows so as to understand combined river flows that cause flood impacts.

Taking these factors into account, the flood release strategy for Wivenhoe and Somerset dams has a hierarchy of objectives:

- Ensure the structural safety of the dam
- Provide optimum protection of urbanised areas from inundation
- Minimise disruption to rural life
- Retain full supply level after a flood event
- Minimise impacts to flora and fauna during the drain down phase.

Within this framework, flood releases from Wivenhoe Dam typically fall into two categories of flood events based on the impact they cause when combined with below the dam wall catchment runoff:

- Larger events typically involving combined river flows greater than 3,500 cubic meters per second measured at Moggill. These events would have flood impacts on



urban areas in Brisbane. This scale of release has not been required since Wivenhoe Dam was completed.

- Smaller events with combined river flows of less than 1,900 cubic meters per second measured at the Mt Crosby weir which can inundate up to seven rural bridges isolating up to 50 households and causing inconvenience to many more. There has been six of these events since 1984, when Wivenhoe Dam was completed.

Our assessment of the benefits of lowering dam storage levels to reduce flooding impacts is below for these two event types.

#### *Large events*

Seqwater has advised that releases of greater than 3,500 cubic metres per second (m<sup>3</sup>/s) from Wivenhoe Dam are likely to impact on urban areas in Brisbane. Events of this nature have not been experienced since Wivenhoe Dam was completed in 1984.

Seqwater has advised that:

- pre-emptive releases are likely to have negligible impacts on the extent of these impacts
- any impacts would require releases of at least 250,000 ML. This is equivalent to a release of about 16 per cent of the combined storage capacity of Wivenhoe and Somerset dams.

A pre-emptive release of this scale is not recommended, based on information currently available. The potential water security impacts are considered to be more significant than the negligible benefits. These potential security impacts include costs associated with the earlier or avoidable operation of the desalination facility at capacity, as well as the increased probability of triggering the implementation of a drought response plan.

More detailed investigation of opportunities to actively manage flood storage is recommended, including options to increase flood supply level on a temporary basis. These investigations need to be led by Seqwater, and involve the Bureau of Meteorology, Councils and the SEQ Water Grid Manager.

In particular, it has been identified that it is worth investigating the impacts on downstream flooding for intermediate level flows (flows between 1900 and 3500 m<sup>3</sup>/s).

Seqwater will undertake extensive investigations for the Queensland Water Commission in early 2011 to examine the opportunity of raising the full supply level of Wivenhoe Dam for water supply. We will recommend that the scope of this work be widened to consider the benefits of pre-lowering storage levels based on mid range rainfall events and the reduced impacts to river levels and subsequent property impacts. It is noted that predicting rainfall intensity and location, even as events are about to occur has not been accurate, however the Bureau of Meteorology is improving its methods.

### *Smaller events*

Pre-emptive releases from Wivenhoe Dam may reduce the impacts of minor gate releases (strategies W1A to W1E in the operational procedures).

Minor gate releases may result in the closure of up to six bridges, isolating up to 50 dwellings and inconveniencing many more. As stated in existing flood management plans, releases should be managed to minimise the impacts on these residents. Over the immediate term, Councils have requested that bridge closures be avoided over the Christmas to New Year period, if at all possible. In addition:

- There are resource implications involved in the activation of the flood control centre. Under flood management plans, the centre must be staffed by suitability qualified officers at all times during gate releases. There are currently only four quality duty engineers, who have staffed the flood centre for much of period since the initial release in October.
- Gate releases during the Christmas holiday period would result in closure of dams to water based activities, impacting on up to 150,000 people who are expected to use the recreational facilities over the holiday period.

The Water Grid Manager has advised Seqwater that, from a water security perspective, it would not object to water being released from Wivenhoe and Somerset dams to 95 per cent of storage capacity at any time until end March 2010.

Under this recommendation, storage levels could potentially be reduced by up to about 77,250 ML. This is equivalent to the amount of water released between 13 and 16 December 2010, through a single gate.

Pre-emptive releases will be managed so as to minimise the likelihood of gate releases due to small storms and local rainfall. Storage capacity will usually be reduced through a combination of:

- Extended gate releases, especially for strategy W1C. For comparison, up to 130,000 ML/day was released during in November and mid December 2010. At this rate, the additional releases could occur in about half a day.
- Ongoing gate releases of up to 30,000 ML/day, which do not isolate any residents but can inundate some lower bridges that cause inconvenience.
- Ongoing valve release of up to about 4,300 ML/day, which can be maintained without inundate any bridges.

Actual releases would be decided by Seqwater based on operational considerations and in accordance with its statutory and regulatory obligations.

### *Water security impacts*

The water security impacts of releases will be zero if the dams fill over the remainder of the wet season. Current forecasts indicate that there is a high probability of this occurring:

- Heavy rainfall is forecast over the Christmas holiday period, as noted above.
- Over the remainder of the wet season, advice from the Bureau of Meteorology is that sea surface temperatures are likely to remain at levels typical of a La Niña event into the first quarter of 2011, with the majority of the models indicating the event will gradually weaken over the coming months.

The water security impacts will be minimal, even if there were no further inflows to the dams. Modelling indicates that the reduction would have a minimal impact on the probability of key water Grid storages falling to 40 per cent of capacity over the next five years.

### **North Pine and Leslie Harrison dams**

North Pine and Leslie Harrison dams do not have flood mitigation potential. Once the dams have reached Full Supply Level, all water flows into the dam must be released to protect the structural safety of the dam.

Seqwater has advised that, without major releases, there are negligible benefits to reducing volumes stored in North Pine or Leslie Harrison dams for the purposes of reducing the extent or duration of any downstream flooding impacts.

For North Pine Dam, there may be some operational and community benefits to minor releases to below Full Supply Level in some circumstances. Any gate operation at North Pine Dam results in inundation of Youngs Crossing Road, which isolates a number of residents. These impacts are currently being minimised by releasing from North Pine Dam at night. With further rainfall forecast, Seqwater may choose to reduce the level to below Full Supply Level in order to reduce the frequency of night releases or the likelihood of releases being required during the day.

For this dam, the SEQ Water Grid Manager has advised Seqwater that, from a water security perspective, it would not object to water being released to 97.5 per cent of storage capacity at any time until end March 2010.

For Leslie Harrison Dam, gate operations do not impact on public roads and generally only inconvenience the general public during large flood events. There is no scope to reduce this inconvenience through small pre-emptive releases. Accordingly, no in-principle approval be made for pre-emptive releases from this dam.

[REDACTED]

---

**From:** Bradley John [REDACTED]  
**Sent:** Saturday, 15 January 2011 12:37 PM  
**To:** Kate Jones; Stephen Robertson; Lance McCallum; Joshua Cooney  
**Cc:** DERM EMG  
**Subject:** FW: derm asset report  
**Attachments:** DERM Agency built assets impact report 150111.xls

Ministers, EMG

Pls note advice from Corporate Services provided today as an input to the DPW whole of government information being prepared for Cabinet on Monday.

Thanks

John Bradley

Director-General  
Department of Environment and Resource Management  
Telephone: [REDACTED]  
Email: [REDACTED]  
[www.derm.qld.gov.au](http://www.derm.qld.gov.au)

Department of Environment and Resource Management 400 George Street, Brisbane Q 4000 GPO Box 2454, Brisbane Q 4001 -----Original Message-----

From: Anderson Danielle  
Sent: Saturday, 15 January 2011 11:42 AM

To: [REDACTED]  
[REDACTED] Bradley John  
Subject: Fw: derm asset report

Pls call me if anything needs explanation [REDACTED] Danielle

----- Original Message -----

From: Greg Salmon <[REDACTED]>  
To: Anderson Danielle  
Sent: Sat Jan 15 11:36:53 2011  
Subject:

+-----+  
Think B4U Print  
1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere  
3 sheets of A4 paper = 1 litre of water  
+-----+

[REDACTED]

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**From:** Bradley John [REDACTED]  
**Sent:** Saturday, 15 January 2011 1:11 PM  
**To:** Lance McCallum; Stephen Robertson  
**Subject:** Fw: Fwd: Teleconference 7:30am 15 Jan Minutes

Lance, Minister - useful summary of where we are at to day - just spoke to peter borrows and lowood Water Treatment Plant holding up well since commissioning this morning - Mayor Jones very happy with this news I am told by seqwater

Regards John B

**From:** Barry Dennien [REDACTED]  
**Sent:** Saturday, January 15, 2011 09:28 AM  
**To:** Bradley John  
**Subject:** Fwd: Teleconference 7:30am 15 Jan Minutes

John

This a more useful summary

Regards  
Barry Dennien

Begin forwarded message:

**From:** [REDACTED]  
**Date:** 15 January 2011 9:14:49 AM AEST  
**To:** Barry Dennien [REDACTED]  
**Subject:** Teleconference 7:30am 15 Jan Minutes

#### **Lowood and isolated town ship**

Water treatment plant flow now at of 140 litres/second established at 5:00am. Clear water balance tank at 7% and increasing. Five QUU teams working the trunk distribution lines to fix issues. Additional 5 teams from Allconnex Water also currently being deployed to address any additional trunk leaks.

Boiled water notice still in place for Locker Valley with a requirement that the messaging relating to this is reinforced in the affected areas at QH request

Bottled water and tankers to town ships being supplied by QUU meeting current demands can meet the 3 litres per day per person. Councils having issues distributing.

Withcott mains a major issue with a couple of days required to resolve the issues

QUU requested assistance with QPS approval to check Gatton to Helliden pipeline running through Grantham which is a designated crime scene. Scott Denner to follow up.

#### **Production**

Mt Crosby East Bank 228ML (Water Quality 0.08NTU)

Mt Crosby West Bank 232ML (Water Quality 0.05NTU)

North Pine and NPI 100ML

SRWP 100ML

Total 660ML production

Estimated demand approx 520-550ML

Unity water requested supply to be increased from 300Litres to 400Litres per second will be reviewed at 12:00pm update meeting

Production Water Balance Review Meeting scheduled for 12:00 to confirm production, supply and demand

Concentrating on ensuring reservoirs to support Yeronga and Fairfield

Karana Downs usage high will need to keep supply to this location to meet high demand

### **Chemical Delivery**

Access to East and West bank now confirmed Caustic and Hypo now being delivered to meet demand

### **Clean up**

PRW Approved for use for clean down for tankers by OWSR and QH

Staged notification for tankers, fire brigade and Main Roads and Transport to fill from the PRW charge points being followed up by WaterSecure.

UnityWater seeking permission to use class A+ for clean-up Paul Burrell and QH covering the approvals

+-----+

Think B4U Print

1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere

3 sheets of A4 paper = 1 litre of water

+-----+

[REDACTED]

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**From:** Bradley John [REDACTED]  
**Sent:** Sunday, 16 January 2011 11:48 AM  
**To:** Stephen Robertson; Kate Jones; Joshua Cooney; Lance McCallum  
**Cc:** Wall Terry; Best Debbie; Lenz Anne  
**Subject:** FW: Immediate impacts on major services  
**Attachments:** Cabinet submission - Impacts of Floods on Government Assets and Service Delivery\_ACC.DOCX

- Cabinet in Confidence -

Ministers/PPAs

The attached is the current working draft from DPC of the CABINET submission being prepared reporting on government and essential utility infrastructure.

