American Rivers
Thriving By Nature

Written Testimony
of Matthew Rice
Director, Colorado Conservation
American Rivers

Hearing: The American Energy Initiative: Hearing on the "Resolving Environmental and Grid Reliability Conflicts Act of 2012" and the "Hydropower Regulatory Efficiency Act of 2012"

Subcommittee on Energy and Power,
U.S. House Committee on Energy and Commerce

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1 Introduction

Chairman Whitfield, Ranking Member Rush, and Members of the Committee: thank you for this opportunity to testify today. I am confining my remarks to one of the bills before you today, H.R. 3680, the Hydropower Regulatory Efficiency Act. I am pleased to be able to share American Rivers' perspective on this bill that is before your Committee today.

American Rivers is the nation's leading voice for healthy rivers and the communities that depend on them. We believe rivers are vital to our health, safety and quality of life. American Rivers mobilizes an extensive network comprised of tens of thousands of members and activists located in every state across the country. We have been working to protect and restore the health of rivers that have been impacted by hydropower dams since we were founded in 1973. We also serve on the Steering Committee of the Hydropower Reform Coalition, a broad consortium of more than 150 national, regional, and local organizations with a combined membership of more than one million people. In doing so, we represent stakeholders – from canoeists to conservationists to lake homeowners – that seek to improve the water quality, fisheries, recreation, and general environmental health of rivers that have been damaged by antiquated hydropower dam operations. Coalition members are active in most of the hydropower licensing proceedings currently pending before the Federal Energy Regulatory Commission (FERC), the Bureau of Reclamation, and the Army Corps of Engineers, and have constructively contributed to numerous hydropower-related policy discussions. Most recently, we worked with your staff, and the staff of bill sponsors Representative McMorris Rodgers and Representative DeGette, as well as industry representatives as you developed HR 3680, the Hydropower Regulatory Efficiency Act which is before your Committee today.

American Rivers supports HR 3680, the Hydropower Regulatory Efficiency Act, and we are grateful for the work of you and your staff on this important legislation.

2 Towards a balanced Federal hydropower policy that encourages environmentally responsible hydropower development and operation

American Rivers is emphatically *not* anti-hydropower. Conventional hydropower is one of the oldest and most well-established among a growing number of technologies that provide low-emissions alternatives to fossil-fuel energy. Nationally, hydropower provides about 96,000 megawatts of capacity, representing nearly 7% of total generation. We expect that hydropower will continue to be a part of our nation's energy mix for years to come, and accordingly we have signed dozens of agreements supporting the operation of hydroelectric dams that together provide our nation with thousands of megawatts of generating capacity. Reasonable modifications have dramatically improved the performance of these dams, providing fish passage, improving flows, enhancing water quality, protecting riparian lands, and restoring recreational opportunities.

American Rivers supports the development of new hydropower resources that can be brought online while avoiding significant additional harm to local ecosystems. In recent years, we worked closely with the National Hydropower Association to craft renewable energy legislation that provides incentives for new hydropower development. In short, we support hydropower that is developed and operated in a

responsible manner that avoids harm to America's precious river resources. Given the very real environmental and social impacts of global climate change – especially on vital freshwater systems –we understand the need to develop new sources of energy that can replace America's reliance on fossil fuels. Hydropower will be an important part of this mix.

However, we also know that the energy we receive from hydropower comes at an enormous cost to the health of our nation's rivers and communities. Hydropower is unique among renewable resources in the scale at which it can damage the environment. Hydropower's environmental and social impacts are serious and extremely well documented. Hydropower dam operations are responsible for the extinction and near-extinction of a number of species. Hydropower plants often divert water around entire sections of river, leaving them dry or constantly alternating between drought and flood-like conditions. Hydropower dams have flooded forests, destroyed fisheries, diminished recreational opportunities, and decimated the local – mostly rural – economies that depend on those resources.

