

Thank you for the opportunity to review & comment on Ecology's draft general permit for biosolids. We have the following comments:

We are concerned the biosolids general permit isn't consistent with state and federal requirements for source water protection of drinking water supplies. The biosolids general permit is tied to the federal Clean Water Act "as it existed on February 4, 1987," in keeping with [RCW 70A.226.007](#) & [WAC 173-308-010](#). Meanwhile, source water protection requirements for public drinking water systems stem from 1986 & 1996 amendments to the federal Safe Drinking Water Act. The 1986 amendments enabled states to establish wellhead protection programs for public drinking water wells. In 1996, this was expanded to incorporate source water assessment programs for surface as well as ground water supplies. (See [Safe Drinking Water Act \(SDWA\): A Summary of the Act & Its Major Requirements](#), p. 21)

As enacted in Washington ([WAC 246-290-135](#)) this requires:

1. For Group A well & spring sources:
 - a. Establishment of sanitary control areas (SCAs) with a radius of 100' (wells) & 200' (springs); and
 - b. Establishment of wellhead protection areas (WHPAs) that reflect times of travel (TOT) to the water source, should contamination occur in that area (6-month & 1-, 5- & 10-year TOTs).
2. For Group A surface water sources, establishment of individualized watershed control programs.
3. For Group B systems (any source), establishment of a 100' SCA; plus our WHPA mapping reflects a standard 600' "preliminary short-term groundwater contribution area" ([WAC 246-291-125](#)).

Federal standards for biosolids application appear to be rooted in science that was developed in the 1970s, when the potential of using biosolids as soil amendments was initially being studied. The 100' buffer for septage & Class B biosolids (General Permit tables 3.8.3 & 4.5.9.3) coincides with the SCA associated with a Group A or B public drinking water wells but overlooks the 200' SCA for Group A spring sources & any tailored protections associated with watershed control programs for surface systems.

Nitrates remain a basic concern in relation to drinking water. Plus, at now approaching 50 years old, the foundational science does not take into account contemporary unregulated contaminants in waste water such as pass-through pharmaceuticals, personal care products, or newer-generation "forever chemicals" like PFAS. It is unknown to what extent such materials are retained in biosolids, even if treated or amended. We have concerns about the lack of updated scientific information & would welcome the opportunity to engage with Ecology in taking a deeper look at this when this general permit is next up for review. In the meantime, a precautionary approach is advisable to offer a greater degree of protection to public water consumers statewide.

While maintaining the current 100' buffer reflective of the SCA for Group A & B public water systems using well sources & for private wells, we encourage Ecology to consider these increased distances for the listed features:

- For Group A public water systems using spring sources, a 200' buffer reflecting the SCA.
- For Group A public water systems using surface sources, a buffer of at least 200' away from the surface water intake, & as consistent & coordinated with the individual public water system's watershed control area.

There is precedent for this in some other states. A comparison with several others' buffering requirements for biosolids shows a range of up to 2,500', depending on the feature, method of

application, & class of biosolid material. We have attempted to generalize them in this table, but they're somewhat "apples & oranges" so state-by-state information is also included below.

Comparison of Biosolids Buffers for Potable Water-Related Features								
	Sensitive Receptor							
	Private drinking water well	Public drinking water well	Surface water (generally)	Spring	Reservoir (public drinking water supply)	Surface water intake (public drinking water supply)	Primary tributary (public drinking water supply)	Public water treatment plant
State	Required Setback in Feet							
California	100	500	100	---	400	2,500	200	---
Colorado	100-300	300-1,500	33-200	---	---	---	---	---
Florida	300	500	200-1,000	---	---	---	---	---
Georgia	250	500	50-150	---	---	---	---	---
Idaho	500	1,000	50	---	---	---	---	---
Minnesota	200	1,000	33-200 (in some cases not allowed)	---	---	---	---	---
Missouri	300	300	100	---	---	---	---	---
Texas	150	500	33-200	500	500	500	---	500
Washington	100	100	100	---	---	---	---	---

California

11. Staging and biosolids application areas shall be at least:
 - a. 10 feet from property lines⁵,
 - b. 500 feet from domestic water supply wells⁶,
 - c. 100 feet from non-domestic water supply wells⁷,

⁵ This requirement may be waived when property lines are adjacent to properties also using biosolids as a soil amendment.