It has been prepared with DERM's coordination of input on

\* water and sewage information; and  
advice on council waste facilities

While you will see it is incomplete, I thought it best to send now, in case you receive the final version with late notice before Cabinet.

MIN ROBERTSON -

By way of an update on latest information on water. This is what I verbally advised SDMG this morning....

#### 1) DAM RELEASES

Wivenhoe Dam is now at 144% and Somerset at 112% with the release strategy continuing at rate intended to maintain the river heights below the river bank (ie. 3500 cumecs) while still emptying flood compartment as quickly as possible. North Pine is now down below Full Supply Level (at 98%)

BOM's advice to the meeting in terms of weather outlook, was -

\* Showers but no significant falls likely in the next two days,  
BOM says could be some storms producing 50 mm or more in the catchments on Wednesday,  
After Wednesday forecast is to return to fine or light showers til next weekend.

#### 2) GRID WATER BALANCE

Consumption yesterday didn't see overly strong demand increase (only about 420 ML/d compared to 400 ML/day previous day). Mount Crosby is now operating reliably, water quality maintaining with normal operating parameters despite continued elevated turbidity in Brisbane River.  
Reservoirs are now so full that Seqwater is backing off production which is why you will see in the Cab Sub that Mt Crosby West Bank is reported as being offline.

#### 3) SMALL TOWNS

We have seen a better than expected outcome in recommissioning of water treatment in the Lockyer Valley with QUU advising all locations should be back on supply in 12 to 18 hours, even including the town of Withcott which was initially expected to require til Tuesday.

A close watch is occurring on Dalby water supplies where treatment plants are about 40% of capacity but supply is matching demand with tanker supplementation.

Pls let me know if you need anything further.

John Bradley  
Director-General  
Department of Environment and Resource Management  
Telephone: [REDACTED]  
Email: [REDACTED]  
[www.derm.qld.gov.au](http://www.derm.qld.gov.au)

Department of Environment and Resource Management 400 George Street, Brisbane Q 4000 GPO Box 2454,  
Brisbane Q 4001

-----Original Message-----

From: Adrian Jeffreys [REDACTED]  
Sent: Sunday, 16 January 2011 11:15 AM  
To: Lenz Anne  
Cc: Best Debbie; Bradley John; Wall Terry; Brown Damien; Birchley Michael  
Subject: RE: Immediate impacts on major services

Anne, we have hit the deadline for supply to Cab Sec. I added words on solid waste disposal at the last minute.

However, I would appreciate being included on the email list for updates.

Thanks for your help in getting this together. I note the "snapshot"  
information is significantly improved.

AJ

+-----+  
Think B4U Print  
1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere  
3 sheets of A4 paper = 1 litre of water  
+-----+



Agency: Department of Environment and Resource Management  
Contact name: Col Tucker  
Mobile: 0434330191

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[illegible]

0434330181

[illegible]

## AGENCY BUILT ASSETS REPORT

[illegible]

## AGENCY BUILT ASSETS REPORT

[illegible]

Agency: Department of Environment and Resource Management  
Contact name: Col Tucker  
Date: 15-Jan-11  
Mobile:

**Mobile:****Mobile:**

Go to the tab "Instructions" for notes relating to completion of this template

[illegible]

## AGENCY BUILT ASSETS REPORT

[illegible]

AGENCY BUILT ASSETS REPORT

Agency: Department of Environment and Resource Management

Contact name: Col Tucker

Date: 15-Jan-11

Go to the tab "Instructions" for notes relating to completion of this template

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Mobile:

Electorate	Local Government Area	Region	Affected Town	Affected Government assets	Ownership status	Asset type	Extent of damage	Comments on extent of damage and required works	Current status of work	Estimated date of reoccupancy	Anticipated work remaining after reoccupancy	Estimated date of completion (approximate)	% Complete	Estimated cost	What if any local building regional resources are in place	
Brisbane Central	Brisbane CC	Brisbane North	Brisbane CBD	53 Albert Street	2	High rise office building	At risk	Damage to building core infrastructure. No tenant access to building. Refer DPW for details.	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	
Brisbane Central	Brisbane CC	Brisbane North	Brisbane CBD	41 George Street	2	High rise office building	At risk	Failure of power supply core infrastructure. No tenant access to building. Refer DPW for details.	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	
Calidlo	Banana Shire	Hovey Bay	The Boulevard		1	Office	At risk	One DERM employee due to return to work on 14/1. No report available.								
Calidlo	Banana Shire	Hovey Bay	Theodore		2	House	At risk									
Calidlo	Banana Shire	Hovey Bay	Theodore		2	House	At risk									
Calidlo	Banana Shire	Hovey Bay	Theodore		3	House	At risk									
Grogory	Central Highlands RC	West Old	Emerald	99 Hospital Road	2	Office	Moderate	Carpet in office space cleaned and dried. Carpet to be replaced in small conference room. Risk of airborne spores from mould. Air conditioning filters cleaned.	Completed	n/a	Carpet to be replaced	Unknown	80%	\$0.005M	Unknown	
Grogory	Central Highlands RC	West Old	Emerald			House	Significant	No detail available								
outhern Downs	Geordewind RC	Darling Downs	Geordewind	42 Callendar Street		Office	At risk	Evening news reports on 14/1 advise no damage in Geordewind. Report to be confirmed.								
Toowoomba North	Toowoomba RC	Darling Downs	Toowoomba	203 Ter Street	1	Office	Moderate	Report to water leaks. Damage to ceiling tiles, walls and carpets.	u	n/a		Unknown	Unknown	\$0.09M	Unknown	
Various	Various	Various			1	Built assets on CPWS estate eg. Walking tracks, fences, bridges, camping amphitheatres.	At risk	Assessment is underway. Due to scale and inaccessibility of assets, priorities have focused on ensuring employee safety and participation in emergency response and community recovery activities.	Completed	n/a	Unknown	Unknown	Unknown	\$4.5M	Regional CPWS staff	
Waterford	Logan CC	Brisbane South	Beenleigh	32 Turney Street	2	Office	Moderate	Water leaks resulting in damage to ceiling tiles, carpet and departmental records. Carpets cleaned and dried. Tarping and remedial work to roof. Electrical safety assessment by Qbuild.	Completed	n/a	Monitoring for further leakage	n/a	100%	\$0.002M	Qbuild	
Yarrongilly	Brisbane CC	Brisbane South	Rocklea	1345 Ipswich Road	3	Workshop and Store	Significant	Site inspection has not been undertaken								
Statowido	Statowido	Statowido	Statowido	Shoreflow gauging network and supporting infrastructure	Agency (DERM) Owned	Gauging stations, buildings and associated infrastructure, communications, instrumentation, telemetry, & ICT systems	From a desk top analysis, the impact on the 385 gauging stations state wide varies from total write off to minor impact. It is likely to take months to be able to access sites and assess damage in some cases. Some sites have been washed away, others submerged. There has been significant communication impacts.	Repairs (temporary in cases) are being completed where there is safe access. Communication issues are being addressed given capacity of current technology	The re establishment of the full network will be progressive. It is likely to take up to six to twelve months to have the network operational. (In some cases this may be longer)	Not applicable see previous comment	The re establishment of the full network will be progressive. It is likely to take up to six to twelve months to have the network operational. (In some cases this may be longer)	\$ 8 M	minimal due to access issues	Q Build is not involved. The re establishment of the network will need contractors to support the operational staff.		

## AGENCY BUILT ASSETS REPORT

[illegible]



## SPECIAL CABINET MEETING – 17 JANUARY 2011

### QUEENSLAND FLOODS

#### IMPACT ON GOVERNMENT ASSETS AND SERVICE DELIVERY

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##### OBJECTIVE

1. To provide Cabinet with a status report on the impact of the 2010-11 Queensland floods on Government assets and key service delivery.

##### ISSUES

##### Impact on Government Assets

2. The Department of Public Works has established a database of the State's building assets that have been affected by the floods. **Attachment 1** is a summary, by department, of key assets that have been affected by the floods. *(still no attachment 1 – Paul to provide)*
- 2.3. **Attachment 2** is a brief report on the status of affected key capital works projects.
- 2.4. The impact of the floods on education infrastructure will be a key area of focus, given the imminent start of the school year on 24 January 2011. **Attachment 3** provides a status report on the impacts on educational infrastructure.
5. **Attachment 4** provides a list of state-wide road impacts. As at 16 January 2011, most major highways are open or partially open, with only the Dawson and Gore Highways remaining closed. **Attachment 5** provides a summary of the impacts on transport infrastructure, including roads, rail and ports.

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##### Impact on Government Service Delivery

6. **Attachment 6** is a status report from the Department of Communities on immediate assistance provided and volunteer effort to support affected communities.
- 6.7. To provide immediate assistance and support, 28 evacuation centres and 18 disaster recovery centres have been established across the State. \$2.6 million has been paid to 7,244 individuals and families to meet immediate needs. *(Annette/Adele to update)*
8. **Attachment 7** provides a status report on the impact on service delivery by key utilities, i.e. energy, water, telecommunications, transport services, education and health.

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## Health

9. Queensland Health hospitals in metropolitan Brisbane, Ipswich and Toowoomba remained fully operational; however, elective surgery and outpatient clinics were postponed at the majority of Brisbane Metropolitan hospitals on 12 January 2011. Elective surgery is expected to resume across hospitals in metropolitan Brisbane, Ipswich, Darling Downs and the Royal Children's Hospital by 19 January.

## Educational Infrastructure

### Schools

10. In Toowoomba, Ipswich, Central Queensland, the Lockyer Valley and Brisbane, 73 schools have experienced damage to facilities and resources, either through flooding of their facilities or grounds inundation (details are provided at **Attachment 3**).
11. Education Queensland (EQ) is aiming to open the majority of schools on 24 January and to have every child at school that day (details on schools' readiness to open are provided at **Attachment 7**). *Mention those schools not likely to open (Annette/Adele to advise)* EQ expects to have determined where all children will attend school by Thursday 20 January 2011.

### Universities

12. The University of Queensland's campuses at St Lucia, Ipswich and Gatton are expected to reopen on Thursday 20 January 2011. Some or all of the Queensland University of Technology's Garden's Point campus will reopen on Wednesday 19 January. Griffith University's South Bank campus is closed until further notice.
- 12.13. The University of Southern Queensland at Toowoomba and the Central Queensland University at Rockhampton were not significantly damaged by flooding. Road access issues at Rockhampton are expected to resolve when waters recede.

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### TAFEs

14. All Semester 1 TAFE classes will commence as advertised, other than where students and staff are notified. In some cases, classes may need to be relocated to other buildings or other campuses.

### Early Childhood Education and Care (ECEC) Services

15. At least nine ECEC services have ground inundation, 84 services are closed due to access or staffing issues and 10 services are damaged by flooding.

- 15.16. The Department of Education and Training has put in place arrangements to enable services to continue operating if flooding has affected their ability to comply with the *Child Care Act 2002* and *Child Care Regulation 2003*, with certain conditions. There is also a temporary guideline to enable services to operate from suitable temporary premises if their usual premises are damaged by flooding (see Attachment 7).

