

Swiss Policies and Experiences in River Ecosystem Management and Riverine Zoning

Sino-Swiss Cooperation Program on the Jinsha River Basin
Final Conference of May 24, 2018 in Beijing

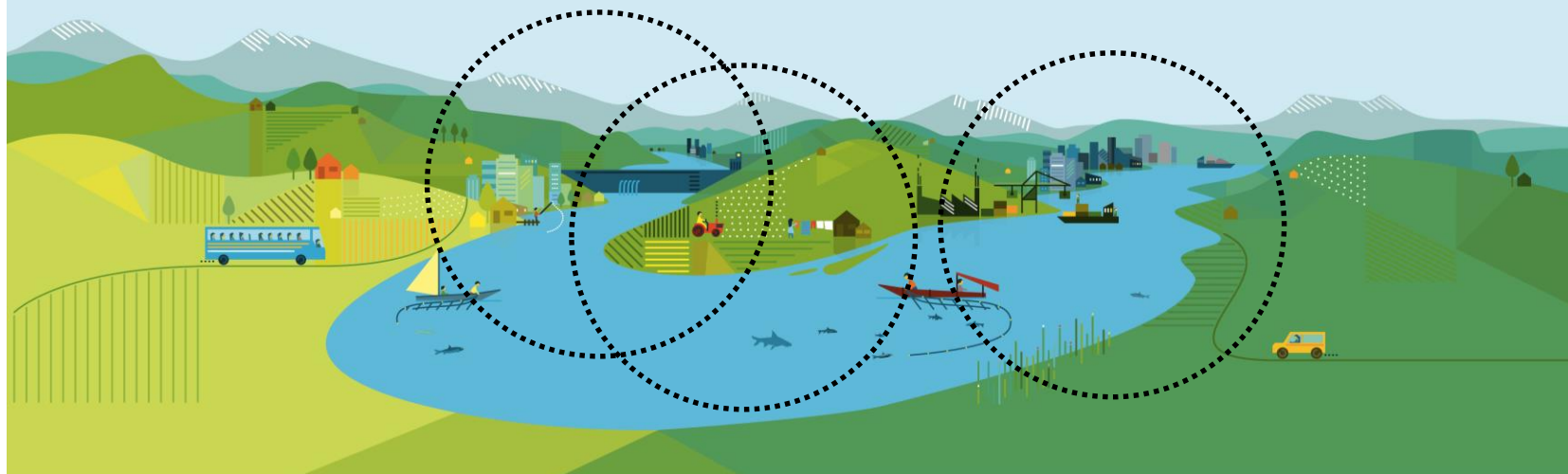


2017 Top Three Topics in Swiss Water Politics

Hydropower: How to increase domestic production from renewable energy sources?

Water Quality: How to guarantee clean drinking water and healthy food?

Riverine Zones: How to implement riverine zoning?



Source: Aqua & Gas, 4 / 2018 "Wasserpoltischer Jahresrückblick 2017", article by authors from EAWAG and WA21

Current Issues in Hydropower



- In May 2017, a new Energy Law was adopted in Switzerland through a popular vote, foreseeing the increase of hydropower production via new subsidies schemes, a status of national interest for large facilities, but also a reinforced financing for rehabilitating river ecosystems impaired by hydropower operations.

> Economic cost of hydropower production will increase.

Current Issues in Water Quality



- 100 largest wastewater treatment plants are being upgraded for micropollutant removal.
- Action plans on pesticides and on biodiversity have been published.
- A popular initiative for clean drinking water and healthy food was submitted.
- Signatures for another popular initiative on synthetic pesticides are being collected.

> Economic cost of industrial and agricultural production will increase.

