

Cutblock 883256 (Lot 450) Inspection Powell River

- Island TimberLands-



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Cutblock 883256 Inspection

Inspection # IN-1501

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Prepared for:

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1. Introduction

This report summarizes the results of an inspection of Island Timberlands cutblock 883256 located in Powell River (Figure 1). The purpose of this inspection was to evaluate the activities on cutblock 883256 in response to a letter dated May 14, 2015 from McMillan LLP (law firm) to the Managed Forest Council (MFC). McMillan, as counsel for the Pebble in the Pond Environmental Society, states that the Society is very concerned that any logging be conducted in accordance with applicable laws and regulations for protection of the environment and that "riparian values and fish habitat are also being unlawfully impacted".

The site was visited on June 15, 2015 by Wayne French (Island Timberlands) and Shawn Hamilton on behalf of the MFC.

This inspection was conducted at the request of Phil O'Conner, Executive Director of the MFC. The purpose of the inspection was to complete an onsite review of Island Timberlands 2015 development of Lot 450 (MF # 19) with a focus on:

1. the appropriate classification of the three creeks within Lot 450 (Wys, McFall, McGuffie Creeks) in accordance with the Private Managed Forest Land Council Regulation (PMFLCR);
2. the appropriate application of regulatory standards for working in proximity to Wys, McFall and, McGuffie Creeks as defined in the PMFLCR;
3. Island Timberlands activities to acceptable industry standards while working in proximity to Wys, McFall and McGuffie Creeks; and
4. Wys, McFall, and McGuffie Creeks and the claim by the Pebble in the Pond Environmental Society that "riparian values and fish habitat are also being unlawfully impacted, and our client has been advised by members of the local community that logging equipment has been crossing through streams without sufficient safeguards for water quality and fish habitat during harvesting.

2. General Site Description

The cutblock is located approximately two kilometers north of Powell River (Figure 1). Three streams flow through the cutblock in a southerly direction. McGuffie Creek is located in the southeastern portion of the cutblock, McFall Creek is centrally located, and Wys Creek is in the northwestern portion of the cutblock. Figure 2 is a Google Earth image of the cutblock showing the approximate locations of these three streams.



Figure 1 Google Earth image showing the location of Cutblock 883256 (yellow polygon) in relation to Powell River.