The harm caused by most hydropower dams can be avoided if hydropower is sited, constructed, and operated in a responsible manner, particularly if management decisions are made at a basin-scale rather than at the individual project level. A few simple changes can make an enormous difference in the health of a river. Hydropower operators can change the timing of power generation to mimic a river's natural hydrologic conditions, stabilize lake levels and dam releases to protect riverside land from erosion, provide fish ladders and other measures that protect fish and allow them to pass safely upstream and downstream of dams, restore habitat for fish and wildlife, alter the design and operation of plants to maintain appropriate temperature and oxygen levels in rivers, and provide public access and release water back into rivers so that people can fish, boat, and swim. These types of changes have a miniscule impact on overall generation: when FERC studied more than 240 non-federal dams where such measures had been introduced, it found that such changes cost, on average, only 1.6% of power generation. Indeed, since many of these modifications involve replacing outdated generating equipment with more efficient modern technology, overall generating capacity has actually *increased* by 4.1%. The benefits to human and natural communities have been immense.

When it comes to water, climate changes everything – when, where and how much water is available, how water is used, and the ecosystems in which humans, fish and wildlife live. Warmer temperatures are increasing evaporation and lowering water levels in rivers and aquifers. Mountain snowpack, which acts as a natural reservoir that releases water throughout summer months, is shrinking and melting earlier in the year. Precipitation is also becoming more erratic and shifting towards winter months. As a result, droughts and floods alike are becoming more frequent and more intense. These changes may make our hydropower system less reliable in the coming decades. They also highlight the urgent need to improve the environmental performance of existing hydropower dams. Poorly operated hydropower plants radically alter the timing, magnitude, and duration of streamflows, change water temperature, and stress aquatic species. In other words, hydropower operations anticipate – and exacerbate – the impacts of climate change on our rivers and watersheds.

Developed responsibly, hydropower can increase our nation's portfolio of emissions-free energy. However, we must consider more than just increased megawatts. America is still blessed with many healthy, free-flowing watersheds, wetlands and floodplains that provide numerous services and values.

We must preserve these intact systems and promote them as a vital part of our water supply and flood protection infrastructure. At the same time, we must rehabilitate rivers and streams that have been damaged by existing hydropower projects, and protect habitat from further degradation. A failure to improve the health of rivers now will doom more species to extinction as the world warms. Now and in the years to come, we need hydropower projects that are sited, built, and operated to produce power while minimizing impacts to the rivers that sustain America's human and natural communities. Federal agencies with a role in U.S. hydropower policy, including the Bureau of Reclamation, the U.S. Army Corps of Engineers, the Department of Energy, and the Federal Energy Regulatory Commission must make the enhancement of environmental quality – at existing and new sites alike – a top priority.

A balanced and responsible hydropower policy must take seriously both the promise of hydropower and the risks of hydropower development. It must encourage responsible development while also continually holding developers and federal operators accountable for their environmental impacts and insisting on the strictest performance standards. It must remove obstacles to development while recognizing at the most fundamental level that a high level of environmental performance and the costs of achieving that performance are not an "obstacle" to development but a fundamental and necessary component of it. It must encourage new development to take place while also accepting that some sites are simply not appropriate for new or increased hydropower production. Congress must address both sides of this equation equally.

3 The Hydropower Regulatory Efficiency Act (HR 3680)

The Hydropower Regulatory Efficiency Act is a good step towards a well-balanced U.S. hydropower policy like the one described above. American Rivers joined the National Hydropower Association in working with the bill's sponsors to help them to craft a bill that would meet the twin goals of encouraging the development of new hydropower capacity while enhancing hydropower's environmental performance. We would like to thank all of the parties involved with drafting this bill for their extremely hard work and willingness to incorporate our perspective.

American Rivers supports this bill for three main reasons. First, we believe that it appropriately distinguishes between those hydropower projects which should be encouraged and those which should not and directs its attention towards the former. Second, it provides opportunity for FERC to make a determination on the project's qualification and allows the public 45 days to review, support or oppose FERC's determination. Third, it encourages regulators and stakeholders alike to work together to find creative and innovative ways to improve the existing regulatory process without falling into the all-too-common trap of equating critical environmental protections with "regulatory barriers.

3.1 HR 3680 encourages appropriate hydropower development

American Rivers supports the development of hydropower projects that are sited, constructed, and operated in a responsible manner so as to avoid harm to America's precious river resources. HR 3680 recognizes that not all new hydropower development is appropriate, and accordingly addresses those types of projects which can be brought online with the least impact to aquatic resources. Hydropower projects that re-use existing water and hydropower infrastructure such as conduits, irrigation ditches and other pipelines are the best candidates for responsible development.