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### Transport

17. Insert summary information about impact on transport services – Paul to provide

### Communities

18. An assessment of the extent of impact on human service delivery and social infrastructure and assets is underway. It is already known that 57 Government-funded NGOs have been impacted, some with significant damage. There have been ~~XXXX~~ (Annette/Adele to advise) social housing dwellings affected and it is estimated that as many as 1,000 sport and recreation organisations have been impacted. There will also be impacts on social infrastructure and workforce and service disruptions coupled with increased pressures for services.

### Water and Sewage Treatment

19. Precautionary 'boil water alerts' are in place in 28 communities across Queensland. While supply has been restored to all Lockyer communities except Withcott, the Lowood treatment plant is operating with temporary pumping arrangements. The Western Downs Regional Council area remains badly affected as a result of ongoing inundation and water is being carted to Warra.

- 19.20. While a number of sewage treatment facilities have been affected by flooding, restoration of services is occurring more quickly. Concerns exist regarding overflows (notably at Dayboro, Woodford, Woodgate and Eli Creek at Hervey Bay) and the reliability of pumping plants and pipes (including the rising Main at the Jindalee Bridge) , A full assessment of water supply and sewage treatment facilities across Queensland is difficult because, outside South East Queensland, this data is held by individual local governments. The Department of Environment and Resource Management is working with the Department of Infrastructure and Planning to incorporate information from status reports from local governments as they come to hand. <Adrian to update on Sunday>.

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21. Attachment 7 provides an overview of the current known status of water supply and sewage treatment issues. A detailed assessment of water supply and sewage treatment facilities across Queensland is difficult because, outside SEQ, the data is held by individual local governments. Existing reporting mechanisms are being reviewed to ensure that contemporary information is being collated with the minimum impact on councils. This also assists in ensuring that where assistance is needed it can be arranged as quickly as possible.

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### Solid Waste Disposal

22. Waste collection facilities in a number of flood affected areas are reaching their capacity.

This situation is being closely monitored and assistance given to councils in finding alternatives where needed. In other areas, waste collection services are facing difficulties for example, in the Western Downs Regional Council area (Tara, Meandarra, Kogan, Condamine) collection services are not functioning due to difficulties obtaining heavy vehicle permits for the Moonie Highway. Tara has not had waste collection for 3 weeks, which poses health concerns.

~~s. focusing primarily on South East Queensland. For the vast majority of SEQ, tap water remains safe to drink. Several smaller and more isolated SEQ communities are experiencing water supply issues, which are being managed, including Lowood, Gatton, Laidley, Grantham, Helidon and Fernvale. Poor source water quality, damage to treatment plants and problems with the supply of treatment chemicals is limiting the amount of water that can be treated at a number of plants. Water conservation therefore remains important, and the use of alternative water sources should be encouraged where possible.~~

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## LIST OF ATTACHMENTS

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### 1. Government assets affected by floods

~~1.2.~~ Status of key capital works projects affected by floods

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~~1.3.~~ Impact of floods on educational infrastructure

1.4. State-wide road impacts

~~1.5.~~ Impact of floods on transport infrastructure

1.6. Immediate assistance and volunteer effort

### 7. Impact of floods on service delivery by key utilities, i.e. energy, water, telecommunications, transport services, education and health

**Attachment 1**

**Government assets affected by floods**

*To be provided by DPW*

**Attachment 2**

**Status of key capital works projects affected by floods**

*To be provided by DPW*

### Attachment 3

#### Impact of floods on educational infrastructure

- As at 14 January 2011, 51 state schools have flooding of their facilities and a further 22 state schools have grounds inundated only. Of these schools, eight are in Toowoomba, two are in Ipswich, 14 are in Central Queensland, eight are in the Lockyer Valley, and five are in Brisbane.
- In Brisbane, one affected state school is reasonably certain to be ready and four are still under assessment. In Toowoomba, four affected schools will be ready for occupation on 24 January 2011, and four are reasonably certain to be ready (*given small numbers include names of schools – Adele/Annette to advise*).
- In Ipswich, both affected schools are still under assessment, further schools are currently being assessed in the Ipswich area.
- In Central Queensland, five affected schools will be ready for occupation on 24 January 2011, seven are reasonably certain to be ready, and a further two still are inaccessible for full assessment.
- In the Lockyer Valley, three affected schools will be ready for occupation on 24 January 2011, and five are reasonably certain to be ready.
- Catholic Education and Independent Schools have provided the following. There is one Catholic school (Downlands Sacred Heart College) with known damage and four independent schools (Agnew Schools at Nambour, Toowoomba and Wakerley, and the Christian Outreach College at Toowoomba) that have sustained minor damage. In addition, one School of Distance Education at Emerald has facilities that have been inundated and another (Brisbane) has grounds inundation only. The Languages Other Than English (LOTE) centre at West End is inaccessible due to floodwaters.
- Ten Early Childhood Education and Care (ECEC) facilities have damaged facilities and infrastructure, while nine have grounds inundation only and 84 are inaccessible due to floodwaters. Of the ten damaged centres, two are in Central Queensland, six are in the Darling Downs and there is one in each of the North and South East Coast Regions.
- Five TAFE campuses have grounds and facilities damage, including two in Brisbane (Southbank Institute of TAFE and Metropolitan South Institute of TAFE at Chelmer), two in the Darling Downs (South Queensland Institute of TAFE at Toowoomba and Warwick), and one in Central Queensland (Central Queensland Institute of TAFE at Emerald).
- Twenty residential properties owned by the Department of Education and Training in Central Queensland have reported varying levels of inundation.
- Three departmental office facilities in Ipswich, Pinkenba and Strathpine have been evacuated due to floodwaters.
- UQ campuses at St Lucia, Ipswich and Gatton will remain closed until and including Wednesday, 19 January 2011.

**Comment [p1]:** Baralaba not identified in info sheet. Placed into this category, as assumption



- Some or all of QUT Gardens Point campus will reopen on Wednesday, January 19 for staff and students. Major impacts to QUT included water in the car park levels of those buildings closest to the river at Gardens Point campus, the inundation of the QUT Printery at Milton, and disruption to IT services and corporate systems following a staged shutdown of QUT's data centre, prior to CBD power cuts.
- Griffith University's South Bank campus is closed until further notice.
- USQ has escaped relatively undamaged following the disastrous flash flood that hit Toowoomba and areas of the Darling Downs on 10 January.
- As of Thursday 7 January 2011, no flood-related damage had been reported on any Central Queensland University campus, though CQU's Ron Smyth Building on Quay Street (adjacent to the Fitzroy River) had been sandbagged and evacuated earlier this week. The road has been covered by water.
- Thirty summer schools are closed, including five in Brisbane, six on the Gold Coast, four at Ipswich, six at Logan, seven in the Moreton Bay area and two at Redlands.
- Eleven evacuation/recovery centres are based at school sites (Central Queensland, Darling Downs South West, Metropolitan, and South East Regions). Twenty-one school sites have been identified as standby evacuation centres [Metropolitan Region]. 1 Red Cross Centre is based at a school site [Darling Downs South West Region] and 1 SES Response Centre based a school site [Metropolitan Region].
- Full assessments of damage will commence once floodwaters recede. Recovery works have commenced across the state where waters have receded.

## Attachment 4

### State-wide road impacts

Statewide Road Impacts from 4 January – 13 January 2011

Major Highway Status	
Major Highway	Status
Ipswich Highway	Partially Open
Bruce Highway	Open
Centenary Highway	Partially Open
Capricorn Highway	Partially Open
Carnarvon Highway	Partially Open
Dawson Highway	Closed
Gore Highway	Closed
Leichhardt Highway	Partially Open
Mount Lindesay Highway	Open
New England Highway	Open with caution
Warrego Highway	Partially Open
Wide Bay Highway	Open
Cunningham Highway	Open
Daguiar Highway	Partially Open

Status of roads state-wide	
Status	Number
Closed	48
Open	75
Open with caution	20
Partially open	12
Total	155

Status of roads per region			
Region	Closed	Open	Partially Open
Northern	7	9	3
South East	6	11	3
Southern	21	39	11
Central	12	13	7

Number of roads closed per region	
Region	Number of Roads closed
Highways	14
Central	32
Northern	18
South East	20
Southern	71
Total	155

# **List of Road closures by Region**

<b>Region</b>	<b>Number of Roads closed</b>
Highways	14
Central	32
Northern	18
South East	20
Southern	71
Total	155

<b>Total Roads Closure</b>	<b>Region</b>	<b>Status</b>
Ipswich Motorway	Highway	Partially Open
Bruce Highway	Highway	Open
Centenary Highway	Highway	Partially Open
Capricorn Highway	Highway	Partially Open
Camarvon Highway	Highway	Partially Open
Dawson Highway	Highway	Closed
Gore Highway	Highway	Closed
Leichhardt Highway	Highway	Partially Open
Mount Lindesay Highway	Highway	Open
New England Highway	Highway	Open with caution
Warrego Highway	Highway	Partially Open
Wide Bay Highway	Highway	Open
Cunningham Highway	Highway	Open
Daguiar Highway	Highway	Partially Open
Cootherstone Road	Central	Partially Open
Cullin La Ringo Road	Central	Partially Open
Dawson Developmental Road	Central	Open
Duaranga Biloela Road	Central	Partially Open
Eidsvold Theodore Road	Central	Closed
Emu Park Road	Central	Closed
Fitzroy Developmental Road	Central	Closed
Gayndah Mount Perry Road	Central	Open
Gayndah Road	Central	Open
Kalpowa Road	Central	Open
Marion Eton Road	Central	Open
May Downs Road	Central	Open
Monto Mount Perry Road	Central	Open
Retro Manya Road	Central	Open
Sarina Marlborough Road	Central	Open
Selma Road	Central	Partially Open
Spring Creek Road	Central	Closed
Aramac Torrens Creek Road	Central	Partially Open
Adavale Blackall Road	Central	Open to 4wd
Anakie Sapphire Road	Central	Open

Apis Creek Road	Central	Closed
Baralaba Woorabinda Road	Central	Closed
Blackall Adavale Road	Central	Closed
Blackall Road	Central	Closed
Blackwater Rolleston Road	Central	Closed
Hughenden Muttaborra Road	Central	Open to 4wd
Isisford Blackall Road	Central	Open
Isisford Emmet Road	Central	Open
Taroom Bauhinia Downs Road	Central	Closed
Thomson Developmental Road	Central	Open
Clermont Road	Central	Closed
Tambo Road	Central	Closed
Burke Developmental Road	Northern	Open
Dalrymple Creek Road	Northern	Closed
Greenmount Hirstvale Road	Northern	Open
Gregory Developmental Road	Northern	Closed
Gregory Downs Camooweal Road	Northern	Open
Karumba Road	Northern	Closed
Kennedy Developmental Road	Northern	Open to 4wd
Kilcummin Diamond Downs Road	Northern	Open
Ravenswood Road	Northern	Open
Tableland Road	Northern	Closed
Wills Developmental Road	Northern	Open with caution
Byee Road	Northern	Closed
Central Street	Northern	Open
Elm Street	Northern	Open
Exhibition Road	Northern	Open
Harrigan Road	Northern -	Open
Mungar Road	Northern -	Closed
Ridgelands Road	Northern -	Closed
Troys Road	Northern -	Open with caution
Beachmere Road	South East	Open
Caboolture Bribie Island Road	South East	Open
Gatton Clifton Road	South East	Closed
George Street	South East	Closed
Gold Coast Springbrook Road	South East	Closed
Gympie Road	South East	Closed
Kenilworth Skyring Creek Road	South East	Open
Louis Bazzo Drive	South east	Open
Maleny Kenilworth Road	South east	Closed
Palmwoods Montville Road	South East	Open with caution
Waterford Tamborine Road	South East	Open
Wyaga Road	South east	Closed
Yabba Creek Road	South east	Open
Yandina Coolool Road	South east	Open

