



*"Fights for fairer access to land in NSW and represents
the interests of prospectors and fossickers"*

NSW & ACT Prospectors and Fossickers Association Inc.

**Recommended changes to Department of Resources and
Energy Mining Act Regulations to support recreational
fossicking in NSW**

May 2017

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Context

Current mining regulations in NSW can be interpreted to exclude the use of water pumps, for supplying water to hand fed sluice boxes and high bankers. Any enforcement of this interpretation by authorities, would severely restrict the recreational fossickers of NSW and be extremely unpopular within the fossicking fraternity.

The DRE Guide to Fossicking states: “Fossicking offers an opportunity to discover the beauty and diversity of this state’s mineral wealth. It combines leisure, pleasure and 'treasure' all in one.” NSW fossickers totally endorse this view.

Fossicking is a great part of our heritage and our future. It is recognised as a national pastime and has been supported continuously by the NSW government, although there has been little in the way of innovative policy to encourage more fossicking.

There are at least 50,000 regular fossickers in NSW. As an activity, recreational fossicking makes a modest overall contribution to the NSW economy. However, it makes a more significant impact in regional areas in the form of ‘geo-tourism’ visitor expenditure.

The GPSC3 Inquiry into regional tourism in October 2014 saw value in furthering geo-tourism and went as far as recommending fossicking being allowed in National Parks.

The ability to access and recover alluvial gold, gemstones and minerals, is clearly in the public interest. It is also in the public interest to do so using the safest, most modern methods with the best environmental practices.

Origin of the problem

In 2010, without effective consultation with the stakeholders most affected, the Mining Regulation 2010 amendments added the word “processing” to Clause 12(2)(c) which states “A person must not ... carry out the following activities for the purpose of fossicking: ... (c) the use of power-operated equipment for the purpose of surface disturbance, excavation or **processing** on any land, ...

The Regulation change was never advertised or enforced regarding current high banking activities. This led fossickers to believe it referred to mechanically driven equipment such as crushers, vibratory screens, portable processing plants and the machinery to feed them. Fossickers, and many others, including regulatory officers, considered pumps simply delivering water to small hand fed equipment not to be ‘power-operated processing’, especially as fossicking has legislated water rights and the only action is the transfer of water to a sluice.

Despite requests by NAPFA for evidence about why the change was made, we have not received a satisfactory response as to the reason for the change.

Since that time, the widespread use of pumps for sluicing and high banking activities has continued. There would be thousands of these units in operation across NSW. To our knowledge there has never been an infringement or prosecution, despite regular field inspection of activities by NSW Fisheries, Parks, DRE and local government staff. This further supports our view that the intention was never to curtail very low impact, short term activities, and that sluicing and high banking activities using pumps, meets other legislation and current expectations.

The issue came to notice in late 2014 when a Fisheries Officer reviewed the Regulations. He considered the use of a pump to be prohibited, and conveyed this to NAPFA. That individual was also sympathetic to the idea that high banking was not environmentally bad, and had environmental advantages over in-river sluices. However, it came down to the wording of the regulation which indicated because a motor was involved, it was not permitted.

The DRE has since supported this literal interpretation of “power-operated equipment” applied to processing, in contrast to earlier permissive interpretation by the Department in 2004. In doing so it has unduly restricted the use of pumps and other very small, almost no impact equipment, and rendered ‘inoperative’ equipment owned by recreational fossickers that would be worth millions of dollars.

NAPFA response

In light of what was clearly an emerging issue for recreational fossickers, NAPFA provided a detailed report in June of 2015 titled “Problems and restrictions to Sluicing activities in NSW and the ACT”. That report is attached in Appendix 6 at the back of this new submission for changes.

The 2015 report details the overall issues and impacts to non-corporate prospectors and fossickers, and how this situation is symptomatic of reduction of rights and opportunities for fossickers over time. It demonstrates where sluicing, in particular, has been severely affected by unilateral changes, without appropriate consultation, in the 2010 Regulations.

As a follow-up NAPFA met with DRE in February 2016, and was told that a change of the Mining Regulations would be required to solve the issues, and to allow recreational fossickers to pump water to high-bankers and sluices.

The DRE stressed that they would only facilitate Regulation change if assurances could be made to prevent dredging in any way or in any form, including preventing water pumps being used for dredging.

NAPFA’s position on the dredging matter was that:

- Dredges are a totally different piece of equipment to sluice boxes and high bankers. They have very distinct differences between them, that are easily identified both visually and in their operation. Confusion between the two can easily be solved with some basic education;
- It is very easy to distinguish in the field between dredging operations and the use of pumps for high banking and sluicing;
- A dredge is a form of mechanical excavation, whereas high bankers and sluices must be fed by hand held implements;
- Dredging issues should be dealt with on their own and concern over their use should not be used to restrict the use of pumps for other activities;
- Dredges are banned in NSW and have been so for decades, with the ability existing to prosecute operators for their illegal use;

- To our knowledge, there have been no prosecutions or cases reported of illegal dredging in the past decades, so it is not currently a problem and unlikely to be so;
- NAPFA noted that there is no mention of the severe penalties for illegal dredging, and only a statement in the DRE Fossicking Guide saying that dredging is not allowed. Improved education with more advertising of the penalties would further prevent any future issues; and
- Restricting the pumping of water to high-bankers and sluices in case someone uses a dredge, was like preventing people driving a car in case someone does not wear a seat belt.

What NAPFA identify as the DRE barriers

DRE have told us that as pumps could be used for illegal dredging, a safeguard to prevent dredging must be satisfied before any change is considered to allow pumping for high banking.

In reply, NAPFA argued that dredging has been a banned activity for decades, and as a form of mechanised excavation it is also prohibited under the regulations. These are known restrictions in the fossicking community and there is a high level of compliance with those restrictions.

DRE also raised the problem that in their view high banking activity can potentially be classed as ‘semi-industrious’ and lead to breaching of the regulated volume limits because the equipment was more efficient.

NAPFA does not accept this claim of ‘semi-industrious’ for reasons that will be outlined below.

The final outcomes of the meeting hinged on a number of factors. These included: limited ability of the DRE to regulate in the field, and the fact that other government departments prevail in enforcement.

As a way forward, it was agreed that NAPFA would investigate and provide limitations or restrictions to equipment that would:

- Allow the pumping of water to sluice boxes and high bankers while preventing them being operated as a dredge;
- Allow sluicing and high banking operations using a pump to be more easily distinguished from dredging;
- Make improvements to regulate activities in the field by various government depts.; and
- Meet current 2016 community and environmental expectations.

Why is high banking a ‘good’ activity

Without a change to Regulations, the status quo would relegate the use of all sluice boxes to operate in the running stream water, increasing both safety risks and environmental impacts. This is appreciated by both fossickers and Fisheries inspectors concerned about turbidity.

Operating in the flowing watercourse has a higher risk both from an environmental point of view and from a simple occupational health and safety perspective. The elderly, young children and the disabled are further disadvantaged from both practical and safety perspectives.

A sluice or high banker used on the elevated gravels, away from the flowing watercourse, is the safest and modern day best environmental practice. It allows water flowing back into the stream to be filtered by the gravels preventing turbidity, and prevents access and disturbance in the flowing watercourse.

Importantly from a distance, it can easily be distinguished from dredging, which must occur in the watercourse below the waterline.

This report details NAPFA's recommended solutions to the issues, and what improvements can be made to the Regulation of Fossicking activities in NSW.

Acceptance of NAPFA's recommendations would facilitate the use of current equipment, that has not caused any undue impacts, and remove restrictions to innovation, which is a large part of the recreational fossicking scene.

The recommendations also prevent pumps being used for dredging operations, and makes the identification of various activities much easier in the field, especially from a distance.

NAPFA's recommendations add safeguards to necessary Regulation changes by restricting equipment to make it less possible to disturb more than regulated amounts, and better define allowable equipment properties, making activities easier to regulate in the field. They also remove undue restrictions on very small, very short term and almost no impact equipment.

Progress

Following release of the Staged Repeal of the Mining Act 2016 last year, which made no change on this matter, we met in October with the resources advisor (Nick McDermott) to the former Minister.

We raised our concern that the opportunity to easily review the word 'processing' had been lost in the Staged Repeal Process, which was poorly advertised and had a minimal, (website only so far as we can see) consultation program. We also felt overlooked by DRE because we had made significant representations on the matter, but they were not reflected in the revised Mining Act 2016.

