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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 13/229,530	Applicant(s) WHITWORTH ET AL.	
	Examiner JAN P. MINCARELLI	Art Unit 3689	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10/1/2013*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *21-30; 32-38; and 40* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☐ Claim(s) _____ is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

Status of Claims

1. In view of the appeal brief filed on October 1, 2013, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/JANICE MOONEYHAM/

Supervisory Patent Examiner, Art Unit 3689

2. This action is in reply to the appeal brief filed on October 1, 2013.

3. Claims 21-30, 32-38, and 40 are currently pending and have been examined.

4. Applicant's Remarks/Arguments are addressed at the end of this office action.

Claim Rejections - 35 USC § 112

5. The following is a quotation of 35 U.S.C. § 112(a):

(a) IN GENERAL.—The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.

The following is a quotation of 35 U.S.C. § 112 (pre-AIA), first paragraph:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 21-30, 32-38, and 40 are rejected under 35 U.S.C. § 112(a) or 35 U.S.C. § 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement. The claims contain subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor or a joint inventor, or for pre-AIA the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, the written description fails to reasonably convey how the invention generates a plurality of ecological restoration credits based on a project certification and a credit definition.

Applicants' recited limitation in the independent claims (i.e., Claims 21 and 33) of "generate a plurality of ecological restoration credits based on the receiving of the project certification and the credit definition" amounts to claiming the **genus** of generating or

quantifying any and all **ecological restoration/watershed credits**. Applicants **fail to adequately disclose**, however, **a sufficient number of species** to demonstrate possession of the genus of generating or quantifying any and all ecological restoration/watershed credits. Ultimately, Applicants fail to disclose how these credits are calculated, which is a problem under the written description requirement of § 112(a).

As the courts have made clear, 35 U.S.C. § 112(a) contains a written description requirement that is separate and distinct from the enablement requirement. *See AriadPharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1340 (Fed. Cir. 2010) (en banc) (hereinafter "*Ariad*"). To satisfy the written description requirement, the specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention. *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1562-63 (Fed. Cir. 1991). Specifically, the specification must describe the claimed invention in a manner understandable to a person of ordinary skill in the art and show that the inventor actually invented the claimed invention. *Vas-Cath*, 935 F.2d at 1562-63; *Ariad*, 598 F.3d at 1351.

Applying the above legal principles to the facts of the case at hand, Examiner concludes that the Applicants' disclosure fails to sufficiently disclose possession at the time of the invention. Given that the concept of generating ecological restoration credits (e.g., for a watershed) is at the core of the invention, the fact that little in the way of specifics about how the credits are generated or calculated (e.g., the formula or algorithm that calculates the amount of credits) demonstrates that the Applicants have failed to reasonably convey

possession at the time of the invention. Applicants' specification does not demonstrate a generic invention that achieves the claimed result because there is inadequate disclosure of species (e.g., different formulas, calculations, algorithms, or working examples that demonstrate calculating or generating the ecological restoration credits, or even different types of watershed restoration credits, such as TMDL pollutant differential credits or wetland mitigation credits). As the Federal Circuit has stated in *Ariad*:

> a generic claim may define the boundaries of a vast genus of chemical compounds, and yet the question may still remain whether the specification, including original claim language, demonstrates that the applicant has invented the species sufficient to support a claim to a genus. **The problem is especially acute with genus claims that use functional language to define the boundaries of a claimed genus.** In such a case, the functional claim may simply claim a desired result, and may do so without describing species that achieve that result. But **the specification must demonstrate that the applicant has made a generic invention that achieves the claimed result and do so by showing that the applicant has invented species sufficient to support a claim to the functionally-defined genus**.

Ariad, 598 F.3d at 1349 (emphasis added). While *Ariad* relates to chemical compounds, the legal principles are the same. The MPEP additionally states that:

> The written description requirement for a claimed genus may be satisfied through **sufficient description of a representative number of species** by actual reduction to practice (see i)(A), above), reduction to drawings (see i)(B), above), or by disclosure of relevant, identifying characteristics, i.e., structure or other physical and/or chemical properties, by functional characteristics coupled with a known or disclosed correlation between function and structure, or by a combination of such identifying characteristics, sufficient to show the applicant was in possession of the claimed genus (see i)(C), above). See *Eli Lilly*, 119 F.3d at 1568, 43 USPQ2d at 1406.