Amosfield Road	South East	Open with caution
Auburn Road	South East	Open
Booral Road	South east	Open with caution
Pampas Horrane Road	South east -	Open
Railway Street	South east -	Open
Talwood Boonanga Road	South east -	Open
Balonne Highway	Southern	Closed
Barwon Highway	Southern	Closed
Bauple Woolooga Road	Southern	Open
Bowenville Norwin Road	Southern	Closed
Bunya Mountains Road	Southern	Open
Burnett Highway	Southern	Open
Chinchila Tara Road	Southern	Open
Chinchilla Wondai Road	Southern	Open
Clifton Leyburn Road	Southern	Open
Condamine Meandarra Road	Southern	Open
Dalby Cecil Plains Road	Southern	Closed
Dalby Cooyar Road	Southern	Open
Dalby Jandowae Road	Southern	Open
Dalby Kogan Road	Southern	Open
Dirranbandi Hebel Road	Southern	Open
Esk Hampton Road	Southern	Open
Eyre Developmental Road	Southern	Closed
Gin Gin Road	Southern	Closed
Jackson Wandoan Road	Southern	Open with caution
Jundah Quilpie Road	Southern	Open
Kilcoy Murgon Road	Southern	Open
Kingaroy Barkers Creek Road	Southern	Closed
Kingaroy Burrandowan Road	Southern	Closed
Kingaroy Cooyar Road	Southern	Closed
Kogan Condamine Road	Southern	Open
Leyburn Cunningham Road	Southern	Open with caution
Maidenwell Bunya Mountain Road	Southern	Open
Maryborough Tuan Forest Road	Southern	Open with caution
Meandarra Talwood Road	Southern	Open with caution
Millmerran Cecil Plains Road	Southern	Closed
Millmerran Leyburn Road	Southern	Open
Mitchell Saint George Road	Southern	Open
Moonie Highway	Southern	Closed
Mundubbera Durong Road	Southern	Open
Murphys Creek Road	Southern	Open
Oakey Cooyar Road	Southern	Open with caution
Oakey Pittsworth Road	Southern	Open with caution
Pittsworth Felton Road	Southern	Open with caution
Proston Boondooma Road	Southern	Open
Pyramids Road	Southern	Closed
Quilpie Windorah Road	Southern	Closed

Roma Condamine Road	Southern	Open
Roma Taroom Road	Southern	Open
Saint George Dirranbandi Road	Southern	Open
Stanthorpe Inglewood Road	Southern	Open with caution
Texas Road	Southern	Open
Texas Yelarbon Road	Southern	Closed
Tin Can Bay Road	Southern	Open
Toowoomba Cecil Plains Road	Southern	Open
Toowoomba Karara Road	Southern	Closed
Torbanlea Pialba Road	Southern	Open
Wallumbilla South Road	Southern	Open
Warra Canaga Creek Road	Southern	Closed
Warra Kogan Road	Southern	Closed
Warwick Allora Road	Southern	Open
Warwick Killarney Road	Southern	Open
William Street	Southern	Closed
Amiens Road	Southern	Open
Freestone Road	Southern	Open
Mary Valley Road	Southern	Open
Memerambi Gordonbrook Road	Southern	Closed
Murgon Barambah Road	Southern	Open
Surat Developmental Road	Southern	Open with caution
Tara Kogan Road	Southern	Open
Yelarbon Keetah Road	Southern	Open
Gladstone Road	Southern -	Open with caution
Glastonbury Road	Southern -	Open
Suttor Developmental Road	Southern -	Closed
Tuchekoi Road	Southern -	Open with caution
Cedars Road	Southern	Closed

## Attachment 5

### Impacts on Transport Infrastructure

#### Southern Region

##### *Road*

- Freight can access as far west along the Warrego Highway as the Chinchilla BP Service Station (east of the town). Plan to reopen Warrego Highway through Chinchilla to high clearance vehicles under escort Sunday.
- The Warrego Highway (Toowoomba Range) is open – one lane in each direction with caution, under escort up the Range.
- An alternate route to Toowoomba via the Cunningham Highway and Warwick was opened Thursday morning without restrictions.
- Bruce Highway is open to all vehicles at Gympie.
- Moonie Highway is closed (Dalby – Moonie).
- All major roads in Darling Downs Region are impacted by recent weather conditions.
- The Warrego Highway from Brisbane through to Dalby is now open. Some local restrictions still apply.
- Warrego Highway is open to traffic from River Road at Dinmore to Toowoomba. Bridges along the Warrego Highway between Gatton and Helidon including the Lockyer Creek Bridge at Gatton and the Lockyer Creek Bridge at Helidon are now fully open to traffic with normal operating load restrictions. Speed restrictions apply in several sections.
- The section of the Warrego Highway through the Marburg and Minden Range is limited to one lane in each direction with reduced speed limits. Road may be closed at any time due to weather conditions or if slope stability conditions change.
- Heavy vehicles previously backed up on the Warrego Highway eastbound on the Toowoomba range have now been cleared.
- The Cunningham Highway is now open to all traffic.
- Ipswich Motorway – expected to be opened for use by motorists later this afternoon, dependant on final assessments.
- A task force to deal with heavy vehicle access issues is being established and will be operational Monday. The priority for TMR movements is resupply then community needs.

### *Rail*

- QR National is unable to provide services to coal customers, west of Brisbane and to grain and general freight customers in south-west Queensland.
- Toowoomba to Warwick to Thallon: Multiple washouts and continued flooding.
- Warwick to Wallangarra to be inspected this week - no train scheduled in near future.
- Harristown - Cambooya is open.
- Goondiwindi line closed (anticipate at least a week before can be reopened)
- Toowoomba to Dalby line closed, awaiting inspection
- Helidon to Toowoomba closed due to infrastructure damage, full inspection required
- Millmerran Branch is closed and is currently unable to be assessed as the track is inaccessible. Line closed beyond Wyreema due to flooding of the Condamine River and washouts.
- Quilpie Branch Line was opened from traffic on Monday 10 January.
- Toowoomba – Charleville: main line west of Toowoomba is closed as far as Dalby.
- Glenmorgan Branch Line which branches off at Dalby and includes Kumpunn (old Bell Branch) is closed. Not expected to be open until the end of January 2011.
- The Toowoomba Range is closed between Grandchester and Toowoomba due to major infrastructure damage and will remain closed until further notice.
- Ebenezer Branch Line: closed again on Monday (10/01), the remote monitoring system indicated that water was above the rail at the Bremer River Bridge.
- The Interstate line to Queensland border was inspected yesterday by ARTC (in full) and no damage reported. ARTC owned line runs from the NSW border to the Acacia Ridge freight terminal.

### *Maritime*

- A high number of navigational beacons and channel markers have been washed away in the Bundaberg area. An assessment is underway to determine requirements for safe operations and to establish a priority listing for re-instatement.

### *Ports*

- The Port of Brisbane Pty Ltd remains closed to all commercial shipping due to continued flood related strong currents and debris.



- Subject to results from hydrographic surveys, river conditions, and navigational hazards, the earliest possible movements of priority shipping in the port would be Sunday 16 January. The Harbour Master will continue to work with the port to assess the conditions, which are currently severe, and may remain that way for some time.
- Any ship movements will be prioritised, and only allowed under strict conditions by time, area, currents, and channel conditions. Movements will also be subject to the channel being unobstructed by sunken debris or other navigational hazards.
- This will be subject to continual assessments over coming days, and may change at any time.
- The Port of Bundaberg remains closed due to material in the berth pocket, channel and swing basin. Surveying to date indicates obstruction more severe than first anticipated with debris build up and loss of depth from 9m to 3m, in some areas.
- The QG Norfolk is currently in Bundaberg for survey operations and the port will not open until navigational aids are operational and the port is deemed safe by Maritime Safety Queensland (MSQ). Further surveying work may need to be undertaken next week (commencing 18 January).
- Queensland Sugar commencing an investigation into barging sugar to ship anchored in Hervey Bay (Shen Neng 1 location).

#### *Airport and Air Services*

- Chinchilla airport is operating with limited services. Toowoomba airport is open.

#### **Central Region**

##### *Road*

- Bruce Highway remains closed at Yeppen Roundabout, south of Rockhampton. It will reopen to heavy vehicles at 4pm this afternoon and an assessment will then be made if lighter vehicles can be let through.
- Capricorn Highway remains closed between Rockhampton and Gracemere. The remainder of the highway is open with caution and has speed restrictions and traffic control in place at known hot spots.
- Bundaberg - Miriam Vale Road remains closed at Murray Creek (damage to bridge approaches), south of Berajondo and will remain so until early next week.
- The Dawson Highway is open with caution from Gladstone to Rolleston. Approximately 10km east of Biloela there is traffic control at Oaky Creek Bridge.
- Rolleston in Central Queensland remains accessible only from the east via the Dawson Highway (Banana to Rolleston).
- Fitzroy Developmental Road (Bauhinia to Woorabinda) is open with a 5t load limit.

- The priority has been to maintain access west of Emerald, providing a north-south freight line via Barcaldine. Access to the east of Emerald through to Gracemere has now re-opened to all 'as of right' vehicles. The focus has shifted to keeping the Capricorn Highway from Rockhampton to Barcaldine safe.
- The road network has suffered some major damage in the Central West Region as a result of recent heavy rainfall. There are a number of state-controlled roads closed due to waters and damage. The Capricorn Highway west of Gracemere through to Barcaldine and the Landsborough Highway west of Barcaldine remain open with caution with initial repairs to the road system underway.
- The Rockhampton office has worked closely with the local disaster response team and has undertaken repairs to the Bruce Highway at the southern entrance to Rockhampton, allowing the link to be opened to trucks with vital supplies earlier than expected.

#### *Rail*

- QR National's operations are as follows:
  - The Newlands line to Abbott Point Coal Terminal near Bown continues to operate.
  - The Goonyella rail system through Dalrymple Bay and Hay Point coal terminals, near Mackay is operational. It was closed 24 December to 30 December following derailment of a Pacific National train near Yukon.
  - The Moura coal rail system reopened on 13 January. System was closed on 29 December and partially re-opened to the mines of Callide and Boundary Hill on 4 January.
  - The Blackwater coal rail system has remained closed since 27 December 2010 due to floodwaters. The system is expected to re-open next week, following a detailed inspection and assessment of flood damaged track on 12 January.
  - QR National's general freight services along the North Coast Line beyond Gladstone to Cairns not operating due to floodwaters at Rockhampton.
- Emerald to Winton Corridor (Central Line) Central line west of Emerald is closed. Inspections will be carried out but traffic will be dependent on any necessary repairs once waters subside. Winton to Longreach is open as is Longreach west to Lochnagar (just west of Barcaldine). Emerald to Lochnagar is closed.
- Mackay to Rockhampton: Northern approaches to Rockhampton are cut at Yaamba. The overhead power has been turned off in Rockhampton Yard and Station. Water over the line in the vicinity of Yaamba. Marlborough to Mackay is open.
- Rockhampton to Gladstone: water over the track in the Rockhampton marshalling yard and station. Rockhampton to Rocklands and to Gladstone is closed although the line is expected to be open to Rockhampton by Sunday and subject to further works open for through traffic to Townsville by Wednesday, 19 January.

