ADVANCING PUBLIC TRUST SOLUTIONS
TO SAVE THE GREAT LAKES

SUBMISSION TO THE GRAHAM SUSTAINABILITY INSTITUTE'S

Integrative Assessment Report Series on

HYDRAULIC FRACTURING IN MICHIGAN

Submitted by FLOW (For Love of Water)

James Olson, Chair and President
Elizabeth Kirkwood, Executive Director

153 ½ East Front Street
Traverse City, MI 49684
(231) 944-1568
info@flowforwater.org
www.flowforwater.org

1.0 Introduction and Scope

The following comments are filed pursuant to the notice and request for comments by the Graham Sustainability Institute in response to its Integrative Assessment Report Series on Hydraulic Fracturing in Michigan.[1] While the authors have reviewed all of the Reports and the comments that follow cut across the several disciplines covered by the reports, FLOW has confined its comments to the Technical Reports on Policy/Law and Environmental Policy.[2] For the reasons set forth in FLOW's Comments below, FLOW urges the Graham Sustainability Institute and the State of Michigan, including Governor Rick Snyder, the Department of Environmental Quality, and Department of Natural Resources to exercise the utmost caution at all levels of consideration of unconventional hydraulic fracturing, particularly high-volume horizontal hydraulic fracturing, before committing the State's treasured wildlife, forests, rural and community landscapes, and the thousands of lakes, streams and waters, wildlife, wild land, and farmlands that make up the fabric of Michigan to irreversible development and unavoidable impacts. To date, impacts to natural resources have not been fully and cumulatively considered and determined on state land leasing, permitting, or related approvals.

There is simply more information and data to gather and evaluate (including synergistic and cumulative effects, impacts and alternatives) that must be meaningfully considered under the principles of existing Michigan laws, regulations, and the state's common law of the environment and natural resources. These legal principles are reinforced by Michigan Constitution and public land and environmental law that must be followed and fulfilled before any further significant and irreversible decisions are made to lease state lands or grant permits for related unconventional oil and gas development that involves large tracts of land and natural resources. This includes threatened impacts to land uses and natural resources that have been declared to be held in the public trust for the citizens of Michigan – some of Michigan's finest recreation areas, trails, state game areas, wildlife management areas, and even state parks.

2.0 Additional Factual Background

The Integrated Assessment covers a lot of territory and, because of self-imposed timeframes, recommends more information, data, monitoring results, and studies. Without attempting to address all of the various areas where information is lacking or

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[1] A report cited in these comments is referred to as "IA _____ [subject name] Report."

[2] James M. Olson, J.D. Michigan State College of Law, LL.M, University of Michigan Law School, www.envlaw.com/attorneyprofiles; Elizabeth Kirkwood, Williams College; J.D., Northwestern School of Law, Lewis and Clark University. (Author's biographical backgrounds are available at FLOW (For Love of Water), 153 ½ E. Front Street, Traverse City, Michigan. www.flowforwater.org. The authors wish to thank the Graham Sustainability Institute, its Executive Director. Steering Committee, and staff, the authors of reports, Erb Institute, University of Michigan, and the many and varied persons selected to participate in its preparation and review. The authors also wish to thank Governor Rick Snyder for his foresight in the importance of Michigan's stake in moving on a course of expanded and more unconventional development of oil and gas through hydraulic fracturing in Michigan. The fact that FLOW has not commented directly on one or more of the reports should not be construed as agreeing with or not agreeing with the contents of the report.

more study required, FLOW requests the Institute and its authors and advisors to consider the following additional information.

2.1 "Hubbing" Unconventional Oil and Gas Development

As stated in the IA Environment/Ecology Report, "with high-density operations, numerous well pads may be located within the same watershed, thus compounding cumulative impacts."[3] The report also notes that most of the studies to date have focused on groundwater or surface water pollution, but not the effects or impacts on surface water flows, levels or quantities or land uses, including wildlife and terrestrial ecosystems. These dense, large-scale operations also increase noise from equipment and truck traffic, light pollution, dust, and risks from handling high volumes of water and chemicals. The density and size of these operations means that water withdrawals and losses are several times the average of six (6) million gallons of water per well. And water removal is continuous and successive from multiple wells on a pad, which will significantly affect and impact upper reaches of creeks and streams.[4]

During the last three months, oil and gas development companies leased large tracks of state lands—most of which have been classified or held as "non-development" under state nomination, sale and leasing procedures[5]—and proposed three different approaches to development. In all three approaches, oil and gas companies would commit large areas to development and intensely concentrated and continuous or consecutive water consumption or loss to the watershed.

