



COMMONWEALTH OF AUSTRALIA

# Official Committee Hansard

## SENATE

ENVIRONMENT, COMMUNICATIONS AND THE ARTS  
REFERENCES COMMITTEE

**Reference: Impact of mining in the Murray-Darling Basin**

WEDNESDAY, 14 OCTOBER 2009

CANBERRA

BY AUTHORITY OF THE SENATE



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## SENATE ENVIRONMENT, COMMUNICATIONS AND THE ARTS

### REFERENCES COMMITTEE

Wednesday, 14 October 2009

**Members:** Senator Birmingham (*Chair*), Senator McEwen (*Deputy Chair*), Senators Boswell, Ludlam, Troeth and Wortley

**Substitute members:** Senator Siewert to replace Senator Ludlam

**Participating members:** Senators Abetz, Adams, Back, Barnett, Bernardi, Bilyk, Mark Bishop, Boyce, Brandis, Bob Brown, Carol Brown, Bushby, Cameron, Cash, Colbeck, Jacinta Collins, Coonan, Cormann, Crossin, Eggleston, Farrell, Feeney, Ferguson, Fielding, Fierravanti-Wells, Fifield, Fisher, Forshaw, Furner, Hanson-Young, Heffernan, Humphries, Hurley, Hutchins, Johnston, Joyce, Kroger, Lundy, Ian Macdonald, McGauran, McLucas, Marshall, Mason, Milne, Minchin, Moore, Nash, O'Brien, Parry, Payne, Polley, Pratt, Ronaldson, Ryan, Scullion, Siewert, Sterle, Trood, Williams and Xenophon

**Senators in attendance:** Senators Birmingham, Fisher, McEwen, Nash and Williams

#### **Terms of reference for the inquiry:**

To inquire into and report on:

- a. the potential impacts of current and projected mining operations on all environmental values in the Murray-Darling Basin and, in particular, the potential impacts upon surficial and groundwater flows and quality in the alluvial flood plains at its headwaters in the Namoi Valley and the Darling Downs catchments; and
- b. evaluation of the potential impacts in the context of the Murray-Darling Plan and agricultural productivity.

In these terms of reference, 'mining operations' includes all minerals exploration and all minerals extraction including exploration for and extraction of gas.

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**WITNESSES**

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**Committee met at 2.33 pm**

**CHAIR (Senator Birmingham)**—Good afternoon. I declare open this public hearing of the Senate Environment, Communication and the Arts References Committee in relation to its inquiry into the impacts of mining in the Murray-Darling Basin. The committee's proceedings today will follow the program as circulated, hearing from the MDBA and the Commonwealth department. These are public proceedings which are on internal broadcast in this building and over the web. The committee may also agree to a request to have evidence heard in camera or may determine that certain evidence should be heard in camera. I remind all witnesses that in giving evidence to the committee they are protected by parliamentary privilege. It is unlawful for anyone to threaten or disadvantage a witness on account of evidence given to the committee and such action may be treated by the Senate as a contempt. It is also a contempt to give false or misleading evidence to the committee. If a witness objects to answering a question, the witness should state the ground upon which the objection is to be taken and the committee will determine whether it will insist on an answer having regard to the ground which is claimed. If the committee determines to insist on an answer, a witness may request that the answer be given in camera. Such a request may, of course, also be made at any other time. Mobile phones should be switched off.

[2.34 pm]

**McLEOD, Dr Tony, General Manager, Murray-Darling Basin Authority**

**ROBERTS, Mr Les, Executive Director, Murray-Darling Basin Authority**

**CHAIR**—The Senate has resolved that an officer of a department of the Commonwealth or of a state shall not be asked to give opinions on matters of policy and shall be given reasonable opportunity to refer questions asked of the officer to superior officers or ultimately to a minister. This resolution prohibits only questions asking for opinions on matters of policy and does not preclude questions asking for explanations of policies or factual questions about when and how policies were adopted. Any claim that it could be contrary to the public interest to answer a question must be made by a minister and should be accompanied by a statement setting out the basis for the claim. With all those formalities over, gentlemen, welcome. Thank you for appearing. Do you wish to make a brief opening statement?

**Mr Roberts**—I thought I would make a short statement and we will be very happy then to provide evidence and answer questions that you might have. Work is now well underway in the authority to prepare a proposed basin plan for release in mid-2010 prior to the subsequent extensive process of public comment and consultation to finalise the basin plan. Following consideration of the comments and inputs on the proposed plan, the authority will provide a first basin plan to the Commonwealth minister for accreditation in 2011.

The matters considered by this inquiry pertain mainly to issues of risks to shared water resources, the connectivity of ground and surface water resources and, particularly, impacts of interception activities. All of these matters will be considered by the authority in its preparation of the proposed basin plan and therefore will be in the public arena for public comment and consultation once the proposed basin plan is released mid-next year. We are happy to take questions in relation to the components of the act as they relate to the operations of the authority and the preparation of the basin plan.

**CHAIR**—Dr McLeod, do you wish to add anything?

**Dr McLeod**—No, thank you.

**CHAIR**—I invite Senator Williams to start with questions.

**Senator WILLIAMS**—Welcome, gentlemen. Mr Roberts, on the point about connectivity of ground and surface waters, would you give the committee an explanation of how you see the underground water connecting to the surface water in some areas of the Murray-Darling Basin.

**Mr Roberts**—I think it is fair to say that the basin, whilst it is one large catchment, is fundamentally different right across the basin. Some of the surface water systems are highly connected; some are highly regulated by public structures, particularly in the south. In the northern part of the basin those levels of connectivity in surface water systems are quite low. Much of the regulation is by private structures. In some areas there is direct connectivity

between groundwater management units, GMUs, and surface water areas. In other parts of the basin they are highly disconnected. There is no single picture that applies to the basin.

**Senator WILLIAMS**—Are you familiar with the Liverpool Plains area near Gunnedah?

**Mr Roberts**—Yes.

**Senator WILLIAMS**—For the underground water there, legislation has already been passed through the federal parliament that provides that mining cannot proceed on those plains with the underground water until an independent water study is carried out. Do you know anything about those underground waters? Have you done any research or can you tell the committee anything about those underground waters in the Liverpool Plains and the connectivity to the Murray River system?

**Mr Roberts**—The authority is currently working right across the basin to develop the platform for the first basin plan. In doing that we are drawing together all of the best available science and evidence that exists in relation to both surface and groundwater systems. Much of that information currently resides in state jurisdictions which actually have management responsibility for those systems. Essentially what we are doing is drawing all that information together to develop the first proposed basin plan for next year.

**Senator WILLIAMS**—When you draw that information together, how long before you know you would be getting results and information? How long before it would come to your department the studies or the knowledge of that underground water, particularly in relation to the Liverpool Plains?

**Mr Roberts**—Again, the water in that Liverpool Plains area is already covered by a water resource plan under New South Wales legislation. That water resource plan is a schedule 4 plan listed as a transitional plan under the Water Act. So the management of those resources is at the state level and it is only once the first basin plan is made and that existing transitional water resource plan is varied that things change. That plan has until, I think, June 2017. At that point that plan would need to be remade consistent with the requirements of the basin plan.

**Senator WILLIAMS**—Many people tell me that a lot of the underground aquifers in that Liverpool Plains area do actually connect to the Murray River. If that is the case, and I have no reason to believe it is not, then it would be vital that that water be protected and kept in a healthy state and not be polluted. Would you agree with that?

**Mr Roberts**—The issue for the authority is the overall diversions from ground and surface water systems. The requirement for the authority is to set an environmentally sustainable level of take from those systems. Water quality is clearly an important component of that, so in preparing the proposed basin plan we need to develop sustainable diversion limits for all water sources. But we also need to develop a companion water quality and salinity management plan and an environmental watering plan. All those elements are tied together in the planning process for the development of the basin plan.

**Senator WILLIAMS**—Okay. In relation to coal seam gas, if coal seam gas does proceed in some of these areas no doubt when they remove the water to allow the gas to run, if I can put it that way—are you familiar with the way coal seam gas production works?

**Mr Roberts**—Yes.

**Senator WILLIAMS**—Good-o. No doubt with what comes out there they would have to take measures to see that any of those highly contaminated or high salinity products taken from that water do not get back into the Murray system.