#### *Maritime*

- The Fitzroy River in the vicinity of the Yeppen Flood Plain has been declared a prohibited area for the operation of all ships except those ships authorised by the District Disaster Coordinator (Rockhampton).

#### *Ports*

- The Port of Gladstone is functioning as normal with no restrictions.
- Port Alma remains closed commercial shipping due to current and potential silt build-up and loss of channel depth. Survey will not be undertaken until Fitzroy River recedes to 8.5m (currently 9.1m).
- Abbot Point Coal Terminal, Hay Point Services Coal Terminal and Dalrymple Bay Coal Terminal are operating (albeit with supply constraints).

#### *Airport and Air Services*

- All airports are operational with the exception of Rockhampton which is closed. An inspection will occur on 16 January 2011. Thangool and Theodore are open with limited services.

### **Northern Region**

#### *Road*

- All critical freight routes in the northern region are open.

#### *Rail*

- Almaden to Forsayth is closed with repairs to commence 10 January 2011. No scheduled services until early March when the Savannahlander recommences operation.
- Normanton to Croydon is closed with Gulflander services expected to resume on 23 February 2011.
- Mareeba – Townsville is open and Kuranda Scenic Tourist Trains are running.
- Cairns – Almaden is open.
- Townsville – Cairns is open.
- Gumlu - Wilmington (Townsville - Bowen) - was flooded 11 January and will be inspected when possible.
- Townsville – Mt Isa (including Phosphate Hill) is open.

#### *Maritime*

- No major issues or disruptions were reported.

#### *Ports*

- No issues or disruptions to Port operations were reported by the Far North Queensland Ports Corporation or the Port of Townsville.

*Airport and Air Services*

- All airports are operational.

## Attachment 6

### Immediate community assistance and volunteer effort

- **28 evacuation centres** have been established (one in Ipswich, two in Brisbane, two in Moreton Bay, one in Gympie, four in Ipswich, seven in the Lockyer Valley, three in the Somerset Council area, four in the Western Downs, and four in South Burnett).
- **18 Disaster Recovery Centres** which provide xxxx have been established: four in Central Queensland; eight in South West Queensland (including Ipswich, Lockyer Valley, Gatton and Dalby); and six in the Greater Brisbane region.
- Key non-government community recovery agencies including Red Cross, Lifeline, and the Salvation Army are working across flood-affected areas. In turn, they are being supported by many local NGOs and service organisations, and a large number of staff and volunteers.
- Significant numbers of Queenslanders and organisations have also provided assistance formally and informally and **22,000** people have registered with Volunteers Queensland to provide assistance as required in response to the flood.

### Financial assistance

- The Personal Hardship Assistance Scheme (PHAS) under the Natural Disaster Relief and Recovery Arrangements (NDRRA) has been activated for twenty (23) Local Government Areas.
- Three forms of payment are available to individuals and families. The following figures are as at 10pm 13th January 2011.
- **Emergent Assistance Grants** totalling **\$2,619,875** have been paid to **7244** individuals and families. These grants are not means tested and provides between \$170 for an individual and up to \$850 for families to enable them to meet immediate needs for food, clothing, medication, or accommodation following a disaster
- **1,647 individuals and families** - have been assessed as eligible for **Essential Household Grants**. This provides up to \$1,705 for individuals and \$5,120 for families. Eligible individuals and families are those who are uninsured and meet income and asset requirements to purchase essential household items lost or damaged in the disaster. Payment of this follows a site inspection by QBuild and DPW to verify claimed damage has occurred.
- **462 individuals and families** have been assessed as eligible for **Structural Assistance Grants**. These are grants of up to \$10, 500 for individuals and \$14,200 for families to assist repair owner-occupied, uninsured residences damaged by the disaster. The residence must be owner-occupied and applicants for this grant must satisfy an income and assets test. The grant provides a contribution towards repairing eligible residence to a habitable and secure condition. This also requires verification of claimed damage prior to payment.
- Funeral assistance, of up to \$10,000 for individuals and families, to assist families impacted by the floods to pay for funerals caused by this event is also available.

**Comment (b2):** It wasn't clear whether this was \$10,000 for an individual or it's for multiple funerals within one family.

#### **Non-Government Organisations (NGOs) Impacted:**

- With its focus on servicing the State's most disadvantaged people, the Department of Communities has also continued to assist those who were already vulnerable and disadvantaged people in the communities directly affected by the floods. These include children in care, people with a disability, people with mental illness, the frail and aged, and people from culturally and linguistically diverse communities, and affected residents of the Indigenous communities of Cherbourg and Woorabinda.
- An assessment of the extent of the impact on human service delivery and social infrastructure and assets is underway. There will be impacts on social infrastructure and the social sector's workforce including service dislocations and increased pressures such as demand for respite and after-hours care.
- Contact has been made with **157 organisations** providing Health and Community Care services, services to Child Safety clients or youth services in the flood affected areas. As at 14 January 2011 almost 60% of NGOs have responded, and 57 organisations (36%) report they have been impacted by the floods, with 23 reporting significant damage (approximately 15%). While Disability Service organisations have been contacted, data is not available yet.

#### **Social housing and homelessness services:**

- It is estimated that xxxx number / dollars – *Annette/Adele to advise* have been affected by the flood.

#### **Sport and recreation organisations:**

- It is estimated that as many as a **1,000** sport and recreation organisations have been impacted by the flood. Initial estimates, which are likely to be low, suggest **\$8M**, to assist in repair and recovery.

## Attachment 7

### Impact of floods on service delivery by key utilities, i.e. energy, water, telecommunications, transport services, education and health

#### Electricity

- X premises experienced disruption to their power supply during the Queensland floods. Since the flood peak Energex has restored power to 170,000 South East Queensland homes and businesses.
- As of 14 January (PM) the total number of Energex customers currently without supply is ~55,000. Breakdown is as follows:
  - 36,000 in the wider Brisbane area
  - 11,000 in Ipswich and surrounding suburbs
  - 2,700 in the Lockyer Valley / Brisbane Valley
  - 800 in Gympie/Sunshine Coast
- Restoration will continue over the coming days and weeks as flood waters recede.
- Access issues are still hampering Energex crews in the worst affected areas along the Bremer and Brisbane Rivers.
- As at 14 January, (AM), Ergon Energy is reporting the following information:
  - Condamine – 58 customers off supply
  - Chinchilla - 213 customers off supply
  - Dalby – 88 customers remain off supply
  - Toowoomba CBD - around 9 commercial premises are off supply in the CBD.
  - Maryborough - 28 customers off supply
  - Warwick – 52 customers off supply
  - Stanthorpe - 5 residences remain disconnected
  - Oakey - 2 customers remain off supply
  - Bundaberg - 19 customers off supply
  - Rockhampton - 454 customers are without supply
  - Emerald - 97 premises remain off supply
  - Cherbourg - water and sewerage plant. It is expected that supply would be available on Monday barring unforeseen circumstances.
  - St George - 21 customers remain off supply
- Goondiwindi is serviced by Country Energy. However, the situation is being monitored by Ergon. (TBA)
- Ongoing reconnection work will be slowed were electrical inspections are required. At this stage it is estimated that around x premises will require electrical inspections.
- Energex and Master Electricians Australia are coordinating the plan for the restoration of electrical supply in south east Queensland where inspections are needed. [Arrangements outside of SEQ?]
- Flooding has not affected electricity generation capacity.

## Gas

- Flooding has impacted on gas.....

## Water and Sewage Treatment

- Precautionary 'boil water alerts' are current for residents in the following areas:
  - Ipswich - Marburg
  - Lockyer Valley - Kensington Grove, Regency Downs, Hatton Vale, Plainlands, Galton, Forest Hill, Glenore Grove, Withcott, Murphys Creek, Lockyer, Tabletop, Postmans Ridge, Helidon, Grantham, Lockrose, Placid Hills
  - Somerset - Minden, Fernvale, Lowood, Brightview, Coolana, Helenvale Estate, Tarampa, and Vernor
  - Laidley
  - and in two non-SEQ areas – Chinchilla and Yuleba.
- Boiled water alerts will remain in place until water quality testing has confirmed that it is safe to drink.
- Due to flooding of Lowood WTP, affected towns and nearby reticulated estates requiring bottled water are Withcott, Helidon, Galton, Grantham, Laidley, Forest Hill, Minden, and Fernvale.
- Treatment chemical stocks are getting resolved as roads are opening up and deliveries are getting through. A more detailed survey of flood affected councils will occur 17 and 18 January 2011. Capella WTP in the Central Highlands Regional Council is one council that is running low of chlorine.
- SEQ – water grid
  - Close scrutiny is being kept on water quality from North Pine Water Treatment Plant and Mount Crosby's West Bank and East Bank Treatment Plants as drinking water production is increased to meet demand.

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TREATMENT PLANT	SUPPLY	QUALITY
<u>Mt Crosby Water Treatment Plant (West Bank and East Bank)</u>	<u>Storage full at 415 megalitres.</u> <u>Production is 180 megalitres per day by East Bank.</u> <u>Currently nil production by West Bank (from overnight on 15 January 2011).</u> <u>Consideration will be given to increasing production later today if required.</u>	<u>Plant is operating within quality specifications</u>
<u>North Pine Water Treatment Plant and Northern Pipeline</u>	<u>Jointly delivering 100 megalitres per day</u>	<u>Plant is operating within quality specifications</u>
<u>Southern Regional Water Pipeline</u>	<u>Transporting 100 megalitres per day to central Queensland</u>	<u>Pipeline is operating within quality specifications</u>
<u>Lander Shute Water Treatment Plant</u>	<u>Operating</u>	<u>Plant is operating within quality specifications</u>
<u>Ewan Maddock Water Treatment Plant</u>	<u>Started at 17:30 on 15 January 2011 producing an estimated 200 litres per second.</u>	<u>Plant is operating within quality specifications</u>

- SEQ – standalone water supplies

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- A key issue is the Lowood Gatton Laidley Water Supply Scheme. A diesel pump has been sourced and WTP now operational. The permanent intake requirements at Lowood will be assessed when the floodwater recedes and the damage can be inspected.
- The affected towns supplied by Queensland Urban Utilities (QUU) are:
  - Lowood Gatton Laidley Supply: which also delivers water to Grantham, Helidon, Fernvale and Withcott
  - Kilcoy
  - Somerset
  - Jimna
  - Linville and
  - Kirkleagh and Wivenhoe Dam recreation areas.
- All water supplies (except Withcott) are now operational.
- 85% of customers are now being supplied, with the remaining 15% within the next 18 hours. As far as is known, there are no major bursts. There are ten crews available for any minor reticulation repairs.
- The connection to Withcott, which involved significant engineering work, has been restored and has been charged in the morning of 16 January 2011 (earlier than originally anticipated date of 17 January 2011). Supply to 1500 reticulation customers in Withcott will be returned within 18 hours.