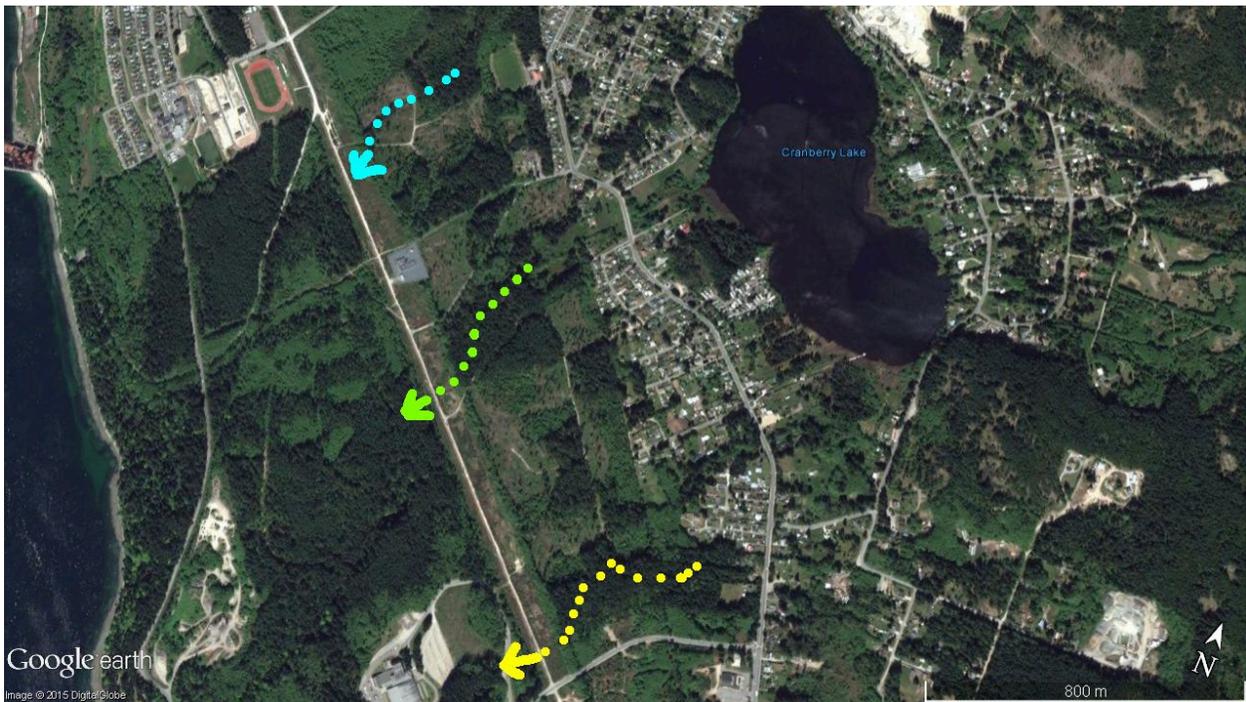


Figure 2 Google Earth image of Cutblock 883256 showing the approximate locations of McGuffie Creek (yellow dotted line), McFall Creek (green dotted line), and Wys Creek (blue dotted line).

3. Fisheries Resource

The Ministry of Environment Fish Inventories Data Queries (FIDQ) database has no fish inventory information for the three streams within the cutblock. However, fish (salmonid species) were observed in both McGuffie and McFall Creeks on June 15th.

Fishfor Contracting conducted a stream classification inventory on Wys Creek in 2004 (Fishfor, 2005). Fishfor did not capture fish in Wys Creek upstream of the highway during extensive fish sampling. Based on the fish sampling results, channel gradients, and habitat quality, Fishfor's professional biologist classified Wys Creek as non fish-bearing upstream of the highway (the highway is well downstream of cutblock 883256). Wys Creek is therefore considered a non-fish bearing stream within cutblock 883256.

4. Results of June 15, 2015 Site Inspection

1.1 Stream Classification

The classifications of the three streams was reviewed in the field. McGuffie Creek is identified as a Class C stream on Island Timberland's Logging Plan map. A Class C stream is a fish stream that has a channel width greater than 1.5 m but less than 3.0 m. Juvenile salmonids, possibly trout, were observed at waypoint 564 (photo 1) confirming the presence of fish. The stream channel width was measured at six locations at waypoint 564 (Figure 3) and the average channel width was 2.1 m. Class C is therefore the correct classification.



Photo 1 McGuffie Creek at waypoint 564. Average channel width is 2.1 m.



Figure 3 Google Earth image of the portion of cutblock 883256 with McGuffie Creek (yellow dotted line). The Creek was inspected at waypoint 564.

McFall Creek is identified as a Class B stream on Island Timberland's Logging Plan map. A Class B stream is a fish stream that has a channel width greater than 3.0 m but less than 10.0 m. Numerous coho salmon juveniles were observed at waypoints 565 and 567 (Figure 4) confirming that this watercourse is fish bearing. The stream channel width was measured at six locations at waypoint 565 (Figure 3) and at three locations at waypoint 567. The average channel widths at waypoints 565 and 567 were 2.5 m. (photo 2) and 3.3 m. (photo 3) respectively. Class B is therefore the correct classification.