⁶ A lesser setback distance from domestic water supply wells (not to be less than 100 feet) may be used if the discharger can demonstrate to the Executive Officer that the ground water, geologic, topographic, and well construction conditions at the specific site are adequate to protect the health of individuals using the supply well.

⁷ A lesser setback distance (not to be less than 25 feet) may be used if the discharger can demonstrate to the RWQCB Executive Officer that the ground water, geologic, topographic, and well construction conditions at the specific site are adequate to protect the ground water. Not including agricultural drains.

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- d. 50 feet from public roads and occupied onsite residences,
 - e. 100 feet from surface waters, including wetlands, creeks, ponds, lakes, underground aqueducts, and marshes,
 - f. 33 feet from primary agricultural drainage ways,
 - g. 500 feet from occupied non-agricultural buildings and off-site residences⁸,
 - h. 400 feet from a domestic water supply reservoir,
 - i. 200 feet from a primary tributary to a domestic water supply,
 - j. 2,500 feet from any domestic surface water supply intake, and
 - k. 500 feet from enclosed water bodies that could be occupied by pupfish.

https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqo/wqo2004-0012.pdf

Colorado

No application upgradient and within 300 feet of a reservoir classified for Class 1 Recreational Use by the Water Quality Control Commission (generally, lakes and streams frequently used for swimming, rafting, kayaking, tubing, windsurfing and water-skiing – activities where ingestion of small quantities of water is likely to occur).

Application Method	Incorporated or Injected	Surface
Any surface water channel including intermittent streambeds when water is present	50 Feet	200 Feet
Any surface water channel including intermittent streambeds when water is not present	33 Feet	33 Feet

Agricultural land under cultivation shall not be considered a dry streambed regardless of whether it serves as a watercourse during significant precipitation events.

- (3) No person shall apply biosolids for beneficial use on land which is saturated, or on land where ponding is occurring.
- (4) No person shall apply biosolids for beneficial use on land which is either:
 - (a) within 100 feet of a private domestic water supply well or within 300 feet of a community supply well when use is made to agricultural land, or

- (b) within 300 feet of a private domestic water supply well or within 1,500 feet upgradient of a community supply well when use is made for reclamation of disturbed land.

Florida

SETBACK DISTANCES

The following restrictions apply to land application of Class A and B biosolids:

1. A 1,000 ft setback from any Class I water body, Outstanding Florida Water, or Outstanding National Resource Water; or a 200 ft setback from any other surface water, which is reduced to a 100 ft setback if biosolids are injected or incorporated into the soil. The setback area must be vegetated. This setback does not apply to waters owned entirely by one person, or to canals or bodies of water used for irrigation or drainage, which are located completely within the application site and do not discharge from the site. More information on surface water quality and classifications can be found at <https://floridadep.gov/dear/water-quality-standards> and in Chapter 62-302, F.A.C: Surface Water Quality Standards.
2. A 300 ft setback from any private drinking water supply well and 500 feet from any public drinking water supply well.
3. The land application site and a 200 ft perimeter must show no evidence of subsurface fractures, solution cavities, sinkholes, excavation core holes, abandoned wells, or any other natural or man-made conduits that could allow direct contamination of groundwater.
4. For stockpiled or stored biosolids, a 1,320 ft setback from buildings occupied by the general public, which can be reduced to 100 ft if written consent is provided by the owner of the building.

Additional setback distances apply to land application sites that accept Class B biosolids, as follows:

1. A 300 ft setback from buildings occupied by the general public, which is reduced to a 100 ft setback if biosolids are injected into the soil or if written permission is obtained from the building owner.
2. A 75 ft setback from property lines, unless applied to the medians or roadway shoulders of restricted public access roads.

<https://edis.ifas.ufl.edu/publication/ss634>

Georgia

BUFFERS

The following chart shall be used to determine the normal buffer zone requirements depending upon application method. Note that if a biosolids has been demonstrated to be of exceptional quality (Chapter 391-3-6-.17(2)(o)) the buffer zone requirements may be reduced on a case-by-case basis. In no case will the buffers be reduced to less than 35 feet to waters of the State or 100 feet to a well.