Current Issues for Riverine Zones

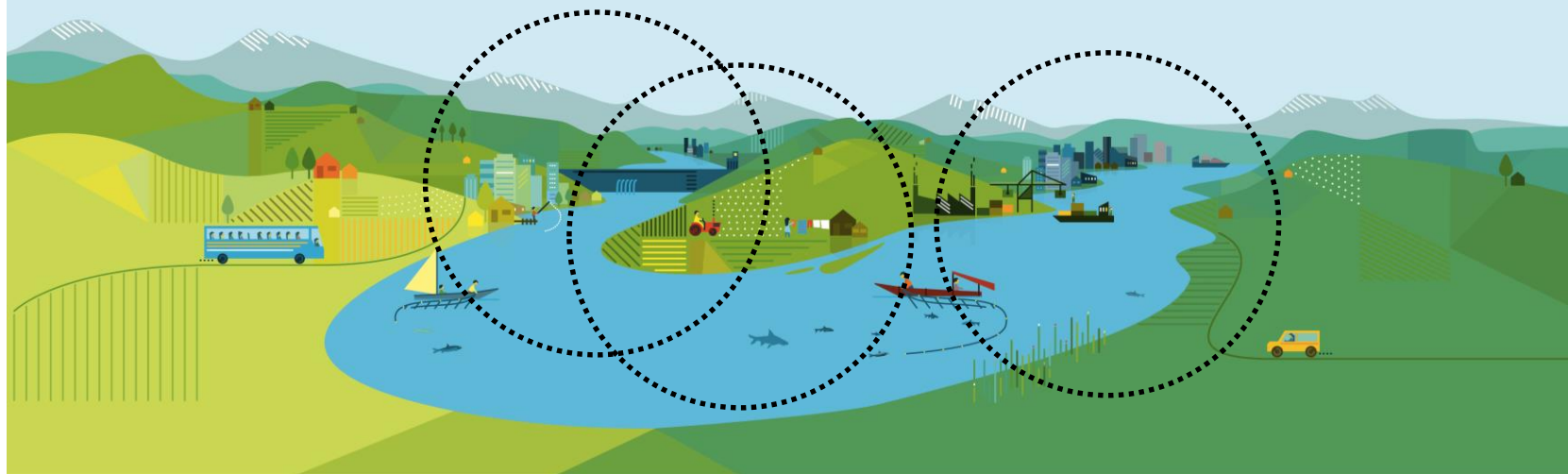


- The revised Federal Water Protection Law of 2011 prescribes the definition of riverine zones.
- Since May 2017, the cantonal authorities have an increased freedom to decree locally adapted riverine zones.
- By the end of 2018, all cantonal and communal authorities shall have implemented riverine zones for all their rivers and lakes.

> Riverine zones have to be safeguarded.

Intermediate Conclusions

With increasing welfare, river ecosystems become more valuable (and more complex, but not always bigger).



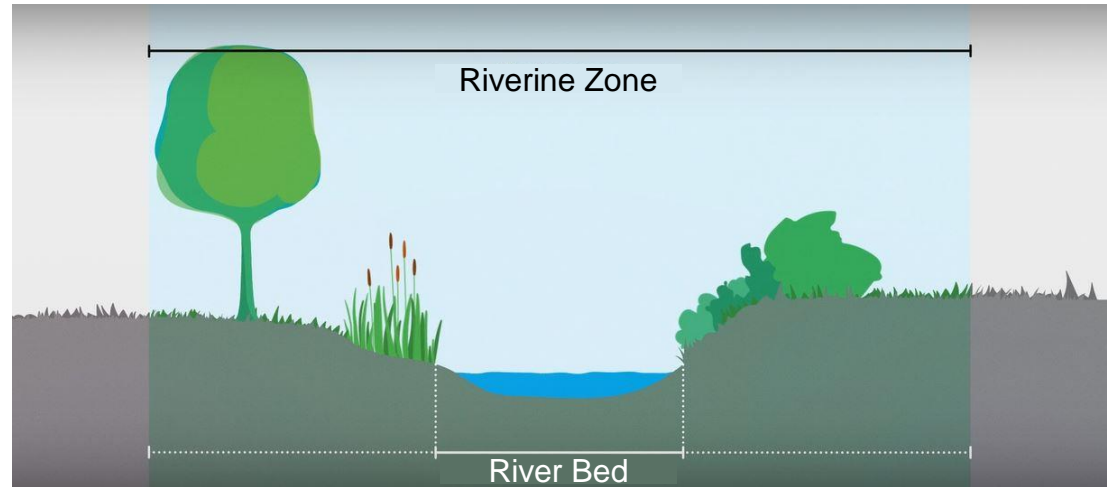


The Case of Riverine Zones: What is it all about?