For example, Encana has applied for and/or been permitted through modifications for oil development in the Collingwood/Utica formation as many as eight (8) oil and gas drilling and production wells on the same pad.[6] Three previous Encana wells were permitted and water removals were cleared by the MDNR by emails for a range of eight (8) million gallons to over 21 million gallons over successive periods.[7] The new wells, with stipulations to impose "custom" approvals after site review, range from 19 to 32 million gallons of water per well.[8] In addition, Encana and MDNR have entered into a unitization agreement to develop an unprecedented 43 square miles (27,000 acres) in Kalkaska and Roscommon Counties to develop oil and gas.[9] Another company, Kosco,

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[3]IA Ecology/Environment Report, Sec. 2.1, 3.0, and Recommendations.
[4]*Id.* See Dr. Dave Hyndman, Preliminary Analysis of Fracking and Flows in Upper Manistee River, Oct. 3, 2013 (Anglers of AuSable Comments to Graham Institute, Oct. 7, 2013).
[5]See Section 2.3, these Comments, *infra*.
[6]Letter, MDEQ Permit Coordinator, Jennifer A. Ferrigan, to Encana, Heather Jones, Sept. 18, 2013, approving 5 more wells on "Pad C" in Oliver Township, with 10 months of successive water removal 24/7 at rates between 875 gpm to 1300 gpm. In *Michigan Citizens for Water Conservation v Nestlé*, 269 Mich App 25, 709 NW2d 174 (2006), the trial court and appellate courts affirmed that pumping at 400 gpm, and as low as 200 gpm, did and would cause substantial harm to drops in levels, flows, and adverse impacts to two small lakes, wetlands, and the stream more than ½ miles from water withdrawal wells.
[7]MDNR emails: DNR Water Resources Division emails on 8/11/11, 10/5/12, and 10/5/12.
[8]FN 6, *supra.*
[9]On file with MDNR, Minerals Management Section. Not since the state confined oil oil and gas development to the southern one-third of the Pigeon River Country State Forest has so large a development been identified.

has filed for a new spacing order, expanding drilling units from 80 acres to 640 acres for 34 wells to develop the Collingwood/Utica formation in 36 sections of four townships in Kalkaska County.[10]

These examples point to one thing: future development of tight rock formations, like Collingwood/Utica, appear to be massive and intensive in size and scope, including the "hubbing" of pads, drilling and production wells, water wells, and series of gathering lines, flowlines, and pipelines, access roads, water and chemicals left in bottom hole or injected underground in other locations. This centralized effort may be to find ways to make it economical to recover oil from such dense rock,[11] but it involves massive quantities of water, chemicals, materials, facilities, land and wildlife, recreation and residential disturbances that have been described in the Integrative Assessment reports. Proposed "hubbing" large, intensive developments must be reviewed, assessed and decided at a level concomitant with the responsibility to protect the environment, prevent "waste" (both economic and environmental), the economy, and the quality of life of Michigan citizens.

2.2 Water Withdrawal/Removal from Watershed

The IA Environmental/Ecology Report notes that groundwater, wetlands, and surface water creeks and streams, and ponds are interconnected.[12] Large quantities of water removed from groundwater increase the level of threats and the urgency for immediate consideration, review, and findings before well permits or water withdrawal (removal)[13] well permits are approved or cleared. The IA Report recognizes that the MDEQ does not maintain a registry or track the cumulative or successive relationships or impacts of two or more wells.[14]

Because the nature of oil and gas development from unconventional horizontal fracturing is increasing in size and magnitude, the quantities of water to service a well pad or pads

[10]Petition for Spacing Order, *In Re the Petition of Kosco Energy Group*, Mich. DEQ Case No. No. 13-2013, Aug. 30, 2013.

[11]Of course, the economics is dependent on a number of market, regulatory, and uncertain or unpredictable forces. Moreover, if large, massive horizontal fracturing well developments are spread in 640 acre spacing orders over 30 to 50 square miles, the cost the water resources, loss vegetation, wildlife, and natural wildlife habitat and corridors could outweigh any economic benefit to the state. For example, the Encana and Kosco proposals would be superimposed on one of the most water rich abundant springs, wetlands, creeks, and springs that feed two of the most popular trout streams in the country. The cost to recreation, fishing, quality of life, and the economy must be accounted for before Michigan moves forward with large size, dense horizontal hydraulic fracturing oil and gas development.

[12]IA Env/Ecology Report, *supra*.

[13]The Water Withdrawal Assessment Tool (WWAT) look only at impacts on surface waters that would have an "Adverse Resource Impact." (ARI). Moreover, it does not consider impacts on groundwater itself or require baseline measurements or standard yields tests that are required for smaller withdrawals and consumptive use by farming, municipalities, and industry. Finally, and importantly, the WWAT does not itself apply to oil and gas development, so when a well fails the tool, the full scope of application and permitting requirements do not apply. See Section 3.b.(4)and (5), *infra*.