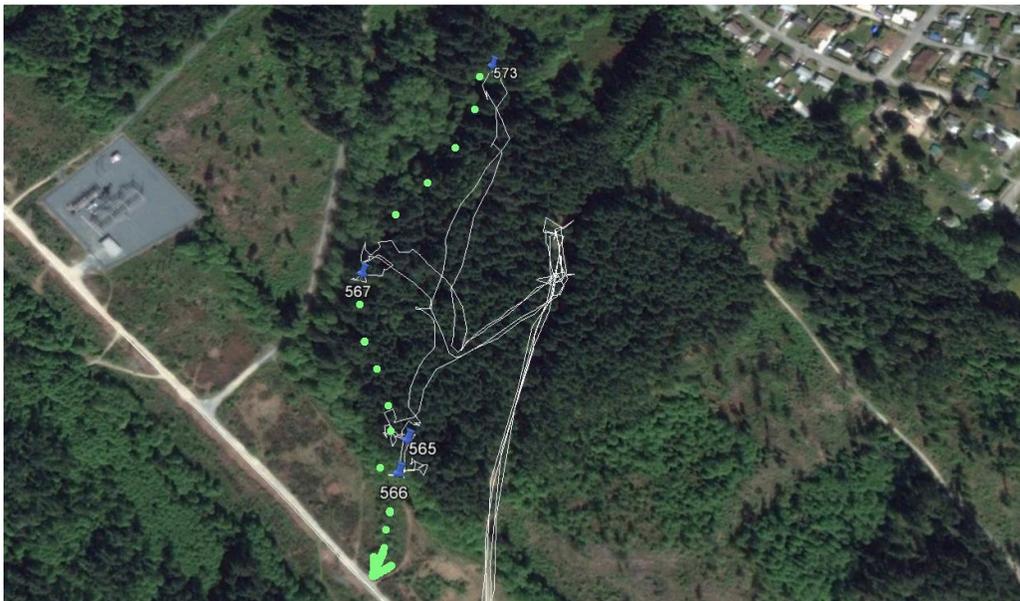


Figure 4 Google Earth image of the portion of cutblock 883256 with McFall Creek (green dotted line). The Creek was inspected at waypoints 565, 567 and 573 (wheel ruts).



Photo 2 McFall Creek at waypoint 565. Average channel width is 2.5 m.



Photo 3 McFall Creek at waypoint 567. Average channel width is 3.3 m.

Wys Creek is identified as both a Class E (lower section within cutblock) and a non-classified drainage (NCD) on Island Timberland's Logging Plan map. A NCD drainage is not defined in the Private Managed Forest Land Council Regulation (PMFLCR) (B.C. Reg. 182/207). However, the term is used by BC's forest industry operating on Crown Land to refer to watercourses that do not meet the definition of a stream (i.e. lacks a defined channel with stream banks and therefore has no channel width). Wys Creek was inspected at two locations at waypoints 569, and 572 (Figure 5).

Wys Creek at waypoint 569 is identified as Class E and as a NCD at waypoint 572 on the Logging Plan Map. Wys Creek had no defined channel at waypoint 569 (photo 4) so a stream Class E designation is

conservative, at least for this location, and could have been classified as an NCD. Wys Creek at waypoint 572 (photo 5) also lacked a continuously defined channel and meets the definition of a NCD. Wys Creek at the first crossing (waypoint 568) had an average channel width of less than 1.5 m so is technically not Class E (Class E stream is wider than 1.5 m). It is concluded that the classifications of Class E and NCD for the portion of Wys Creek within active (2015) forest harvesting areas and at the first road crossing are appropriate and may be conservative.

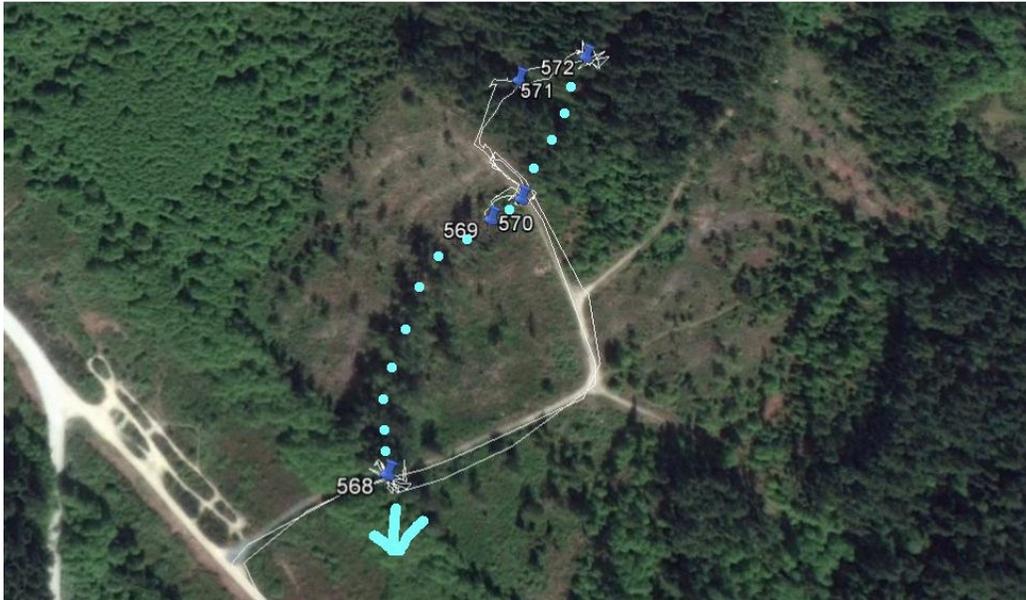


Figure 5 Google Earth image of the portion of cutblock 883256 with Wys Creek (blue dotted line). The Creek was inspected at waypoints 568 (new culvert), 569, 570 (old culvert), and 572.



