

SB 1100 (PN 1777):

- **Include definitions for: Body of Water; Best Management Practices; Water Management Plan; Well Site; Flood Fringe and Floodplain.**

Recommended language:

- Best Management Practices should be defined as standards established by DEP through technical guidance. These standards should identify industry practices and actions that can be utilized to better protect natural resources, communities, and human health. The technical guidance should be reviewed and updated (as appropriate) at least every three years. See. *MSAC Report 9.2.23*
- The definition for a Body of Water should include streams, as well as natural or artificial lakes, ponds, reservoirs, swamps, marshes or wetlands. See. *MSAC Report 9.2.24* (“...Additional discussion of appropriate definition of water body for purposes of [] setbacks is necessary.”)
- The definition for Well Site should include the entire area occupied by equipment or facilities necessary for, or incidental to, the drilling, production, servicing, or plugging of a well. Any setback standard must be measured from the edge of disturbance. See. *MSAC Report 9.2.24* (“...A 100’ setback from the stream or water body to the edge of disturbance shall also be implemented.”)
- Water Management Plan, as defined in the HB 1950, PN 2777 reads: A plan associated with drilling or completing a well in an unconventional formation that demonstrates that the withdrawal and the use of water resources protects those sources as required by law and protects public health, safety and welfare. See. *HB 1950, PN 2777, Page 35, Lines 9-13; see also. MSAC Report 9.2.21.*
- Flood Fringe means that portion of the Floodplain that is outside the Floodway.
- The definition for Floodplain should mean the lands adjoining a river or stream that have been or may be expected to be inundated by floodwaters in a 100-year frequency flood. Unless otherwise specified, the boundary of the floodplain is as indicated on maps and flood insurance studies provided by FEMA. In an area where no FEMA maps or studies have been defined the boundary of the 100-year frequency floodplain, it is assumed absent evidence to the contrary, that the floodplain extends from (1) any perennial stream to 100 feet horizontally from the top of the bank of such perennial stream, and (2) from any intermittent stream to 50 feet horizontally from the top of the bank of such intermittent stream. See. *HB 1950 PN 2777, Page 58, Lines 11-22.*

➤ **Include enhanced inspection and monitoring requirements found in the Report.**

MSAC Report 9.2.15:

- The timely inspection of each well site upon completion of erosion and sedimentation control measures, prior to the commencement of drilling activity;
- Notice by the well operator to DEP, at least 24 hours in advance, before commencing the following activities at the well site:
 - Cementing of casing strings;
 - Pressure testing of production casing strings;
 - Well stimulation, including hydraulic fracturing;
 - Plugging or abandoning of a well.

➤ **Authorize DEP to require a Water Management Plan.**

MSAC Report 9.2.21:

- The Oil and Gas Act should be amended to clarify that DEP has authority pursuant to the Clean Streams Law to require a Water Management Plan (Plan) as part of the Section 201 permitting process to protect the ecological health of water resources. Approval of a Plan shall authorize the removal and use of such water away from the riparian lands, provided the use is conducted in accordance with the Plan. An operator must still obtain legal permission from the riparian rights owner for access. Such program should not duplicate the authority of any interstate river basin commission.

HB 1950, PN 2777:

- The following shall apply to water management: No person may withdraw or use water from water sources within this Commonwealth for the drilling or hydraulic fracture stimulation of any natural gas well completed in an unconventional gas formation, whether on or off of the land where the gas well is located, except in accordance with a water management plan approved by the department.
- The department shall review and approve water management plans based upon a determination that the proposed withdrawal, when operated in accordance with the proposed withdrawal operating conditions set forth in the plan, including conditions relating to quantity, withdrawal rate and timing and any passby flow conditions: will not adversely affect the quantity or quality of water available to other users of the same water sources; protect and maintain the designated and existing uses of water sources; and not cause adverse impact to water quality in the watershed considered as a whole.