**Mr Roberts**—I do not think there is a simple answer to that question. The requirements in terms of the diversion limits that are put in place will need to reflect water quality as well. So it is quite possible that a diversion that would be lowered to ensure there was additional water in a system to maintain water quality, whether it is a coal seam gas issue or some other natural salinity input. Water that could be extracted from the system, the volume of that may vary to deliver water quality and salinity outcomes for the basin as a whole.

**Senator WILLIAMS**—Thank you. I might have some more later on.

**Senator McEWEN**—When the plan is in place, will it have any retrospective application? For example, if there is mining activity in either the Liverpool Plains on the Darling Downs, where the committee has just been, that involves miners either extracting water from the aquifer or returning polluted water to the system, and that is contrary to what the plan determines is an appropriate use of the water in the future, will the plan be able to stop that activity?

**Mr Roberts**—I will make one point in relation to appropriate use of the water. The purpose in the basin plan is to establish an environmentally sustainable level of take and if that were exceeded, you run the risk of compromising key environmental assets, key ecosystem functions, the productive base of the water resources and key environmental outcomes. The actual use of the water that is taken is not appropriate use, so it is not an element of the plan to determine how that water is used. Whether that water is taken for agricultural purposes or for some other sort of production—abattoirs, local town use—that is not within the auspices of the basin plan itself.

**Senator McEWEN**—So you are only dealing with the extraction amounts.

**Mr Roberts**—Setting that limit; that is right.

**Senator McEWEN**—Say the limit is being exceeded because of mining activity in one of those regions. Will the plan be able to prevent that from happening, if it is already happening, if you know what I mean.

**Dr McLeod**—When the basin plan is made, which is scheduled for 2011, it will have immediate effect across the basin except—and it is quite a big exception—where there are transitional plans. Transitional plans are those registered in schedule 4 of the Water Act which reflect the Commonwealth government commitment to respect those instruments until their expiry. In the case of the groundwater in Liverpool Plains, the Namoi groundwater management unit, that extends to 30 June 2017. So a provision that may be made in the basin plan applying to that area would only come into effect, if you like, in July 2017. When New South Wales in that

case has to actually do a new water resource plan consistent with the terms of the basin plan, the basin plan provisions would thus apply from when the new plan starts in 2017. On this issue, there is another type of plan, which is an interim plan, currently parts of the basin that are not covered under the transitional plans, and a state may make an interim plan between now and when the basin plan first comes into effect. In doing so they have to consult with the authority. But they still have a degree of discretion in terms of the arrangements they put in place until the basin plan comes into effect.

**Senator McEWEN**—Are you monitoring now the level of mining exploration, the level of exploration licences that are being issued and the level of actual activity that is happening?

**Mr Roberts**—Within the Water Act itself there are certain things that the Commonwealth is precluded from doing, and that includes land management. Those issues are issues for jurisdictions to manage.

**Senator McEWEN**—All right. I think that is all from me.

**CHAIR**—The CSIRO have completed their sustainable yields project across all of the different components of the Murray-Darling Basin. Have you had a chance in regards to the Darling Downs or Liverpool Plains areas to consider the relevant findings of the CSIRO sustainable yields projects in those areas? If so, how would you report on them to the committee?

**Dr McLeod**—The CSIRO sustainable yields work is well known to us and the expertise that was generated for part of that study has been harnessed by us through various mechanisms in order to build the support infrastructure to deliver a basin plan in terms of the technical considerations that need to feed into it. The sustainable yields study is quite different to the task the basin plan has. The sustainable yields study was looking at a range of different future climates and how the water sharing arrangements that are in place across the basin would actually play out under those climates. We are in quite a different challenge,. We started with the challenge of identifying what is an appropriate future climate for the purposes of planning for water resource management for the basin. We also have an ability through the basin plan to adjust the sharing, not just take the existing sharing mechanisms but adjust that sharing, to achieve certain outcomes consistent with the terms of the act. So we are aware of that work but we do not really have a comment in relation to the specific areas you mentioned in your question.

**CHAIR**—Does that work show that under current usage arrangements in either of those regions the basin is stressed or that water resources in those areas are stressed?

**Mr Roberts**—I do not think that work showed that at all, because it was not looking to demonstrate that. There is clearly other work that has been done that demonstrates stress. I guess the sustainable rivers audit which was done by the Murray-Darling Basin Commission was the first comprehensive assessment of river health across the basin. That was completed in 2008 and provided an assessment based on a range of indicators of the health of the riverine systems. Additional work is happening now within the authority to extend the work of the sustainable rivers audit and to include other indicators of river health to get a better picture.

**CHAIR**—Have any of these projects indicated that existing resources represent an already overallocated stage of use of the resources in those areas?

**Mr Roberts**—I think it is fair to say that, when the intergovernmental agreement was signed in 2008, the Prime Minister, the premiers and the chief ministers all signed an intergovernmental agreement which made reference to overallocation across the basin.

**CHAIR**—I accept that, but obviously in particular we are looking at two regions at the headwaters of parts of the basin. In relation to those two particular areas, are you aware of any research findings that show existing usage is an overallocation situation?

**Dr McLeod**—There are a range of findings and a range of government responses in relation to water use on the Liverpool Plains. The ASGE, or Achieving Sustainable Groundwater Entitlements, program of the government is one response to that. We are aware of work that indicates there are problems in various parts of the basin but, as I mentioned, the challenge we are faced with in developing the basin plan is not bound by how to alter existing arrangements so much as working out what arrangements are necessary in order to meet the requirements of the act. So we have got quite a different task to looking at areas, looking for problems and adjusting them—a different task, which is to look across the entire basin and work out what the sharing arrangements should be such that we achieve our objectives.

**Senator NASH**—Mr Roberts, could I just take you back to an answer I think you were giving to Senator McEwen, about mining being a land management issue and so residing within the state jurisdiction. Within the Water Act, is there no requirement at all for the authority to take mining into account, or does it appear anywhere within the act that mining is specifically referred to?

**Mr Roberts**—The act requires us to take into account interception activities. So it is not so much the management of mining per se or any particular type of industry, but the authority needs to take into account the impacts of activities on interception of ground and surface water. So it is that aspect. It is not so much the mining but the fact that we must take into account interceptions.

**Senator NASH**—But mining is, if not currently, potentially a significant interception activity, wouldn't it be?

**Mr Roberts**—Sorry?

**Senator NASH**—It is a significant interception activity?

**Mr Roberts**—The major interception activity, clearly, is flood plain harvesting for agricultural use, but mining is an interception activity. The quantification of that is a matter which will need to be dealt with, particularly in terms of the connectivity of the particular system with both ground and surface water and the level of extractions already from that system.

**Senator NASH**—So how will the authority be determining the level of interception from mining as part of formulating the basin plan?

**Mr Roberts**—We need to determine an overall level of interception or use of water from a water resource. I cannot specifically answer on how we would go about a particular aspect—

**Senator NASH**—Why not? Why can't you specifically answer on how you determine the level of connectivity and how it relates to interception?

**Mr Roberts**—Because there is a hierarchy of what we need to move through to develop the basin plan and there is a whole series of steps that we need to get to. At the end of the day, all of those things will need to be assessed, but, in the first instance, our focus is on making judgments about the key environmental assets across the entire basin and the environmental watering requirements for those assets, not just within catchments but within the basin as a whole.

**Senator NASH**—I think you said the plan should be out for consultation by the middle of next year. At what point will the authority determine how it is going to assess the level of interception caused by mining?

**Mr Roberts**—That work will proceed once we have got to the point of beginning to model the environmental water requirements and salinity and water quality requirements. That is likely to happen in the first half of next year.

**Senator NASH**—You have only got the first half of next year, haven't you?

**Mr Roberts**—That is right. We are on a very tight time frame.

**Senator NASH**—There could be an unintended diversion from, say, a collapse caused by longwall mining. How will you determine the impact of that, or is that something you cannot tell us either? Is that something you have given any consideration to?

**Mr Roberts**—The way that is taken into account is in the water-sharing plans themselves. The Namoi plan runs until 2017 and needs to be remade at that time, consistent with the requirements of the basin plan.

**Senator NASH**—Are you saying nothing will be looked at in terms of mining, particularly up on the Liverpool Plains, until 2017 if it is not already contained in that transitional plan?

**Dr McLeod**—There are a couple of things. There is work that needs to be done to look at interception activities, including mining, where that is significant, in the development of the basin plan between now and June.