Photo 4 Wys Creek at waypoint 569. No scoured channel visible.

The term NC for "no class" is referred to in the MFC's Field Practices Guide (2015). The use of NC instead of NCD would be more consistent with the MFC Field Guide. The use of the term NC, however, is not required by regulation.



Photo 5 Wys Creek at waypoint 572. No defined channel visible.

1.2 Application of Regulatory Standards and Acceptable Industry Standards

Division 3 of the PMFLCR contains sections 15 to 30 which are designed to protect water quality and fish habitat. These are discussed below:

1.2.1 Section 15 - Sediment Transport or Deposition

Section 15 states that primary forestry activities must not cause sediment, or other material to be transported to, or deposited in a stream such that there is a material adverse effect on fish habitat or water quality.

There was no evidence of sediment transport, or a deposit of other material to either McGuffie or McFall Creeks observed on June 15, 2015. The Logging Plan Map identifies a machine crossing of wet ground between FC93 and FC94 and specifies the use of puncheon (laying logs on ground) to minimize ground disturbance. This site was visited on June 15, 2015 (waypoint 571; Figure 5). The puncheon had been removed and minimal disturbance (skunk cabbage still present) of the wet ground was observed (photo 6). There was no evidence of, or potential for, sediment transport to Wys Creek.



Photo 6 Wet ground machine crossing near waypoint 571. Puncheon removed with minimal ground disturbance (skunk cabbage still present).

1.2.2 Section 16 - Roads Adjacent to Streams

Section 16 states that roads (except at stream crossings) must not be constructed within 30 m of a Class B stream, or within 10 m of Class C to E streams. Forestry roads within the cutblock were not within 30 m of McFall Creek or 10 m of McGuffie or Wys Creeks.

1.2.3 Section 17 - Stream Crossings

Section 17 states that streams must be crossed in a manner that protects the stream channel and stream banks immediately upstream and downstream of the road, and mitigates disturbance to the stream at the crossing to the extent necessary to avoid a material adverse effect.

McGuffie and McFall Creeks are not crossed by roads within cutblock 883256. Wys Creek is crossed twice by the cutblock access road (Figure 5). The first crossing (waypoint 568) was a recently installed corrugated metal pipe (CMP). This culvert had been installed in a manner that protects the stream channel and banks upstream and downstream of the crossing and there was no evidence of a material adverse effect to downstream fish habitat.

However, the culvert at waypoint 568 was significantly crushed approximately 2 m upstream of the culvert outlet during installation (photo 7) and the hydraulic capacity of this culvert has been significantly reduced. The culvert is now susceptible to being plugged with debris during high stream flows. It is therefore recommended that this culvert be replaced.



Photo 7Wys Creek culvert at waypoint 568. Hydraulic capacity significantly reduced and susceptible to plugging with debris.

There is also a CMP located at the crossing at waypoint 570. This culvert was installed years ago (date unknown). The outlet of this culvert has been partially damaged. Since Island Timberlands plans to remove this culvert upon completion of harvesting, replacement is not recommended. However, if road access at this location is required for several years then culvert repair/replacement should be considered.

1.2.4 Section 18 - Natural Surface Drainage Patterns

Section 18 requires that a material adverse effect be avoided by maintaining natural drainage patterns at roads and logging trails. There was no evidence of alteration of natural drainage patterns observed on June 15, 2015.

1.2.5 Section 19 - Measures Respecting Exposed Soils

Section 19 requires that when soils are exposed outside of the road running surface during road construction or deactivation measures to materially reduce surface erosion must be undertaken if there is potential for a material adverse effect to occur. No exposed soils that had the potential to cause a material adverse effect to fish habitat were observed on June 15, 2015.