The advisor told us it was not taken into account in the staged repeal process because the question of the status of the use of these devices had yet to be resolved with DRE. (We noted, however, that this matter has been part of our representations for the past three years, and we had already provided extensive information to DRE and met face-to-face on it.)

The advisor told us that in the event this matter could be resolved in the affirmative with DRE, then the regulation amendment could be made "easily, outside of the staged review process".

Since that time, we have made further effort to identify and understand the key issues that DRE has raised as barriers to any change.

In November 2016 NAPFA discussed our progress with the DRE in a phone link up meeting. NAPFA's suggested changes to equipment, by limiting hose sizes and types, was agreed to be acceptable by the DRE to solve their concerns with pumps being used for dredging. These changes would be:

- Limiting rigid hoses to be 40mm or less in diameter; and
- Hoses 40mm or above would only be permitted to be of lay flat type.

Several other environmental issues were discussed in the phone meeting. Although high banking activities and the pumping of water does not trigger any issues in the risk matrix used by DRE, EPA or

other government depts.; it was determined by DRE that we needed to address the issue that high bankers could be perceived visually as “semi-industrious” by some observers. Addressing these two factors would, in the view of DRE, alleviate all concerns.

Just what is ‘semi-industrious’?

NAPFA is concerned about the notion of “semi-industrious.” It is not a technical definition and is difficult to define and assess because it is subjective.

The term “semi-industrious” would see interpretation of the regulation not being entirely based upon facts, but rather somewhat on opinion, some of which in the field will come from those opposed to any form of fossicking.

NAPFA argued that the term “semi-industrious” suggests a viable operation of substantial scale, yet current restrictions in the Mining Act and Regulations limit the work and impact a recreational fossicker can do, and are more than adequate to prevent this.

The Mining Act & Regulations prohibit:

- The damage or removal of any bush rock.
- The use of power-operated equipment for the purpose of surface disturbance or excavation, (mining can only be done by using hand-held implements).
- The disturbance of more than 1 cubic metre of any soil, rock or other material during any single period of 48 hours.
- Removing more than the prescribed amount of material, meaning:
 - (a) 10 kilograms of mineral-bearing material (other than the material referred to in paragraphs (b)–(e)), or
 - (b) 5 kilograms of minerals (other than gold or gemstones), or
 - (c) 50 grams of gold (except where found as nuggets of 10 grams or greater), or
 - (d) 5 nuggets of 10 grams or greater of gold, or
 - (e) 100 grams of gemstones.

The Mining Act & Regulations also require any fossicking site to be restored, before continuing work elsewhere. Soil, rock or other material that has been excavated must be replaced as close as possible to pre-disturbed condition before making any further excavations.

These requirements are very restrictive and limit a fossicker to “hobby only” activity, and would prevent anyone from even coming close to a viable operation. Recreational fossicking is not a form of small-scale mining and never has been.

NAPFA argued that the Mining Act & Regulations on fossickers are respected by the greater majority, and it is not possible to breach them in almost all occasions. We did agree, however, that a large high banker could more easily put a fossicker in a situation where limits might be exceeded if an individual was flagrantly disregarding the regulations, had ideal working conditions, and was extremely fit and able. That is quite a few qualifications.

This DRE's concern about "over zealous" fossickers exceeding regulatory limits, despite the fact that in almost all cases it cannot happen, and the risk of occurrence is extremely low, is difficult to resolve because the terminology of "semi-industrious" is imprecise and subjective.

NAPFA has investigated all aspects of this conundrum, and it has taken considerable time and effort to formulate suitable solutions to this problem.

NAPFA's has researched a vast amount of information, and drawn on the experience of a wide range of those involved in fossicking. In relation to design changes to equipment, and the practicality and effectiveness of these, NAPFA has consulted with:

- Manufacturers of sluicing and high banking equipment sold in NSW;
- Manufacturers of dredging equipment sold worldwide;
- Retailers of sluicing, high banking and prospecting equipment; and
- Long term experienced fossickers and small miners that have used dredges and high bankers in the past, when it was legal to do so.

We believe we have arrived at a fair set of recommendations to alleviate concerns and make the job of regulatory officers and compliance much easier. Our recommendations are detailed towards the end of this report.

Definitions

Sluice box – *A box with riffles or grooves along the bottom into which water is directed, and used to trap heavier gold particles, separating them from gravel or sand as water washes them and the other material along the box.*



Figure 1. Typical modern aluminium sluice box.

Traditionally sluices were made from wood, with modern types constructed from lightweight aluminium (*Figure 1*) or plastic, and have a flare to funnel in water which also allows for shovelling material onto.



Figure 2. Modern sluice box with flare removed and set up with pump.

Many sluices have the ability to remove the flare and attach a water disperser, so that water can be pumped to the sluice when streamflow is low. Attaching legs to more easily adjust the sluice box to optimal angles, and allow it to be set up away from the flowing watercourse (*Figure 2*) led to the creation of the high banker.

High banker – A form of sluice box, usually in two parts comprising of a header box with a screen to separate oversize material and a sluice box below. Water is pumped to it, and gold bearing material is shovelled into the header box by hand which screens out the oversize rocks and pebbles, and allows the water and fines to run through into the sluice box where gold is recovered by riffle systems or coarse mats.



Figure 3. Typical high banker with lay flat hose delivering water.

The high banker is distinctly different from the sluice by having the spray bars and screen on the header box, and that it is dependent upon water being pumped to it. It cannot be operated in the flowing watercourse using natural water flow, and screening out oversize reduces the water requirements.

Dredge – A dredge is a mining machine that excavates sand and gravels underwater, and passes them through a sluice box to recover the gold, which typically floats on pontoons. The original gold dredges were large multi-story industrial machines, often weighing many thousands of tons. Built in the first half of the 1900s and operated in many states of Australia, they operated using chain mounted buckets or large suction nozzles to excavate.

Modern day portable dredges pump high pressure water to a venturi, or eductor jet, which creates a vacuum in a larger suction hose, typically 75 – 150 mm or larger. This suction hose is used to suck up gold bearing material from the transported gravels of the streambed much like an underwater vacuum cleaner (Fig 4). The material is fed into the header box to slow down the flow, before passing over riffles in a sluice box to recover the gold.

Known as eductor dredges, they were allowed in many Australian states prior to 1999 for general fossicking. Currently they can still be used on Mining Leases in many states.

Traditional Operation of an Eductor Dredge

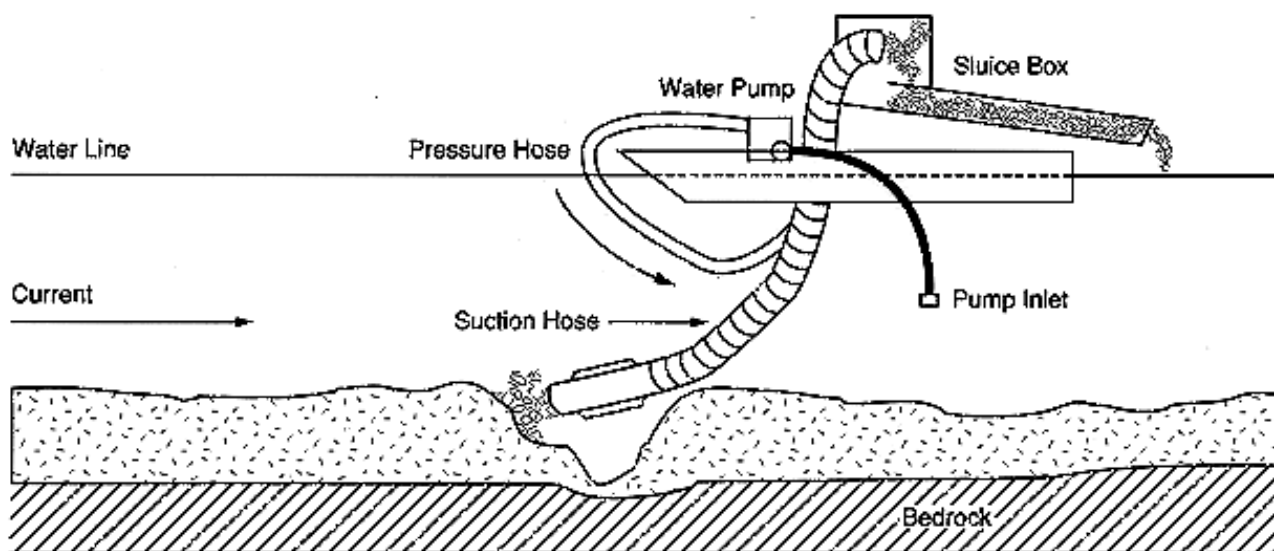


Figure 4. NSW EPA diagram of the operation of an eductor dredge.