**Senator NASH**—What is that work that you will do to determine that? That is what I am trying to understand.

**Dr McLeod**—We are currently in the process of designing and building a modelling tool that will support the work across the entire basin. It builds on the sustainable yields work done by the CSIRO but it is purpose-built for the development of the basin plan. We hope to have that finished by the end of November, with a view to starting to use that tool to refine our estimates of where we think changes may need to be made, consistent with the environmental water requirements of key environmental assets and functions and other things mentioned under the

act. That will start in December and be refined over the first half of next year. By March we hope to have solid estimates of basin-wide sustainable diversion limits and how they relate to individual areas. As part of that, we need to work through what interception activities are significant, and where they are likely to be significant, and develop measures of significance. Section 22(7) of the act talks about interception activities with ‘significant impacts’, so we have to develop a test and criteria for that as part of this work.

**Senator NASH**—When the plan is released in the middle of next year, will that work be specifically referred to in how you have assessed and determined the impact of mining once you get to that point?

**Dr McLeod**—It will be reflected in terms of the basin plan. The basin plan is a legislative instrument and will provide—

**Senator NASH**—But will you be quantifying those interception activities, or will the findings be interception activities as a job lot?

**Dr McLeod**—We have not made a decision in that regard yet. We will endeavour to write a plan that covers those aspects that are relevant and significant to the management of the basin’s water resources, or else we will have a basin plan that is not easily taken by a state and turned into a water resource plan in a meaningful way. It will also address the risk posed to the shared water resources of the basin. We would like to see that risk addressed or treated through the provision of the basin plan in order to provide meaningful water sharing. That is certainly our goal in the development of the basin plan.

**Senator NASH**—I am sure it is.

**Dr McLeod**—We have not made specific decisions in relation to specific interception activities at this stage.

**Senator NASH**—When are you likely to do that? It is a pretty tight time frame. We are going to lose a couple of months after Christmas. You will have a few months and then, bang, the plan will be out there.

**Mr Roberts**—The key part of the basin plan is the level of take which is required—in other words, the sustainable diversion limit.

**Senator NASH**—I understand all of that completely, but this committee is looking at the mining aspect. We understand all of that.

**Mr Roberts**—I guess the point I was going to make is that, once a diversion limit is set for a particular catchment, the water resource plan can allocate those diversions for whatever purposes the water sharing plan establishes. Whether that diversions be for agricultural purposes, for sporting fields or for mining, as long as it does not exceed the diversion limit then it meets the requirements of the basin plan.

**Senator NASH**—And you are quite happy with that? Obviously the basin is quite tenuous. Hypothetically, if you have a situation where mining has a particularly negative impact—coming

back to the water quality issue that Senator Williams spoke about before—is it really good enough to say, ‘Within the plan you can do whatever you like, as long as you do not exceed the diversion limit’? Is that really good enough?

**Mr Roberts**—We build into that the requirements of the environmental watering plan and the water quality and salinity management plan. Issues like water quality are clearly important, but the point I am making is that once you decide 100 units of water can be diverted, the purpose to which the water can be put, unless it impacts adversely on water quality, is a matter for the water sharing plan itself.

**Senator NASH**—As you said before, addressing the mining issue has to be within the current plan. Does that plan address the mining issues?

**Dr McLeod**—I am not able to comment on the detail of that plan, unfortunately.

**Senator NASH**—The transitional plans are in place until their expiry, at which point the basin plan obviously kicks in. Wouldn't the authority be very well served by knowing what is currently in the transitional plans?

**Dr McLeod**—Absolutely.

**Senator NASH**—But you do not know?

**Dr McLeod**—I do not have the details with me, I am afraid. There is work underway to be across all of the transitional plans that are in the basin—both surface and ground water. There is also work with the states where interim plans have been or are being developed—in New South Wales, the Border Rivers Plan is one example where we have consulted with the state—or where transitional plans are being changed. But I do not know the detail with me.

**Senator NASH**—Perhaps you could take it on notice to supply that information to the committee.

**Dr McLeod**—Okay.

**Mr Roberts**—What piece of information would you like? The water sharing plan for the Namoi is already on the New South Wales department's website.

**Senator NASH**—I am sure it is. But I just want the part relating to any of the mining activity that is referred to in the plan. As you said, it is a matter for the plan, not for the authority. You will obviously be looking at these plans and understand what is in them, so could you just supply to the committee the points relating to mining in that plan, given that you said it is not your jurisdiction at this point.

**Mr Roberts**—We can certainly do that.

**Senator NASH**—We have discussed the fact that, at some point, you will be taking the impact of mining into consideration. When do you think you might be able to advise the committee of when you will know how you will be approaching the interception issue from mining, as part of

forming the basin plan? I know you said it will be early next year, but when will you be able to come back to the committee and say that you have decided on the point at which you will determine how you are going to do it and the process you are going to put in place to do it? Do you think you might be able to provide that information to the committee at some point, when it duly arrives?

**Mr Roberts**—I am certain we can do that at some point in time. I guess the complexity here is that the basin plan is very different from any other water resource plan that has been developed.

**Senator NASH**—It is indeed.

**Mr Roberts**—As I have said already, it needs to integrate the three fundamental elements of sustainable diversion limits, environmental water planning and salinity and water quality management planning. It needs to do it at the whole-of-basin level, at the catchment level and, if required, at a subcatchment level. All of the water resource planning that has been done to date almost everywhere in the world has been done on a catchment basis, not a whole-of-basin basis. So there are linked elements across all of these things, and drawing all of those together into a final product will not happen as a series of independent components but will come together as an integrated whole.

**Senator NASH**—How many staff do you have at the authority?

**Mr Roberts**—In total the authority has about 260 staff.

**Senator NASH**—Will the determination of the impact of mining come from the expertise you have within the authority, or will you have to outsource it to another area that has the expertise you need?

**Mr Roberts**—Within the authority's staffing, we have about 80 staff who are working on basin plan processes, and the rest of them are working on other activities within the authority. There is no doubt that we will be drawing very heavily on the work that has already been done by jurisdictions in water resource planning. We are doing that routinely at the moment—working with the states and their water resource planners and the research they have already done. So all of that will be drawn together by the authority.

**Senator NASH**—Given that the act came in some time ago—and this is not necessarily going to give us a lot of comfort—why is it that the determination of how you will define and measure the interception activities is coming very late in the piece?

**Mr Roberts**—The work on interception activities has been going on for a very long period of time. It started—

**Senator NASH**—But not on mining?

**Mr Roberts**—Not specifically on mining, because mining is only one form of interception activity. The Murray-Darling Basin Commission and the states, through the commission, have done quite a lot of work on risks to shared water resources. The complexity is that that was about

surface water resources but the basin plan now incorporates both surface and ground water resources. The methodologies for assessing risks to shared water resources and estimating impacts is now occurring. Even in relation to something which is probably much simpler to deal with, like surface water interceptions or flood plain interceptions for irrigated agriculture, the authority, through the old commission, had projects being done over the last two years to try to quantify the extent of surface water interceptions on the flood plains. So these are not simple questions.

**Senator NASH**—No—and I do realise that. Finally, putting aside unintended diversions and water quality, how much water does mining currently extract from the basin?

**Mr Roberts**—I do not know that off the top of my head.

**Senator NASH**—Is there any reason why you would not throw that into the basin plan mix very early in the process? If we are talking about extractions, why don't you know how much water mining takes out?

**Mr Roberts**—We know that irrigated agriculture takes out between 8,000 and 12,000 giganlitres of water, which is about 50 per cent of the water. In terms of the process that we have been working through, we need to identify all of those interception activities and, as I said, mining is only one of those activities.

**Senator NASH**—And you have not got to mining yet?

**Mr Roberts**—No.

**Senator NASH**—Okay, that is pretty clear.

**CHAIR**—Obviously in constructing the basin plan, as you have discussed at some length, you have looked at extraction activities and interception activities or core components of how you come up with what the sustainable use of these resources in the future will be. Aside from providing overall limits on extractions or interceptions for the basin as a whole and for components of the basin, how specific will the plan be in terms of the types of extractions or interceptions that will be allowed in those particular areas of the basin—that is, will it any way go to flood plain irrigation or mining activities or those different forms of interceptions?