1.2.6 Section 20 - Protecting Licensed Waterworks Intakes (LWI)

Section 20 is not applicable since there are no LWI downstream of the cutblock.

1.2.7 Section 21 - Road Maintenance

Section 21 requires that roads and road drainage be maintained to the extent necessary to avoid a material adverse effect on fish habitat or on water diverted by a LWI. Roads were inspected on June 15, 2015 and there was no evidence that the road system would result in a material adverse effect as a result of a road maintenance issue. However, as stated in Section 1.2.3 of this report, it is recommended that the culvert at waypoint 568 be replaced.

1.2.8 Section 22 - Road Deactivation

Section 22 is not applicable until such time that the roads within the cutblock are no longer required or maintained.

1.2.9 Section 23 - Roads Located Upstream of a Licensed Waterworks Intakes (LWI)

Section 23 is not applicable since there are no LWI downstream of the cutblock.

1.2.10 Section 24 - Management of Fertilizer Near Streams

The application of fertilizer was not discussed during the June 15 inspection. If it was to occur, the application of fertilizer would have to be monitored during application, or very shortly afterwards, in order to determine compliance with Section 24.

1.2.11 Section 25 - Water Quality Problems Identified by a Holder of a Licence for a LWI

Section 23 is not applicable since there are no LWI downstream of the cutblock.

1.2.12 Section 26 - Notification of Landslides and Debris Flows

Section 26 is not applicable since there are no landslides or debris flows that have occurred.

1.2.13 Sections 27 to 30 - Tree Retention Adjacent to Streams

The PMFLCR specifies minimum requirements for riparian tree retention adjacent to Class A to C streams (see Table 1) and the retention of non-commercial and understory vegetation within 30 m of Class A and B streams and within 10 m of Class C to E stream. However, the PMFLCR states that the retention of non-commercial and understory vegetation is not required if retention would prevent reforestation, be required for road or logging trails, or removal will not cause a material adverse effect on fish habitat or on water that is diverted by a licensed water intake.

Table 1 Summary of PMFLCR stream class and requirement for large tree retention.

Stream Class	Average Channel Width (m)	Fish Bearing and/or Diverted by LWI*	Requirement to Retain Large Riparian Trees
A	≥ 10	Yes	Yes: 30 per 100m
B	≥ 3 to < 10	Yes	Yes: 25 per 100m
C	≥ 1.5 to < 3	Yes	Yes: 15 per 100m
D	< 1.5	Yes	No
E	≥ 1.5 and is a direct tributary to a class A, B, C, or D stream	No	No
NC	All other streams	No	No

* Stream reach must be upstream of a LWI and within a 1,000 m radius.

Riparian management adjacent to McGuffie Creek could not be assessed on June 15, 2015 since the area adjacent to this stream had not been harvested. However, the distance between the flagged falling

boundary and the stream was measured in the field and was 19 m. Island Timberlands plans to clear cut to the falling boundary and take select trees from the area between the falling boundary and the creek. This select tree removal will be done under the supervision of a forestry professional.

Riparian retention adjacent to McFall Creek could only be partially assessed since most of the area adjacent to this Creek had not been harvested as of June 15. Since a portion of the cutblock adjacent to McFall Creek had been harvested near FC30, a count of retained trees within the 10 m riparian zone adjacent to the creek was done at this location. Retained trees within 10 m of the stream that had diameters (dbh) greater than 30 cm were counted for a distance of 39 m (photo 8). The tree count was 30 trees in 39 m. Based on this initial count, riparian tree retention at this location significantly exceeds the PMFLCR minimum requirement of 25 trees per 100 m. However, as with McGuffie Creek, a final assessment of riparian management cannot be done until after forest harvesting has been completed.

Since Wys Creek is classified as a NC (NCD) watercourse, no streamside tree or understory vegetation retention is required by the PMFLCR. In spite of this, some large trees were retained adjacent to this watercourse. It's possible that some of these trees might be removed when harvesting re-commences. Regardless, even if all trees are removed at a future date this would not be inconsistent with the PMFLCR. Some non-merch and the understory vegetation was retained within 10 m of the Wys Creek at waypoints 569 and 572. It is concluded that forest harvesting adjacent to Wys Creek as of June 15, 2015 was consistent with the PMFLCR. Again, a final assessment after forest harvesting is completed would be necessary to conduct a post-harvest review.