The NSW EPA has a manual on eductor dredging detailing many aspects of dredging and can be found at:
<http://www.epa.nsw.gov.au/mao/eductordredges.htm>



Figure 5. Typical eductor dredge in operation.

Turbidity – Is a measure of water clarity or murkiness. Turbidity results from suspended particulate matter in the water column.



Figure 6. Dredge in operation in SE Asia showing turbidity.

Difference between high bankers and dredges.

NAPFA's investigation has involved the input of experienced prospectors, manufacturers of equipment, retailers and suppliers. Those involved have extensive experience and knowledge of the issues, equipment and its use.

With the mechanised supply of water being the fundamental issue, it is also where the equipment types differ distinctly between high bankers and dredges. In both cases the pumps have a rigid inlet hose from the foot valve to the pump which is to prevent the hose "sucking" shut, however from the pump, all is very different between them.

Sluice boxes and high bankers (*Figs 1, 2 & 3*) have:

- The unit's water supplied by a single hose from the pump;
- Water entering through sprays above the hopper box, and washes the fines from the coarse sand and gravels;
- The hopper box is open to allow gold and gemstone bearing material to be shovelled in by hand;
- The hopper box is generally over 0.5m off the ground;
- Only water is pumped to the unit;
- Smaller pumps, often electric; and
- Ability to be set up some distance from the stream bed as only water is supplied to the unit.

Dredges (*Figs 5, 6 & 7*) have:

- The supply of water from the pump is connected to the power (eductor) jet in the suction hose (*Fig 7*) not to the unit's header box or sluice box (a dredge does not have spray bars);



Figure 7. Dredge showing pressure hose (blue), suction jet, and larger open suction hose.

- A larger diameter rigid suction hose, most common size is 4" or 100mm, and minimum available is 2.5".
- The hose must be spiral (Fig 8) wound often with a wire or metal tape inside the plastic to keep the hose perfectly round as any shape change in the hose will cause blockages;



Figure 8. Rigid spiral wound suction hose.

- The rigid suction hose is connected to the units header box at one end, with the other end open where both gold bearing material and water are "sucked up";
- Effectively has 2 hoses going into the unit (Figs 5, 7 & 9). A pressure hose from pump to suction nozzle on the unit, and a suction hose to header box on unit;
- The header box is closed, and all gold bearing material can only be delivered to the unit through the suction hose;
- Larger pumps, almost always mounted on the dredge, in all cases petrol or diesel to be able to deliver higher volumes to process more material, and higher pressure to create the venturi effect needed to develop the vacuum to suck up material;
- Be set up close to, or float on water on pontoons, as the hydraulic gradient prevents lifting gravels to any height above, or to any distance from the water.

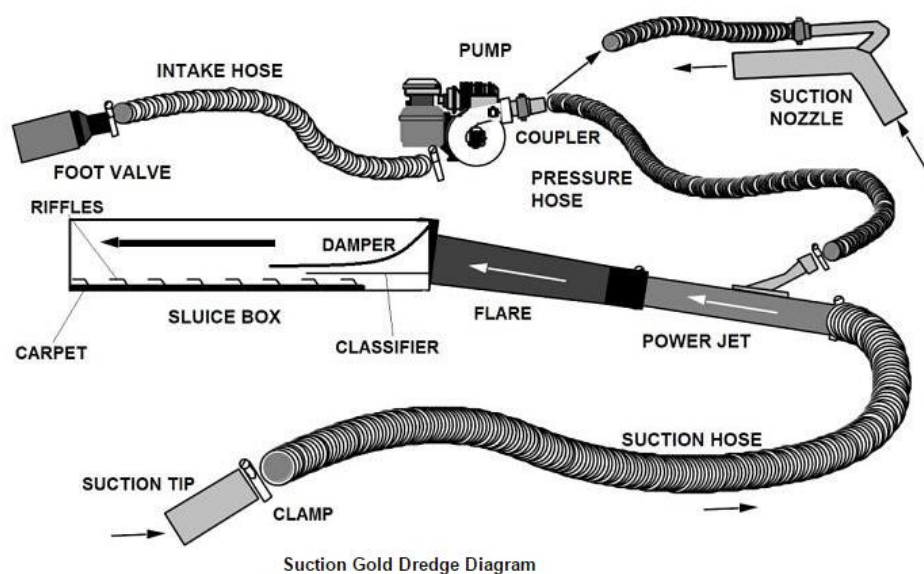


Figure 9. Dredge configuration.

Solutions to prevent equipment being used as a dredge.

Restricting all equipment to only use lay flat hose in dredge sizes, that is those over 40mm diameter, between the pump and the unit (apart from the pump inlet) would prevent dredging, and only allow the delivery of water. Currently 12v electric bilge pumps used for high bankers have most common sizes of 28-32mm internal diameter, and larger ones are 38mm diameter.

Dredging must use a rigid hose (*Figs 7 & 8*), and of a large size for efficiency and to prevent blockages. If attempts were made to use lay flat it would suck shut, kink, block and wear out in minutes.

Examples where lay flat is being used to deliver water under higher pressure and flow rates shows a kink at bottom of unit in Figure 3 and same in Figure 10.

It would be impossible to operate the same with gravel being sucked up in the feed. Any hose shape other than round, or any restriction of any sort will block a dredge feed hose, and abrasion of sand and gravel would destroy lay flat hose in minutes.

Smaller hoses, 40mm diameter and below, used on high bankers will need to be rigid, as kinking of these when used with small 12v electric bilge pumps would prevent their operation. This type of hose is also manufactured “out of round” and cannot be used for the transfer of gravel.



Figure 10. Showing lay flat pressure hose kinking under high flow.

These restrictions would allow both the equipment purpose and use, to be easily identifiable by authorities in the field. The activities of sluice boxes and high bankers would:

- Have a single hose connected to the unit from the pump;
- Have only lay flat hose in sizes over 40mm diameter;
- Generally, have a smaller hose up to 80mm in diameter with almost all below 50mm; and
- Have all pump output hoses connected to sprays, that spray water into an open header box.

Dredging activities would always:

- Have 2 hoses, one from pump to suction hose, and another larger suction hose to the unit;
- Have a large rigid open-ended suction hose, generally over 75mm diameter (with none manufactured below 50mm); and
- Have hoses connected directly to a venturi (eductor) jet with all water entering the header internally.

Advantages of Pumping water to High Bankers & Sluices

The Water Management (General) Regulation 2011 Schedule 5 Exemptions allow the taking of water with prospectors and fossickers exempt from requiring a permit. The exemption states “.....the taking of up to 3 megalitres of water required for all other such prospecting or fossicking in any water year.”
http://www5.austlii.edu.au/au/legis/nsw/consol_reg/wmr2011312/sch5.html

The ability to pump water to high bankers and sluices, has both environmental and safety advantages over standard sluice boxes used in the watercourse. It allows the sluice or high banker to be operated away from the flowing watercourse on adjacent dry sediments, having the following benefits:

- It is safer operating away from the flowing watercourse;
- It allows the elderly and the disabled easier access to enjoy fossicking activities;
- Allows operators to spread out in popular areas reducing localised environmental impacts and competitions between other outdoors users;
- It is safer for the public who regularly approach fossickers to “have a look” at their activities, especially when there are children present;
- Discharged water is filtered by the sediment beds returning clear water to the watercourse without turbidity as recommended by the NSW EPA. This is very important when there is little water flow, or no flow and only pools in the watercourse;
- It minimises disturbance to the flowing watercourse by preventing activity in it. This removes requirements for any dam or diversion of water flow to a sluice, or movement of material to accommodate equipment; and
- Meets the views and expectations of the community, NGO’s and other government departments regarding activities in the flowing watercourse.

Allowing sluice boxes and high bankers to operate away from the flowing watercourse using water pumps, not only has safety and environmental benefits. It can be more easily identified NOT to be dredging activity when observed by authorities.

Interestingly the NSW EPA considers dredging to meet environmental pollution guidelines, provided operations are conducted with discharge being contained within a settling pond created from sands and gravels. This is best practice and allows turbidity to be settled, and water returned to the flowing watercourse to be filtered by the sands and gravels (Fig 11).