**Mr Roberts**—I will say a couple of things about your question. I think I heard you say at the start of the question that interception activities would help us generate the level of diversions for the basin plan at the end of the day. It is actually the other way around. The Water Act is written to specifically say that we need to determine the key environmental assets and what constitutes a compromise to those assets in terms of the level of extraction and develop the level of environmentally sustainable take which, if exceeded, would compromise those things. So there is a slight difference there. In terms of the level of specification in the basin plan, the water act is quite prescriptive. It gives us quite a good framework for what needs to go into the basin plan and the requirements for water resource plans. The level at which we would specify requirements for a water resource plan is likely to depend on the nature of a particular water resource and its level of connectivity to other parts of the system. So I think the answer is that we will specify a series of requirements for all water resource plans and, depending on the

particular water resource, the level of specification can be at a higher level if there are particular issues that need to be managed. In relation to the water within the diversions limit and what can be done with that, I think it is fair to say that the object of the basin plan is to maintain water extractions within the limit. How that water is used is a matter for the water resource plan for local planning purposes.

**CHAIR**—I will tackle both parts of that, but I will deal with the latter part first. In terms of those acceptable extractions that continue in the basin in some way, shape or form, it will be up to local planning purposes, which is essentially a power that the state governments will retain, to license extraction under whatever agreed licensing frameworks they have?

**Mr Roberts**—Yes.

**CHAIR**—In terms of the broader aspect of water availability in particular parts of the basin plan, is it conceivable that the plan may look at a particular region and say that either the impact of mining activities on water resources is too great or that the risk to water resources from mining activities is too great for those activities to take place? Or is it not conceivable that you will get to that type of land-use activity?

**Mr Roberts**—I think it is reasonable to think that we will get to a point where we would say that the level of interceptions within a catchment is too great and needs to be brought back into line with an environmentally sustainable level of take.

**Dr McLeod**—Section 22(10) of the act specifically excludes the basin plan from having effect in terms of land use or planning in relation to land use, or the management of natural resources other than water resources. It is a very clear exclusion from the provisions of what the basin plan can go to. The basin plan can regulate water use, but how that water is used and for what purpose is beyond the scope of the basin plan. In relation to a planning decision that a state may make in relation to any form of water use or interception, that remains with the state. However, where there is a land-use planning activity such as broad-scale forestry or mining, and its impact on the water resource is significant, the basin plan can require that certain steps be taken, including that a water entitlement be held for that activity. So the basin plan cannot say, for instance, that a catchment is too stressed and therefore there is no mining—to paraphrase the context of your question. You could say that any mining development that has an impact above a certain level would be required to purchase a licence to offset the impact that that water use has on other people or other entitlement holders in that valley or throughout the basin, according to the terms of the basin plan.

**CHAIR**—And, according to the terms of the basin plan, within those limits and so on, the availability of such a licence and the approval of such activity will still remain within the power of the state governments?

**Dr McLeod**—Yes, that is right.

**CHAIR**—I assume the authority gets complaints, particularly from locals in areas that are part of the basin, about decisions relating to current mining activities—and obviously that is the genesis of this very inquiry. What does the authority say to people who approach you directly with such complaints?

**Mr Roberts**—I think it is fair to say that, where we have been approached on these matters, we need to make it clear what the structure of the basin plan is and the relationship between the Commonwealth instrument—the basin plan—and the state instruments—the water resource plans—and those particular issues in relation to land use and land use planning, which were precluded from coverage of the Water Act through the development of the Water Act and the referral powers with the jurisdiction. It is about making sure that that context is clear in the relationship.

**Senator NASH**—Do you refer them on to someone else at that point, given that, from what you are saying, it is it is not your bailiwick?

**Mr Roberts**—I do not actually recall that we have had any direct approaches.

**Senator NASH**—Sorry, I have misunderstood. I thought you were just saying that that was your response when you have been approached. Was that a hypothetical response?

**Mr Roberts**—Yes, that is how we would respond to it.

**CHAIR**—So in the past and in the present, when it comes to land use activities, when local communities or others have a concern, it is a matter that needs to be addressed by the relevant state government?

**Mr Roberts**—I think that is right. There is one other mandatory requirement in the basin plan in relation to water trade arrangements. The basin plan needs to incorporate arrangements to allow the trade of water so that what can move to its highest value use. Clearly, that is also an element that could occur within a catchment once the diversion limits are established and there is a market in place. Where there is a relative scarcity of water, in terms of instruments, trade can be an important way of addressing those sorts of considerations and concerns.

**Senator FISHER**—Mining companies are pretty quick to defend their use of land and water on the basis that they provide employment and royalties for the region. Does this mean their water use for those purposes can come under the Water Act provisions relating to critical human water needs? Can their use of water be characterised under the definition of ‘critical human water’ in the Water Act?

**Mr Roberts**—I do not think I can answer that question at the moment because the authority is still dealing with the issue of defining ‘critical human water needs’.

**Senator FISHER**—Yet we continue to allocate what for those purposes, both federally and state by state. And there is a definition in the act, which the government refused to amend prior to the act being amended some time ago. So I am not quite sure why you cannot answer the question.

**Dr McLeod**—The authority is working through providing criteria against which the definition will be applied and as to how it will be applied throughout the basin. The provisions for critical human needs, in part 2A of the act, apply primarily to the shared water resource of the River Murray system. There is a general requirement that they be considered across the entire basin. The authority is working through those provisions. They are sufficiently important to require a

formal decision of the authority members and it will be part of the basin plan as to how such decisions are settled.

**Senator FISHER**—So by when will that criteria be formulated and released?

**Dr McLeod**—I am not able to answer that definitively, I am sorry. I can report that the work is underway to do that as to the information.

**Senator FISHER**—At what stage is it at at the moment?

**Dr McLeod**—It is certainly being developed and considered by the authority. As for their formal decision and the status of that formal decision, I am not fully sure of the status.

**Senator FISHER**—Will it be, and I think you have intimated so, at the very least part of the basin plan in 2011?

**Dr McLeod**—It has to be. There are two aspects as to critical human needs. There are the provisions of the basin plan, which this definition will work within, and there is also a schedule required to be developed under the new Murray-Darling Basin agreement. Clause 135 requires a schedule to be done such that the sharing of the River Murray system is clear and not done under each particular circumstance but is planned for and provides greater certainty to people who are reliant on that system. This definition will be captured in that work.

**Senator FISHER**—What is happening meanwhile in terms of the allocation of water for critical human water needs?

**Mr Roberts**—Do you mean at the moment?

**Senator FISHER**—Yes; firstly, up until now and, secondly, between now and the time frame, to which you cannot commit at this stage, when the criteria will have been developed. What is happening? For example, is water being allocated for critical human water needs?

**Mr Roberts**—Unfortunately, neither Tony nor I can probably answer that question, because that work in relation to critical human water needs is work which is being done in a separate part of the authority. It is not something, in terms of the basin planning work, that we are currently doing in terms of the assessment of environmental assets and the development of planning arrangements. We are not actually doing that work. It is actually being handled separately.

**Senator FISHER**—I recall that Minister Wong put your boss in the hot seat so presumably, yes, the job is being done elsewhere. Thank you, I appreciate that, Mr Roberts. I have a final question which, given what you have said, might need to be taken on notice. Does the definition of critical human water needs currently in the act differentiate between uses of water for and by mining and for and by agriculture? Does the definition in the act differentiate in practice use of water for mining purposes versus use of water for agricultural purposes? Finally, will the criteria to be developed differentiate critical human water needs water for use by mining and by agriculture?

**Mr Roberts**—We will definitely take that question on notice and provide you with some advice from the people in the authority who have been doing that work.

**Senator FISHER**—Thank you. By when will you provide that answer?

**Mr Roberts**—We could get that answer to you within two weeks.

**Senator FISHER**—One week would be better, but thank you.

**Mr Roberts**—I am committing somebody else here.

**Senator FISHER**—Yes, okay. Thank you.

**Senator NASH**—Gentlemen, this is on the transitional plans and obviously on the issue of mining activity within those transitional plans. From the authority's point of view, as you say, those transitional plans continue until their expiry date at which point they have to come in and coalesce with the basin plan itself.

When you are doing your overall limits of extraction, taking in account everything, including interception, mining and everything else, if within those areas of the transitional plans the authority actually believes that the extraction limits under those plans are higher than what you would see as optimal, does that mean you are going to drop extraction levels for non-transitional plan areas, or would you just wear the higher overall extraction that is beyond what you would see as optimal until that point in time that it all flows over and then those levels drop back to what you see as being an optimal level?