- The criteria under paragraph () shall be presumed to be achieved if the proposed water withdrawal has been approved by and is operated in accordance with conditions established by the Susquehanna River Basin Commission, the Delaware River Basin Commission or the Great Lakes Commission, as applicable. Notwithstanding subparagraph (), the department may establish additional requirements as necessary to comply with the laws of this Commonwealth.
 - In addition to the requirements under paragraphs (...), compliance with a department-approved water management plan shall be a condition of any permit issued under this chapter for the drilling or hydraulic fracture stimulation of any natural gas well completed in an unconventional formation and shall be deemed to satisfy the laws of the Commonwealth. *See. HB 1950, PN 2777, Page 45, Lines 28-30, Page 46, Lines 1-30 and Page 47, Lines 1-4.*
- **Ensure setbacks are measured from the “edge of disturbance.” For High Quality or Exceptional Value streams create additional setbacks or require Best Management Practices.** *See. MSAC Report 9.2.24.*
- **Allow well site remediation to be extended beyond the nine-month well-site restoration requirement as long as that extension would ultimately result in less surface disturbances, increased water reuse, or more efficient development of the resource. If such an extension is granted, the extension must be for a defined time period and should include interim restoration/stabilization measures.** *See. MSAC Report 9.2.20.*

HB 1950, PN 2777:

- The restoration period may be extended by the department for an additional period of time not to exceed two years upon demonstration by the well owner or operator that certain conditions are met.
- Shall include a site restoration plan that shall provide for; the timely removal of fill of all pits used to contain produced fluids or industrial waste; the removal of all drilling supplies and equipment not needed for production; stabilization of the well site that shall include interim post-construction storm water management best management practices; or other measures to be employed to minimize accelerated erosion and sedimentation in accordance with The Clean Streams Law. *See. HB 1950, PN 2777, Page 60, Lines 18-30, Page 61, Lines 1-30 and Page 62, Lines 1-19.*

- **Increase setback distance for wetlands to 300 feet for wetlands of an acre or greater.**

HB 1950, PN 2777:

- In the case of an unconventional well, 300 feet, of any wetlands greater than one acre. See. *HB 1950, PN 2777, Page 55, Lines 23-26.*

- **Ensure greater protections for wells located in floodplains.**

MSAC Report 9.2.12:

- Provide DEP with additional authority to establish further protective measures for the storage of hazardous chemicals or materials on a well site located within a floodplain.

MSAC Report 9.2.13:

- Impose additional conditions for locating well sites in floodplains, including prohibiting where appropriate.

HB 1950, PN 2777:

- The following shall apply to well sites: No well site may be prepared or well drilled within any floodplain if the well site will have: a pit or impoundment containing drilling cuttings, flowback water, produced water or hazardous materials, chemicals or wastes within the floodplain; or a tank containing hazardous materials, chemicals, condensate, wastes, flowback or produced water within the floodway.
- A well site shall not be eligible for a floodplain restriction waiver if the well site will have a tank containing condensate, flowback or produced water within the flood fringe unless all the tanks have adequate floodproofing in accordance with the National Flood Insurance Program standards and accepted engineering practices.
- The department may waive restrictions upon submission of a plan that shall identify the additional measures, facilities or practices to be employed during well site construction, drilling and operations. The waiver, if granted, shall impose permit conditions necessary to protect the waters of this Commonwealth.
- Best practices to ensure the protection of the waters of this Commonwealth must be utilized for the storage and handling of all water, chemicals, fuels, hazardous materials or solid waste on a well site located in a floodplain. The department may request that the well site operator submit a plan for the storage and handling

of materials for approval by the department and may impose conditions or amend permits to include permit conditions as are necessary to protect the environment, public health and safety.