MPEP § 2163(II)(A)(3)(a)(ii). By not providing a sufficient description of a representative number of species of how its invention generates ecological restoration projects, Applicants

have failed to provide disclosure, and, therefore, possession, of any species of the genus of ecological restoration credits.

While it is true that Applicants' specification does disclose that each action of a project "may be associated with a certain number of credits based on any number of factors," which "could include" a few listed factors (see specification ¶ 80), these examples are not a "sufficient description of a representative number of species." Essentially, Applicants' specification discusses generating ecological restoration credits only in paragraph 80 of the specification, and fails to provide sufficient specificity about how such an algorithm may work to generate the appropriate number of credits. Given that this is the key step of the independent claims of the invention, such lack of specificity demonstrates a lack of possession of the invention at the time of filing and thus must be rejected under § 112(a). Because Claims 22-30, 32-38, and 40 depend from Claims 21 and 33, they are also rejected under § 112(a).

Claim Rejections - 35 USC § 101

7. 35 U.S.C. § 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. **Claims 21-30 and 32 are rejected** under 35 U.S.C. § 101 because the claimed inventions are directed to non-statutory subject matter. Independent Claim 21 recites a computer readable medium. The United States Patent and Trademark Office (USPTO) is obliged to give claims their broadest reasonable interpretation consistent with the specification during

proceedings before the USPTO. *See In re Zletz*, 893 F.2d 319 (Fed. Cir. 1989) (during patent examination the pending claims must be interpreted as broadly as their terms reasonably allow). The broadest reasonable interpretation of a claim drawn to a computer readable medium (also called computer readable storage medium or machine readable medium and other such variations) typically *covers* forms of *non-transitory* tangible media and *transitory* propagating signals per se in view of the ordinary and customary meaning of computer readable media, *particularly when the specification is open-ended. See* MPEP § 2111.01. When the broadest reasonable interpretation of a claim covers a signal *per se*, the claim must be rejected under 35 U.S.C. § 101 as covering non-statutory subject matter. *See In re Nuijten*, 500 F.3d 1346, 1356-57 (Fed. Cir. 2007) (transitory embodiments are not directed to statutory subject matter) and *Interim Examination Instructions for Evaluating Subject Matter Eligibility Under 35 U.S.C. §101*, Aug. 24, 2009; p. 2.

The USPTO recognizes that applicants may have claims directed to computer readable media that cover signals per se, which the USPTO must reject under 35 U.S.C. § 101 as covering both non-statutory subject matter and statutory subject matter. In an effort to assist the patent community in overcoming a rejection or potential rejection under 35 U.S.C. § 101 in this situation, the USPTO suggests the following approach: a claim drawn to such a computer readable medium that covers both transitory and non-transitory embodiments may be amended to narrow the claim to cover only statutory embodiments to avoid a rejection under 35 U.S.C. § 101 by **adding the limitation "non-transitory" to the claim.** *Cf. Animals - Patentability, 1077 Off. Gaz. Pat. Office* 24 (April 21, 1987) (suggesting that applicants add the

limitation "non-human" to a claim covering a multi-cellular organism to avoid a rejection under 35 U.S.C. § 101). Such an amendment would typically not raise the issue of new matter, even when the specification is silent because the broadest reasonable interpretation relies on the ordinary and customary meaning that includes signals per se. The limited situations in which such an amendment could raise issues of new matter occur, for example, when the specification does not support a non-transitory embodiment because a signal *per se* is the only viable embodiment such that the amended claim is impermissibly broadened beyond the supporting disclosure. *See, e.g., Gentry Gallery, Inc. v. Berkline Corp.*, 134 F.3d 1473 (Fed. Cir. 1998). Appropriate correction is required.

Claim Rejections - 35 USC § 103

9. The following is a quotation of pre-AIA 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. **Claims 21-23, 25, 27-30, 32-35, 37-38, and 40 are rejected** under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Patwardhan et al. (2005/0103720, hereinafter "Patwardhan") in view of O'Neill (2007/0204800). Patwardhan relates to analysis of pollutant loading in a watershed and accounting for best management practices implemented as controls

to calculate trading ratios. O'Neill relates to assessing habitat value, such as proposed enhancement activities to a site.