#### • Water Supplies Outside SEQ

- The following table outlines the status of water treatment facilities in those councils that have been able to be contacted:

<u>Water Treatment</u>	<u>Normal operation</u>	<u>At risk (eg. chemical shortages)</u>	<u>Operating difficulties</u>
No. of councils	8	3	3
No. of areas	50	3	5

- The Western Downs Regional Council area is heavily affected.
- Further flooding will affect water treatment infrastructure at Condamine.
- Surat, in the Maranoa Regional Council is expecting another flood peak about 19 January.
- Due to flood ingress, the Dalby WTP is inoperable until about 17 January. Currently 2-3 days supply in service reservoir storage, with Level 6 restrictions in place.
- The Condamine WTP will be inundated again but the town is totally evacuated.
- Warra WTP is inoperable due to flood damage and access problems. Drinking water is being carted from Chinchilla.
- Systems are gradually coming back on line:
  - Branyans WTP in Bundaberg Regional Council is sourcing raw water from bore supplies to meet restricted demand.
  - Cherbourg Aboriginal Council WTP is now producing sufficient water supplies with the assistance of diesel generators until such time as mains power is restored.
  - Woorabinda Aboriginal Council has improved access to their WTP with construction of a temporary water main which has reduced the need for water carting.

#### • SEQ – Sewage Treatment

- Despite infrastructure issues, there are no impacts expected to residents in the Brisbane City Council and Ipswich City Council areas

- There are concerns of failure from flood debris at the Fortrose St Rising main at Jindalee Bridge.
- Sunshine Coast - Bulcock Beach, Golden Beach, Currimundi Lake and Currimundi Beach remain closed with Unitywater closely monitoring water quality in these areas.
- Wet weather effluent storage lagoon at the Dayboro sewage treatment plant has overtopped releasing effluent to the Dayboro Village Creek. Effluent is being irrigated to prevent further discharges and increase storage capacity of the facility.
- Woodford treatment plant continues to by-pass and release screened and dewatered sewage to Stanley River.
- The Scenic Rim Regional Council reports that all its wastewater facilities are operating normally.
- The town of Withcott is serviced by septic tanks.
- All wastewater treatment plants in Somerset and Fernvale cannot be accessed for a number of days.
- Wastewater treatment plants in Esk, Lowood (expected to have no power for five days), Gatton (rising main being fixed) are not operating.
- Wastewater treatment plants in Kilcoy, Toogoolawah and Laidley are operating.

<u>Location</u>	<u>Wastewater treatment plants inoperable</u>	<u>Pumping stations inoperable</u>
Brisbane	4 (Karana Downs, Oxley, Fairfield, Wacol)	47
Ipswich	2 (Bundamba, Goodna)	27
Lockyer Valley	1 (Helidon) 1 operable but without chemicals to disinfect (Gatton)	
Somerset	2 (Esk, Fernvale, Lowood - Seqwater)	3 (Esk, Lowood, Fernvale)
Woombye		1
Dayboro	1	
Woodford	1	

#### • Sewage Treatment Outside SEQ

- The following table outlines the status of sewage treatment facilities in those councils that have been contacted:

	<u>Normal operation</u>	<u>At risk (eg. prolonged flooding)</u>	<u>Operating difficulties</u>
No. of councils	10	2	4
No. of areas	43	3	5

- Toowoomba is still the most impacted area. Temporary pumps have made the Wetalla STP operational while repairs to the missing sewer main at North Street are made.

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- o Oakey STP still has no power, and so Council are currently establishing course screening and restoring operation of trickling filters. Tanker contractors have recommenced pumping out overflowing pump stations.
- o Some sewerage schemes are performing at sub-optimal treatment levels due to high flows and chlorination equipment being water damaged. This includes Chinchilla within the Western Downs Regional Council area, and two treatment plants in the Bundaberg Regional Council area.
- o Prolonged flooding will impact wet weather storage capacities for treated effluent, such as the St George sewerage scheme in Balonne Shire Council.
- o The following sewerage treatment plants have storage lagoons overflowing – Woodgate STP in Bundaberg Regional Council, and Eli Creek STP and Pulgul Creek STP from the Fraser Coast which both normally irrigate.
- o Areas to monitor include the Surat area in the Maranoa Regional Council area, which is expected to have another flood peak about 19 January 2011.

#### Solid Waste Disposal

- \* The following table outlines the status of waste collection facilities in those councils that have been contacted:

	<u>Normal operation</u>	<u>At risk (eg. capacity)</u>	<u>Operating difficulties</u>
No. of councils	6	4	1
No. of areas	6	5	4

- \* Some waste collection facilities are reaching their capacity. This situation is being closely monitored and assistance given to councils in finding alternatives where needed. The Emerald tip in the Central Highlands Regional Council is already full, so rubbish is being trucked to the Tieri landfill.
- \* Waste collection services in the Western Downs Regional Council area (Tara, Meandarra, Kogan, Condamine) are not functioning due to difficulties obtaining heavy vehicle permits for the Moonie Highway. Tara has not had waste collection for 3 weeks, which poses health concerns.
- \* Goondiwindi Regional Council could have problems with waste management services outside the levee and perhaps in Yelarbon. This will have to be further assessed.

- \* A full assessment of water supply and sewage treatment facilities across Queensland is difficult because, outside SEQ, the data is held by individual local governments.
- \* Toowoomba Regional Council water and sewage treatment capacity is largely unaffected.
- \* Water treatment infrastructure at Condamine is likely to be again affected by inundation and water supply to Warra is being tankered from Dalby.
- \* Ongoing problems with Theodore's water supply are still being reported.

• Precautionary 'boil-water alerts' are current for residents of about 26 SEQ communities<sup>1</sup>.  
For the vast majority of SEQ, tap water remains safe to drink.

• Several smaller and more isolated SEQ communities have experienced water supply challenges which are being managed. The most difficult of these is the Lowood treatment plant which services Lowood, Gatton, Laidley, Grantham, Helidon and Fernvale. To deal with this alternative pumps have been sourced and electricity supply is expected by 18 January.

• Water is being carted to several smaller towns and helicopters have also dropped bottled water supplies at Gatton, Helidon, Hatton Vale and Withcott.

• Poor source water quality, damage to treatment plants and access roads, and problems with the supply of treatment chemicals is limiting the amount of water that can be treated at a number of plants. For example, in the Brisbane metro area, typical daily demand of 370ML is being supplied by treated supplies (320ML) and drawing down reservoirs (50ML). About 95ML is being supplied from the southern regional water pipeline (including the desalination plant which is operating at two-thirds capacity) and Mt Crosby's current daily output is limited to 135ML.

• Water conservation therefore remains important and the use of alternative water sources should be encouraged where possible until greater supply security is achieved.

• The SEQ sewage network damage is still being assessed. In Brisbane four wastewater treatment plants are inoperable due to inundation (Oxley, Fairfield and Wacol) or disrupted power supplies (Karana Downs) and 77 pump stations are inoperable. In Ipswich two water treatment plants and 30 pump stations have been inundated. Temporary storage locations for treatment sludge to deal with clean-up and constraints of access to operating sites and disposal sources will be required over the next 2-4 weeks.

## Telecommunications

- TBC

## Transport Services

### Southern Region

#### *CityTrain*

- Ipswich / Rosewood Line – partly open with services running from Roma Street to Sherwood only and trains turning back at Sherwood. Corinda to Ipswich and Ipswich to Rosewood lines are still closed. Extensive Track Inspections are currently underway on these closed sections of track. These inspections are expected to take some time.
- Bus service on the Ipswich line between Ipswich and Sherwood (n.b. no station staff or customer care representatives at these stations apart from at Sherwood).

<sup>1</sup>Marburg, Kensington Grove, Regency Downs, Hatton Vale, Plainlands, Gatton, Forest Hill, Glenore Grove, Withcott, Murphys Creek, Lockyer, Tabletop, Postmans Ridge, Grantham, Lockrose, Placid Hills, Minden, Fernvale, Lowood, Brightview, Coolana, Helenvale Estate, Tarampa and Verno

- Corinda to Yeerongpilly including Moolabin Freight Terminal and Clapham yard are closed.
- Caboolture, Cleveland, Gold Coast / Beenleigh, Shorncliffe, Ferny Grove - open with services operating on an hourly public holiday schedule
- The Sunshine Coast Line - Caboolture to Nambour is running on a two hourly public holiday schedule.
- Doomben line – operating on public holiday schedule (which provides for a bus between Eagle Junction and Doomben)
- Airport Line - Open and services operating between Varsity Lakes to the Airport on an hourly basis and services from Roma Street to the Airport on a half hourly basis.

#### *Bus services*

- Bus services will resume normal operations from Friday, 14 January, with the exception of Brisbane Transport which will run on Sunday timetable.
- Public transport will be free across all TransLink services until the final service on Friday, Jan 21 to assist with the initial flood recovery across South East Queensland.
- A number of CBD Services are still suspended due to flooding including Cityglider and all 400 series services.
- CityCat, City Ferry and Moggill Ferry services have been suspended until further notice.
- Gympie services are operating from 14 January, with some minor detours. Services from Gympie to the Cooloola Coast (Rainbow Beach and Tin Can Bay) have resumed.
- All services between Caboolture and Woodford have been cancelled.

#### *Long distance train and bus services*

- “Westlander” rail service have been cancelled
- Long distance bus services from Toowoomba to Rockhampton were suspended. Western services past Toowoomba were also suspended with the exception of Brisbane to Charleville which is operating as far as Miles.

#### *Service Delivery*

- All centres are open with the exception of the Goondiwindi, Brisbane City, Rosalie, Sherwood and Spring Hill customer service centre.

### **Central Region**

#### *Long distance train and bus services*

- The Rockhampton Tilt Train is operating as far as Gladstone only. Additional services are being provided between Brisbane and Gladstone from 13 – 16 January.

- Spirit of the Outback (Brisbane-Longreach via Rockhampton) – no services to Longreach due to rail line being cut between Gladstone and Rockhampton.
- The Bundaberg Tilt Train is operating to normal schedule.
- Rockhampton to Emerald coach services are expected to recommence in the next few days.

#### *Daily train and bus services*

- Rockhampton – services have resumed with the exception of services to Depot Hill.
- Bundaberg – services have resumed with some minor route deviations.

#### *Service Delivery*

- Emerald Motor vehicle Inspection Centre flooded and closed until further advised.
- All other centres are operational.

### **Northern Region**

#### *Long distance train and bus services*

- Cairns Tilt Train cancelled; Sunlander service operating between Mackay and Cairns; Shuttle services will continue to Sunday 16 January.
- “Sunlander” Brisbane to Cairns cancelled however Sunlander rail shuttle service operating between Mackay and Cairns (continuing to Sunday 16 January).
- “Inlander” Townsville to Mount Isa operating to normal schedule.
- Majority of regular long distance bus services operating; some altered services to avoid local flooding.

#### *Daily train and bus services*

- Regular bus services are operating.

#### *Service Delivery*

- All centres operational.