- Unless otherwise specified by the department, the boundary of the floodplain shall be as indicated on maps and flood insurance studies provided by the Federal Emergency Management Agency. In an area where no Federal Emergency Management Agency maps or studies have defined the boundary of the 100-year frequency floodplain, absent evidence to the contrary, the floodplain shall extend from: any perennial stream up to 100 feet horizontally from the top of the bank of the perennial stream; or from any intermittent stream up to 50 feet horizontally from the top of the bank of the intermittent stream. *See. HB 1950, PN 2777, Page 57, Lines 10-30, and Page 58, Lines 1-22.*

➤ **Ensure greater protections for areas of high ecological value.**

MSAC Report 9.2.26:

- Using publicly available data (e.g., PA Natural Diversity Inventory, County Natural Heritage/Natural Area Inventories, and other relevant sources), DEP, DCNR, PGC and PFBC will jointly identify and make accessible for public review information (but not including location information on species) on areas of high ecological value in Pennsylvania (e.g., high conservation value forests, concentrations of biological diversity, sensitive aquatic communities, etc.). When submitting a permit application for an unconventional shale gas well that would be located in such an area, the applicant will be required to provide DEP with a description of its efforts to avoid, minimize or mitigate for impacts to the area. (e.g., co-location and centralization of infrastructure, use of specialized BMPs, well pad spacing and density adjustments, working with other companies holding leases in this area to reduce cumulative impacts, etc.). DEP could establish specific conditions on well permits proposed in such areas.

MSAC Report 9.2.28:

- Strengthen and improve effectiveness of the permit review process in protecting rare, threatened and endangered species. State agencies should consider, but not be limited to, the following options: increasing staff capacity and program resources, enhancing quality and presentation of data on wildlife and critical habitats; identifying appropriate opportunities to improve and manage access to such data, upgrading computer systems, providing additional technical and planning assistance, increasing acquisition of current field data, and other options as identified.

MSAC Report 9.2.29:

- DEP should develop an environmental assessment checklist as part of the permit application process to locate and construct a drilling site. The checklist should be used to identify all the features to which setbacks are applicable; identify all natural features that DEP is authorized to consider; and to identify those additional Areas of High Ecological Value.

HB 1950 (PN 2777):

- **Include definitions for: Body of Water; Best Management Practices; Water Management Plan; and Well Site.**

Recommended language:

- Best Management Practices should be defined as standards established by DEP through technical guidance. These standards should identify industry practices and actions that can be utilized to better protect natural resources, communities, and human health. The technical guidance should be reviewed and updated (as appropriate) at least every three years. See. *MSAC Report 9.2.23*
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 - Well stimulation, including hydraulic fracturing;
 - Plugging or abandoning of a well.

- **Ensure setbacks are measured from the “edge of disturbance.” For High Quality or Exceptional Value streams create additional setbacks or require Best Management Practices. See. *MSAC Report 9.2.24*.**

MSAC Report 9.2.24:

- A 100' setback from the stream or waterbody to the edge of disturbance shall also be implemented. For High Quality and Exceptional Value streams, however, additional setbacks or BMP's may be required by DEP.

HB1950, PN 2777:

- The edge of disturbance is mentioned in the well location restrictions; however, the distance is only solid blue line streams which is too limiting. See. *HB 1950, PN 2777, Page 55, Lines 18-26.*

➤ **Ensure greater protections for areas of high ecological value.**

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- Using publicly available data (e.g., PA Natural Diversity Inventory, County Natural Heritage/Natural Area Inventories, and other relevant sources), DEP, DCNR, PGC and PFBC will jointly identify and make accessible for public review information (but not including location information on species) on areas of high ecological value in Pennsylvania (e.g., high conservation value forests, concentrations of biological diversity, sensitive aquatic communities, etc.). When submitting a permit application for an unconventional shale gas well that would be located in such an area, the applicant will be required to provide DEP with a description of its efforts to avoid, minimize or mitigate for impacts to the area. (e.g., co-location and centralization of infrastructure, use of specialized BMPs, well pad spacing and density adjustments, working with other companies holding leases in this area to reduce cumulative impacts, etc.). DEP could establish specific conditions on well permits proposed in such areas.