**Mr Roberts**—I think I understand the question. Over that period of time of implementation, once the first basin plan is made in 2011 or 2012, the end of 2011, it comes into effect immediately for areas where there are no plans in place.

**Senator NASH**—Yes, I understand that.

**Mr Roberts**—Where there are interim plans which have been made, they have a life of up to five years, or transitional plans to the point of expiry. Once the basin plan is made, it will contain in it detail of sustainable diversions limits for each catchment. For example, if we use the Goulburn-Broken catchment in Victoria where the water resource plan does not end until 2019, it is the furthest one out, that diversions limit will be known from the point the plan is made but it does not come into effect until the other plan is remade.

**Senator NASH**—So the overall level of extraction may well remain higher than you would see as optimal until the expiry of those transitional plans.

**Mr Roberts**—Until all of those other plans play through.

**CHAIR**—Gentlemen, having taken a couple of questions on notice, there is something that would be useful for the committee. You understand that basically all of our evidence in hearings on this have related to two particular geographic areas, one in northern New South Wales around the Namoi Valley in the Liverpool Plains area and the other south of Toowoomba in the Darling

Downs area. Both of those have tributaries that flow into the Darling and so on. What will be useful for us is to have a clearer understanding of the significance or otherwise of those regions and headwaters to the flows of the Darling and the Murray-Darling system overall. It may be that you choose to simply provide a couple of extracts from relevant reports or otherwise, but it would be helpful if you were able to give us a bit of information about the water resource. It is one thing for us to visit those areas and hear how critical that water is, and it no doubt is very critical to the farmers and landowners and local communities in question. But another aspect of this inquiry is how critical it is for the system overall. So if you are able to provide any information that could assistance in that, it would be very helpful.

**Mr Roberts**—We can certainly do that, particularly for those two catchments and the relationship in terms of flows out of there and their linkage to the northern part of the Barwon-Darling system as well.

**CHAIR**—Thank you very much. As there are no further questions, we thank you for attending today. I imagine we will probably be seeing you in a different guise on Tuesday. We shall look forward to that. The committee will take a not-so-short break until we hear from the Department of Environment, Water, Heritage and the Arts.

**Proceedings suspended from 3.28 pm to 4.02 pm**

**JAMES, Mr Russell, Assistant Secretary, Water Resources Branch, Department of the Environment, Water, Heritage and the Arts**

**SLATYER, Mr Tony, First Assistant Secretary, Water Reform Division, Department of the Environment, Water, Heritage and the Arts**

**CHAIR**—Welcome. Thank you for appearing. You are both experienced in appearing at these hearings and understand that the Senate has a standing resolution that an officer of a department of the Commonwealth shall not be asked to give opinions on matters of policy and shall be given reasonable opportunity to refer questions asked to superior officers or to a minister. This resolution restricts or prohibits only questions asking for opinions on matters of policy and does not preclude questions asking for explanations of policies or factual questions about when and how policies were developed. Any claim that it would be contrary to the public interest to answer a question must be made by a minister and should be accompanied by a statement setting out the basis for that claim. The committee has received a submission from the department, submission No. 35. Does the department wish to make any amendments or alterations to the submission?

**Mr Slatyer**—No.

**CHAIR**—Do you wish to make a brief opening statement?

**Mr Slatyer**—Thank you, I will make a brief statement. Onshore mining activities are primarily regulated under state government legislation. Notwithstanding this, the Australian government recognises the significant concerns over possible environment impacts of mining on water resources in the Murray-Darling Basin. The department's submission sets out Australian government policies and actions that may assist to reduce such impacts. Under the Commonwealth Environment Protection and Biodiversity Conservation Act, mining projects may require assessment and approval from the Minister for the Environment, Heritage and the Arts where there are likely to be significant impacts on matters of national environmental significance. Also, several provisions under the Commonwealth Water Act 2007 provide for regulation of so-called interception activities through the basin plan and the accreditation of state water resource plans, both of which are the responsibility of the Minister for Climate Change and Water based on advice of the Murray-Darling Basin Authority. Mining is an example of one possible type of interception activity.

The government has also announced a number of specific initiatives that will improve knowledge and information around mining activities. Those administered by DEWHA include first funding of up to \$1.5 million as a one-third contribution towards a joint study into the surface water and groundwater resources specifically in the Namoi catchment. The study will help identify the risks associated with mining on water resources in the region. Second, subject to due diligence, the Australian government has also committed to fund up to \$5 million for a feasibility study to analyse opportunities, risks and the practicality of the use of coal seam gas water in parts of the basin in Queensland. This broadly covers the issues in our submission. Thank you.

**CHAIR**—Thank you, Mr Slatyer. Do you have anything you wish to add, Mr James?

**Mr James**—No.

**CHAIR**—Okay, thank you. We will move to questions.

**Senator WILLIAMS**—Thank you, gentlemen, for your presence here today. Mr Slatyer, I just want to take you to the legislation that was passed through the federal parliament last December such that in these areas they cannot proceed to mining until the independent water study is carried out. You are obviously very familiar with that legislation?

**Mr Slatyer**—Yes.

**Senator WILLIAMS**—You were saying that the cost of that water study would be around \$4.5 million?

**Mr James**—That was the figure that was being discussed when the minister announced her preparedness to contribute some money late last year; that is right.

**Senator WILLIAMS**—And the minister has contributed \$1.5 million towards that—or she is prepared to?

**Mr James**—She is prepared to, yes; that is right.

**Senator NASH**—Is that still contingent on the state putting in their 1½?

**Mr James**—It is contingent on someone else putting in the balance of funding for the study, so that is an ongoing discussion.

**Senator WILLIAMS**—Do you have any idea who that someone else shall be?

**Mr James**—No, I do not. The minister has written to her New South Wales counterpart on this issue, and we are awaiting clarification from them.

**Senator WILLIAMS**—You have not had any result from Minister Macdonald in New South Wales on that as yet? You do not know of any?

**Mr James**—Not that I am aware of, no.

**CHAIR**—When did the minister write to the New South Wales government?

**Mr James**—There have been a few letters written this year. I do not have all of the dates with me.

**CHAIR**—‘A few letters’ as in an exchange of letters, or is this just a one-way street?

**Mr Slatyer**—This is the minister's correspondence, not the department's correspondence, so we cannot really explain that correspondence.

**Senator WILLIAMS**—You cannot explain that correspondence to the committee?

**Mr Slatyer**—It is not the department's correspondence.

**CHAIR**—Is there a deadline of some description for response by the New South Wales government to the terms of negotiation, or however one wants to put it?

**Mr James**—I am not aware of a specific deadline that has been put to the New South Wales government. I can certainly say that our minister is very keen to participate in the study. She has made that offer with the intention of it going ahead, so she is quite keen.

**Senator WILLIAMS**—Before mining that area can proceed from the exploration, obviously the study must be carried out—an independent study, that is. If that study shows that there could be damage—minor damage or even substantial damage—to the underground aquifers that are attached to the Murray-Darling Basin, what action do you think your department will take?

**Mr James**—Decisions about approval of mining operations or any conditions that are placed on mining operations are really a matter for the New South Wales government.

**Senator WILLIAMS**—Yes, but if the water study is carried out and let us say, for example, that the study were to report that mining some of these areas could be damaging to underground aquifers, surely your department would have to take some action towards that; wouldn't you think?

**Mr James**—I guess the normal course of events is that, where studies that are about prospective actions—whether it is mining or anything else—highlight particular issues, we would expect the relevant authority, which in this case is the state government, to take those views on board and consider that when it is approving the activity or not.

**Senator WILLIAMS**—That being a law that was passed through the federal parliament, does it overrule state legislation?

**Mr Slatyer**—Senator, that is a question of legal interpretation, which we cannot answer.

**Senator WILLIAMS**—Has your department inquired at all to get any legal opinion on that as yet?

**Mr Slatyer**—We internally seek legal advice on the interpretation of the Water Act.

**Senator WILLIAMS**—Can you explain to the committee what the legal advice you got in relation to this legislation was?

**Mr Slatyer**—I cannot, because that is a legal opinion of the Commonwealth, and we are not free to disclose that legal advice.

**Senator WILLIAMS**—So what you are saying is that, if, for example, Minister Macdonald in New South Wales did approve a mining licence there prior to this water study being carried out, that would have to be tested by the High Court?