### **Education**

#### **Schools**

- In Toowoomba, Ipswich, Central Queensland, the Lockyer Valley and Brisbane, there has been damage to school facilities and resources (details are provided in Attachment X – Impact on Educational Infrastructure). Other impacts include trauma among school staff, students and communities. Students may have lost their own resources, such as uniforms and stationery, that they need to start school when the school year commences on Monday 24 January 2011. Road closures may prevent some staff and students travelling to school and some may still be in evacuation centres.
- In Brisbane, one of the five flooded schools is reasonably certain to be ready for occupation on 24 January 2011 and four are still under assessment. In Toowoomba, four of the eight flooded schools will be ready for occupation on 24 January 2011, and the other four are reasonably certain to be ready. In Ipswich, both affected schools are still under assessment, and other schools are currently being assessed in the Ipswich area. In Central Queensland, 5 of the 14 affected schools will be ready for occupation on 24 January 2011, seven are reasonably certain to be ready, and a further two still are inaccessible for full assessment. In the Lockyer Valley, three of the eight affected schools will be ready for occupation on 24 January 2011, and the other five are reasonably certain to be ready.
- Catholic Education and Independent Schools have provided the following. There is one Catholic school (Downlands Sacred Heart College) with known damage and four independent schools (Agnew Schools at Nambour, Toowoomba and Wakerley, and the Christian Outreach College at Toowoomba) that have sustained minor damage.
- In addition, one School of Distance Education at Emerald has facilities that have been inundated and another (Brisbane) has grounds inundation only. The Languages Other Than English (LOTE) centre at West End is inaccessible due to floodwaters.
- Education Queensland (EQ) is aiming to open the majority of schools on 24 January and to have every child at school that day. Schools are an integral part of all communities and it is important that children are able to return to normal routines as soon as possible. If a child's own school is not ready, they will be accommodated in a nearby school. Where students are unable to get to school, e-learning materials will be available to them through the department's website. Where needed, teachers will be deployed to evacuation centres to provide educational support to students who are unable to attend their school. EQ expects to have determined where all children will attend school by Thursday 20 January 2011.
- Principals are taking responsibility for sourcing resources where possible and modifying school programs to mitigate against impact of staff and students due to loss of resources.
- Additional guidance officers and counselling staff will be deployed to provide trauma and grief counselling for students and staff in affected schools. Principals will support children and families who have lost resources need to start school. Additional teachers will be deployed to schools to support the start of school year where the school's teachers have not been able to return to work.

#### Universities

- UQ campuses at St Lucia, Ipswich and Gatton will remain closed until and including Wednesday, 19 January 2011.

- Some or all of QUT Gardens Point campus will reopen on Wednesday, January 19 for staff and students. Major impacts to QUT included water in the car park levels of those buildings closest to the river at Gardens Point campus, the inundation of the QUT Printery at Milton, and disruption to IT services and corporate systems following a staged shutdown of QUT's data centre, prior to CBD power cuts.
- Griffith University's South Bank campus is closed until further notice.
- USQ has escaped relatively undamaged following the disastrous flash flood that hit Toowoomba and areas of the Darling Downs on 10 January.
- As of Thursday 7 January, no flood-related damage had been reported on any Central Queensland University campus, though CQU's Ron Smyth Building on Quay Street (adjacent to the Fitzroy River) had been sandbagged and evacuated earlier this week. The road has been covered by water.

#### TAFEs

- Five TAFE campuses have grounds and facilities damage, including two in Brisbane (Southbank Institute of TAFE and Metropolitan South Institute of TAFE at Chelmer), two in the Darling Downs (South Queensland Institute of TAFE at Toowoomba and Warwick), and one in Central Queensland (Central Queensland Institute of TAFE at Emerald).
- At Southbank, no ICT systems are available due to electrical switchboard submersion. Power has been restored to 3 buildings and students will be transferred to these buildings if power is not restored to other buildings in time for Adult Migrant English Program (AMEP) on Monday 17 January. At Chelmer, there is water inundation up to the roof, and AMEP classes scheduled for the week beginning 17 January 2011 will be transferred to Yeronga Campus. For the institutes of TAFE at Toowoomba and Warwick, operations are expected to resume on Monday 17 January. At the Central Queensland Institute of TAFE at Emerald, QBuild is working with the Institute to get campuses ready for classes at the end of January. Apprenticeship blocks due to start at the end of January will be delayed by one week.
- The Bremer Institute of TAFE at Ipswich is not damaged by flooding but a number of staff may have difficulty getting to work on Monday 17 January and this may have an impact on service delivery (yet to be determined). Some English language classes have already been cancelled in the week beginning 10 January, and may also be cancelled for the week beginning 17 January.
- All students and staff will be notified in cases where Semester 1 classes are unable to commence as advertised.

#### Early Childhood Education and Care (ECEC) facilities

- As of 14 January 2011, nine services have ground inundation, 84 services are closed due to access or staffing issues and 10 services are damaged by flooding. This information is based on self-reported information from child care centre licensees and directors. Of the ten damaged centres, two are in Central Queensland, six are in Darling Downs and there is one in both north and south east coast regions.



- The number of closed services is expected to reduce by 17 January as many closed pre-emptively when Ipswich and Brisbane areas prepared for flooding on 12 and 13 January.
- The number of services with damage may increase as impacts from flooding of the Brisbane River are reported. At present not all services are contactable.
- In order to ensure that child care services are able to continue to provide safe and hygienic services to the community, the Department has instituted the following arrangements:
  1. Approval of a Notice of Appointment Conditions and Limits on Powers for Authorised Officers (Early Childhood Managers and Officers (ECMs and ECOs)) in relation to the exercise of their discretion to take compliance action under the *Child Care Act 2002* and the *Child Care Regulation 2003*.
    - This enables Authorised Officers to exercise discretion in respect of services that may not be fully compliant with the Act based on the principle that the health and safety of children remains paramount.
    - Services will continue to ensure key requirements, such as electrical, chemical and food safety, access to water and toileting arrangements, and appropriate adult/child supervision ratios and child containment requirements remain in place.
    - The requirement for adults to hold a 'Blue Card' remains unchanged.
    - Services must work with Authorised Officers to develop a plan that clearly documents non-compliance and provides negotiated timeframes for compliance.
    - Authorised Officers are to determine on a case by case basis the extent to which any relaxation of the compliance requirements is to be implemented and must consult with the Central Regulation Team within the Department of Education and Training.
  2. Approval of a Temporary Guideline for services that are not able to operate from their usual premises due to flood damage. The Guideline allows Authorised Officers to afford licensees the opportunity to continue to operate from suitable temporary premises without risk of enforcement action in respect of non-compliance with legislated requirements.
    - Services must work with Authorised Officers to develop a plan that includes action towards returning to the usual licensed premise. Again, minimum requirements must be met to ensure that the service and facilities are safe and suitable.
    - Regional EC staff continues to be in contact with services in affected areas. Each region is developing a plan to visit every service in an affected area as part of the recovery process. Travel to affected areas is being undertaken when it is safe to do so.

- The Department is working closely with the Australian Government (Department of Education, Employment and Workplace Relations) to ensure that appropriate information is shared, and that services and families are provided with up to date information via the 'My Child' website and provider portal.
- Families have also received information directly in relation to local emergency arrangements. State regional staff has been provided with information relating to entitlements and payments.
- Services that are damaged are being offered assistance where possible, through consultation with licensees.
- The Department will continue to consult with stakeholders to identify issues for continuity of services.

#### **Health**

- Four Queensland Health facilities across flood-affected areas were required to be evacuated, at Theodore (29 December), Emerald (30 December), St George (7 January) and Goondiwindi (13 January). These evacuations were precautionary only and therefore services remained available, except for Theodore where components supporting the hospital (air conditioners) were impacted by water. Partial medical services resumed there in the week of 10 January, with full services expected to be available in coming weeks.
- All Queensland Health facilities in the greater Brisbane area, in Ipswich and in Toowoomba are operating under business as usual conditions, with the exception of their elective surgery and outpatient clinics. These services (non-urgent elective surgery and outpatient clinics) were postponed at the majority of Metropolitan North and Metropolitan South hospitals on Wednesday, 12 January 2010, and affected patients contacted. All emergency surgery continued to be performed.
- It is anticipated that elective surgery will resume across metropolitan north and south hospitals, Ipswich, Darling Downs and at the Royal Children's Hospital by the middle of next week (ie, by 19 January).
- Queensland Health is now increasing its public health and human/social (ie, mental health) presence as the community enters the recovery phase, and will continue to work with volunteers, community members, Councils and other key stakeholders to ensure the public is supported while returning to regular activities.

[REDACTED]

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**From:** Bradley John [REDACTED]  
**Sent:** Monday, 17 January 2011 1:50 PM  
**To:** Lance McCallum; Stephen Robertson  
**Cc:** Tim Watts  
**Subject:** FW: Qld Govt Flood Risk Roles and Responsibilities  
**Attachments:** 2011011713441382.PDF

Minister

I promised earlier today to forward another copy of this BN and correspondence

regards

John Bradley  
Director-General  
Department of Environment and Resource Management  
**Telephone:** [REDACTED]  
**Email:** [REDACTED]  
( [www.derm.qld.gov.au](http://www.derm.qld.gov.au)

Department of Environment and Resource Management  
400 George Street, Brisbane Q 4000  
GPO Box 2454, Brisbane Q 4001

**From:** Williams Lynette  
**Sent:** Monday, 17 January 2011 1:48 PM  
**To:** Bradley John  
**Subject:** Qld Govt Flood Risk Roles and Responsibilities

+-----+  
Think B4U Print

( 1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere

3 sheets of A4 paper = 1 litre of water  
+-----+

Department of Environment and Resource Management  
JOINT MINISTERIAL BRIEFING NOTE

TO: Minister for Natural Resources, Mines and Energy and Minister for Trade  
AND: Minister for Climate Change and Sustainability

SUBJECT: Queensland Government Flood Risk Roles and Responsibilities

TIMEFRAME

- Approval of this briefing note is required by 8 October to ensure clear advice to key parties in the lead up to the November meeting of the National Flood Risk Advisory Group to be held in Brisbane.

RECOMMENDATION

It is recommended that the Ministers:

- confirm lead agency responsibility, in discussion with Minister Hinchliffe, for the coordination of the Queensland Government's input into strategic flood risk planning and policy development at a State and National level including coordinated representation on the National Flood Risk Advisory Group (NFRAG)
- sign the attached letter to Minister Hinchliffe requesting that the Department of Infrastructure and Planning (DIP) represent the state as lead agency for planning on the NFRAG—Attachment 1.
- note the findings and recommendations of the Queensland Government Flood Risk Management Activities Audit draft report (the report) prepared by DERM in consultation with other agencies (Attachment 2);
- note the list of flood-risk management activities that DERM undertakes (Attachment 3) and that DERM will continue to play a purely technical role providing advice to both Emergency Management Queensland (EMQ) in dealing with immediate response to flood events and to DIP for strategic policy and planning inputs;

BACKGROUND

- Natural Disaster Recovery and Relief Arrangements (NDRRA) expenditure indicates that between \$200 and \$600 million has been spent annually on flood and cyclonic events in Queensland during the last four years, with projections indicating expenditure of approximately \$600 million into 2011 and 2012. These NDRRA costs cover public infrastructure damage, but do not cover damage to commercial entities nor to the natural environment.
- Flood risk management in Queensland is a complex matter. The roles and responsibilities related to managing flood are shared across various agencies with complex governance arrangements. This has resulted in an apparent lack of ownership at the State Government level.
- This lack of leadership is particularly evident in the fact that the state does not have jurisdictional representation on the NFRAG. Previously the Office of the Water Supply Regulator in DERM provided informal Queensland representation but OWSR has not attended NFRAG meetings since January 2009, given the realignment of OWSR's role to be primarily of an operational/regulatory nature.
- It is likely that Queensland is heading into a period of several wet years, therefore establishing who has responsibility for the different aspects of flood risk management, planning and policy across the Queensland Government should be a high priority.