[14]*Id*.

with multiple wells threaten to overwhelm the water balance of the watershed, and hence the overall ecosystem. The Westerman 1-29-HD1 well in June 2013 reportedly interfered with an adjacent residential water well because it lacked sufficient on-site yield for water. The developer tried to supplement with water obtained from the municipalities of Kalkaska and Mancelona, but even that was not enough and the drilling company halted the operation.

In addition, the Water Withdrawal Assessment Tool (WWAT) as applied by MDEQ and Supervisor of Wells to increasingly larger water removals from groundwater and watersheds is not adequate.[15] The amount of water in the relevant watershed is estimated by a simple proportional calculation. The measured flow at a USGS gauge station downstream or on a similar stream is proportioned to the square miles of watershed above the gauge location. The square miles above the location on the stream near the proposed water withdrawal well is determined, then flow is calculated backwards from the proportion established for the gauge location. Based on actual flow measurements in high-volume disputes, it was discovered that the WWAT overestimated actual flows by a factor of 10 to 100 times.[16] This means that in many instances the tool may well overstate flows and under-predict impacts.[17] If impacts are understated, then the large quantities of water removed in Bear Creek, the North Branch of the Manistee, and other areas in Northern Michigan's counties, is likely to significantly drop the levels of the upper reaches of creeks and streams that flow into the Manistee and AuSable Rivers, providing critical spawning and habitat for cold water trout.

2.3 State Land Leasing under Yankee Springs Park and Recreation Area, Barry State Game Areas, and Allegan State Game Area

The IA Policy/Law Report briefly describes the process by which the state nominates, reviews, and auctions state lands for oil and gas leasing and development.[18] Local residents, businesses, and recreational water users formed an organization called Michigan Land Air Water Defense Fund (MLAWD), and filed a lawsuit in Barry County Circuit Court to contest the legality of state's leasing of oil and gas development rights under valuable conservation lands[19] – designated recreation, park, state game, and

[15]"Withdrawal" is not entirely accurate for water used for hydraulic fracturing, because it is not simply withdrawn and used on the overlying estate, then discharged back to the watershed (net after evaporation and evapotranspiration), but permanently diverted or removed from the watershed.

[16]*Anglers of AuSable v Department of Environmental Quality*, Opinion and Order Granting Injunction, May 29, 2007, Otsego County Cir. Ct. No. 06-11967-CE.

[17]This is not surprising. In order to check the reliability of the tool, the Traverse City law firm of Olson, Bzdok & Howard tested (on file) the Nestlé high-capacity wells in Mecosta County *(Michigan Citizens for Water Conservation v Nestlé, supra*) with the WWAT, and it passed without need for a permit application. Despite the trial court and appellate court findings there would be a lowering of the levels of the stream and two small lakes, the WWAT would have approved the water wells without harm.

[18]IA Policy/Law Technical Report, Sec. 1.1.1, pp. 3-4.

[19]All such special areas in Allegan and Barry County have been acquired with federal and/or state conservation funds. *Michigan Land, Air, Water Defense v Michigan Department of Natural Resources*, Barry County Cir. Ct. No. 12-507-CE.

wildlife management areas in Allegan and Barry counties held and managed in public trust.[20]

The plaintiff MLAWD claimed that the MDNR had a legal duty under the Michigan Environmental Protection Act (MEPA)[21] to consider the cumulative likely effects, impacts and alternatives to oil and gas development under or adjacent to these valuable conservation and recreation lands, because of the readily available information on the nature and extent of such likely effects and impacts associated with such development.[22] The MDNR argued that it could not consider effects before it reclassified or changed the surface "non-development" provision in its leases, so the enforcement of its duty to consider effects and impact was not yet ripe for review.[23] Circuit Court Judge Amy McDowell granted summary disposition in favor of the MDNR, reasoning that the claim was not yet ripe since the plaintiffs would have notice, opportunity to comment, and appeal the decision of the MDNR if an oil and gas developer requested reclassification from "non-development" of surface to "development" or "development with restrictions," subsequent to sale of the lease.[24] The federal severed mineral interests under MDNR state lands within the ASGA have also been leased by the Bureau of Land Management (BLM).[25] The BLM does not lease without requiring and conducting an environmental assessment, even where there is a "non-development" lease provision. On the other hand, the MDNR does not require any assessment of likely impacts on air, water, or natural resources or public uses within a state special area, and specifically does not consider cumulative impacts of its oil and gas leasing development with other related developments or activities proposed or occurring on adjacent BLM or private lands or inholdings.[26]

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[20]MDNR Procedures 27.23-14 and 27.23-15 declare that these state lands are held and must be managed as a public trust for the benefit of citizens.

[21]Michigan Environmental Protection Act (now Part 17 of the Natural Resources and Environmental Protection Act), MCL 324.1701, *et seq.* ("MEPA").

[22]Plaintiffs' Brief in Response to Defendants' Motion for Summary Disposition, Sec. B, 1 and 2, pp. 16-23.