Rivers need space:

- (i) to fulfill their ecosystem function;
- (ii) to allow flood protection of infrastructure and buildings; and
- (iii) to generate a landscape for recreation.

> Legally binding zones of land along all rivers in Switzerland are being defined. These zones will primarily serve the three river functions enumerated above.



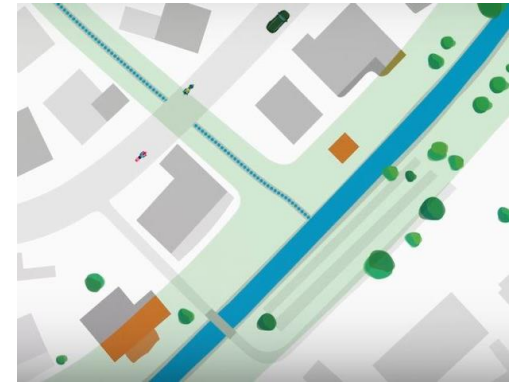


Riverine Zones: Things to prevent

Once legally defined, the following actions shall be prohibited in riverine zones:

- (i) The use of fertilizers and pesticides.
- (ii) The erection of new private buildings and facilities; exceptions may be granted in densely populated areas; existing private buildings and facilities may remain as long as they serve their intended purpose.

New buildings and facilities in the riverine zones are allowed if they serve a public interest.

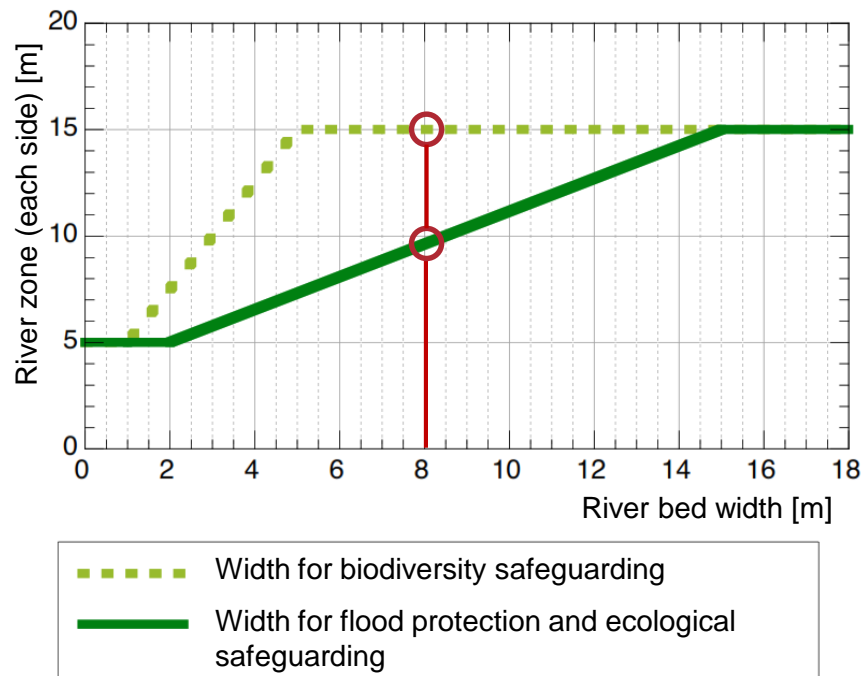




Riverine Zones: What is wide enough?

The minimum width is defined by the flood protection curve.

In protected areas, the required width is increased to the biodiversity curve.





Riverine Zones: Reasons to increase above the minimum

**Flood
Protection**

**Are there substantial
flood hazards?**



**Nature
Protection**

**Do nature or
landscape protection
require additional
space?**



**Revitali-
zation**

**Is there a substantial
potential for
revitalization?**



Recreation

**Do recreational use
require additional
space?**





Riverine Zones: Reasons to decrease the minimum

In densely populated areas, riverine zones may be decreased below the minimum level and/or configured in an asymmetric manner if there are no opposing public interests.