Finally, an increasing number of developers – especially in the west – are exploring off-stream hydroelectric development. Some developers propose to place turbines in existing water conveyance pipes. Others are adding hydropower capacity to irrigation canals. Still others are placing turbines in municipal water treatment facilities. Many of these projects have the potential to create substantial environmental benefit. For instance, some irrigation districts are using the revenue from power sales to fund projects that will result in the more efficient use of water, leaving more water in the river to provide ecosystem services. H.R. 3680 opens a public dialogue about ways that the regulatory process for these projects might be improved to bring capacity online faster while protecting the environment and public health and safety; the updated definition of "conduit" in Section 4 will prevent abuse of the existing exemption by ensuring that it is only applied to appropriate projects that use water infrastructure that was built for some other legitimate beneficial use.

Turbines can also be added to many existing hydropower and non-hydropower dams. While these retrofits are not appropriate in every case, they offer new capacity for minimal additional environmental impacts when done right. In some cases, retrofitting existing dams for hydropower can leverage additional environmental improvements to the affected river reach. For instance, a pending retrofit at the Holtwood project on the Susquehanna River in Pennsylvania will more than double that project's generating capacity while also providing for substantially improved fish passage. Several years ago, American Rivers worked closely with the hydropower industry and Members of Congress to craft legislative language that would encourage such forward-thinking development. This language has since been incorporated into the federal law which provides a Production Tax Credit for Renewables, providing developers with an incentive to develop at existing dams that are currently operated for flood control, navigation, and water supply and that could be developed without harmful changes to river flows. HR 3680 addresses development at non-powered dams by directing FERC to explore ways in which these projects might be regulated more efficiently.

3.2 HR 3680 protects the public's interest and provides developers certainty upfront as to whether their conduit project is controversial, viable, or likely to be to be built.

The vast majority of conduit projects are non-controversial and do not harm the environment. These projects are the focus of section 4 of H.R. 3680 and can responsibly be exempted from licensing. There is, however, always a possibility that projects intentionally or unintentionally could be disguised, mistakenly designed as a conduit, or that the regulations are misinterpreted in order to qualify under the legislation. The 45 day public review period will provide a safeguard ensuring that only qualified projects are granted exemption from licensing. Our experience working with the State of Colorado, hydropower developers, and the Federal Energy Regulatory Commission on the Colorado streamlined permitting hydropower pilot program and on other hydropower projects in the state underscores the importance of this provision in the Act. The qualifying criteria used in Colorado program also provides a potential model that could further increase the efficiency of small hydropower permitting, and as FERC studies ways to improve the permitting of new hydropower development at existing non-powered dams, we will encourage FERC to draw heavily from the lessons we have learned from the Colorado MOU experiment.

American Rivers opened an office in Colorado in April 2011 and immediately engaged the Colorado Governor's Energy Office, their consultants and the Federal Energy Regulatory Commission regarding the state's streamlined permitting hydropower pilot program. We supported and continue to actively

support this program and are committed to ensuring its success. Initially, we were concerned that the state did not provide an adequate mechanism for the public to review the potential MOU projects. While the vast majority of these projects are non-controversial, we were concerned that if a controversial project with environmental issues were somehow able make it through the state's prescreening process only to be challenged before FERC, it would damage the credibility of the program and the industry as a whole. The State agreed with us and changed its policy to allow for public review at the beginning of the prescreening process. This policy not only protects the public's interest in their water resources, it also gives developers more certainty sooner as to whether the project is controversial, viable, or likely to be completed.

There are several important lessons from the Colorado MOU program that are relevant to H.R. 3680 and this hearing today.

First, existing regulations are flexible enough to allow environmentally benign hydropower projects to be permitted in an expedited timeframe. In 16 months, FERC has issued two new exemptions for projects in Colorado. Fouradditional projects are awaiting final FERC approval, and one project is pending submission to FERC. Two of the qualifying projects have been delayed because of property right or water right issues, several more were not ready to develop, and one project is awaiting its power purchase agreement. It is important to understand that the pilot program was implemented in a limited time and only 2 applicants had completed their project design upon enrollment. Both of these projects have received exemptions from FERC. Designing a project takes time and these delays would have happened regardless of regulations or lack thereof.