[23]Defendants' Brief in Support of Summary Disposition, pp. 10-13.

[24]Opinion and Order, Aug.13, 2013. In fact, MDNR staff handling changes and reclassifications stated that reclassifications were rare, but that frequent other changes or waivers in a lease with a "non-development" provisions would allow development of the surface. And, these were largely internal actions, with no formal public notice, opportunity to comment, or right to appeal. The entire process is informal with no rules governing the form, manner or substance of these decisions.

[25]The federal government, through the Bureau of Land Management ("BLM"), has or is proposing to lease more than 33,000 acres of severed oil and gas interests under part of the state land in Allegan State Game Area. The BLM conducts environmental assessments and where necessary environmental impact statements before offering parcels for lease sale as part of BLM's environmental assessment and impact process under the National Environmental Policy Act, 42 USC 4331 et seq., and its regulations, 40 C.F.R., Parts 1500-1508, and DOI's Environmental Manual 516, and BLM's NEPA Handbook, H-1790-1 (BLM 2008a). The MDNR no longer requires or conducts any environmental impact assessment, statement, or report before it leases large tracts of special state conservation lands.

[26]*Center for Biological Diversity v Bureau of Land Management*, ___ F. Supp. ____, 2013 WL 1405938 (N.D. Cal., 2013). The still required environmental assessments for "non-development" classified lands. Moreover, unlike Michigan, "non-development" applies to all, not just the leaseholder. In Michigan, other oil and gas companies or suppliers and contractors,

In depositions and answers to questions during the discovery phase of the MLAWD case, the MDNR section heads and staff stated that reclassification of leases was infrequent, but that changes or lifting of restrictions to accommodate surface development for a drilling pad, other facilities, or easements and surface permits for pipelines, water wells, and other facilities were customary, and that there is no formal public notice, no opportunity to submit comments, no record or decision, and no right of appeal on these changes.[27]

Moreover, Circuit Court Judge McDowell refused to rule on the Allegan State Game Area state leasing procedure or leases, because it would be better decided by the local court in Allegan County, and because some leases did not contained "non-development" provisions, which she stated may be ripe for judicial intervention and demand a more rigorous review before state leases can be auctioned or sold with such development rights.[28]

3.0 Comments on the IA Policy/Law Technical Report and IA Environment/Ecology Report.

The IA Policy/Law Report does a good job of reviewing the status and scope of the legal and policy framework as it exists in Michigan today. In addition, FLOW recommends that the following legal matters should be considered as a basis for one or more of the pathways that would better address the myriad issues raised by hydraulic fracturing. The IA Environment/Ecology Report establishes the need for a clearly enforceable duty to consider the effects and impacts, including cumulative impacts from severally related wells and activities, from high-volume horizontal fracturing, under a proposed development plan with all related water wells, facilities, water wells, and other activities disclosed, analyzed, and determined.

> a. When it comes to state land leasing policy and law, the MDNR, as representative or trustee for the state and its citizens, exercises its "property power" as any landowner may do, and therefore has the legal and constitutional

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not the lessee, are not bound by the "non development" clause in the state lease. The lease "non development" applies to "drilling unit," not other related activities or facilities, such as pipelines and roads. And "non development" does recognizes that it can be changed by subsequent request and authorization, with little assessment, review, or accountability and record of basis of decisions.

[27]**Plaintiffs Brief in Response, Ex 8**, Oil and Gas Rules 299.8801(1)9k). "Non Development" means no development on the surface. However, DNR Procedure 27.23-15, p. 1, **Ex 2**, and the Oil and Gas Lease, **Ex 5**, interpret this to mean only that development of the surface is allowed if the lessee obtains a separate permit" for oil and gas well, surface facilities, or other structures. At depositions, DNR chief, unit heads, and lead reviewers readily admitted that a lessee and other companies have a variety of ways to obtain change in classification, change in restrictions, variances, or other relief from the non-development provision. See **Ex 9**, Deposition Maidlow, T, 8-9, 18-21, 26-27, 39-40, 44-45, 51-53, 55-56, 62-63, 67; Deposition Manson, T, 38, 42-43, 45, 59, 81-82; Deposition Uptigrove, T, 65, T, 42, 46-47, 59, 62-63.