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➤ **Assure safe water for public and private water supplies.**

MSAC Report 9.2 6:

- Expand an operator's presumed liability for impaired water quality and apply to well stimulation.

HB 1950, PN 2777: (Revise Language)

- The bill allows for the replacement of a water supply to being either quantity **or** quality. The "**or**" should be changed to "**and**" because both quantity and quality are significant. See. *HB 1950, PN 2777, Page 63, Line 25.*

➤ **Allow well permits to be viewed in light of their impact on public resources.**

MSAC Report 9.2.3:

- Authorize the Environmental Quality Board to develop, by regulation, criteria for conditioning a well permit based on its impact to public resources.

HB 1950, PN 2777: (Revise Language)

- The bill suggests that the Environmental Quality Board should develop criteria by regulation to allow the department to condition a well permit based on its impact to public resources, but also adds language dealing with "**optimal development of oil and gas resources**" and other provisions, including (E)(2) and (3) which appear to restrict DEP's ability to implement this section and protect these important resources.

➤ **Increase setbacks.**

MSAC Report 9.2.11:

- Increase the minimum setback distance from a private water well from 200 feet to 500 feet and establish a minimum setback distance from a public water supply (water well, surface water intake or reservoir) to 1,000 feet unless waived in writing by the owner or public water supply operator.

MSAC Report 9.2.24:

- The setback standard for an unconventional well shall be increased to 300' from the wellbore to a stream or waterbody as provided in section 205(b) of the Oil and Gas Act. A 100' setback from the stream or waterbody to the edge of disturbance shall also be implemented. DEP's current waiver authority would be retained for both setbacks.

HB 1950, PN 2777: (Revise Language)

- The bill appears to require that the Department grant waiver requests, potentially negating the benefit of an increased setback. If this is the intent, it also would prevent DEP from making determinations that are necessary to protect the health and safety of a drinking well, stream wetland etc. The “**shall**” should be changed to “**may**.” See. *HB 1950, PN 2777, Page 55, Lines 3-4 and Page 55, Line 27.*

➤ **Ensure better tracking and reporting of wastewater from high-volume wells.**

MSAC Report 9.2.7:

- Well operator's should be required to track and report on the transporting, processing and treatment or disposal of wastewater from high-volume well (ie 80,000 gallons or more of water used).

SB 1100, PN 1777:

- A well operator that transports wastewater fluids shall maintain records for five (5) years and make the records available to the department. See. *SB 1100, PN 1777. Page 63, Lines 25-30 and Page 64, Lines 1-14.*

➤ **Ensure better spill containment at well sites.**

MSAC Report 9.2.27:

- Conduct an engineering analysis of spill containment systems at unconventional shale gas well sites, including wells, well pads, storage tanks/impoundments and other equipment/facilities. This analysis will evaluate the design and structure of containment systems and determine adequacy and effectiveness in relation to the volumes and types of materials present at these sites at different stages of the production process. The analysis also will review past performance of containment systems used at well sites. Recommendations for new or improved containment practices, structures, and procedures –including, but not limited to, liners and berms on well sites, will be developed as needed.

SB 1100, PN 1777:

- Unconventional well pad sites shall be designed and constructed to prevent spills to the ground surface or spills off the well pad area. Containment practices shall meet the following: be instituted on the pad both during drilling and hydraulic fracturing operations; be sufficiently impervious; be compatible with the waste material.
- A plan describing the containment practices to be utilized and the area the well pad and containment systems will be employed must be described to the department.
- Containment systems shall be used wherever the following are stored: drilling mud; hydraulic oil; diesel fuel; drilling mud additives; hydraulic fracturing additives; and hydraulic fracturing flowback. *See SB 1100, PN 1777. Page 62, Lines 25-30 and Page 63, Lines 1-24.*