Second, the MOU Pilot Program showed us that applicants are not always the best judges of the level of controversy or the environmental impacts associated with their own projects. Out of 28 applications received by the state, only 10 were deemed eligible to participate. This suggests that 64 percent of applicants incorrectly determined that that their projects met Colorado's criteria or that they would be considered non-controversial.

The 45 day public review period outlined in Section 4 (b) and Section 4 (c) of the Hydropower Efficiency Act of 2012 is important because it developers with the certainty of knowing that their projects will not be controversial before they have invested significant resources in development. It also protects the public's interest in limiting the streamlined regulatory process to those projects which are unlikely to harm valuable natural resources.

This safeguard is critical to catch projects being proposed by developers that are intent on bending the rules. For example, The City of Aspen, Colorado is proposing to rebuild a 1.1 MW conventional hydropower project that operated from 1890 to 1958. The proposal includes a significant increase in diversion from two streams beyond their municipal water supply demands to feed the facility. The proposed project is extremely controversial within the community and Aspen is currently in litigation with upstream water right holders. In an effort to expedite the permitting and avoid environmental review of the project, Aspen chose to pursue a Small Conduit Exemption for the project. But Aspen had a problem: it did not have a conduit. So the city built what is in reality a hydropower penstock and misleadingly labeled it as a conduit in order to receive favorable regulatory treatment.

While Aspen eventually backed off of its pursuit of a conduit exemption because of public pressure, it continues to maintain that the project should qualify for FERC's conduit exemption. If H.R. 3680 were to become law without this critical provision for a notification period, neither the local community nor affected water rights holders would have had an opportunity to challenge Aspen's incorrect characterization of the project, and Aspen may well have been able to construct the project without any meaningful public review.

The Colorado MOU pilot program does a good job of ensuring that participating projects reflect the goals of the program by requiring applicants adhere to specific criteria including:

- The primary purpose of the infrastructure will remain, e.g., most commonly municipal water supply and irrigation;
- There will be no significant change in operation of the infrastructure including timing of water delivery;
- The water delivery system will have all necessary water rights, permits, licenses or other approvals required by any local, state, or federal authority;
- The project will not adversely affect water quality;
- The project will not adversely affect fish passage;
- The project will not adversely affect a threatened or endangered species;
- The project will not adversely affect a non-conduit cultural resource;
- The project will not adversely affect a recreational resource; and
- The project will not increase diversion or water quantity.

The above criteria could provide a good starting point in the development of a set of criteria for hydropower that may be relatively easy to permit quickly. Combined with due diligence, and an opportunity for public review, it may be possible to further increase the efficiency of permitting responsible hydropower projects that are beyond the immediate scope of the Hydropower Efficiency Act of 2012.

3.3 HR 3680 aims to improve the regulatory process for hydropower without falsely equating critical environmental protections with "regulatory barriers."

The Act directs FERC to explore ways "to improve the regulatory process and reduce delays and costs" associated with hydropower development. As a frequent participant in regulatory proceedings for individual hydropower projects, American Rivers has an interest in reducing inefficiencies in these regulatory proceedings as well as the costs associated with participating in them.

Our enthusiasm for regulatory reform, however, is tempered by our recognition that the existing permitting system for hydropower provides critical protections for the ecological health of rivers, public safety, recreation, and many other non-power values. American Rivers emphatically does not subscribe to the notion that our nation's environmental, health, and safety regulations constitute "barriers" in need of streamlining, "delays" that must be shortened, or "costs" that need to be reduced. Hydropower is not intrinsically clean energy: it must be sited, constructed, and operated in an appropriate manner, or it can cause enormous environmental damage. Laws like the Federal Power Act, the Clean Water Act, the National Environmental Policy Act, and the Endangered Species Act are critical to ensuring that

hydropower is done right. We encourage this Committee to be clear that any proposed modification to the regulatory process for hydropower that would weaken any of these vital environmental protections would be unacceptable.