Operating the Dredge on a Dry Sandbar

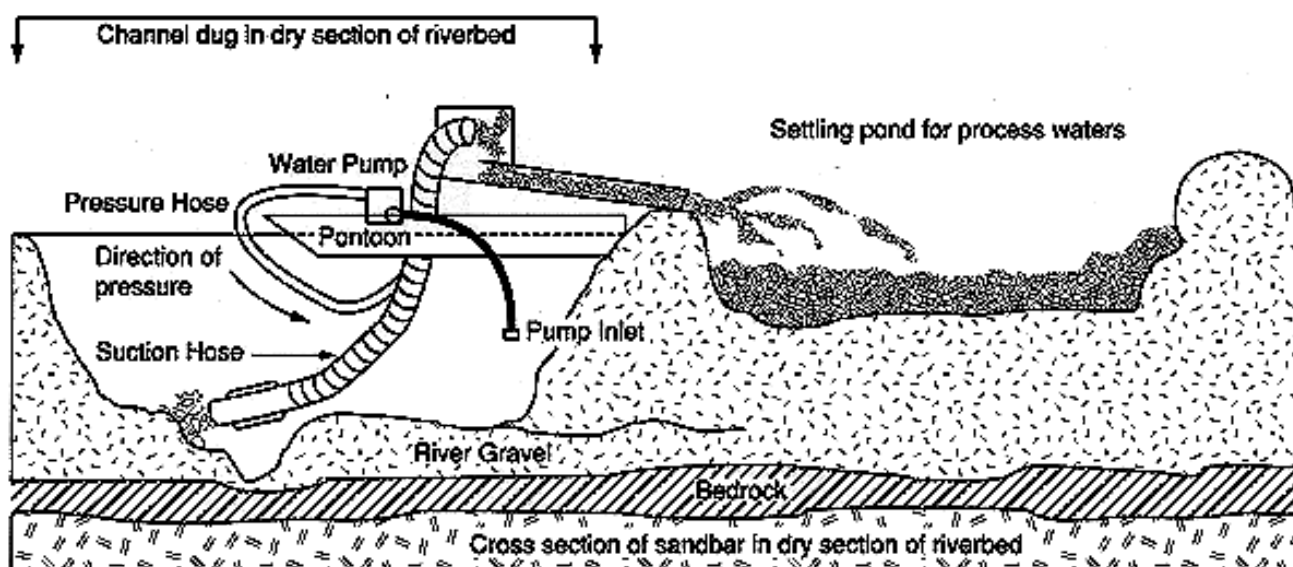


Figure 11. NSW EPA dredging guideline.

NSW EPA manual on educator dredging details can be found at:

<http://www.epa.nsw.gov.au/mao/eductordredges.htm>

Issues with using “Semi Industrious” Restrictions

Restricting the “size” of a high banker to not be visually seen as “semi-industrious” is very difficult. This is a subjective assessment and much harder to regulate than facts.

All fossickers would agree that to be “semi-industrious” a high banker would need to be of very large size, be trailer or truck mounted and would need to be fed by hydraulic machinery to be efficient enough to generally pay for itself.

This usually rules out recreational fossickers. This is because, despite the romantic appeal of a big gold nugget, in fact it is very rare for recreational fossickers to recover enough gold to pay for their trip.

It is purely a hobby and leisure activity where the promise of gold and gemstones and the outdoor experience is the 'pay dirt' rather than the value of the material recovered.

NAPFA has an underlying concern that the idea of fossicking being "semi-industrious" has resulted from a desire to ensure that fossickers "don't make any money out of a hobby", rather than about limiting environmental impacts. This has been a constant view from left wing and environmental groups in all states towards fossicking, particularly relating to gold recovery.

Little hand-held equipment is less likely to be viewed as "semi-industrious" because it's 'small'. But in reality, it's the potential disturbance of material over the regulated amount that must be controlled.

NAPFA sees the best way to solve potential breaching is to focus upon the throughput rates which ultimately dictates the overall size of high bankers.

However, the actual amount of material, or feed, that can be passed through a high banker, or a sluice, is not determined upon size alone. Neither 'smaller', nor 'bigger', is any better than each other. There are many factors affecting feed rates, and the total fed over time. These include, but not limited to:

- The size, shape, type, and angularity of clasts in the feed material;
- The type and properties of fines, especially those binding to clasts such as clay and silt;
- The sorting ratios of clast sizes;
- Access difficulty to the site, distance to walk in, terrain, etc;
- Personal fitness and strength of the recreational fossicker;
- Access difficulty to feed material, such as large rocks, rock bars and narrow crevices;
- Weather and seasonal conditions;
- Tightly packed material that is difficult to break out;
- The gold content and its size fractions;
- Pump sizes and water volume; and
- The height feed is introduced, and the gradients of the hopper and sluice boxes.

It takes time and a lot of effort to remove gold and gem bearing material, and then to feed it to the high banker or sluice in correct feed rates, to ensure good recovery.

Experienced fossickers know that getting to the bottom of gold traps is more important than feeding bulk overburden material. Education into fossicking methods would curtail the view of "more material means more gold" which would help to solve this perception, which is probably the single greatest factor in the attitude towards processing more material.

Throughput Rates

NAPFA has investigated feed rates. Even in ideal conditions it is very difficult to exceed the volume limit set in the Regulations.

Previous work by NAPFA Committee members (prior to awareness of the impact of the word 'processing' on high bankers) using a large high banker (*Fig 12*), showed that in a loosely packed deposit of cobbles and gravel it took 5.5 hours of shovelling by 2 men to process approximately 1 cubic metre.

With rest breaks (0.5hr), lunch (0.75hr) and clean-up time (1.5hr) this equated to a full day's work. With each fossicker allowed 1m³ in 48 hours, a total of 2m³ could theoretically be processed over both days of a weekend. In reality day 2, and subsequent days will be slower.

In this example, the deposit has little fines, and a large amount of clean oversized cobbles and rocks, demonstrating that the rate that could be processed was at a maximum. If mud silt or clay was present, or a higher proportion of fines, then the throughput rate would be significantly reduced.



Figure 12. A large high banker being used in ideal conditions.

The size of the high banker is 1.6m high, 1.8 long and 0.65m wide, including the legs.



Figure 13. A large high banker being used in ideal conditions.

NAPFA found this to be one of the best examples to assess the maximum volume that can be disturbed as it:

- Can be calculated from photos reasonably accurately;
- The size of the high banker is known and can be seen;
- It is a large high banker; and
- The time of operation and details provided are from reliable sources.

The photos in (*Figs 12 & 13*) were taken at the beginning of the second day's work. The hole volume was calculated using the following measurements which are somewhat generous:

- 0.35m deep at right side of Fig 7, 0.2 deep at left side;
- 2.4m long left to right Fig 7; and
- 1.7m wide Fig 8.

Calculation using average diameter $(2.4+1.7)/2 = 2.05\text{m}$ and average depth of 0.3m determines a volume of $\pi r^2 \times \text{depth} = \pi \times (2.05/2)^2 \times 0.27 = 0.89\text{m}^3$.

This example has led NAPFA to find a limit on a high banker's maximum throughput rate, based on overall size of the unit. To find a solution, a method to measure and restrict aspects of the unit is required.

Issues with Applying Restrictions to High Bankers

Any restrictions to any part of high banking equipment has some serious difficulties to make practical and more so to regulate. Below are a number of key parts of high banker equipment that restrictions could be applied to, and some discussion around the investigations and findings of each below:

- **Restricting pump size.** This is very hard to do as a pump's capability would require measuring output when disconnected from the unit, as it is too difficult to recover from sprays. Visually you cannot determine a pump's power or output. A larger pump run at mid power ranges is more efficient in fuel usage than a smaller one run at full capacity which also makes more noise. So unduly forcing inefficiency is not practical. The volume of water needed to operate a high banker, although related, can vary vastly between feed material types. Running at a much lower flow rate over a longer time to compensate can easily be done. So restricting water delivery would not always restrict feed rates.
- **Restricting hose or inlet water aperture size.** Once again output would have to be measured, as higher pressure pumps can deliver more water through smaller hoses and aperture sizes.
- **Restricting sluice box riffle tray sizes or apertures.** This affects gold recovery more than throughput, and unduly forcing inefficiency is not practical. The width and depth of sluice boxes is there for surge to prevent overflow, and steeper trays can increase throughput. Only measured outflow could be able to determine throughput. Some equipment has a number of trays to recover various size fractions, so any restriction would cause inefficiency, and measurement would need to be applied to each separate tray. Outflow would need to be measured while operating, and would be very difficult to do so.