Photo 8 Looking at the riparian area adjacent to McFall Creek. 30 large trees retained in a 39m long section of McFall Creek. Blue arrow shows the approximate location of the creek which is flowing roughly parallel to a recreational trail (trail is in the lower left corner of image).

Although it is not possible to thoroughly assess riparian tree retention adjacent to the three streams within the cutblock, there is no reason to believe that the riparian areas will be managed in a manner that is inconsistent with the PMFLCR. This conclusion is conditional on the locations of the falling boundaries remaining in place and Island Timberlands select harvesting between the falling boundaries and creeks such that at least the minimum number of large trees are retained.

1.3 Logging Equipment Crossing Streams

Concern was raised by the Pebble in the Pond Society that logging equipment had been crossing through streams without sufficient safeguards for water quality and fish habitat during harvesting. An undated document from the Pebble in the Pond Society included an image of wheel tracks through a stream.

The location of the wheel tracks through the stream was found on McFall Creek at waypoint 573 (Figure 4). The distance between these wheel tracks was measured at 90 cm (photo 9) indicating the rutting was due to a small vehicle such as a quad. This crossing is also well outside of the forest harvesting that had occurred as of June 15, 2015. The crossing at waypoint 573 is located on a recreation trail that could not be accessed by logging equipment without the clearing of vegetation to widen the trail.

A second trail crossing was found on McFall Creek near waypoint 567 (photo 10). This crossing is also located on a recreational trail and is likely crossed with quads on occasion. There was no evidence that McFall Creek, or either McGuffie or Wys Creeks, had been crossed by logging equipment.

It is concluded that none of the streams within the cutblock have been crossed by logging equipment and that the wheel ruts observed at waypoint 573 are the result of recreational quad activity.



Photo 9 McFall Creek at recreational trail at waypoint 573. Wheel ruts caused by quads (90 cm between ruts).



Photo 10 McFall Creek at recreational trail at waypoint 567. Numerous juvenile coho observed at this location.

1.4 UTM Coordinates for Waypoints

Table 2 provides easting and northing UTM coordinates recorded on June 15, 2015, as well as a brief description of location.

Table 2 UTM Coordinates from handheld GPS unit - June 15, 2015.

Waypoint	UTM Coordinates	Location
563	10 U 390964 5523726	McGuffie Creek - falling boundary
564	10 U 390970 5523707	McGuffie Creek - stream widths
565	10 U 390260 5524133	McFall Creek - stream widths
566	10 U 390254 5524107	McFall Creek - riparian inspection
567	10 U 390220 5524274	McFall Creek - stream widths, trail crossing
568	10 U 389752 5524638	Wys Creek - culvert (crushed)
569	10 U 389810 5524791	Wys Creek - NCD determination
570	10 U 389828 5524805	Wys Creek - culvert (old)
571	10 U 389826 5524887	Wys Creek - puncheon removed
572	10 U 389869 5524903	Wys Creek - NCD determination
573	10 U 390328 5524475	McFall Creek - riparian inspection

5. References

FishFor Contracting Limited, 2005. Stream classification in accordance with Island Timberlands Limited Partnership Private Forest Land Management, Block PR10. Coast Operations – Mainland. 9 pages.

6. Statement of Limitations

This report was prepared for the Managed Forest Council. The material in this report reflects Shawn Hamilton and Associates best judgment in light of the information available to us at the time of preparing this report. Conclusions and recommendations in this report are based on an analysis of the best available information and professional judgement that is subject to a degree of scientific uncertainty, and therefore cannot be used as absolute fact. Shawn Hamilton and Associates has made the findings and conclusions set out in this report in a manner consistent with the level of care and skill normally exercised by members of the environmental science profession practicing under similar conditions at the time the work was performed.

The report author believes this report to be accurate. However, he cannot guarantee the completeness or accuracy of information supplied to him. Any use which a third party, other than the parties mentioned above, makes of this report, or any reliance on, or decisions to be made based on it, are the responsibility of such third parties. The author accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken.

I certify that the work described herein fulfils standards acceptable of a Professional Biologist.

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