In our view, HR 3680 largely gets this distinction right, recognizing FERC's willingness to innovate to help good projects get built more quickly. When developers choose appropriate sites for hydropower projects and invest in addressing resource issues up front, FERC has shown remarkable flexibility in processing license applications quickly and efficiently. For example, we have seen FERC staff waive pre-filing requirements with the concurrence of stakeholders in cases where there are no controversial resource issues. FERC recently published a list[1] on its website of more than 20 hydropower projects that have been permitted in less than *one* year since 2006 and the above described 2010 Memorandum of Understanding with the State of Colorado[2] that identifies classes of projects that are likely to be permitted quickly, with FERC agreeing to expedite the processing of those applications where the state has conducted pre-screening to ensure that there are no complex or contentious resource issues at stake.

Despite FERC's willingness to be flexible, there are a number of points in the process where FERC can do better. For instance, FERC's Integrated Licensing Process was designed to synchronize FERC's NEPA scoping and record development with the information requirements of other state and federal agencies that have separate – and critical – statutory responsibilities. These other agencies can now can identify at the beginning of a licensing those information gaps that must be filled in order for them to complete their own processes. Some applicants are unwilling to provide this information because it might result in additional requirements to mitigate project impacts. The resulting stalemate is a perennial source of delay in licensing. While FERC staff have the authority to order applicants to provide this information, they often choose not to do so, arguing that the information is not necessary for FERC's licensing decision. This may be technically true – FERC may not consider the information necessary for its own analysis – but the reality is that FERC cannot issue a license until it has received a Water Quality Certification from the state and all required ESA consultation is complete. Staff may be able to work with agencies to narrow the scope of the necessary information, but ultimately those agencies must decide what information is necessary for them to act. The Commission should direct its staff to improve their cooperation with other federal and state agencies, especially where those agencies have identified a need for information that will enable them to fulfill their own responsibilities and clear the path for FERC to issue a license. By doing so, FERC would substantially increase the likelihood that licenses will be issued on time and with an appropriate set of environmental protections.

HR 3680 directs FERC to solicit recommendations like these from the public and examine how it might implement such improvements to the licensing process. It then directs the Commission to test some of those ideas through a pilot process and ultimately report to Congress on what works, what does not, and

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[1] http://ferc.gov/industries/hydropower/gen-info/licensing/small-low-impact/expedite-process/projects-expedited.xls

[2] http://ferc.gov/legal/maj-ord-reg/mou/mou-co.pdf

how it intends to translate those lessons into more formal policies that improve the licensing process. This gives FERC the flexibility to conduct controlled experiments, further refining some of the tools it is already using to permit noncontroversial projects more quickly. Any resulting policy change will be better by virtue of having been tested in a real-world situation first.

HR 3680 also gives FERC the ability to limit this flexibility to only those projects where it is likely to work. A one-size-fits-all two year process is unlikely to be appropriate for all projects. Hydropower projects that feature more complex resource issues often need more time to process, and this is entirely appropriate. Consider, for instance, two proposals to add hydropower to an existing dam. The first would add a turbine to an existing control structure at the base of the dam to capture uncontrolled flows that are already passing through the dam. The second proposes to divert water from behind an existing dam to a powerhouse two miles downstream, dewatering a section of river that is known as a high-quality trout stream and a popular destination for canoeing. While the first project might be quite simple to license, the second would almost certainly require one or more season of studies in order to determine appropriate operating guidelines that would protect the river's existing fisheries and recreational resources. It would be very difficult to fit such a project into a two-year process while still adequately addressing these complex resource issues.

American Rivers supports this inquiry, and we look forward to participating in the Commission's examination of its licensing processes. We also encourage the Committee to ensure that FERC will have sufficient resources to complete this undertaking. FERC has more new applications for preliminary permits and hydropower licenses before it now than at any other time in recent memory. The new requirements that HR 3680 proposes to place on the Commission should not become a workload burden for Commission staff that creates the very processing delays that it was designed to reduce.

Conclusion

A balanced U.S. energy policy must recognize that hydropower has impacts as well as promise, and it should address both. New hydropower development must be sited, operated, and mitigated responsibly, and it must simultaneously encourage increased generation and improved environmental stewardship at new and existing projects. American Rivers supports the development of new hydropower resources that can be brought online responsibly, avoiding significant additional harm to local ecosystems. HR 3680 represents a substantial step forward down this path, and American Rivers is pleased to be able to support it.

Thank you again for this opportunity to testify before the Committee today. I look forward to answering your questions.