- **Restricting hopper box sizes or apertures.** A change of screen size to allow more underflow, and addition of multiple screens and riffle trays would render any restriction impractical.

NAPFA's investigation has concluded that any attempt to restrict aperture sizes, hose sizes, pump capability, or hopper dimensions is not practical to implement.

It would not achieve the purpose of limiting throughput to prevent exceedance of the volume restriction, and restrictions applied to individual parts of equipment would not solve the overall size perception of "semi Industrious".

These type of restrictions are complex, due to the many different variants of the equipment, and would be very difficult and time consuming to regulate in the field. They would be open to interpretation, and more so due to complexity. There would also need to be a lot of education for both fossickers and regulatory staff.

NAPFA's investigation into overall size restrictions found that fossickers still follow the DRE adage that equipment must be "capable of being lifted by a single person".

This came from a directive from the Deputy Director General, Mineral Resources in 2004 (Appendix 1) that stated, *"If a fossicker uses a hand feed sluice box, capable of being lifted by a single person, which is not located in a stream and only water not gravel is pumped to it then my Dept. would consider such an activity as complying with the spirit and intention of the regulations"*.

This alone would be practical and limits equipment size. However, with elderly and disabled fossickers using simple rubber tyred trolleys to move and operated their equipment on, this may cause them undue restriction.

NAPFA would be happy to continue to use this directive as a guideline provided that it referred to the "average" person, and that equipment could still be wheel mounted for convenience.

However, each of these initiatives would be subject to interpretation, and be somewhat difficult to set a well understood limit for both regulatory staff and fossickers. Interestingly all fossickers who have been involved from before 2004 knew and understood the simple term of "hand carried" as stipulated previously by the Deputy Director General, Mineral Resources. There was never an issue with it.

NAPFA's Solutions to "Semi Industrious" Concerns

The most practical way to solve the issue of being observed as "semi-industrious" is an overall size restriction on the operating equipment, as this is how the initial visual assessment will be undertaken in the field. Setting an overall size limit that would only allow equipment capable of processing up to the Regulated volume limits would solve both issues.

NAPFA's investigations have determined that the most practical, and very simple way to do this would be to measure the 3 linear dimensions of length, width and height of the unit, excluding the pump and hoses. The total addition of these dimensions must be below a set limit.

This system has operated very well for decades in the airline industry for luggage size restrictions. It is very simple to understand, easy implement into regulations, and easy to enforce in the field.

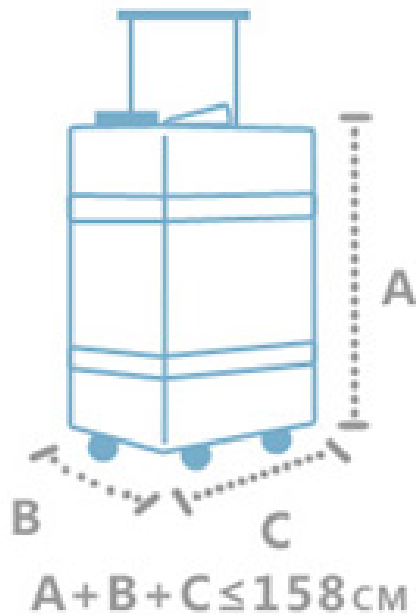
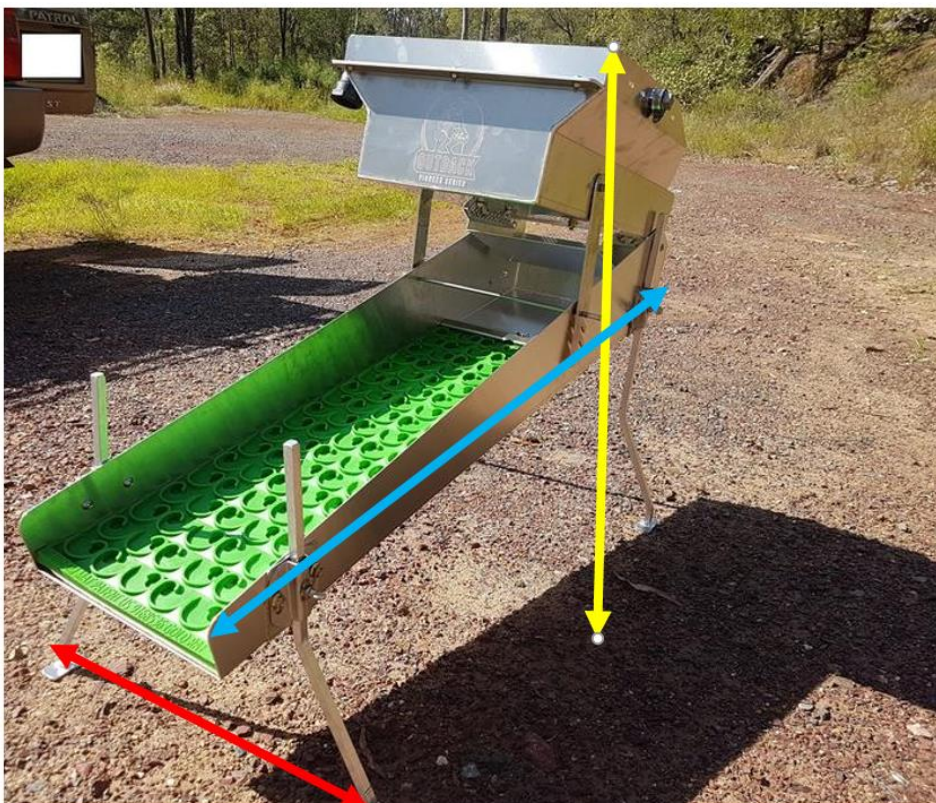


Figure 14. Airline luggage measurement.

In the example in (Fig 14) above, the 3 linear dimensions of the luggage must be less than or equal to 158cm. Applying the same to a high banker below (Fig 15) would see the unit measured to its extremities including all hard fittings except hoses.



Length = 1.4m
Width = 0.6m
Height = 1.2m
Total = 3.2m

Figure 15. Linear dimension total for a small high banker using 3 dimension measurement.

In (Fig 15) the high banker measures $L = 1.4\text{m}$, $W = 0.6\text{m}$, $H = 1.2\text{m}$, for a total of the three dimensions of 3.2m.

NAPFA used the example in (Figs 12 & 13) as a maximum and compared this unit to other high bankers and their performance. This units dimensions are 1.6m high, 1.8 long and 0.65m wide for a total of the 3 linear measurements of 4.05m.

It was found that this high banker size, and design with high angle hopper box, would exceed throughput of others with the same total dimensions in all cases. With the volume disturbed and time frames known, in close to ideal conditions, it supports using this as a benchmark for a maximum.

NAPFA consider that an additional 0.45m may be necessary to allow for the variation of designs between brands for flared legs, leg bases, wing nuts, rigid hose fittings and carry handles to be accommodated, thus using a total linear measurement of the 3 dimensions being 4.5m.

This would allow a quick and easy measurement by tape measure, in the field, to the extremities of the unit whilst operating. There would not be any subjectivity or opinions about where to take measurements from or to. It is very straightforward, simple for fossickers and manufacturers to implement, and for regulatory staff to understand and enforce.

A comparison of measurements to various other units is shown in the following figures.



Figure 16. Showing a small high banker.

In (Fig 16) above $L = 1.8\text{m}$, $W = 0.5\text{m}$, $H = 0.8\text{m}$ for a total of 3.1m. NAPFA has found that small sized units averaged approx. 3.2 m for the 3 dimensions.



Figure 17. Showing small sized high banker on a trolley.

In (Fig 17) above $L = 1.7\text{m}$, $W = 0.6\text{m}$, $H = 0.9\text{m}$, for a total of 3.2m .

Many operators, particular the elderly, mount their high banker on a trolley to assist in movement and for ease of set-up. The example shown in (Fig 17) above uses a small garden trolley. This saves time and issues with attaching and adjusting legs, particularly with wing nuts and bolts that can easily be lost.

Fossickers tend to strap a bucket with tools, drinks etc to the trolley so as it is all inclusive. Innovation is a driving force with fossickers, who are always trying new ideas and testing them out.