[28]Opinion and Order, Aug. 13, 2013; Status Conference, Record, Sept. 27, 2013, ordering change of venue to Allegan County for Allegan State Game Area leasing.

right to reject any lease up until signed or development starts if its conditions have not been met.[29]

Under its "organic act" the MDNR has a duty "to protect and conserve" air, water, land and natural resources.[30] This is also required by the Michigan Environmental Protection Act and Article 4, Section 52 of the State Constitution.[31] The Michigan Supreme Court has held that the MDNR's statutory duty to "protect and conserve the natural resources of the state " is an "affirmative duty."[32] Thus, the state has the ultimate and final leverage to insist on information, assessments, development plans, and land use, environmental and water impact studies and reports *before* it makes a decision to lease state lands under special state parks, recreation, wildlife or game areas. These special areas represent approximately ten percent or 400,000 acres of the over four million acres of state lands. Most of these special areas were acquired with federal and state conservation funds, and are dedicated to recreation and conservation uses, thus prohibiting uses that would disturb the surface or such public uses.[33] Yet, the MDNR no longer requires an impact assessment or report before it bargains away or gives up its property power when it sells the lease rights to develop. While oil and gas development is subject to regulation by the MDEQ, the very final act of leasing, with its inevitable and unavoidable change in land uses and commitment of resources, for roads, pipelines, water resources, and impacts on wildlife and recreation, does not require or comply with the legal duty to consider generic

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[29]Olson, James M., Michigan Environmental Law, "The Property Power," Chpt 7 (Neahtawanta Press, 1981); Olson, *A Crossroads in Publicly Owned Natural Resources Law*, 56 J. Urban L. 739, 807-908 (Univ. Detroit School of Law, 1979).

[30]MCL 324.503(1). As was stated by the Court of Appeals in Michigan Oil v Natural Resources, overturning oil and gas permits based on lack of sufficient protection by DNR in state land leasing in Pigeon River Country State Forest, " It would seem plain that the authority thus granted the commission by statute to enter into contracts for the taking of minerals necessarily implies authority to decide whether to lease and on what terms any lease will be entered into. *This power to lease state lands is clearly meant to be exercised in light of all of the duties imposed upon the Natural Resources Commission including, among others, duties imposed by M.C.L.A. s 299.3; M.S.A. s 13.3, to "protect and conserve the natural resources of the state", to "provide and develop facilities for outdoor recreation", to "prevent the destruction of timber and other forest growth by fire or otherwise", and to "foster and encourage the protecting and propagation of game and fish*." The commission clearly could have refused to lease the lands in question in order to further any of these goals." *Michigan Oil Co v Natural Resources Commission*, 71 Mich App 667, 680-81; 249 NW2d 135 (1976) (emphasis added).

[31]"The conservation and development of the natural resources of the state are hereby declared to be of paramount public concern in the interest of the health, safety and general welfare of the people. The legislature shall provide for the protection of the air, water and other natural resources of the state from pollution, impairment and destruction." Mich Const. 1963, Art. 4, Sec. 52. The Supreme Court has ruled the duty on legislature and state to protect air, water, natural resources is in part mandatory. *State Hwy Comm'n v Vanderkloot*, 392 Mich 159; 220 NW2d 416 (1974).

[32] *Michigan Oil Co v Natural Res Comm*, 406 Mich 1, 29; 276 NW2d 141 (1979).

[33]Pittman-Robertson Wildlife Restoration Act, 16 USC 669 *et seq*, Federal Land and Water Conservation Act, 16 USC 4601 *et seq*, Dingell-Johnson Sport Fish Restoration Act, 16 USC 777 *et seq*, Michigan Game and Fish Protection Fund, MCL 324.43701 *et seq*, Prohibits any surface development without consent of parties and environmental impacts report.

and/or cumulative impacts before the lease is sold. This is exactly what the Court of Appeals labeled a breach of public trust and a "policy blunder" in the MDNR's handling of state lands for oil and gas leasing during the state's oil and gas boom in the Pigeon River case in the 1970s.[34]

b. When it comes to permitting, the MDEQ no longer provides notice, opportunity for hearing, arguments, and comments. The MDEQ and MDNR were originally the MDNR – with all authority vested in one agency to address both land and natural resource and mineral leasing and sale and applications for permits, including oil and gas, lakes and streams, wetlands, endangered species, and erosion, for development. All decisions were subject to ultimate decisions by the Director of the MDNR, the Natural Resources Commission (land and natural resources), and/or the Water Resources Commission and Air Pollution Commission. These commissions and their combined and integrated authority were largely abolished through executive order by Governor Engler. As a result, the functions and duties of the DNR as landowner have been fragmented by the split of a once fully integrated agency. As a result, the Natural Resources Commission's power remains stifled, and because of the split there has been a lack of direct communication between the agencies and with the public, and loss of notice, hearings, and decisions by commissions. Today, there is little public notice, participation, comment, or a right of appeal. The public and individuals whose interests are often adversely impacted by MDNR leasing and MDEQ permitting have been cut out of the process.