Author Name: Mel Acton Position: Project Officer, SAS Tel No: [REDACTED] Date: 01/10/10	Cleared by Name: Penny Douglas Position: A/General Manager, G & S Tel No: [REDACTED]	Cleared by Name: Lynne Turner Position: A/A D-G, OCC Tel No: [REDACTED]
		ENDORSED

## CURRENT ISSUES

- DERM has undertaken an audit of flood risk management related activities across the Queensland Government, in consultation with key agencies, to understand the full nature of the state's flood risk management framework and to establish where gaps in policy activities exist.
- The report summarises the findings of the audit and identifies where possible enhancements to the state's flood risk management framework may be made.
- The major conclusions drawn from the audit include:
  - There is a clear need to identify a lead agency who can take on the responsibility for managing flood risk in Queensland and offer jurisdictional representation on the National Flood Risk Advisory Group;
  - There is a need to establish a strategic 'Queensland flood risk management framework' encompassing both the planning for and response to a flood event;
  - There is a need to better integrate the administration of flood related funding especially with regard to Natural Disaster Recovery and Relief Arrangements (NDRRA); and
  - An interdepartmental committee should be established to further scope out the issues identified in the report and potential enhancements to the current flood risk framework; and prioritise a series of actions over the coming months.
- The audit identified the Departments of Community Safety (DCS), Infrastructure and Planning (DIP), and DERM as agencies with significant responsibilities for flood risk management.
- The findings of the report have not been distributed beyond DERM at this stage.
- The Queensland Government is not an active member of the NFRAG and DERM does not provide a representative to this group or any coordinated advice to any other Queensland Government department.
- The NFRAG will be meeting in Brisbane in November and it is uncertain if there will be any Queensland Government representation at this meeting.
- Given the significant role of DIP relating to the planning, infrastructure and local government matters of flood risk management; it is proposed that DIP assume responsibility for the state as lead agency for planning on the NFRAG.
- Given the technical nature of DERM's contribution to flood risk management in Queensland, it is proposed that DERM's primary point of contact will be through the flood risk information contact, Dr Christine Williams (AD-G Environment and Resource Sciences).

## RESOURCE/IMPLEMENTATION IMPLICATIONS

- The issues and gaps raised by the audit require further analysis and consultation across the Queensland Government in order to finalise the report and progress any actions.
- Establishment of an interdepartmental committee will require input from DERM.

## PROPOSED ACTION

- Confirm Queensland representation in consultation with Minister Hinchliffe on the NFRAG; and determine lead agency within the Queensland Government for championing flood risk management for the state;
- DERM continues to play a purely technical role providing advice to EMQ in dealing with immediate response to flood events and to DIP for strategic policy and planning inputs; and
- DERM continues to support the Queensland Flood Consultative Committee and the Bureau of Meteorology (BoM) with regards to flood forecasting by providing access to DERM stream flow information and in relation to the department's dam safety role.

## OTHER INFORMATION

Author Name: Mel Acton Position: Project Officer, SAS Tel No: [REDACTED] Date: 01/10/10	Cleared by Name: Penny Douglas Position: A/General Manager, G & S Tel No: [REDACTED]	Cleared by Name: Lynne Turner Position: A/A D-G, OCC Tel No: [REDACTED]
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- **Consultation:** Discussions within DERM have been held to identify key roles and responsibilities in relation to flood management policy and planning. Consultation has also been undertaken across the Queensland Government with DIP, DCS, and the BoM.

#### ATTACHMENTS

1. Letter to Minister Hinchliffe and attachments (1a NFRAG Terms of Reference and 1b NFRAG Membership list)
2. DRAFT flood report
3. DERM flood activities

..5 [Redacted] 9/10/10  
Director-General

<input checked="" type="checkbox"/> Approved	<input type="checkbox"/> Not approved	<input type="checkbox"/> Noted
Comments:		
[Signature] 20/10/10	[Redacted] 18/10/10	
Minister for Natural Resources, Mines and Energy and Minister for Trade	Principal Advisor	
<input type="checkbox"/> Approved	<input type="checkbox"/> Not approved	<input type="checkbox"/> Noted
Comments:		
[Signature] 25/10/10	[Redacted] 23/10/10	
Minister for Climate Change and Sustainability	Principal Policy Advisor	

<b>Author</b> Name: Mel Acton Position: Project Officer, SAS Tel No: 3330 5667 Date: 01/10/10	<b>Cleared by</b> Name: Penny Douglas Position: A/General Manager, G & S Tel No: 3330 5745	<b>Cleared by</b> Name: Lynne Turner Position: A/A D-G, OCC Tel No: 3330 5866
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Queensland  
Government

Ref CTS17552/10

27 OCT 2010

The Honourable Stirling Hinchliffe MP  
Minister for Infrastructure and Planning  
PO Box 15009  
CITY EAST QLD 4002

Dear Minister *Stirling*

We are writing to you to request your assistance in clarifying the Queensland Government's role in the strategic policy and planning responses to flood risk management.

Natural Disaster Recovery and Relief Arrangements (NDRRA) expenditure indicates that between \$200 and \$600 million has been spent annually on flood and cyclonic events in Queensland during the last four years, with projections indicating expenditure of approximately \$600 million into 2011 and 2012.

Given that one of the likely impacts of climate change is the increased likelihood for more extreme weather events and that current forecasts indicate that we are heading into a period of several wet years, it would be advantageous to review the State's strategic policy and planning response to flood risk management.

As you are aware, flood risk management in Queensland is a complex matter. The roles and responsibilities related to managing flood are shared across various departments. This has resulted in the need to clarify lead agency responsibility at the Queensland Government level; which is particularly evident in the fact that the state does not have jurisdictional representation on the National Flood Risk Advisory Group (NFRAG).

A recent audit was undertaken with key agencies of flood risk management related activities across the Queensland Government, to understand the full nature of the State's flood risk management framework and to establish where gaps in policy activities may exist.

The audit identified the Department of Infrastructure and Planning as an agency with significant responsibilities relating to the planning, infrastructure and local government matters of flood risk management.

The Hon. Stephen Robertson MP, Minister for Natural Resources,  
Mines and Energy and Minister for Trade

Level 17  
61 Mary Street, Brisbane

PO Box 15126, City East  
Queensland 4002 Australia

Telephone +617 3225 1861  
Facsimile +617 3225 1820

The Hon. Kate Jones MP, Minister for Climate Change  
and Sustainability

Level 13  
400 George Street, Brisbane

GPO Box 2454, Brisbane  
Queensland 4001 Australia

Telephone +617 3230 0844  
Facsimile +617 3227 6309

We welcome your agency's recent agreement to lead assessment work, with the Department of Environment and Resource Management's comprehensive input and support of the Queensland Government's response to the Charleville Flood Strategy. The audit also found that there is a clear need to identify a lead agency who can take on the responsibility for managing flood risk in Queensland and offer jurisdictional representation on the NFRAG.

The NFRAG is the key national coordination group for strategic flood risk policy and planning responses. Representation is coordinated through the National Emergency Management Committee (NEMC) with endorsement from the formal Queensland NEMC representative (currently the Department of Community Safety). The Terms of Reference and current membership are attached.

We believe that your department would be best placed to provide coordinated and informed jurisdictional input to this group and would ask that your department nominate an officer. We will then notify relevant staff in our department of the jurisdictional representation to ensure this officer receives the advice and assistance required.

As the next meeting of the NFRAG is scheduled to be held in Brisbane in November 2010 and Queensland does not currently have a jurisdictional representative, I would urge you to consider this matter within the next fortnight to ensure that clear advice can be provided to all parties in the lead up to this meeting.

If any further information is required, please do not hesitate to contact Mr Tim Watts, Policy Advisor, Office of the Minister for Natural Resources, Mines and Energy and Minister for Trade on telephone 3225 1861.

Yours sincerely



STEPHEN ROBERTSON MP



KATE JONES MP

At



## NATIONAL FLOOD RISK ADVISORY GROUP

### Terms of Reference

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#### Role

The National Flood Risk Advisory Group (NFRAG) works to strengthen the nation's resilience to floods by providing strategic leadership and advice on best practice flood risk management.

#### Functions

The functions of NFRAG are to:

1. Provide a national focus for identifying and promoting on nationally consistent flood management, in particular flood risk management best practice.
2. Provide a national focus for advising on nationally consistent flood management policy.
3. Provide advice and input on flood risk management to the work program of the National Emergency Management Committee (NEMC) and its sub-committees including relevant aspects of Council of Australian Government natural disaster reports.
4. Promote community safety with respect to flooding and flood risk, in support of the Community Engagement Subcommittee of the NEMC.
5. Identify and prioritise research needs for improving the quality of flood risk management.
6. Facilitate and improve communication between flood emergency managers, flood risk managers, land use managers and other stakeholders.

#### Method of operation

The NFRAG will meet two to three times a year and out-of-session where the need arises. NFRAG will publish manuals of best practice and advocate for improved flood risk management with groups such as Engineers Australia. NFRAG will also arrange forums where flood risk management practice can be discussed and new developments promoted.

#### Chairing

The NFRAG will be chaired by a nominee from a member jurisdiction who will be endorsed by the NEMC. NFRAG Chairs will serve for a two year term.

#### Secretariat

Secretariat support will be provided by the Australian Government. This role is currently shared by the Bureau of Meteorology and Geoscience Australia.

#### Membership

NFRAG membership includes a nominee from each state and territory government, Australian Government agencies, the Australian Local Government Association, the Insurance Council of Australia, and research (currently through the RMIT University).

#### Reporting

NFRAG will report routinely to the NEMC as required, or via the appropriate NEMC Standing Sub-Committee.

ATTACHMENT 2  
National Flood Risk Advisory Group (NFRAG) - Member List at 23 September 2010

Member	Current Representative	Current Representative Department	Email
Chair (Tas)	Andrew Lea	Tasmanian SES	[REDACTED]
Commonwealth	Jim Elliott	Bureau of Meteorology	[REDACTED]
Commonwealth	Miriam Middelmann-Fernandes	Geoscience Australia	[REDACTED]
Commonwealth	Veronica O'Brien	Attorney Generals	[REDACTED]
Commonwealth	Caroline Walker	Treasury	[REDACTED]
Commonwealth	Steve Hudson/Lam Pham	Australian Building Codes Boards	[REDACTED]
ACT	Tony Graham	ACT Emergency Services Bureau	[REDACTED]
NT		Dept. of Natural Resources, Environment, the Arts and Sports	[REDACTED]
NSW	Duncan McLuckie	Department of Environment & Climate Change	[REDACTED]
Victoria	Michael Edwards	Dept. Of Sustainability & Environment	[REDACTED]
Queensland	To be confirmed	To be confirmed	To be confirmed
South Australia	Edward Pikusa	Dept. Of Water, Land & Biodiversity Conservation	[REDACTED]
WA	Richard Bretmall	Dept. of Water	[REDACTED]
Australian Local Government Assoc.	Cr Allan Ezzy	NSW Floodplain Management Authorities/Holroyd Council	[REDACTED]
Insurance Research	Karl Sullivan	Insurance Council of Australia	[REDACTED]
	John Hardmer	RMIT University	[REDACTED]