**Mr Slatyer**—In that hypothetical situation, if there were a person contesting that decision, they would be free to raise that concern through legal channels, I suppose.

**Senator WILLIAMS**—I know we are talking hypothetically. In what I am about to propose to you, we are talking about an issue on which we do not know the results yet. I want to take you back again. You say that, if the water study says that unless this is treated carefully or something else in the way of mining is done it can cause damage to water, it is then wholly and solely up to the state minister to take the appropriate action?

**Mr James**—That is right. Unless there are matters of national environmental significance involved and therefore the potential for Commonwealth involvement in a decision, it is really a matter for the state.

**Senator WILLIAMS**—But isn't it a national situation when we have the Murray-Darling Basin underground water essentially running over four states? That then becomes a national issue, doesn't it?

**Mr Slatyer**—The Commonwealth's approach to addressing the major issue that you have just raised is through the basin plan and the sustainable diversion limits of that plan and the other—

**Senator NASH**—No, actually, it is not. They have just told us that that was not their bailiwick at all—that they were looking at the extraction and the diversions, but the impact itself was not their bailiwick.

**Mr Slatyer**—Senator, let me finish. Senator Williams's question, I think, was whether we had an interest in the broader level of extraction in terms of the Murray-Darling Basin, and my answer was that, yes, we have, very much so. The manner in which the Commonwealth is exerting its authority in that area is through the basin plan and by limiting total diversions that can be taken from each catchment and aquifer in the basin. It is up to the state to regulate activities, if you like, consistent with those sustainable diversion limits. So the Commonwealth's role is, through the basin plan and the authority—and I assume you have just had evidence from them—to set these limits on how much water can be taken, and that is the way that the downstream impacts and the cross-border impacts and the impacts you were just alluding to are being addressed at the highest level.

**Senator WILLIAMS**—The point I make is this. If mining proceeds—and I have nothing against mining; mining has delivered an enormous amount of wealth to this country, and so has agriculture, and usually the two get on very well together—and if mining does happen, for example, to pollute or contaminate the underground aquifers, what is the state minister supposed to do, put a sign up when it gets to the boundary of the next state, saying, 'Pollution not allowed to flow on to the next state'? Surely, that is hypothetical and outrageous. This is where it comes under your department, because of the four states involved in the Murray-Darling catchment area, where you have to be involved in this issue.

**Mr Slatyer**—We are involved in the way that I described and the way that Mr James described. If there is a matter of national environmental significance affected—

**Senator WILLIAMS**—Which it is.

**Mr Slatyer**—In that case, if there is a matter of national environmental significance affected, the EPBC Act can be invoked to exert control over that activity.

**Senator WILLIAMS**—In relation to mining? You are saying that the EPBC Act can be invoked in relation to mining?

**Mr Slatyer**—If there is an impact on a matter of national environmental significance.

**Mr James**—And the act prescribes what those are. It is a reasonably narrow set and does not extend to water per se.

**Mr Slatyer**—For example, matters of national environmental significance include Ramsar listed wetlands, listed threatened species, migratory bird habitat, that kind of thing.

**Mr James**—Heritage issues, nuclear actions.

**Senator WILLIAMS**—They were in your paper. I was reading that. When it comes to the national water plan and pollution of the Murray River running through Victoria and New South Wales and catchments in Queensland upstream from there, and of course into South Australia, that is certainly a national issue. But the EPBC Act does not cover water.

**Senator McEWEN**—It could, couldn't it, if it could be demonstrated to affect Ramsar wetlands further down the river, for example?

**Mr James**—That is right.

**Mr Slatyer**—Indeed there are many water projects which do trigger the EPBC Act because they do impact on matters of national environmental significance. Just one further matter with regard to water quality: the basin plan does need to include—I cannot remember the precise words—a water quality strategy or—

**Mr James**—Water quality plan.

**Mr Slatyer**—water quality plan which needs to include the authority's assessment of what the water quality risks are and planning for those risks. There is some language in the act about the nature of that water quality plan, which we can assist you with if you wish.

**Senator WILLIAMS**—That will do me for a while, Chair.

**CHAIR**—Thanks, Senator Williams. Gentlemen, you are aware that this inquiry has had a particular focus on two regions of the Murray-Darling Basin: around the Namoi Valley in New South Wales and the Darling Downs region in Queensland. Have any of the mining exploration

activities, proposed mining activities or actual mining activities in those regions been the subject of an application under the EPBC Act?

**Mr Slatyer**—We would have to take that on notice, because the division of the department which administers that act is quite separate from the water division that we work with. I am not aware of any such application, but I might not necessarily be aware of it. We can provide you with advice separately on whether that has occurred.

**CHAIR**—If you could take that on notice, I would appreciate it. I should have made it clear before you appeared today that this would probably be one area of exploration. We understand that Commonwealth powers are finite and essentially only exist at present under that auspice and in the future to some extent under the Water Act, as you have discussed. If you could look at whether there have been applications, whether they were found to be controlled actions, what the outcomes of those were, if they were found to be controlled actions and whether conditions were placed any of the activities and so on, that would be excellent, especially with regard to coal seam gas. It would be good to know, if there have not been applications related to exploration in either of the regions in question or the development of a coal seam gas mine, whether there have been elsewhere and at least what considerations there may have been on the water table in those areas. As you have indicated, with the money that is on the table for a study, there are ongoing questions. But I would be interested to see if the department has considered any of those previously and, if so, what results they have found from those considerations.

**Mr Slatyer**—We will take those questions on notice.

**CHAIR**—Thank you.

**Senator McEWEN**—I want to ask about the three studies that are outlined in your submission as recent Commonwealth initiatives. The first one is the contribution by the Minister for Climate Change and Water of \$1.5 million towards the study in the Namoi catchment in New South Wales. Is there any reason why the mining industry or the agricultural industry or both could not contribute to that?

**Mr James**—There are no reasons that we are aware of. Their money would be welcome.

**Senator McEWEN**—Do you know whether any approaches have been made?

**Mr James**—From whom to whom?

**Senator McEWEN**—I suppose you would not know whether the minister has made any approaches, and we can ask her that. Has the department made any approaches or have there been any approaches from either the mining industry or the agricultural industry?

**Mr James**—Given that the study is basically of central relevance to a decision by the New South Wales government about approving a mining activity, we see that project as being theirs in a sense. The minister has made the offer of funding to the New South Wales government, and we are hoping that they will secure funding from whatever other source they wish. I presume there have been discussions between New South Wales and other parties, but we are not privy to those.

**Senator McEWEN**—Thank you. I refer now to the \$2 million multijurisdictional study that the NWC is undertaking, which is specifically looking at the local and cumulative impacts of mining on groundwater resources. Is that dealing mainly with the Murray-Darling Basin, or does it have a broader application?

**Mr Slatyer**—That study is being administered by the National Water Commission. We could ask them and pass on that information, but I expect you will be having a separate session with them.

**Senator McEWEN**—We are not, but I suppose we can ask them at the estimates hearings.

**Mr James**—I can partially answer that question. I understand that the study is intended to be national in scope—that is, the learning from that study is intended to have a national application. There are four case studies selected for focus in that project. Your next question might be on where those case studies are. I am not entirely certain. I think some of them are in the basin, but perhaps not all of them.

**Senator McEWEN**—Finally, the government has committed \$5 million for a feasibility study to analyse opportunities to use risk and the practicability of the use of coal-seam-gas water in parts of the basin in Queensland. You note in your submission that there are potential environmental and resource management risks associated with this extraction, use and disposal. Can you elaborate on what they might be?

**Mr Slatyer**—The project itself is part of the Queensland state priority project proposals which were agreed in 2008 as a result of the intergovernmental agreement on the Murray-Darling Basin. I understand that the department is still waiting for the details of that proposal to be submitted by Queensland. Our agreement to contribute up to \$5 million was subject to receipt of that and due diligence on the proposal, which I understand has not yet been received. So, unfortunately, we cannot answer questions about the specifics of that until Queensland provides us with the proposal.

**Senator McEWEN**—Those three research studies are fairly recent. Is the fact that they are being undertaken indicative of our understanding of the impact of mining, for example, in the Murray-Darling Basin, and that we do not have a decent research framework at this stage? I think this is something the committee has found in its travels. Are we in a sort of catch-up mode in getting decent data so that we can develop decent plans and decent responses to applications for mining?