Claims 21 and 33. *One or more computer readable media having instructions that, when executed, cause a restoration server to:*

Examiner notes that Claims 21 and 33 relate to a computer readable media and a system with a database and processor, respectively. Because the claims are identical in all other aspects, they shall be addressed together for the purpose of brevity. Patwardhan discloses a computer system that performs a computer-implemented method (see at least independent method claims 1, 11, 30, 42, and 51 disclosing a method performed by a computer system; see also title and ¶ 19 disclosing a method and system. Regarding a "restoration server" and a processor, Patwardhan fails to expressly disclose a server or a processor; nevertheless, Examiner asserts that such components are inherent in the disclosure of Patwardhan's invention of a computer that performs method steps or, at the very least, obvious to one of ordinary skill in the art because one of ordinary skill in the art appreciates that computing systems that perform functional methods require a processor and often require a server. Regarding Claim 33's limitation of a *project database configured to store project information related to a watershed restoration project[] including one or more restoration actions*, Patwardhan discloses such a limitation, see, e.g., ¶ 100 and Figure 10 disclosing database 1006 that stores geographical information and "other information describing BMPs;" "BMPs" are best management practices such as actions that can include watershed restoration actions or controls to reduce pollutants in a watershed (see, e.g., Patwardhan ¶ 19); see also ¶

21 disclosing a database that describes river basins (i.e., watersheds) and can be used to analyze the effects of "controls" (i.e., potential watershed restoration projects); see also ¶ 27 disclosing GIS databases that describe the river basins/watersheds and can include current and future "land uses" (which could include restoration projects); see also ¶ 28 disclosing "other database tables" that can include describing the best management practices).

Patwardhan additionally discloses:

- *access a credit definition that associates a number of ecological restoration credits with a first restoration action of the one of more restoration actions;* (see Patwardhan ¶ 24 disclosing calculating the "local credit" for a watershed or subwatershed based upon the "credit definition" of a difference in total pollutant load after application of a "control," i.e., restoration action; see also ¶ 25 disclosing calculating an "earned credit" that accounts for uncertainty and other factors, all of which are also a "credit definition" that associates a number of credits with restoration actions) [and]
- *generate a plurality of ecological restoration credits based on the receiving of the project definition and the credit definition;* (see Patwardhan ¶s 24 and 25 disclosing generating, in the form of calculating, ecological restoration credits (specifically "local credits" and "earned credits," respectively) based on receiving "project definition" (see ¶ 24 disclosing "After the BMPs and treatments are defined, the WQTS calculated the local load credit of each subwatershed;" "BMPs and treatments" include ecological restoration projects) and the credit

definition (which, according to ¶ 24, is "the difference between the load prior to and after application of the controls and represents the cumulative effect of the controls of a subwatershed," and, according to ¶ 25, takes into account the same difference but multiplies it by an "exchange ratio" that aggregates the effects of uncertainty and other factors)).

Patwardhan fails to expressly disclose the following limitations:

- *receive a project report providing status information with respect to one or more restoration actions of a watershed restoration project*;
- *receiving, separate from the project report, a project certification to certify the status information within the project report*;
- *distribute at least a portion of the plurality of ecological restoration credits to at least one funding source that contributed funds to the designing and/or implementing of at least one restoration action of the one or more restoration actions*.

Patwardhan does not expressly disclose *receiving* a project report providing status information with respect to one or more restoration actions of a watershed restoration project. Patwardhan does, however, disclose generating a project report regarding a restoration action of a watershed restoration project (see Figure 4 and ¶ 32 disclosing the graphical user interface of a report that lists "future load with and without controls applied, with their difference being the local credit" ("controls applied" can include restoration projects) as well as "an identification of the BMP, the install year, the life, the efficiency," et al., all of which describe a "best management practice" that is a restoration action of a watershed restoration project; the report "provides status information" such as year installed, efficiency, cost, and life).