Mid-sized high banker units average 3.6 to 3.8m total, with some being small units with an additional sluice tray added. When very fine gold is encountered, many fossickers add an extension to improve recovery (Fig 18). This actually slows throughput rates as energy is lost, and flow slows depositing more material on the riffles. It is the slower throughput that improves recovery.



Figure 18. Showing a longer high banker.

The unit in (Fig 18) above shows the same unit as (Fig 17) with an extended tray added. $L = 3.0\text{m}$, $W = 0.6\text{m}$, $H = 0.9\text{m}$, for a total of 4.5m (Note it is a different trolley than in (Fig 17)).

Larger high bankers are surprisingly not that common in Australia when compared to other countries. This is due to limitations upon volumes of disturbance in the Regulations, and drier conditions.



Figure 19. Showing a large high banker.

A larger high banker is shown in (Fig 19) above with a 1.2m extended tray added. L = 2.4m, W = 0.5m, H = 1.2m (max height) for a total of 4.1m. This is currently the largest commercially made high banker in Australia.



Figure 20. Showing a large American high banker.

A large high banker (Fig 20) above is shown with a 1.4m extended tray added. L = 2.6m, W = 0.5m, H = 1.4m (max height) for a total of 4.5m. Weight approx. 30kg.

Large sized units are usually the same height and width as the medium sized units but have an extra tray to add length for better gold recovery. These typically average 4.2m total.

From here there is a significant gap to the next size range which are all overseas models, have a higher capacity and weight. They still can be set up in reasonable time frames, but their clean-up time is a lot longer.

Recreational use sees the high banker used for many reasons, however quick clean-up time is very important to Australians, hence the popularity of longer narrower units compared to the US and other countries.

These very large units (Fig 21) average well over 6m in the total of the 3 measurements and are common in the US where teams of people use one unit. The advantage is to have constant feed rate that can only be achieved by a team of people.



Figure 21. Showing a very large American high banker.

Note the well sorted feed in (Fig 21) and the maximum oversize clasts are less than 100mm in size. This type of feed is very common in the US, but not in Australia.

This unit (Fig 21) is a very large unit. L = 4.0m, W = 0.7m, H = 1.5m, for a total of 6.2m. This unit weighs in at over 50kg. Australians would argue that recovery is significantly less in these units, and in our conditions bulk feed with smaller clasts is not available.

A range of units, for comparison, is shown in (Fig 22) below.



Figure 22. Showing a range of American high bankers.

From left to right the details of each including the linear total are shown below:

Name of unit	Total m	Comments
Large Double Extended as shown in (Fig 21)	6.2m	(Large without both 1 + 1.4m extensions = 3.8m)
Standard Extended as shown in (Fig 20)	4.5m	(Note standard without 1.4m extension = 2.9m)
Standard Enclosed Sluice	3.1m	
Mini with extension	3.6m	
Mini Clean-up sluice	2.4m	

Researching the commercially built high bankers is easy, however it is estimated that over 50% are homemade or modified from original.

NAPFA's research shows that the average size available of commercial units using the total of the 3 measurements is 3.56m, with the 75th percentile is 4.08m and the 90th percentile is 4.4m. The sizes include very small concentrate sluices that are only used for clean-up up of concentrates from panning, sluicing or other high bankers and are too small to accept raw material.

Discussion of Regulation Changes

With size limits being put on equipment to ease the concern of “semi-industrious”, and with hose restrictions preventing dredging; allowing pumps to be used for high banking is relatively easy to implement and to regulate.

It would also be pertinent to lift the undue restrictions on other mechanised equipment due to the word “processing” in the Regulation.

The intention of the “processing” restriction was most likely aimed at dredging (by stopping pumps) and bulk processing of in situ or bulk materials stockpiled from past mining. This reason possibly saw the 48hr timeframe, volume disturbed restriction of 1m³, and weight limits of material removed imposed in the 2010 Regulation, although we cannot confirm this.

Preventing equipment being used for dredging and resolving size limits to address “semi-industrious” concerns allows the word “processing” to be safely removed from the regulations. This would permit use of modern minor equipment and innovation. This is pertinent as there have not been any negative issues relating to dredging or small scale equipment that we are aware of in recent decades.

The removal of the word “processing” from the Mining Regulation 2016 Clause 12 (2)(c) i.e. the regulation currently in force, is the simplest way to solve the issue of pumping water to sluice boxes and high bankers. It would also allow other small equipment such as gold wheels and mini dry sluices to be operated, and would allow all activity to be conducted away from the flowing water course, improving safety and reducing environmental impacts.

“Processing” is not actually defined in the regulation, however in other areas it refers to “treatment of ore for the liberation, concentration and recovery of minerals by commercially viable plant”. It is not intended to refer to sampling, prospecting or recreational activity.

NAPFA’s concern is that current regulations are an unreasonably restrictive on innovation and invention. This is a large part of fossicking as a recreational activity where people modify and “play with their toys”. The current restriction prohibiting the use of very small electric motors in the age of solar power is unduly severe.

Australian fossickers have created a number of inventions over time that have gone on to be world renown. As a state and as a nation, we should be encouraging tinkering and innovation right across the community, including amongst fossickers.

Currently a metal detector is a ‘machine’ and the Regulation has to specify that it is allowable. However, a range of other small machines are given a blanket ban under the current regulation.

A 12v electric gold wheel for example (Fig 23), is not allowed, even though it is silent, and can only process a few kilograms per hour. It is used for final clean-up of concentrate from sluices, high bankers and gold pans, but best of all allows the disabled or those physically unable to gold pan or sluice, to enjoy fossicking to recover gold and gems.



Figure 23. Small electric gold wheel.

Removing the word “Processing” from the Regulations would obviously raise concerns in some quarters that this may then allow too much activity. However, this is negated by the fact that net impact is still regulated by volume disturbed, volume removed, and that excavation and ground disturbance can only be done by using hand held implements.

The Mining Regulation 2016 Clause 12 supports this, where if changed to remove “processing” as below, it still has the above safeguards: “A person must not ... carry out the following activities for the purpose of fossicking: (a) the use of any equipment other than hand-held implements on any land or waters that is subject to native title, ... (c) the use of power-operated equipment for the purpose of surface disturbance, or excavation ~~or processing~~ on any land, ... (f) the removal of more than the prescribed amount of material from any land during any single period of 48 hours, (g) the disturbance of more than 1 cubic metre of any soil, rock or other material during any single period of 48 hours.” The penalty for contravention is up to \$5,500.

NSW currently has the most severe restrictions on fossicking activity compared to other states and territories.

Only NSW has a time limit and a volume limit on ground disturbance.

Only two other states/territories have a weight limit on removal of general material from a site, with WA’s double that of NSW and the NT’s tenfold more.

The only other state/territory restricting valuables removed by weight such as ore, minerals, gems and gold is the NT, with its restrictions ranging from double to tenfold that of NSW across the categories.

Some states/territories allow power operated equipment, provided it is not used for excavation.

If the word “processing” is removed, NAPFA recommend a size restriction, similar to that set on high bankers, to be placed on all other small power operated equipment in the regulations.

This will ensure that they are kept to the sizes expected for recreational activity and avoid any notion of being “semi industrious”.

NAPFA suggest basing this size restriction on the Keene gold wheel which is the largest in size while on legs. Its total dimensions are 0.75m high, 0.75m wide, 0.30m long for a total of 1.8m. (Note that a standard wet/dry vacuum cleaner without hoses is the same size; 1.8m total of the 3 dimensions).

Implementing NAPFA’s recommended changes would relax restrictions on very small equipment and encourage innovation. With additional safeguards the regulation would be better defined, while seeing to it that NSW still has the strictest fossicking regulations in the country.

Recommendations

NAPFA have carefully considered the options to solve the undue restrictions on recreational fossicking activities in NSW. Recommendations in this report have the objective to do this and are considered to be:

- Of net benefit to the State of NSW;
- In the public interest;
- Of no negative impact to the objectives of other stakeholders; and
- Of net benefit to the environment.

