



PREPARING FOR FLOODING EVENTS



While rivers naturally evolve to form different paths over years, intense flooding events can dramatically alter a river's flow. During Hurricane Irene, Vermont saw immense flooding and erosion. With our changing climate, we will face more frequent and intense storm events. Once these events happen, only so much can be done retroactively. However, there are many things that can be done in order to prepare for these events.

This guide will show you what happens when an area is prepared for flooding and when an area is not.

QUICK RESOURCES


Flooding information:
vem.vermont.gov/preparedness/floods

Mapping:
gis-vtanr.hub.arcgis.com

CONTACT US:

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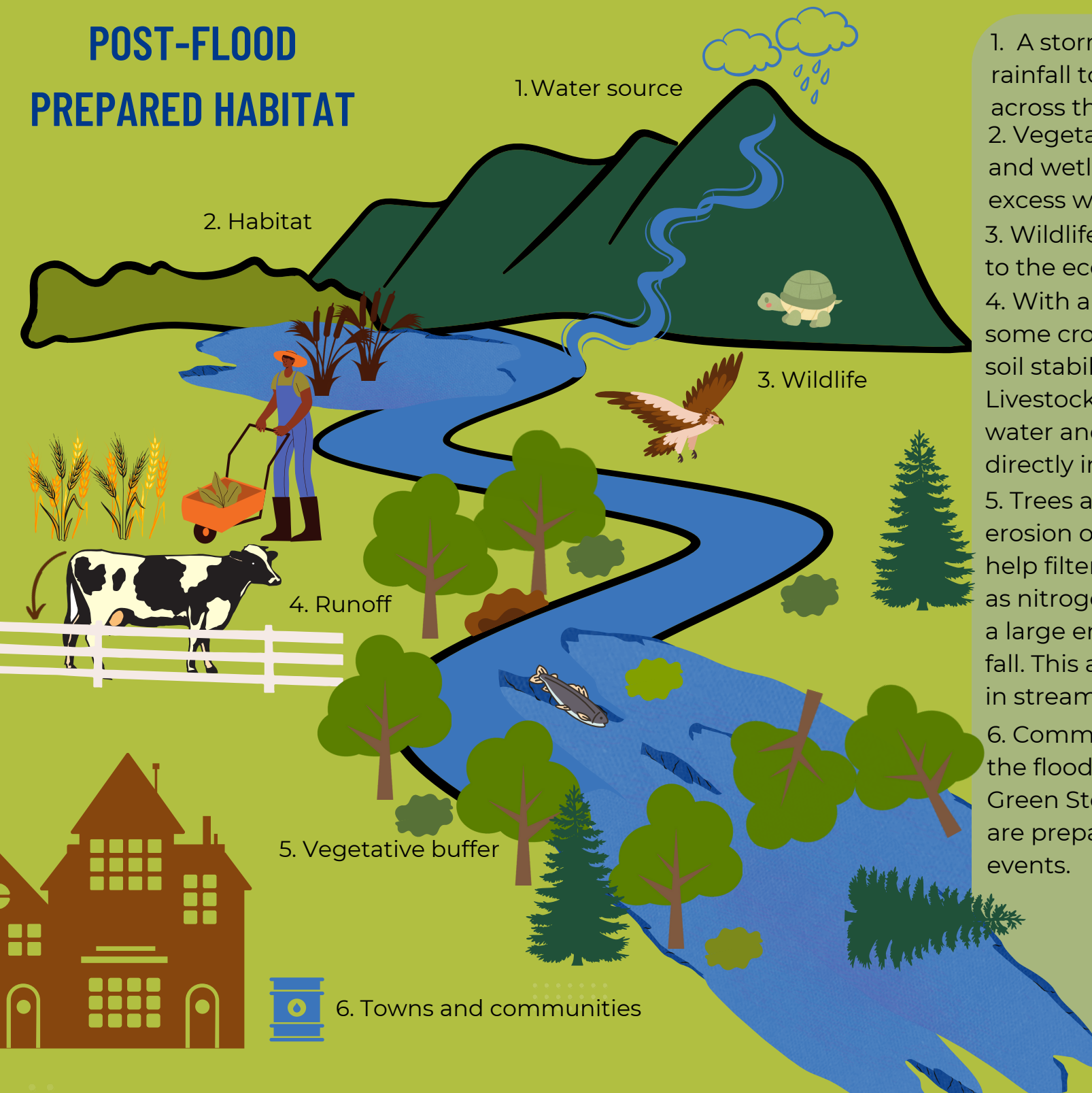
PRE-FLOOD PREPARED HABITAT