**Mr Slatyer**—Mr James may want to elaborate, but I think it is fair to say that we know a lot more about surface water issues than groundwater issues as a general rule. The sites and data that we hold about water resources nationally and in the basin are much more comprehensive for surface water than for groundwater. Therefore, in the absence of a comprehensive information set about groundwater resources, when issues do come up they tend to have to be the subject of special purpose studies of this nature.

That is a weakness we are endeavouring to rectify through a couple of measures. For example, we are providing considerable resources to the Bureau of Meteorology to develop its water information analysis and reporting capability. We have also funded CSIRO to undertake a

comprehensive sustainable yields assessment across the Murray-Darling Basin, which did look at the broad hydrology of the groundwater resource. The National Water Commission themselves are administering a number of groundwater information programs. If through your question you were really asking, 'Do we know enough about groundwater?' I think the short answer is that there is a lot more to learn to bring our knowledge up to the level we have with surface water resources.

**Senator McEWEN**—Thank you.

**Mr James**—If I could just add one short point there. Apart from the lack or quality of information, the other thing that is very obvious in more recent years is the increasing incidence of mining activities in proximity to agriculture or to human settlements and conflicts in resource use. Perhaps historically those situations of very direct conflict in resource use or access have not been as significant.

**Senator McEWEN**—Thank you.

**Senator NASH**—Thank you, gentlemen. Just on the groundwater issue—and, as you say, there is a lot more work to be done before the department to understand it—in the context of the basin plan being finalised by the middle of next year, shouldn't we be rather nervous that we do not have the level of knowledge we need around the groundwater to be able to perhaps appropriately develop the plan?

**Mr Slatyer**—It is probably a question best addressed to the authority, but I understand they are gathering information furiously for that very purpose. They will have to have a sufficient understanding of the groundwater hydrology of the basin to finalise the plan. Questions about how they are going about that really have to be addressed to them.

**Senator NASH**—Okay. In terms of mining, the authority just previous to your coming in did indicate to the committee that they are as yet to determine how they will put a process in place to determine the impact of mining as an interception activity. Just looking at the National Water Commission here with the \$2 million multijurisdictional study, why is it that the NWC is spending millions on a study to look at the potential local and cumulative impact of mining on groundwater resources, which I would have thought is exactly what the authority would need to do as part of determining its process to look at mining as an interception activity? Or are they working together? Is this separate?

**Mr Slatyer**—You are asking us to explain activities that are the domain of other agencies.

**Senator NASH**—Okay. So you do not have their any knowledge of why or how that is operating?

**Mr Slatyer**—We have a broad—

**Senator NASH**—That is fine if you don't.

**Mr Slatyer**—We do have a broad knowledge, of course, of what people are doing. The National Water Commission's remit is national and their interest is in the improvement of

capability at the national scale. I am sure that the authority would be taking full advantage of any work that is available for National Water Commission products.

**Senator NASH**—Good. It just seems very curious that the authority has just told us that they are not at a point yet where they know what they are going to do about how to determine mining as an interception activity and yet we have the NWC doing something. It is just curious.

**Mr Slatyer**—We would assume the authority is intending to pick up any outcomes from the NWC work and use that.

**Senator NASH**—Perhaps we had better ask them next week. In your submission you say:

The national water initiative does allow for special management arrangements to be put in place for mining and other extractive industry activities where needed.

What does that mean and what is it?

**Mr James**—What it means is, if you like, the full-blown water access entitlement system that the NWI is presenting as the best arrangement. That is the sort of arrangement we are using in irrigated agriculture—where there are very large volumes of water used, there is a share of the resource available and entitlements are tradable and so on. We think that is a really good system for significant users of water. However it is quite an expensive process to set up—to establish markets and regulate them and that kind of thing. There are cases, and the NWI recognises them, where going to that system of entitlements is perhaps not justified. Some of the examples of those could be for mining in very remote areas—where, in a sense, there is no-one else to trade the water to so why do you need a framework for that—or where, for example, the mine might have a fixed life. If it is a 10-year mine and at the end of that period they leave, there is no need to have an enduring water licence of the type required by the mine so there is no need for a full-blown entitlement system. Those are just two examples.

**Senator NASH**—So this sort of circumvents this system and they get some sort of licence granted to them. Is that what you are saying?

**Mr James**—The legislation in each state is different but generally as part of the process of licensing or approving a mine there is an agreement that they can have access to a certain amount of water or to use the water resources of that area, and perhaps a monitoring requirement or that kind of thing.

**Senator NASH**—Just going back to the issue of mining, and perhaps using the Liverpool Plains as an example, given that, as you have just said, the knowledge around groundwater is not to the level that you would like it to be, is it understandable that people who live in that area have concerns that mining will have an impact and that there is not enough knowledge around on that potential impact?

**Mr Slatyer**—We cannot speak for the communities concerned.

**Senator NASH**—No, I am just asking: is it understandable, given the point that you just made before that you do not necessarily have enough knowledge about groundwater from your

perspective, that they are concerned about the potential impact of the mining on the groundwater?

**Mr Slatyer**—I think it is fair to say that for communities that are facing uncertain resource availability, whatever the circumstances, it is a legitimate concern for them—and the more information that governments can provide about water resource availability the better.

**Senator NASH**—I would like to just go back to this issue of the impact of mining on the water system. You mentioned before that that is under the authority. As I remember it, and I stand to be corrected if I am not quite right, the authority said to us earlier today that their role is to look at the extraction and the limits—and then the application of the amount of water that they deem is appropriate is up to the state government. So the authority is not really looking at the impact on the overall system, is it?

**Mr Slatyer**—As you just summarised it, what the authority said seems right. The important control that the authority exercises—and therefore that the Commonwealth exercises under the Water Act—is on the total amount of water that can be taken from each catchment or aquifer. That is the control that then determines the overall impact of water extraction across the basin as a whole. Each state, through its water-sharing plans or other water resource plans, as I think we call them in the Water Act, needs to make the decision about how that water is shared amongst different classes of user and the various controls that are placed upon people in using that water. That is entirely a state responsibility. The state water resource plan has to conform to the basin plan in the sense that the amount of water that is allowed to be taken under those water resource plans has to be within the limit that is set in the basin plan—

**Senator NASH**—Only after the transitional plan has expired though, isn't it?

**Mr Slatyer**—It is from the time that the new water resource plans are made, yes.

**Senator NASH**—So in terms of the potential impact of mining on the basin—and, again, I am referring to the Liverpool Plains—as you say it is a state jurisdiction so it is up to them to determine if there is any impact on the water system. But we then have this situation where unless that impact can be proven to be something that falls under the EPBC Act, which is fairly narrow in its scope—and I would say, even though we were talking about Ramsar wetlands before, it would be a very broad stretch to try and categorise a general impact into one of those areas—if a state government is not going to determine that an impact is negative then, even though it is going to potentially impact on the entire system, the federal government has no ability to intervene, except under the EPBC Act, on the nationally environmentally significant whole basin, which we are spending so much money on to try and deal with as a national issue.

**Mr Slatyer**—If it is going to impact on the entire system then it would be through the hydrological effect of taking that amount of water, and that is controlled by the sustainable diversion regime.

**Senator NASH**—What about contamination, because that does not come under the extraction limits?

**Mr Slatyer**—Yes, I think that was the same question that Senator Williams was asking.

**Senator NASH**—It was such a good one that I thought I would ask it again!

**Mr Slatyer**—There is also a water quality objective in the basin plan which state water resource plans also need to observe.

**Senator NASH**—What is the water quality objective? What I am trying to ask, very simply, and this is all hypothetical of course, is: if it is determined that a mine is going to have a negative impact of contamination on the national Murray-Darling water system then what role does the federal government have to stop it?

**Mr James**—At the point at which a state comes along, having revised their water resource plan for the hypothetical catchment that the mine you are talking about is located in, the authority would need to be confident, in recommending to the minister, that that state, through their water resources plan, has the arrangements in place to make sure that they can deliver the relevant parts of the basin plan outcomes for that area—in terms of extraction levels, in terms of any water quality targets that might be set and in terms of environmental outcomes that might be in the basin plan for that area. So there is an accreditation process, and before that plan can be accredited I guess the minister needs to be satisfied that that plan is capable of implementing its portion, if you like, of the basin plan.