In order to restore an integrated consideration of generic, cumulative, and related effects and alternatives, Michigan, through Governor Snyder's Administration, should consider closely coordinating and integrating the roles of the MDNR and MDEQ when it comes to hydraulic fracturing development, particularly the larger, massive development of tight rock formations or horizontal hydraulic fracturing. This would include:

> (1) Requirement of a development plan and generic environmental impact statements before a lease or leases and permit or permits are finally approved or denied, as was done in the development plan for Pigeon River Country State Forest in the 1970s. This is what the legislature did when the northern two-thirds of the forest was off limits and the southern one-third opened to consolidated careful development and impact analysis and review. Development plans are required under the state's oil and gas lease, and are subject to MDNR approval before permits are issued by MDEQ. However, this is not presently followed.[35]
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> (2) MDNR and MDEQ should strictly respect and prohibit any development or change in development status and activities on surface of lands leased with a "non-development" provisions, except where (a) an environmental impact statement considers the cumulative and related

[34] *Michigan Oil, supra*.
[35] State Oil and Gas Form Lease, paragraph I., p. 8.

effects from any change or lifting of the classification, (b) the state land has not been acquired and managed or developed with federal and/or state conservation funds, (c) there is public notice, opportunity for comment by affected citizens and landowners, and a record decision and right of appeal, (d) it is determined on the record there will be no likely impacts on air, water, natural resources or the public trust in use of those resources.[36]

(3) The MDEQ must require and conduct, as mandated by existing law under MEPA and Michigan Supreme Court and Court of Appeals binding decisions, a cumulative impact study and independent inquiry and determination of the effects on air, water, natural resources, public health, and the health, safety and welfare of persons and communities.

The Michigan Constitution[37] requires protection of air, water, and natural resources from environmental degradation and pollution. Under court decisions interpreting the MEPA, there is a substantive duty on government and private developers "to prevent or minimize likely environmental degradation."[38] In the *Vanderkloot* case, the Court ruled that an agency decision, for its own development or for a proposed conduct or development by another person, is void or an abuse of discretion if the agency fails to conduct the equivalent of an environmental impact statement or report on the likely effects on air, water, natural resources or the public trust.[39] The Court expressly ruled that the MEPA establishes two causes of actions that can be enforced by citizens if the agency fails to comply with this mandate:

> i. A procedural cause of action that is based on a citizen suit that determines whether conduct is "likely to pollute, impair, or destroy the air, water or natural resources or public -trust;"; and
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> ii. A substantive action based on a duty triggered by the constitution and imposed by the MEPA "to consider the likely effects on air, water, natural resources, and the feasible and prudent alternatives" of proposed conduct or actions to be taken by the State or its agencies.[40]

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[36]Section 1705(2) of MEPA applies to all agency permit proceedings, and requires consideration and determination of likely effects. MCL 324.1705(2). Citizens can invoke this obligation by filing a "pleading" alleging likely impacts to the air, water, natural resources, and ubic trust, and/or the existence of a feasible and prudent alternative. If there is likely harm, then the permit or approval must be denied unless there exists such an alternative. In the absence of such a pleading, the agency still has a duty to prevent harm and consider likely cumulative effects and alternatives as mandated by *Vanderkloot* and *Ray* decisions, discussed above.

[37]Art. 4, Sec. 52, *supra.*

[38]*Ray v Mason Co Drain Comm'r*, 393 Mich 294; 224 NW2d 883 (1975).

[39]*State Hwy Comm'n v Vanderkloot*, 392 Mich 159; 220 NW2d 416 (1974).

[40]*Id*. at 184.

Presently, the MDEQ, as the IA Policy/Law Report recognizes, simply applies performance or building code type standards with little public notice and only informal comments by the public. While the MDEQ rules require an environmental assessment of each well, companies are not required to propose a development plan or identify other wells, and related facilities, and no cumulative impacts of the related oil and gas development wells or associated roads, pipelines, water wells, or other facilities and activities are required to be considered. In other words, between MDNR's lack of cumulative impact assessments before making crucial and final decisions to commit state lands to development and MDEQ's narrow single-well review, there is a near vacuum of consideration—as a de facto state policy—of cumulative effects and alternatives of a proposed oil and gas well or development in Michigan.

As a result, citizens and affected persons are denied access and participation, which is contrary to the entire legal policy framework to prevent narrow, myopic agency review and decisions and impose on citizens the right to undertake a share of the responsibility for protection of Michigan's environment.[41] Development is allowed piecemeal, leaving the state and its natural resources and citizens, other businesses, its environment and economy without fundamental and comprehensive protection. The current policy and decision framework related to oil and gas development in Michigan have deteriorated, perhaps understandably by slashed budgets and understaffing, and the lack of adequate environmental impact and determination of effects on air, water, natural resources and health and public or private uses flies in the face of the duty to prevent and minimize harm through adequate impact analysis mandated by *Vanderkloot*.

This failure to apply these duties in decision-making over oil and gas developments is compounded when it comes to large, intensive, unconventional or horizontal hydraulic fracturing. The lack of impact and alternative analysis, with public notice and comment, when it comes to hydraulic horizontal fracturing, may well violate these court decisions and the MEPA. Therefore, before Michigan allows further hydraulic horizontal fracturing, a process for meaningful protection of the environment through careful cumulative and related impact and feasible and prudent alternative analyses and assessment must be established.