1. Fed by snowmelt, headwater streams run through the mountains which allows for nitrogen and phosphorous filtration.
2. Intact vegetation can protect soil and waterways. Wetlands, in particular, can trap water, diminish runoff, and help filter out pollution.
3. Wildlife presence is critical in a healthy ecosystem. The presence of certain organisms indicate the health of an ecosystem.
4. With crop diversity, fenced livestock, and overall low-impact land practices fewer nutrients will runoff into surrounding waterways.
5. Tree buffers along the waterway, helps reduce erosion by strengthening stream banks. Trees also serve as a barrier between human activity and water.
6. Communities that avoid building in the floodplain, have Green Stormwater Infrastructure, and that reduce impervious surface runoff protect our waterways.



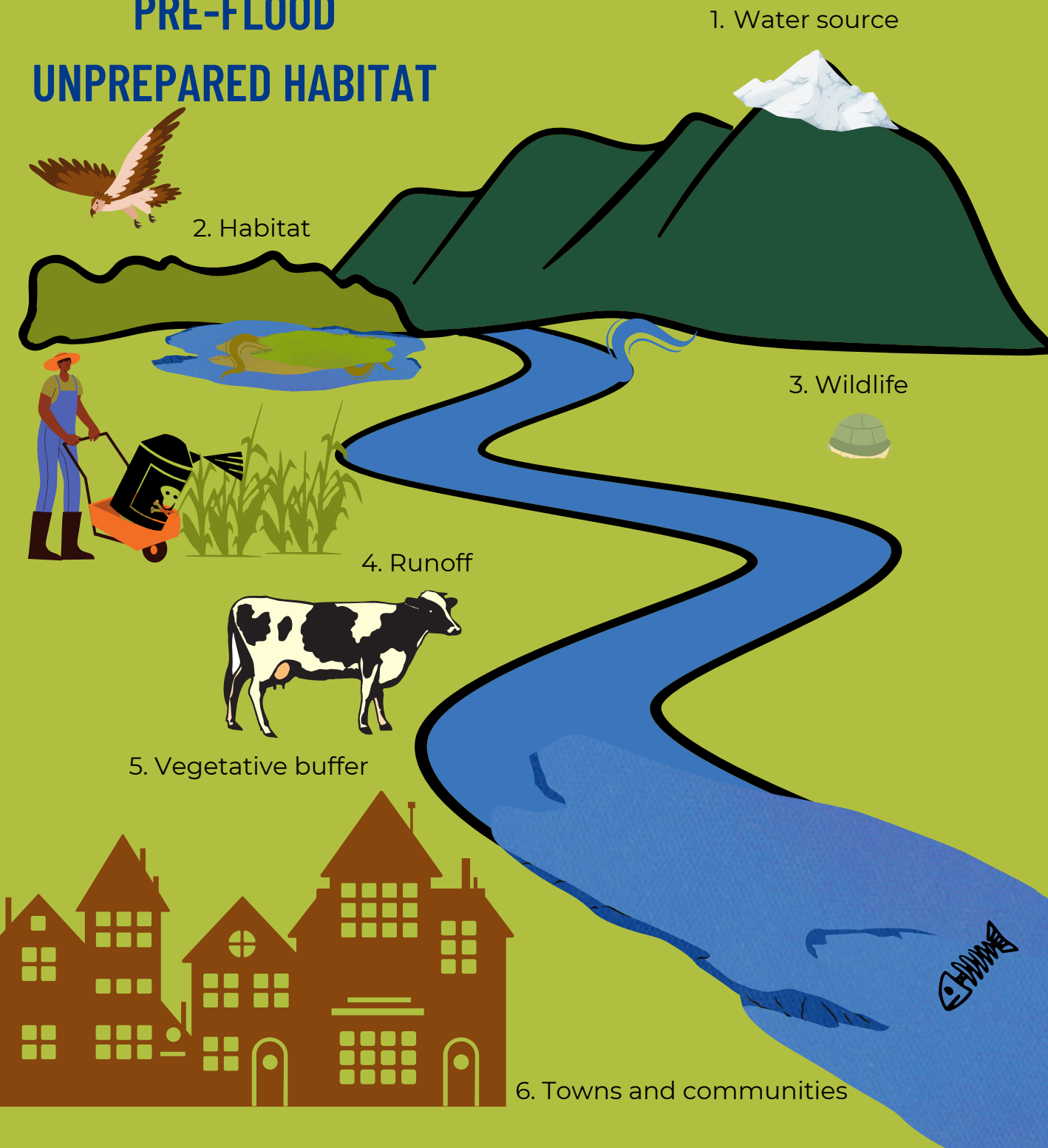
POST-FLOOD PREPARED HABITAT



1. A storm event brings heavy rainfall to the area. Water flows across the landscape.
2. Vegetation filters nutrient runoff and wetlands provide a space for excess water.
3. Wildlife manage small changes to the ecosystem during the event.
4. With a diversity of crops planted, some crops remain and provide soil stability and nutrient filtering. Livestock remain away from the water and limit nitrogen runoff directly into high water.
5. Trees and shrubs limit soil erosion on stream banks. Plants help filter excessive nutrients, such as nitrogen, from stormwater. With a large enough buffer, few trees fall. This allows for natural changes in stream flow.
6. Communities built away from the floodplain, that incorporated Green Stormwater Infrastructure are prepared to recover after storm events.



PRE-FLOOD UNPREPARED HABITAT



1. Fed by snowmelt, headwater streams run through the mountains which allows for nitrogen and phosphorous filtration.
2. Without vegetation in place, unfiltered nutrients run into the water, impact aquatic organisms and our drinking water supply. Without wetland habitat, standing water does not get filtered.