NAPFA table the following recommendations for consideration:

1. To amend the Mining Regulations so that the restriction on powered equipment only applies to excavation, land clearing and ground disturbance by the removal of the word “processing” from the Mining Regulation 2016 Clause 12 (2)(c). This will allow the pumping of water to high bankers and sluices, and allow the innovation and operation of other very small equipment such as 12v electric gold wheels.
2. To introduce a requirement for all hoses from pumps to any equipment that are over 40mm in diameter to only be of the lay flat type, and limiting rigid hoses to be 40mm or less in diameter. This prevents pumps being used for dredging, and allows easier identification of the activity type in the field.
3. To define ‘high bankers’ as an allowed activity in the Regulations and introduce a size restriction for high bankers and sluices, to be calculated by the addition of the length, width and height of the operating unit to be less than a total of 4.5m. Equipment up to this size cannot feed more than the Regulated limits, and restricts sizes to be below being seen to be “semi industrious”.
4. With the removal of the word “processing” in (1) above, a size restriction to be placed on all power-operated equipment other than those specified (metal detectors and high bankers) to be calculated by the addition of the length, width and height of the operating unit to be less than a total of 1.8m. This allows other very small scale power-operated equipment to be used in non-ground disturbing activities.
5. To amend the guidelines in the “NSW Fossicking guide” to add further detail on penalties for illegal dredging, and education on best practices for high banking, sluicing and other activities.

Conclusions

Fossicking is a lawful activity.

In practice, it is a very short term and an almost no impact activity, with a very low environmental risk.

It does not need a “heavy hand” in regulation but rather it needs a “fair hand” that sensibly manages the risks and benefits and meets the fair expectations of this sector of the community.

The fact that there have not been any serious issues for decades demonstrates that it is a responsible activity that is to a degree self-regulated.

Implementation of NAPFA’s recommendations would see amendment of the Regulations to allow the use of “high bank” sluices and other powered small scale recreational equipment to recover gold, minerals and gemstones, and not allow them to be used for surface disturbance or excavation.

NAPFA’s recommendations would facilitate the use of current equipment that has not caused any undue impacts, allow future innovation, which is a large part of the recreational fossicking scene, and allow other very short term, almost no impact equipment to be used.

The addition of size restrictions would ensure that all equipment would be purely used for recreational purposes and could only process less material than the regulated volume limits.

NAPFA recommendations add safeguards to the removal of the word “processing” by restricting equipment size to process less than regulated amounts, better define equipment properties making activities easier to regulate in the field, and remove undue restrictions on very small equipment.

The recommendations also further restrict the ability for dredging operations to be conducted using pumps, and make the identification of activities much easier in the field, especially from a distance.

Implementation of these recommendations would allow more people the opportunity to discover the beauty and diversity of this state’s mineral wealth in a more environmentally friendly and safer manner.

We note that the Department’s own corporate plan motto is “Making it Happen”.

That is exactly what NAPFA seeks. We call on the Department and the Minister to examine, understand and support our recommendations.

NAPFA May 2017

References

NAPFA acknowledge the following documents were referred to in compiling this report:

NSW EPA manual on eductor dredging: <http://www.epa.nsw.gov.au/mao/eductordredges.htm>

NAPFA June 2015 Report titled “Problems and restrictions to sluicing activities in NSW and the ACT”

NSW GPSC 3 October 2014 Inquiry into Tourism in Local Communities

NSW DRE Guide to Fossicking in NSW

NSW Resources and Energy ESG2: Environmental Impact Assessment Guidelines March 2012

NSW EPA Instructions for ERAMP V2.0 September 2014

NSW DECCW Proponents Guidelines for the Review of Environmental Factors February 2011

NSW EPA POEO Licence Risk Assessment Tool:

<http://www.epa.nsw.gov.au/licensing/riskassessmenttool.htm>

Legal Fossicking and Prospecting Techniques under NSW Law, Campbell Pardey November 2014

NAPFA Submission to GPSC3 June 2013

NSW Industry and Investment Mining Regulation 2010 Public Outcomes

NAPFA acknowledge the following in particular for their valuable expertise in compiling this report:

NAPFA Committee & members

NAPFA Sluicing Sub Committee

Aussie Sapphire Lapidary Warehouse

Central West Prospecting Supplies

Gold Rat Prospecting Equipment

Miners Den

Sluicy Gold Equipment

Appendix 1 – Dept. Mineral Resources Reply 2004

Page 1 of 2



NSW DEPARTMENT OF
PRIMARY INDUSTRIES

Now incorporating Department of Mineral Resources
ADN 81 73 412 4190-003

14 September 2004

M94/0353

Mr Kevin Virgona
16 / 1 Elamang Avenue
KIRIBILLI NSW 2061

Dear Kevin

Below is an extract of the letter which then Minister for Mineral Resources (The Hon Bob Martin) forwarded on 17 June 1996 to an inquirer about use of equipment for fossicking. This language was based upon advice received from the Department's Mines Inspection Branch.

"The regulations specify that a person must not, in the course of fossicking, use any explosives or power operated equipment. If a fossicker uses a hand feed sluice box, capable of being lifted by a single person, which is not located in a stream and only water and not gravel is pumped to it then my Department would consider such activity as complying with the spirit and intention of the regulations."

I trust this information will be of assistance to you.

Yours faithfully,

Ian Elsholz
for Deputy Director-General, Mineral Resources

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Appendix 2 – Environmental Impact Assessment Guidelines.

The ESG2: Environmental Impact Assessment Guidelines for exploration, mining and petroleum production activities subject to Part 5 of the Environmental Planning and Assessment Act 1979 on page 19 have been used a guide to conduct a risk assessment for prospecting and fossicking activities.

The table is shown below. NAPFA have added the “Negligible” column as prospecting and fossicking fall below the Low adverse category at every level, where basic low impact exploration activities fall into higher impact activity categories.

Analysis of impact	Negligible	Low adverse	High adverse
Size	Tiny 1m ³	Small scale size/volume	Large scale/volume
Scope	Very Localised	Localised	Extensive
Intensity	Very small impact dispersed over a vey short period	Small impact dispersed over a long period	Large impact over a short or long period
Duration	Very Short Term 48 hr	Short term	Long term
Level of confidence in predicting impacts	Very high confidence/knowledge and past experience	High confidence/knowledge and past experience	Low confidence, numerous uncertainties and unknowns
Level of reversibility of impacts	Impacts are reversible and rehabilitation would be successful	Impacts are reversible and rehabilitation likely to be successful	Reversibility impossible or unlikely due to cost or other factors
Ability to manage or mitigate the impacts	Very effective mitigation measures available	Effective mitigation measures available	Mitigation measures untested or unavailable
Ability of the impacts to comply with standards, plans or policies	Total compliance	Total compliance	Uncertain or part compliance
Level of public interest	Very Low interest and negligible impacts on community	Low interest and predictable impacts on community	High interest and uncertain impacts on community
Requirement for further information on the impacts of the activity or mitigation	Very High level of understanding and information on the impact	High level of understanding and information on all impacts	Low level of information on and understanding of key issues

Appendix 3 – High banker sizes.

Common commercially made High banker sizes available in NSW. Note that overseas models are rare due to the cost of shipping, but are copied somewhat by DIY fossickers and small backyard producers.

Model	Country	L	W	H	Total
Gold Hog Mini	USA	1	0.4	1	2.4
Angus MacKirk	USA	1	0.5	1	2.5
HB1240 Gold Sluice	Australia	1.3	0.5	0.9	2.7
Gold Eagle 12	Canada	1.2	0.3	1.2	2.7
Sluicy mod 20	Australia	1.2	0.5	1.2	2.9
Gold rat	Australia	1.3	0.4	1.2	2.9
Gympie Standard	Australia	1.6	0.4	1.2	3.2
Gold Hog Mini Ext	USA	2.1	0.4	1	3.5
Gympie Large	Australia	2.4	0.5	0.8	3.7
Johnson	Australia	1.8	0.65	1.6	4.05
Sluicy mod 20 ext	Australia	2.4	0.5	1.2	4.1
Super Hog	USA	2.1	0.5	1.7	4.3
Super Hog Flare	USA	2.1	0.7	1.7	4.5
Super Hog Flare Ext	USA	4	0.7	1.7	6.4
	Average	1.82	0.5	1.24	3.56

Only Australian commercially made sizes available in NSW.