(4) The WWAT should be strengthened if it is going to be applied to oil and gas developments such as unconventional or hydraulic fracturing. The WWAT addresses only long-term harms, and not significant high volumes over a short period of time (one month to a year or more). High volume water removal from the watershed has been shown to cause substantial harm to creeks, streams, lakes, and wetlands, particularly those in the

[41] *Vanderkloot* and *Ray*, *supra*.

upper headwater areas so crucial for aquatic life and fish and recreation.[42] Moreover, a violation of the Adverse Resource Impact (ARI) standard does not "kick in" until the population of key fish species are no longer sustainable, as opposed to the earlier degradation and significant effects caused by drops in flows and levels.

(5) In any event, the WWAT, as noted above, overestimates the flows and levels in a stream, and therefore underestimates effects and impacts. Actual flow and level measurements must be required and recorded, with opportunity for public comment and review or appeal before a water well is approved for high-volume fracturing. It is required by the cumulative impact requirements of MEPA and the *Ray* and *Vanderkloot* decisions.[43] Hence, the MDEQ should require, under Part 615, hydrogeologic studies, baseline monitoring wells in groundwater and connected surface waters and wetlands before, during and after development. If there are likely effects that materially diminish the stream, wetland, or a lake, or interfere with an adjacent residential, commercial, or agricultural water well, the permit should be denied.[44] This requirement should be imposed for two or more wells and related facilities over a larger area, multiple wells concentrated on a single pad, or high-volume removal of water for single wells or pads. It can be imposed as part of the environmental impact report, discussed above, or as part of the site-specific review. The current site-specific review, combined with the lack of actual measurements of flows and levels, pump tests under drought or real world conditions taking to account climate change, do not comply with the fundamental duties imposed by the MEPA,[45] water law, and the purposes of the WWAT and our common law.

c. The confidentiality imposed from permit to completion deprives affected landowners the right of review, comment, or appeal. If water volumes, chemicals, and other potential effects are not considered or disclosed (short of actual trade secrets protected by federal law), it is impossible for an affected person to appeal within the 30 days imposed by the RJA - MCL 600.631. As noted by the IA Policy/Law Report, there is no formal notice, opportunity for comment, or clear appeal for an affected landowner, resident, or user of state land or waters, such as

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[42]*Michigan Citizens for Water Conservation v Nestlé*, 269 Mich App 25, 709 NW 2d 174 (2006).(Opinion discusses the range of effects that formed the basis of its decision that the effects resulted in substantial harm and impairment of water resources of a stream).

[43]*Ray* and *Vanderkloot*, *supra*, and accompanying text.

[44]Part 327, the WWAT statute, and Michigan common law for water resources, imposes a limitation on removing water from a watershed if it materially diminishes the flow or level of a creek, stream, lake, or wetland. *Dumont v Kellogg*, 29 Mich 420, 421-22 (1874); *Hoover c Crane*, 362 Mich 36, 106 NW2d 563 (1960); *Schenk v City of Ann Arbor*, 196 Mich 75, 163 NW 109 (1917); *Michigan Citizens for Water Conservation v Nestlé*, 269 Mich App 25, 709 NW2d 174 (2006). See also MEPA, Section 1705(2), MCL 324.1705(2).

[45]*Vanderkloot*, *supra*, and Section 1705(2), MEPA, MCL 324.1705(2). MEPA expressly requires consideration and determination of likely effects and alternatives, before any permit or approval of other action by government is issued.

fishers, canoeists, naturalists, birders, or hikers. The lack of disclosure, informality of process, lack of notice and comment could expose the state to liability for claims by affected persons that their due process rights guaranteed by federal and state constitutions have been denied.

d. Michigan's lack of full chemical disclosure of all chemicals and water quantities violate the duties to consider and prevent harm under the MEPA and *Vanderkloot*, and for the reasons stated above, again, have the potential to violate due process of law. Even short of these claims, state and local governments should cooperate and insist on full disclosure to prepare for emergencies or accidents that need immediate response. The Environment/Ecology Report and Policy/Law Report both note the gaps in information on toxic and hazardous substances by the insufficient disclosure from requiring only the filing of Material Safety Data Sheets. Disclosure beforehand protects affected owners from potential threats or and advises them of risks that could affect their heath, water, and property. The state can require, under the property power and a provision in its lease, such disclosure, and a company can decide at the time they want to apply for a permit or develop the lease whether they will disclose the list of chemicals it intends to use or simply abandon its rights under the lease. Because this would be an express condition of the lease signed by the developer, there would be no grounds for recourse against MDNR.