3. Wildlife, with unfiltered waterways, will disperse if able or perish.
4. Without crop diversity or fenced livestock, and with heavy pesticide usage, agricultural practices directly impair the water.
5. Without a vegetative buffer, stream banks are susceptible to frequent erosion and flooding.
6. Communities built in a floodplain and that do not adopt proper stormwater infrastructure have frequent flooding and runoff from impervious surfaces.



POST-FLOOD UNPREPARED HABITAT



1. A storm event brings heavy rainfall to the area. Water flows across the landscape.

2. Without vegetation, the waterway is not protected, allowing unfiltered water to overflow.

3. The overflowed, unfiltered stream and lack of vegetation discourages wildlife presence.

4. With no crop diversity or buffer, the nitrogen and phosphorus from pesticide applications flow into the water. Unfenced livestock waste pollutes the overflowed water.

5. Without a vegetative buffer, water floods outside of natural stream bank flow and causes major erosion issues.

6. Communities with poor stormwater infrastructure become inundated with water, requiring large amounts of time and money to rebuild.



WHAT CAN I DO?

If you own property along a waterway:

- Allow rivers to naturally evolve different paths over years. Avoid building structures or cutting tree or shrub buffers in floodplains.
- Reach out to us about a Trees For Streams buffer planting.
- Plan a site visit with us to discuss what funding opportunities that are available to implement good stream practices.

If you do not own property along a waterway:


- Advocate for Green Stormwater Infrastructure for you building or town.
- Advocate against new developments in floodplains
- Volunteer with programs like Trees For Streams that work on improving stream bank stability



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