Model	Country	L	W	H	Total
HB1240 Gold Sluice	Australia	1.3	0.5	0.9	2.7
Sluicy mod 20	Australia	1.2	0.5	1.2	2.9
Gold rat	Australia	1.3	0.4	1.2	2.9
Gympie Standard	Australia	1.6	0.4	1.2	3.2
Gympie Large	Australia	2.4	0.5	0.8	3.7
Johnson	Australia	1.8	0.65	1.6	4.05
Sluicy mod 20 ext	Australia	2.4	0.5	1.2	4.1
	Average	1.71	0.5	1.16	3.36

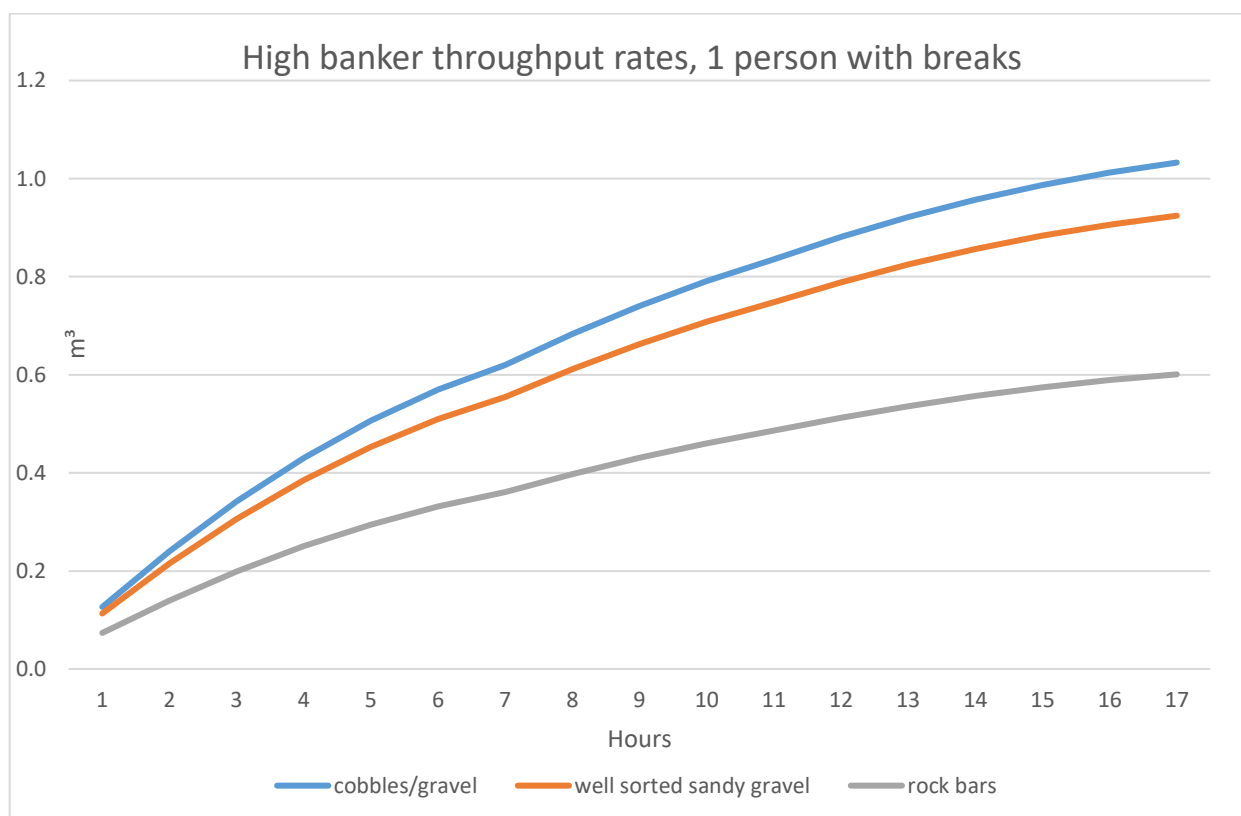
Note that DIY made units usually have larger legs and fittings having a slightly larger overall size, but have the same tray sizes.

Appendix 4 – High banker rates.

NAPFA investigated rates of feed to high bankers. Feedback from fossickers saw most take at least two rest breaks (0.5hr ea), lunch (0.75hr) and two clean-ups (1.5hr) allowing 5 to 6 hours feeding the equipment for a full day's work.

Only in ideal conditions such as in (Figs 12 & 13) can you maintain this by continuous shovelling. Usually you need to move large rocks, work around rock bars and clean out gold traps and crevices.

The chart below shows ideal conditions for the cobbles and gravels using a large high banker such as in (Figs 12 & 13). The well sorted sandy gravel data is based upon feeding the high banker at the correct rate, and in average conditions, as in work around rock bars.



These rates have been compiled from testing rates of shovelling and confirmed by NAPFA members to be accurate.

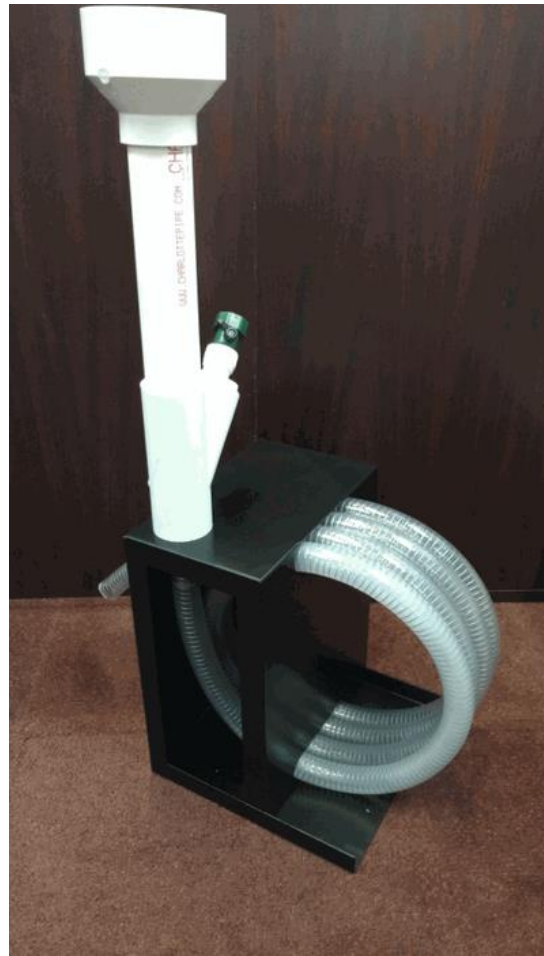
Appendix 5 – Other mechanised equipment.

Gold wheels. Mostly used to process concentrates from sluices, high bankers and panning. It is difficult to remove fine gold from heavy black sands, and these give a god recovery on very fine gold. They are all powered by 12v.

However, the version below can be used the same as a gold pan. It is particularly good for the elderly and inexperienced as it removes the back breaking work of panning, and can be operated away from the running water in a tub of water. They are much slower than panning but have a better recovery. Examples are shown below.



Mini concentrators. These are hand fed and powered by a very small 12v electric pump. They stand up to 0.6m high and are used to remove gold from black sands. There are many homemade variants.



Appendix 6 – NAPFA Sluicing Report 2015.

In June 2015 NAPFA submitted this report titled “Problems and restrictions to Sluicing activities in NSW and the ACT” to the DRE.

The reports investigated the problems and restrictions faced by fossickers wishing to sluice in NSW and the ACT, and how over time, rights had been lost and severe restrictions emerged due to legislative changes.

The report conclusions were as follows:

The importance of minerals to our society is critical as our way of life depends upon what comes out of the ground. Almost every manufactured product has elements from mining, and our society as a whole needs to support the skills and mind-sets that encourage people willing to have a go – be they weekend recreational fossickers, professional prospectors or large mining ventures.

Fossicking rights have been squeezed and whittled down over the decades by over regulation and lack of consideration, so that it is now in the worst actual shape than it has ever been. This is a great pity for an activity that sparked the 1850s gold rushes and has been enjoyed by many generations since that time.

It is time to re-focus and re-discover the value of our fossicking heritage and for government to get serious about the future of fossicking and prospecting in NSW. This means the activity needs policy and regulation support to make it easier rather than harder.

If Government can successfully support recreational fossicking it will generate optimism and respect for the law and set NSW apart as a leader. Tens of thousands of NSW citizens enjoy this activity and would welcome more responsive policy.

Changes will encourage more people to participate in a healthy outdoor recreational activity. Grey nomad tourists from all over Australia will be setting their GPS units for Destination NSW if the welcome mat can be freshened up.

As said by Lang Hancock “Long live the prospector, as without prospecting we will return to the Stone Age”.

A full copy of the report can be found at:

<http://www.napfa.net/upload/NAPFA%20Sluicing%20Final%20Report%201.2.pdf>