For the same reasons, the state can insist on a range of information not otherwise available to it under the regulatory process, if the MDNR addresses the problem with a condition in the lease that requires the information as part of any decision to exercise development of the leasehold interests.

e. The lack of federal regulation of the oil and gas industry, in effect, has left it to state and local governments to work together to identify, regulate, and control the extent to which high-volume unconventional fracking, and related developments and facilities should be allowed within communities. During FLOW educational workshops, citizens and local officials identified concerns about fracking impacts on local water use, road use, and chemical disclosure, and expressed interest in creating local regulation to address these impacts. Farmers were concerned that they had to do pump yield tests for irrigation, but an oil and gas developer would not have to do so even though pumping at equally high or higher volumes in the same vicinity. High-volume removal of water during critical growing seasons would likely create major conflicts, and the oil and gas companies would be free from restraint so farmers would not be protected. As a result, local governments may be able to require water use and removal impact analysis before water wells are allowed to be constructed or operated. Water use and removal in connection with land in a township is not a regulation of the *withdrawal* but of a *land use conflict.*[46] In any event, oil and gas development is not subject to the water

[46]While oil and gas development is exempt from the WWAT and Part 327, and local governments may not regulated "withdrawals," the regulation of water and land use conflicts is not a regulation of a "withdrawal." Moreover, an oil and gas developer cannot claim protection of the prohibition against local regulation of "withdrawals," because it is exempt from and does not enjoy the protection from regulation under Part 327.

withdrawal law,[47] and therefore does not enjoy the prohibition against local regulation. The same is true for residential, community, resort and golf course water use conflicts, or impacts on recreation and tourism in general.[48]

Research and study has resulted in conclusions by FLOW and other local government lawyers and firms that appropriately tailored local regulation through police power ordinances, zoning and special use permits related to "ancillary" activities or uses other than the location and operation of the well itself is proper.[49] In addition, local governments have ample authority to protect themselves from use of roads for traffic and pipelines, including disclosures of risks, traffic, emergency service plans, indemnities, damages, and bonds or letters of credit for damages and clean up or restoration.[50]

4.0 A Closing Note

FLOW again thanks the Graham Institute, its authors, advisors, and staff, the University of Michigan, and Governor Snyder and the State of Michigan for conducting the Integrative Assessment. Governor Snyder has called for a true balancing of impacts on the environment, water , recreation, health, communities, and the overall economy, including farming, wineries, resorts, golf courses, and tourism, against hydraulic fracturing.

Based on the current law, regulatory and policy framework in Michigan, the environment, ecology, water resources, community, and impact on other highly valued economic endeavors, and quality of life are not adequately protected or balanced. The oil and gas industry may contribute to the state's economy, but it should not enjoy exemptions or privileges over other legitimate interests, such as public health, environment, water, and economies and quality of life dependent on a healthy environment. Currently, oil and gas regulation related to fracking favors industry over these important broader economic and environmental or community interests.

The DNR, Natural Resources Commission should be fully restored to their full power and duties under law, especially the restoration of full and meaning full consideration and determination of environmental effects before special state lands are leased or oil and gas

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[47]NREPA, MCL 327.32701 et. seq.

[48]Traverse City Record Eagle, Oct. 5, 2013. For example, it has been reported that tourism in the Traverse City area has exceeded $1 billion dollars a year.

[49]*"Addison Twp v Gout*, 435 Mich 809 (1990). "Ancillary" facilities or activities include gathering lines, flowlines, some pipelines except for locations approved by Michigan Public Service Commission, sweetening facilities, access roads, and most likely water wells, hauling and handling hazardous substances, production and compressors, and flare equipment or tanks and brine pits for venting of methane and harmful hydrocarbon air emissions. See moratoria or proper local ordinances adopted by Canon Township, Kent County, the Howell, and Filer Township; see Home Rule, Mich Const. Art 7, Sec. 22; franchise or use of township or local roads, Mich Const. Art. 7, Sec. 29.

[50]See local regulation of fracking project reports at www.flowforwater.org. Cannon Township and West Bloomfield Township have passed moratoria while the township reviews their authority and identifies areas it desires to regulate.

permits and related developments are permitted. The MDEQ should also be required to restore notice, opportunity for hearings, evidence, debate, and records for decisions, and de novo review as mandated by law, including the MEPA.[51] And an atmosphere of openness, honest debate, at all levels of government should be reinstated and improved.

Respectfully Submitted,

October 7, 2013

James M. Olson

Elizabeth Kirkwood

FLOW (For Love of Water)

[51]Despite the MEPA's clear application to all agency proceedings, permitting, and licensing processes, MCL 324.1705(2), the DEQ continues to refuse to apply it. *Anglers of AuSable v MDEQ*, Otsego Cir. Ct. No. 07-12072-AA, Jan.31, 2008. (Court overturned decision of MDEQ allowing permit for MDEQ's refusal to apply the MEPA).