Similarly, Patwardhan does not expressly disclose *distributing* at least a portion of ecological restoration credits to at least one funding source that contributed funds to the designing or implementing of at least one restoration action. Patwardhan does, however, disclose calculating ecological restoration credits generated by restoration actions (see at least ¶s 24, 25, and 32 as well as Figure 4 disclosing calculating a local credit based upon restoration actions such as best management practices and controls), and, presumably, these credits are made available to the entity who implemented the BMP/watershed restoration project. Patwardhan further discloses that the purpose of the invention is to calculate an "available credit" amount that can be traded between seller and buyer (i.e., has a fungible value) (see ¶s 19 and 25). Thus, Patwardhan may fail to expressly disclose an active step of *distributing* the available credits, but does disclose calculating an "available credit" as well as that the "available credits" are to be traded, which would likely require a distribution before the credits could truly be "available" or traded.

While Patwardhan does not expressly disclose *receiving* a project report, *receiving a project certification to certify the status information within the project report*, or *distributing* the credits to a funding source, such features are old and well known in the art of quantifying ecological impact values for restoration projects. O'Neill, for example, discloses such features. O'Neill is similar to Patwardhan and the instant application because it seeks to quantify an ecological impact of a mitigation or restoration project and thereby generate "credits" (see, e.g., O'Neill ¶ 31 disclosing that the invention relates to ecological accounting that assigns values to habitats and can include calculating offset credits to increase the "chances of long-

term ecological success"). O'Neill notes generally that the prior art discloses "wetland credits" and "wetlands mitigation banking," both of which are old and well known environmental management practices that seek to pair ecological restoration offsets with ecological impacts such as wetland fill and thus aim to increase the chances of ecological success of wetlands, which Examiner construes to be part of a "watershed" (see O'Neill ¶s 4-5).

O'Neill discloses an accounting ledger and credit release scheduling system that is the ultimate aim and output of its invention. The accounting ledger records "the accrual and availability of debits and credits for natural resource values" (see O'Neill ¶ 199). O'Neill states that the "purpose of the accounting ledger is to document the certification and sale of credits" as well as to track the use of the credits (see ¶ 199). O'Neill additionally teaches that information "regarding credits can be updated as success criteria are achieved, and includes the date of credit certification, the type of credit (habitat value, wetlands, and/or species-specific), the habitat type associated with the credit, the mitigation/conservation activity associated with the credit, and the specific success criteria associated with the credit certification" (see O'Neill ¶ 200).

O'Neill additionally discloses distributing credits to those who have earned them by "attainment of success criteria" (see ¶ 201), such criteria being "associated with the credit certification" (see ¶ 200). Thus, O'Neill teaches a step of certifying specific ecological restoration credits (at least ¶s 199-200; see also ¶ 5 disclosing that such a step is old and well known in the art), that the certification is based upon "specific success criteria" (¶ 200), that certified credits are distributed (see at least ¶ 201), and that information is received regarding

the credits and their distribution and certification (see ¶s 199-200), including "the mitigation/conservation activity associated with the credit" (see ¶ 200), which is the restoration action that would be reported.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the features of certifying and distributing the credits based upon information received about the mitigation/conservation activity associated with the credit (as disclosed by O'Neill) into the system and computer readable medium for calculating watershed restoration credits (as disclosed by Patwardhan). One of ordinary skill would have been motivated to incorporate the feature because providing an accounting ledger with this information would "facilitate queries of credit availability and use" (see O'Neill ¶ 199). One of ordinary skill in the art would have been further motivated to incorporate the feature because "evaluating and assessing such values associated with a proposed development site" greatly increases "the chance of long-term ecological success" (see O'Neill ¶ 31). One of ordinary skill in the art would have been even further motivated to incorporate such a feature because tradable ecological credits are often encouraged by governmental regulators (such as EPA's TMDL Water Quality Trading Policy, see Patwardhan ¶ 2, and wetlands mitigation banking authorized by the U.S. Corps of Engineers, see O'Neill ¶ 5), which "can provide flexibility and achieve water quality and environmental benefits greater than would otherwise be achieved under more traditional regulatory approaches" (see Patwardhan ¶ 2).