	Property Line	Waters of the State* (1)	Wells, Public/Private (2)	Exterior Roadways	Dwellings
Liquid, Unincorp.	100 feet	100 feet	500/250 feet	100 feet	300 feet
Liquid, Incorp.	50 feet	35 feet	500/250 feet	50 feet	150 feet
Spray Irrigation	150 feet	150 feet	500/250 feet	150 feet	300 feet
Dewatered Incorp.	50 feet	35 feet	500/250 feet	50 feet	150 feet
Dewatered Unincorp.	50 feet	50 feet	500/250 feet	50 feet	150 feet

*Waters of the State are defined (in Chapter 391-3-6-.03) as any and all rivers, streams, creeks, branches, lakes, reservoirs, ponds, drainage systems, springs, wells, wetlands, and all other bodies of surface or subsurface water, natural or artificial, lying or forming a part of the boundaries of the State which are not entirely confined and retained completely upon the property of a single individual, partnership, or corporation.

https://epd.georgia.gov/sites/epd.georgia.gov/files/related_files/site_page/Guidelines%20for%20Land%20Application%20of%20Sewage%20Sludge.pdf

Idaho

Buffer zone distances will be determined by DEQ on a case-by-case basis and will depend upon the method of application used, biosolids characterization, and proximity to sensitive areas. Table 5 provides buffer zone distances that have typically been accepted in the past.

Table 5. Generally acceptable buffer distances.

Residences	300 feet
Public roadways, drainage ditches or surface water	50 feet
Private water supply wells	500 feet
Community water supply well	1000 feet

<file:///C:/Users/DLJ4303/Downloads/773827-ww-biosolids-guidance-final-1211.pdf>

Minnesota

For Agricultural Sites			
Criteria	If surface applied	If incorporated	If injected
Allowable slopes	0 - 6%	0 - 12%	0 - 12 %
Depth to bedrock	3 ft.	3 ft.	3 ft.
Depth to seasonal high water table or drain tile	3 ft.	3 ft.	3 ft.
Distance to wells:			
Private supply	200 ft.	200 ft.	200 ft.
Public supply	1000 ft.	1000 ft.	1000 ft.
Irrigation	50 ft.	25 ft.	25 ft.
Distance to residences¹	200 ft.	200 ft.	100 ft.
Distance to residential development¹	600 ft.	600 ft.	300 ft.
Distance to public contact site⁴	600 ft.	600 ft.	300 ft.
Distances to down gradient² lakes, rivers, streams, Types 3, 4, & 5 wetlands, intermittent streams³, or tile inlets connected to these surface waters, and sinkholes			
Slope 0 - 6%	200 ft.	50 ft.	50 ft.
Slope > 6 - 12%	Not allowed	100 ft.	100 ft.
Distances to grassed waterways⁴			
Slope 0 - 6%	100 ft.	33 ft.	33 ft.
Slope 6 -12%	Not allowed	33 ft.	33 ft.

<https://www.pca.state.mn.us/sites/default/files/wq-bios1-01.pdf>

Missouri

Table 1. Recommended separation distances for land application of biosolids.

Type of sensitive setback area	Separation distance
Wells, abandoned wells, sinkholes, caves and loosing streams ¹	300 ft
Permanently flowing and intermittent streams	100 ft
Privately owned impoundment (ponds) not used as a water supply ¹	100 ft
Property lines ¹	50 ft
Neighboring houses or public use areas ¹	150 ft

¹ Required by Missouri regulations (Department of Natural Resources, Clean Water Commission, Chapter 8, Design Guide (10 CSR 20-8.020)).

<https://extension.missouri.edu/publications/g9219>

Texas

(1) Surface water:

(A) 200-foot buffer zone, if the biosolids and/or domestic septage are not incorporated; for land application units located in a major sole-source impairment zone this buffer zone must maintain a vegetative cover; or

(B) 33-foot vegetative buffer zone, if the biosolids and/or domestic septage are incorporated.

(2) Other buffer zones:

(A) 150 feet, private water supply well;

(B) 500 feet, public water supply well, intake, spring or similar source, public water supply treatment plant, or public water supply elevated or ground storage tank;

(C) 200 feet, solution channel, sinkhole, or other conduit to groundwater;

(D) 750 feet, established school, institution, business, or occupied residential structure;

(E) 50 feet, public right-of-way and property boundaries; and

(F) 10 feet, irrigation conveyance canal.

<https://casetext.com/regulation/texas-administrative-code/title-30-environmental-quality/part-1-texas-commission-on-environmental-quality/chapter-312-sludge-use-disposal-and-transportation/subchapter-b-land-application-and-storage-of-biosolids-and-domestic-septage/section-31244-management-practices>