**Senator NASH**—What happens in a situation where the state determines, ‘Okay, we don’t think there is going to be any issue from the mining in terms of a negative impact,’ but others determine that there is and the state goes ahead and moves to allow the mining to continue? If the federal government had a concern, as perhaps another group did, that there was going to be a negative impact on the basin then what could you do? If the state says, ‘Mining is okay. You go ahead. We think it is okay,’ but others do not, and the federal government agrees that others do not, then what jurisdiction would you have to intervene?

**Mr James**—If it is at the point where the accreditation is being considered then there is the opportunity in the Water Act for the minister to direct that changes be made to the state plan in effect.

**Senator NASH**—For this particular area, as I understand it, the plan is already in place though, so at what point, just so I can understand it, would that accreditation occur?

**Mr Slatyer**—At the point that the current plan expires and a new plan is introduced.

**Senator NASH**—Which is 2017. So, if the scenario I was just talking about occurred before 2017, that accreditation criteria for the government to get involved would not arise, would it?

**Mr James**—I am not sure about the 2017. I thought we were talking about a hypothetical example.

**Senator NASH**—Well, it is. The plan that you are talking about expires in 2017. The authority just confirmed that with us before. So for this particular area, if there is an issue such as I was referring to before and we take out accreditation, because that obviously does not apply—you just said that is not going to kick in until 2017—what other avenues does the federal government have to intervene?

**Mr Slatyer**—Through this portfolio, there are no other avenues. The basin plan and the Water Act provide the water policy framework for dealing with water policy issues. That framework includes that existing water-sharing plans would continue until they terminate under their current timetables.

**Mr James**—You cannot enforce things that have not been accredited, I suppose. Once the basin plan is in place and state plans have been accredited underneath the basin plan, at the time of accreditation there is an opportunity to make sure that arrangements are acceptable. If a state, in a hypothetical situation, is implementing an accredited plan and fails to meet the outcomes, whether it is to do with water quality or diversion limits or whatever, then there are enforcement provisions in the act, so the Commonwealth does have powers to enforce the implementation of the basin plan.

**Senator NASH**—But, in the meantime, for the Murray-Darling Basin, which covers four states and by any stretch of the imagination would be of national environmental significance, if mining were allowed to go ahead in this region, with the go-ahead from the state government, and it was thought that there could be negative impacts, there is nothing you can do about it?

**Mr Slatyer**—If the negative impacts are, as you just said, on matters of national environmental significance then—

**Senator NASH**—No, no. I was using that as a more general term and not talking about the specific listed migratory species and wetlands of international importance, which are a very, very narrow set to try and prove. I am talking about the general perception people have of the Murray-Darling Basin as being of itself of national environmental significance. I understand that you can only work within the parameters of the legislation you have got, but there is nothing you could do in that instance?

**Mr James**—That is right, although I must say I am not quite clear about your 2017 date applying across the basin. I do not think that is—

**Senator NASH**—No. I was only talking about the Namoi Valley catchment plan. That is very, very discouraging.

**CHAIR**—Gentlemen, the National Water Commission, in its submission, indicates that it has commissioned a project called ‘Potential local and cumulative effects of mining on groundwater resources—and the development of tools to aid the prediction and minimisation of cumulative impacts’. It should be a riveting read with a title like that! Has the department received briefings from the commission on progress in that study?

**Mr Slatyer**—We have ongoing dialogue with the commission on a wide range of its activities. I am sure our relevant officers would have discussed this project with their counterparts.

**CHAIR**—The commission says:

The NWC project has already identified differences in the approvals framework and processes across all jurisdictions and importantly, for managing mining within the water planning processes and on the priority placed on sustainably managing

groundwater resources. It is clear that attention must be given to matters of inter-agency and inter-jurisdiction cooperation, communication, accountability and resourcing.

It goes on to suggest that ‘for all jurisdictions, it is clear that achieving consistency and complementarities between mining approvals processes’ et cetera is important. These obviously have been identified by the commission as matters of cross-jurisdictional significance. Have they been listed at all on meetings of ministerial councils or interagency dialogue?

**Mr Slatyer**—Sorry, but what were you referring to?

**CHAIR**—I was reading from the National Water Commission submission, from the top of page 7.

**Mr Slatyer**—They would be the commission’s views as advised to you in this submission.

**CHAIR**—I am assuming we are not the first people the commission has advised as to this. It does not sound like they have completed the study. It sounds like their study seems to overlap. Indeed, the submission goes on to say that it complements the \$1½ million study that you are trying to get the New South Wales government to progress. It sounds like they have already formed some views from their study and have made those public. I assume they would have told the department as well.

**Mr James**—Yes, we are certainly aware of that study. It is the one that Senator McEwen was referring to earlier. We have not had a recent briefing on it, not yesterday or anything like that. We are certainly aware it is going ahead and of the subject matter being conducted. Your question was to do with issues such as, for example, different jurisdictional approaches to the regulation of mining and water.

**CHAIR**—Yes, they are some of the issues that they seem to have identified. Are you pursuing intergovernmental discussions on those matters?

**Mr James**—I am aware that there is interjurisdictional work going on through joint water officials groups that are looking at a number of issues as to water management. The impact of mining on water is certainly on the agenda in those discussions. So, yes, I guess is the answer to your question. There are discussions going on.

**CHAIR**—It sounds like, ‘Yes, sort of.’

**Mr James**—No, they are definitely going on.

**CHAIR**—Okay, but not necessarily in response to any findings of the commission at this stage.

**Mr James**—They are matters that everyone knows. Other parties are aware of these issues. There are discussions going on to see if there are any options or things that need to be considered by governments. So it is all an issue that is on the agenda at the officials level.

**CHAIR**—Senator McEwen also asked you about the \$5 million project related to coal seam gas. It sounded like the department or the minister was possibly engaged in the same ritualistic exchange of letters with Queensland as with New South Wales. Is that so?

**Mr Slatyer**—No, I did not say that.

**CHAIR**—You did not say that. I said it sounded like it, Mr Slatyer.

**Mr Slatyer**—It should not have sounded like that. I said we are awaiting Queensland's specification of that project.

**Mr James**—It is a Queensland proposal to us. We are waiting for the detail.

**CHAIR**—Are there any fixed time lines on that one?

**Mr Slatyer**—I will have to take that on notice. I just do not know.

**CHAIR**—Thank you, Mr Slatyer. There are further questions and we will go to Senator Williams.

**Senator WILLIAMS**—I refer to your submission where you say:

The rapid growth of the coal seam gas industry is resulting in increasing quantities of CSG water, and there are potential environmental and resource management risks associated with its extraction, use and disposal.

Would you please expand on that for the committee, particularly as to the words 'potential environmental and resource management risks associated with its extraction, use and disposal'?

**Mr James**—I am not an expert on that project or indeed on coal seam gas mining.

**Senator WILLIAMS**—It is in your submission and that is why I just wanted you to expand on it.

**Mr James**—But the issues generally are about dewatering of aquifers, which can certainly be a concern.

**Senator WILLIAMS**—So dewatering of aquifers can be a concern. In what way?

**Mr James**—If you are concerned about the sustainability of those aquifers and the availability of that resource into the future, mining of the water resource is potentially—

**Senator WILLIAMS**—The dewatering is carried out in the actual coal seam, isn't it?

**Mr James**—As I understand it, yes.

**Senator WILLIAMS**—Not in the other aquifers around it or above it?

**Mr James**—I am not an expert in mining, but that is my understanding.

**Senator WILLIAMS**—Okay. Please go on, Mr James. Sorry for interrupting you.

**Mr James**—The other obvious one, I suppose, is the potential for pollutants to be in the water that is drawn out of that aquifer or that coal seam and how that issue is managed as that water is brought to the surface.

**Senator WILLIAMS**—Obviously, when that water is brought to the surface it is stored in a pond or whatever. I think that has actually been restricted by regulations in Queensland now. Obviously, the residue left behind by that would be a concern as well.

**Mr James**—I presume so, but, sorry, I am not an expert on this stuff.

**Senator WILLIAMS**—Nor am I and that is why I was asking you. Thanks, Chair.

**CHAIR**—As there are no further questions, we thank you, Gentlemen, very much for your time. I imagine we will see you next week. I now declare today's proceedings closed and thank the various witnesses, the Secretariat, Hansard and Broadcasting for their assistance and also the senators who have been here today. I thank all of you very much.

**Committee adjourned at 4.51 pm**