Furthermore, it would have been obvious to one of ordinary skill in the art to incorporate the features of certifying and distributing the credits based upon information

received about the mitigation/conservation activity associated with the credit (as disclosed by O'Neill) into the system and computer readable medium for calculating watershed restoration credits (as disclosed by Patwardhan), because the claimed invention is merely a simple arrangement of old elements, with each performing the same function it had been known to perform, yielding no more than one would expect from such arrangement. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). In other words, all of the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded nothing more than predictable results to one of ordinary skill in the art at the time of the invention (i.e., predictable results are obtained by incorporating the features of certifying and distributing the credits based upon information received about the mitigation/conservation activity associated with the credit into a system and computer readable medium for calculating watershed restoration credits). *See also* MPEP § 2121(A).

With respect to Claims 22 and 34, Patwardhan and O'Neill teach the limitations of Claims 21 and 33. Patwardhan further teaches that *the project report addresses project design criteria associated with the watershed restoration project*. (see Patwardhan Figure 4 disclosing that the report addresses project design criteria associated with the watershed restoration project; in this specific example it is a grassed ditch with 5% slope installed in 2005)

With respect to Claims 23 and 35, Patwardhan and O'Neill teach the limitations of Claims 21 and 33. Patwardhan further teaches that *each of the one or more restoration actions is allocated a respective number of ecological restoration credits based on factors attributed to individual restoration actions, wherein the factors include contribution to ecological health of a watershed, cost and/or difficulty of implementation, and/or associated financial benefit to an owner of land in which the project is performed*. (see ¶ 24 disclosing that the local load credit is calculated for "each BMP" (i.e., each restoration action), based upon contribution to ecological health of a watershed, specifically the "pollutant removal efficiency of each BMP," i.e., the amount of pollutants removed by the installation of the BMP action)

With respect to Claim 25, Patwardhan and O'Neill teach the limitations of Claim 21. Patwardhan further teaches *receive a selection indicating a restoration action of the one or more restoration actions; and generate project design criteria for the restoration action*. (see at least Patwardhan ¶ 23 disclosing that a user can specify (i.e., the computer thus receives a selection) indicating the specific modification of a control, i.e., BMP, i.e., restoration action, which then generates "project design criteria" for the restoration action in the form of "year of installation", whether "in serial or in parallel," etc.; see also ¶ 31 providing further detail on the selection of restoration actions generating project design criteria)

With respect to Claims 27 and 37, Patwardhan and O'Neill teach the limitations of Claims 21 and 33. Patwardhan further teaches:

- *receive, from a user computing device, data identifying a geographical location; (see at least ¶s 23 and 31 disclosing a user selecting (i.e., the computer receiving) one or more subwatersheds (i.e., geographical locations) to which to apply a best management practice; see also Figure 3 feature 301)*
- *identify a plurality of watershed restoration actions for the geographical location; (see ¶ 31 and Figure 3 field 317 providing a user to identify a plurality of best management practices (i.e., watershed restoration projects) for the selected geographic location of a subwatershed)*
- *and provide the plurality of watershed restoration actions to the user computing device in a selectable manner. (see ¶ 31 and Figure 3 field 317 ("a drop down list that can be applied", i.e., selected by the user)*

With respect to Claim 28, Patwardhan and O'Neill teach the limitations of Claim 27. Patwardhan further teaches that *the restoration server is to identify of the plurality of watershed restoration actions based on factors identified as limiting watershed recovery and funding criteria of one or more funding sources*. (see Patwardhan ¶ 35 disclosing that the invention helps the user identify different best management practices (i.e., watershed restoration actions) based on factors such as cost (i.e., funding criteria) as well as the credits generated by the BMPs to offset an increase in pollutant load (i.e., a factor identified as limiting watershed recovery because increased pollutant release will not allow for watershed recovery))

With respect to Claims 29 and 38, Patwardhan and O'Neill teach the limitations of Claims 28 and 37. Patwardhan further teaches that the restoration server:

- *generate a first layer of a geographical information system (GIS) to correlate factors identified as limiting watershed recovery to various geographical locations;* (see Patwardhan Figure 7 and ¶ 34 disclosing a GIS interface (i.e., layer) correlating pollutant loads for a subwatershed (i.e., factors limiting watershed recovery for that geographical location; see also ¶ 35 disclosing that the user can interact with the invention, which includes the GIS interface, to do iterative testing of land usages and BMPs to determine an optimal cost/benefit analysis or generation of watershed credits)
- *and identify the plurality of restoration actions based on the geographical location and the first layer of the GIS.* (see Patwardhan ¶ 35 disclosing that the user can interact with the invention, which includes the GIS interface, to do iterative testing of land usages and BMPs to determine an optimal cost/benefit analysis or generation of watershed credits based upon the best plurality of BMPs for that geographical location)

With respect to Claim 30, Patwardhan and O'Neill teach the limitations of Claim 29. Patwardhan renders obvious:

- *generate a second layer of the GIS to correlate the funding criteria of the one or more funding sources to various geographical locations;* (Patwardhan separately

discloses the use of GIS layers, including multiple GIS layers (see, e.g., Figures 6-8 and ¶ 34), as well as using the invention to correlate funding criteria (in the form of costs of watershed restoration projects) with effect of those projects on total watershed pollutant load and therefore watershed credit (see, e.g., ¶ 35; see also Figure 4 and ¶ 32 further disclosing a display of a project's total cost). Patwardhan fails to expressly disclose the generation of a GIS layer that correlates cost/funding to the geographical locations (e.g., the subwatersheds), but such a combination is obvious and readily apparent to one of ordinary skill in the art in view of these teachings of Patwardhan. One of ordinary skill in the art appreciates that available data (such as cost per each best management practice) can be displayed on a map (such as a map of the different watersheds). For example, Patwardhan's Figure 7 map, displaying a watershed with current and future (i.e., projected) pollutant loads, could be modified to include the best management practice information with total cost, such as disclosed in Figure 4. One of ordinary skill in the art would have been motivated to incorporate such a feature because it would provide readily apparent, easy-to-read information allowing the user to, e.g., "generate the required earned credit to offset the increased load" (see ¶ 35) as part of a water quality credit trading scheme (see ¶ 2))

- *identify the plurality of restoration actions based on the second layer of the GIS.* (see Patwardhan ¶ 35 disclosing that the user can interact with the invention,

which includes the GIS interface, to do iterative testing of land usages and BMPs to determine an optimal **cost/benefit** analysis or generation of watershed credits)

With respect to Claims 32 and 40, Patwardhan and O'Neill teach the limitations of Claims 21 and 33. Patwardhan further teaches *receive an update to the credit definition to associate a different number of ecological restoration credits with the first restoration action*. (see ¶ 25 disclosing updating the credit definition in the form of converting "local credits" to a different number of "earned credits" for the same restoration action by multiplying the value by an "exchange ratio" which accounts for uncertainty for that restoration action; note also that O'Neill discloses updating information regarding the credits, see O'Neill ¶ 200)

11. Claims 24, 26, and 36 are rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Patwardhan in view of O'Neill and further in view of Dikeman (2008/0183523). Dikeman relates to a computer-assisted, web-based system that facilitates the creation and transaction of carbon credits.

With respect to Claims 24 and 36, Patwardhan and O'Neill teach the limitations of Claims 21 and 33. These references fail to teach *receive the project report from a first user computing device; and receive the project certification from a second user computing device*. Nevertheless, such a feature of receiving project reports and certifications from separate computing devices is

old and well known in the art of ecological credits, and such a feature makes sense because the certifying agency is most likely an outside entity such as a governmental agency. Dikeman, for example, in a reference regarding facilitating the creation of ecological credits, discloses such a computing feature (see at least Dikeman ¶ 114 disclosing a computer system including communications links between multiple separate and distinct computers 12a through a web-based platform 11 for entry of data in "the course of design and certification of a given project;" see also ¶ 115 teaching that multiple users can enter data "during the documentation and certification workflow" of the credit; see additionally ¶ 123 disclosing that "lifecycle participants," i.e., those that would have separate computer portal access to the system as disclosed in ¶ 114, include "government agencies" that would certify the credits based on the project report; see also ¶ 32 disclosing that a "project must be certified by a process that requires the submission of a project document to an oversight certification agency" such as a governmental agency, and that the document submitted for certification is "a master project document;" see also ¶s 56-59 disclosing substantially the same as ¶ 114).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the feature of separate computing portals to receive the project report and the project certification (as disclosed by Dikeman) into the system and computer readable medium for calculating watershed restoration credits (as disclosed by Patwardhan and O'Neill). One of ordinary skill would have been motivated to incorporate the feature because certification is a process generally done by an oversight agency (see Dikeman ¶ 32), and, as such, to avoid the appearance of impropriety, a certification should come from a different

source (e.g., computer) than the entity providing the project report (because that entity stands to gain from the potential financial windfall of a certified ecological credit).