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Work Experience:

Director of Colorado Conservation
American Rivers; Denver, CO January 2011-Present

- Lead American Rivers efforts on large scale, high profile, complex water projects under Federal Energy Regulatory Commission (FERC) jurisdictional authority in Colorado
- Participate in the implementation including providing policy recommendations, rigorous project review, and support of Colorado's Streamlined Small Hydropower Permitting Program
- Designed and currently implementing a campaign to designate high value rivers in Colorado under the Wild and Scenic Rivers Act
- Manage a $180,000 budget

Associate Director of Southeast Conservation, September 2007-December 2010
American Rivers; Columbia, SC
Hydropower Reform Initiative

- Vigorously involved in the relicensing of seven Federal Energy Regulatory Commission hydroelectric projects in North Carolina, South Carolina, and Alabama
- Provided leadership on various recreational, in-stream flow, water quality, and safety technical working committees
- Helped negotiate comprehensive settlement agreements for the Saluda and Pacolet Projects that protect and enhance natural and recreational values of the river
- Led a successful effort to establish 51 recreation days for boaters and anglers and ecological flows that benefit spawning fish and downstream floodplains for the Saluda Project, South Carolina that serves as a national model for responsible hydropower operations

River Protection, Blue Trails Program

- Implemented American Rivers Blue Trail Program and led efforts to establish and promote three innovative and nationally recognized model blue trail projects that quantifiably protect rivers through recreation.
- Successfully leveraged support for the Wateree River Blue Trail to protect riverside land on all Kershaw County, South Carolina rivers through the county's land development codes and ordinances, ultimately protecting over 1000 acres of farm, timber and wild lands.
- Developed American Rivers' policy objectives and successfully led on the ground efforts, and coordinated thousands of river advocates nationally to ensure the Obama Administration prioritized river protection, river restoration, and blue trails as part of the President's America's Great Outdoors Initiative. The Obama Administration established a national Blue Trails Program modeled on American Rivers' Blue Trails Program as a result.

Videographer June 2005-August 2005
Ancient Lights Media; Los Angeles, California

- Scripted and filmed historically, culturally, naturally important material throughout Mexico for Discovery Education Historical Videos

Fly Casting Instructor, **Fishing Guide** September 2004-June 2005
Adventure Anglers; Louisville, Kentucky

- Conducted private and group fly casting lessons.
- Guided individuals and groups of 2-4 anglers on local Kentucky and Indiana rivers
- Managed day to day retail operations at the shop

Peace Corps Volunteer Leader January 2003-June 2004
United States Peace Corps; Central, Southern, and Copperbelt Provinces; Zambia

- Provided supervisory, logistical, medical, technical, and emotional support to a minimum of 30 volunteers covering three provinces and an area of 211,005 square kilometers.
- Selected and prepared 19 new sites for four different programs for volunteer placement.
- Liaison between Peace Corps Zambia, Peace Corp Volunteers, government ministries, traditional leaders, and host country nationals at the provincial, district, and village levels.
- Organized and updated a Provincial Emergency Action Plan that covered all sites and Peace Corp Volunteers in three provinces.
- Certified as a U.S. Government Sub-Cashier.

Rural Aquaculture Extension Agent September 2000-December 2002
United States Peace Corps, Mpika District, Northern Province; Zambia

- Established the first Peace Corps site in Chipundu village
- Led technical workshops for several aspects of integrated agriculture within the catchment area including animal husbandry, dry season gardening, irrigation, crop rotation and nitrogen fixing tree farming
- Conducted over 600 extension visits in a two year period.
- Designed, helped construct, and managed over 20 Peace Corps Project fish ponds
- Created a fish farmer association that effectively drove the regional price of fresh fish up 200%.

Assistant Ranch Manager / Fly Fishing/River Guide Summers, 1992-2000
Mcleod, Montana

- Developed excellent communication and leadership skills guiding groups of two or three clients on the Yellowstone River and Boulder Rivers.
- Responsible for day to day ranch maintenance including bailing hay, irrigation, tending to cattle and calving, and fencing.

Education:

University of Denver, *Josef Korbel School of International Studies* November 2006
M.A., International Studies
Concentrations: International Environmental Policy, Security

Montana State University, *Bozeman, Montana* May 2000

Bachelor of Letters and Science
Major: History, Minor: Biology