Such public interests may relate to:

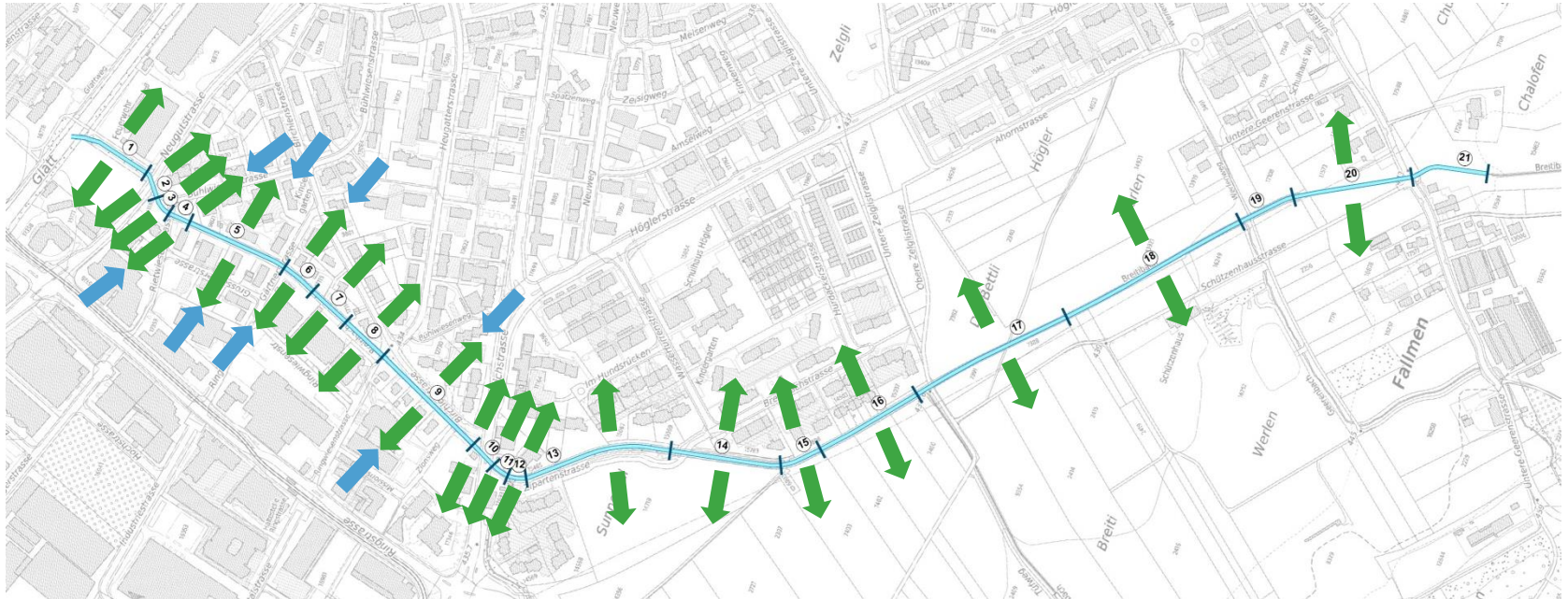
- ecosystem function,
- flood protection and/or
- recreational use.





Riverine Zones: The case of the Breitibach, Duebendorf

Investigate the need to increase (➡) or decrease (➡) riverine zones for river sections





Riverine Zones: It starts with communication



Riverine Zones: Conclusions

The implementation of riverine zones is complex because it requires:

- > Coordination across three state levels (federal – cantonal – communal)**
- > Coordination across various authorities (environment – flood control – water resources use – spatial planning and zoning – traffic – agriculture)**
- > Direct interaction with citizens (as land owners, farmers, fishers, ecologists, those seeking recreation)**

孤掌难鸣

Thank you for your attention!

Contact: andreas.zysset@ebp.ch