Furthermore, it would have been obvious to one of ordinary skill in the art to incorporate the feature of separate computing portals to receive the project report and the project certification (as disclosed by Dikeman) into the system and computer readable medium for calculating watershed restoration credits (as disclosed by Patwardhan and O'Neill), because the claimed invention is merely a simple arrangement of old elements, with each performing the same function it had been known to perform, yielding no more than one would expect from such arrangement. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). In other words, all of the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded nothing more than predictable results to one of ordinary skill in the art at the time of the invention (i.e., predictable results are obtained by incorporating the features of separate computing portals to receive the project report and the project certification into a system and computer readable medium for calculating watershed restoration credits). *See also* MPEP § 2121(A).

With respect to Claim 26, Patwardhan and O'Neill teach the limitations of Claim 21. These references fail to teach *generate a user report to provide a user with information on a status of the one or more restoration actions based on said receiving of the project certification; and transmit the user report to the user*. Nevertheless, such features of generating and transmitting

a user report with status information is old and well known in the art of ecological credits, and such a feature makes sense because users would like to view available information on the status of a project or credit. Dikeman, for example, in a reference regarding facilitating the creation of ecological credits, discloses such a user report feature (see Dikeman at least ¶ 115 disclosing that the core project information, including the master project document, is available in an "e-Record 16," appropriate versions of which are provided or published (i.e., transmitted) to all participant users; the e-Record "incorporates all of the information, records, data, analytics, sources, and communication that take place during the documentation and certification workflow" of the credit, thereby being "based on receiving the project certification" (at least in applicable instances); see also ¶ 124 disclosing that steps after approval (which would include certification) can "result in feedback" to the e-Record; see also ¶ 125 disclosing that the e-Record is released to multiple contributors as allowed by project managers; see also ¶ 60 disclosing providing a detailed e-Record at any place or time; see additionally ¶ 72 disclosing that the e-Record module makes available all of the data in the master project document as well as electronic communication between the participants).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the features of generating and transmitting a user report with status information (as disclosed by Dikeman) into the system and computer readable medium for calculating watershed restoration credits (as disclosed by Patwardhan and O'Neill). One of ordinary skill would have been motivated to incorporate the feature because providing such

information "provides a more transparent, accurate, precise, economic, efficient, and effective lifecycle process for the creation and certification of green credits" (see Dikeman ¶ 56).

Furthermore, it would have been obvious to one of ordinary skill in the art to incorporate the features of generating and transmitting a user report with status information (as disclosed by Dikeman) into the system and computer readable medium for calculating watershed restoration credits (as disclosed by Patwardhan and O'Neill), because the claimed invention is merely a simple arrangement of old elements, with each performing the same function it had been known to perform, yielding no more than one would expect from such arrangement. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). In other words, all of the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded nothing more than predictable results to one of ordinary skill in the art at the time of the invention (i.e., predictable results are obtained by incorporating the features of generating and transmitting a user report with status information into a system and computer readable medium for calculating watershed restoration credits). *See also* MPEP § 2121(A).

Response to Arguments

12. Applicants' arguments have been fully considered. Because many of Applicants' arguments, particularly those regarding the application of prior art in the previous Office Action, were found to be persuasive, prosecution has been re-opened. A new search by a new

Examiner was performed, and there are different grounds of rejection in the current Office Action. Therefore, Applicants' arguments, though persuasive, have ultimately been rendered moot in light of the new grounds of rejection laid out above.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Slay et al. (2005/0228732); Sprague et al. (2006/0122794).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAN P. MINCARELLI whose telephone number is (571)270-5909. The examiner can normally be reached on 7:30-5:00 Monday-Thursday, 7:30-4:00 alternate Fridays Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janice A. Mooneyham can be reached on (571)272-6805. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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